

**Planning Commission**  
**CITY HALL COUNCIL CHAMBERS**  
**AGENDA OF DECEMBER 10, 2024**  
**7:00 PM**

**REVISED 12.6.2024**

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**ROLL CALL**

**PLEDGE OF ALLEGIANCE**

**APPROVAL OF MINUTES**

Regular meeting of November 12, 2024

**CORRESPONDENCE**

Administrative Approvals & Zoning Certificates

1. PPZ2024-0315 Ridge Barbershop 2, 7717 Victory Lane  
Approval of a Certificate of Zoning Compliance for a barbershop.
2. PPZ2024-0316 Paws & Spa Pet Salon, 33109 Center Ridge Rd  
Approval of a Certificate of Zoning Compliance for a dog salon.
3. PPZ2024-0317 Price Point Construction, 7864 Root Rd  
Approval of a Certificate of Zoning Compliance for construction services; storage.

**OLD BUSINESS**

**NEW BUSINESS**

1. PPZ2024-0318 City Limits, 39462 Center Ridge Rd, PPN 07-00-046-101-006  
Owner: Stephen Joseph, 36821 Sugar Ridge Rd, North Ridgeville, OH 44039.  
Proposal consists of rezoning property to B-3 Highway Commercial District.  
Property is zoned I-3 Heavy Industrial District.
2. PPZ2024-0320 The Crossing at French Creek, 5725 Avon Belden Rd, PPN 07-00-019-000-010, 07-00-020-101-001, -042  
Applicant: Thom Sutcliffe, Drees Homes, 6860 W. Snowville Rd, Suite 105, Brecksville, OH 44141. Proposal consists of final plat for Phase 1 of The Crossing at



French Creek Subdivision. Property is zoned R-1 Residence District (Chapter 1282).

3. PPZ2024-0321 North Ridgeville City Schools Transportation Center, 7001 Ranger Way, PPN 07-00-016-104-233

Applicant: Claire Bank, ThenDesign Architecture, 4230 River Street, Willoughby, OH 44094. Proposal consists of constructing a new transportation and maintenance center. Property is zoned R-1 Residence District.

4. PPZ2024-0322 North Ridgeville City Schools High School, 34600 Bainbridge Rd, PPN 07-00-016-104-233

Applicant: Claire Bank, ThenDesign Architecture, 4230 River St, Willoughby, OH 44094. Proposal consists of Phase 1 development (early site work) for the new high school. Property is zoned R-1 Residence District.

5. Zoning Code Diagnosis

Review & Recommendation of Zoning Code Diagnosis.

6. Active Transportation Plan

Review & Recommendation of Active Transportation Plan and Safe Routes to School Plan.

## **ADJOURNMENT**

**NORTH RIDGEVILLE PLANNING COMMISSION  
MINUTES OF REGULAR MEETING  
TUESDAY, NOVEMBER 12, 2024**

**CALL TO ORDER:**

Chairman Smolik called the Planning Commission meeting to order with the Pledge of Allegiance at 7:00 PM.

**ROLL CALL:**

Present were members Steve Ali, Frank Toth, Council Liaison Bruce Abens and Chairman James Smolik.

Vice-Chairman Paul Schumann was excused.

Also present were Assistant Law Director Toni Morgan, City Engineer Christina Eavenson, Planning and Development Director Kimberly Lieber and Deputy Clerk of Council Tina Wieber.

**MINUTES:**

Chairman Smolik asked if the members had a chance to review the minutes of the regular meeting on October 8, 2024. He asked if there were any corrections. Hearing none, the minutes were approved as submitted.

**CORRESPONDENCE:**

**Administrative Approvals & Zoning Certificates**

1. PPZ2024-0311: Sitto's Restaurant, 34259 Center Ridge Rd  
Approval of a Certificate of Zoning Compliance for restaurant.
2. PPZ2024-0313: Italian Coffee, 34960 Center Ridge Rd  
Approval of a Certificate of Zoning Compliance for a coffee shop.

Chairman Smolik asked Director Lieber if she would review the administrative approvals.

Director Lieber stated that a zoning certificate was issued for Sitto's Restaurant, a Lebanese cuisine restaurant that was going in the Giant Eagle Plaza where the ice cream store Mootown Creamery had left and another one was issued for Italian Coffee, a new coffee shop going into what used to be the Charm Boutique. She added that they were seeing some turnover in those spaces, which was a positive.

2. Planning Updates
  - o Zoning Code Diagnosis
  - o Active Transportation Plan
  - o Traffic Studies

Director Lieber stated that the Zoning Code Diagnosis was getting into final form and that probably before the end of the week they would get a draft copy emailed to them. She stated that there would be a joint presentation to Council and Planning Commission on Monday, December 2nd, and then they would have the opportunity to follow that up at their December meeting with any discussion or additional

**NORTH RIDGEVILLE PLANNING COMMISSION  
REGULAR MEETING – TUESDAY, NOVEMBER 12, 2024**

**PAGE 2**

recommendations on the diagnosis and preparation for then moving ahead with the redrafting of the zoning code at that point. She mentioned that they had some work ahead of them over the next couple weeks in looking over that information.

She discussed the active transportation plan and stated that they had a final draft that they were pulling together that would also probably come to them for review at their December meeting and that they would be recommending the Commission take some action once that process was wrapped up. She stated that they had already begun looking for some funding sources to implement parts of that plan. She explained that they had a pending application for the sidewalks project on Bagley Road out to NOACA, and having that plan completed timely was part of their strategy to obtain funding with that sidewalk project.

She mentioned that they were still working on the Lorain and Lear traffic study and were collecting some additional data from NOACA to look at growth rates over the next 20 years to refine the study and recommendations. She stated that regarding the Bainbridge and Root and the Bainbridge and State Route 83 traffic studies, the consultant was working with them to prepare a safety application for a future roundabout at Root and Bainbridge. She added that they were working to submit that in January.

**OLD BUSINESS:**

**NEW BUSINESS:**

PPZ2024-0307 University Hospitals Urgent Care, 34548 Center Ridge Rd, PPN 07-00-016-101-054

Applicant: Madison Walkama, HSB Architects, 1250 Old River Rd, Cleveland, OH 44113. Proposal consists of constructing a 4,000 square foot urgent care building. Property is zoned B-3 Highway Commercial District.

Application was read.

Chairman Smolik asked Director Lieber for findings of fact.

Director Lieber stated that the proposal consisted of constructing new medical offices and site improvements and mentioned that medical offices were a permitted use in the B-3 Highway Commercial District. She explained that the future UH Urgent Care would be sharing the lots with the existing vacant commercial building that was formerly Scooters and that when the site was developed for Scooters, Planning Commission members might recall that the pad of that area was prepared as part of that Scooters project, anticipating that there would be some type of future building in that location. She added that at the time Scooters was developed, certain site improvements were made, including the stormwater management, which was anticipated to serve the full build out of the site. She discussed that the new medical facility would have a main entrance on the north side of the building and commented that the applicant did a really nice job of including architectural detail on all the sides and she had requested that the applicant bring color material samples to the meeting. She said that the north side would face the north residential area, and the south would face Center Ridge. She mentioned that the landscape plan included mainly foundation plantings and several trees. She stated that they did have the City Arborist take a look at the landscape plan and he offered some notes and some changes, which had been incorporated into that landscape plan. She indicated that they would be utilizing the existing curb cut that served the site and that also provided cross access between the urgent care, the car wash, the

auto parts store and the former Scooters. She said that the applicants also provided a pedestrian route from the sidewalk that was in the right of way and then connected to the urgent care entrance and then across the drive to that former restaurant space for the future. She stated that parking was ample with 20 spaces required and 36 proposed. She remarked that the lighting plan looked good with new building mounted light fixtures primarily around the building perimeter and the sidewalks and entrances and also had some full mounted fixtures in the parking lot, but those fixtures were code compliant, and the illumination levels looked good. She mentioned that they would be expanding the existing dumpster in the northeast portion of the site to add on to their trash facilities there. She stated that it was a completely zoning compliant project with the exception of signage, and that the applicant would have to later submit a sign package. She discussed that they wanted a separate ground sign which would require a variance and were probably a little over on the square footage for the building, but that would be a matter for the BZBA. She added that regarding the revised version that the Commission received, all of her staff comments had been incorporated into the version that was presented to them.

City Engineer Evanson stated that the project had all utilities available on site and that there was an existing 8 inch sanitary main running through the north side of the site and there was an existing 12 inch water main along Center Ridge that they could tap into and there was an existing fire hydrant along Center Ridge in proximity to the building, therefore no additional fire hydrants were needed. She discussed that the existing stormwater basin that went in originally with the advanced auto parts store, had underwent additional modifications when the Scooter's coffee shop came in and was currently sized to include the proposed improvements of the urgent care facility. She stated that the drive aisles also had ample room for emergency services as shown in the plans submitted. She said that there was one final thing that she wanted to mention, which was that there would be a separate water and sewer tap fee affiliated with the business and she had examples of each of those that she would share with the applicant after the meeting.

Chairman Smolik asked if there was a representative present for the application.

Ben Gingrich with HSB Architects, 1250 Old River Rd, Cleveland, OH 44113.

Mickey Mann, Edge Development Shops on Center Ridge, 5050 Detroit Rd, Sheffield Village, Ohio 44035.

Mr. Gingrich stated that they were really excited for development and that the building proposed would use really high-quality materials. He indicated that they tried to look at setbacks and areas around them to try to match similar materiality. He explained that they were using masonry on the project, stucco on the uppers, large windows and wall sconces, which were all going to be a nice building element.

Chairman Smolik asked if he would review the sample boards.

Mr. Gingrich stated that the building itself would be about 4,000 square feet and consist of brick around the whole lower portion of it, all the way up to about 10 feet of brick. He discussed that they had some alternating brick underneath the windows and that the main field color of brick was the tan he was displaying. He stated that they had a smaller chip of the accent that was sort of a darker brown that they were going to use under the windows, which would be a nice contrast and would give a little bit of depth to the building. He explained that the frames were all planned to be black aluminum, and they had protection for pedestrians, which also gave pedestrian scale, with some nice canopies all over the entrances. He discussed that in the upper parts, they were proposing to use a sort of stucco that was a

hard panel with all the panels above that was a really nice product and had a modern look but they were using kind of traditional materials, which was the goal of the project.

Chairman Smolik asked if there was anyone in the general audience who had any questions or comments regarding the application.

None were given.

Chairman Smolik remarked that as far the retention basin that was originally built for the auto parts store, he assumed that when Scooters was developed, water quality was taken into account.

City Engineer Eavenson stated that that was correct and that when Scooters went in, they updated to the current requirements of the storm water and water quality measures. She mentioned that they had taken into account a full build out of that particular area, so there shouldn't be any need to do any modifications to the basin.

Council Liaison Abens stated that regarding the facility on Lorain Road, when it was first proposed and when it first came under operation, they did have emergency urgent care facility or services there and then it closed during pandemic and never reopened. He mentioned that they were not planning on reopening and that was somewhat of a concern that now they were building a new building but abandoning that particular urgent care area.

Mr. Gingrich stated that he was unable to comment regarding that.

Council Liaison Abens asked if it was a joint venture.

Mr. Gingrich stated that it was a joint venture between University Hospitals and them.

Council Liaison Abens asked if they were using modular panels in the project.

Mr. Gingrich stated that the whole lower portion of the building, which was more susceptible to salt and damage, was all masonry as shown on the board. He discussed that the upper portions were using a Hardie Panel which was a modular panel that was a really durable product. He added that a lot of times when thinking of modular, one would think like a wall that was constructed but that was not the case and that although it looked jointed, it was not. He mentioned that they had found them to be pretty durable and long-lasting materials, which was the goal since the owner would have to maintain it for many years.

Mr. Mann stated that he could touch briefly on the urgent care aspect. He said that it was a partnership between Wall Street and University Hospital and there were 30 some odd locations going in throughout Northeast Ohio. He mentioned that the urgent care aspect was more of a retail convenience front, as a feeder access into the hospital system. He stated that that was kind of a national trend they were seeing and that the partnership with University Hospitals was being rolled out throughout Northeast Ohio currently.

Chairman Smolik asked if there would be around 20 full-time employees.

Mr. Mann stated that was what they were hearing.

Planning Commission Liaison Toth stated that he had a question regarding parking. He discussed that their paperwork stated that they had 20 spaces required with 36 proposed and asked that if and when the Scooter's building became reoccupied, would they be able to fit everybody in there with the parking requirements.

Director Lieber stated that yes, especially since that building was designed as a drive-thru only, it didn't create great demand for parking because of the limited number of employees that it could host.

Moved by Smolik and seconded by Toth to recommend approval of the application.

A roll call vote was taken and the motion carried.

Yes – 4 No – 0

Chairman Smolik asked if there was any further business to come before the Commission.

None was given.

**ADJOURNMENT:**

Chairman Smolik adjourned the meeting at 7:17 PM.

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**James Smolik**  
*Chairman*

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**Tina Wieber**  
*Deputy Clerk of Council*

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Tuesday, December 10, 2024  
**Date Approved**

# Planning Commission Application

RECEIVED

NOV 14 2024



## SUBMITTAL INSTRUCTIONS AND PROCEDURES

Plan reviews will be carried out according to the processes described in the City's Zoning Code.

- **Pre-Application.** Prior to making application, applicants are recommended to contact the city to discuss their development project. City staff will outline the review process and provide a checklist of required submittals.
- **Application Submittal.** Following the pre-application meeting, the applicant shall submit this completed application, fee and ten (10) sets of all required exhibits. All submissions shall be made in hard copy to the Building Division. Plans shall be collated, folded and easily legible.
- **Staff Review.** The applicant shall attend a staff review meeting and may be required to submit additional information and/or revised plans based on staff input.
- **Variances.** Where zoning variances are sought by the applicant, review by the Board of Zoning and Building Appeals will be necessary prior to consideration by the Planning Commission, requiring a separate application.
- **Decision or Referral.** Following staff review, complete submittals for Administrative Review projects may be considered for approval. For Council Review projects, complete submittals shall be referred to the next available Planning Commission meeting, which are held the second Tuesday of each month.

## PROJECT INFORMATION

38462 CENTER RIDGE RD

Location address

07-00-046-101-006

Parcel number(s)

Project type: ☒ Commercial/Industrial/Multi-Fam ☐ Prelim Major Subdivision ☐ Final Major Subdivision ☐ Lot Split

Project elements: ☐ New Construction ☒ Building Addition/Alteration ☐ Site Improvements ☐ Plat

RESTAURANT/LOUNGE PATIO

Project description

## APPLICANT/AGENT INFORMATION

STEPHN JOSEPH

Name/Company

36821 SUGAR RIDGE RD.

Applicant address

440-667-5033

Applicant phone

JOSEPH.CONTRACTING@GMAIL.COM

Applicant email

## PROPERTY OWNER INFORMATION

SAME AS ABOVE

Name/Company

Property owner address

Property owner phone

Property owner email

## AUTHORIZATION AND ACKNOWLEDGEMENT

Applicant signature

Property owner signature

I hereby authorize the City of North Ridgeville, including Planning Commission members, to view the premises and consent to their entry onto the property for the purpose of observing site conditions related to review of my application.

OFFICE

PPZ No.

PP22024-0319

Planning Fee Paid

\$150.00 ✓ # 5021

ACTION

## Planning Review

November 20, 2024

*Preliminary Review*

Project: City Limits  
Location: 39462 Center Ridge Road  
PPNs: 07-00-046-101-006  
District: I-3 Heavy Industrial District

The applicant is seeking rezoning of the subject property from I-3 Heavy Industrial District to B-3 Highway Commercial District and is additionally seeking approval to open a restaurant and lounge and make site improvements in support of that use.

The property contains an existing commercial structure, which was formerly occupied by a bar and lounge. The former bar area has been vacant for many years. Currently, the rear portion of the building is occupied by a hair salon. Bars and restaurants are not permitted in the I-3 Heavy Industrial District. While the bar operated in the past as a legal nonconforming use, the longtime discontinuation of the use resulted in the loss of legal nonconforming status. The building cannot be used again as a bar or restaurant without rezoning.

### **PPZ2024-0319: Development Plan**

*\*This review is for the development plan as if the property were zoned B-3 Highway Commercial District.*

The applicant is proposing to open a restaurant and lounge in the existing building. Additionally, the proposal includes the construction of a new patio on the west side of the building.

Restaurants are permitted, while bars and taverns are conditional uses in the B-3 Highway Commercial District. The existing building is nonconforming in that it does not meet current front or side setback requirements. Additionally, the parking lot was formerly striped in a manner that did not meet code requirements for the 10-foot setback to parking from the front property line.

No exterior building changes are shown other than to accommodate the proposed patio. The patio would involve the removal of two sets of existing stairs and a landscaped area with construction of patio about 6 feet above grade with an ADA ramp and new stairs. A small flower bed separates the ADA ramp from the ROW area. A dumpster enclosure is shown toward the rear of the property.

In the current condition, ingress and egress is not well defined. Parking will be reconfigured to provide the required setback from the ROW. The proposed plan shows use of paint striping to delineate one way in and one way out. Parking spaces are properly sized and the plan includes ADA spaces.

Comments:



- Square footage and seating capacity of restaurant/lounge is needed to determine required parking count.
- It's unclear whether the patio is sized to accommodate tables and chairs.
- Will boarded up windows on south elevation remain?
- Provide landscape plan. Expand landscaping adjacent to building and around sign. Landscape around sign could be used to better define ingress/egress aisles. Improve area between building and ROW which is currently cracked pavement and weeds. Improve weedy area west of building toward rear of property.
- Recommend resealing and striping of parking lot, not just restriping.
- Provide detail of dumpster enclosure.
- Any new lighting proposed? If so, photometric plan and light fixtures are needed for review.

## Planning Commission Comment Sheet



### PROJECT INFORMATION

Restaurant/Lounge Patio

Proposed project

39462 Center Ridge Rd

Location

December 10, 2024

Meeting date

07-00-046-101-006

Parcel number

December 1, 2024

Comments due

### RECOMMENDATIONS

-Not enough information to conduct a proper plan review. Plan that was submitted are incomplete.

Has the large heating oil storage tank in the basement been removed? If not, you will need to contact the State Fire Marshals Office for the decommissioning of the tank permit. This must be done immediately.

Please contact Asst. Chief Mike Uhnak to discuss the above comments.

Asst. Chief Mike Uhnak  
North Ridgeville Fire Department  
Fire Prevention  
[Muhnak@nridgeville.org](mailto:Muhnak@nridgeville.org)  
(440)653-6362

### SUBMITTED BY

Mike Uhnak

Administrative officer signature

Asst.Chief

Title

**Planning Commission Bylaws Article V Section 2 – Administrative Review.** All applications including those plans and maps submitted to the Commission shall be referred to Administrative Officers. Comments and recommendations by Administrative Officers, if any, shall be forwarded to the Secretary not later than ten (10) calendar days after receipt. Administrative Officers who have not acted within the allotted time shall be deemed to have concurred with plans as submitted.

## Staff Meeting Bulletin

**Meeting Date:** November 25, 2024

**Project:** City Limits, Rd, 39462 Center Ridge Rd, North Ridgeville, OH 44039

**Applicant:** Stephen Joseph, 36821 Sugar Ridge Rd, North Ridgeville, OH 44039

**Zoning:** I-3 Heavy Industrial

**In Attendance:** Kim Lieber, Planning & Development Director  
Christina Eavenson, City Engineer  
Eric Brown, Engineer  
Guy Fursdon, Chief Building Official  
John Reese, Fire Chief  
Mike Uhnak, Assistant Fire Chief  
Stephen Joseph, Owner  
Geoffrey Smith, Attorney

### Project Introduction

- Stephen stated that he wanted to rezone the parcel that was on the City's western border from I-3 to B-3 to allow for a restaurant/lounge with a patio.

### Staff Comments

- Kim agreed that given the size and historical use of the property, it should be zoned commercial and not industrial. She explained that if it were rezoned, restaurants were a permitted use in the district and bars were a conditional use.
- Kim stated that the existing building was nonconforming. She noted parking as currently shown encroached in the right of way. To determine required parking, she stated that they needed to show the square footage of the inside of the building and seating capacity. She discussed that adding a patio would also add an additional area for patrons which would need to be factored in if there were going to be seating. She asked if his intent was to put tables and chairs on the patio and Stephen stated that it was. She stated that it would be helpful to see how that would fit. Stephen stated that he wanted a seating capacity of 60.
- Kim stated that there were boarded up windows on the south elevation and asked if they were going to be removed. Stephen stated that those were glass block and were getting lantern lights there. Chief Reese recommended the addition of windows for safety. Geoffrey asked if they wanted elevations and Kim stated that they did as well as floor plans, walkways and landscape plans.
- Kim recommended that they expand the landscaping adjacent to the building. She stated that they had a proposed flower bed that was small and up against the ADA ramp and thought that that was a good opportunity to expand it or dress up that front area. She stated that the landscaping could help better define the in and out of the traffic in that area. She mentioned that in the back corner of the adjacent railroad, there were patchy weeds and stated that that area could be spruced up so that it wasn't overgrown.
- She asked if he was going to be resealing the parking lot and Stephen stated that he was. She asked that he show that on the plans. She stated that they would need a detail of the dumpster enclosure and asked if there was going to be parking lot lighting. Stephen stated that he was going to change them out so that they were brighter. Kim stated that if they were changing out the lights that they would need a photometric plan provided by their engineer to show that it met the requirements for illumination and would need a cut sheet of the light fixtures as well.

- Christina asked about the patio and if it were raised. Stephen stated that it was raised on one side with 7-inch risers. Christina stated that when they submitted for final engineering, she would like to see a grading plan with some spot elevations. She asked if there was just one entrance into the building. Stephen stated that there was one entrance on the side of the building but there were several throughout the whole building.
- Guy asked if the beauty salon was going to stay there. Stephen stated that it was.
- Eric asked about drainage and if there was any storm sewer collection system or if it all just drained to the north. Stephen stated that there was a sewer and a big four by four catch basin. Eric asked where it went. Stephen stated that it went out to the railroad ditch. Eric stated that normally if they were doing a complete reconstruction, they would ask him to improve it with some storm water management but if his intent was to maintain the existing parking lot as it is, they wouldn't require it at this time.
- Kim asked Christina regarding the diagonal striping shown going into the right of way if that was something she would or wouldn't want. Christina stated that she preferred that it didn't and that there shouldn't be any striping in the City right of way. Kim stated that if they could enlarge the landscape area on the sign or adjacent to the ramp, that would help define the in and out flow of traffic rather than just one big curb cut.
- Mike stated that he wanted to see some building plans with defined fire exits, access points and accessibility and fire prevention measures with the building like the hood system for the kitchen. He wanted to see the fire hydrants marked on the plan and the distance from all points of the building.
- Chief Reese asked if there had been any improvements to the floor in the building because the floor wasn't structurally sound the last time he had been in the building. Stephen stated that it was. Chief Reese stated that as just a personal request, he would like to see some windows on the building for safety reasons. Stephen stated that the glass block was brand new and that there were a few windows on the side of the building and the door in the front.
- Kim explained that regarding parking calculations, it was one for three seats, if it were just a bar it was one for 75 square feet, and in the case of a restaurant it was one for 100 square feet, whichever was greater. She stated that if they knew the square footage, they could do the math to make sure it was adequate and to see the calculations of if it were just a bar versus a bar and restaurant.
- Mike talked about the flow of the in and out of the parking lot. He mentioned that generally when you were looking at a building you would be pulling in on the right side and pulling out on the left. He stated that their flow seemed backwards, and he could see people going the wrong way. Stephen stated that the reason they kept it that way was because the handicap ramps were right there, so they would rather have the cars come in from that side and also the grade of the land made it easier for people to get out. He stated that the land fell off. Mike asked what direction. Stephen stated it was towards the back, the north side and that was why it was designed that way.
- Kim stated that they did allow driveway signs where they had limited access and that they might want to install driveway signs if they were going to have a configuration that was a little out of the normal. Kim suggested that it might be better to spend the time to get all of the additional pieces of information pulled together and to submit a revised plan and then go to Planning Commission in January after everything had been updated. She explained that they could continue forward with the rezone while gathering all the requested information in time for the January meeting on the development plans.

### Next Steps

- The applicant will provide updated plans for the January 14, 2025 meeting.

RECEIPT NUMBER

00029287



City of North Ridgeville  
7307 Avon Belden Road  
North Ridgeville, OH 44039  
(440) 490-2081

**Paid By**  
JOSEPH CONTRACTING, INC.  
36821 SURGAR RIDGE RD.  
North Ridgeville, OH 44039

11/14/2024

| Type        | Record       | Category      | Description         | Amount    |
|-------------|--------------|---------------|---------------------|-----------|
| PZE Process | PPZ2024-0319 | Standard Item | General Application | \$ 150.00 |
|             |              |               |                     |           |
|             |              |               | Total               | \$ 150.00 |
|             |              |               | Cash                |           |
|             |              |               | Check               | \$ 150.00 |
|             |              |               | Check #             | 5021      |
|             |              |               | Credit              |           |
|             |              |               | Transferred         |           |
|             |              |               | Tendered            | \$ 150.00 |
|             |              |               | Change              | \$ 0.00   |
|             |              |               | To Overpayment      | \$ 0.00   |

39462 CENTER RIDGE RD  
0700046101006

Mail body: Fwd: 39462 CenterRidge Rd

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----- Forwarded message -----

From: **Alisha Blaylock** <[ablaylock@elyrialaw.com](mailto:ablaylock@elyrialaw.com)>  
Date: Mon, Nov 11, 2024, 11:28 AM  
Subject: Re: 39462 CenterRidge Rd  
To: Stephen Joseph <[joseph.contracting@gmail.com](mailto:joseph.contracting@gmail.com)>

Parker Holdings, LTD.  
39425 Center Ridge, North Ridgeville  
07-00-046-108-055

Elyria Center Ridge, Inc.  
39475 Center Ridge, North Ridgeville  
(440) 427-4662  
07-00-046-108-002  
07-00-046-108-001  
07-00-046-500-011

Pennsylvania Lines, LLC  
06-25-025-500-002

ADJOINING  
PROPERTIES

Alisha F. Blaylock  
Secretary to Geoffrey R. Smith, Esq.  
**Geoffrey R. Smith Co., LPA**  
124 Middle Avenue, Suite 800  
Elyria, Ohio 44035  
(440) 323-2201 phone ~ (440) 323-2332 fax  
[ablaylock@elyrialaw.com](mailto:ablaylock@elyrialaw.com)

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On Mon, Nov 11, 2024 at 11:17 AM Alisha Blaylock <[ablaylock@elyrialaw.com](mailto:ablaylock@elyrialaw.com)> wrote:  
Call the office please.

Alisha F. Blaylock  
Secretary to Geoffrey R. Smith, Esq.  
**Geoffrey R. Smith Co., LPA**  
124 Middle Avenue, Suite 800  
Elyria, Ohio 44035  
(440) 323-2201 phone ~ (440) 323-2332 fax  
[ablaylock@elyrialaw.com](mailto:ablaylock@elyrialaw.com)

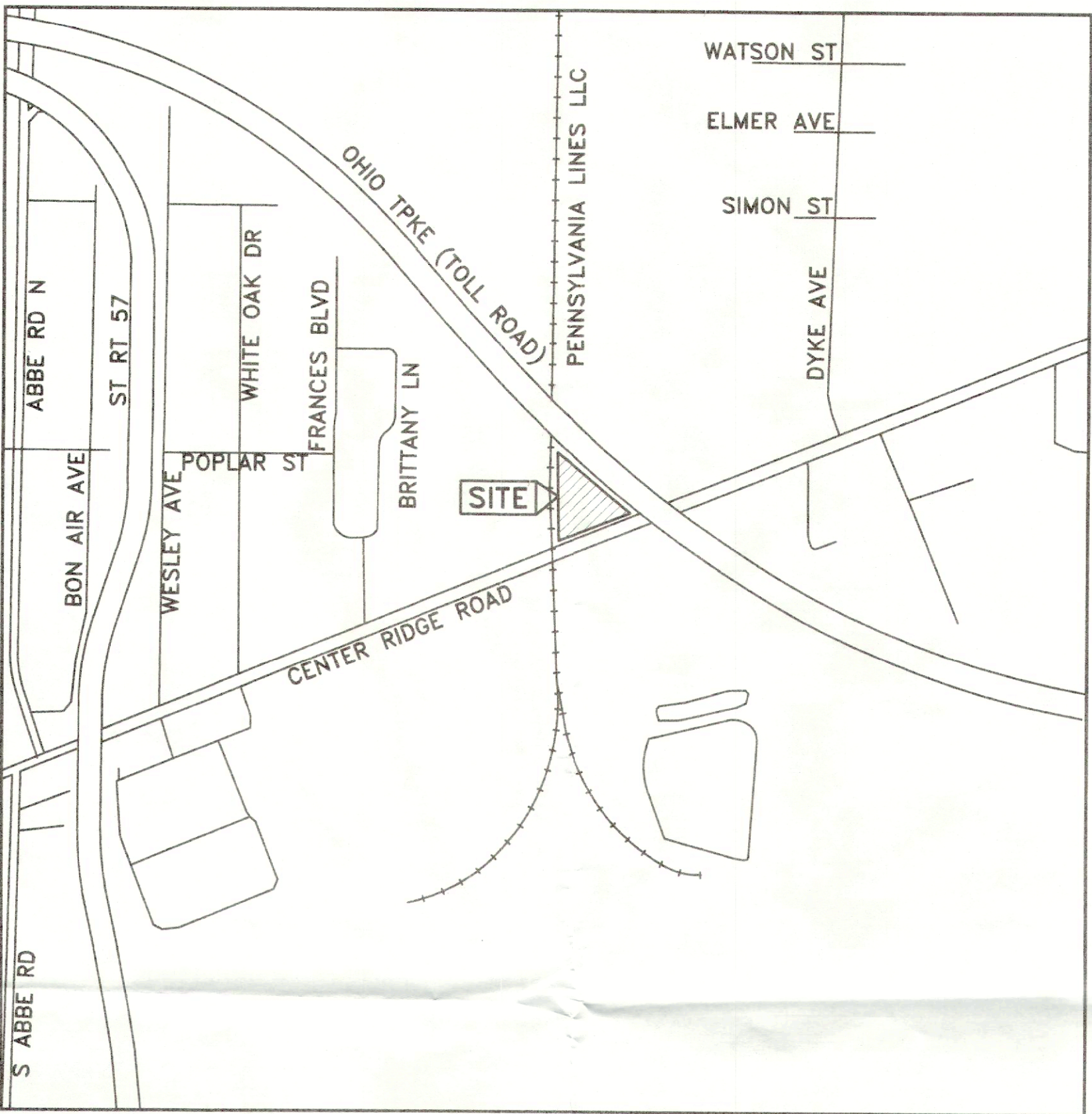
*This message is intended solely for the recipient to which it is addressed. If you are not the intended recipient, you should not disclose, distribute or copy this email. Please notify the sender immediately by email and delete this email from your system.*

On Mon, Nov 11, 2024 at 11:11 AM Stephen Joseph <[joseph.contracting@gmail.com](mailto:joseph.contracting@gmail.com)> wrote:

PP# 07-00-046-101-006 Good morning Alicia, is there a possibility that you can find Is the properties that a butt to my parcel because I am really having trouble getting on Lorain county maps. I need property owners names and addresses for the city of North Ridgeville And the funny thing is they will not help me. I know I have the railroad on one side me and the Ohio turnpike commission on the other side and I'm not sure if I



CITY LIMITS  
RESTAURANT & LOUNGE  
PATIO & PARKING LOT IMPROVEMENTS  
SITUATED IN THE CITY OF NORTH RIDGEVILLE,  
COUNTY OF LORAIN, STATE OF OHIO



VICINITY MAP  
-NOT TO SCALE-

SITE ADDRESS: 39462 CENTER RIDGE ROAD, NORTH RIDGEVILLE, OHIO 44035  
COORDINATES: N: 632042 E: 2044876 (NAD83 OHIO NORTH ZONE)  
LAT: N 42° 22' 50" LONG: W 82° 04' 05" (WGS 84)

LEGEND OF LINETYPES

|     |                          |
|-----|--------------------------|
| --- | CENTERLINE               |
| --- | EX. PAVEMENT             |
| --- | DITCH/CREEK/SWALE        |
| --- | EX. SETBACK LINES        |
| --- | EX. MINOR CONTOUR        |
| --- | EX. MAJOR CONTOUR        |
| --- | EX. STORM                |
| --- | EX. SANITARY             |
| --- | EX. WATER                |
| --- | EX. GAS                  |
| --- | EX. OVERHEAD UTILITIES   |
| --- | EX. TELEPHONE            |
| --- | EX. U.G. ELECTRIC        |
| --- | PROP. MINOR CONTOUR      |
| --- | PROP. MAJOR CONTOUR      |
| --- | PROP. STORM              |
| --- | PROP. SANITARY           |
| --- | PROP. WATER              |
| --- | PROP. GAS                |
| --- | PROP. OVERHEAD UTILITIES |
| --- | PROP. TELEPHONE          |
| --- | PROP. U.G. ELECTRIC      |
| --- | CONSTRUCTION LIMITS      |
| --- | SILT FENCE               |

LEGEND OF SYMBOLS

|   |                           |
|---|---------------------------|
| ○ | CLEAN OUT                 |
| ○ | DOWNSPOUT                 |
| ○ | YARD DRAIN                |
| ○ | STORM MANHOLE             |
| ○ | SANITARY MANHOLE          |
| ○ | CATCH BASIN               |
| ○ | HYDRANT                   |
| ○ | WATER VALVE               |
| ○ | GAS REGMETER              |
| ○ | WATER REGMETER            |
| ○ | ELECTRICAL METER          |
| ○ | GAS VALVE                 |
| ○ | UTILITY POLE              |
| ○ | GUY ANCHOR                |
| ○ | BOLLARD                   |
| ○ | SIGN                      |
| ○ | SOILS TYPE                |
| ○ | IRON PIN/PIPE FOUND       |
| ○ | AS INDICATED              |
| ○ | IRON PIN/PIPE FOUND IN    |
| ○ | MONUMENT BOX AS INDICATED |
| ○ | INLET PROTECTION          |
| ○ | DEMOLITION AREA           |

DESIGN ENGINEER:

RICHARD A. FREDRICKSON, P.E., P.S. DATE  
OHIO ENGINEER - 61668  
OHIO SURVEYOR - 8285

CIVIL SITE DESIGN SHEET LEGEND

TITLE SHEET..... C1.0  
SITE PLAN..... C2.0

CONTRACTOR SHALL ABIDE BY ALL JURISDICTIONAL DETAILS AND SPECIFICATIONS. IN THE CASE WHERE DETAILS CONFLICT THE JURISDICTIONAL DETAIL AND SPECIFICATIONS SHALL BE USED. A LIST OF APPLICABLE STANDARD CITY OF NORTH RIDGEVILLE DETAILS IS PROVIDED HEREON. ADDITIONAL DETAILS AND SPECIFICATIONS MAY BE REQUIRED AND SHALL BE OBTAINED BY THE CONTRACTOR FROM THE CITY OF NORTH RIDGEVILLE ENGINEERING AND/OR BUILDING DEPARTMENT.

SCOPE OF WORK

IMPROVEMENTS TO THE SITE TO MODIFY THE EXISTING PARKING AND BUILDING FOR USE AS A BAR AND RESTAURANT.

SURVEY NOTES:

A BOUNDARY SURVEY PER OAC 4733-37 HAS NOT BEEN PERFORMED BY RAFTER A, LTD.

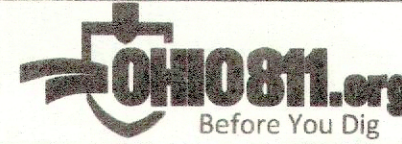
TOPOGRAPHIC SURVEY IS BASED UPON A FIELD SURVEY PERFORMED BY RAFTER A., LTD IN JANUARY AND FEBRUARY OF 2024 AND SUPPLEMENTED WITH AERIAL DATA.

EXISTING UNDERGROUND UTILITIES NOTE:

THE SIZE & LOCATION, BOTH HORIZONTAL AND VERTICAL, OF THE UNDERGROUND UTILITIES SHOWN HEREON, HAVE BEEN OBTAINED BY A SEARCH OF AVAILABLE RECORDS. VERIFICATION BY FIELD OBSERVATION HAS BEEN CONDUCTED WHERE PRACTICAL. HOWEVER, RAFTER A., LTD DOES NOT GUARANTEE THE COMPLETENESS NOR ACCURACY THEREOF.

UNDERGROUND UTILITIES

Contact Two Working Days  
Before You Dig



OHIO811, 8-1-1, or 1-800-362-2764  
(Non-members must be called directly)

A400302521-00A # B400301242-00A

RAFTER A, LTD  
LAND SURVEYING • ENGINEERING • TESTING  
42653 Oberlin-Elyria Road, Oberlin, Ohio 44074  
440-707-4014 • www.raftera.com • info@raftera.com

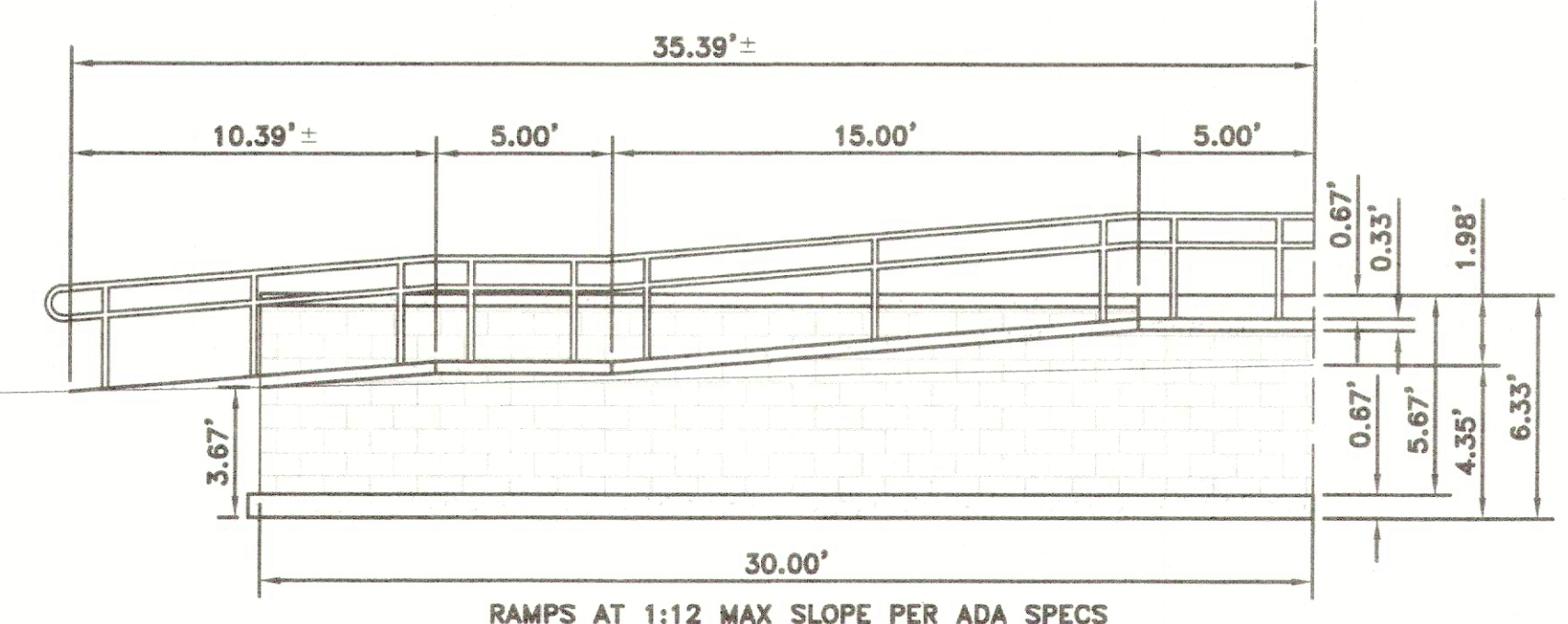
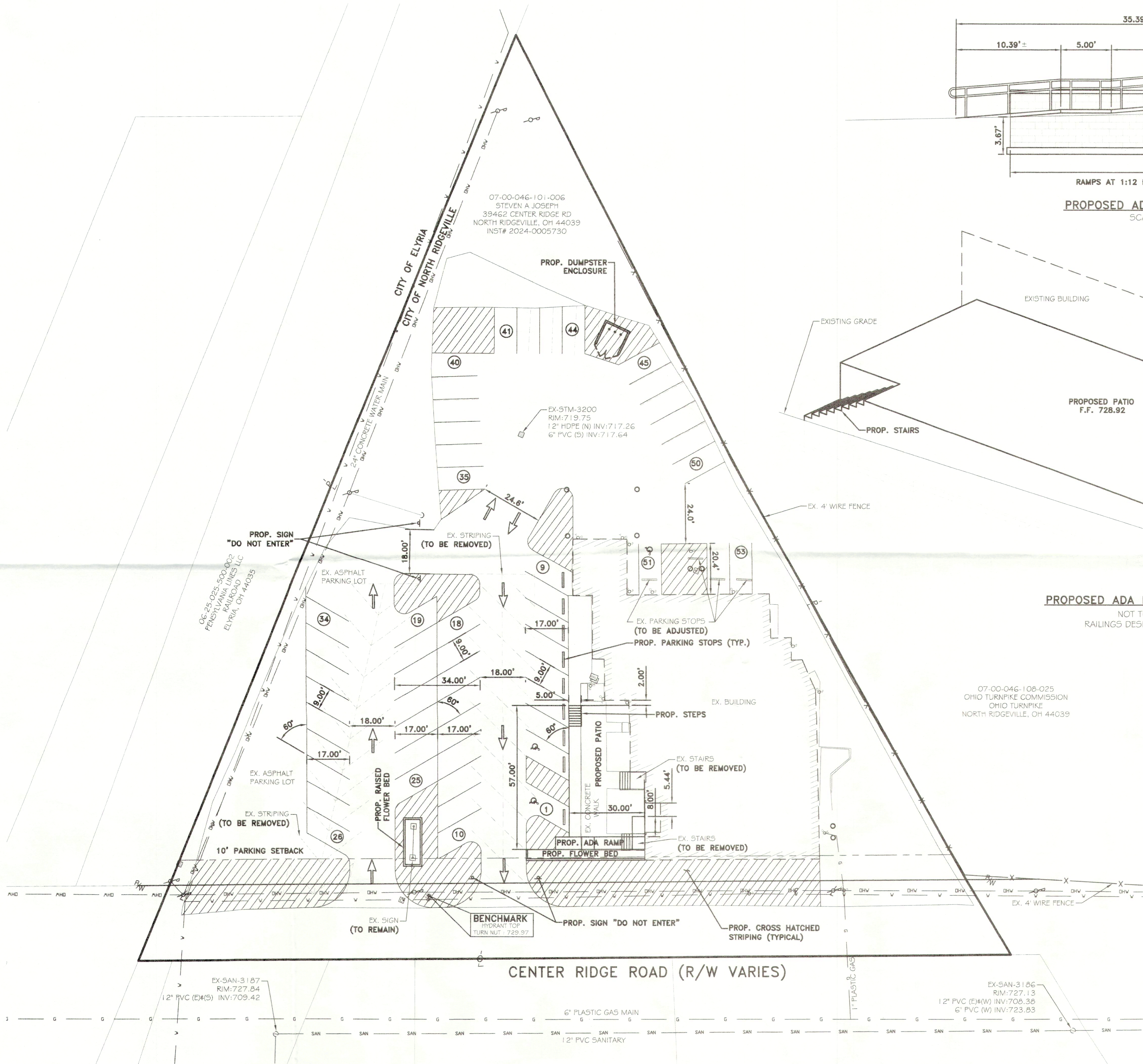
JOSEPH CONTRACTING  
38821 SUGAR RIDGE ROAD  
NORTH RIDGEVILLE, OH 44039

CITY LIMITS RESTAURANT & LOUNGE  
TITLE SHEET  
39462 CENTER RIDGE ROAD  
NORTH RIDGEVILLE, OH 44039

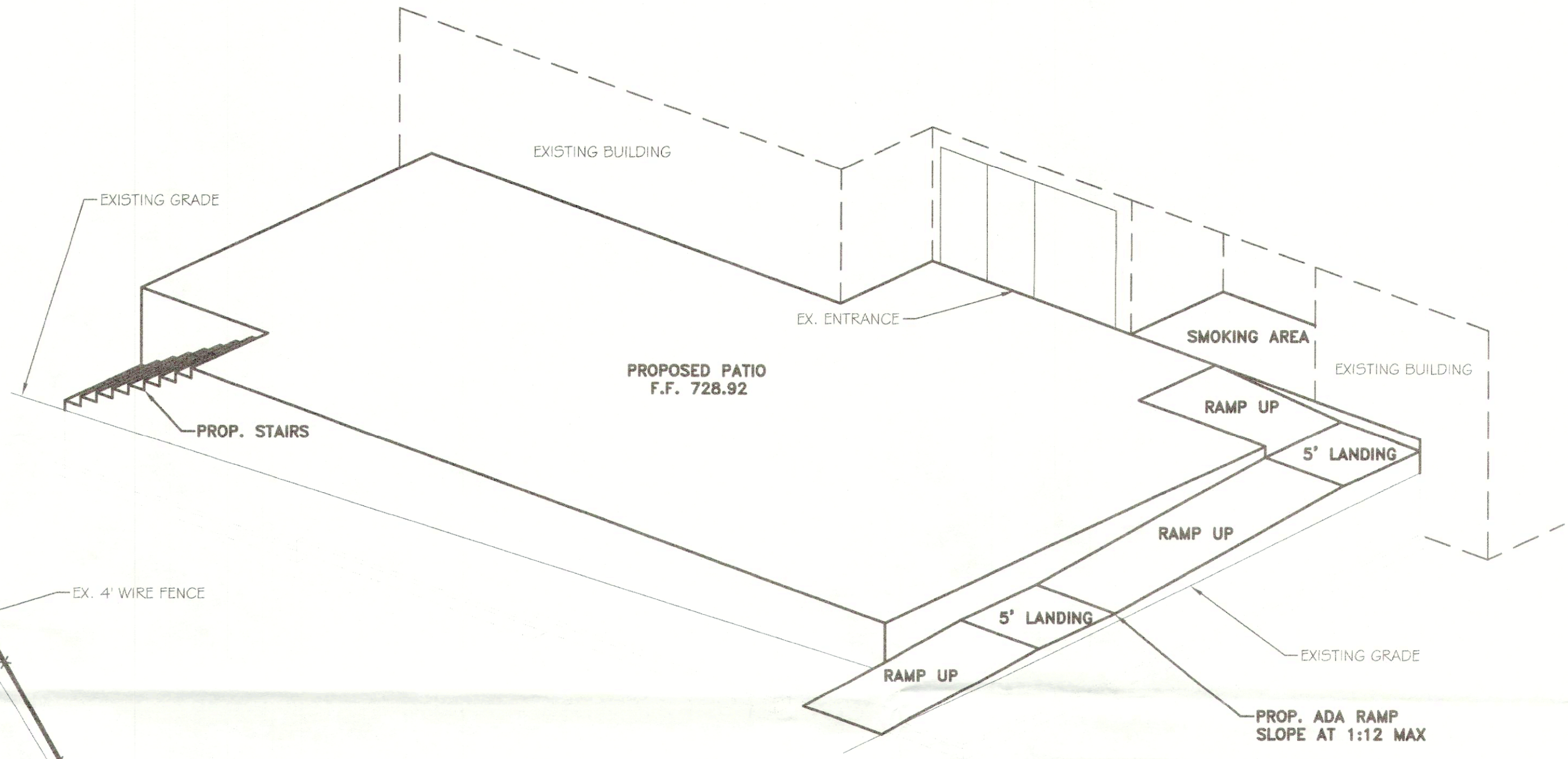
DRAWN BY: JNY  
CHECKED BY: RAF  
RAF JOB No: 3361-23

SHEET: C1.0





PROPOSED ADA RAMP SIDE VIEW  
SCALE: 1" = 5'



PROPOSED ADA RAMP OVERALL VIEW  
NOT TO SCALE  
RAILINGS DESIGNED BY OTHERS

LEGEND OF SYMBOLS:

- CATCH BASIN
- DOWNSPOUT
- CLEANOUT
- YARD DRAIN
- GAS METER
- WATER SERVICE VALVE
- HYDRANT
- LIGHT POLE
- BOLLARD
- ELECTRIC BOX
- CABLE BOX
- MAIL BOX

LEGEND OF LINETYPES:

- CENTERLINE
- EX. PAVEMENT
- DITCH/CREEK/SWALE
- EX. SETBACK LINES
- EX. MINOR CONTOUR
- EX. MAJOR CONTOUR
- EX. STORM
- EX. SANITARY
- EX. WATER
- EX. GAS
- EX. OVERHEAD UTILITIES
- EX. TELEPHONE
- EX. U.G. ELECTRIC
- EX. FENCE

SURVEY NOTES:

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TOPOGRAPHIC SURVEY IS BASED UPON A FIELD SURVEY PERFORMED BY RAFTER A, LTD. IN JANUARY AND FEBRUARY OF 2024 AND SUPPLEMENTED WITH AERIAL DATA.

EXISTING UNDERGROUND UTILITIES NOTE:

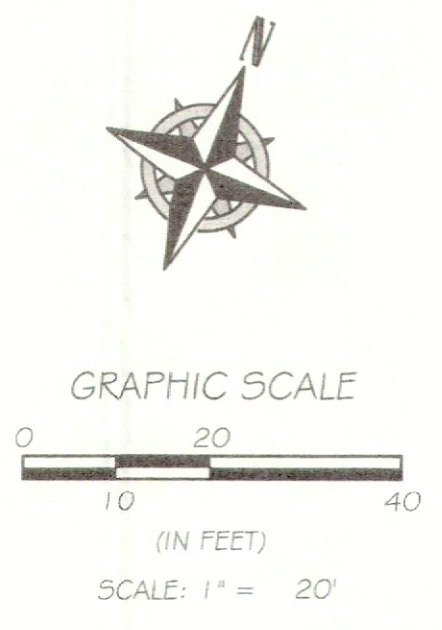
THE SIZE & LOCATION, BOTH HORIZONTAL AND VERTICAL, OF THE UNDERGROUND UTILITIES SHOWN HEREON, HAVE BEEN OBTAINED BY A SEARCH OF AVAILABLE RECORDS. VERIFICATION BY FIELD OBSERVATION HAS BEEN CONDUCTED WHERE PRACTICAL. HOWEVER, RAFTER A, LTD DOES NOT GUARANTEE THE COMPLETENESS NOR ACCURACY THEREOF.

**UNDERGROUND UTILITIES**  
Contact Two Working Days  
Before You Dig

**OHIO811.org**  
Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764  
(Non-members must be called directly)

A400302521-00A # B400301242-00A



| REV | BY  | DATE       | DESCRIPTION                     |
|-----|-----|------------|---------------------------------|
| 1   | RAF | 03-28-2024 | PRELIMINARY ISSUE FOR REVIEW    |
| 2   | RAF | 04-11-2024 | PRELIMINARY ISSUE FOR REVIEW    |
| 3   | RAF | 06-12-2024 | UPDATED PARKING ISSUE TO CLIENT |

|                                                   |                            |                                 |
|---------------------------------------------------|----------------------------|---------------------------------|
| RAFTER A, LTD                                     | JOSEPH CONTRACTING         | CITY LIMITS RESTAURANT & LOUNGE |
| LAND SURVEYING • ENGINEERING • TESTING            | 36821 SUGAR RIDGE ROAD     |                                 |
| 42653 Oberlin-Elyria Road, Oberlin, Ohio 44074    | NORTH RIDGEVILLE, OH 44039 |                                 |
| 440-707-4014 • www.raftera.com • info@raftera.com |                            |                                 |

|                            |  |
|----------------------------|--|
| SITE PLAN                  |  |
| 39462 CENTER RIDGE ROAD    |  |
| NORTH RIDGEVILLE, OH 44039 |  |

|                     |  |
|---------------------|--|
| DRAWN BY: JNY       |  |
| CHECKED BY: RAF     |  |
| RAF JOB No: 3361-23 |  |

|            |
|------------|
| SHEET: 2.0 |
|------------|



RECEIVED

NOV 15 2024

## Planning Commission Application



## SUBMITTAL INSTRUCTIONS AND PROCEDURES

Plan reviews will be carried out according to the processes described in the City's Zoning Code.

- **Pre-Application.** Prior to making application, applicants are recommended to contact the city to discuss their development project. City staff will outline the review process and provide a checklist of required submittals.
- **Application Submittal.** Following the pre-application meeting, the applicant shall submit this completed application, fee and ten (10) sets of all required exhibits. All submissions shall be made in hard copy to the Building Division. Plans shall be collated, folded and easily legible.
- **Staff Review.** The applicant shall attend a staff review meeting and may be required to submit additional information and/or revised plans based on staff input.
- **Variances.** Where zoning variances are sought by the applicant, review by the Board of Zoning and Building Appeals will be necessary prior to consideration by the Planning Commission, requiring a separate application.
- **Decision or Referral.** Following staff review, complete submittals for Administrative Review projects may be considered for approval. For Council Review projects, complete submittals shall be referred to the next available Planning Commission meeting, which are held the second Tuesday of each month.

## PROJECT INFORMATION

5725 Avon Belden Road, North Ridgeville, Ohio

Location address

0700019000010, 0700020101001, 0700020101042

Parcel number(s)

Project type: ☐ Commercial/Industrial/Multi-Fam ☐ Prelim Major Subdivision ☐ Final Major Subdivision ☐ Lot SplitProject elements: ☐ New Construction ☐ Building Addition/Alteration ☐ Site Improvements ☒ Plat

Single family detached and cluster development - The Crossing at French Creek

Project description

## APPLICANT/AGENT INFORMATION

Thom Sutcliffe, Drees Homes

Name/Company

6860 W. Snowville Road, Suite 105, Brecksville, Ohio 44141

Applicant address

440-746-6434

Applicant phone

tsutcliffe@dreeshomes.com

Applicant email

## PROPERTY OWNER INFORMATION

The Drees Company

Name/Company

6860 W. Snowville Road, Suite 105, Brecksville, Ohio 44141

Property owner address

Agent: Thom Sutcliff 440-746-6434

Property owner phone

Agent: Thom Sutcliff tsutcliffe@dreeshomes.com

Property owner email

## AUTHORIZATION AND ACKNOWLEDGEMENT

DocuSigned by:

  
Applicant signature

DocuSigned by:

  
Property owner signature

I hereby authorize the City of North Ridgeville, including Planning Commission members, to view the premises and consent to their entry onto the property for the purpose of observing site conditions related to review of my application.

|        |              |                   |        |
|--------|--------------|-------------------|--------|
| OFFICE | PPZ No.      | Planning Fee Paid | ACTION |
|        | PP22024-0320 | \$400.00 MC       |        |



## Planning Review

December 5, 2024

*Revised Review*

Project: The Crossing at French Creek, Phase 1 Final Plat  
Location: Avon Belden Road  
PPNs: 07-00-019-000-010, 07-00-020-101-001, 07-00-020-101-042  
District: R-1 Residence District (Chapter 1282)

### Project Summary:

The Crossing at French Creek subdivision is located on property zoned R-1 Residence District and has been designed and is being constructed per the requirements contained in Chapter 1282 (Single-Family Detached and Cluster Development). The preliminary plat for the subdivision was approved by the Planning Commission in October 2023. The layout of the subdivision, number of lots, configuration of open space, etc. is the same as what was approved by the Planning Commission. As a condition of approval, the Commission required sidewalks to be installed on Sugar Ridge and Bender Roads.

Following Planning Commission's preliminary approval, the developer proceeded with the submission of improvement plans and began preliminary construction activities for Phase 1. The subdivision of 92 units is being constructed in two phases. The first phase consists of 41 sublots.

The final plan is substantially similar to that which was preliminarily approved by Planning Commission. Included in the improvement plans, the Planning Commission will note that Baldauf Crossing, the main entrance to the development, is shown with both northbound and southbound exit lanes onto SR 83. This requirement was imposed by Engineering in the course of their detailed review of the Traffic Impact Study.

For final approval, Planning Commission is to review those items listed in Section 1282.07 Final Subdivision Plan; Contents, including the following:

- A plat of the development area showing the street right of way, subdivided and common land, areas reserved for single-family cluster use, and easements, in form for recording
- Detailed plans and specifications for all streets, sidewalks, storm and sanitary sewers, water mains, street illumination, grading and other site features of the development area
- A detailed landscape plan showing all existing site features to remain, recreation facilities and the landscape treatment of all common open space areas within the development area
- The final form of covenants running with the land, deed restrictions, restrictions or easements to be recorded, bylaws of a homeowners' association, etc.

### Comments:

- Detailed landscape plan is required per Chapter 1282. *While the landscape plan does provide for street trees and landscape treatment along the Avon Belden Road frontage, the remaining open space areas are not well defined, simply labeled "open space." Street tree selections should be made with recommendations and approval of the City Arborist. "Future Shade/Canopy Tree Planting Area" was recommended by Engineering*



*as a result of unapproved tree clearing on the site. A minimum number of trees should be identified for replanting in this area.*

- Lighting plan not included. *A lighting plan has been submitted showing the future location of street lights.*
- HOA documents were provided to the city in July and forwarded to the Law Department for review.



## Planning Commission Comment Sheet



### PROJECT INFORMATION

The Crossing at French Creek Subdivision Final Plat

Proposed project

5725 Avon Belden Rd

Location

December 10, 2024

Meeting date

07-00-019-000-010, 07-00-020-101-001, -042

Parcel number

December 1, 2024

Comments due

### RECOMMENDATIONS

- 15' drainage easement along north property line is not shown on sheet 2.
- 20' drainage easement along south property line and 15' drainage easement along north property line are a different type of drainage easement, because they will be with the City of North Ridgeville. (Identify differently and their own write-up)
- The R/W along the frontage of SR 83 should be the same across the property, so Block "B" should have R/W not sidewalk easement
- There should be more dedicated easement for the culvert crossing French Creek
- How are the bump outs of the sidewalk outside the R/W along SR 83 being handled
- There was a letter dated April 12 email April 24 from Christina stating that there should have been to lanes coming out of the development on to SR 83.
- The letter also stated that there should be a southbound left turn lane on SR 84 and a northbound right turn lane, that needed to be addressed in Phase 2 improvements there is not enough R/W along SR 83.
- Require site distance clearance along SR 83 and the entrance driveway.

### SUBMITTED BY

Administrative officer signature

Assistant City Engineer

Title

**Planning Commission Bylaws Article V Section 2 – Administrative Review.** All applications including those plans and maps submitted to the Commission shall be referred to Administrative Officers. Comments and recommendations by Administrative Officers, if any, shall be forwarded to the Secretary not later than ten (10) calendar days after receipt. Administrative Officers who have not acted within the allotted time shall be deemed to have concurred with plans as submitted.



## Planning Commission Comment Sheet



### PROJECT INFORMATION

The Crossing at French Creek Subdivision Final Plat

Proposed project

5725 Avon Belden Rd

Location

December 10, 2024

Meeting date

07-00-019-000-010, 07-00-020-101-001, -042

Parcel number

December 1, 2024

Comments due

### RECOMMENDATIONS

Type comments here. Attach additional sheets as necessary.

1. The Crossing at French Creek No. 1 has 41 total lots on 21.1864 total acres with a density of 1.935 (41 total lots divided by 21.1864 total acres = 1.95).
2. The Crossing at French Creek No.1 has 32.5% open space (6.9011 total open space acres divided by 21.1864 total acres = 0.325 {32.5%})
3. The Crossing at French Creek No.1 has 75.6 % cluster family lots (31 cluster family lots divided by 41 total lots = 0.756 {75.6%}).
4. Cluster family lots shall have 35 foot rear yard setback from single family lots. Sublots 1-11 are required to have 35 foot rear yard setback (north side of property).
5. Final numbers for density, average single family lot width, average single family lot front setback, open space percentage and cluster family lot percentage are determined at the last phase of the subdivision.

### SUBMITTED BY

Guy M. Fursdon

Administrative officer signature

Chief Building Official

Title

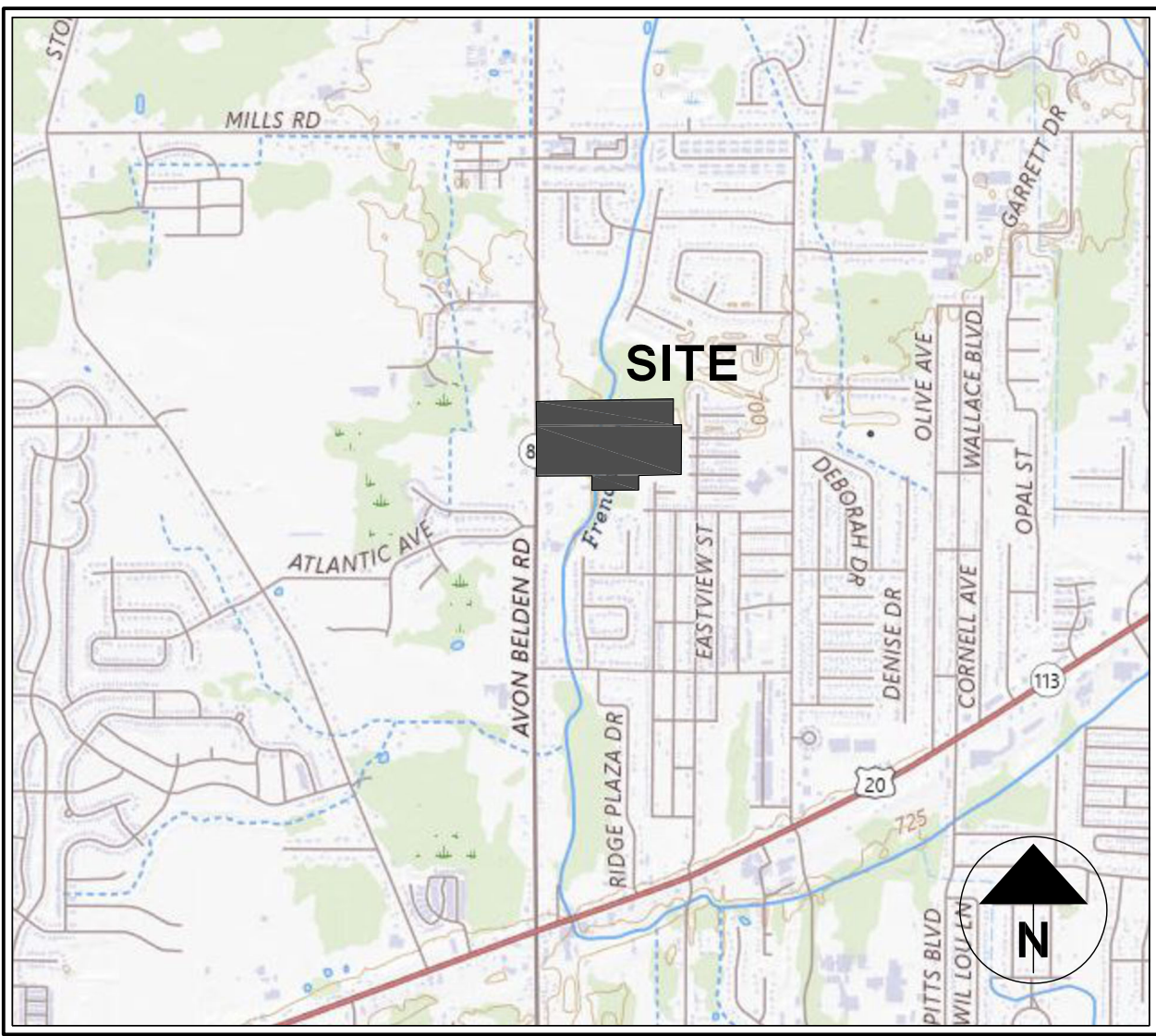
**Planning Commission Bylaws Article V Section 2 – Administrative Review.** All applications including those plans and maps submitted to the Commission shall be referred to Administrative Officers. Comments and recommendations by Administrative Officers, if any, shall be forwarded to the Secretary not later than ten (10) calendar days after receipt. Administrative Officers who have not acted within the allotted time shall be deemed to have concurred with plans as submitted.



The Crossing at French Creek Subdivision No. 1

Creating Sublot Nos. 1 through 41, Block 'A', Block 'B', Block 'C', Block 'D' and Dedication Baldauf Crossing and Marcella Way and dedicating a portion of Avon Belden Road

Situated in the City of North Ridgeville, County of Lorain and State of Ohio, also known as being part of Original Ridgeville Township Lot. Nos. 19 and 20 and further known as being all of 3 parcels of land conveyed to The Drees Company by deed dated June 28, 2024 and recorded in Instrument No. 20240017934 of the Lorain County Recorder's Records.



LOCATION MAP

LATITUDE: 41°24'28.7" LONGITUDE: 82°00'53.3"

Not To Scale

| AREA TABLE                    |               |
|-------------------------------|---------------|
| Sublots (41)                  | 10.8316 acres |
| Block 'A'                     | 6.4639 acres  |
| Block 'B'                     | 0.1069 acres  |
| Block 'C'                     | 0.4201 acres  |
| Block 'D'                     | 29.1026 acres |
| Right of Way(New)             | 2.6386 acres  |
| Right of Way(Avon Belden Rd.) | 0.8313 acres  |
| Total                         | 50.3950 acres |

NOTES:

REFERENCE WORKS:

Deed Documents as referenced by the Survey

Parcel Split & Consolidation Map for Donald Pincombe by Wilfredo Barbosa, P.S. 8301, on file as Survey 700020 of the Lorain County Engineer's Survey Records.

Survey prepared for Otto Laubenthal by Dane A. Haponek, P.S. 6211, on file as Survey 700020A of the Lorain County Engineer's Survey Records.

BASIS OF BEARINGS:

Centerline bearing of Avon Belden Road was calculated to be North 00°12'51" East, based upon Ohio State Plane Coordinate System, North Zone, NAD 1983, Ground as established by ODOT VRS GPS observations in January of 2022.

5/8" Iron pins to be set by me at all Sublot and Block corners. 3/4" Iron pins to be set in all centerline monuments by me.

All 5/8" x 30" iron pins set are affixed with a plastic cap bearing the inscription "DAVEY RESOURCE GROUP"

RECEIVED 12.2.2024

ACCEPTANCE & DEDICATION:

The undersigned (set forth all parties having record legal title interest in the parcel) The Drees Company hereby certify that the attached plat correctly represents their "The Crossing at French Creek Subdivision No. 1" a subdivision of lots 1 through 41, inclusive, do hereby acknowledge this plat of same and dedicate to the public such, all or parts of the roads, boulevards, cul-de-sacs, parks, planting strips, etcetera shown herein and not heretofore dedicated.

The undersigned further agrees that any use or improvements made on this land shall be in conformity with all existing platting, health or other lawful rules and regulations including the applicable off-street parking and loading requirements of the City of North Ridgeville, Ohio, for the benefit of themselves and all other subsequent parties taking title from, under or through the undersigned.

The dimensions of the lots and streets are shown on the plat in feet and decimal parts thereof. Easements are reserved where indicated on the plat for above and beneath the surface of the ground.

In witness thereof the undersigned have hereunto set their hand this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

Witness \_\_\_\_\_ Signed \_\_\_\_\_ (The Drees Company)

State/Commonwealth of \_\_\_\_\_

Before me a notary public in and for said county and state, personally appeared the above named

\_\_\_\_\_ Owner/Agent who acknowledged the making of the foregoing instrument

and the signing of this plat to be their own free act and deed. In testimony whereof I have hereunto set my hand

and official seal at \_\_\_\_\_, \_\_\_\_\_ this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

Notary public \_\_\_\_\_

My commission expires \_\_\_\_\_

DRAINAGE AND STORM SEWER EASEMENTS:

Easements to the Homeowners Association

Drainage and storm sewer easements as shown hereon, outside of the public right of way, including, but not limited to, grading, drainage, storm sewers, and drainage structures are the responsibility of the Crossing at French Creek Subdivision Homeowners Association. These improvements are privately held and, therefore, the complete responsibility of the Homeowners Association with rights to access, install, maintain, replace, and/or remove storm sewers, inlets, ditches, swales, earth mounds, vegetation, and/or other appurtenances as necessary. Work shall be in accordance with all applicable regulatory agencies including the City of North Ridgeville, the Ohio Environmental Agency and the United States Army Corps of Engineers.

Easements to the City of North Ridgeville

The drainage easements dedicated to the City of North Ridgeville (City) are depicted on the attached exhibit. The owner, its successors and their assignees (Owner) do hereby grant to the City these areas for the purpose of maintaining a public storm sewer, ditch and water course drainage system to and abutting the French Creek area. These easements shall be explicit to access, maintain, repair, replace and operate the complete drainage system. It shall be the City's responsibility to restore any disturbed areas, necessary for maintenance, to their existing condition. Otherwise, it shall be the Owner's responsibility to routinely maintain the lawn in these areas. The Owner agrees that no buildings, structures, lighting, landscaping or other vertical obstructions shall be erected in these easement areas. The Owner further agrees not to construct any sidewalks, driveways or pavement without the consent of the City. The Owner shall also maintain the grade across these easements that was originally approved at Planning. This easement shall run with the land in perpetuity.

| LEGEND              |                |       |
|---------------------|----------------|-------|
| DESCRIPTION         | FOUND          | SET   |
| MAG NAIL            | ○ M.N.F.       | ✗     |
| MONUMENT BOX        | Ⓜ              | Ⓜ     |
| IRON PIN            | ○ I.P.F.       | ●     |
| IRON PIPE           | ○ P.F.         | ●     |
| LIMITED ACCESS R/W  | --- Ex LA ---  | ---   |
| CENTERLINE          | ---            | ---   |
| PROPERTY LINE       | ---            | ---   |
| RIGHT-OF-WAY LINE   | --- Ex R/W --- | ---   |
| EASEMENT LINE       | -----          | ----- |
| ORIGINAL PROP. LINE | .....          | ..... |
| ORIGINAL LOT LINE   | -----          | ----- |

| Sheet List Table |                 |
|------------------|-----------------|
| Sheet Number     | Sheet Title     |
| 1                | TITLE           |
| 2                | OVERALL         |
| 3                | SUBLOTS         |
| 4                | SWM ESMT DETAIL |

APPROVALS:

Approved by the Secretary (or responsible official) City Planning Commission this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

Secretary (or responsible official) - Print \_\_\_\_\_ Sign \_\_\_\_\_

Approved by Mayor (or designated member of Council) this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

Mayor (or designated member of Council) - Print \_\_\_\_\_ Sign \_\_\_\_\_

Approved by City Engineer this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

City Engineer - Print \_\_\_\_\_ Sign \_\_\_\_\_

Transferred by the Lorain County Auditor this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

Lorain County Auditor - Print \_\_\_\_\_ Sign \_\_\_\_\_

Filed for record this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ at \_\_\_\_\_.

Recorded this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ in Plat Book \_\_\_\_\_ Page No. \_\_\_\_\_

Lorain County Recorder - Print \_\_\_\_\_ Sign \_\_\_\_\_

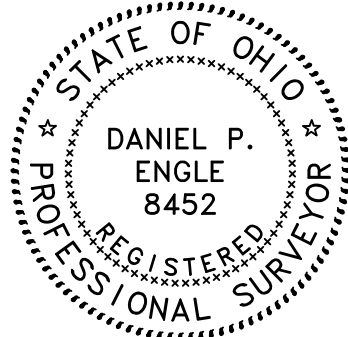
SURVEYOR CERTIFICATION:

Surveyed by Davey Resource Group - Civil Engineers and Surveyors

We do hereby certify that we have surveyed the premises and prepared the attached plat and that said plat is correct. Dimensions on curves are arc measurements.

This Plat was prepared from a field survey, analysis of recorded plats, recorded deeds, and survey records, as applicable. Distances are given in feet and decimal parts thereof. All dimensional and geodetic details are correct and the survey balances and closes to the best of my knowledge. All monuments shown hereon exist or shall be set by me as shown.

Daniel P. Engle P.S. No. S-8452 Date \_\_\_\_\_



GENERAL UTILITY EASEMENTS:

We, the owners of the within platted land, do hereby grant unto Wide Open West, The City of North Ridgeville, Ohio Edison, Everstream Solutions, Columbia Gas of Ohio, Windstream Ohio, Charter Communications, their successors and assigns, (hereinafter referred to as grantees) a permanent right-of-way and easement twelve (12) feet in width under, over and through all sublots and all lands shown hereon and parallel with and contiguous to all street lines to construct, place, operate, maintain repair, reconstruct and relocate such underground electric, gas and communications cables, ducts, conduits, pipes, surface or below ground mounted transformers and pedestals, concrete pads and other facilities as are deemed necessary or convenient by the grantees for distributing and transmitting electricity, gas, and communication signals, for public and private use at such locations as the grantees may determine, upon within and across said easement premises. Said easement rights shall include the right, without liability therefore, to remove any and all facilities not contemplated in the rights conveyed to grantees by this easement grant within said easement premises including, but not limited to irrigation systems electronic animal fencing, trees and landscaping including lawns, flowers or shrubbery and landscape lighting within and without said easement premises which may interfere with the installation, maintenance, repair or operation of said electric and communications facilities, the right to install, repair, operation of said electric and communications signals, the right to install, repair, augment, and maintain service cables outside the above described easement premises, and with the right of access and egress to and from any of the within described premises for exercising any of the purposes of the right-of-way and easement grant. All sublots and all lands shall by restricted to underground utility service.

Grantor:

The Drees Company

By: \_\_\_\_\_



SITE INFORMATION:

SITE LOCATION: 5725 AVON BELDEN ROAD (S.R.83), NORTH RIDGEVILLE, OHIO

| PARCELS: | PARCEL        | AREA    | OWNER             |
|----------|---------------|---------|-------------------|
|          | 0700019000010 | 15.3 AC | THE DREES COMPANY |
|          | 0700020101001 | 8.9 AC  | THE DREES COMPANY |
|          | 0700020101042 | 26.2 AC | THE DREES COMPANY |

SITE AREA: 50.4 AC TOTAL GROSS PARCEL AREA  
-0.8 AC EXISTING RIGHT-OF-ROW  
49.6 AC TOTAL NET PROJECT AREA

CURRENT ZONING DISTRICT: R-1 RESIDENCE DISTRICT

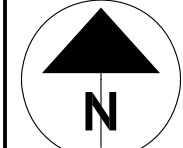
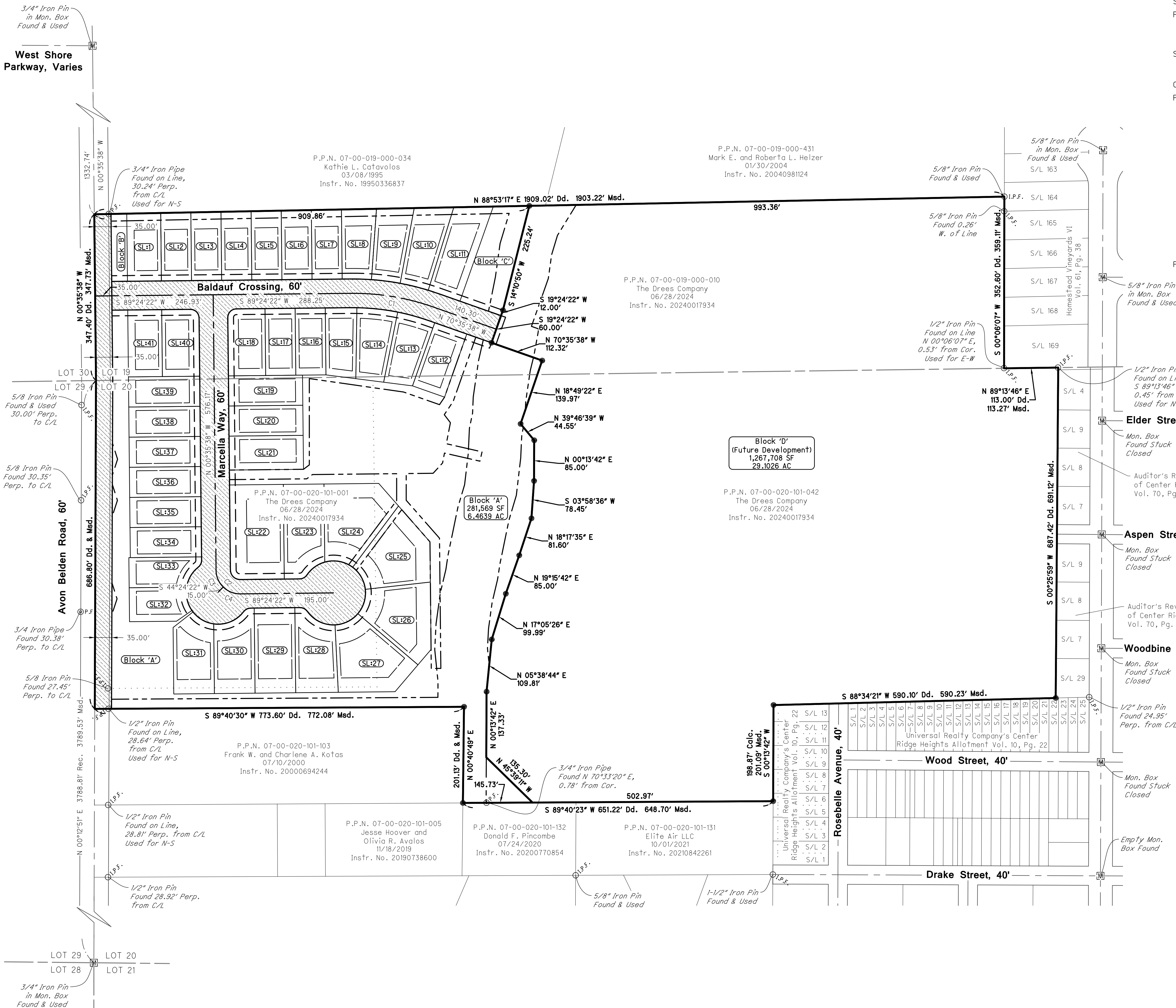
PROPOSED ZONING DISTRICT: SINGLE-FAMILY DETACHED AND CLUSTER DEVELOPMENT  
CHAPTER 1282 SINGLE-FAMILY DETACHED AND CLUSTER DEVELOPMENT:

|                                 | PER CODE            | SHOWN             |
|---------------------------------|---------------------|-------------------|
| -MIN. DEVELOPMENT AREA:         | 25 AC               | 49.6 AC           |
| -MAX. DENSITY:                  | 2.3 D.U./AC (115)   | 1.85 D.U./AC (92) |
| -MIN. REQUIRED OPEN SPACE:      | 20% GROSS (10.1 AC) | 20.1% (10.13 AC)  |
| -MAX. CLUSTER UNITS:            | 35% ALLOWABLE (40)  | 33% (38)          |
| -MIN. CLUSTER-OPEN SPACE SB:15' |                     | VARIES            |
| -MIN. CLUSTER-LOT PL SB:        | 35'                 | 35' MIN.          |
| -MIN. SING-FAM. LOT AREA:       | 12,800 SF           | 12,835 SF         |
| -MIN. SING-FAM. LOT WIDTH:      | 80'-100', 85' AVG.  | 85'               |
| -MIN. CORNER LOT WIDTH:         | 95' @ BLDG. LINE    | 95'               |
| -MIN. SING-FAM. FRONT YARD:     | 30'-40', 35' AVG.   | 35'               |
| -MIN. SING-FAM. SIDE YARD:      | 5' PER, 15' TOTAL   | 5', 7.5'          |
| -MIN. SING-FAM. REAR YARD:      | 30'                 | 30'               |
| -MAX. BLDG. HEIGHT:             | 35'                 | 35'               |
| -MIN. CLUSTER FRONT YARD:       | 22' OFF EOP,SDWLK   | 22' OFF ROW       |
| -MIN. PARKING PER UNIT:         | 2 ENCLOSED SPACES   | 2 ENCLOSED SPACES |

PROPOSED DEVELOPMENT INFORMATION:  
TOTAL NET PROJECT AREA: 49.6 AC

| PHASE AREAS: | ROW AREA | LOT AREA | OPEN SPACE AREA | TOTAL AREA |
|--------------|----------|----------|-----------------|------------|
| PHASE 1:     | 2.63 AC  | 10.83 AC | 6.88 AC         | 21.18 AC   |
| PHASE 2:     | 4.16 AC  | 21.85 AC | 3.25 AC         | 28.42 AC   |
|              | 6.79 AC  | 32.68 AC | 10.13 AC        | 49.6 AC    |

| PROPOSED LOTS: | CLUSTER LOTS | SINGLE-FAMILY LOTS |
|----------------|--------------|--------------------|
| PHASE 1        | 31           | 10                 |
| PHASE 2        | 7            | 44                 |
|                | 38           | 54                 |
|                |              | 92 TOTAL LOTS      |



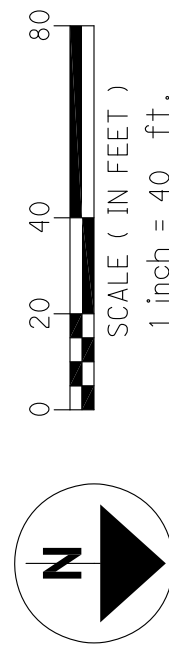


P.P.N. 07-00-020-101-103  
 Frank W. and Charlene A. Kotas  
 07/10/2000  
 Instr. No. 20000694244

|                                                                                     |                                                 |
|-------------------------------------------------------------------------------------|-------------------------------------------------|
|  | Dedicated<br>Right of Way                       |
|  | Drainage Easement<br>to the City<br>North Ridge |
|  | Storm Water<br>Easement (to<br>*See page 4      |
|  | 12' General<br>Utility<br>Easement              |

P.P.N. 07-00-020-101-00  
The Drees Company  
06/28/2024  
Instr. No. 20240017934

P.P.N. 07-00-020-101-042  
The Drees Company  
06/28/2024  
Instr. No. 20240017934



P.P.N. 07-00-019-000-010  
The Drees Company  
06/28/2024  
Instr. No. 20240017934

## SUBLOTS

PROJECT  
NUMBER

2193

DATE \_\_\_\_\_

2024-12-02

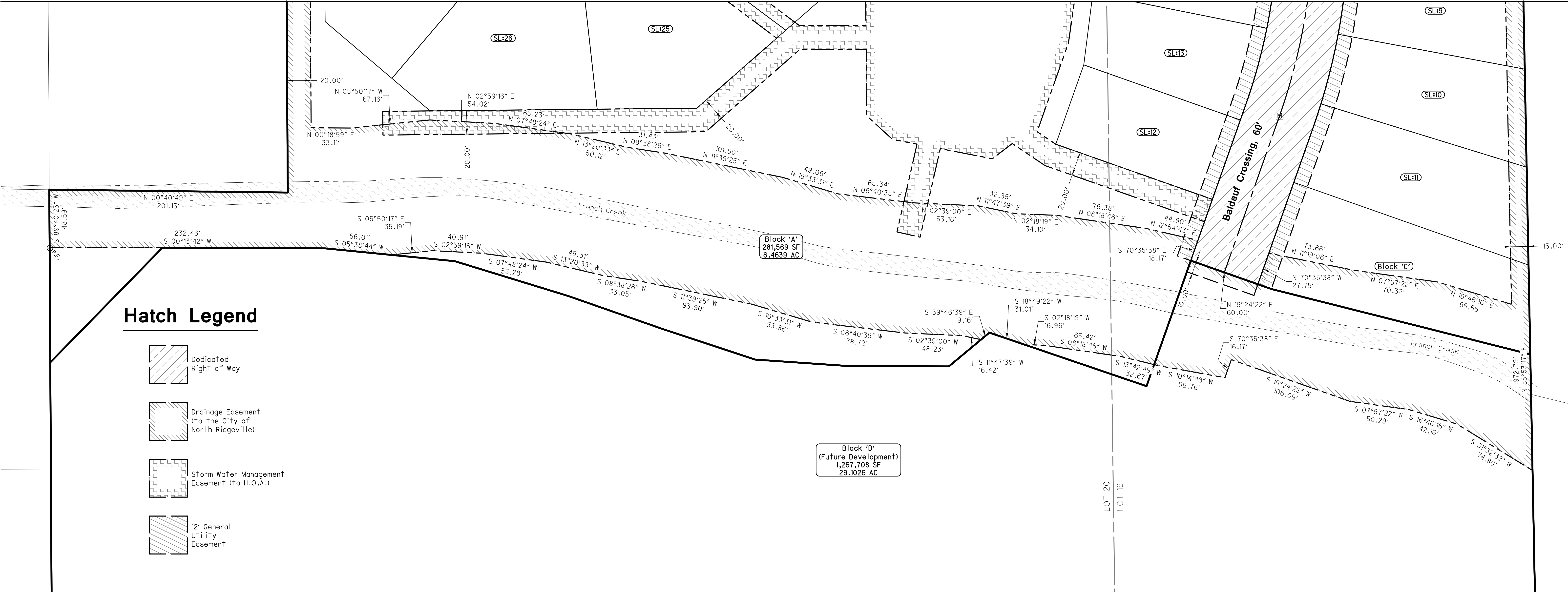
7

(4)



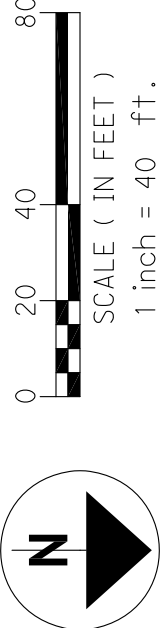
See Sheet 3 of 4

See Sheet 3 of 4



Hatch Legend

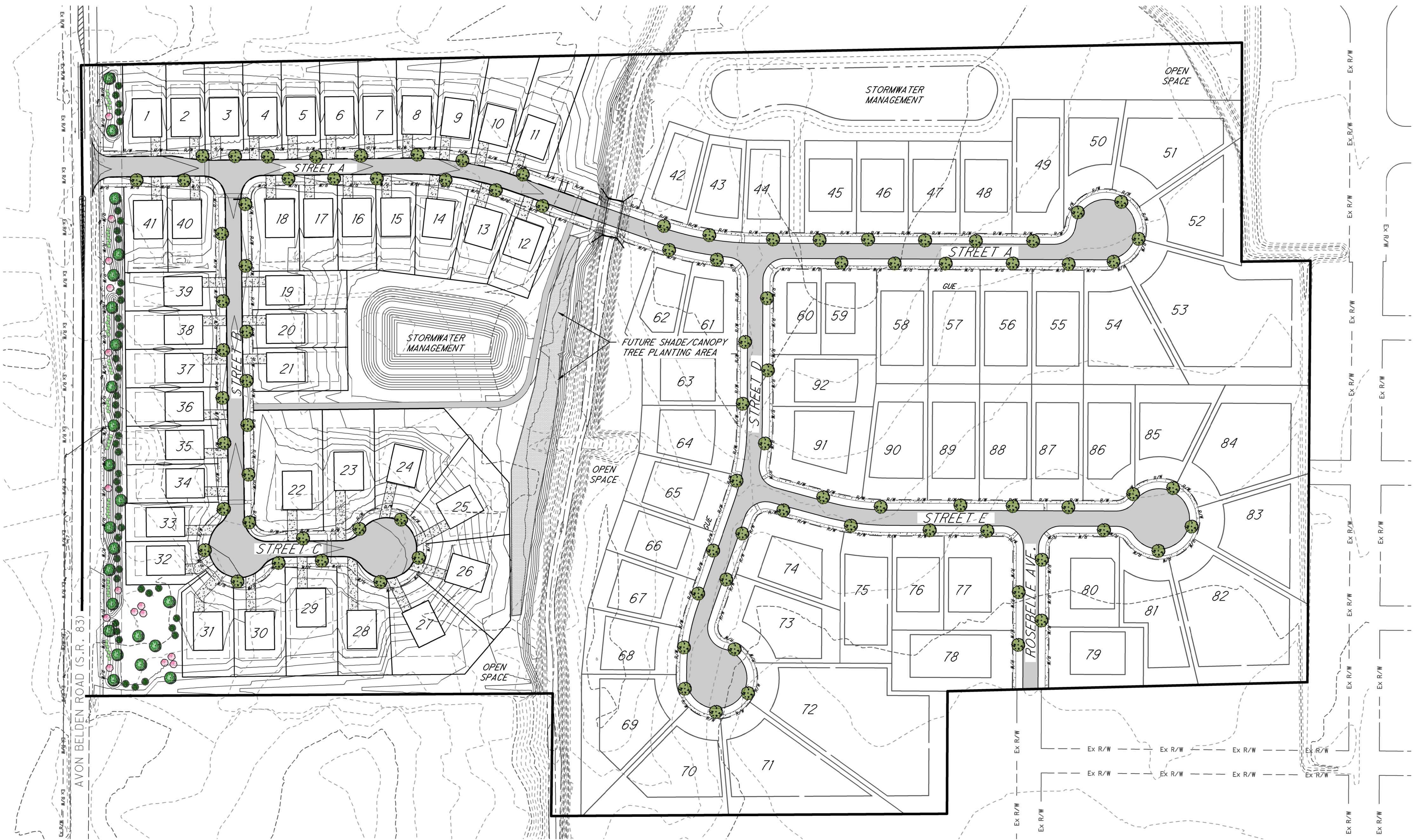
- Dedicated Right of Way
- Drainage Easement (to the City of North Ridgeville)
- Storm Water Management Easement (to H.O.A.)
- 12' General Utility Easement



THE CROSSING AT FRENCH CREEK  
SWM ESMT DETAIL

| PROJECT NUMBER |
|----------------|
| 2193           |
| DATE           |
| 2024-12-02     |





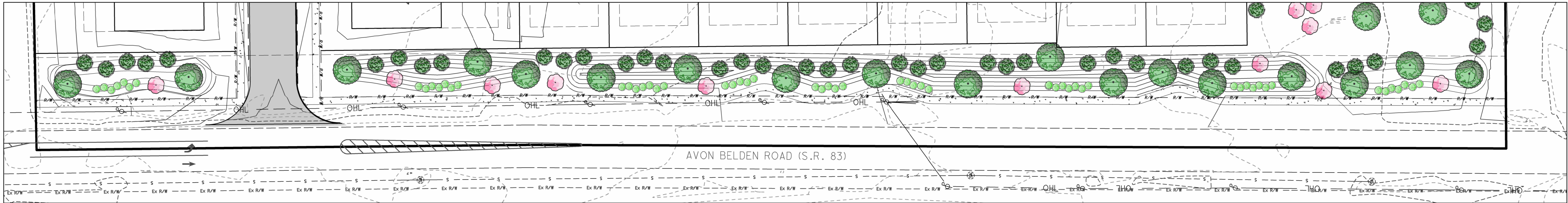
# LANDSCAPE PLAN FOR THE CROSSING AT FRENCH CREEK

CITY OF NORTH RIDGEVILLE, COUNTY OF LORAIN, STATE OF OHIO

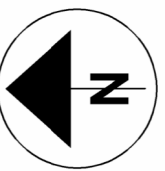
## PLANT LEGEND

- = SHADE/CANOPY STREET TREE
- = SHADE/CANOPY TREE
- = EVERGREEN TREE
- = ORNAMENTAL TREE
- = MEDIUM SHRUB

NOTE: ALL TREE AND SHRUB SPECIES TO BE COORDINATED WITH AND APPROVED BY THE CITY OF NORTH RIDGEVILLE.



AVON BELDEN ROAD (S.R. 83) BERM PLANTING ELARGEMENT

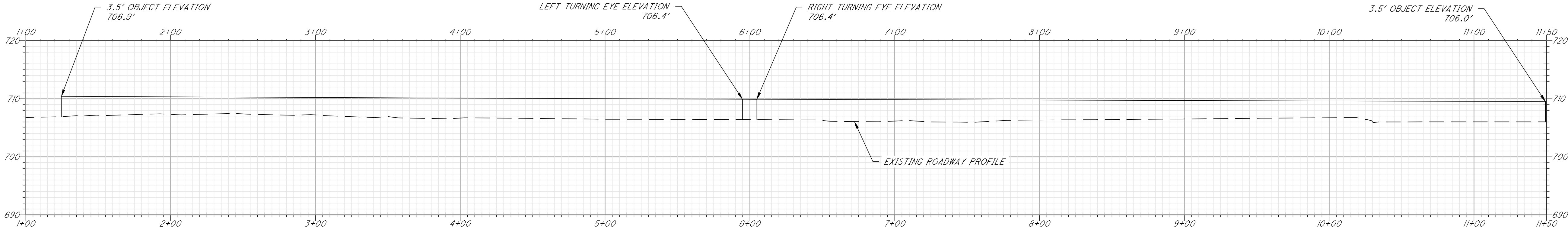
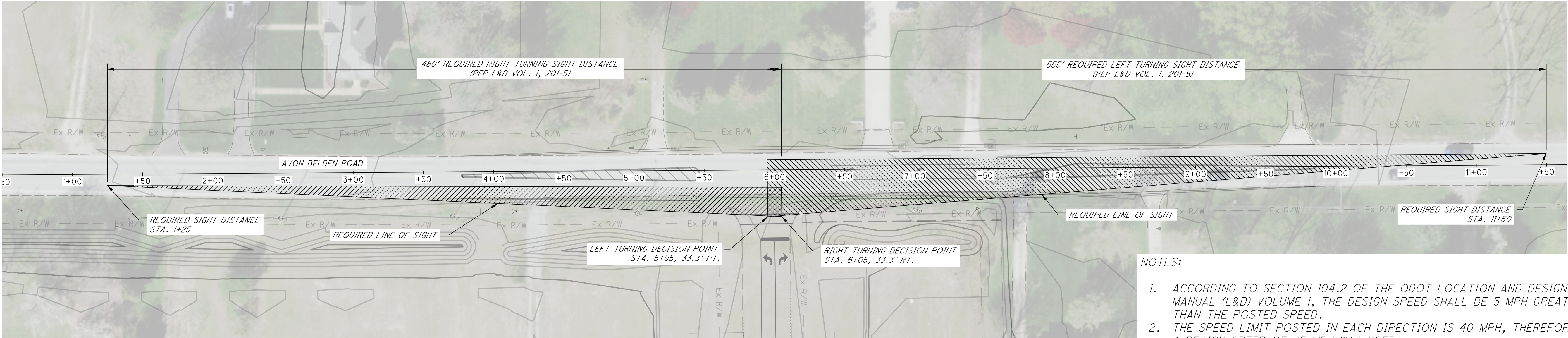


0 20 40 80  
SCALE ( IN FEET )  
1 inch = 40 ft.

DEVELOPER:  
DREES HOMES  
6860 W. SNOWVILLE ROAD  
SUITE 105  
BRECKSVILLE, OHIO 44141  
THOM SUTCLIFFE  
440-746-6434

DESIGN ENGINEER:  
DAVEY RESOURCE GROUP, INC.  
1310 SHARON COPLEY ROAD  
P.O. BOX 37  
SHARON CENTER, OHIO 44274  
TRAVIS G. CRANE, P.E.  
330-590-8004

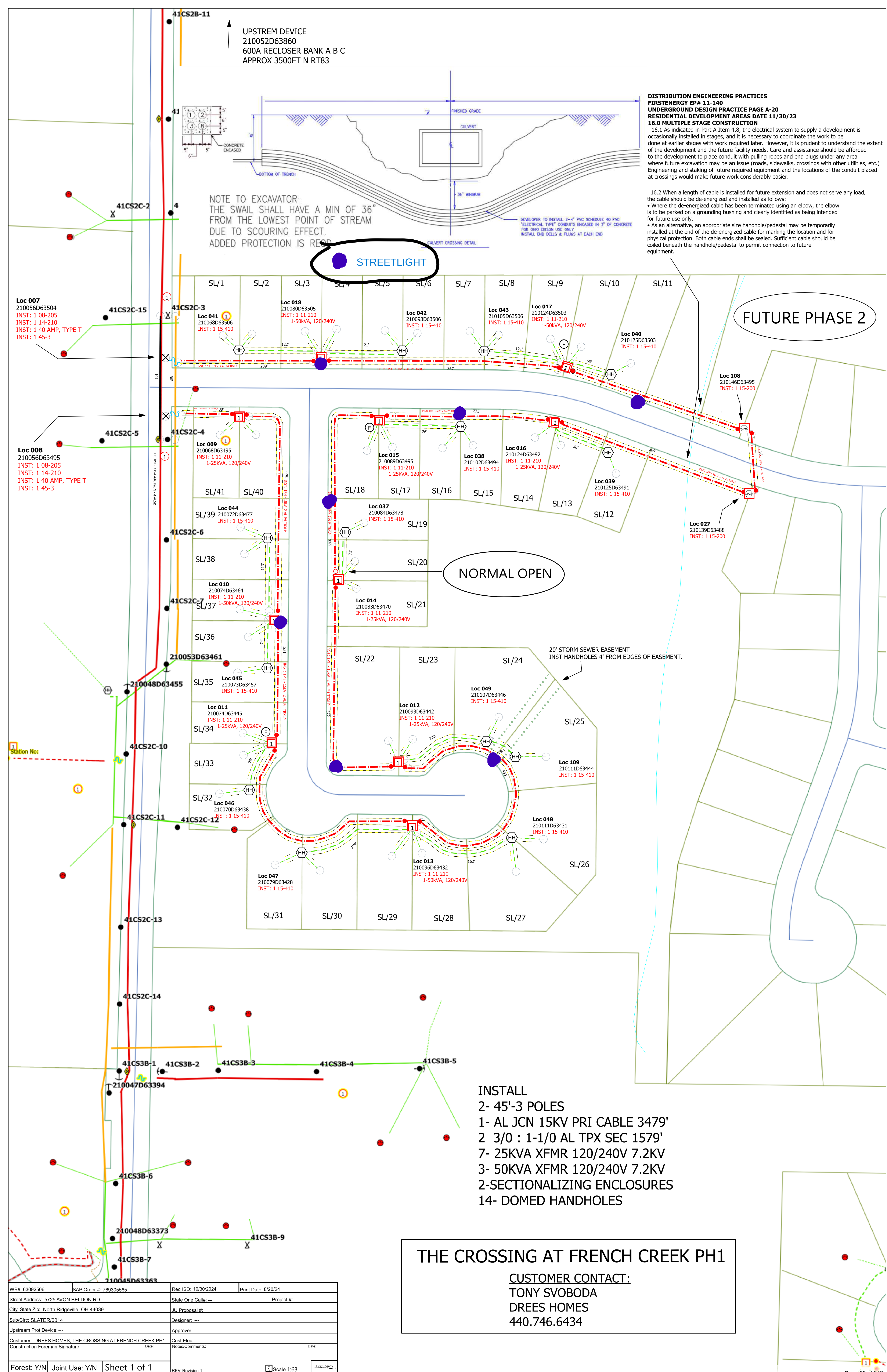




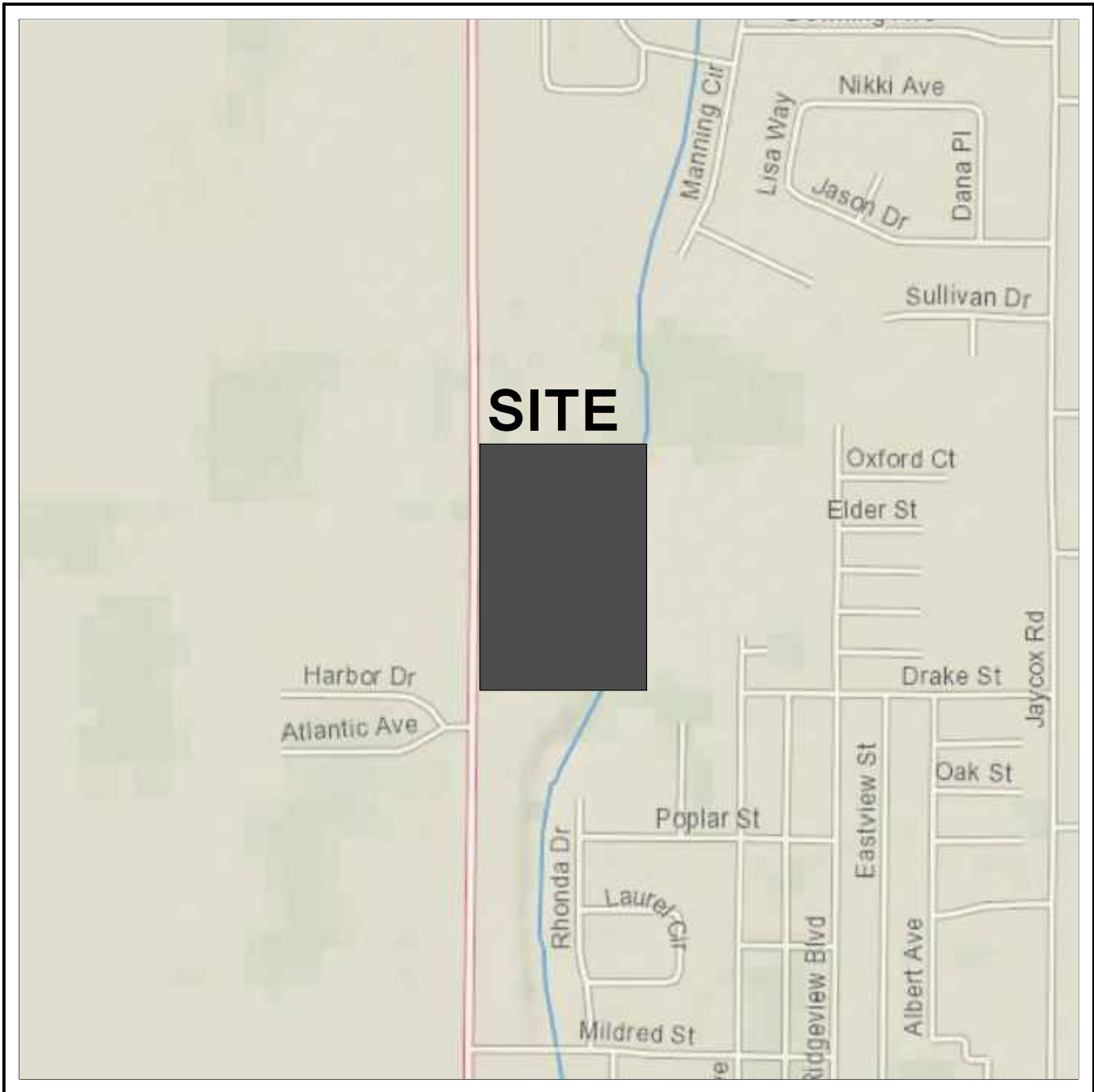
CROSSINGS AT FRENCH CREEK  
AVON BELDEN ROAD (S.R. 83)  
INTERSECTION SIGHT DISTANCE  
DIAGRAM

| PROJECT<br>NUMBER |
|-------------------|
| 2193              |
| DATE              |
| 2024-12-2         |



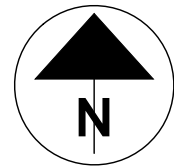






LOCATION MAP  
(NTS)

LATITUDE: 41°24'31"  
LONGITUDE: 82°00'55"



#### BENCHMARKS (NAD83 & NAVD88)

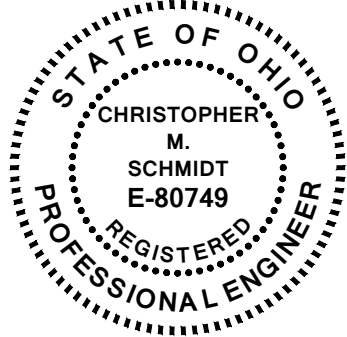
BENCHMARK #1: TOP OF SANITARY MANHOLE, WEST OF AVON BELDEN ROAD  
ELEV= 706.94'

CHRISTOPHER M. SCHMIDT, P.E. DATE

ONLY APPROVED PLANS SIGNED BY THE ENGINEER ARE TO BE USED FOR  
CONSTRUCTION.

CHRISTINA EAVENSON, P.E. DATE  
CITY ENGINEER

OHIO EPA PERMIT TO INSTALL LETTER DATED: 4/22/2024  
OHIO EPA WATER PERMIT LETTER DATED: 5/10/2024  
OHIO EPA NPDES (3GC14917\*AG) PERMIT LETTER DATED: 03/04/2024



# IMPROVEMENT PLANS FOR THE CROSSING AT FRENCH CREEK CITY OF NORTH RIDGEVILLE, COUNTY OF LORAIN, STATE OF OHIO

| IMPROVEMENT PLAN SHEET SET |                                                  |
|----------------------------|--------------------------------------------------|
| Sheet Number               | Sheet Title                                      |
| 1                          | TITLE SHEET                                      |
| 2                          | EXISTING CONDITIONS & DEMOLITION PLAN            |
| 3                          | OVERALL SITE PLAN                                |
| 4                          | SITE PLAN                                        |
| 5                          | UTILITY PLAN                                     |
| 6                          | INTERMEDIATE GRADING PLAN                        |
| 7                          | FINAL GRADING PLAN                               |
| 8                          | INTERSECTION DETAILS                             |
| 9                          | CONNECTION SCHEDULE                              |
| 10                         | PLAN & PROFILE STREET A                          |
| 11                         | PLAN & PROFILE STREET A                          |
| 12                         | PLAN & PROFILE STREET B                          |
| 13                         | PLAN & PROFILE STREET B                          |
| 14                         | PLAN & PROFILE STORM 1, 2 & 3                    |
| 15                         | PLAN & PROFILE STORM 4 & 5                       |
| 16                         | PLAN & PROFILE STORM 6 & 7                       |
| 17                         | PLAN & PROFILE STORM 8                           |
| 18                         | GENERAL NOTES                                    |
| 19                         | NORTH RIDGEVILLE STANDARD GENERAL NOTES          |
| 20                         | NORTH RIDGEVILLE STANDARD GENERAL NOTES          |
| 21                         | TYPICAL SECTION AND PAVEMENT DETAILS             |
| 22                         | TYPICAL SECTION AND PAVEMENT DETAILS             |
| 23                         | NORTH RIDGEVILLE STANDARD SANITARY SEWER DETAILS |
| 24                         | NORTH RIDGEVILLE STANDARD SANITARY SEWER DETAILS |
| 24A                        | NORTH RIDGEVILLE STANDARD SANITARY SEWER DETAILS |
| 25                         | NORTH RIDGEVILLE STANDARD WATER DETAILS          |
| 26                         | NORTH RIDGEVILLE STANDARD WATER DETAILS          |
| 27                         | NORTH RIDGEVILLE STANDARD STORM SEWER DETAILS    |
| 28                         | NORTH RIDGEVILLE STANDARD STORM SEWER DETAILS    |

| SWPPP SHEET SET |                                      |
|-----------------|--------------------------------------|
| Sheet Number    | Sheet Title                          |
| 29              | SWPPP TITLE SHEET                    |
| 30              | STORMWATER POLLUTION PREVENTION PLAN |
| 31              | POND 1 DETAILS                       |
| 32              | NORTH RIDGEVILLE SWPPP GENERAL NOTES |
| 33              | SWPPP DETAILS                        |
| 34              | SWPPP DETAILS                        |
| 35              | SWPPP DETAILS                        |
| 36              | SWPPP NOTES                          |
| 37              | SWPPP NOTES                          |
| 38              | SWPPP LOGS                           |

| SUBMITTAL INDEX                  |            |
|----------------------------------|------------|
| SUBMITTAL                        | DATE       |
| SUB-1 - (CITY, EPA SAN, EPA WTR) | 02/07/2024 |
| SUB-2 - (CITY)                   | 03/04/2024 |
| SUB-3 - (CITY)                   | 05/08/2024 |
| SUB-4 - (CITY)                   | 06/19/2024 |
| SUB-5 - (CITY)                   | 07/26/2024 |
|                                  |            |
|                                  |            |

| Utility Symbol Legend |          |                    |
|-----------------------|----------|--------------------|
| Existing              | Proposed | Description        |
|                       |          | Catch Basin        |
|                       |          | Fire Hydrant       |
|                       |          | Inlets             |
|                       |          | Light Pole         |
|                       |          | Mailbox            |
|                       |          | Power Pole         |
|                       |          | Sanitary Manhole   |
|                       |          | Signs              |
|                       |          | Storm Manhole      |
|                       |          | Water Gate Valve   |
|                       |          | Water Service Stop |

| Utility Line Legend |          |                                 |
|---------------------|----------|---------------------------------|
| Existing            | Proposed | Description                     |
|                     |          | Overhead Electric Line          |
|                     |          | Underground Electric Line       |
|                     |          | Underground Gas Line            |
|                     |          | Sanitary Sewer Line             |
|                     |          | Sanitary Sewer Forcemain        |
|                     |          | Water Line                      |
|                     |          | Utility Easement                |
|                     |          | Right of Way                    |
|                     |          | Storm Water Management Easement |

| ODOT STANDARD DRAWING LIST |         |           |
|----------------------------|---------|-----------|
| TITLE                      | DRAWING | DATE      |
| CATCH BASINS No. 3         | CB-3    | 7/16/2021 |
| NEW CURB RAMPS             | BP-7.1  | 1/20/2023 |

#### DEVELOPER

GABLES MANAGEMENT COMPANY  
3200 W. MARKET STREET, SUITE 104  
AKRON, OHIO 44333

CONTACT: KATIE LANCIANESE  
330-524-4394

#### CONTRACTOR

TBD

#### DESIGN ENGINEER

DAVEY RESOURCE GROUP  
1310 SHARON COPLEY ROAD  
SHARON CENTER, OHIO 44274

CONTACT: CHRIS SCHMIDT, P.E.  
330-590-8004

#### BUILDER

DREES HOMES  
6860 W. SNOWVILLE ROAD, SUITE 105  
BRECKSVILLE, OHIO 44141

CONTACT: THOMAS SUTCLIFFE  
440-746-6434



800-925-0988 or 8-1-1  
www.ogpups.org



1-800-362-2764  
CALL TWO WORKING DAYS BEFORE YOU DIG  
(NON MEMBERS MUST BE CALLED DIRECTLY)



DEMO LEGEND

EXISTING WATER LATERAL TO BE CRIMPED AT THE MAIN AND SHUT OFF CONFORMING TO THE CITY OF NORTH RIDGEVILLE REQUIREMENTS  
EXISTING SANITARY LATERAL TO BE CUT BACK AND PLUGGED AT THE ROW CONFORMING TO THE CITY OF NORTH RIDGEVILLE REQUIREMENTS

FEMA BASE FLOOD ELEVATION (BFE)

TEMPORARY BENCH MARK #1  
TOP OF SAN M.H.  
ELEV. = 706.94'

LEGEND

| DESCRIPTION         | FOUND          | SET |
|---------------------|----------------|-----|
| MAG NAIL            | ○ M.N.F.       | ⊗   |
| MONUMENT BOX        | Ⓜ              | Ⓜ   |
| IRON PIN            | ○ I.P.F.       | ●   |
| IRON PIPE           | ⊙ P.F.         | ⊙   |
| LIMITED ACCESS R/W  | --- Ex LA ---  | --- |
| CENTERLINE          | ---            | --- |
| PROPERTY LINE       | ---            | --- |
| RIGHT-OF-WAY LINE   | --- Ex R/W --- | --- |
| EASEMENT LINE       | ---            | --- |
| ORIGINAL PROP. LINE | ---            | --- |
| ORIGINAL LOT LINE   | ---            | --- |

Survey Symbol Legend

| Found    | Set      | Description          |
|----------|----------|----------------------|
| ⊗ AXLE   | ⊕        | Axle                 |
| ⊕        | ⊗        | Benchmark            |
| ⊗        | ⊕        | Chiseled Benchmark   |
| ⊙        | ⊙        | Concrete Monument    |
| ○ D.H.F. | ● D.H.S. | Drill Hole           |
| ⊙        | ⊙        | Government Point     |
| ⊙ I.P.F. | ●        | Iron Pin with ID Cap |
| ○ I.P.F. | ●        | Iron Pin-No ID Cap   |
| ⊙ P.F.   | ●        | Iron Pipe            |
| ○ M.N.F. | ● M.N.S. | Mag Nail             |
| Ⓜ        | Ⓜ        | Monument Box         |
| ○ P.K.F. | ● P.K.S. | PK Nail              |
| ⊗        | ⊗        | Railroad Spike       |
| ⊕        | ⊕        | Stone                |
| ⊕ T.B.F. | ⊕        | T Bar                |
| ⊕        | ⊕        | Tacked Hub           |

Utility Line Legend

| Existing | Proposed | Description                |
|----------|----------|----------------------------|
| CTV      | CTV      | Cable TV Line              |
| OHE      | OHE      | Overhead Electric Line     |
| E        | E        | Underground Electric Line  |
| G        | G        | Gas Line                   |
|          |          | Light Circuit Line         |
| O        | O        | Oil Pipe Line              |
| OHL      | OHL      | Overhead Line              |
| S        | S        | Sanitary Sewer Line        |
| SAN FM   | SAN FM   | Sanitary Sewer Forcemain   |
| STEAM    | STEAM    | Steam Line                 |
|          |          | Storm Sewer Line           |
|          |          | Traffic Circuit Line       |
| TEL      | TEL      | Underground Telephone Line |
| W        | W        | Water Line                 |









SITE INFORMATION:

SITE LOCATION: 5725 AVON BELDEN ROAD (S.R.83), NORTH RIDGEVILLE, OHIO

| PARCELS: | PARCEL        | AREA    | OWNER                    |
|----------|---------------|---------|--------------------------|
|          | 0700019000010 | 15.3 AC | MARCELLA BALDAUF TRUSTEE |
|          | 0700020101001 | 8.9 AC  | MARCELLA BALDAUF TRUSTEE |
|          | 0700020101042 | 26.2 AC | MARCELLA BALDAUF TRUSTEE |

SITE AREA: 50.4 AC TOTAL GROSS PARCEL AREA  
-0.7 AC EXISTING RIGHT-OF-ROW  
49.7 AC TOTAL NET PROJECT AREA

CURRENT ZONING DISTRICT: R-1 RESIDENCE DISTRICT

PROPOSED ZONING DISTRICT: SINGLE-FAMILY DETACHED AND CLUSTER DEVELOPMENT  
CHAPTER 1282 SINGLE-FAMILY DETACHED AND CLUSTER DEVELOPMENT:

|                                 | PER CODE            | SHOWN             |
|---------------------------------|---------------------|-------------------|
| -MIN. DEVELOPMENT AREA:         | 25 AC               | 49.7 AC           |
| -MAX. DENSITY:                  | 2.3 D.U./AC (115)   | 1.85 D.U./AC (92) |
| -MIN. REQUIRED OPEN SPACE:      | 20% GROSS (10.1 AC) | 20.7% (10.3 AC)   |
| -MAX. CLUSTER UNITS:            | 35% ALLOWABLE (40)  | 33% (38)          |
| -MIN. CLUSTER-OPEN SPACE SB:15' |                     | VARIES            |
| -MIN. CLUSTER-LOT PL SB:        | 35'                 | 35' MIN.          |
| -MIN. SING-FAM. LOT AREA:       | 12,800 SF           | 13,175 SF         |
| -MIN. SING-FAM. LOT WIDTH:      | 80'-100', 85' AVG.  | 85'               |
| -MIN. CORNER LOT WIDTH:         | 95' @ BLDG. LINE    | 95'               |
| -MIN. SING-FAM. FRONT YARD:     | 30'-40', 35' AVG.   | 35'               |
| -MIN. SING-FAM. SIDE YARD:      | 5' PER, 15' TOTAL   | 5', 7.5'          |
| -MIN. SING-FAM. REAR YARD:      | 30'                 | 30'               |
| -MAX. BLDG. HEIGHT:             | 35'                 | 35'               |
| -MIN. CLUSTER FRONT YARD:       | 22' OFF EOP,SDWLK   | 22' OFF ROW       |
| -MIN. PARKING PER UNIT:         | 2 ENCLOSED SPACES   | 2 ENCLOSED SPACES |

PROPOSED DEVELOPMENT INFORMATION:  
TOTAL NET PROJECT AREA: 49.7 AC

| PHASE AREAS: | ROW AREA | LOT AREA | OPEN SPACE AREA | TOTAL AREA |
|--------------|----------|----------|-----------------|------------|
| PHASE 1:     | 2.6 AC   | 10.8 AC  | 4.3 AC          | 17.7 AC    |
| PHASE 2:     | 4.1 AC   | 21.9 AC  | 6.0 AC          | 32.0 AC    |
|              | 6.7 AC   | 32.7 AC  | 10.3 AC         | 49.7 AC    |

PROPOSED PAVEMENT: 1,745 LF PHASE 1  
2,715 LF PHASE 2  
4,460 LF TOTAL

| PROPOSED LOTS: | CLUSTER LOTS | SINGLE-FAMILY LOTS |               |
|----------------|--------------|--------------------|---------------|
| PHASE 1        | 31           | 10                 |               |
| PHASE 2        | 7            | 44                 |               |
|                | 38           | 54                 | 92 TOTAL LOTS |

NOTES:

1. LOTS 42-65 ARE SERVICED VIA A FORCE MAIN/PUMP STATION, THE REMAINDER OF THE DEVELOPMENT IS SERVICED VIA GRAVITY SEWER.

P.P.N. 0700030000281  
TECO BELDEN LLC  
2019-0712470  
5550 AVON BELDEN RD

P.P.N. 0700030000035  
LANDERS HELEN  
2021-0834237  
5550 AVON BELDEN RD

P.P.N. 0700030000034  
MILLER MAUREEN  
2000-0725548  
5634 AVON BELDEN RD

P.P.N. 0700029000079  
WROBLEWSKI SARAH M  
1993-0221777  
AVON BELDEN RD

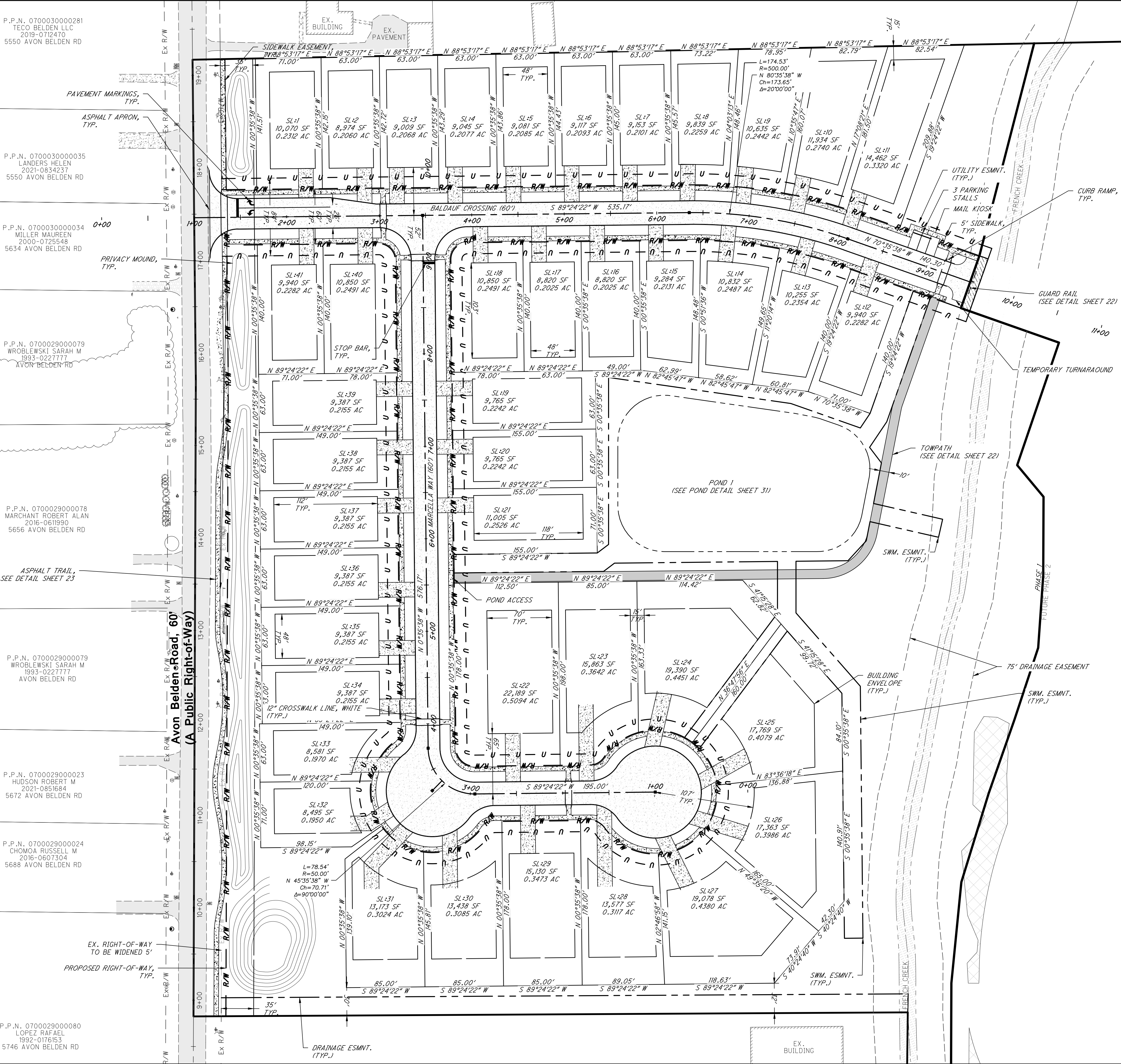
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MARCHANT ROBERT ALAN  
2016-0618930  
5656 AVON BELDEN RD

P.P.N. 0700029000079  
WROBLEWSKI SARAH M  
1993-0221777  
AVON BELDEN RD

P.P.N. 0700029000023  
HUDSON ROBERT M  
2021-0851684  
5672 AVON BELDEN RD

P.P.N. 0700029000024  
CHOMOA RUSSELL M  
2016-0607304  
5688 AVON BELDEN RD

P.P.N. 0700029000080  
LOPEZ RAFAEL  
1992-0176153  
5746 AVON BELDEN RD





P.P.N. 0700030000281  
TECO BELDEN LLC  
2019-0712470  
5550 AVON BELDEN RD

P.P.N. 0700030000035  
LANDERS HELEN  
2021-0834237  
5550 AVON BELDEN RD

P.P.N. 0700030000034  
MILLER MAUREEN  
2000-0725548  
5634 AVON BELDEN RD

P.P.N. 0700029000079  
WROBLEWSKI SARAH M  
1993-0227777  
AVON BELDEN RD

P.P.N. 0700029000078  
MARCHANT ROBERT ALAN  
2016-0619900  
5656 AVON BELDEN RD

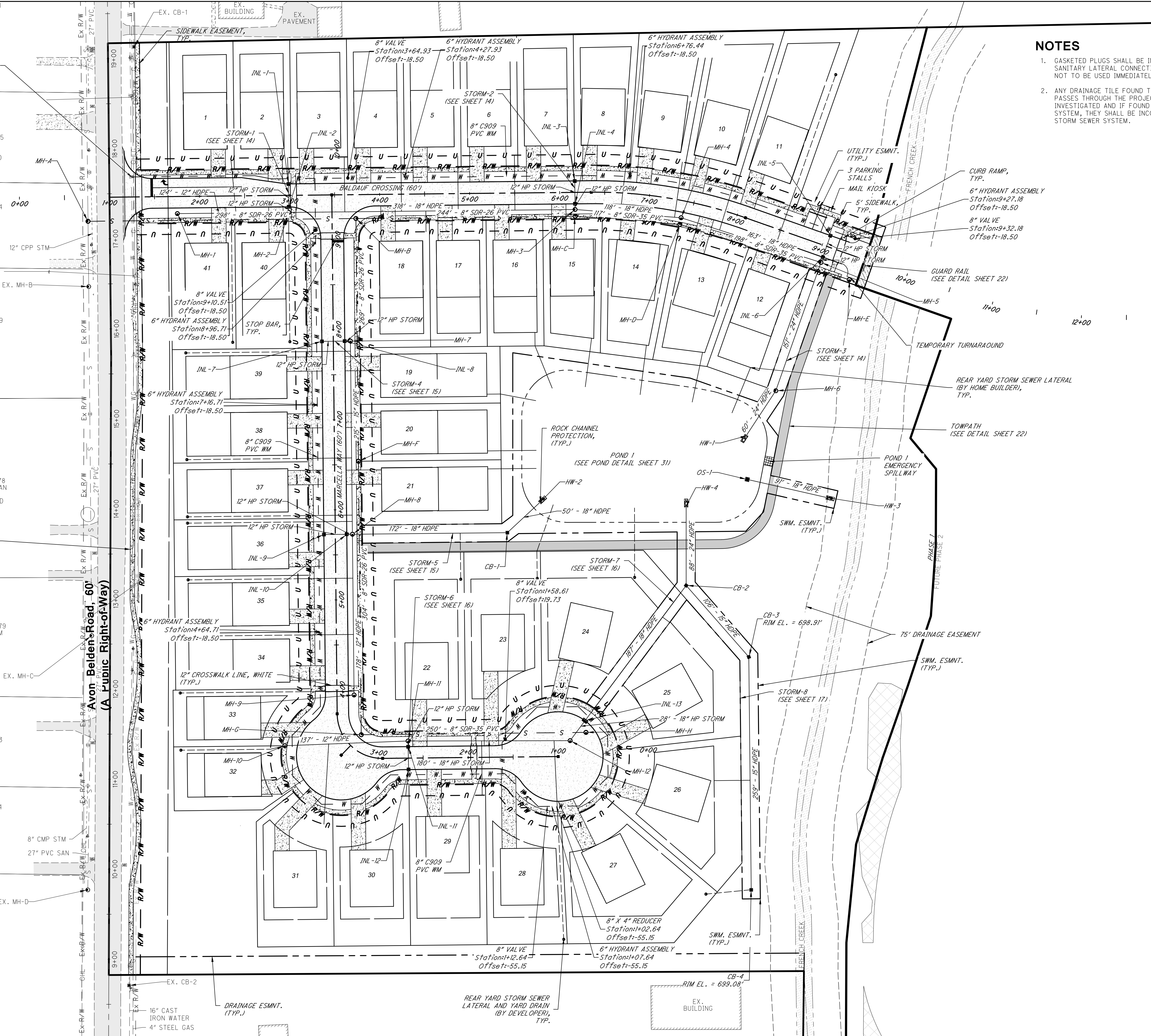
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WROBLEWSKI SARAH M  
1993-0227777  
AVON BELDEN RD

P.P.N. 0700029000023  
HUDSON ROBERT M  
2021-0851684  
5672 AVON BELDEN RD

P.P.N. 0700029000024  
CHOMOA RUSSELL M  
2016-0607304  
5688 AVON BELDEN RD

P.P.N. 0700029000080  
LOPEZ RAFAEL  
1992-0176153  
5746 AVON BELDEN RD

16" X 8" TAPPING SLEEVE & VALVE  
BEGIN 8" PVC WM  
Station:1+24.72  
Offset:-22.25



- ### NOTES
- GASKETED PLUGS SHALL BE INSTALLED IN THE SANITARY LATERAL CONNECTIONS AT THE R/W IF NOT TO BE USED IMMEDIATELY.
  - ANY DRAINAGE TILE FOUND THAT DISCHARGES OR PASSES THROUGH THE PROJECT SITE SHALL BE INVESTIGATED AND IF FOUND TO BE A FUNCTIONING SYSTEM, THEY SHALL BE INCORPORATED INTO THE STORM SEWER SYSTEM.

**DAVEY**  
Resource Group

1310 SHARON COPLEY ROAD, P.O. BOX 37  
SHARON CENTER, OHIO 44274  
(PHONE) 330.550.8004 FAX 888.820.6423

THE CROSSING AT FRENCH CREEK  
UTILITY PLAN

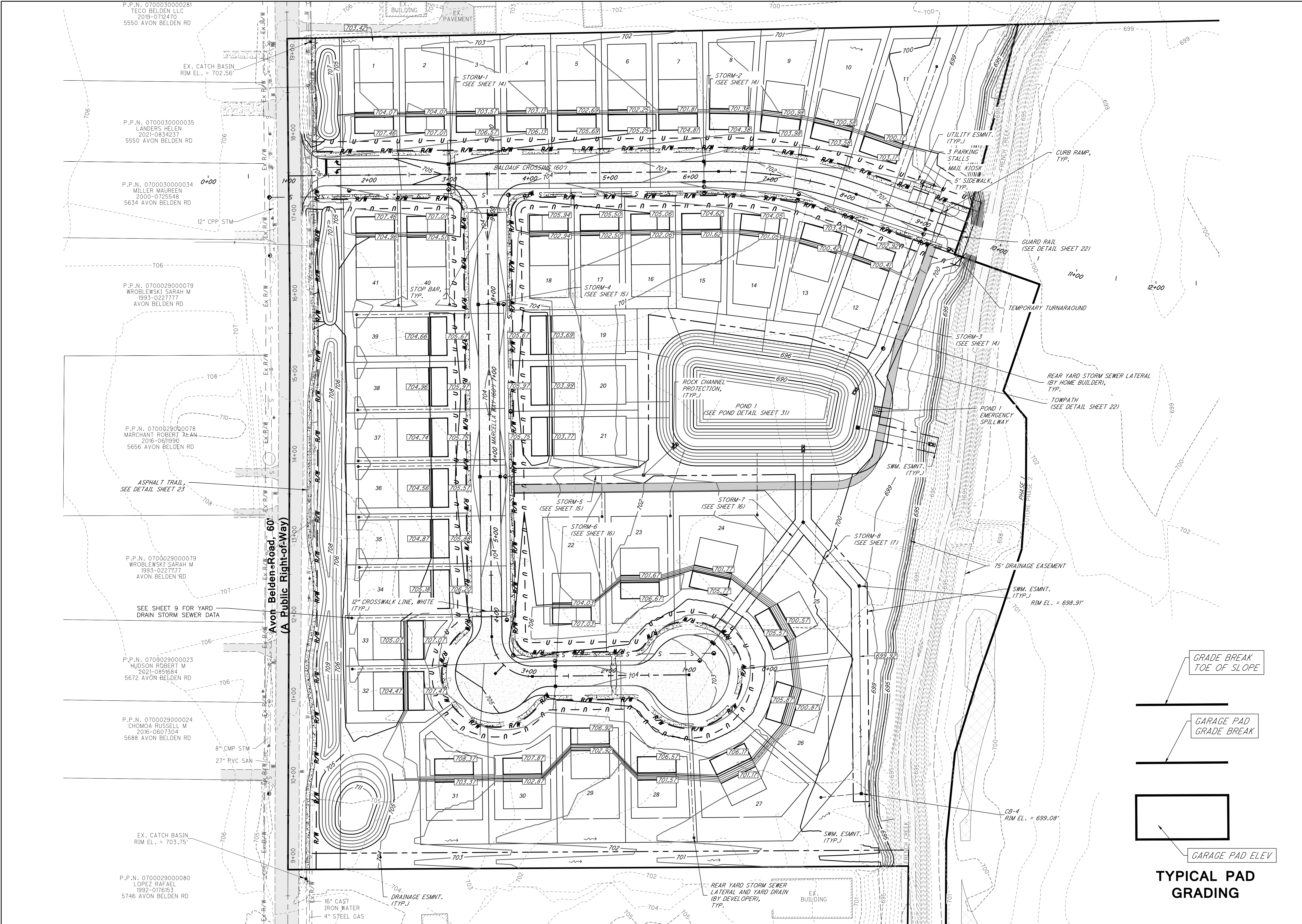
PROJECT NUMBER  
2193

DATE  
2024-08-01

5  
38

Page 34 of 643





P.P.N. 0700030000281  
TECO BELDEN LLC  
2019-0712470  
5550 AVON BELDEN RD

P.P.N. 0700030000035  
LANDERS HELEN  
2021-0834237  
5550 AVON BELDEN RD

P.P.N. 0700030000034  
MILLER MAUREEN  
2000-0725548  
5634 AVON BELDEN RD

P.P.N. 0700029000079  
WROBLEWSKI SARAH M  
1993-0227777  
AVON BELDEN RD

P.P.N. 0700029000078  
MARCHANT ROBERT A  
1996-061990  
5656 AVON BELDEN RD

P.P.N. 0700029000079  
WROBLEWSKI SARAH M  
1993-0227777  
AVON BELDEN RD

P.P.N. 0700029000023  
HUDSON ROBERT M  
2021-0851684  
5672 AVON BELDEN RD

P.P.N. 0700029000024  
CHOMOA RUSSELL M  
2016-0607304  
5688 AVON BELDEN RD

P.P.N. 0700029000080  
LOPEZ RAFAEL  
1992-0176153  
5746 AVON BELDEN RD



P.P.N. 0700030000281  
TEGO BELDEN LLC  
2019-0712470  
5550 AVON BELDEN RD

P.P.N. 0700030000035  
LANDERS HELEN  
2021-0834237  
5550 AVON BELDEN RD

P.P.N. 0700030000034  
MILLER MAUREEN  
2000-0725548  
5634 AVON BELDEN RD

P.P.N. 0700029000079  
WROBLEWSKI SARAH M  
1993-0227777  
AVON BELDEN RD

P.P.N. 0700029000078  
MARCHANT ROBERT A  
2016-061990  
5656 AVON BELDEN RD

P.P.N. 0700029000079  
WROBLEWSKI SARAH M  
1993-0227777  
AVON BELDEN RD

SEE SHEET 9 FOR YARD  
DRAIN STORM SEWER DATA

P.P.N. 0700029000023  
HUDSON ROBERT M  
2021-0851684  
5672 AVON BELDEN RD

P.P.N. 0700029000024  
CHOMOA RUSSELL M  
2016-0607304  
5688 AVON BELDEN RD

P.P.N. 0700029000080  
LOPEZ RAFAEL  
1992-0176153  
5746 AVON BELDEN RD

Avon Belden Road, 60'  
(A Public Right-of-Way)

16" CAST  
IRON WATER

4" STEEL GAS

8" CMP STM

27" RVC SAN

12" CPP STM

EX. CATCH BASIN  
RIM EL. = 702.56'

EX. BUILDING

EX. PAVEMENT

EX. BUILDING

EX. BUILDING

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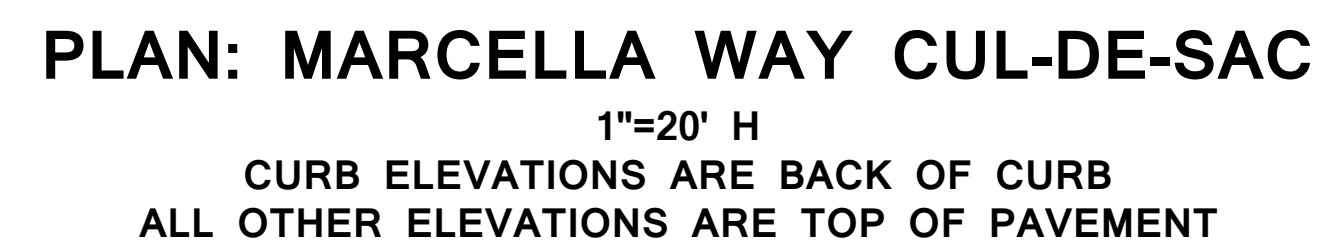
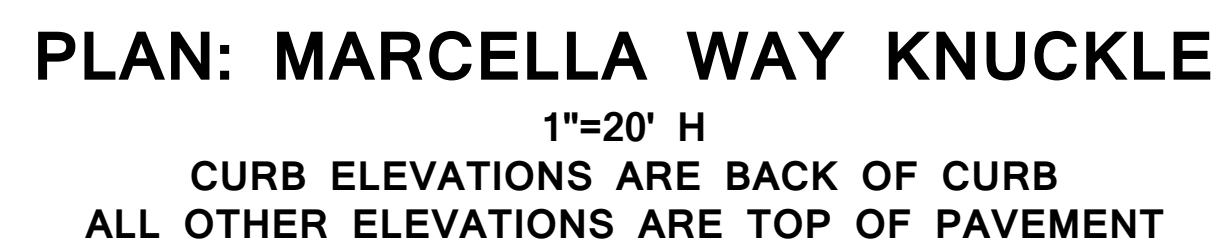
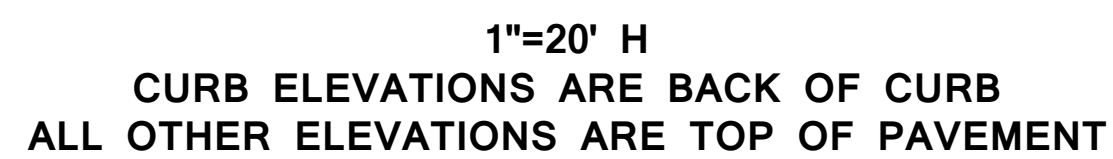
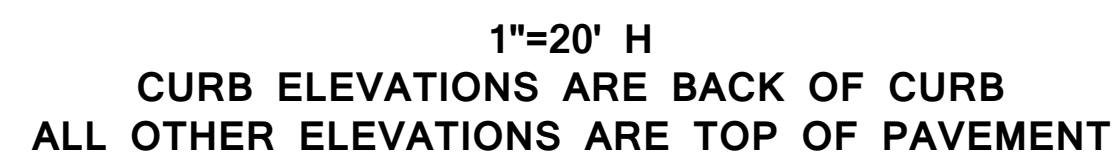
EX. BUILDING

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1. SEE CONCRETE PAVEMENT STANDARDS DETAIL  
PAV-4 FOR TYPICAL PAVEMENT JOINT PLAN ON  
DETAIL SHEET 21.



| TABLE 1:<br>PROPOSED 6" SANITARY LATERAL CONNECTION |           |                 |                                        |                          |                              |                      |                   |
|-----------------------------------------------------|-----------|-----------------|----------------------------------------|--------------------------|------------------------------|----------------------|-------------------|
| SUBLOT #                                            | ALIGNMENT | STATION AT MAIN | LATERAL LENGTH (TO GUE LINE/ 4X4 POST) | INVERT ELEVATION AT MAIN | INVERT ELEVATION AT CLEANOUT | MAINLINE RISER (Y/N) | RISER HEIGHT (FT) |
| 1                                                   | STREET A  | 2+16            | 69'                                    | 689.71                   | 690.40                       | N                    | 0.0'              |
| 2                                                   | STREET A  | 2+79            | 69'                                    | 689.99                   | 690.68                       | N                    | 0.0'              |
| 3                                                   | STREET A  | 3+42            | 69'                                    | 690.28                   | 690.97                       | N                    | 0.0'              |
| 4                                                   | STREET A  | 4+05            | 69'                                    | 690.56                   | 691.25                       | N                    | 0.0'              |
| 5                                                   | STREET A  | 4+68            | 69'                                    | 690.84                   | 691.53                       | N                    | 0.0'              |
| 6                                                   | STREET A  | 5+31            | 69'                                    | 691.13                   | 691.82                       | N                    | 0.0'              |
| 7                                                   | STREET A  | 5+94            | 69'                                    | 691.41                   | 692.10                       | N                    | 0.0'              |
| 8                                                   | STREET A  | 6+55            | 71'                                    | 691.68                   | 692.39                       | N                    | 0.0'              |
| 9                                                   | STREET A  | 7+17            | 71'                                    | 691.94                   | 692.65                       | N                    | 0.0'              |
| 10                                                  | STREET A  | 7+66            | 71'                                    | 692.15                   | 692.86                       | N                    | 0.0'              |
| 11                                                  | STREET A  | 8+31            | 71'                                    | 692.43                   | 693.14                       | N                    | 0.0'              |
| 12                                                  | STREET A  | 8+66            | 14'                                    | 692.59                   | 692.73                       | N                    | 0.0'              |
| 13                                                  | STREET A  | 7+93            | 13'                                    | 692.26                   | 692.39                       | N                    | 0.0'              |
| 14                                                  | STREET A  | 7+03            | 13'                                    | 691.88                   | 692.01                       | N                    | 0.0'              |
| 15                                                  | STREET A  | 6+23            | 15'                                    | 691.54                   | 691.69                       | N                    | 0.0'              |
| 16                                                  | STREET A  | 5+58            | 16'                                    | 691.25                   | 691.41                       | N                    | 0.0'              |
| 17                                                  | STREET A  | 4+95            | 16'                                    | 690.97                   | 691.13                       | N                    | 0.0'              |
| 18                                                  | STREET A  | 4+32            | 16'                                    | 690.68                   | 690.84                       | N                    | 0.0'              |
| 19                                                  | STREET B  | 7+34            | 16'                                    | 691.27                   | 691.43                       | N                    | 0.0'              |
| 20                                                  | STREET B  | 6+71            | 16'                                    | 691.55                   | 691.71                       | N                    | 0.0'              |
| 21                                                  | STREET B  | 6+08            | 16'                                    | 691.83                   | 691.99                       | N                    | 0.0'              |
| 22                                                  | STREET B  | 2+36            | 25'                                    | 693.37                   | 693.62                       | N                    | 0.0'              |
| 23                                                  | STREET B  | 1+36            | 44'                                    | 693.82                   | 694.26                       | N                    | 0.0'              |
| 24                                                  | STREET B  | 0+86            | 50'                                    | 694.04                   | 694.54                       | N                    | 0.0'              |
| 25                                                  | STREET B  | 0+86            | 53'                                    | 694.04                   | 694.57                       | N                    | 0.0'              |
| 26                                                  | STREET B  | 0+86            | 76'                                    | 694.04                   | 694.80                       | N                    | 0.0'              |
| 27                                                  | STREET B  | 0+99            | 102'                                   | 693.98                   | 695.00                       | N                    | 0.0'              |
| 28                                                  | STREET B  | 1+26            | 101'                                   | 693.86                   | 694.87                       | N                    | 0.0'              |
| 29                                                  | STREET B  | 2+15            | 60'                                    | 693.46                   | 694.06                       | N                    | 0.0'              |
| 30                                                  | STREET B  | 3+08            | 91'                                    | 693.07                   | 693.98                       | N                    | 0.0'              |
| 31                                                  | STREET B  | 3+34            | 108'                                   | 693.00                   | 694.08                       | N                    | 0.0'              |
| 32                                                  | STREET B  | 3+34            | 106'                                   | 693.00                   | 694.06                       | N                    | 0.0'              |
| 33                                                  | STREET B  | 3+77            | 84'                                    | 692.88                   | 693.72                       | N                    | 0.0'              |
| 34                                                  | STREET B  | 4+42            | 69'                                    | 692.58                   | 693.27                       | N                    | 0.0'              |
| 35                                                  | STREET B  | 5+05            | 69'                                    | 692.30                   | 692.99                       | N                    | 0.0'              |
| 36                                                  | STREET B  | 5+73            | 69'                                    | 691.99                   | 692.68                       | N                    | 0.0'              |
| 37                                                  | STREET B  | 6+13            | 69'                                    | 681.81                   | 682.50                       | N                    | 0.0'              |
| 38                                                  | STREET B  | 6+76            | 69'                                    | 691.53                   | 692.22                       | N                    | 0.0'              |
| 39                                                  | STREET B  | 7+39            | 69'                                    | 691.24                   | 691.93                       | N                    | 0.0'              |
| 40                                                  | STREET A  | 2+85            | 16'                                    | 690.02                   | 690.18                       | N                    | 0.0'              |
| 41                                                  | STREET A  | 2+21            | 16'                                    | 689.73                   | 689.89                       | N                    | 0.0'              |

| TABLE 2:<br>PROPOSED 6" STORM LATERAL CONNECTION SCHEDULE |           |                 |                                        |                          |                              |           |  |
|-----------------------------------------------------------|-----------|-----------------|----------------------------------------|--------------------------|------------------------------|-----------|--|
| SUBLOT #                                                  | ALIGNMENT | STATION AT MAIN | LATERAL LENGTH (TO GUE LINE/ 4X4 POST) | INVERT ELEVATION AT MAIN | INVERT ELEVATION AT CLEANOUT | SUMP PUMP |  |
| 1                                                         | STREET A  | 2+40            | 60'                                    | 701.58                   | 701.88                       | YES       |  |
| 2                                                         | STM-1     | 2+99            | 30'                                    | 701.16                   | 701.31                       | YES       |  |
| 3                                                         | STREET A  | 3+61            | 60'                                    | 700.82                   | 701.12                       | YES       |  |
| 4                                                         | STREET A  | 4+24            | 60'                                    | 700.48                   | 700.78                       | YES       |  |
| 5                                                         | STREET A  | 4+87            | 60'                                    | 700.14                   | 700.44                       | YES       |  |
| 6                                                         | STREET A  | 5+50            | 60'                                    | 699.79                   | 700.09                       | YES       |  |
| 7                                                         | STREET A  | 6+17            | 30'                                    | 699.43                   | 699.58                       | YES       |  |
| 8                                                         | STREET A  | 6+69            | 63'                                    | 699.08                   | 699.40                       | YES       |  |
| 9                                                         | STREET A  | 7+32            | 60'                                    | 698.67                   | 698.97                       | YES       |  |
| 10                                                        | STREET A  | 7+86            | 61'                                    | 698.20                   | 698.51                       | YES       |  |
| 11**                                                      | STREET A  | 8+51            | 60'                                    | 697.38                   | 697.68                       | YES       |  |
| 12*                                                       | POND      | -               | -                                      | -                        | -                            | YES       |  |
| 13*                                                       | POND      | -               | -                                      | -                        | -                            | YES       |  |
| 14*                                                       | POND      | -               | -                                      | -                        | -                            | YES       |  |
| 15*                                                       | POND      | -               | -                                      | -                        | -                            | YES       |  |
| 16*                                                       | POND      | -               | -                                      | -                        | -                            | YES       |  |
| 17                                                        | STREET A  | 5+14            | 25'                                    | 699.99                   | 700.24                       | YES       |  |
| 18                                                        | STREET A  | 4+51            | 25'                                    | 700.33                   | 700.58                       | YES       |  |
| 19*                                                       | POND      | -               | -                                      | -                        | -                            | YES       |  |
| 20*                                                       | POND      | -               | -                                      | -                        | -                            | YES       |  |
| 21*                                                       | POND      | -               | -                                      | -                        | -                            | YES       |  |
| 22                                                        | STM-5     | 1+62            | -                                      | 697.72                   | -                            | YES       |  |
| 23                                                        | STM-5     | 1+97            | -                                      | 697.28                   | -                            | YES       |  |
| 24                                                        | STM-7     | 2+03            | -                                      | 696.50                   | -                            | YES       |  |
| 25                                                        | STM-7     | 1+96            | -                                      | 696.53                   | -                            | YES       |  |
| 26**                                                      | STM-8     | 1+50            | -                                      | 697.29                   | -                            | YES       |  |
| 27**                                                      | STM-8     | 0+25            | 25'                                    | 697.89                   | 698.14                       | YES       |  |
| 28                                                        | STREET B  | 1+04            | 97'                                    | 698.17                   | 698.66                       | YES       |  |
| 29                                                        | STREET B  | 1+85            | 60'                                    | 698.96                   | 699.26                       | YES       |  |
| 30                                                        | STREET B  | 2+66            | 30'                                    | 699.74                   | 699.89                       | YES       |  |
| 31                                                        | STREET B  | 3+48            | 90'                                    | 700.28                   | 700.73                       | YES       |  |
| 32**                                                      | STREET B  | 3+58            | 17'                                    | 700.58                   | 700.75                       | YES       |  |
| 33**                                                      | STREET B  | 3+98            | 60'                                    | 700.72                   | 701.32                       | YES       |  |
| 34**                                                      | STREET B  | 4+61            | 60'                                    | 700.11                   | 700.71                       | YES       |  |
| 35**                                                      | STREET B  | 5+24            | 60'                                    | 699.50                   | 700.10                       | YES       |  |
| 36**                                                      | STREET B  | 5+87            | 60'                                    | 699.10                   | 699.70                       | YES       |  |
| 37**                                                      | STREET B  | 5+94            | 60'                                    | 699.14                   | 699.74                       | YES       |  |
| 38**                                                      | STREET B  | 6+57            | 60'                                    | 699.45                   | 700.05                       | YES       |  |
| 39**                                                      | STREET B  | 7+76            | 60'                                    | 700.04                   | 700.64                       | YES       |  |
| 40**                                                      | STREET A  | 2+99            | 25'                                    | 701.16                   | 701.41                       | YES       |  |
| 41**                                                      | STREET A  | 2+40            | 25'                                    | 701.58                   | 701.83                       | YES       |  |

| TABLE 3:<br>PROPOSED WATER LATERAL CONNECTION SCHEDULE |           |                 |                              |                   |  |
|--------------------------------------------------------|-----------|-----------------|------------------------------|-------------------|--|
| SUBLOT #                                               | ALIGNMENT | STATION AT MAIN | LATERAL LENGTH TO CURB VALVE | CURB VALVE TO GUE |  |
| 1                                                      | STREET A  | 2+06            | 3'                           | 20.5'             |  |
| 2                                                      | STREET A  | 2+69            | 3'                           | 20.5'             |  |
| 3                                                      | STREET A  | 3+32            | 3'                           | 20.5'             |  |
| 4                                                      | STREET A  | 3+95            | 3'                           | 20.5'             |  |
| 5                                                      | STREET A  | 4+58            | 3'                           | 20.5'             |  |
| 6                                                      | STREET A  | 5+21            | 3'                           | 20.5'             |  |
| 7                                                      | STREET A  | 5+84            | 3'                           | 20.5'             |  |
| 8                                                      | STREET A  | 6+46            | 3'                           | 20.5'             |  |
| 9                                                      | STREET A  | 7+07            | 3'                           | 20.5'             |  |
| 10                                                     | STREET A  | 7+61            | 3'                           | 20.5'             |  |
| 11                                                     | STREET A  | 8+19            | 3'                           | 20.5'             |  |
| 12                                                     | STREET A  | 8+55            | 34.5'                        | 30'               |  |
| 13                                                     | STREET A  | 7+81            | 34.5'                        | 30'               |  |
| 14                                                     | STREET A  | 6+92            | 34.5'                        | 30'               |  |
| 15                                                     | STREET A  | 6+12            | 34.5'                        | 30'               |  |
| 16                                                     | STREET A  | 5+48            | 34.5'                        | 30'               |  |
| 17                                                     | STREET A  | 4+85            | 34.5'                        | 30'               |  |
| 18                                                     | STREET A  | 4+22            | 34.5'                        | 30'               |  |
| 19                                                     | STREET B  | 7+44            | 34.5'                        | 26'               |  |
| 20                                                     | STREET B  | 6+81            | 34.5'                        | 26'               |  |
| 21                                                     | STREET B  | 6+18            | 34.5'                        | 26'               |  |
| 22                                                     | STREET B  | 2+48            | 34.5'                        | 26'               |  |
| 23                                                     | STREET B  | 1+47            | 3'                           | 29'               |  |
| 24                                                     | STREET B  | 0+88            | 3'                           | 19.5'             |  |
| 25                                                     | STREET B  | 0+51            | 3'                           | 19.5'             |  |
| 26                                                     | STREET B  | 0+45            | 3'                           | 18.5'             |  |
| 27                                                     | STREET B  | 0+73            | 3'                           | 18.5'             |  |
| 28                                                     | STREET B  | 1+33            | 3'                           | 20.5'             |  |
| 29                                                     | STREET B  | 2+25            | 3'                           | 20.5'             |  |
| 30                                                     | STREET B  | 3+03            | 3'                           | 24'               |  |
| 31                                                     | STREET B  | 3+26            | 3'                           | 18.5'             |  |
| 32                                                     | STREET B  | 3+47            | 3'                           | 20'               |  |
| 33                                                     | STREET B  | 3+71            | 3'                           | 29'               |  |
| 34                                                     | STREET B  | 4+32            | 3'                           | 20.5'             |  |
| 35                                                     | STREET B  | 4+95            | 3'                           | 20.5'             |  |
| 36                                                     | STREET B  | 5+58            | 3'                           | 20.5'             |  |
| 37                                                     | STREET B  | 6+23            | 3'                           | 20.5'             |  |
| 38                                                     | STREET B  | 6+86            | 3'                           | 20.5'             |  |
| 39                                                     | STREET B  | 7+49            | 3'                           | 20.5'             |  |
| 40                                                     | STREET A  | 2+75            | 34.5'                        | 30'               |  |
| 41                                                     | STREET A  | 2+11            | 34.5'                        | 30'               |  |

| PROPOSED 6" YARD DRAIN SCHEDULE<br>(BY HOMEBUILDER UNLESS OTHERWISE NOTED (**)) BY DEVELOPER) |           |                 |               |                  |  |
|-----------------------------------------------------------------------------------------------|-----------|-----------------|---------------|------------------|--|
| SUBLOT #                                                                                      | ALIGNMENT | STATION AT MAIN | RIM ELEVATION | INVERT ELEVATION |  |
| 1                                                                                             | STREET A  | 2+40            | 703.27        | 702.77           |  |
| ▲ 2                                                                                           | STM-1     | 2+99            | 702.92        | 702.42           |  |
| 3                                                                                             | STREET A  | 3+61            | 702.77        | 702.27           |  |
| 4                                                                                             | STREET A  | 4+24            | 702.33        | 701.83           |  |
| 5                                                                                             | STREET A  | 4+87            | 701.87        | 701.37           |  |
| 6                                                                                             | STREET A  | 5+50            | 701.48        | 700.98           |  |
| 7                                                                                             | STREET A  | 6+17            | 701.10        | 700.60           |  |
| 8                                                                                             | STREET A  | 6+69            | 700.78        | 700.28           |  |
| 9                                                                                             | STREET A  | 7+32            | 700.44        | 699.94           |  |
| 10                                                                                            | STREET A  | 7+86            | 700.06        | 699.56           |  |
| ▲ 11                                                                                          | STREET A  | 8+51            | 699.71        | 699.21           |  |
| 17                                                                                            | STREET A  | 5+14            | 702.32        | 701.82           |  |
| 18                                                                                            | STREET A  | 4+51            | 704.25        | 703.75           |  |
| ▲ 26                                                                                          | STM-8     | 1+50            | 699.33        | 698.83           |  |
| ▲ 27                                                                                          | STM-8     | 0+25            | 699.29        | 698.79           |  |
| 28                                                                                            | STREET B  | 1+04            | 700.77        | 700.27           |  |
| 29                                                                                            | STREET B  | 1+85            | 701.21        | 700.71           |  |
| 30                                                                                            | STREET B  | 2+66            | 701.64        | 701.14           |  |
| 31                                                                                            | STREET B  | 3+48            | 702.13        | 701.63           |  |
| ▲ 32                                                                                          | STREET B  | 3+58            | 703.92        | 703.42           |  |
| ▲ 33                                                                                          | STREET B  | 3+98            | 703.92        | 703.42           |  |
| ▲ 34                                                                                          | STREET B  | 4+61            | 703.92        | 703.42           |  |
| ▲ 35                                                                                          | STREET B  | 5+24            | 703.92        | 703.42           |  |
| ▲ 36                                                                                          | STREET B  | 5+87            | 703.92        | 703.42           |  |
| ▲ 37                                                                                          | STREET B  | 5+94            | 703.92        | 703.42           |  |
| ▲ 38                                                                                          | STREET B  | 6+57            | 703.92        | 703.42           |  |
| ▲ 39                                                                                          | STREET B  | 7+76            | 703.92        | 703.42           |  |
| ▲ 40                                                                                          | STREET A  | 2+99            | 703.90        | 703.40           |  |
| ▲ 41                                                                                          | STREET A  | 2+40            | 703.91        | 703.41           |  |

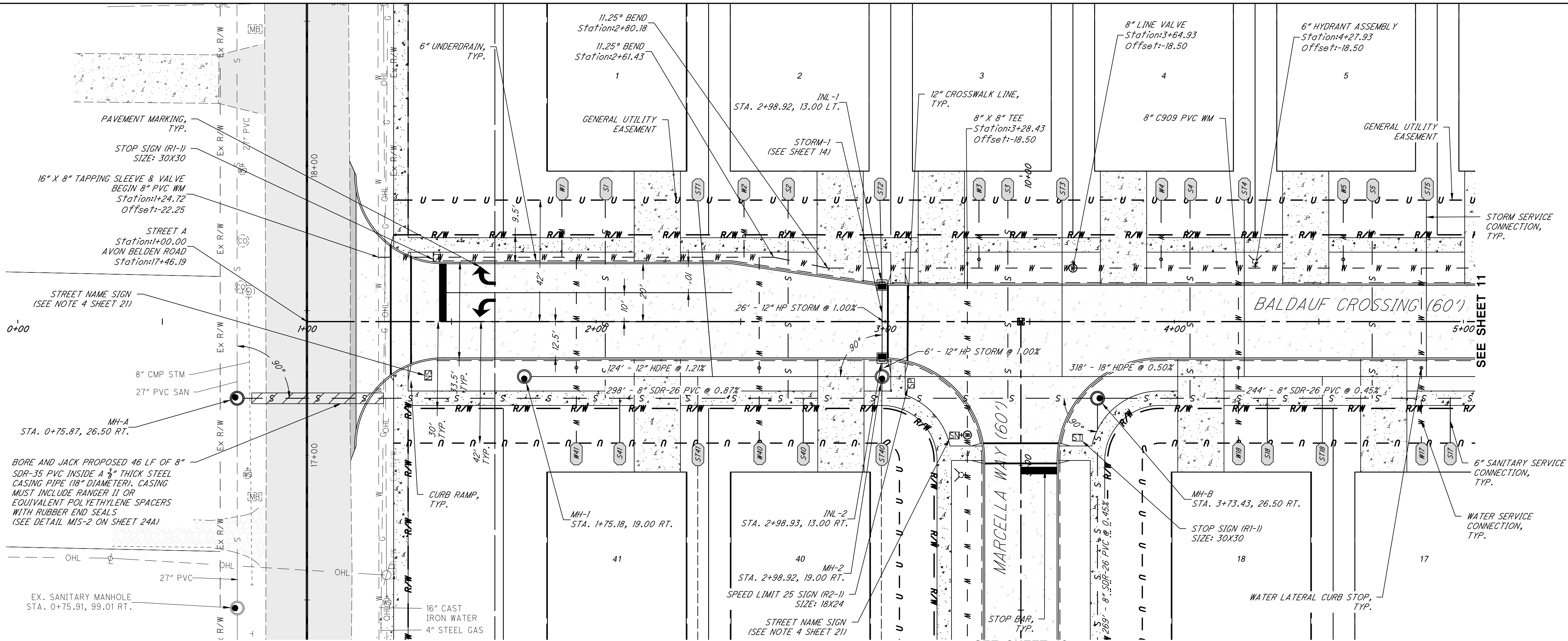
NOTES

1. STORM LATERALS (UP TO UTILITY EASEMENT) TO BE INSTALLED BY DEVELOPER UNLESS OTHERWISE NOTED (\*) IN WHICH CASE LATERALS TO BE INSTALLED BY HOMEBUILDER.
2. STORM LATERALS NOTED (\*\*) TO BE INSTALLED BY DEVELOPER (INCLUDES YARD DRAIN).
3. SEE THIS SHEET FOR YARD DRAIN STORM SEWER DATA.

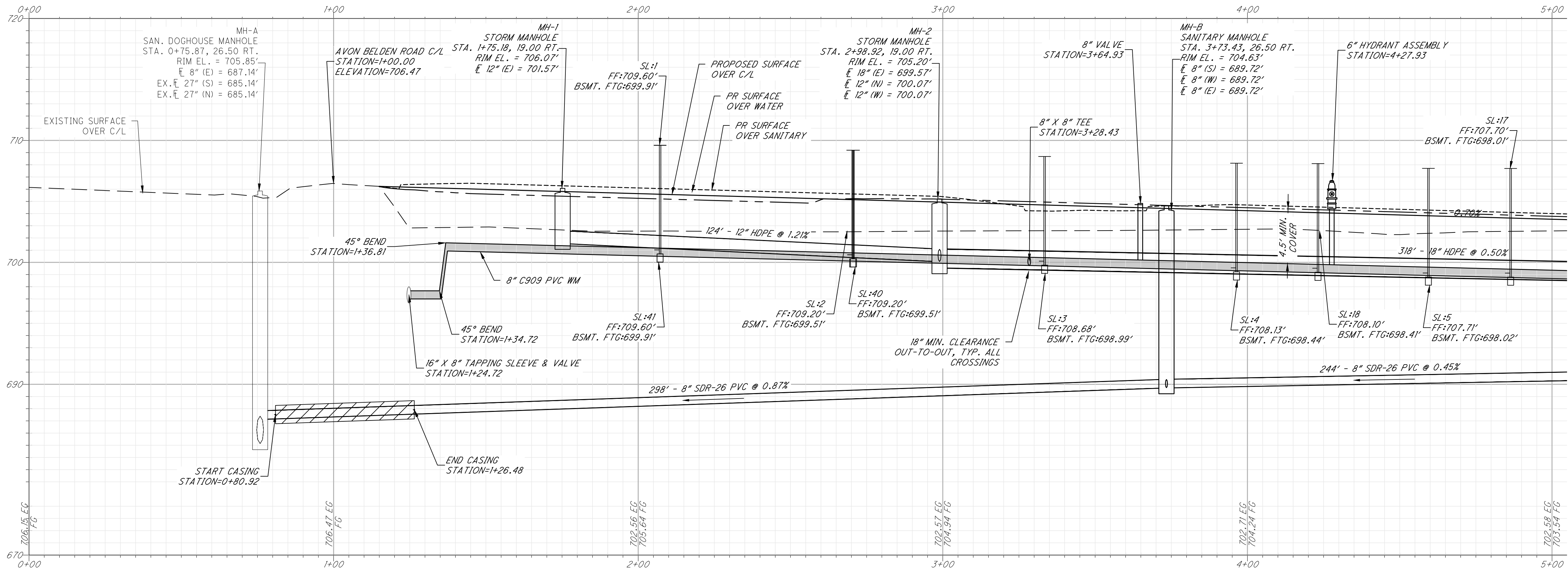


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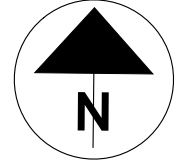
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8. ALL UTILITY CROSSINGS UNDER PAVEMENT SHALL BE BACKFILLED WITH PREMIUM BACKFILL. PREMIUM BACKFILL IS REQUIRED ABOVE THE SANITARY SEWER UP TO THE BASE OF THE SIDEWALK. THE ALTERNATIVE IS PERFORMING COMPACTION TESTING ON THE BACKFILL MATERIAL UP THE SIDEWALK BASE.
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PLAN: BALDAUF CROSSING STA: 0+00 TO 5+00  
1"=20' H



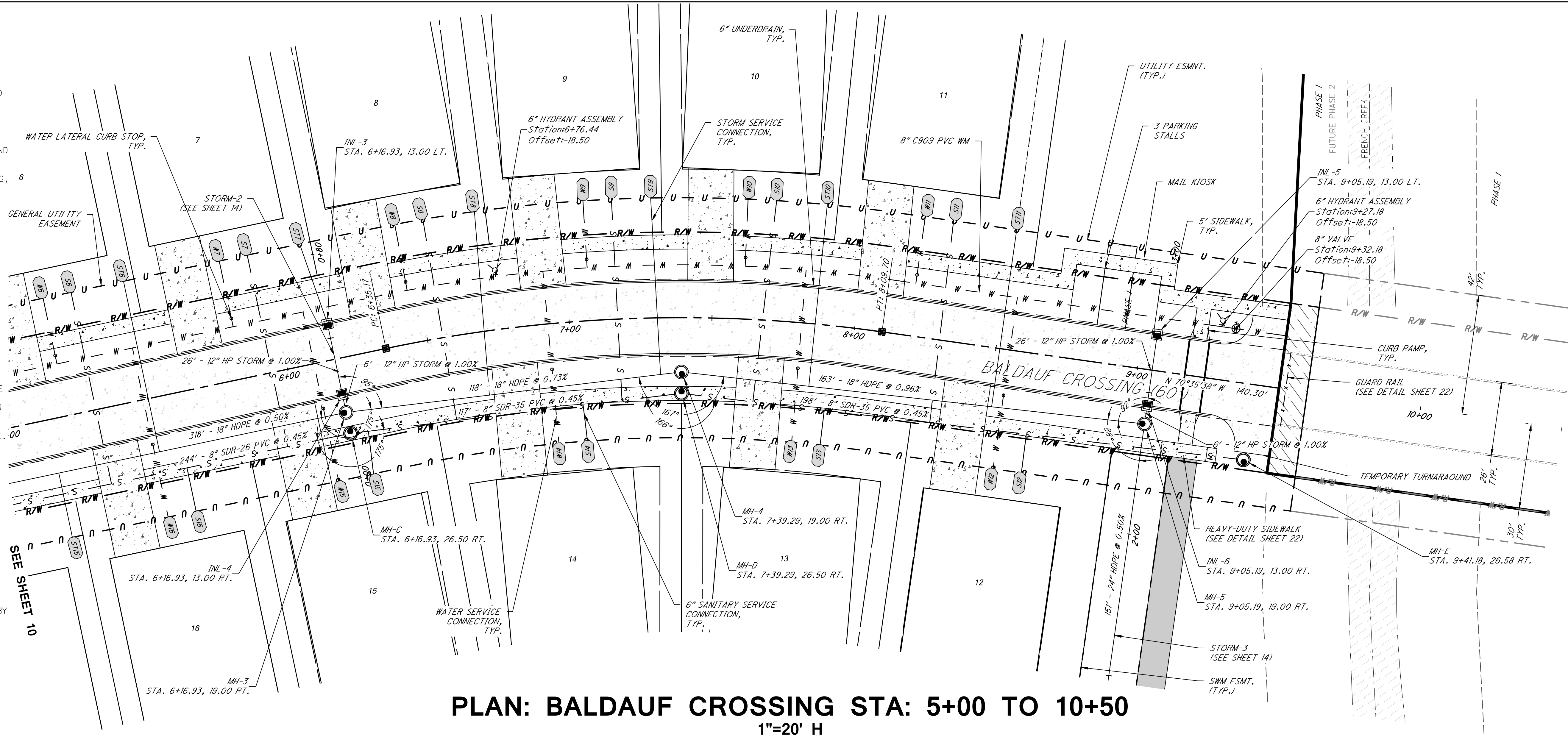
PROFILE: BALDAUF CROSSING STA: 0+00 TO 5+00  
1"=20' H, 1"=5' V



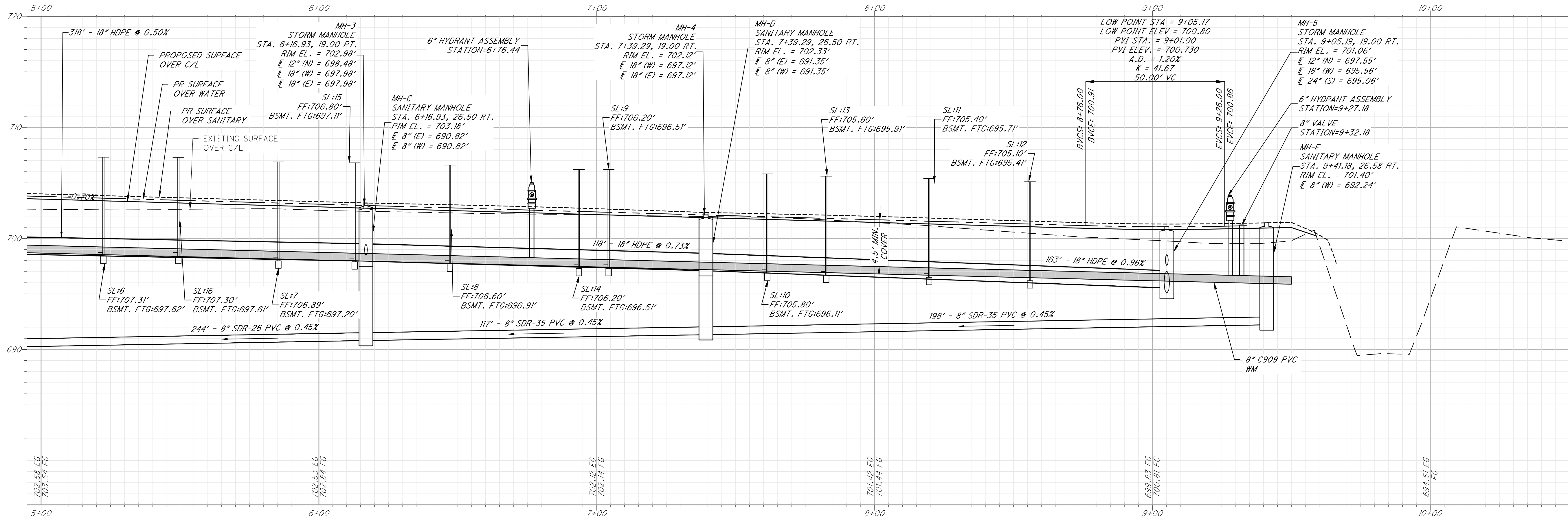


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PLAN: BALDAUF CROSSING STA: 5+00 TO 10+50  
1"=20' H

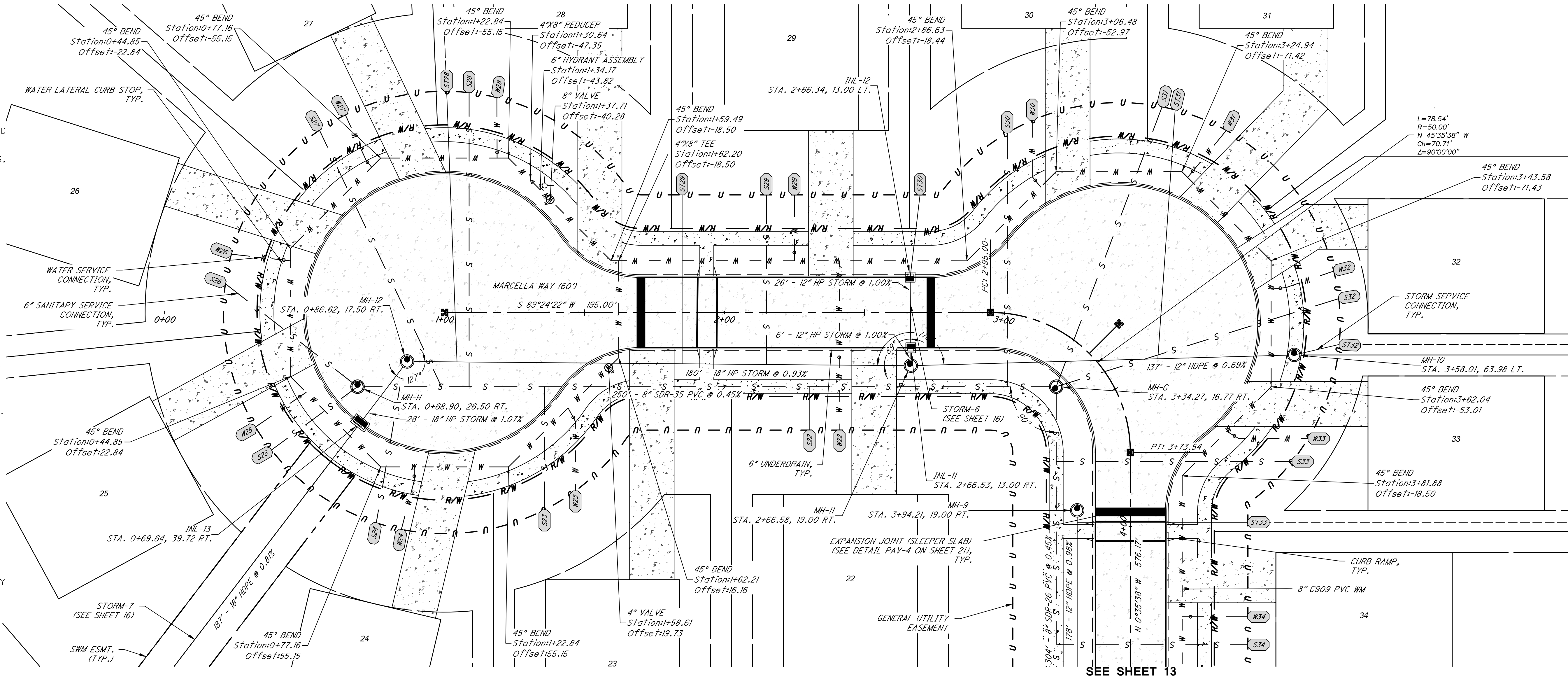


PROFILE: BALDAUF CROSSING STA: 5+00 TO 10+50  
1"=20' H, 1"=5' V

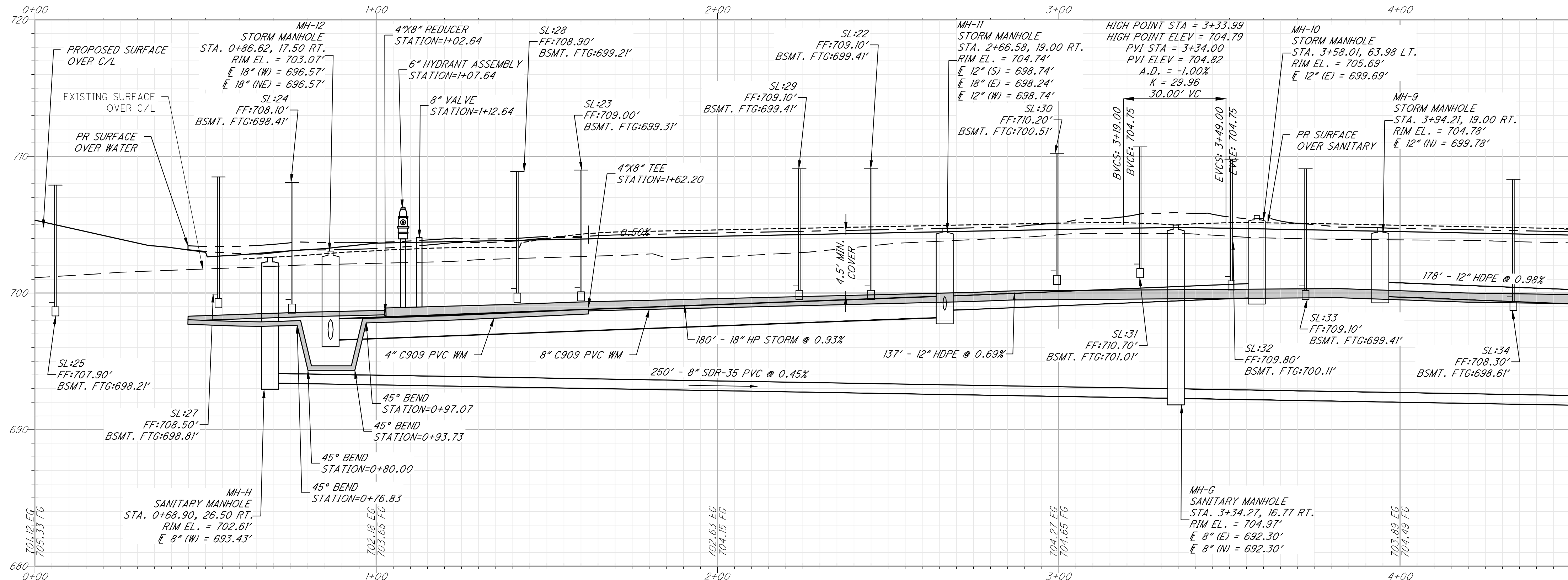


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PLAN: MARCELLA WAY STA: 0+00 TO 4+50  
1"=20' H

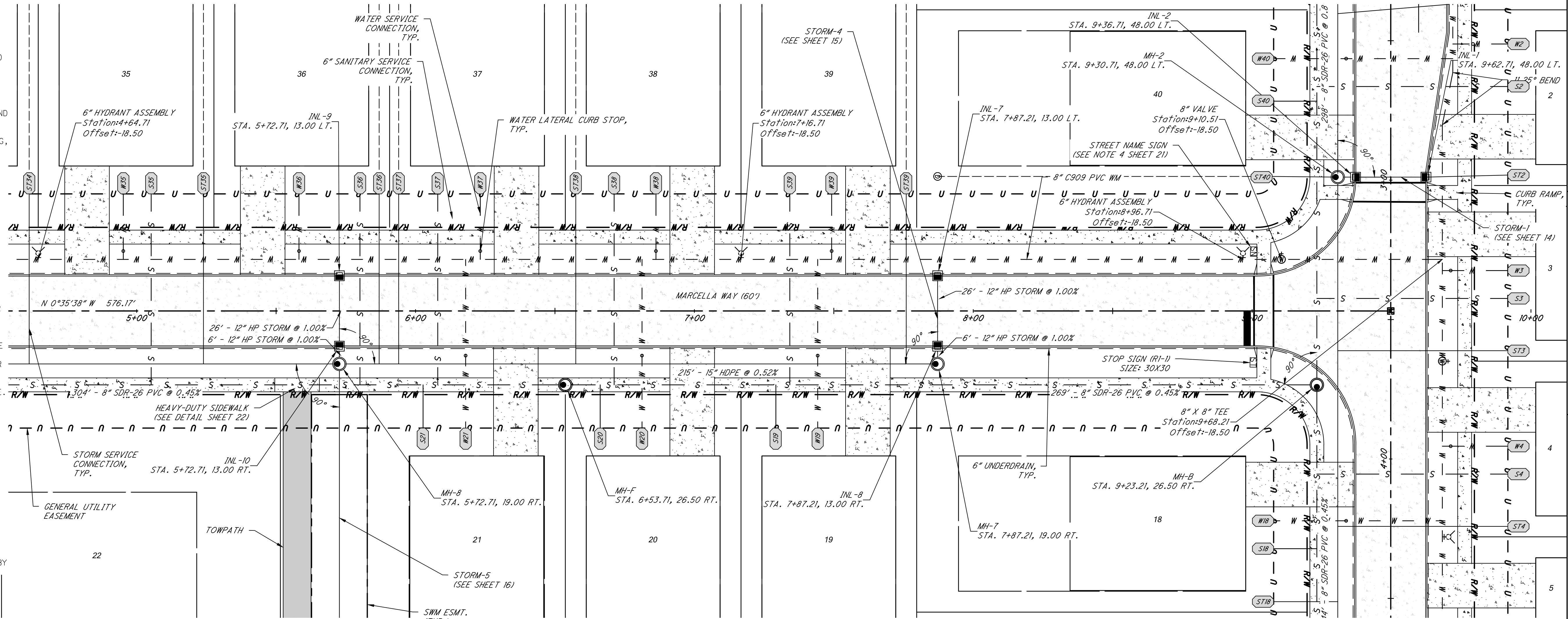


PROFILE: MARCELLA WAY STA: 0+00 TO 4+50  
1"=20' H, 1"=5' V

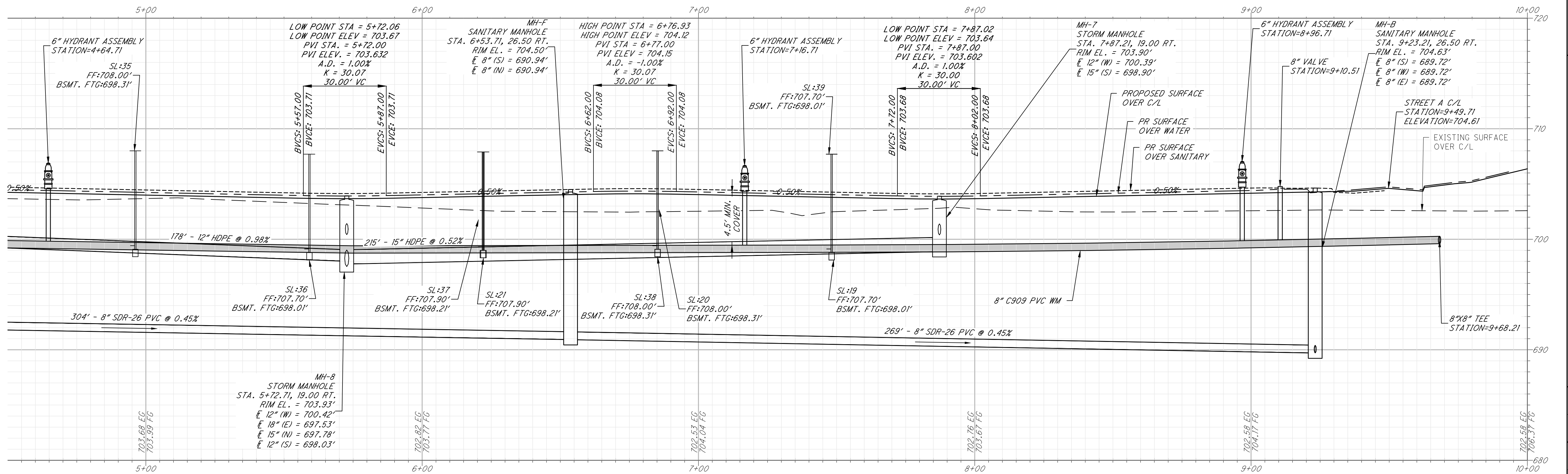


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PLAN: MARCELLA WAY STA: 4+50 TO 10+00  
1"=20' H



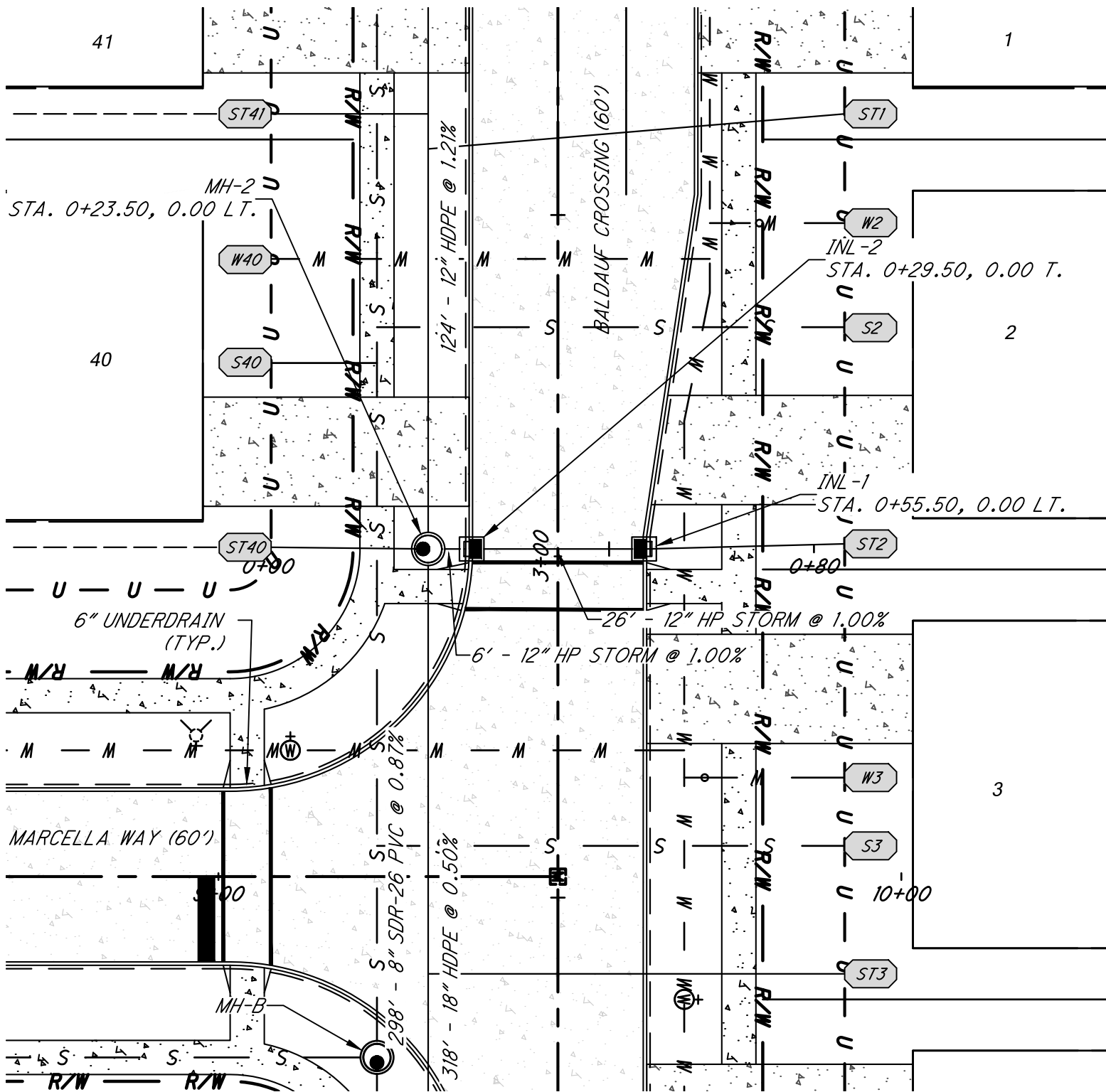
PROFILE: MARCELLA WAY STA: 4+50 TO 10+00  
1"=20' H, 1"=5' V



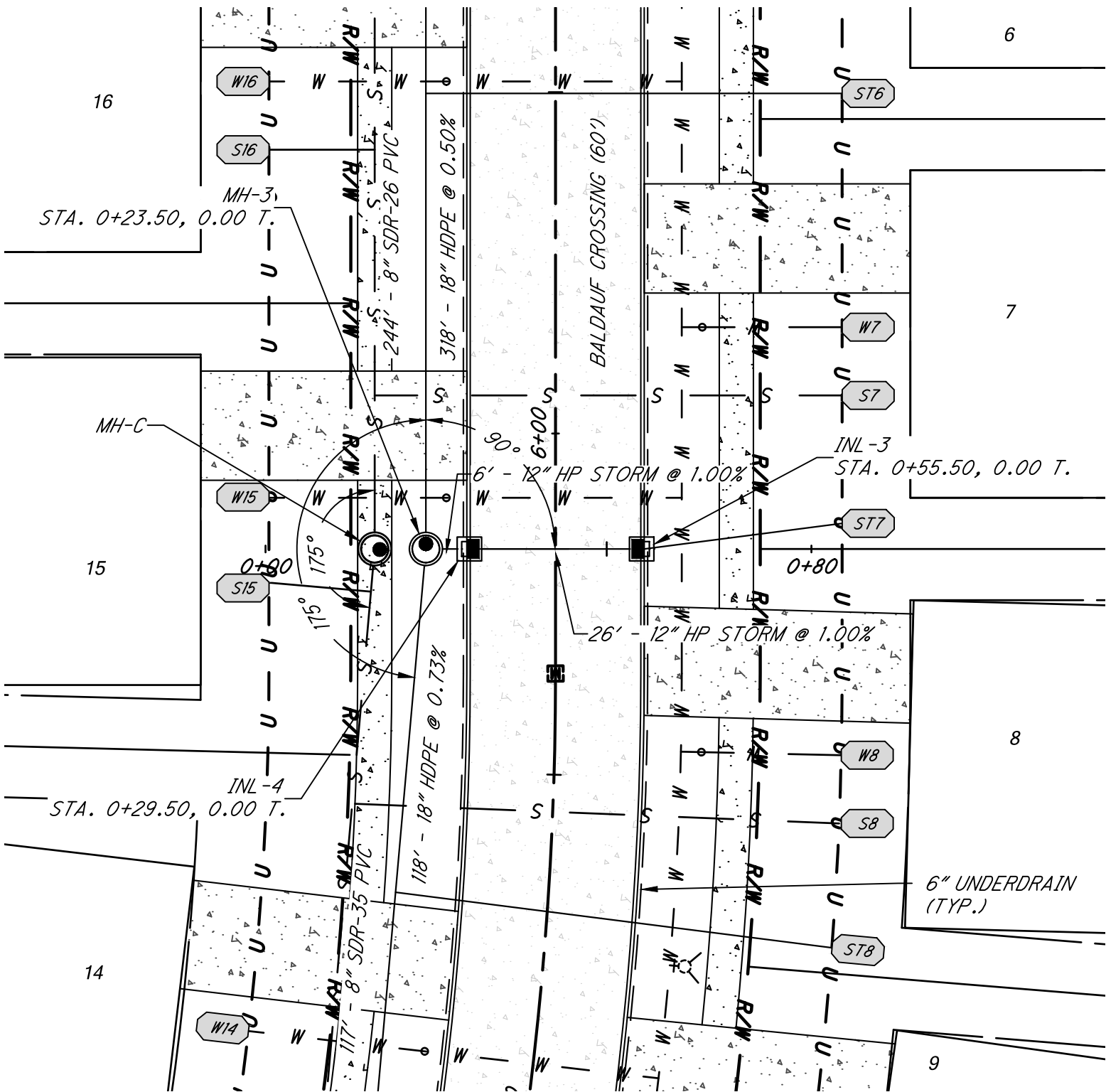
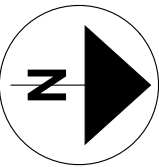
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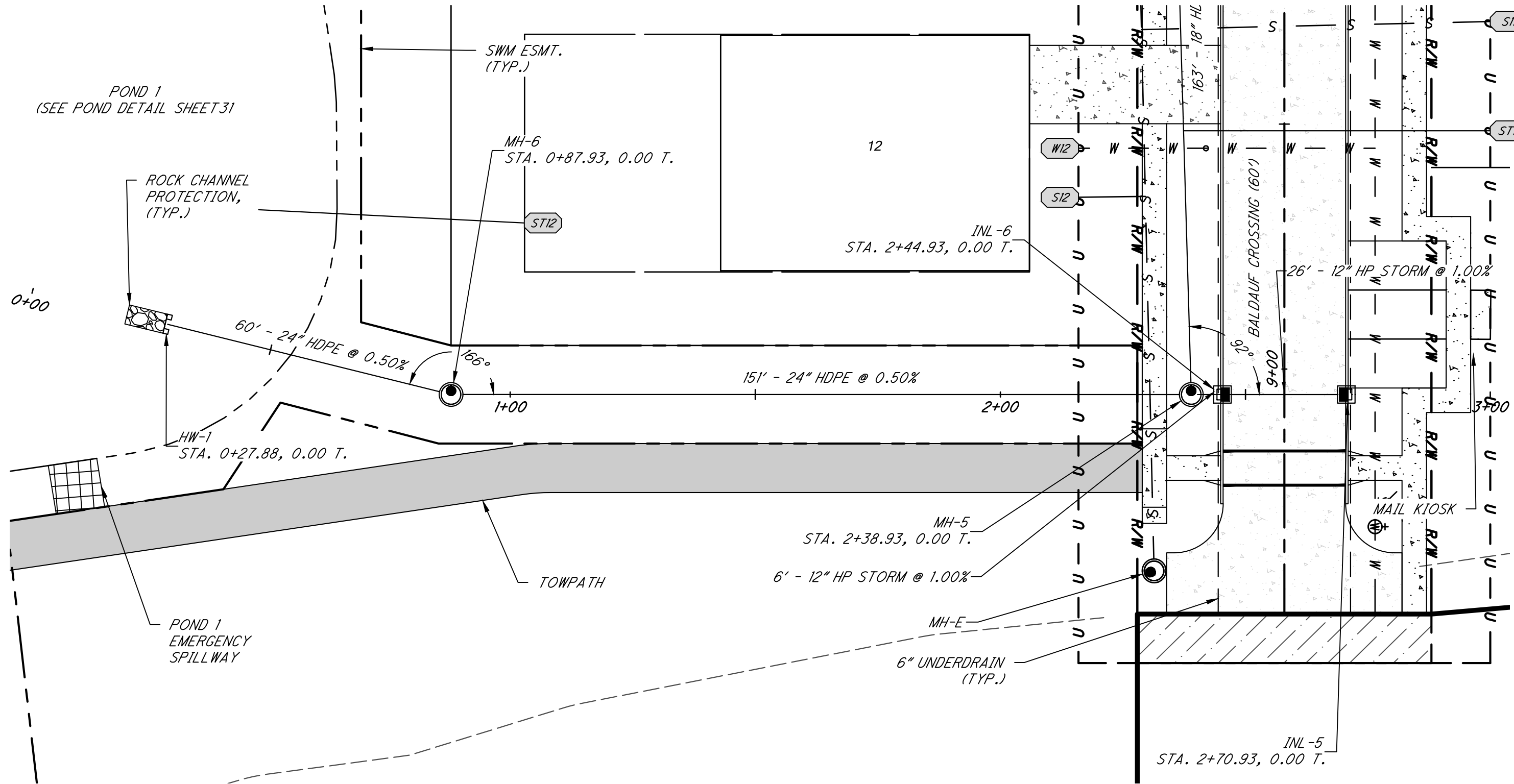
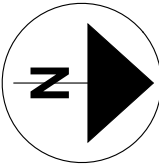
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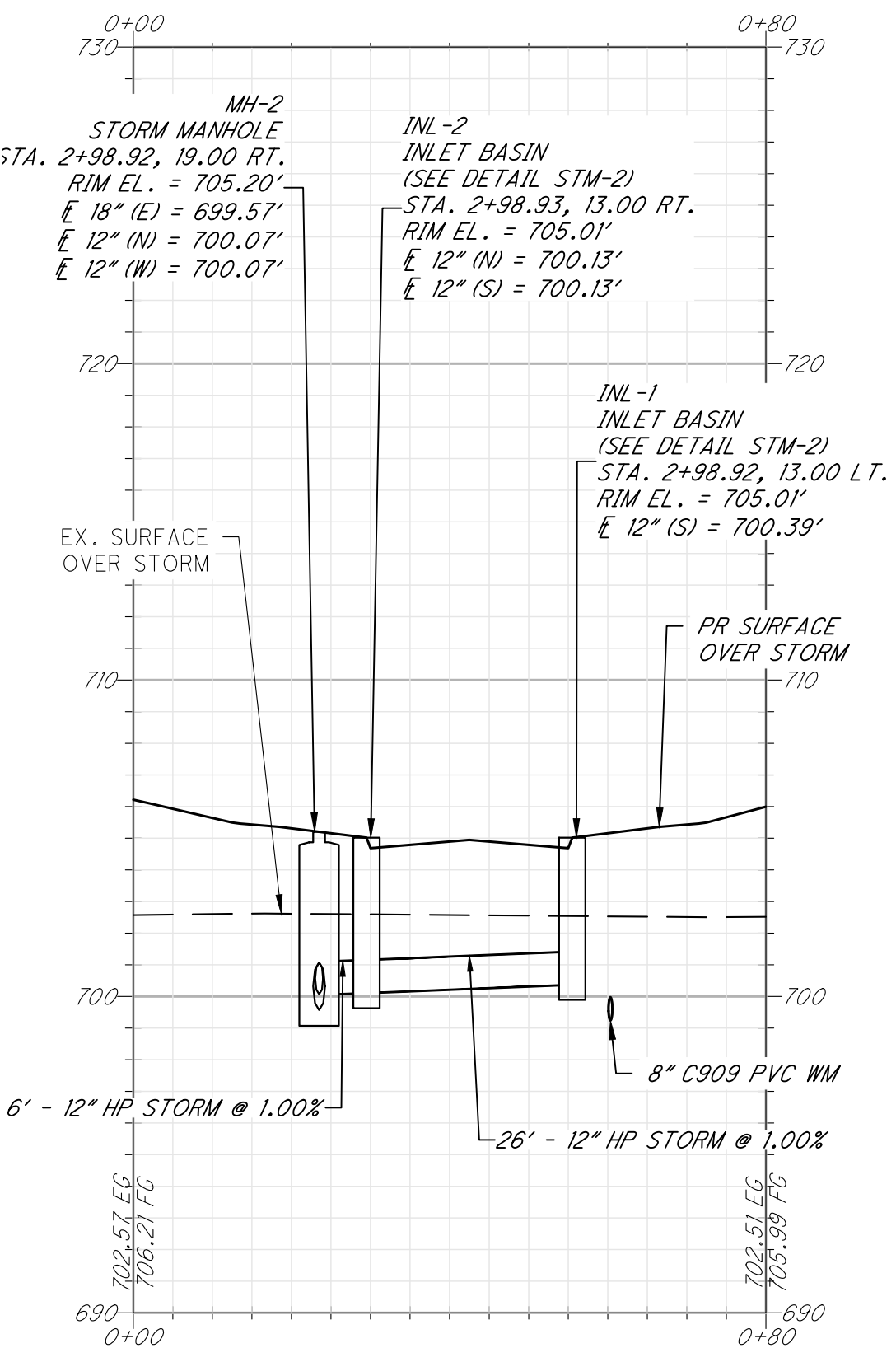
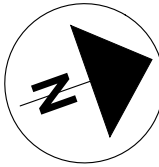
PLAN: STORM-1  
1"=20' H



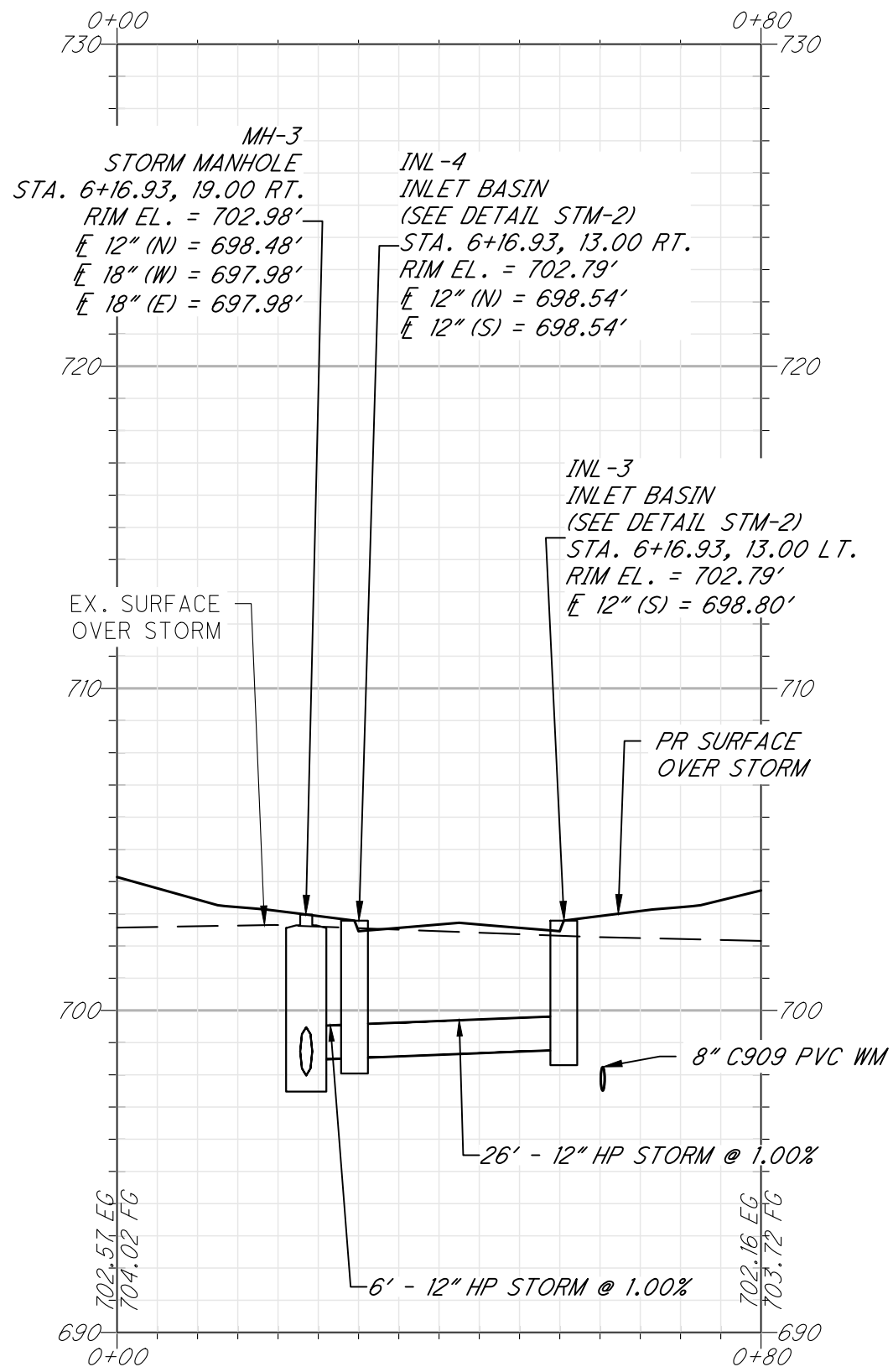
PLAN: STORM-2  
1"=20' H



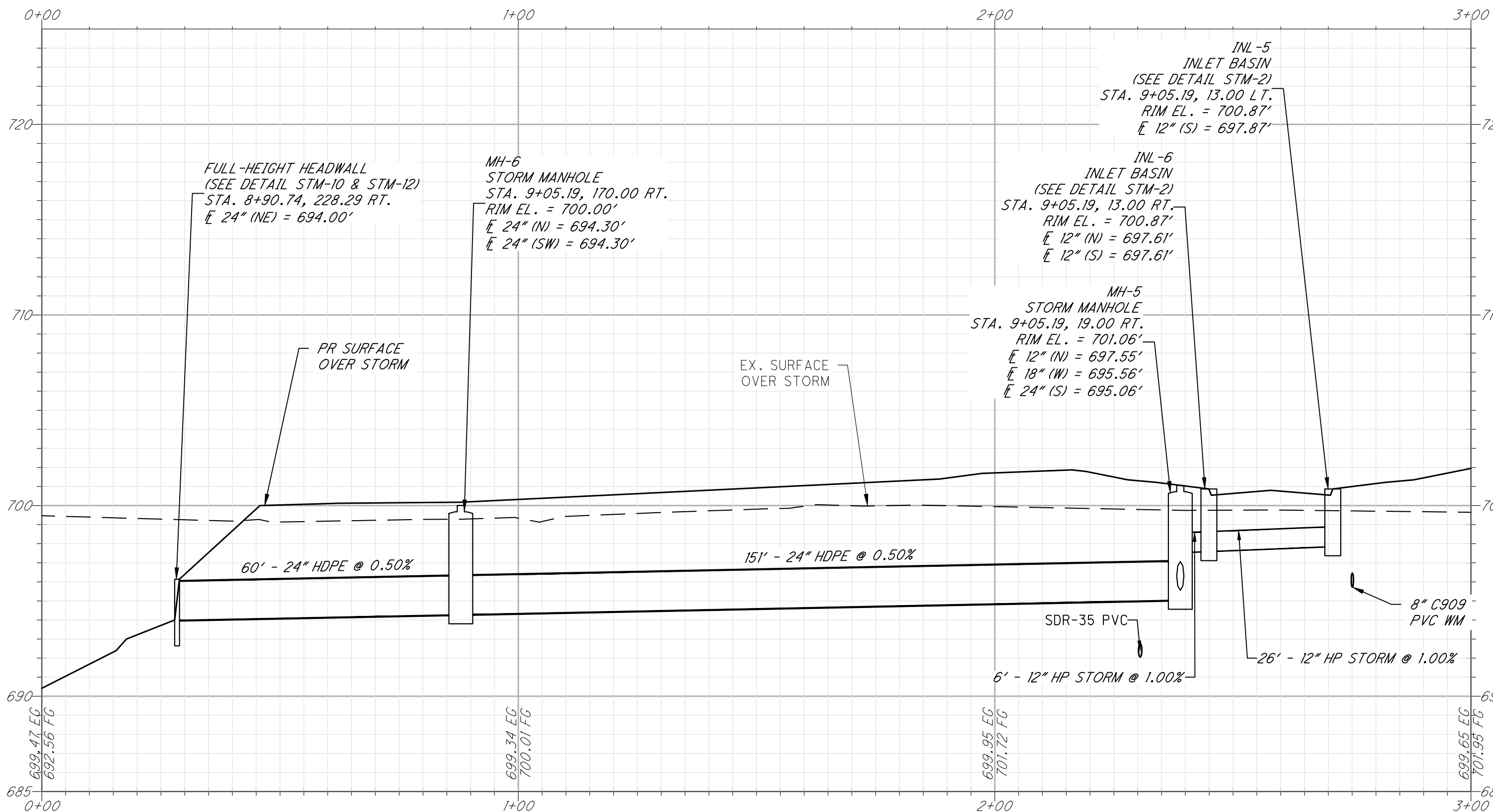
PLAN: STORM-3  
1"=20' H



PROFILE: STORM-1  
1"=20' H, 1"=5' V



PROFILE: STORM-2  
1"=20' H, 1"=5' V

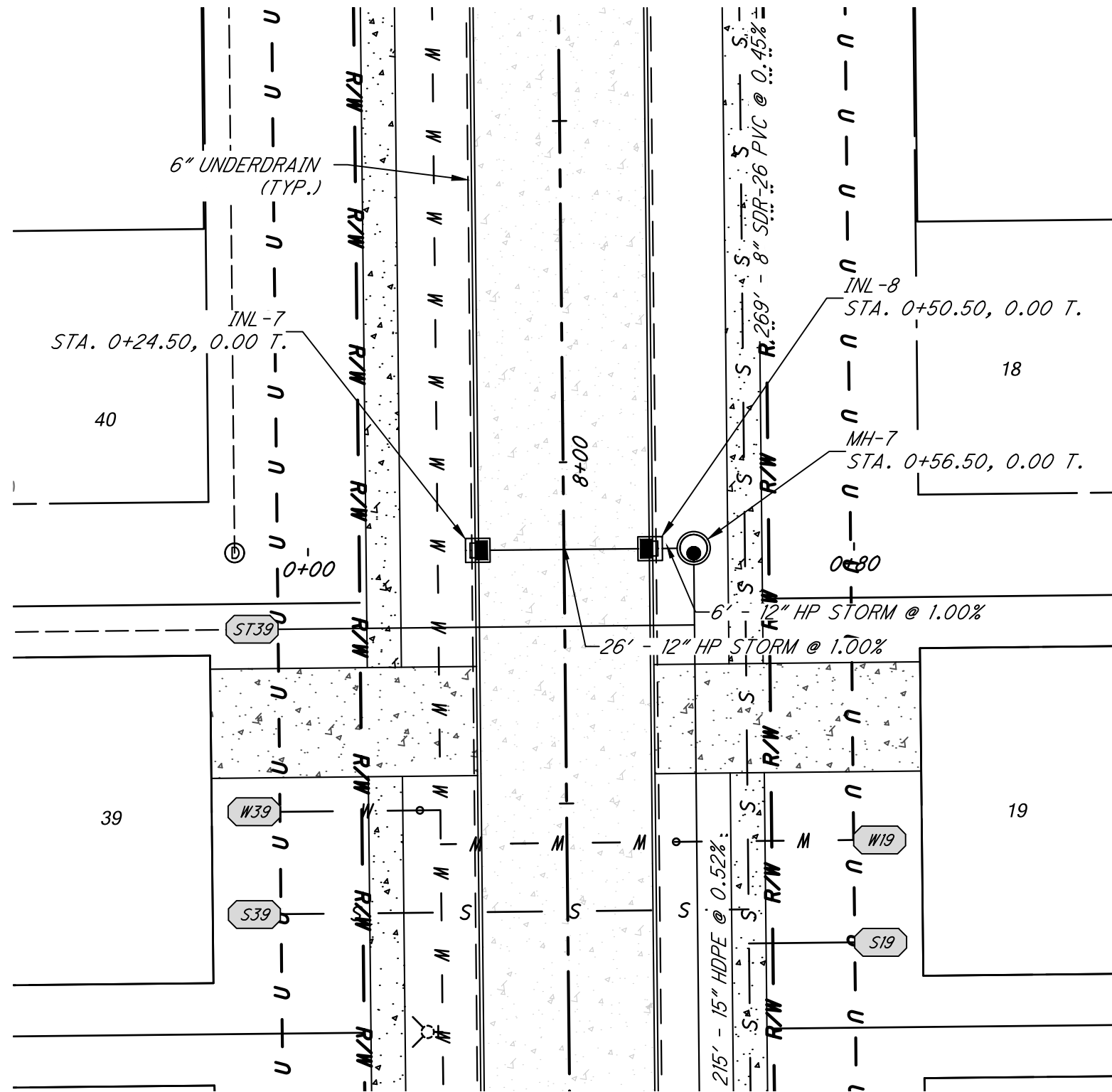


PROFILE: STORM-3  
1"=20' H, 1"=5' V

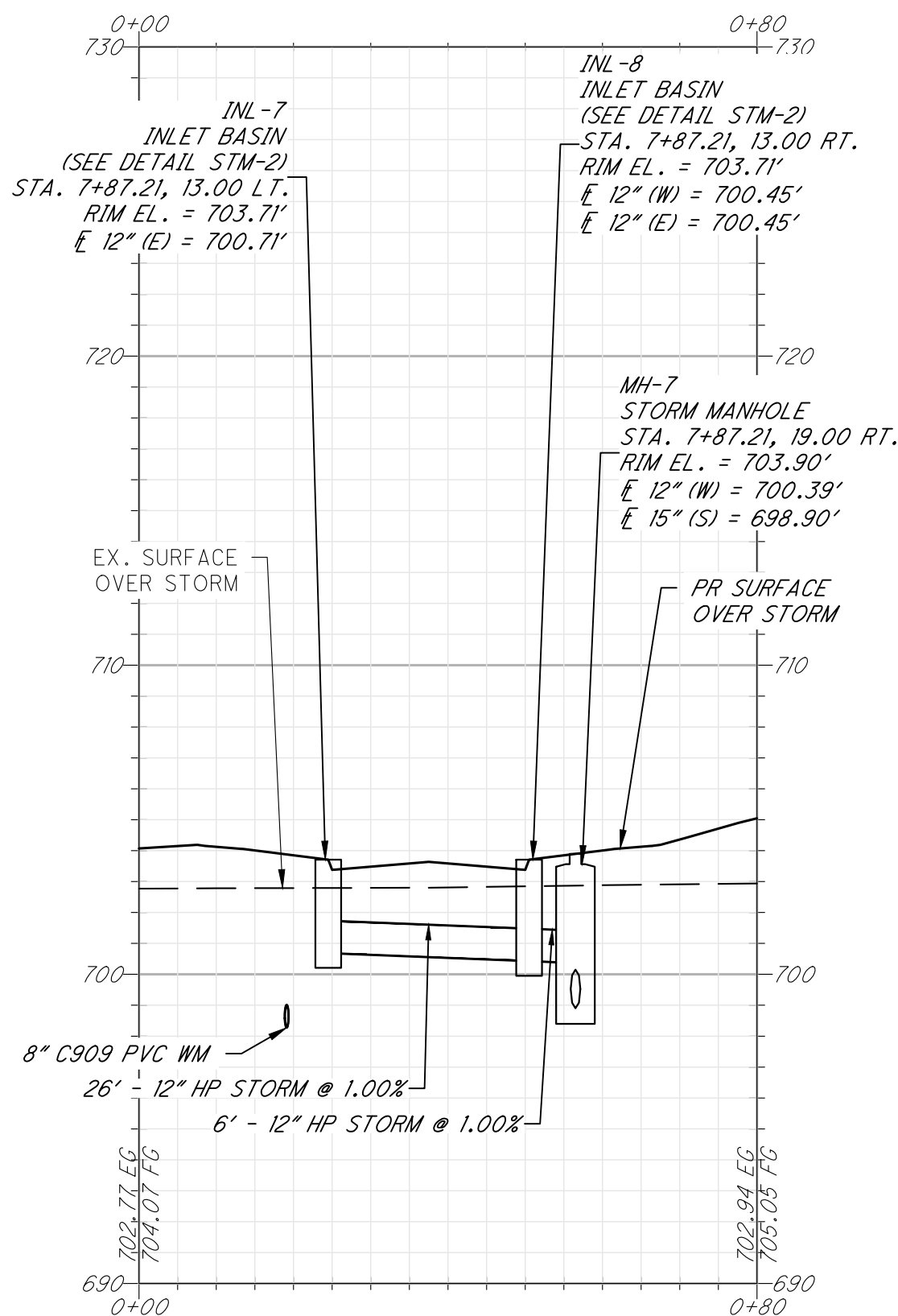


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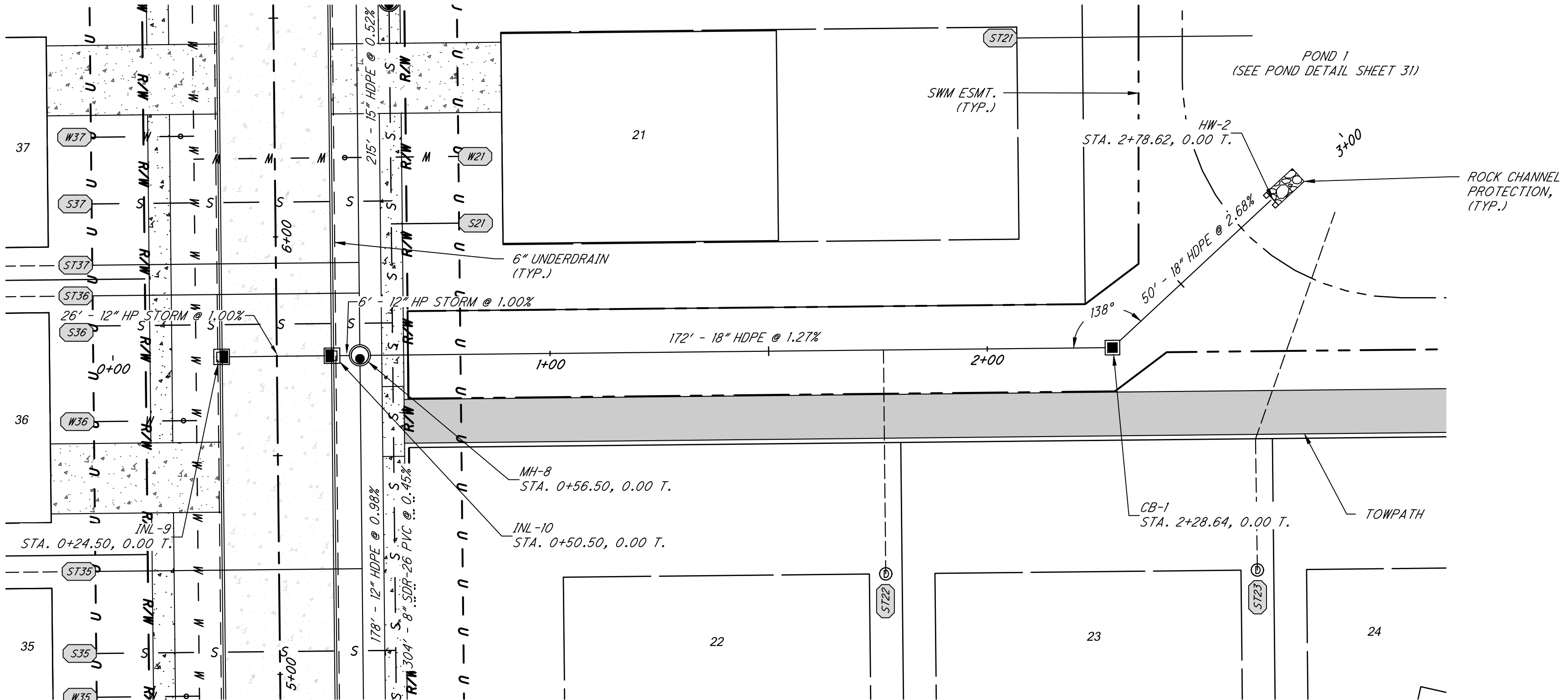
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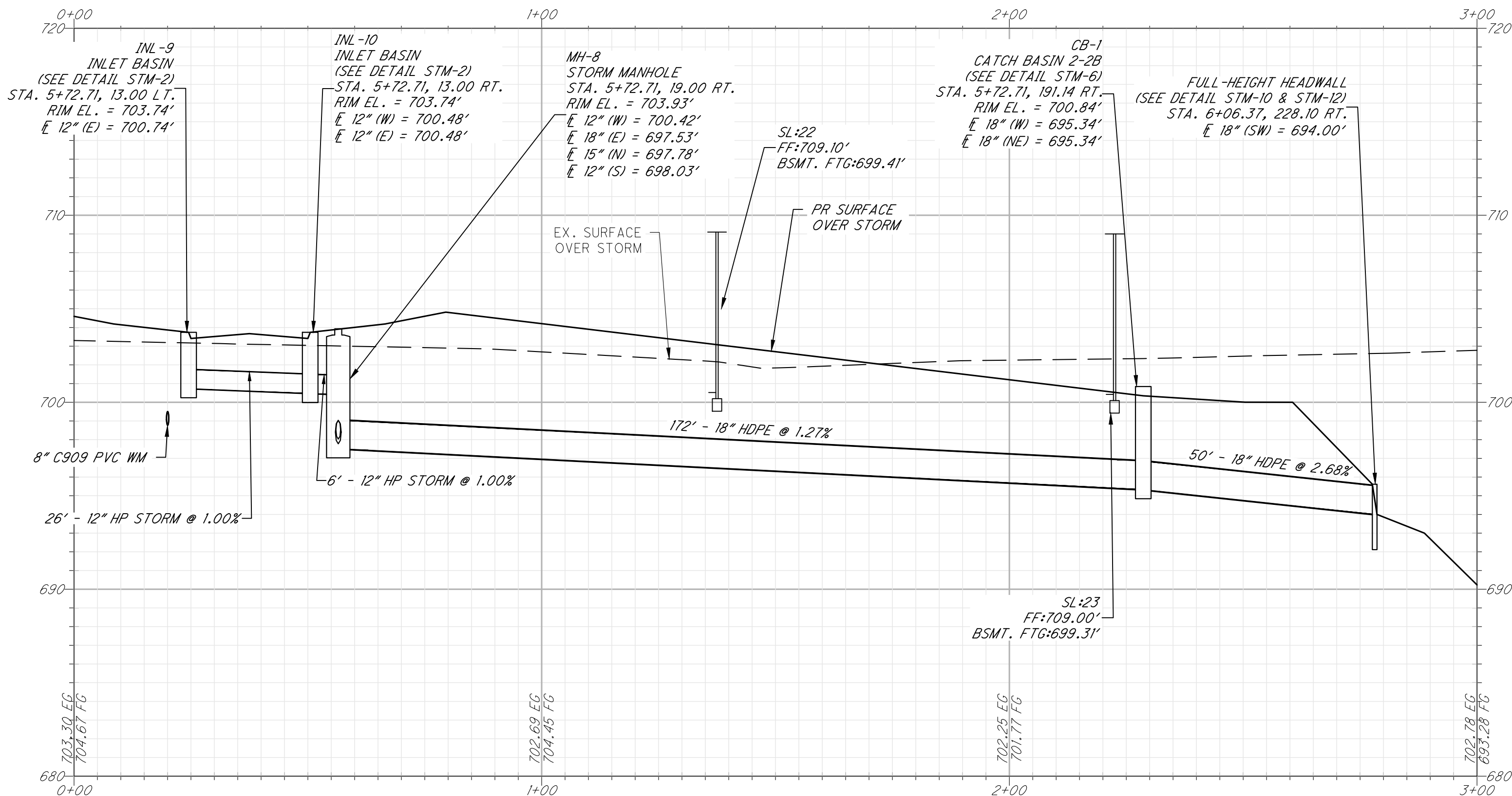
PLAN: STORM-4  
1"=20' H



PROFILE: STORM-4  
1"=20' H, 1"=5' V



PLAN: STORM-5  
1"=20' H



PROFILE: STORM-5  
1"=20' H, 1"=5' V



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6. MANHOLE RIM ELEVATION IS AT THE TOP OF CASTING. COORDINATE WITH THE PROVIDED STORM CONSTRUCTION DETAILS PER THE CITY OF NORTH RIDGEVILLE STANDARD DETAIL STM-1 FOR PRECAST CONCRETE MANHOLE.

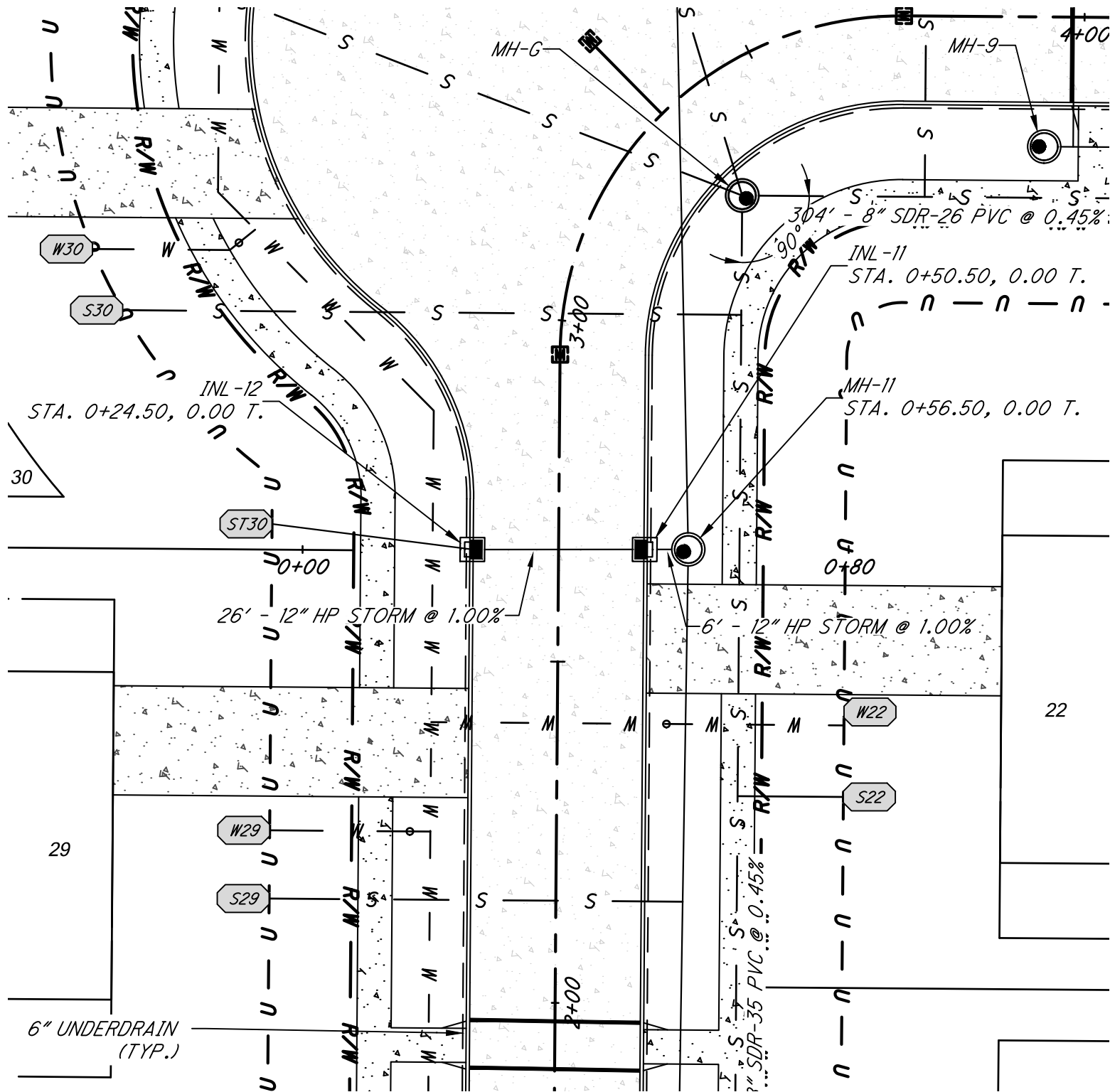
7. DEFLECT WATER CONNECTIONS UNDER STORM SEWER MAIN. MAINTAIN 18" VERTICAL CLEARANCE BETWEEN STORM SEWER AND WATER CONNECTIONS.

8. ALL UTILITY CROSSINGS UNDER PAVEMENT SHALL BE BACKFILLED WITH PREMIUM BACKFILL. PREMIUM BACKFILL IS REQUIRED ABOVE THE SANITARY SEWER UP TO THE BASE OF THE SIDEWALK. THE ALTERNATIVE IS PERFORMING COMPACTION TESTING ON THE BACKFILL MATERIAL UP THE SIDEWALK BASE.
9. GASKETED PLUGS SHALL BE INSTALLED IN THE SANITARY LATERAL CONNECTIONS AT THE R/W IF NOT TO BE USED IMMEDIATELY.

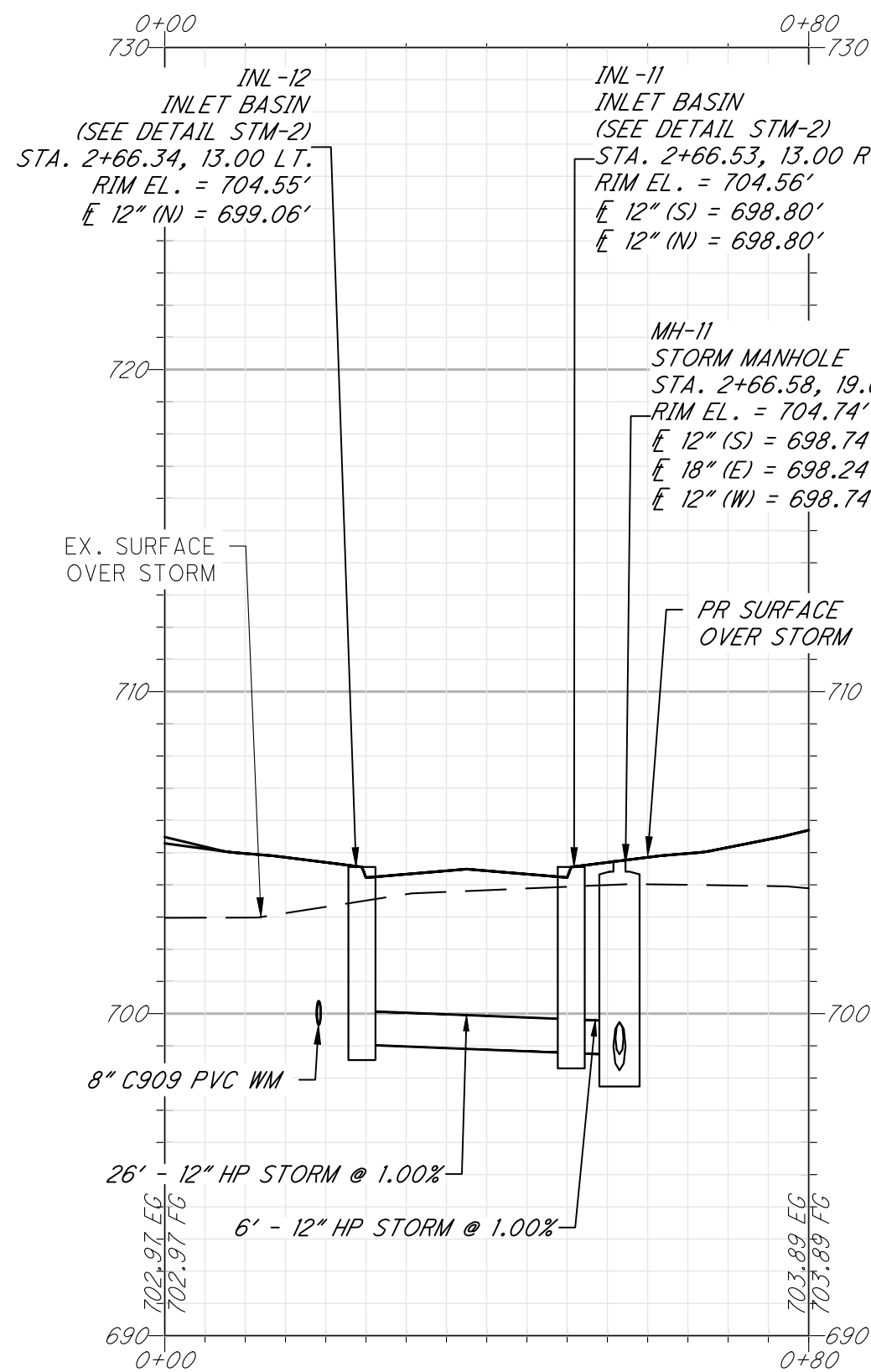
10. WATER SERVICE VALVES AND ANY SEWER INSPECTION TEES SHALL BE PLACED OUTSIDE DRIVEWAY APRONS WITHIN THE TREE LAWN.

11. FOR WATER LATERALS CROSSING PAVEMENT, DEVELOPER SHALL MARK WITH A 4X4 POST (CURB VALVE AND WATER LATERAL BY BUILDER).

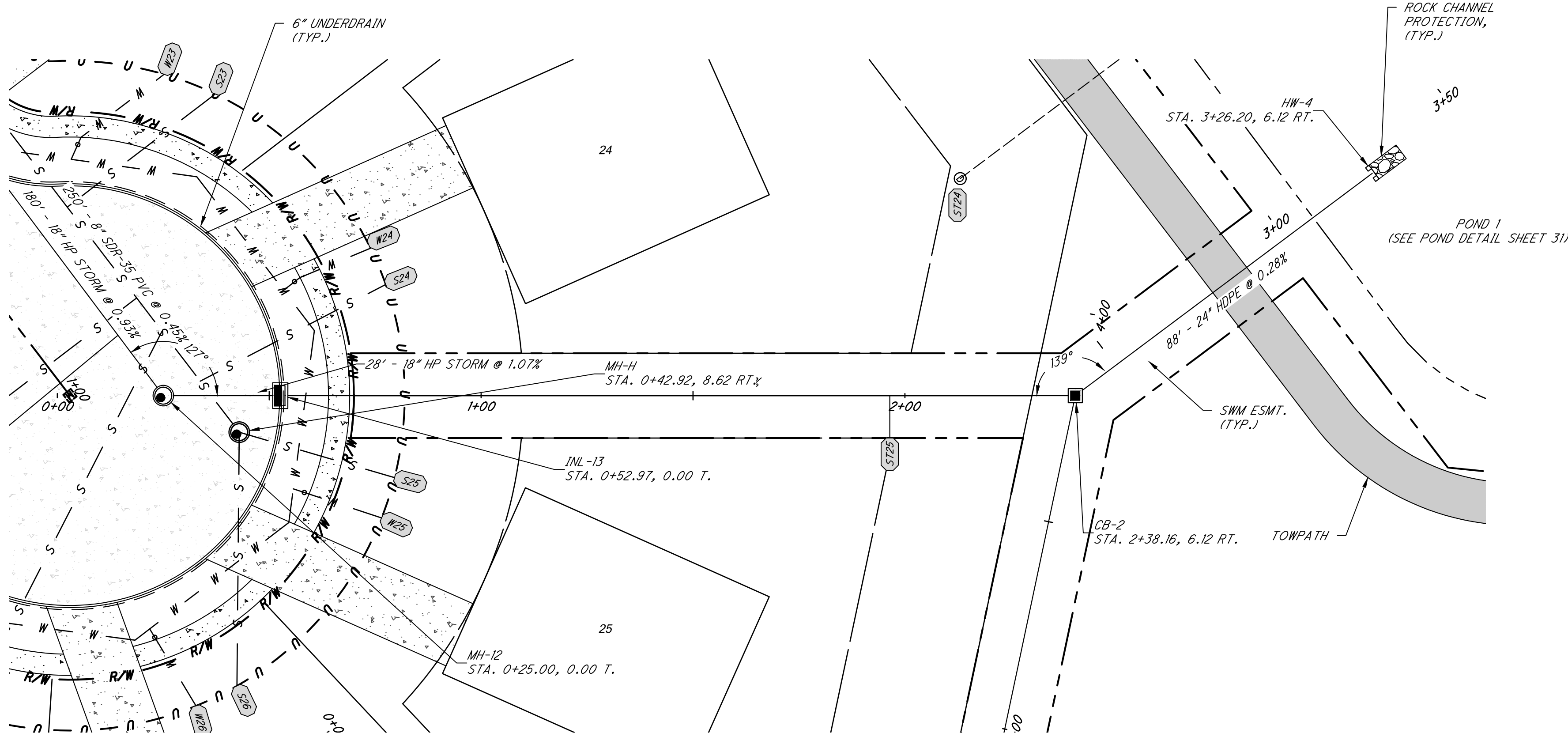
12. MINIMUM SEPARATION TO BE MEASURED "OUT-TO-OUT" BETWEEN WATER MAINS AND SANITARY SEWERS AND/OR STORM SEWERS.



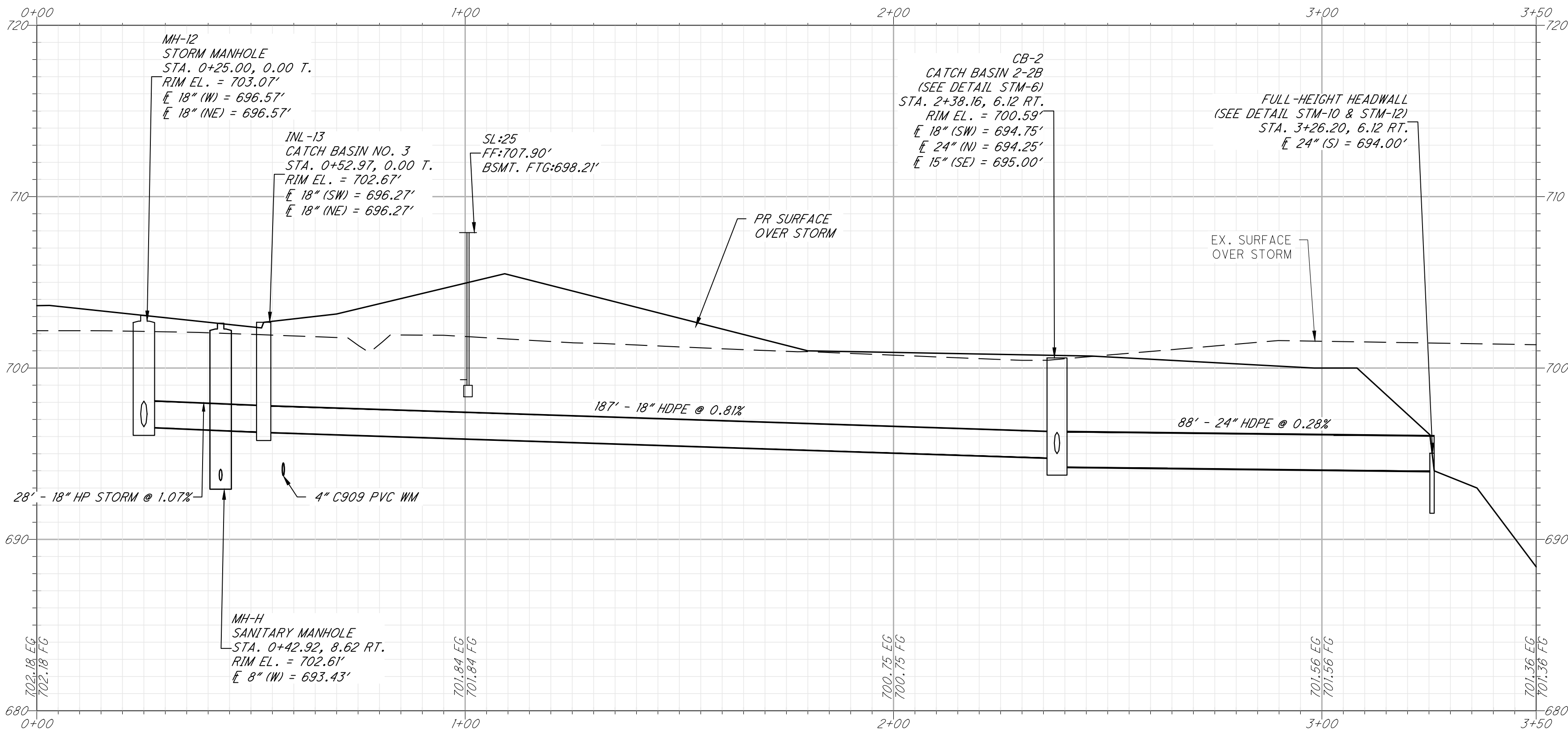
PLAN: STORM-6  
1"=20' H



PROFILE: STORM-6  
1"=20' H, 1"=5' V



PLAN: STORM-7  
1"=20' H



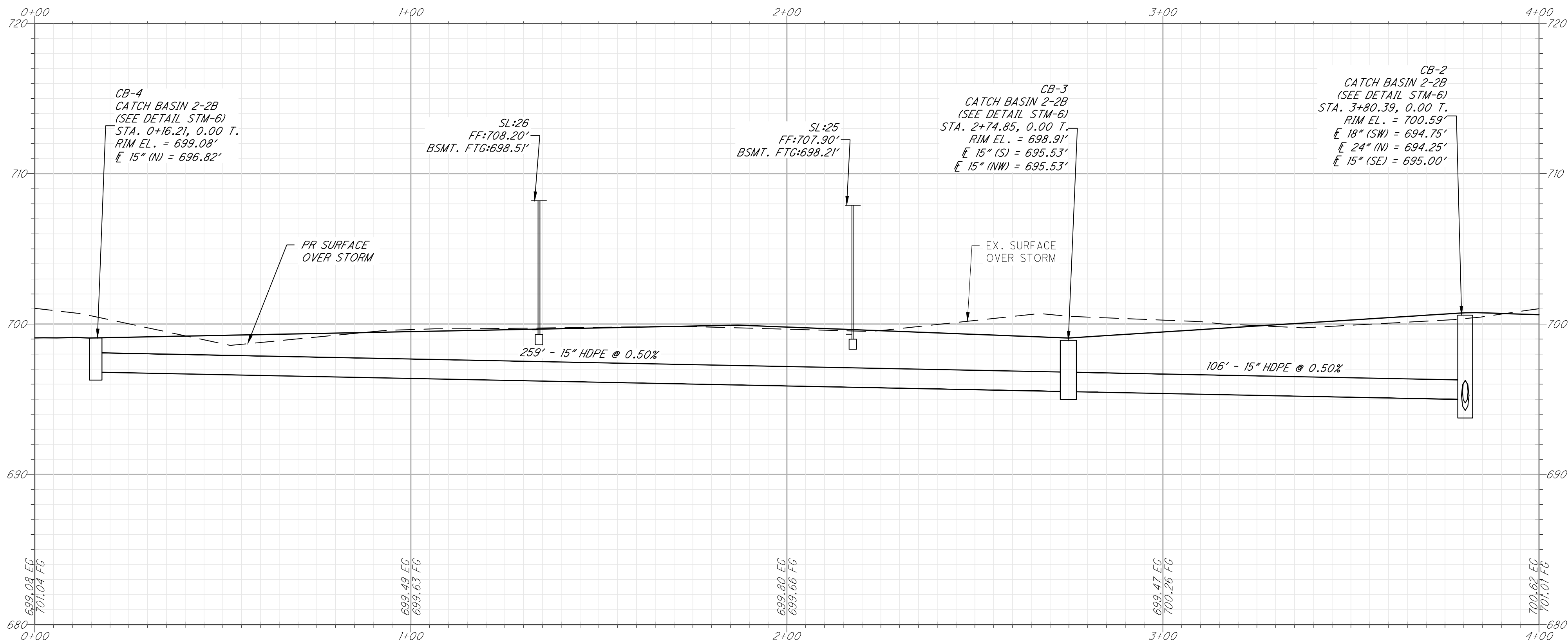
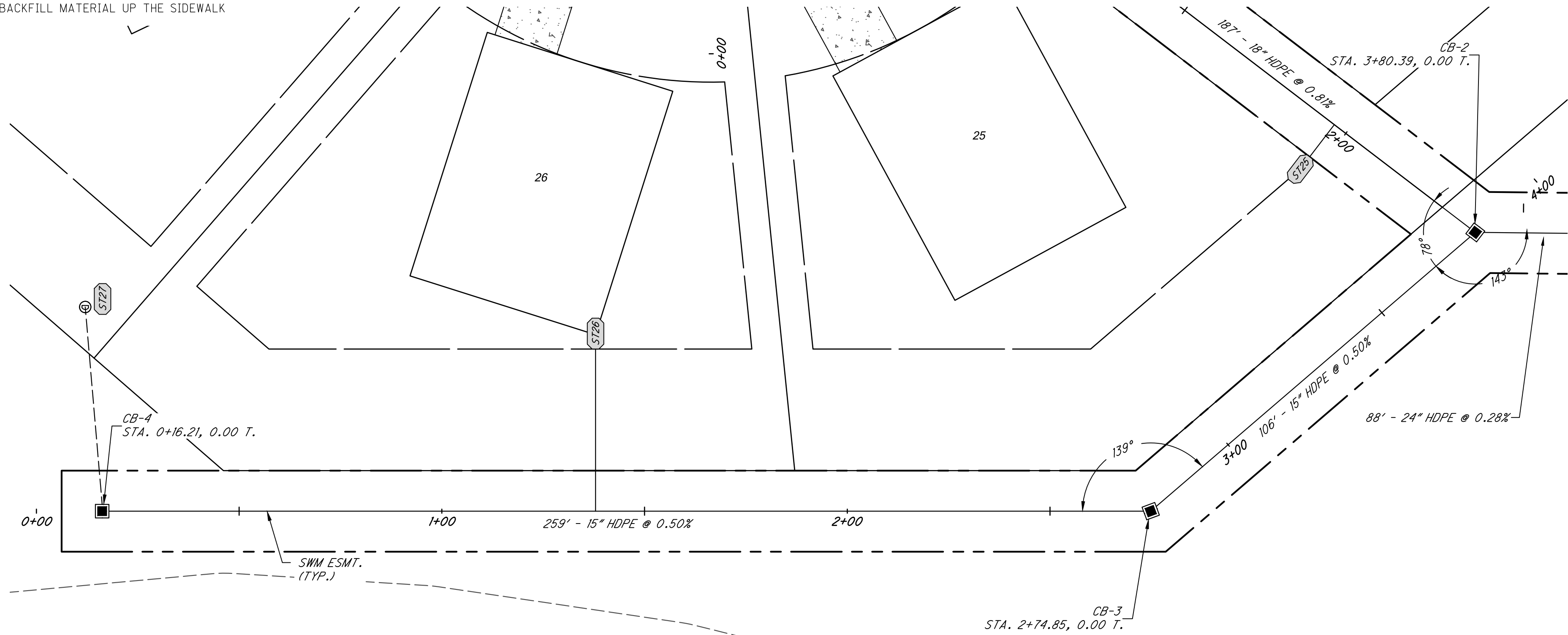
PROFILE: STORM-7  
1"=20' H, 1"=5' V



NOTES

1. WATER SERVICE BOXES ARE TO BE PROVIDED PER CITY OF NORTH RIDGEVILLE STANDARD CONSTRUCTION DRAWING WAT-13. SEE SHEET 24.
2. SANITARY SEWER CLEANOUTS TO BE INSTALLED BY BUILDER PER CITY OF NORTH RIDGEVILLE STANDARD CONSTRUCTION DRAWING SAN-8. SEE SHEET 26.
3. LATERAL CONNECTION SCHEDULES ARE LOCATED ON SHEET 9.
4. INLET BASIN OFFSET DISTANCE, RIM ELEVATION, AND STATION PROVIDED IS AT THE BACK OF CURB. COORDINATE BOTH THE BASIN OFFSET DISTANCES AND GRATE ELEVATION WITH THE PROVIDED CASTING, CURB CONSTRUCTION, AND STORM BASIN CONSTRUCTION DETAILS PER THE CITY OF NORTH RIDGEVILLE STANDARD DETAIL STM-2 FOR CATCH BASIN MOUNTABLE CURB.

5. CATCH BASIN RIM ELEVATION IS AT THE TOP OF CASTING. COORDINATE WITH THE PROVIDED STORM CONSTRUCTION DETAILS PER THE CITY OF NORTH RIDGEVILLE STANDARD DETAIL STM-6 FOR CATCH BASIN 2-2-B.
6. MANHOLE RIM ELEVATION IS AT THE TOP OF CASTING. COORDINATE WITH THE PROVIDED STORM CONSTRUCTION DETAILS PER THE CITY OF NORTH RIDGEVILLE STANDARD DETAIL STM-1 FOR PRECAST CONCRETE MANHOLE.
7. DEFLECT WATER CONNECTIONS UNDER STORM SEWER MAIN. MAINTAIN 18" VERTICAL CLEARANCE BETWEEN STORM SEWER AND WATER CONNECTIONS.
8. ALL UTILITY CROSSINGS UNDER PAVEMENT SHALL BE BACKFILLED WITH PREMIUM BACKFILL. PREMIUM BACKFILL IS REQUIRED ABOVE THE SANITARY SEWER UP TO THE BASE OF THE SIDEWALK. THE ALTERNATIVE IS PERFORMING COMPACTION TESTING ON THE BACKFILL MATERIAL UP THE SIDEWALK BASE.
9. GASKETED PLUGS SHALL BE INSTALLED IN THE SANITARY LATERAL CONNECTIONS AT THE R/W IF NOT TO BE USED IMMEDIATELY.
10. WATER SERVICE VALVES AND ANY SEWER INSPECTION TEES SHALL BE PLACED OUTSIDE DRIVEWAY APRONS WITHIN THE TREE LAWN.
11. FOR WATER LATERALS CROSSING PAVEMENT, DEVELOPER SHALL MARK WITH A 4X4 POST (CURB VALVE AND WATER LATERAL BY BUILDER).
12. MINIMUM SEPARATION TO BE MEASURED "OUT-TO-OUT" BETWEEN WATER MAINS AND SANITARY SEWERS AND/OR STORM SEWERS.





GENERAL NOTES

- 1. STREET LIGHTING IS REQUIRED TO BE INSTALLED BY THE DEVELOPER. DEVELOPER SHALL PROVIDE A LIGHTING PLAN TO THE CITY FOR APPROVAL.
- 2. TREE PLAN: ONE TREE PER LOT MIN. 2" CALIPER MIN. 8' HIGH IN FRONT YARD. HOME BUILDER WILL CHOOSE TREE TYPES AS ALLOWED BY THE BUILDING DEPT. AND CONFORMING WITH CITY OF NORTH RIDGEVILLE TREE ORDINANCE.
- 3. THE HOMEOWNER'S ASSOCIATION MUST BE RESPONSIBLE FOR THE MAINTENANCE OF THE STORM WATER STRUCTURES.
- 4. SIGN STANDARDS:

STREET NAME SIGNS REQUIRED TO BE INSTALLED BY THE DEVELOPER. STREET NAME SIGN SUPPORT: SUPPORTS FOR DOUBLE-FACED STREET SIGNS SHALL BE 2-3/8 INCH DIAMETER POSTS MADE OF NEW HOT-DIPPED GALVANIZED STEEL PIPE. ALL SUPPORTS SHALL BE EMBEDDED IN CONCRETE CONFORMING TO ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS ITEM 499 CLASS C. SUPPORTS SHALL BE CONCRETE IN A HOLE WITH A MINIMUM DEPTH OF THREE (3) FEET AND DIAMETER OF TEN (10) INCHES. THE POST SHALL PROJECT A MINIMUM OF NINE (9) FEET ABOVE GROUND TO THE BOTTOM OF THE SIGN FACE.

STREET NAME SIGN SHEETING: THERE SHALL BE TWO (2) SIGN FACES ON EACH SIGN BLANK ONE ON EACH SIDE, UNLESS OTHERWISE APPROVED. ALL SHEETING SHALL BE ODOT TYPE H DIAMOND GRADE TO PROVIDE HIGH RETROREFLECTIVITY PER THE 2007 (OR CURRENT) FEDERAL HIGHWAY ADMINISTRATION AND FEDERAL MUTCD REQUIREMENTS.

LETTERING SHALL BE UPPER AND LOWER CASE AND A MINIMUM OF SIX (6) INCH IN HEIGHT. THE MINIMUM SIGN HEIGHT IS NINE (9) INCHES. LETTERING SHALL BE UPPER AND LOW CASE AND A MINIMUM OF FOUR (4) INCHES IN HEIGHT ON LOCAL STREETS WITH A MINIMUM SIGN HEIGHT OF SIX (6) INCHES.

LETTERING SHALL BE WHITE ON GREEN BACKGROUND

GENERAL NOTES-CONSTRUCTION

- 1. THIS PLAN HAS BEEN BASED UPON DIGITAL COUNTY ORTHOPHOTO INFORMATION AND TOPOGRAPHIC AND BOUNDARY SURVEY WORK PERFORMED BY DAVEY RESOURCE GROUP.
- 2. THE CONTRACTOR SHALL KEEP ALL EXISTING STREETS CLEAN OF ALL SOIL, DIRT, MUD, AND DEBRIS. THE CONTRACTOR SHALL EXERCISE DILIGENT CARE TO PROTECT ALL TREES, SHRUBS, AND PLANTS NOT DESIGNATED FOR REMOVAL. CONTRACTOR SHALL REPLACE, TO THE SATISFACTION OF THE ENGINEER, AND AT NO COST TO THE OWNER, ANY TREES, SHRUBS, PLANTS, AND OTHER OBJECTS REMOVED, DESTROYED, DISFIGURED, OR DAMAGED DUE TO CONTRACTOR'S NEGLIGENCE.
- 3. CONSTRUCTION WORK SHALL NOT COMMENCE UNTIL A PRECONSTRUCTION CONFERENCE HAS BEEN HELD AT THE DIRECTION OF THE CITY OF NORTH RIDGEVILLE ENGINEER.
- 4. MATERIAL AND METHODS OF CONSTRUCTION AND MACHINERY USED SHALL BE AS INDICATED IN THESE CONSTRUCTION PLANS AND IN ACCORDANCE WITH THE CITY OF NORTH RIDGEVILLE ENGINEER. ALL OTHER MATERIALS AND METHODS OF CONSTRUCTION AND MACHINERY USED SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF THE ODOT "CONSTRUCTION AND MATERIAL SPECIFICATIONS."
- 5. ALL WORK PERFORMED WITHIN THE RIGHT-OF-WAY MUST BE INSPECTED AND APPROVED BY THE CITY OF NORTH RIDGEVILLE ENGINEER OR HIS DULY APPOINTED AGENTS.
- 6. ALL TESTING AND INSPECTION FEES ARE THE RESPONSIBILITY OF THE DEVELOPER (OWNER).
- 7. TRENCHES UNDER AND/OR WITHIN THREE FEET OF EXISTING OR PROPOSED PAVEMENT AREAS SHALL BE BACKFILLED WITH NO. 57 LIMESTONE TO WITHIN 12 INCHES OF EXISTING GRADE AND TOPPED WITH 12 INCHES OF NO. 304 LIMESTONE.
- 8. NO. 304 LIMESTONE BACKFILL SHALL BE USED WHEREVER SANITARY, STORM AND WATER LINES INTERSECT.
- 9. WARNING DEVICES (SIGNS, FLASHERS, BARRICADES, ETC.) SHALL BE PROVIDED (AT THE DEVELOPER'S EXPENSE) AT THE INTERSECTION(S) OF EXISTING ROADS AND THE ROAD(S) UNDER CONSTRUCTION.
- 10. EXISTING DRIVES, UTILITIES, AND APPURTENANCES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AT THE DEVELOPER/CONTRACTOR'S EXPENSE AS DIRECTED BY THE CITY OF NORTH RIDGEVILLE ENGINEER.
- 11. THE DEVELOPER AND/OR CONTRACTOR SHALL OBTAIN ALL NECESSARY COUNTY, STATE, AND FEDERAL PERMITS, INCLUDING BUT NOT LIMITED TO HIGHWAY USE, STORMWATER MANAGEMENT, HAULING, ROAD OPENING, RIGHT-OF-WAY, ETC.
- 12. THE CONTRACTOR SHALL CONTACT THE GOVERNING AUTHORITY FOR REQUIRED INSPECTIONS.
- 13. UPON COMPLETION OF THE IMPROVEMENTS, THE SUBDIVIDER SHALL REQUEST, IN WRITING, A FINAL INSPECTION BY THE CITY OF NORTH RIDGEVILLE ENGINEERS OFFICE, AS REQUIRED UNDER SECTION 711-091 OF THE OHIO REVISED CODE.
- 14. A CONSTRUCTION AGREEMENT, PERFORMANCE BOND AND MAINTENANCE BOND WILL BE REQUIRED FOR THIS PROJECT.

- 15. ADDITIONAL SOIL AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED BY THE CITY OF NORTH RIDGEVILLE ENGINEER DURING CONSTRUCTION AND THE TWO YEAR MAINTENANCE PERIOD.
- 16. THE DEVELOPER IS ULTIMATELY RESPONSIBLE FOR THE PROPER INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES ON THE SITE DURING ROAD CONSTRUCTION AND THROUGH THE TWO YEAR MAINTENANCE PERIOD. THE DEVELOPER MAY BE REQUIRED TO POST SUITABLE FINANCIAL GUARANTEES PRIOR TO PLAT APPROVAL TO ENSURE COMPLIANCE WITH THIS REQUIREMENT.
- 17. VISIBLE ABOVE-GROUND UTILITIES ON SITE HAVE BEEN SHOWN ON THE PLANS. THE CONTRACTOR IS TO FIELD-VERIFY ELEVATIONS, QUANTITIES AND LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- 18. THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOW ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITIES AS REQUIRED BY SECTION 153.64 O.R.C.
- 19. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL RUBBISH, TRASH, DEBRIS, AND ORGANIC MATERIAL IN A LAWFUL MANNER.
- 20. ALL UNDERGROUND LINES ENCOUNTERED BY CONSTRUCTION ARE TO BE COMPLETELY RESTORED AT THE EXPENSE OF THE CONTRACTOR.
- 21. COST OF ANY SHEETING, DE-WATERING OR FOUNDATIONS NECESSARY FOR INSTALLATION SHALL BE INCLUDED IN PRICE BID PER LINEAR FOOT OF RESPECTIVE ITEMS.
- 22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEANS, METHODS, AND MATERIALS OF CONSTRUCTION TO COMPLETE PROPOSED CONSTRUCTION.
- 23. THE OWNER IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS (INCLUDING BUT NOT LIMITED TO CLEARING/GRUBBING, EARTHWORK, BUILDING CONSTRUCTION, STREET OPENINGS AND UTILITY CONNECTIONS) REQUIRED BY LOCAL AND STATE AGENCIES PRIOR TO CONSTRUCTION.
- 24. ANY APPARENT DISCREPANCIES OR QUESTIONS IN CONTRACT DOCUMENTS ARE TO BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVES IMMEDIATELY.
- 25. REFER TO "DETAILS & SPECIFICATIONS" PRIOR TO INITIATION OF CONSTRUCTION ACTIVITIES.
- 26. TRAFFIC SHALL BE MAINTAINED ON ALL ADJOINING STREETS AT ALL TIMES. TRAFFIC CONTROL SHALL BE MAINTAINED IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- 27. THE DESIGN ENGINEER SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHODS, PROCEDURES, TECHNIQUES OR SEQUENCES OF CONSTRUCTION NOT SPECIFIED HEREIN, NOR FOR THE SAFETY ON THE JOB SITE, NOR SHALL THE DESIGN ENGINEER BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- 28. ANY MODIFICATIONS TO THE WORK SHOWN ON THE PLANS MUST HAVE PRIOR WRITTEN APPROVAL FROM THE OWNER AND REVIEW AGENCIES.
- 29. REFER TO CITY OF NORTH RIDGEVILLE STANDARDS FOR STANDARD DETAILS AND SPECIFICATIONS.

GENERAL NOTES-SITE PREPARATION

- 1. WITHIN THE SUBJECT PROPERTY, THE INTENT IS TO HAVE A CLEAN, CLEAR SITE, FREE OF ALL EXISTING ITEMS NOTED TO BE REMOVED IN ORDER TO PERMIT THE CONSTRUCTION OF THE NEW PROJECT.
- 2. WHERE EXISTING ITEMS ARE SHOWN TO REMAIN, CARE SHOULD BE TAKEN TO INSURE PROTECTION OF THAT ITEM FROM DAMAGE. ANY ITEM DISTURBED BY CONTRACTOR SHALL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE TO A CONDITION EQUAL TO OR BETTER THAN EXISTING AND TO THE SATISFACTION OF THE OWNER OF THE ITEM.
- 3. UTILITIES, SIDEWALKS, DRIVE APRONS, ETC WITHIN THE RIGHT-OF-WAY ARE TO REMAIN UNLESS NOTED OTHERWISE.
- 4. REMOVE SOILS AS NECESSARY TO COMPLETE PROPOSED CONSTRUCTION.

GENERAL NOTES-EARTHWORK

- 1. THE CONTRACTOR SHALL INSTALL ALL SEDIMENTATION CONTROLS WITHIN 7 DAYS OF GRUBBING PER CODIFIED ORDINANCE 1056.05(I)(3) TO MINIMIZE SOIL EROSION AND OFF-SITE SILTATION BEFORE ANY CLEARING, GRUBBING OR EARTHWORK HAS BEGUN. REFERENCE STORM WATER POLLUTION PREVENTION PLAN FOR EROSION CONTROL STRUCTURES AND SPECIFICATIONS.
- 2. ALL TIMBER, LOGS, BRUSH, RUBBISH, AND VEGETATIVE MATTER WHICH WILL INTERFERE WITH THE GRADING OPERATION OR AFFECT THE PLANNED STABILITY OF FILL AREAS SHALL BE REMOVED FROM THE ROAD CONSTRUCTION AREAS.
- 3. ANY UNSUITABLE SOILS ENCOUNTERED IN PROPOSED PAVEMENT AREAS SHALL BE REMOVED AND REPLACED WITH COMPACTED MATERIAL APPROVED BY THE ENGINEER.
- 4. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AT ALL TIMES AND SHALL BACKFILL AND GRADE EXCAVATED AREAS SO AS TO ELIMINATE PONDING ON THE SITE.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMPORTATION OF ANY BORROW MATERIAL NECESSARY TO COMPLETE THE JOB.
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE

- OFF-SITE DISPOSAL OF ANY AND ALL EXCESS OR UNSUITABLE MATERIAL NOT USED ON THE JOB SITE.
- 7. PROPOSED PAVEMENT AND BUILDING AREAS ARE TO BE PROOF-ROLLED PER SPECIFICATIONS PRIOR TO CONSTRUCTION. ANY AREAS FOUND TO BE "SOFT" OR "SPONGY" ARE TO BE OVER-EXCAVATED TO FIRM EARTH AND BACKFILLED PER SPECIFICATIONS. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE SERVICES OF A GEOTECH.
- 8. PROPOSED ELEVATIONS SHOWN SHALL NOT BE CHANGED WITHOUT APPROVAL OF THE ENGINEER.
- 9. TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR USE IN FINAL LANDSCAPING AND IN AREAS SELECTED BY OWNER.
- 10. UNLESS OTHERWISE INDICATED AT A SPECIFIC LOCATION, ALL FINISHED GRADES AT THE LIMITS OF NEW WORK ARE TO CONFORM TO AND MATCH EXISTING GRADES.
- 11. SITE GRADING SHALL PROVIDE POSITIVE DRAINAGE TO CATCH BASINS OR SHEET FLOW OFF OF AREAS, THUS PREVENTING THE PONDING OF WATER ON SITE.
- 12. PRIOR TO PLACEMENT OF ANY COMPACTED FILLS, PROCTOR CURVES SHALL BE ESTABLISHED FROM PROPOSED BORROW MATERIAL SAMPLES.
- 13. PRIOR TO PAVING, THE SUBGRADE SHALL BE TESTED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK FURNISHED BY THE CONTRACTOR IN THE PRESENCE OF A CITY OF NORTH RIDGEVILLE REPRESENTATIVE. ANY YIELDING AREAS IN THE SUBGRADE SHALL BE REMOVED AND/OR REPLACED PER CITY OF NORTH RIDGEVILLE SPECIFICATIONS. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE SERVICES OF A GEOTECH.
- 14. ALL TOPSOIL SHALL BE REMOVED FROM THE ENTIRE WIDTH OF THE RIGHT OF WAY AND TEMPORARILY STOCKPILED.
- 15. ALL COMPACTED FILLS RELATED TO THE CONSTRUCTION OF THE PROPOSED ROAD SHALL BE PLACED IN ACCORDANCE WITH ODOT ITEM 203. DURING CONSTRUCTION, THESE COMPACTED FILLS SHALL BE TESTED USING THE NUCLEAR DENSOMETER METHOD. COMPACTION REQUIREMENTS SHALL BE AS FOLLOWS:

|                             |                        |
|-----------------------------|------------------------|
| MAX LABORATORY REQUIREMENTS | MIN COMPACTION         |
| DRY WEIGHT #/CF             | PERCENT LABORATORY MAX |
| 104.9 & UNDER               | UNACCEPTABLE           |
| 105-119.9                   | 98                     |
| 120 & OVER                  | 95                     |

GENERAL NOTES-UTILITIES

- 1. THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 OF THE OHIO REVISED CODE.
- 2. THE OHIO UTILITIES PROTECTION SERVICE (OUPS, 1-800-362-2764) SHALL BE CONTACTED BY THE DEVELOPER/CONTRACTOR AT LEAST TWO WORKING DAYS IN ADVANCE OF WORK TO BE DONE NEAR ANY EXISTING UTILITY.
- 3. EXISTING UTILITIES, INCLUDING PRIVATE OIL/GAS LINES, ENCOUNTERED DURING CONSTRUCTION SHALL BE LOWERED AS NECESSARY TO A MINIMUM OF THREE FEET BELOW FINISHED GRADE.
- 4. EXCAVATIONS SHALL BE SHORED OR SLOPED AS NECESSARY TO PROVIDE SAFE WORKING CONDITIONS DURING CONSTRUCTION. IN DEEP TRENCHES OR WHERE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, A TRENCH BOX OR OTHER METHOD OF EMBANKMENT STABILIZATION WILL BE REQUIRED.
- 5. UNDERGROUND UTILITY CONSTRUCTION PRACTICES ARE TO CONFORM TO THE SAFETY REQUIREMENTS OF OSHA.
- 6. THE CONTRACTOR SHALL SHOW ALL MODIFIED PIPING, CONDUIT RUNS, UTILITIES AND ANY MODIFICATIONS MADE TO THE ORIGINAL DRAWINGS ON AS-BUILT PRINTS AND TURN OVER TO OWNERS REPRESENTATIVE UPON COMPLETION OF THE JOB.
- 7. ALL SEWER RUN DISTANCE GIVEN ARE FROM CENTERLINE TO CENTERLINE OF MANHOLES. ALL PIPE INVERT ELEVATIONS GIVEN AT MANHOLES ARE AT CENTERLINE OF MANHOLE. SEWER GRADES ARE ESTABLISHED FROM CENTERLINE OF MANHOLE AND CARRIED THROUGH MANHOLE INVERT TO ASSURE FLOW THROUGH MANHOLE.
- 8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES AND STRUCTURES DESIGNATED TO REMAIN UNTIL ALL CONSTRUCTION IS COMPLETE. ANY ITEM DISTURBED BY THE CONTRACTOR SHALL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE.
- 9. EXISTING UTILITY SERVICES NOT BEING SAVED SHALL BE CUT AND CAPPED AT THE PROPERTY LIMITS. ALL ON-SITE PIPING SHALL BE REMOVED AND BE PROPERLY BACKFILLED. THE DEMOLITION CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES FOR TERMINATION OF SERVICE PRIOR TO DEMOLITION.
- 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE, PROTECTION, AND CONTINUATION OF SERVICE FOR ALL UTILITIES SERVICING ADJOINING AREAS.
- 11. PROPOSED MANHOLE RIMS AND CATCH BASIN GRATES SHALL BE SET TO ELEVATIONS SHOWN. SET ALL EXISTING MANHOLE FRAMES AND COVERS, CATCH BASIN GRATES, VALVE BOXES, ETC., TO BE RAISED OR LOWERED AS NECESSARY, TO PROPOSED FINISHED GRADE, FLUSH WITH THE ADJACENT GRADE.
- 12. STORM SEWER SHALL BE VIDEOED AND INSPECTED BEFORE SUBMITTING TO THE CITY.
- 13. SUMP PUMPS REQUIRED, MUST INCLUDE A CONNECTION TO A STORM SEWER SYSTEM.

- 14. UTILITIES PROPOSED UNDER NEW PAVEMENT SHALL EITHER BE BORED OR INSTALLED IN CONDUITS PLACED PRIOR TO PAVEMENT INSTALLATION. OPEN CUTTING FOR UTILITY CROSSINGS WILL NOT BE PERMITTED ONCE PAVEMENT CONSTRUCTION IS UNDERWAY.
- 15. DEVELOPER SHALL INSTALL STREET LIGHTING.

GENERAL NOTES-PAVEMENT

- 1. THE PAVEMENT AND BASE COURSE SHALL BE CONSTRUCTED AS SHOWN ON THE TYPICAL PAVEMENT SECTION CONTAINED IN THESE PLANS AND IN ACCORDANCE WITH THE LATEST EDITION OF THE ODOT "CONSTRUCTION AND MATERIAL SPECIFICATIONS." THE ROAD(S) SHALL BE CONSTRUCTED TO THE LINE AND GRADE SHOWN ON THE ENCLOSED PLANS AND PROFILES.
- 2. UNDERDRAINS SHALL BE INSTALLED AS SPECIFIED ON THE TYPICAL PAVEMENT SHEET CONTAINED IN THESE PLANS.
- 3. UPON COMPLETION, ALL PAVEMENT WITHIN THE RIGHT-OF-WAY SHALL BE INSPECTED AND APPROVED BY THE CITY OF NORTH RIDGEVILLE ENGINEER BEFORE THE ROAD IS OPENED TO ANY TRAFFIC. TO RESTRICT ACCESS TO NEW PAVEMENT PRIOR TO OPENING, THE PAVING CONTRACTOR SHALL PROVIDE ADEQUATE BARRICADES WITH FLASHERS AS DIRECTED BY THE CITY OF NORTH RIDGEVILLE ENGINEER.
- 4. ANY AREA IN WHICH THE PAVEMENT IS IN A FILL SITUATION, THE TOP SOIL OR ANY UNSUITABLE SOIL SHALL BE STRIPPED AND A SUITABLE BACKFILL MATERIAL IS TO BE COMPACTED TO MEET CITY OF NORTH RIDGEVILLE SPECIFICATIONS.
- 5. ALL TESTING AND INSPECTION FEES ARE THE RESPONSIBILITY OF THE DEVELOPER (OWNER).
- 6. JOINT SEALING MUST BE COMPLETED AND APPROVED PER CITY OF NORTH RIDGEVILLE SPECIFICATIONS BEFORE THE ROAD IS OPEN TO ANY TRAFFIC. THE PAVING CONTRACTOR SHALL PROVIDE ADEQUATE BARRICADES AS DIRECTED BY THE ENGINEER.
- 7. NO TRAFFIC SHALL BE PERMITTED ON THE CONCRETE PAVEMENT FOR A PERIOD OF 7 DAYS UNLESS TESTING INDICATES A MINIMUM FLEXURAL STRENGTH OF 600 PSI HAS BEEN OBTAINED.
- 8. ALL PAVEMENT WITHIN THE RIGHT OF WAY SHALL BE COMPLETED AND APPROVED BY THE CITY OF NORTH RIDGEVILLE ENGINEER BEFORE THE ROAD IS OPENED TO ANY TRAFFIC. TO RESTRICT ACCESS TO NEW PAVEMENT PRIOR TO OPENING, THE PAVING CONTRACTOR SHALL PROVIDE ADEQUATE BARRICADES WITH FLASHERS AS DIRECTED BY THE CITY OF NORTH RIDGEVILLE ENGINEER.

OHIO EPA NOTES

- 1. A TEN (10) FEET MINIMUM SEPARATION (OUT-TO-OUT, CLEAR) WILL BE MAINTAINED BETWEEN THE WATER LINE AND THE SANITARY LINE.
- 2. AN 18-INCH MINIMUM VERTICAL CLEARANCE (OUT-TO-OUT, CLEAR) WILL BE MAINTAINED BETWEEN THE WATER LINE AND THE SANITARY LINE AT ALL CROSSINGS.
- 3. A TEN (10) FEET MINIMUM SEPARATION (OUT-TO-OUT, CLEAR) WILL BE MAINTAINED BETWEEN THE WATER LINE AND THE STORM SEWER.
- 4. AN 18-INCH MINIMUM VERTICAL CLEARANCE (OUT-TO-OUT, CLEAR) WILL BE MAINTAINED THE WATER LINE AND THE STORM SEWER AT ALL CROSSINGS.
- 5. SANITARY SEWER AIR TESTING SHALL CONFORM WITH ASTM C-1244.
- 6. NO SANITARY PIPE SHALL EXCEED A DEFLECTION OF 5% AS PER GLUMRB 33.85.
- 7. FLEXIBLE GASKETS ON SEWER LINE CONNECTIONS ARE TO CONFORM WITH ASTM C-923
- 8. BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS.
- 9. THE PROPOSED IMPROVEMENTS WILL PROVIDE A MINIMUM 35 PSI PRESSURE AT THE CURB STOP DURING NORMAL OPERATING CONDITIONS.
- 10. THE SYSTEM SHALL BE DESIGNED TO MAINTAIN A MINIMUM OF 20 PSI AT GROUND LEVEL AT ALL POINTS IN THE DISTRIBUTION SYSTEM UNDER ALL FLOW CONDITIONS.
- 11. UNIFORM BEDDING SHALL BE PROVIDED FOR THE ENTIRE LENGTH OF WATER MAIN PER TEN STATE STANDARDS SECTION 8.7.2.



# CITY OF NORTH RIDGEVILLE STANDARD GENERAL NOTES

## GENERAL

1. ALL WORK AND MATERIALS SHALL MEET THE RULES, LAWS & CODES OF THE CITY OF NORTH RIDGEVILLE.
2. THE FOLLOWING UTILITIES MAY BE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT:

|                      |                               |                           |
|----------------------|-------------------------------|---------------------------|
| PAVEMENTS            | CITY OF NORTH RIDGEVILLE      | (440) 353-0842            |
| STORM SEWERS         | CITY OF NORTH RIDGEVILLE      | (440) 353-0842            |
| SANITARY SEWERS      | CITY OF NORTH RIDGEVILLE      | (440) 353-0842            |
| WATERLINES           | CITY OF NORTH RIDGEVILLE      | (440) 353-0842            |
| GAS-COLUMBUS GAS     | DAN SUREN                     | (440) 881-2428            |
| TELEPHONE-WINDSTREAM | GEOFF HAMM                    | (440) 329-4247            |
| ELECTRIC-OHIO EDISON | MIKE ZANNI                    | (440) 328-3271            |
| CABLE-SPECTRUM       | RON HRIBAL                    | (440) 388-0416 (EXT. 825) |
| WATER TRANSMISSION   | AVON LAKE MUNICIPAL UTILITIES | (440) 933-8228            |

THE CONTRACTOR SHALL VERIFY THE ABOVE INFORMATION WITH OUPS WHEN HE CONTACTS THEM BEFORE CONSTRUCTION BEGINS.

3. THE CONTRACTOR SHALL LOCATE ALL UTILITIES OR UNDERGROUND STRUCTURES PRIOR TO CONSTRUCTION AND NOTIFY EACH RESPECTIVE UTILITY OWNER FORTY-EIGHT (48) HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
4. WHERE IN ANY CASE THE PLANS AND SPECIFICATIONS DO NOT ENTIRELY COVER MATERIALS AND/OR WORKMANSHIP, THE "STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIAL SPECIFICATIONS", CURRENT EDITION WILL APPLY. ODOT REFERENCES MAY BE INDICATED THROUGHOUT THE PLANS. MATERIAL AND WORKMANSHIP SHALL ALSO CONFORM TO THE SPECIFICATIONS, RULES AND ORDINANCES OF THE CITY OF NORTH RIDGEVILLE. WHERE CONFLICTS OCCUR IN THE ABOVE, THE CITY ENGINEER SHALL DETERMINE THE GOVERNING AUTHORITY. ANY DEFECTS IN THE CONSTRUCTION INCLUDING MATERIALS OR WORKMANSHIP SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE CITY ENGINEER. REFERENCES THROUGHOUT THESE PLANS TO "THE ENGINEER" SHALL BE THE CITY ENGINEER.
5. ALL WORK SHALL BE DONE IN A SAFE MANNER AND AS A MINIMUM SHALL COMPLY WITH THE SPECIFIC SAFETY REQUIREMENTS OF THE OSHA AS DEFINED IN 29 CFR 1926.
6. AT LEAST FIVE DAYS PRIOR TO THE START OF ACTUAL CONSTRUCTION WORK, A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD AT THE DIRECTION OF THE CITY OF NORTH RIDGEVILLE ENGINEER AND APPROPRIATE CITY OFFICIALS, AND THE OWNER'S ENGINEER. THE CONTRACTOR OR HIS AUTHORIZED SUPERINTENDENT SHALL BE PRESENT, ALONG WITH ANY AND ALL PRIVATE UTILITY COMPANY REPRESENTATIVES. THIS MEETING WILL BE FOR COORDINATION AND PROCEDURE REVIEW PRIOR TO COMMENCING ANY PHYSICAL WORK.
7. THE CONTRACTOR SHALL NOT COMMENCE WITH ANY FORM OF CONSTRUCTION WITHOUT GIVING 24 HOUR NOTICE TO THE OFFICE OF THE CITY ENGINEER TO ARRANGE FOR INSPECTION. IF ANY CHANGE IN THE WORK SCHEDULE BECOMES NECESSARY, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE INSPECTOR TO AVOID UNNECESSARY INSPECTION COSTS. IF NO NOTIFICATION IS MADE IN REGARDS TO CANCELLATION OF WORK, THE CONTRACTOR WILL BE CHARGED A MINIMUM OF FOUR (4) HOURS.
8. THE CONTRACTOR SHALL SUPPLY ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY, SUCH AS CALCIUM CHLORIDE, WATER, OR A MOTORIZED DUST-FREE STREET SWEEPING DEVICE, AS DIRECTED BY THE ENGINEER, TO MAINTAIN ALL ROADWAYS BEING USED FOR ACCESS TO THE CONSTRUCTION SITE.
9. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY SAFEGUARDS SUCH AS BARRICADES, SATISFACTORY BARRIERS, LIGHTING, FLAGMEN, TEMPORARY GUARDRAIL, AND SUCH OTHER TRAFFIC CONTROL DEVICES AS PROVIDED IN "ITEM 614 - MAINTAINING TRAFFIC" SO AS TO AVOID DAMAGE AND/OR INJURY TO VEHICLES AND PERSONS USING THE ROADWAY DURING CONSTRUCTION. ALL AREAS OF PAVEMENT REMOVAL WHICH HAVE NOT BEEN FULLY RESTORED SHALL BE PROTECTED WITH CONES OR DRUMS DURING DAYLIGHT HOURS. THESE AREAS SHALL BE PROTECTED WITH FLASHING BARRICADES OR DRUMS WITH STEADY BURNING LIGHTS AT NIGHT. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS AS TO THE PROPOSED WORK WITH MINIMUM HAZARD, DELAY, AND INCONVENIENCE TO THE MOTORISTS USING THE STREETS AFFECTED BY THE WORK DONE UNDER THE CONTRACT AND HE SHALL COORDINATE ALL CLOSING OF STREETS WITH THE CITY ENGINEER AND THE POLICE CHIEF OF THE CITY OF NORTH RIDGEVILLE.
10. ACCESS ROADS SHALL BE KEPT FREE OF MUD, DEBRIS, DIRT, ETC, AND SHALL BE CLEANED EVERY DAY AT THE END OF WORK OR MORE FREQUENTLY IF SO ORDERED BY THE CITY OF NORTH RIDGEVILLE.
11. THE CONTRACTOR AND ANY SUBCONTRACTOR SHALL HAVE A COMPETENT SUPERVISOR ON THE PROJECT AT ALL TIMES WHEN WORK IS BEING DONE.
12. NO SLAG OR OTHER SULFUROUS MATERIAL WILL BE USED ON THE PROJECT.

12. FOR RESIDENTIAL SUBDIVISIONS, THE TRAFFIC CONTROL SIGNS WILL BE ERECTED BY THE CITY OF NORTH RIDGEVILLE AND THE COST OF INSTALLATION WILL BE PAID BY THE DEVELOPER. THE INSTALLATION AND COST OF THE STREET NAME SIGNS AND STREET LIGHTS WILL BE DONE BY THE DEVELOPER AT HIS EXPENSE.

13. THE CITY ENGINEER SHALL BE NOTIFIED FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING THE ACTUAL CONSTRUCTION.

## EARTHWORK

1. ALL EXCAVATION AND FILL WORK SHALL BE DONE IN ACCORDANCE WITH ODOT CONSTRUCTION AND MATERIALS SPECIFICATIONS.
2. THE SUBGRADE IN THE STREET SHALL BE LEFT TWO INCHES HIGH FOR THE PAVEMENT CONTRACTOR TO TRIM DOWN TO FINAL GRADE. THE CONTRACTOR SHALL PROOF ROLL THE GRADE WITH A FULLY LOADED (MAXIMUM LEGAL WEIGHT) TRAXLE DUMP TRUCK. ANY "SOFT" SPOTS SHALL BE REMOVED AND REPLACED WITH COMPACTED EARTH.
3. EARTHWORK SHALL BE DONE IN SUCH A FASHION AS TO NOT TRAP WATER DURING CONSTRUCTION.
4. TREE AND BRUSH CLEARING/DISPOSAL SHALL BE DONE IN A MANNER ACCEPTABLE TO THE CITY OF NORTH RIDGEVILLE.
5. ALL PAVEMENT AREAS SHALL HAVE ALL ORGANICS AND TOPSOIL REMOVED FROM THE AREA.
6. AT ALL TIMES DURING THE PROGRESS OF THE WORK AND UNTIL RELEASE OF THE CONTRACTOR FROM HIS GUARANTEE BY THE OWNER, THE CONTRACTOR SHALL MAINTAIN THE BACKFILLED TRENCHES AND OTHER EXCAVATIONS. IN PARTICULAR, THOSE TRENCHES OR EXCAVATIONS WHICH ARE WITHIN FIFTEEN (15) FEET OF THE EDGE OF PAVEMENT OR THE EDGE OF TRAVELED ROADWAYS, SHALL BE KEPT FILLED UP THE SAME LEVEL AS THE ADJACENT UNDISTURBED GROUND, ANY SETTLEMENT WHICH OCCURS DURING THIS PERIOD SHALL BE IMMEDIATELY FILLED IN TO PREVENT THE POSSIBILITY OF ACCIDENTS.
7. WHERE EXISTING SEWERS ARE ENCOUNTERED AND ARE INTERFERED WITH, FLOWS SHALL BE MAINTAINED. SEWAGE OR OTHER LIQUID MUST BE HANDLED BY THE CONTRACTOR EITHER BY CONNECTION INTO OTHER SEWERS (WITH THE APPROVAL OF THE CITY ENGINEER) OR BY TEMPORARY PUMPING TO A SATISFACTORY OUTLET. SEWAGE OR OTHER LIQUID SHALL NOT BE PUMPED, BAILED OR FLUMED OVER THE STREET.
9. BACKFILL SHALL INCLUDE THE MATERIAL PLACED ABOVE THE BEDDING AND SHALL CONSIST OF FINELY DIVDED SOIL FREE FROM STONES, RUBBISH, LARGE CLUMPS OR OTHER HARMFUL DEBRIS. THE BACKFILL SHALL BE TAMPED IN SIX (6) INCH LAYERS.
10. BACKFILL WITHIN EXISTING OR PROPOSED PAVED OR STONE STREETS, ALLEYS, DRIVEWAYS, PARKING AREA AND PROPOSED SIDEWALKS, OR WITHIN FIVE (5) FEET OF THESE AREAS SHALL CONSIST OF A DURABLE GRAVEL OR CRUSHED STONE MEETING THE REQUIREMENTS OF ITEM 304 OF THE CURRENT ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE USE OF A 304 RECYCLED CONCRETE EQUIVALENT AND SLAG IS PROHIBITED. THE GRANULAR BACKFILL SHALL BE MECHANICALLY TAMPED IN SIX (6) INCH LAYERS SO THAT THE BACKFILL WILL HAVE A DENSITY EQUAL TO A MINIMUM OF 95% OF THAT POSSIBLE UNDER OPTIMUM MOISTURE CONTENT AS DETERMINED BY STANDARD PROCTOR TEST.

## ROADWAY

1. ALL TREES AND BRUSH, AND ANY OTHER VEGETATION WITHIN THE LIMITS OF THIS PROJECT THAT INTERFERE WITH THE CONSTRUCTION SHALL BE REMOVED FROM THE SITE. STUMPS MAY BE GROUND OUT OR REMOVED FROM THE SITE.
2. ALL EARTHWORK SHALL HAVE INSPECTION AND TESTING AS DEEMED NECESSARY BY THE CITY OF NORTH RIDGEVILLE. SUCH INSPECTION WILL BE COORDINATED BY THE "CONTRACTOR", WHO SHALL USE A SOILS TESTING LABORATORY TO MAKE THE TESTS INCIDENTAL TO THE QUALITY CONTROL OF THE EARTHWORK OPERATION. SOIL TESTING AND CLASSIFICATION SHALL BE PERFORMED BY THE SOILS TESTING LABORATORY TO DETERMINE THE PROPER MOISTURE CONTENT AND SOIL DENSITY BEFORE BEGINNING EARTHWORK CONSTRUCTION. THE COST OF THIS INSPECTION AND TESTING WILL BE PAID BY THE CONTRACTOR. THE CONTRACTOR SHALL PRESENT HIS PLAN AND SCHEDULE FOR EARTHWORK OPERATIONS AT THE PRE-CONSTRUCTION CONFERENCE.
3. WHERE SOFT SUBGRADE IS ENCOUNTERED, DUE TO NO FAULT OR NEGLIGENCE OF THE CONTRACTOR, IN WHICH SATISFACTORY STABILITY CANNOT BE OBTAINED BY MOISTURE CONTROL AND COMPACTION, THE UNSTABLE MATERIAL SHALL BE EXCAVATED TO THE DEPTH REQUIRED BY THE ENGINEER. BACKFILLING OF THESE EXCAVATED AREAS SHALL BE WITH EMBANKMENT MATERIAL OR AGGREGATE BASE (ODOT ITEM 304) OR "AS DIRECTED BY THE ENGINEER."
4. CONCRETE WILL BE TESTED BY AN ODOT QUALIFIED LABORATORY DURING CONSTRUCTION FOR AIR ENTRAINMENT AND SLUMP. CONCRETE TEST CYLINDERS WILL BE PREPARED FOR EACH 50 YARDS OR FRACTION THEREOF. CONCRETE BEAMS MAY BE PREPARED AT THE CONTRACTOR'S OPTION. THE CONCRETE MIX DESIGN SHALL BE APPROVED BY THE SAME TESTING LABORATORY DESIGNATED TO PERFORM THE ON-SITE INSPECTION PRIOR TO CONSTRUCTION.
5. CONCRETE PAVEMENT CURING COMPOUND SHALL BE SILENCURE A FROM CHEMMASTERS, 300 EDWARDS ST., MADISON, OHIO, 44057.

6. IN AREAS OF HIGH GROUNDWATER OR WHERE SURFACE SEEPAGE HAS BEEN OBSERVED IT MAY BE NECESSARY TO CONSTRUCT DRAINS PERPENDICULAR TO THE PROPOSED PAVEMENT. THESE UNCLASSIFIED PIPE UNDERDRAINS, CONSTRUCTED IN ACCORDANCE WITH ODOT ITEM 605, SHALL BE 3 FEET BELOW PAVEMENT GRADE AND CONNECTED INTO THE APPROPRIATE STORM CONDUIT OR OUTLET. CONDUIT SHALL BE 6" DIAMETER PERFORATED PVC TYPE PS-48 PIPE CONFORMING TO ASTM F-758 OR 8" DIAMETER PERFORATED PSM POLYVINYL CHLORIDE (PVC) PIPE CONFORMING TO ASTM D-3034 SDR 35, WITH GEOTEXTILE DRAIN SLEEVE MEETING THE REQUIREMENTS OF ODOT 712.09, TYPE A, AND WITH NO. 8 STONE OR GRAVEL AGGREGATE.

## UNDERGROUND INSTALLATIONS - GENERAL

1. THE VARIOUS UNDERGROUND INSTALLATION ITEMS SHALL INCLUDE, BUT NOT BE LIMITED TO, ALL EXCAVATION, MATERIAL, LABOR, BEDDING, BACKFILL, COMPACTION, EQUIPMENT, UTILITY PROTECTION, MAINTENANCE OF ROADWAYS AND DRIVES UNTIL FINAL REPLACEMENT, PUMPING AND/OR DEWATERING, CONSTRUCTION AND REMOVAL OF ALL NECESSARY TRENCH PROTECTION AND ALL OTHER INCIDENTAL ITEMS NECESSARY TO INSTALL SUCH UTILITY. THE CONTRACTOR IS TO TOTALLY FAMILIARIZE HIMSELF WITH THE GROUND CONDITIONS THAT NOW DO OR MAY EXIST DURING THE CONSTRUCTION SO AS NOT TO ADVERSELY AFFECT THE INTEGRITY OF ANY UTILITY INSTALLATION OR STRUCTURE ON THE CONSTRUCTION SITE OR ADJACENT PROPERTIES.
2. ALL SANITARY SEWER AND STORM SEWER CONSTRUCTION SHALL CONFORM WITH ODOT ITEM 611.
3. ANY UNSUITABLE MATERIAL, MATERIAL NOT APPROVED BY THE ENGINEER FOR BACKFILL AND MATERIAL IN EXCESS OF THAT REQUIRED FOR BACKFILLING SHALL BE DISPOSED OF BY THE CONTRACTOR ON THE SITE.
4. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO PREVENT ANY CAVING OR SETTLING OF EXCAVATION OR TRENCH WALLS WHICH COULD ENDANGER THE SAFETY OF ANY PERSON ENGAGED IN THE WORK OR IN ANY WAY DAMAGE THE UNDERGROUND INSTALLATIONS OF ADJACENT UTILITY OR PROPERTY; OR DIMINISH THE TRENCH WIDTH NECESSARY FOR THE PROPER CONSTRUCTION OF THE UNDERGROUND INSTALLATION OR OTHERWISE INJURE OR DELAY THE WORK. THE TYPE AND AMOUNT OF SUCH PROTECTION, SUCH AS TRENCH BOXES, SHEETING, SHORING, OR BRACING SHALL BE CONSISTENT WITH THE DEPTH AND WIDTH OF EXCAVATION, THE COMPOSITION AND WATER CONTENT OF THE SOIL IN THE PROXIMITY OF STRUCTURES OR OTHER UTILITIES, THE VIBRATION FROM EQUIPMENT AND THE SPOIL PLACEMENT, AND SHALL BE IN ACCORDANCE WITH THE LATEST OSHA REGULATIONS.
5. IN ORDER TO REDUCE GROUND WATER SEEPAGE AND PROVIDE A STABLE TRENCH IT MAY BE NECESSARY TO DEWATER PRIOR TO EXCAVATION OF THE SEWER TRENCH AND/OR PROVIDE TEMPORARY SUMPS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ADJACENT STRUCTURES, PAVEMENTS, OR UTILITIES, OR LOSS OF PRIVATE WELL WATER RESULTING FROM DEWATERING, LOSS OF GROUND, HEAVE, TRENCH CONSTRUCTION, AND ANY OTHER CONSTRUCTION METHODS. THE CONTRACTOR SHALL PROTECT ALL EXISTING SEWERS AND UTILITIES THAT THE PROPOSED INSTALLATION CROSSES BY COMPACTING THE BACKFILL UNDER SUCH EXISTING FACILITIES OR SHALL PROTECT THE EXISTING FACILITY IN A MANNER AS APPROVED BY THE ENGINEER. IF SHEETING IS USED, IT MAY BE NECESSARY TO DRIVE THE SHEETING SEVERAL FEET BELOW THE BOTTOM OF THE PIPE. WHEN USING MOVABLE TRENCH SUPPORTS OR SHEETING, CARE MUST BE EXERCISED SO AS NOT TO DISTURB THE PIPE LOCATION, JOINTING OR BEDDING MATERIAL. IF STEEL SHEETING IS USED IT SHALL BE HELD IN PLACE BY LONGITUDINAL BEAMS AND CROSS BRACES OR STRUTS AS REQUIRED TO RESTRAIN THE TOP OF THE SHEETING. IF TIMBER SHEETING AND BRACING IS USED, IT MUST BE OF GOOD QUALITY AND OF HARDWOOD CONSTRUCTION. AFTER THE PIPE HAS BEEN INSTALLED AND THE BALANCE OF THE BEDDING MATERIAL HAS BEEN PLACED OVER THE PIPE, THE REMOVAL OF ANY TRENCH PROTECTION SHALL BE CAREFULLY CONTROLLED. THE CONTRACTOR SHALL DEMONSTRATE THAT THE REMOVAL OF THE TRENCH PROTECTION WILL NOT ADVERSELY AFFECT THE PIPE LOCATION AND BEDDING. IF SHEETING CANNOT BE REMOVED WITHOUT ADVERSELY AFFECTING THE PIPE AND BEDDING LOCATION, THE ENGINEER MAY ORDER THE SHEETING CUT OFF AT SOME POINT, AT LEAST ONE FOOT ABOVE THE TOP OF THE PIPE AND LEFT IN PLACE.
6. PRIOR TO ANY CONNECTION INTO AN EXISTING SEWER MANHOLE OR CONDUIT THE CONTRACTOR SHALL TAKE SUCH MEASURES AS NECESSARY, "AS APPROVED BY THE ENGINEER", (I.E. TEMPORARY PLUGS, SAND BAGS, ETC.) DURING THE COURSE OF THE CONSTRUCTION OF THE PROPOSED SEWERS, TO GUARD AGAINST ANY DRAINAGE FROM ENTERING THE EXISTING SYSTEM AND POSSIBLY CONTAMINATING SUCH SYSTEM WITH SLT.

7. WHERE THE PROPOSED IMPROVEMENTS CROSS EXISTING OR PROPOSED PAVEMENTS, INCLUDING A POINT FIVE (5) FEET BEYOND SUCH CROSSINGS, OR WHERE THE CONSTRUCTION METHODS USED BY THE CONTRACTOR RESULT IN THE TRENCH WALL BEING LESS THAN 3 FEET FROM THE EDGE OF THE PAVEMENT, THE ENTIRE TRENCH BACKFILL SHALL BE COMPACTED IN LAYERS NOT TO EXCEED 8 INCHES IN THICKNESS WITH MECHANICAL TAMPERS MEETING NINETY-EIGHT (98) PERCENT OF MAXIMUM LABORATORY DRY WEIGHT.
8. THE LINE AND GRADE OF SEWER MAINS SHALL BE CONTROLLED DURING THE SEWER CONSTRUCTION BY USE OF AN APPROVED LASER DEVICE.
9. AT ALL STORM SEWER MAIN AND SANITARY SEWER MAIN INTERSECTIONS (CROSSINGS) WHEN PIPE CLEARANCE IS LESS THAN 18", THE LOWER PIPE SHALL BE ENCASED AND THE UPPER PIPE SHALL BE MONOLITHICALLY CRADLED IN 2500 PSI CONCRETE FOR THE WIDTH OF THE TRENCH. AT PIPE CROSSINGS GREATER THEN 18" THE BACKFILL BELOW THE UPPER PIPE SHALL BE COMPACTED IN PLACE TO THE SATISFACTION OF THE ENGINEER.

## STORM SEWERS

1. STORM SEWER CONDUIT SHALL CONFORM TO THE FOLLOWING REQUIREMENTS: STORM CONDUIT BETWEEN STREET BASINS AND CONNECTING TO MANHOLE SHALL BE (A.) ONLY IF COVER IS LESS THAN OR EQUAL TO ONE FOOT MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE SUBGRADE, OR MAY BE (E.) IF COVER IS GREATER THAN ONE FOOT MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE SUBGRADE. ALL FOOTING DRAIN CONNECTIONS SHALL BE (B.) ONLY.
  - A. REINFORCED CONCRETE PIPE ASTM C-76, "B" OR "C" WALL, 8 FOOT LENGTHS, WITH AN "O" RING CONFINED GASKET JOINT PER ASTM C-443; (A) 12" & LARGER DIA. CLASS IV.
  - B. POLYVINYL CHLORIDE (PVC) ASTM D-3034 (SDR 35) (ODOT 707.45) WITH GASKET MATERIAL CONFORMING TO ASTM F-477 AND JOINTS PER ASTM D-3212 OR SOLVENT CEMENT JOINTS PER ASTM D-2584.
  - C. PERMA-LOC (PVC) AASHTO SPECIFICATION IN M-304H (ODOT 707.43) WITH INTEGRAL BELL GASKET JOINTS IN ACCORDANCE WITH ASTM D-3212 AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
  - D. ULTRA-RIB (PVC) ASTM F 794 (ODOT 707.43) WITH INTEGRAL BELL AND SPIGOT JOINT IN ACCORDANCE WITH ASTM D-3212 AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
  - E. SMOOTH INTERIOR, CORRUGATED, HIGH DENSITY POLYETHYLENE PIPE (HDPE) CONFORMING TO AASHTO SPECIFICATIONS M252 TYPE S AND M-284 TYPE S, (OFOT 707.33) ADS N-12, HANCOR HI-Q, OR APPROVED EQUAL. THE JOINTS SHALL BE SILT-TIGHT AND THE GASKETS SHALL MEET THE REQUIREMENTS OF ASTM F477 (NOT PRESSURE RATED), INSTALLED IN ACCORDANCE WITH ASTM D-3212 AND MANUFACTURER'S RECOMMENDATIONS.
2. OTHER OPTIONAL MATERIALS MAY BE USED WHEN APPROVED BY THE CITY ENGINEER.
3. UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ODOT ITEM 605. CONDUIT SHALL BE 6" DIAMETER PVC TYPE PS-48 PIPE CONFORMING TO ASTM F-758, OR 8" DIAMETER PSM POLYVINYLCHLORIDE (PVC) PIPE CONFORMING TO ASTM D-3034 SDR 35, WITH A GEOTEXTILE SLEEVE MEETING THE REQUIREMENTS OF ODOT ITEM 712.09, TYPE A, AND WITH THE GRANULAR MATERIAL BEING NO. 57 AGGREGATE (NO SLAG)
4. ROOF DRAINS ARE TO BE DISCHARGED ONTO SPLASH BLOCKS. NO CONNECTION TO STORM SEWER.
5. AT LEAST 60 DAYS PRIOR TO THE END OF THE PERIOD FOR WHICH IMPROVEMENTS ARE COVERED BY MAINTENANCE BONDS, THE DEVELOPER SHALL CLEAN AND VIDEO TAPE THE STORM SEWER, SANITARY SEWER AND MANHOLES, OR CAUSE THIS TO BE DONE BY A SUBCONTRACTOR OR BUILDER(S) WHO THE DEVELOPER HOLDS RESPONSIBLE PRIOR TO RELEASE OF THE MAINTENANCE BONDS COVERING THE IMPROVEMENTS. TWO (2) COPIES OF THE VIDEO TAPE(S) AND A WRITTEN REPORT OF THE RESULTS SHALL BE FURNISHED TO THE DEVELOPER AND THE CITY ENGINEER, BOTH THE TAPING AND THE WRITTEN REPORT SHALL BE DONE TO THE SATISFACTION OF THE DEVELOPER AND THE CITY ENGINEER OR THEIR DESIGNERS. ANY AND ALL PROBLEMS DISCOVERED SHALL BE REMEDIATED WITHIN TEN (10) WORKING DAYS BY THE DEVELOPER OR BY THE PARTY THE DEVELOPER SHALL CAUSE TO REMEDIATE THE PROBLEMS, IF ANY.
6. ALL MAIN LINE STORM SEWERS SHALL BE CLEANED AND VIDEOTAPED IMMEDIATELY AFTER CONSTRUCTION AND THE VIDEOTAPE SUBMITTED TO THE CITY ENGINEER FOR REVIEW AND APPROVAL. ALL DEFECTS SHALL BE PROMPTLY REPAIRED BY THE CONTRACTOR.

OCTOBER 1, 2008 - REV. 5/11/09, 9/29/09, 12/7/09, 8/18/16

5/9/17, 6/28/17, 6/5/20



CITY OF NORTH RIDGEVILLE  
STANDARD GENERAL NOTES

SANITARY SEWERS

- ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED.
- THE SANITARY SEWER SHALL PASS A LOW PRESSURE AIR TEST AND A 5% DEFLECTION TEST. THESE TESTS SHALL BE CONDUCTED BY A COMPETENT TESTER, PREFERABLY AN INDEPENDENT TESTING COMPANY.
  - DEFLECTION TEST:

IF PVC PIPE IS USED, THE DEFLECTION TEST WILL BE RUN NOT LESS THAN 30 DAYS NOR MORE THAN 45 DAYS AFTER THE FINAL AND FULL BACKFILL HAS BEEN PLACED. THE TEST IS REQUIRED ON ALL PVC PIPE. THE CONTRACTOR SHALL SUPPLY ALL NECESSARY EQUIPMENT FOR THE DEFLECTION TESTING. ALL EQUIPMENT SHALL BE APPROVED BY THE CITY OF NORTH RIDGEVILLE PRIOR TO THE START OF TESTING. WHERE POSSIBLE, ELECTRONIC EQUIPMENT SHALL BE USED TO MEASURE AND RECORD THE DEFLECTION IN THE FLEXIBLE PIPE. NO PIPE SHALL EXCEED A DEFLECTION OF FIVE PERCENT. IF SUCH EQUIPMENT IS NOT AVAILABLE, THE DEFLECTION TEST CAN BE RUN BY THE USE OF MANDRELS, HAVING A DIAMETER EQUAL TO NINETY-FIVE (95) PERCENT OF THE INSIDE DIAMETER OF THE PIPE, PULLED THROUGH THE SEWER WITHOUT MECHANICAL PULLING DEVICES. MANDRELS SHALL BE CONSTRUCTED WITH AT LEAST NINE EVENLY SPACED ARMS OR PRONGS. A METAL PROVING RING SHALL BE PROVIDED TO VERIFY THE ACCURACY OF THE MANDREL TO THE CITY ENGINEER. THE LENGTH OF THE MANDREL SHALL BE EIGHT INCHES FOR EIGHT INCH PIPE, TEN INCHES FOR TEN AND TWELVE INCH PIPE. IF ANY SECTION OF CONDUIT EXCEEDS THE DEFLECTION OF FIVE PERCENT, THE NECESSARY CORRECTIONS SHALL BE MADE. CONDUIT WHICH HAS DEFLECTED MORE THAN FIVE PERCENT MUST BE CORRECTED TO THE SATISFACTION OF THE CITY ENGINEER BY THE CONTRACTOR. THE PIPE SHALL BE MEASURED IN COMPLIANCE WITH ASTM D2122.
  - THE LEAKAGE, EXFILTRATION, OR INFILTRATION SHALL NOT EXCEED 100 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY.
- THE SANITARY SEWER MAIN AND ITS LATERALS SHALL BE PVC ASTM D3034, WITH GASKETED JOINTS MEETING ASTM D3212 SDR-35, UNLESS DEPTH OF COVER IS 15 FEET OR GREATER THEN USE ASTM D3034 SDR-26.
- SANITARY MANHOLES SHALL BE PRECAST CONCRETE MEETING THE STANDARDS OF THE CITY OF NORTH RIDGEVILLE. THE MANHOLE SHALL BE FULLY INSPECTED AROUND ITS EXTERIOR BEFORE BACKFILLING. ANY SUSPECTED WEAK SPOTS, CRACKS, ETC. THAT MAY CAUSE A LEAK IN THE FUTURE SHALL BE PATCHED, SEALED, ETC. WITH WATERPROOFING MATERIALS. PARTICULAR ATTENTION SHALL BE PAID TO THE BARREL JOINTS, STEP LOCATIONS, LIFTING HOLES, AND THE JOINT BETWEEN THE GRADE RINGS AND THE CASTING. ALL MANHOLES SHALL BE VACUUM TESTED PER ASTM-C1244.
- GRADE RINGS SHALL BE USED TO BRING ALL CASTING TO GRADE, MAXIMUM 11 INCHES.
- IF THE CASTING IS DISTURBED AFTER IT IS INSTALLED IT SHALL BE COMPLETELY REMOVED, CLEANED, AND THEN REINSTALLED.
- THE CONTRACTOR SHALL MARK ALL LATERAL LOCATIONS IN THE FIELD WITH A CONTINUOUS 4" X 4" WOODEN STAKE FROM INVERT TO 2'-6" ABOVE GRADE, PAINTED ORANGE OR RED.
- "LOW-PRESSURE" AIR TESTING FOR PLASTIC PIPE SHALL BE PER ASTM-F1417.
- ALL MAINLINE SANITARY SEWER SHALL BE VIDEO TAPED PER CITY ORDINANCE.
- HORIZONTAL AND VERTICAL SEPARATION BETWEEN WATERLINE, STORM SEWERS, AND SANITARY SEWERS SHALL BE MAINTAINED AS FOLLOWS:
  - A MINIMUM 10-FOOT HORIZONTAL SEPARATION (MEASURED OUT-TO-OUT CLEAR) BETWEEN THE PROPOSED WATERLINE AND THE STORM SEWER WILL BE MAINTAINED.
  - A MINIMUM 10-FOOT HORIZONTAL SEPARATION (MEASURED OUT-TO-OUT CLEAR) BETWEEN THE PROPOSED WATERLINE AND THE SANITARY SEWER WILL BE MAINTAINED.
  - A MINIMUM 18-INCH VERTICAL CLEARANCE (MEASURED OUT-TO-OUT CLEAR) BETWEEN THE PROPOSED WATERLINE AND THE SANITARY SEWER WILL BE MAINTAINED.
  - A MINIMUM 18-INCH VERTICAL CLEARANCE (MEASURED OUT-TO-OUT CLEAR) BETWEEN THE PROPOSED WATERLINE AND THE STORM SEWER WILL BE MAINTAINED.

- THE CONTRACTOR WILL COLOR FILM BOTH SANITARY AND STORM SEWERS TO VERIFY THAT THEY ARE FREE OF DEFECTS AND FOREIGN MATTER AND THAT THEY ARE TO THE PROPER ALIGNMENT PRIOR TO FORMAL ACCEPTANCE BY THE CITY OF NORTH RIDGEVILLE. THE INSPECTION AND TESTING SHALL BE DONE BY AN EXPERIENCED AND CERTIFIED FIRM ENGAGED IN THIS TYPE OF WORK, AS APPROVED BY THE CITY. WRITTEN REPORTS FOR ALL INSPECTION AND TESTING SHALL BE SUBMITTED TO THE OWNER AND THE CITY FOR APPROVAL. ALL SEWERS WILL BE FLUSHED AND HAVE A VCR TELEVIEWED INSPECTION IN ACCORDANCE WITH THE CITY OF NORTH RIDGEVILLE SPECIFICATIONS AFTER THE COMPLETION OF THE PAVEMENT CONSTRUCTION AND SEEING OF THE DISTURBED AREAS, BUT PRIOR TO THE ISSUANCE OF BUILDING PERMITS. IF THE INSTALLATION FAILS TO MEET THE REQUIREMENTS OF THE TESTS AND INSPECTION, THE CONTRACTOR SHALL REPAIR OR REPLACE ALL DEFECTS AND RETEST AND RE-FILM THE INSTALLATION. THE CONTRACTOR SHALL NOTIFY THE CITY 48 HOURS BEFORE THE STORM AND SANITARY SEWERS ARE TELEVIEWED.

WATER SYSTEM

- THE WATER SYSTEM SHALL BE CONSTRUCTED PER THE CITY OF NORTH RIDGEVILLE STANDARDS & REGULATIONS.
- THE WATERLINE SHALL BE PVC MEETING THE REQUIREMENTS OF AWWA C900, OR C909, CLASS 150 PIPE CONFORMING TO DR18 OR DUCTILE IRON PIPE, CLASS 52, CEMENT LINED MEETING THE REQUIREMENTS OF ANSI A21.51 AND AWWA C-151.
- A MINIMUM OF 35 PSI SHALL BE MAINTAINED TO THE CURB STOP DURING NORMAL OPERATING CONDITIONS. BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS.
- ALL FITTINGS FOR THE WATER MAIN SHALL BE RESTRAINED JOINT TYPE (MEGA-LUG) AND SHALL BE DUCTILE IRON MEETING AWWA C-153.
- ALL BENDS OR TEES ON THE MAIN SHALL BE RESTRAINED JOINT TYPE (MEGA-LUG) AND BLOCKED WITH WOOD.
- ALL DUCTILE IRON PIPE, CAST IRON FITTINGS AND HYDRANTS SHALL BE POLYWRAPPED ACCORDING TO AWWA C-105. RESTRAIN TWO PIPE JOINTS EITHER SIDE OF TEE OR ELBOW IN ADDITION TO THRUST RESTRAINT.
- ALL FITTINGS SHALL BE GIVEN A CEMENT MORTAR LINING AT THE POINT OF MANUFACTURE. THE LINING SHALL CONFORM TO ANSI A21.4, AWWA C-104 AND ALL SUBSEQUENT AMENDMENTS.
- ALL FITTINGS SHALL BE DESIGNED FOR A WORKING PRESSURE OF NOT LESS THAN 150 PSI. POLYETHYLENE ENCASMENT ON FITTINGS AND HYDRANTS PER AWWA C105.
- ALL VALVES AND HYDRANT FITTINGS MUST HAVE STAINLESS STEEL NUTS AND BOLTS. T-BOLTS AND NUTS FOR ALL MECHANICAL JOINTS MUST HAVE A BITUMASTIC COATING.
- ALL PIPE SHALL BE GIVEN A CEMENT MORTAR LINING AT THE POINT OF MANUFACTURE. THE MORTAR LINING SHALL NOT BE LESS THAN 1/16 INCH IN THICKNESS AND CONFORM TO ANSI A21.4, AWWA C-104 AND ALL SUBSEQUENT AMENDMENTS.
- ALL JOINTS SHALL BE MECHANICAL OR PUSH-ON TYPE. MECHANICAL JOINTS SHALL MEET THE REQUIREMENTS OF ANSI A21.11, AWWA C-111 AND ALL SUBSEQUENT AMENDMENTS. PUSH-ON JOINTS SHALL BE MADE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PIPE MANUFACTURER.
- ALL HYDRANTS SHALL HAVE MECHANICAL TYPE JOINTS.
- WHenever CHANGES IN LINE AND GRADE OF THE MAIN AS SHOWN ON THE DRAWINGS ARE NOT STANDARD FITTING DEFLECTIONS, THE CONTRACTOR WILL BE PERMITTED TO USE AN APPROVED COMBINATION OF STANDARD FITTINGS AND SMALL DEFLECTION OF THREE DEGREES PER JOINT IN THE ADJOINING LENGTHS OF PIPE (NOT TO EXCEED THE MANUFACTURER'S SPECIFICATIONS).
- CLOSURE PIECES SHALL BE ACCURATELY MEASURED AND CUT, IN THE FIELD, AND INSTALLED USING SOLID TYPE LONG PATTERN SLEEVES AS SHOWN OR AS REQUIRED.

GATE VALVES

- VALVES SHALL CONFORM IN ALL RESPECTS WITH AWWA C-500 OR C-509 AND WITH THE CITY OF NORTH RIDGEVILLE ENGINEERING DEPARTMENT SPECIFICATIONS.
- ALL GATE VALVES THREE INCH AND LARGER SHALL HAVE A NON-RISING STEM, SHALL OPEN BY TURNING TO THE RIGHT, AND SHALL BE OPERATED BY A TWO-INCH SQUARE OPERATING NUT. NUTS SHALL HAVE AN ARROW AND THE WORD "OPEN" CAST THEREON TO INDICATE THE DIRECTION OF TURNING TO OPEN THE VALVE.
- ALL GATE VALVES THREE-INCH TO 18 INCH IN SIZE SHALL BE OF RESILIENT WEDGE SEATED TYPE. THE VALVES SHALL HAVE RUBBER "O" RING PACKING SEALS AND MECHANICAL JOINT ENDS UNLESS OTHERWISE SPECIFIED OR APPROVED BY THE CITY ENGINEER. IF THE TOP OF THE OPERATING NUT IS MORE THAN 36 INCHES BELOW FINISHED GRADE, AN EXTENSION STEM SHALL BE PROVIDED TO PLACE THE OPERATING WRENCH NUT BETWEEN 24 AND 36 INCHES BELOW THE SURFACE.
- ALL 20 AND 24 INCH GATE VALVES SHALL BE PROVIDED WITH A FOUR INCH BYPASS VALVE AND ALL 30 INCH TO 48 INCH VALVES INCLUSIVE SHALL BE PROVIDED WITH A SIX INCH BYPASS VALVE LOCATED BELOW THE CENTER OF THE VALVES.
- ALL GATE VALVES 18 INCH AND UNDER SHALL BE CONSTRUCTED TO WORK VERTICALLY. GATE VALVES 20 INCH AND LARGER IN SIZE SHALL BE CONSTRUCTED TO WORK HORIZONTALLY.
- ALL NUTS AND BOLTS SHALL BE STAINLESS STEEL.

BUTTERFLY VALVES

- IN LIEU OF GATE VALVES, BUTTERFLY VALVES MAY BE USED ON 12 INCH AND LARGER MAINS.
- ALL BUTTERFLY VALVES SHALL BE OF RUBBER-SEATED TIGHT-CLOSING TYPE. THEY SHALL MEET OR EXCEED PERFORMANCE REQUIREMENTS FOR WATER APPLICATIONS OF APPLICABLE RECOGNIZED STANDARDS SUCH AS AWWA C-504. ALL VALVES SHALL BE MUELLER BUTTERFLY VALVES OR AN APPROVED EQUAL.
- BOTH VALVE ENDS SHALL BE MECHANICAL JOINT PER AWWA C-111. ACCESSORIES (BOLTS, GLANDS AND BASKETS) SHALL BE SUPPLIED BY THE VALVE MANUFACTURER.
- ALL VALVES MUST USE FULL AWWA C-504, CLASS 150B VALVE SHAFT DIAMETER AND FULL CLASS 150B UNDERGROUND-SERVICE-OPERATOR TORQUE RATING THROUGHOUT ENTIRE TRAVEL, TO PROVIDE CAPABILITY FOR OPERATION IN EMERGENCY SERVICE.
- VALVE BODY SHALL BE HIGH-STRENGTH CAST IRON ASTM A126, CLASS B WITH 18-8 TYPE 304 STAINLESS STEEL BODY SEAT. VALVE VANE SHALL BE HIGH STRENGTH CAST IRON ASTM A48 CLASS 40, HAVING RUBBER SEAT MECHANICALLY SECURED WITH AN INTEGRAL 18-8 STAINLESS STEEL CLAMP RING AND 18-8 STAINLESS STEEL SELF-LOCKING SCREWS.
- RUBBER SEAT SHALL BE A FULL-CIRCLE 360 DEGREE SEAT NOT PENETRATED BY THE VALVE SHAFT. VALVE SHAFT SHALL BE ONE PIECE, EXTENDING FULL SIZE THROUGH THE ENTIRE SHAFT AND OPERATOR WITH NO NECK-DOWN, KEYWAYS OR HOLES TO WEAKEN IT. FOR 14 INCH AND LARGER, VALVE SHAFTS SHALL BE 18-8 STAINLESS STEEL STUB SHAFT DESIGN KEYED TO THE VANE WITH STAINLESS STEEL TAPER PINS.
- VALVE OPERATOR SHALL BE OF THE TRAVELING-NUT TYPE, SEALED, GASKETED, AND LUBRICATED FOR UNDERGROUND SERVICE. IT SHALL BE CAPABLE OF WITHSTANDING AN OVERLOAD INPUT TORQUE OF 450 FT-LBS AT FULL-OPEN OR CLOSED POSITION WITHOUT DAMAGE TO THE VALVE OR VALVE OPERATOR. IT SHALL BE DESIGNED TO RESIST SUBMERGENCE IN WATER TO 25 FEET HEAD PRESSURE FOR UP TO 72 HOURS.
- THE VALVE SHALL BE CAPABLE OF EASY CLOSURE BY ONE MAN USING A STANDARD VALVE KEY. EVEN UNDER EMERGENCY LINE-BREAK CONDITIONS AS SEVERE AS THOSE THAT WOULD CAUSE A VALVE MAXIMUM OPERATING TORQUE REQUIREMENT OF AS MUCH AS TWO TIMES AWWA CLASS 150B.
- ALL VALVES SHALL BE TESTED, BUBBLE-TIGHT AIR-UNDER-WATER, BY THE MANUFACTURER AS FOLLOWS:

|                |         |
|----------------|---------|
| 4" THROUGH 12" | 175 PSI |
| 14" AND UP     | 150 PSI |

IN ADDITION A 300 PSI HYDROSTATIC TEST SHALL BE GIVEN TO THE ASSEMBLED VALVE. THIS 300 PSI PRESSURE SHALL ALSO BE APPLIED AGAINST THE FULLY CLOSED VANE OF EACH VALVE TO PROVE STRUCTURAL SOUNDNESS AND ASSURE COMPATIBILITY WITH FIELD LINE TEST PROCEDURES.

HYDROSTATIC TESTING

- ALL WATER MAINS SHALL BE INSTALLED AND PRESSURE TESTED ACCORDING TO AWWA C-605, LATEST EDITION.
- TESTING PLUGS OR CAPS SHALL BE FURNISHED AND INSTALLED FOR TESTING COMPLETED SECTIONS OF PIPE AND FITTINGS.
- BEFORE THE TEST PRESSURE IS APPLIED, CARE SHALL BE TAKEN TO INSURE THE REMOVAL OF AIR IN THE LINE AT THE HIGH POINTS AND TO SEE THAT ALL CAPS, PLUGS AND EXPOSED PORTIONS OF THE LINE ARE SECURELY BRACED.
- THE CONTRACTOR SHALL SUPPLY ALL NECESSARY EQUIPMENT, GAUGES, TOOLS, AND LABOR TO PROPERLY CONDUCT THE TEST. ALL TESTING SHALL BE DONE UNDER THE DIRECTION OF THE CITY OF NORTH RIDGEVILLE ENGINEERING DEPARTMENT.
- WATER FOR FILLING THE TEST SECTIONS WILL BE PROVIDED BY THE CITY OF NORTH RIDGEVILLE.
- IF THE LEAKAGE TEST EXCEEDS THE MAXIMUM ALLOWED, THE CONTRACTOR SHALL LOCATE AND REPAIR THE LEAKS AND AGAIN TEST THE PIPE. THIS PROCESS SHALL BE CONTINUED UNTIL THE LEAKAGE IS WITHIN THE ACCEPTABLE LIMITS.

DISINFECTING MAINS

- AFTER HYDROSTATIC TESTING, THE NEW LINE SHALL BE THOROUGHLY FLUSHED IN ACCORDANCE WITH AWWA C-651. THE MAIN SHALL BE FLUSHED THROUGH THE HYDRANTS, BLOWOFFS OR BY SOME OTHER APPROVED MEANS.
- CHLORINE SHALL BE ADDED AT SUCH RATES AS TO GIVE A MINIMUM CHLORINE DOSAGE OF 50 PARTS PER MILLION AVAILABLE CHLORINE.
- CHLORINE USED AS A DISINFECTING AGENT MAY BE EITHER LIQUID CHLORINE OR AN ANHYDROUS CALCIUM HYPOCHLORITE COMPOUND SUCH AS "HTH" OR AN APPROVED EQUAL. LIQUID CHLORINE SHALL BE APPLIED THROUGH A SUITABLE CHLORINE FEEDING MACHINE AND INJECTION NOZZLE. ANHYDROUS CALCIUM HYPOCHLORITE SHALL BE FED AS A SOLUTION USING A SUITABLE INJECTION PUMP.
- FOLLOWING THE DISINFECTING PERIOD, THE LINE SHALL BE THOROUGHLY FLUSHED UNTIL THE REPLACEMENT WATER THROUGHOUT THE ENTIRE LENGTH OF THE LINE SHALL UPON TEST, BOTH CHEMICALLY AND BACTERIOLOGICALLY, BE PROVEN EQUAL TO THE QUALITY OF THE WATER IN THE EXISTING SYSTEM.
- THE CITY OF NORTH RIDGEVILLE SERVICE DEPARTMENT WILL TEST THE WATER. THE CONTRACTOR IS RESPONSIBLE FOR THE TEST ARRANGEMENTS.

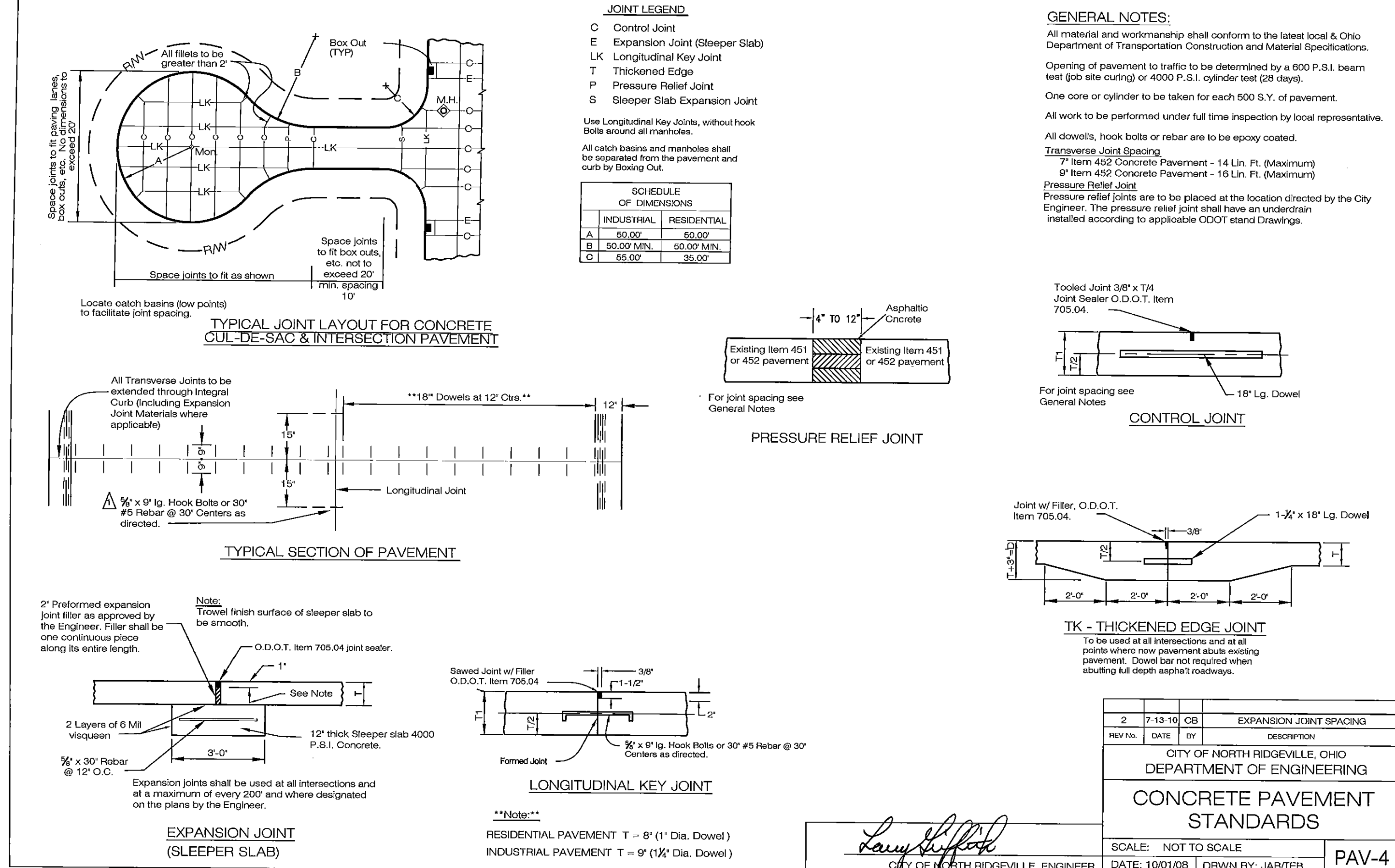
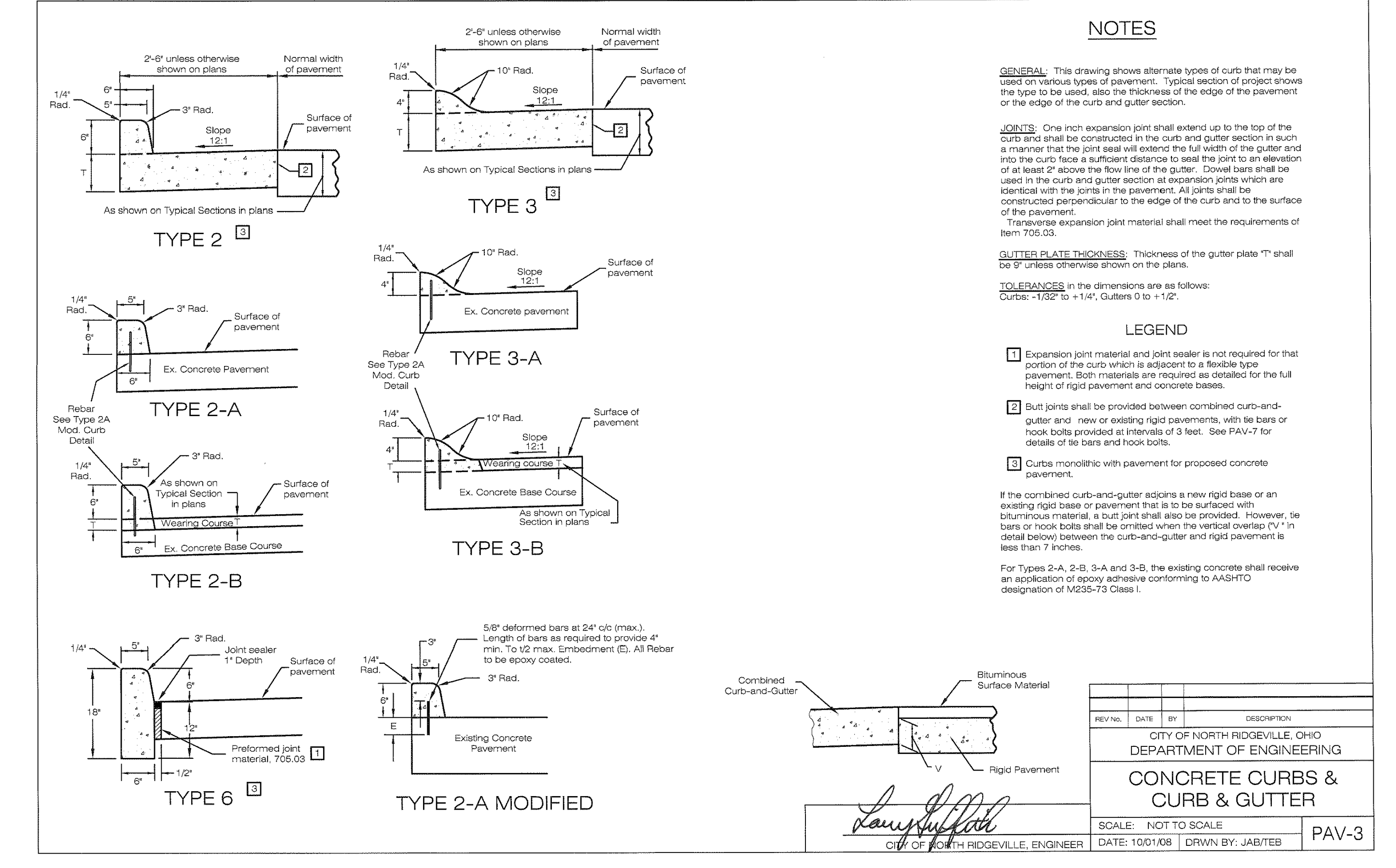
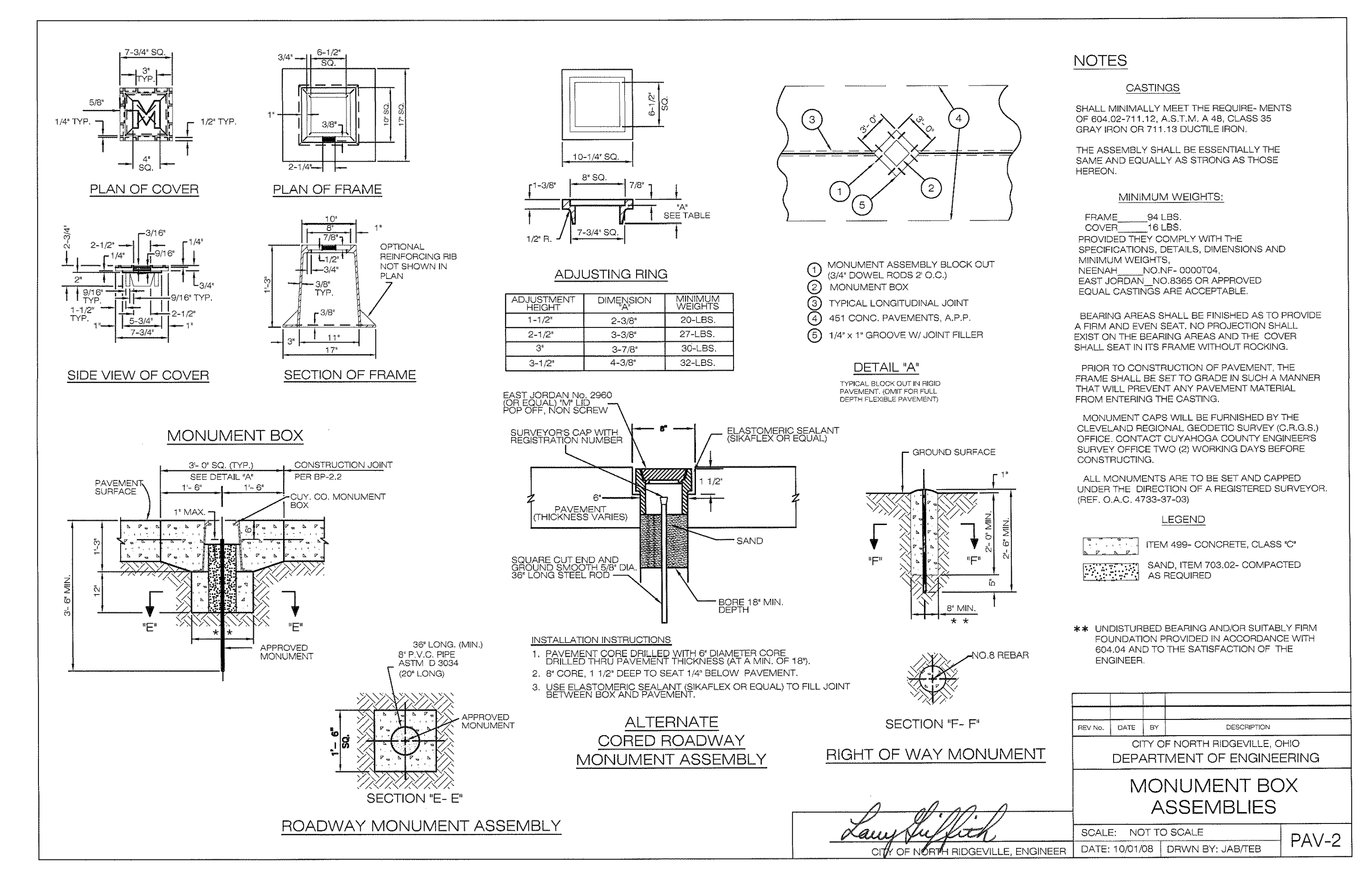
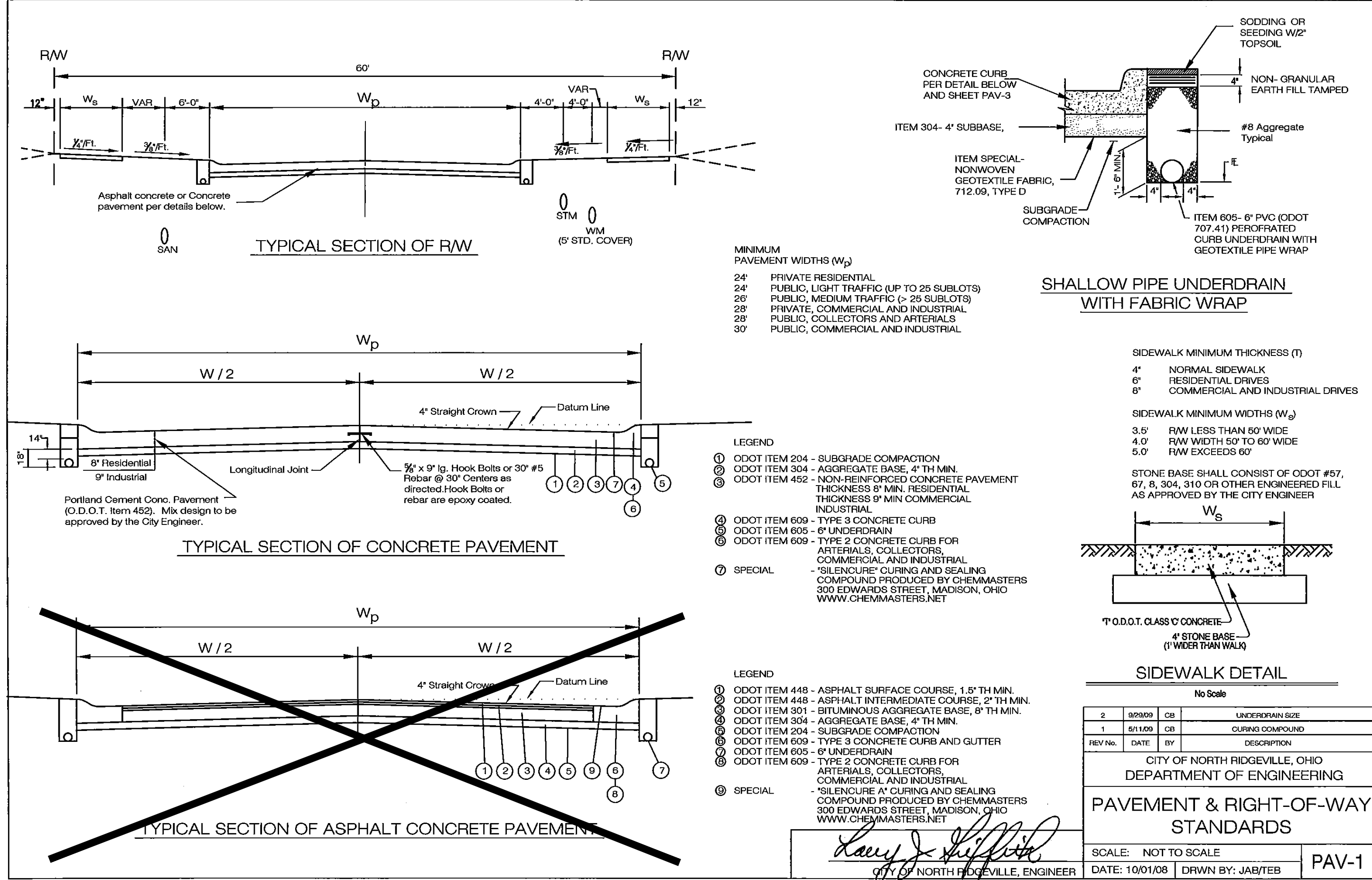
CURB CONNECTIONS

- THE SIZE OF SERVICE CONNECTIONS SHALL BE THREE-QUARTER INCH (3/4") DIAMETER MINIMUM.
- SERVICE CONNECTIONS SHALL BE K COPPER. ALTERNATIVELY, 200 PSI PLASTIC PIPE APPROVED FOR POTABLE WATER, WITH TRACER WIRE, MAY BE USED PROVIDED THE 50 FEET OF CONNECTION ADJACENT TO THE SERVED STRUCTURE IS K COPPER AND THE STRUCTURE SERVED IS MORE THAN 200 FEET FROM THE ROADWAY RIGHT OF WAY LINE.
- FOR STRUCTURES GREATER THAN 200 FEET FROM THE CENTERLINE OF THE ROADWAY, A METER VAULT MUST BE PROVIDED NEAR THE RIGHT OF WAY LINE OF THE ROADWAY.

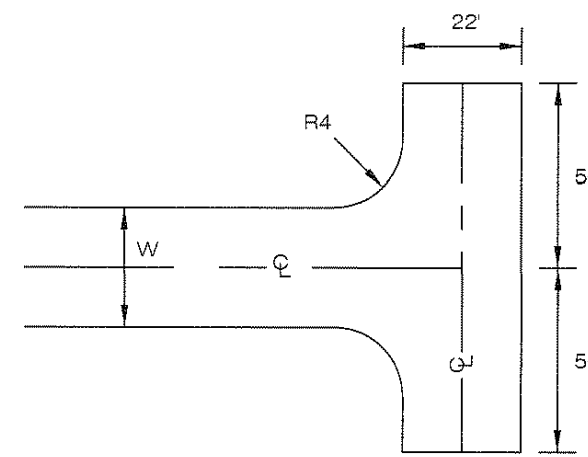
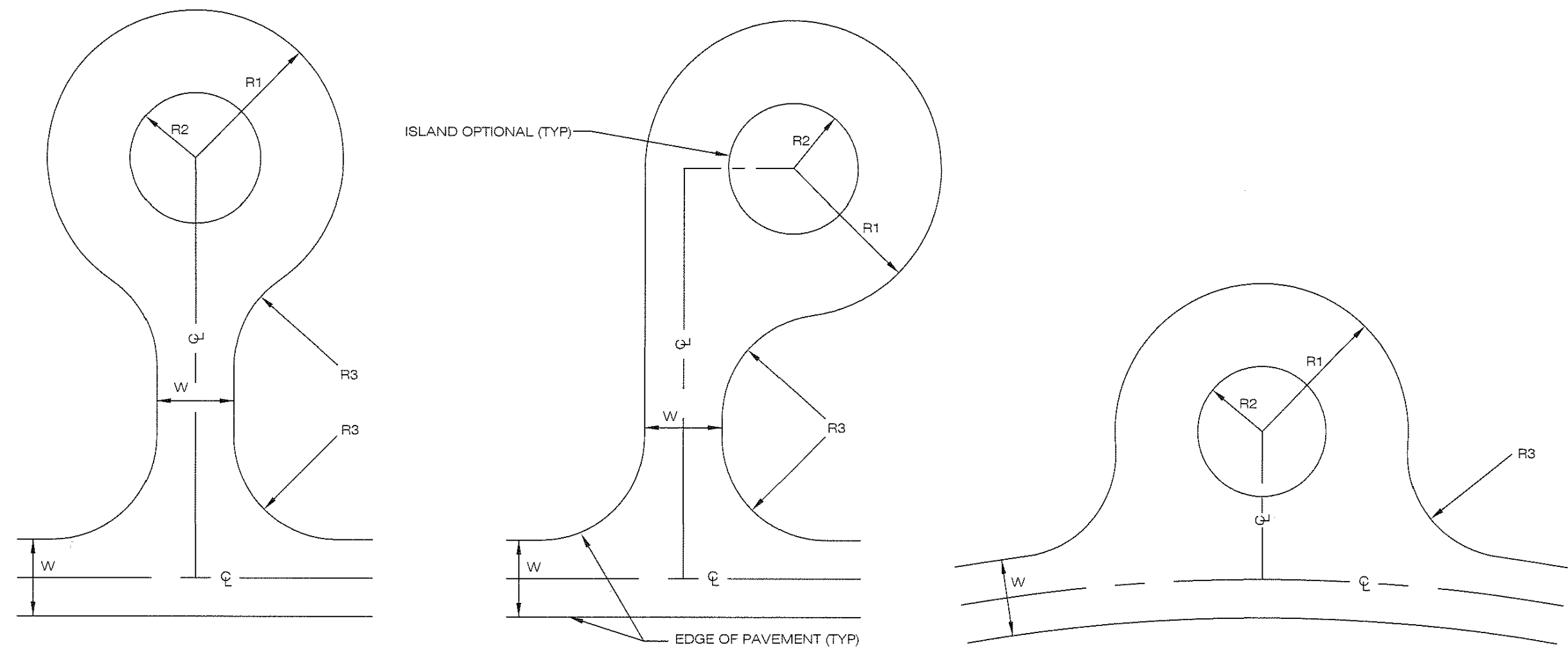
OCTOBER 1, 2008 REVISED 9/29/09, 2/19/10

7/22/14





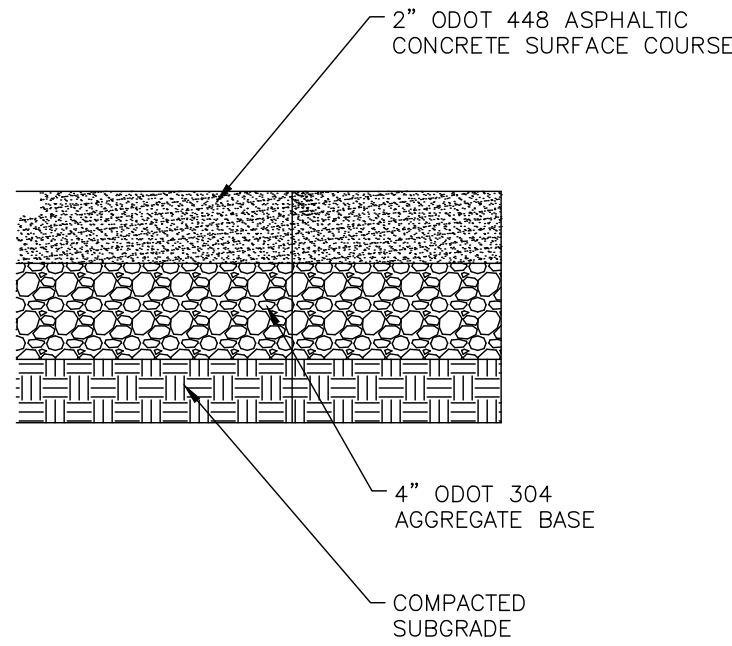




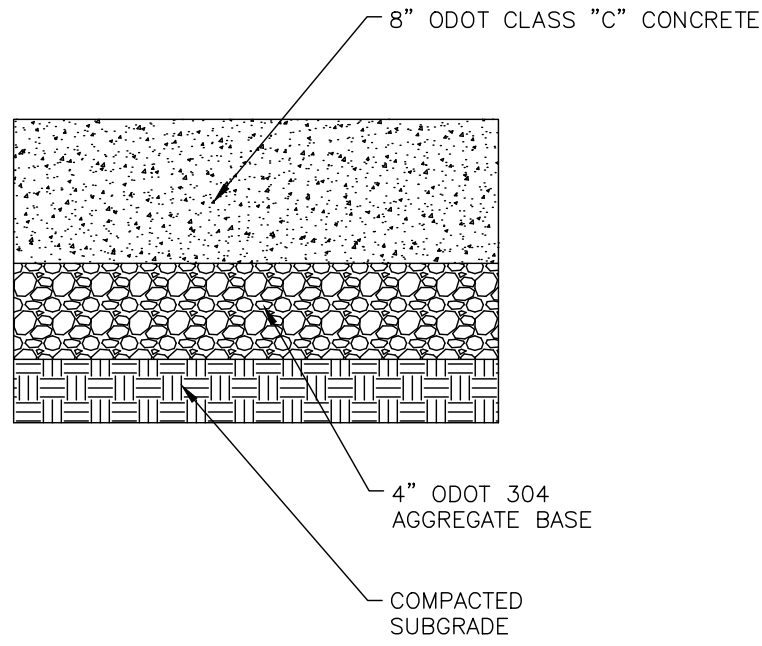
| W  | SEE PAV-1 |
|----|-----------|
| R1 | 50' MIN   |
| R2 | 28' MAX   |
| R3 | 35'       |
| R4 | 30'       |

| REV No. | DATE | BY | DESCRIPTION                                                 |
|---------|------|----|-------------------------------------------------------------|
|         |      |    | CITY OF NORTH RIDGEVILLE, OHIO<br>DEPARTMENT OF ENGINEERING |
|         |      |    | <b>CUL DE SAC<br/>PAVEMENT DETAILS</b>                      |
|         |      |    | SCALE: NOT TO SCALE                                         |
|         |      |    | PAV-8                                                       |

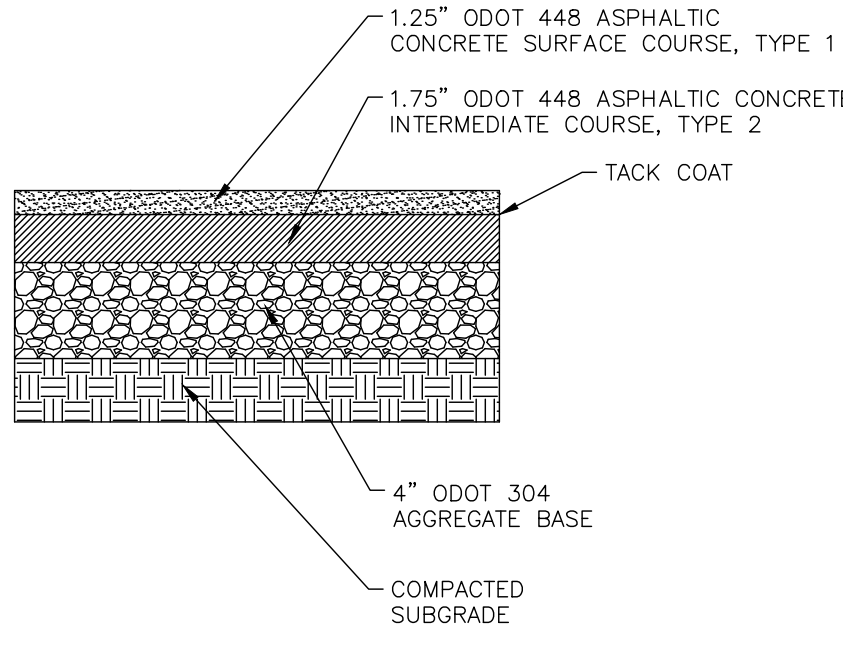
*Larry Liffich*  
CITY OF NORTH RIDGEVILLE, ENGINEER  
DATE: 10/01/08 | DRWN BY: JAB/TES



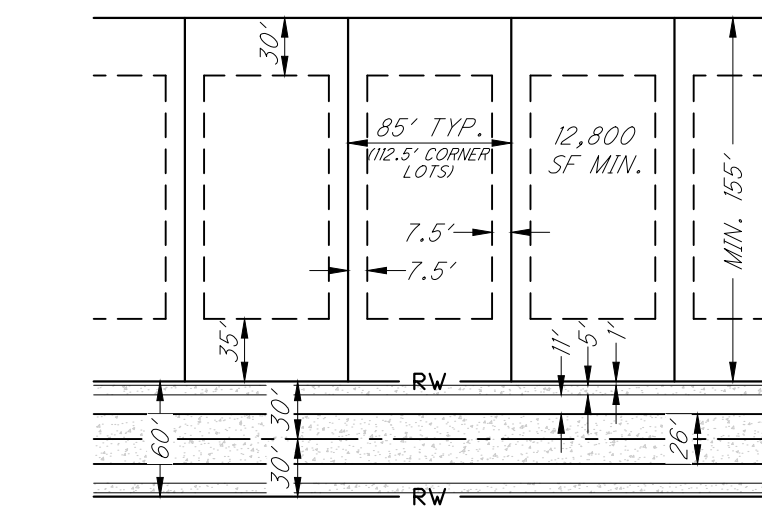
**TYPICAL TOWPATH SECTION**  
NTS



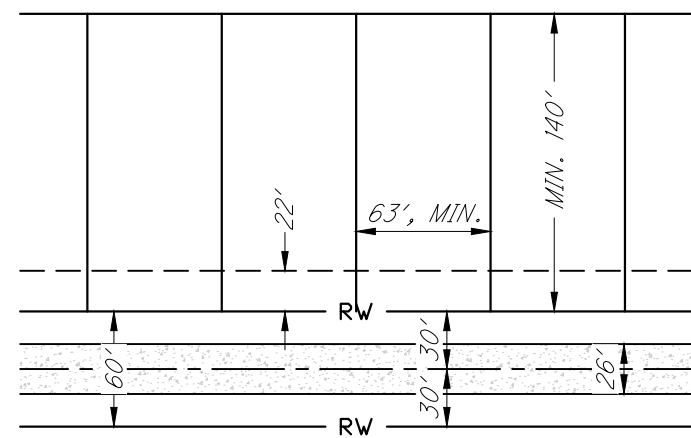
**HEAVY-DUTY SIDEWALK SECTION**  
NTS



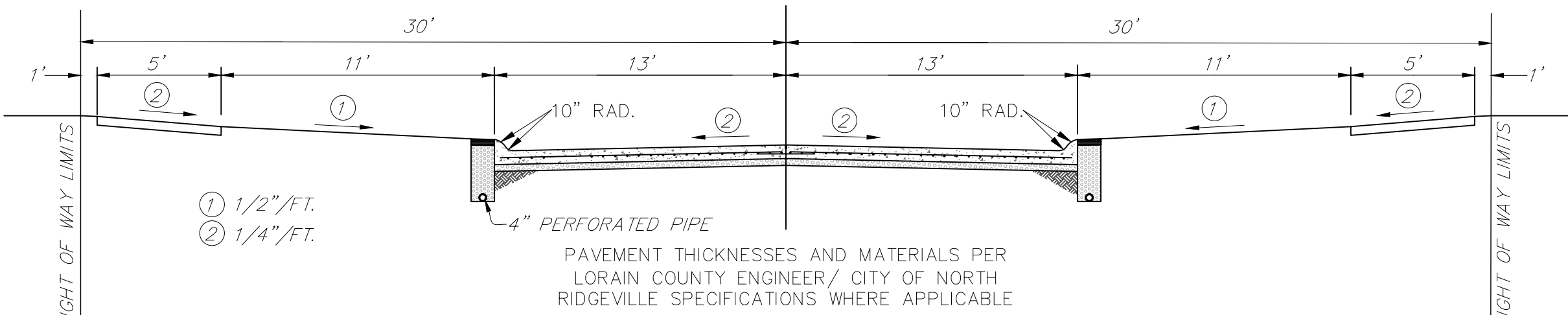
**ASPHALT TRAIL SECTION**  
NTS



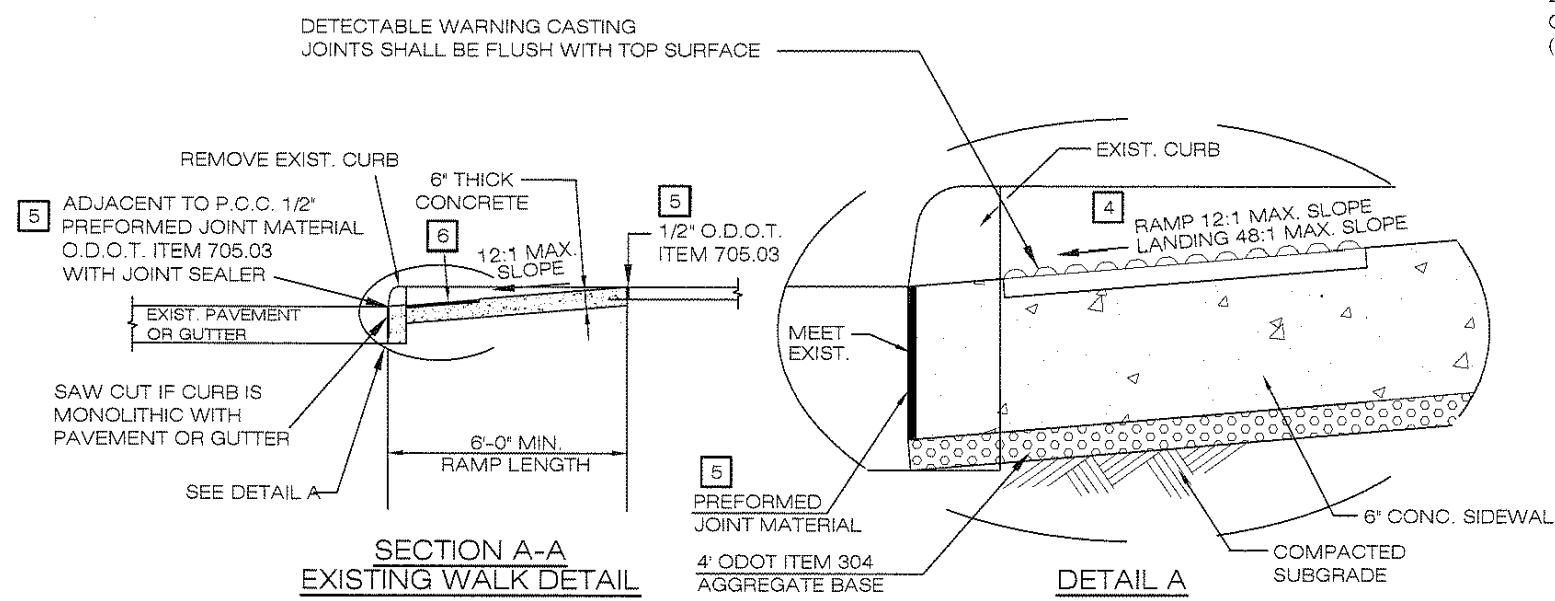
**TYPICAL SINGLE-FAMILY UNIT**  
NO SCALE



**TYPICAL CLUSTER UNIT**  
NO SCALE

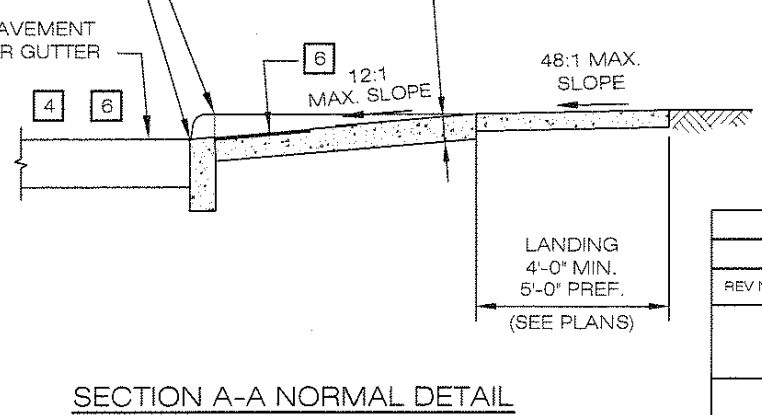
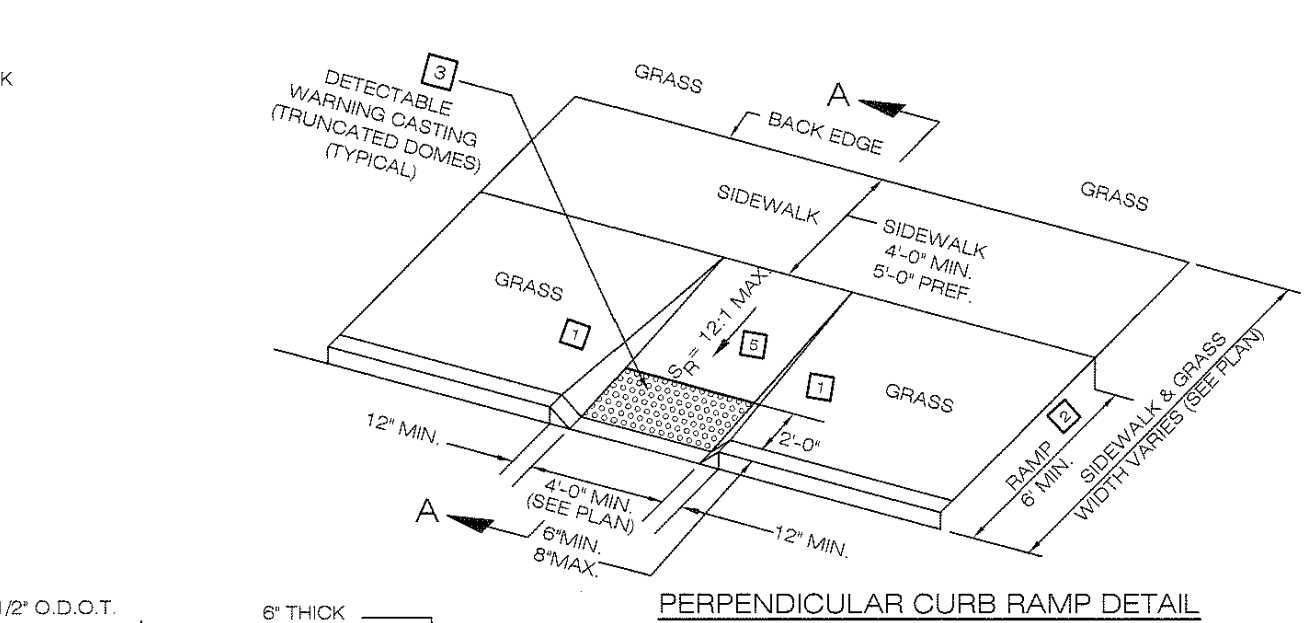
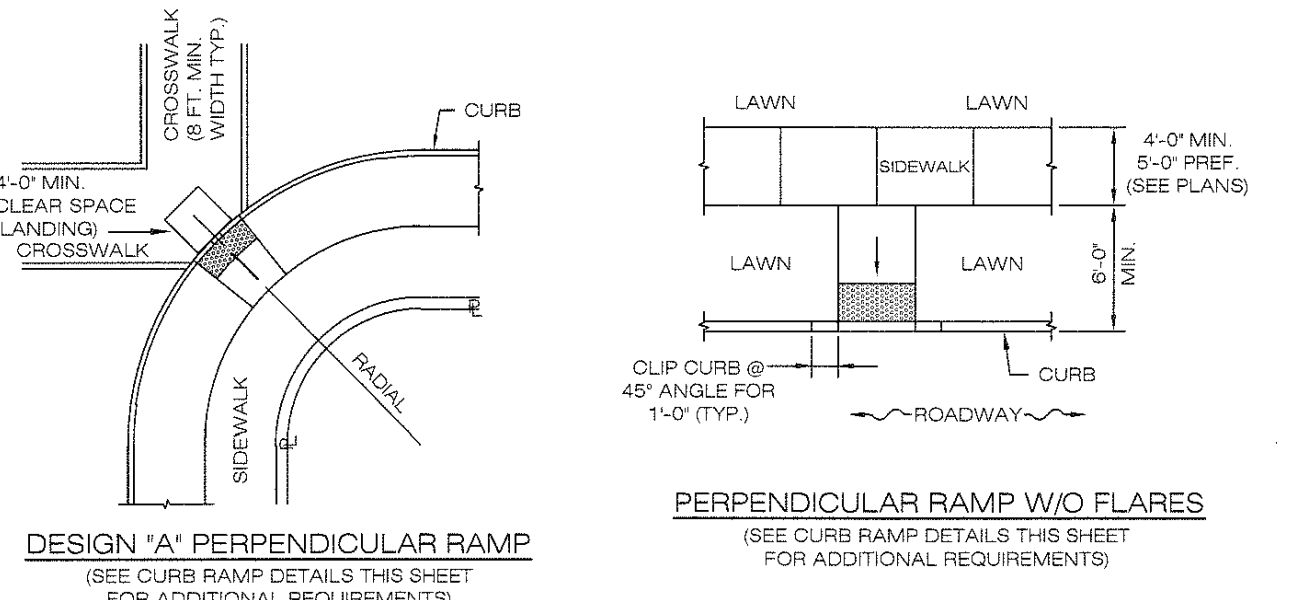


**TYPICAL PAVEMENT SECTION (60' ROW)**  
NO SCALE



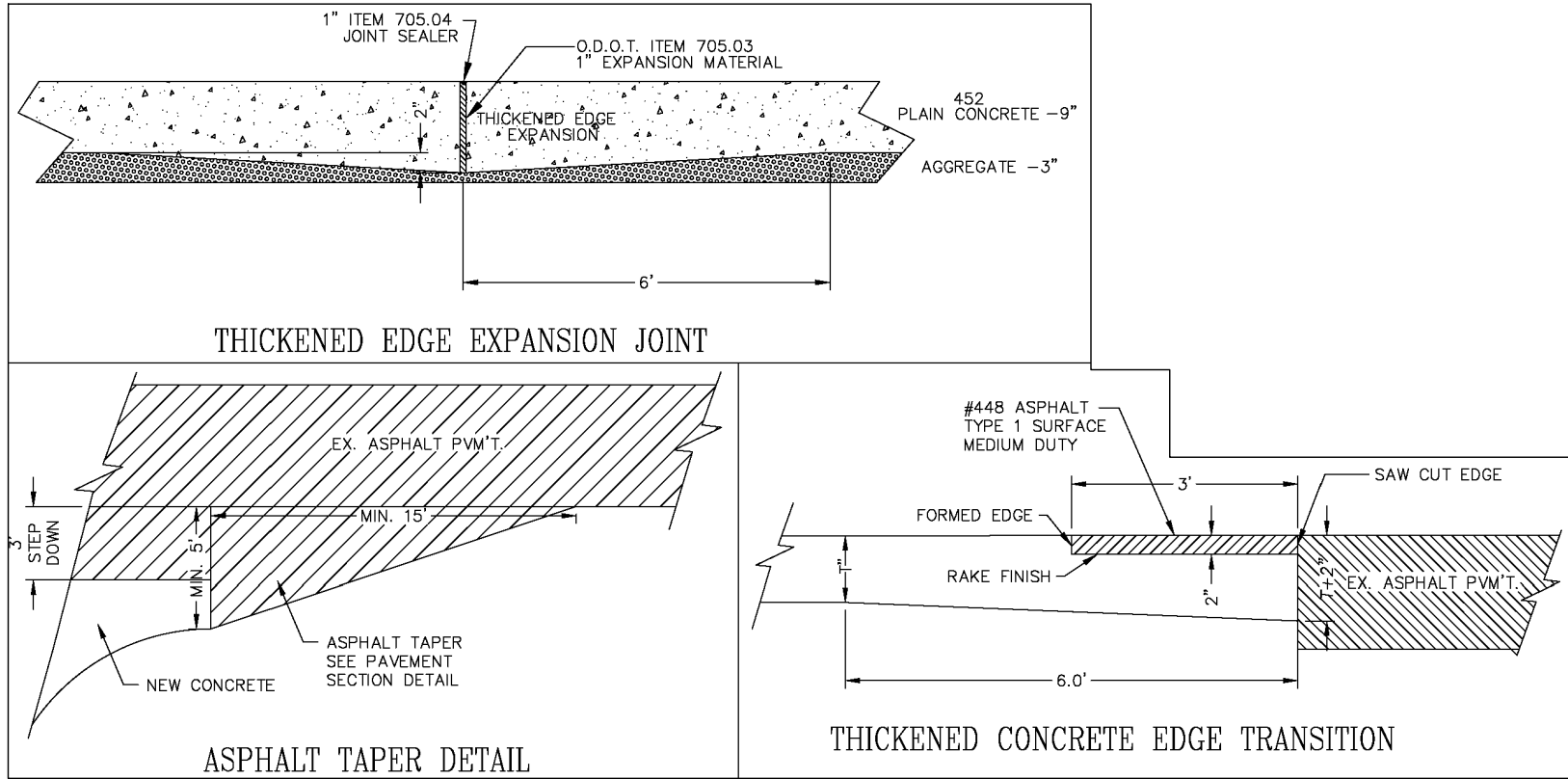
**DETAIL NOTES**

- FLARED SIDES ARE NOT REQUIRED WHERE THE EDGES OF A CURB RAMP ARE PROTECTED BY LANDSCAPING OR OTHER BARRIERS AND WHEEL-CHAIR OR PEDESTRIAN TRAVEL DOES NOT OCCUR ACROSS THE EDGE OF THE CURB RAMP. HOWEVER, IF FLARED SIDES ARE USED IN AREAS OF CROSS TRAVEL, THE MINIMUM SLOPE SHALL BE 10:1 WITH A LANDING AND 12:1 WITHOUT A DEFINED LANDING.
- THE SLOPE OF THE RAMP TOWARD THE CURB IS REQUIRED TO BE 12:1 (0.083) OR LESS, RELATIVE TO THE HORIZONTAL, UNLESS APPROVED IN WRITING BY THE ENGINEER.
- THE MINIMUM LENGTH OF A PERPENDICULAR RAMP IS 6' FROM THE BACK OF A 6" CURB AND MAY BE INCREASED WHERE FEASIBLE TO OBTAIN A FLATTER RAMP SLOPE OR TO BETTER BLEND WITH THE WALK CONFIGURATION.
- DETECTABLE WARNING CASTINGS SHALL CONSIST OF A SURFACE OF TRUNCATED DOMES ALIGNED ON A SQUARE GRID, IN THE PREDOMINANT DIRECTION OF TRAVEL, EXTENDING A DISTANCE OF 24" FROM THE BACK OF CURB AND SPANNING THE ENTIRE WIDTH OF THE RAMP OPENING.
- DETECTABLE WARNING CASTING SHALL BE 48" WIDE AND 24" DEEP. (2 EA. 2' X 2' CASTINGS)
- DETECTABLE WARNING CASTING SHALL BE EAST JORDON IRON WORKS, PRODUCT NO. 00700541, CATALOG NO. 7005PL6, HEAVY DUTY.
- TEXTURE SHALL BE OBTAINED BY COURSE BROOMING TRANSVERSE TO THE RAMP SLOPES AND SHALL BE ROUGHER THAN THE ADJACENT WALK. (DOES NOT APPLY TO TRUNCATED DOMES)
- JOINTS SHALL BE PROVIDED IN THE CURB RAMP AS EXTENSIONS OF THE WALK JOINTS. A 0.6" ODOT ITEM 705.03 PREFORMED JOINT MATERIAL SHALL BE PROVIDED AROUND THE EDGE OF RAMPS BUILT IN EXISTING CONCRETE WALK. LINES SHOWN IN THIS DRAWING INDICATE THE RAMP EDGE AND SLOPE CHANGES AND ARE NOT NECESSARILY JOINT LINES.

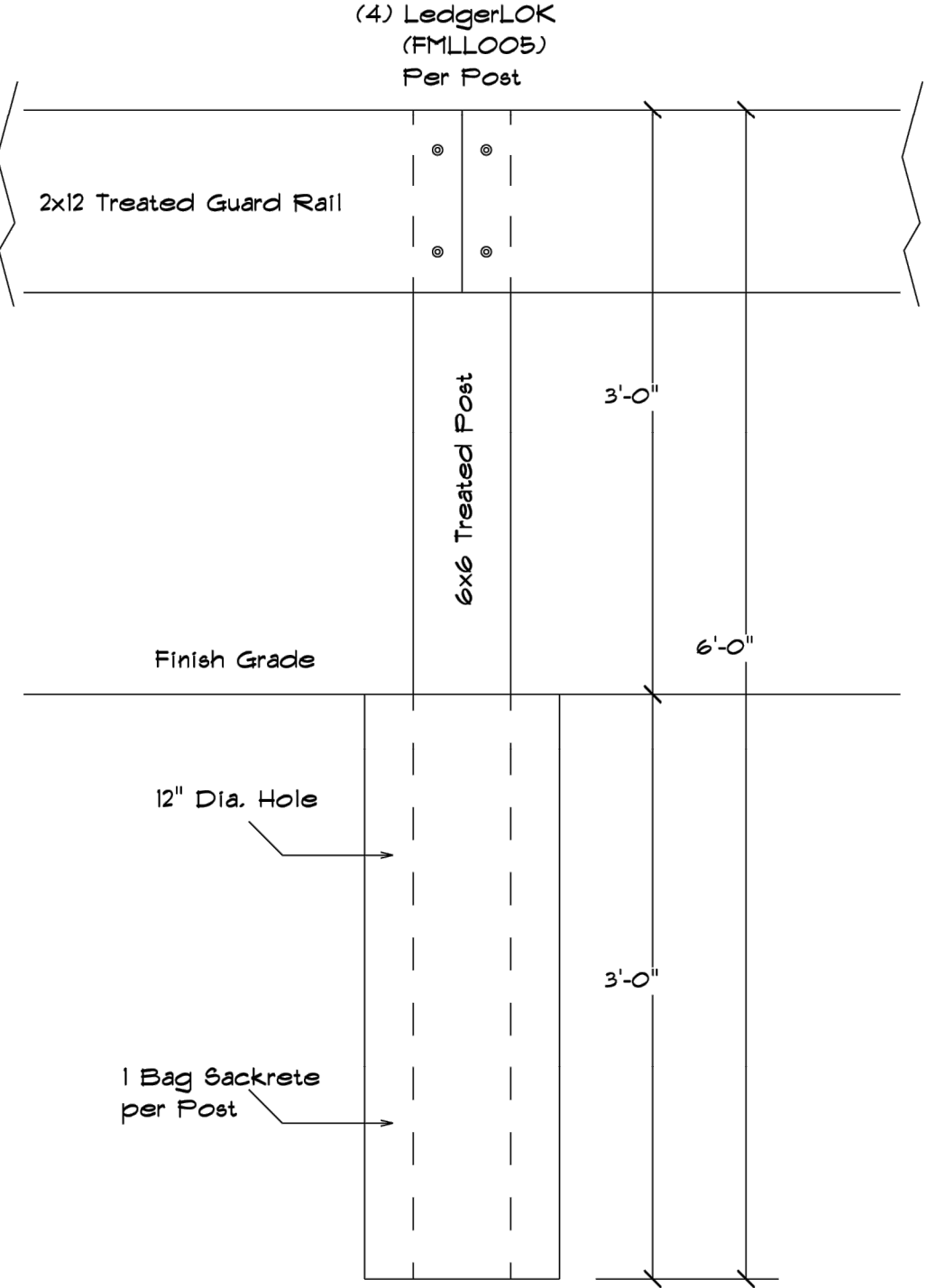
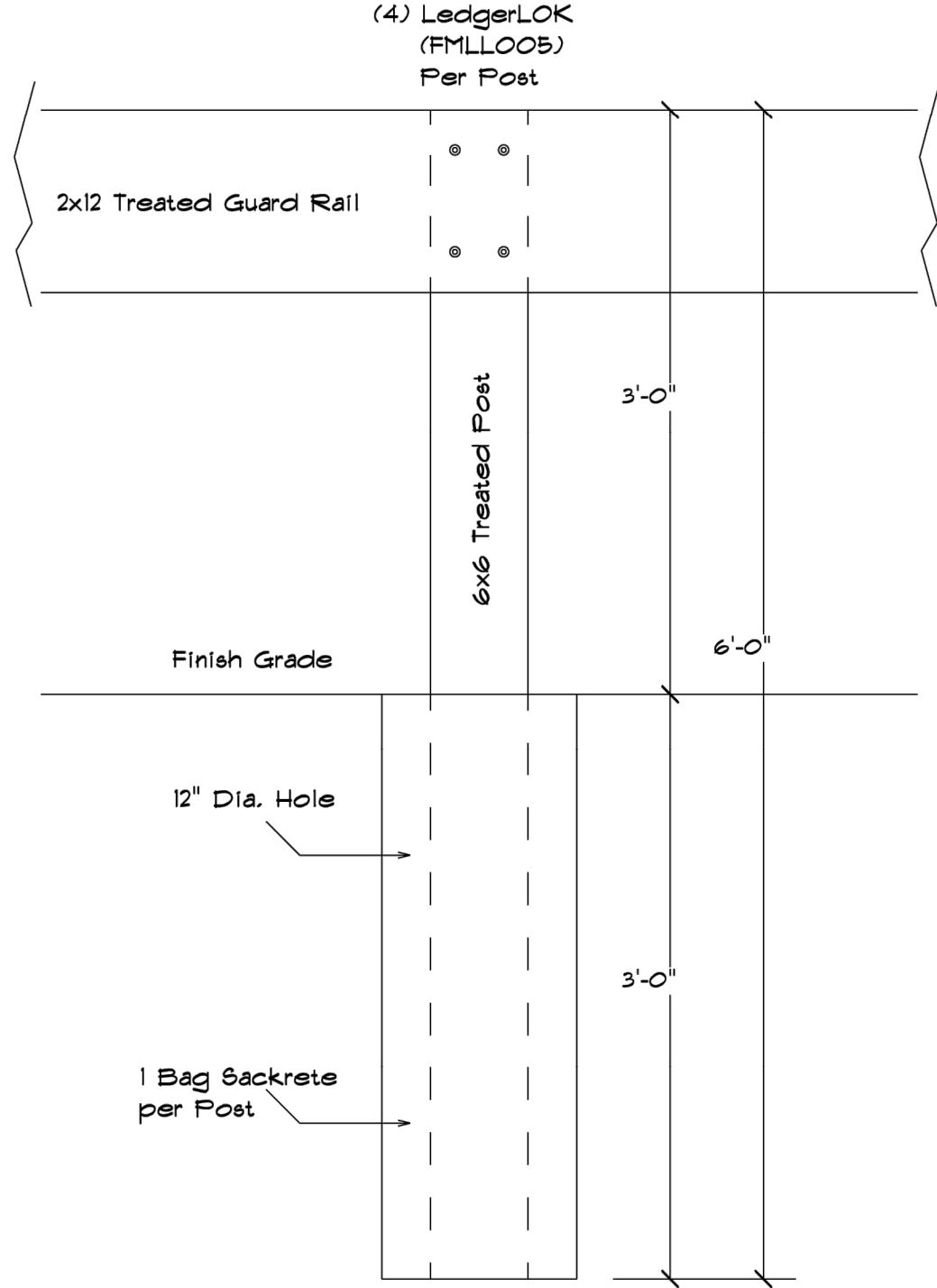


| REV No. | DATE | BY | DESCRIPTION                                                 |
|---------|------|----|-------------------------------------------------------------|
|         |      |    | CITY OF NORTH RIDGEVILLE, OHIO<br>DEPARTMENT OF ENGINEERING |
|         |      |    | <b>CURB RAMP</b>                                            |
|         |      |    | SCALE: NOT TO SCALE                                         |
|         |      |    | PAV-9                                                       |

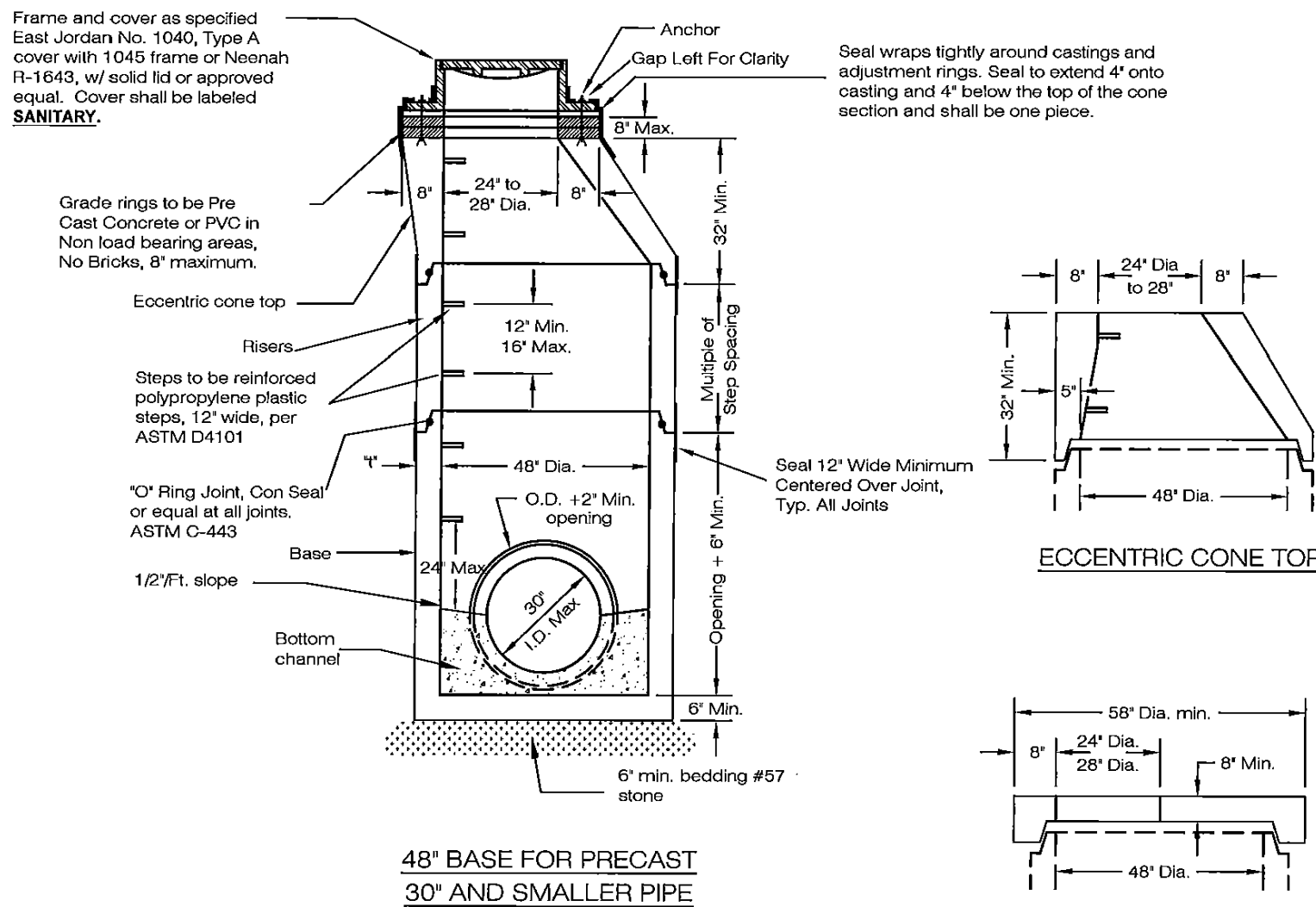
*Larry Liffich*  
CITY OF NORTH RIDGEVILLE, ENGINEER  
DATE: 10/01/08 | DRWN BY: JAB/TES



**Guardrail 4 Post Detail**







ECCENTRIC CONE TOP

FLAT SLAB TOP

**NOTES**

Sections of the precast manhole shall be cast and assembled with either all tongue or all groove ends up. Lift holes may be provided in each section for handling.

**TOP AND TRANSITION** (or reducer) Sections may be either eccentric cone or flat slab.

**BASES** for manholes are shown with monolithic floor and riser which may be cast in one or two operations. A permissible alternate is to cast and ship the floor and barrel separately. Openings for inlet and outlet pipe shall be provided, either when the unit is cast or later, to meet project requirements. Bottom channels may be formed of concrete precast in the base or by field construction. Bases may also be poured in place. All inlets and outlets are to be identified.

**OPENINGS IN RISER SECTIONS** for 18" and smaller inlet pipes shall be prefabricated. Flexible connections shall be provided for sanitary and combined sewers.

**JOINT SEAL** between precast manhole sections on sewers shall be resilient and flexible gasket joints per ASTM C-443 or latest edition.

The manhole seal at the top of the manhole (casting, adjustment rings, etc.) shall be a "WRAPIDSEAL" heat shrinkable seal manufactured by Canusa-CPS or approved equal.

All other joints shall be sealed with CONSEAL CS102 butyl sealant manufactured by Concrete Sealants, Inc. or an approved equal.

A watertight flexible sleeve "KOR-N-SEAL", "PRESS WEDGE" or equal to be provided at all connections between manholes and pipes and shall meet the requirements of ASTM C-923.

**MATERIALS** for bases and other precast sections, including reinforcement not specified herein, shall comply with the specifications.

**LANDING PLATFORMS** as shown on the Landing Details shall be installed in manholes that are over 28 feet deep to the invert with maximum vertical spacing of 20 feet.

**PRECAST MANHOLE** shall conform to the requirements of ASTM C-478. Concrete shall be 4000# P.S.I.

**SEAL** lift holes with approved concrete plugs and bit.

**ANCHORS** 1/2" dia. Allthread with washers and hex nut (Min 4). Lead anchor secured into the eccentric cone top.

**CASTINGS** for manholes shall be cleaned and painted in field with one coat of asphalt varnish or coal tar pitch paint.

### Sanitary Manholes

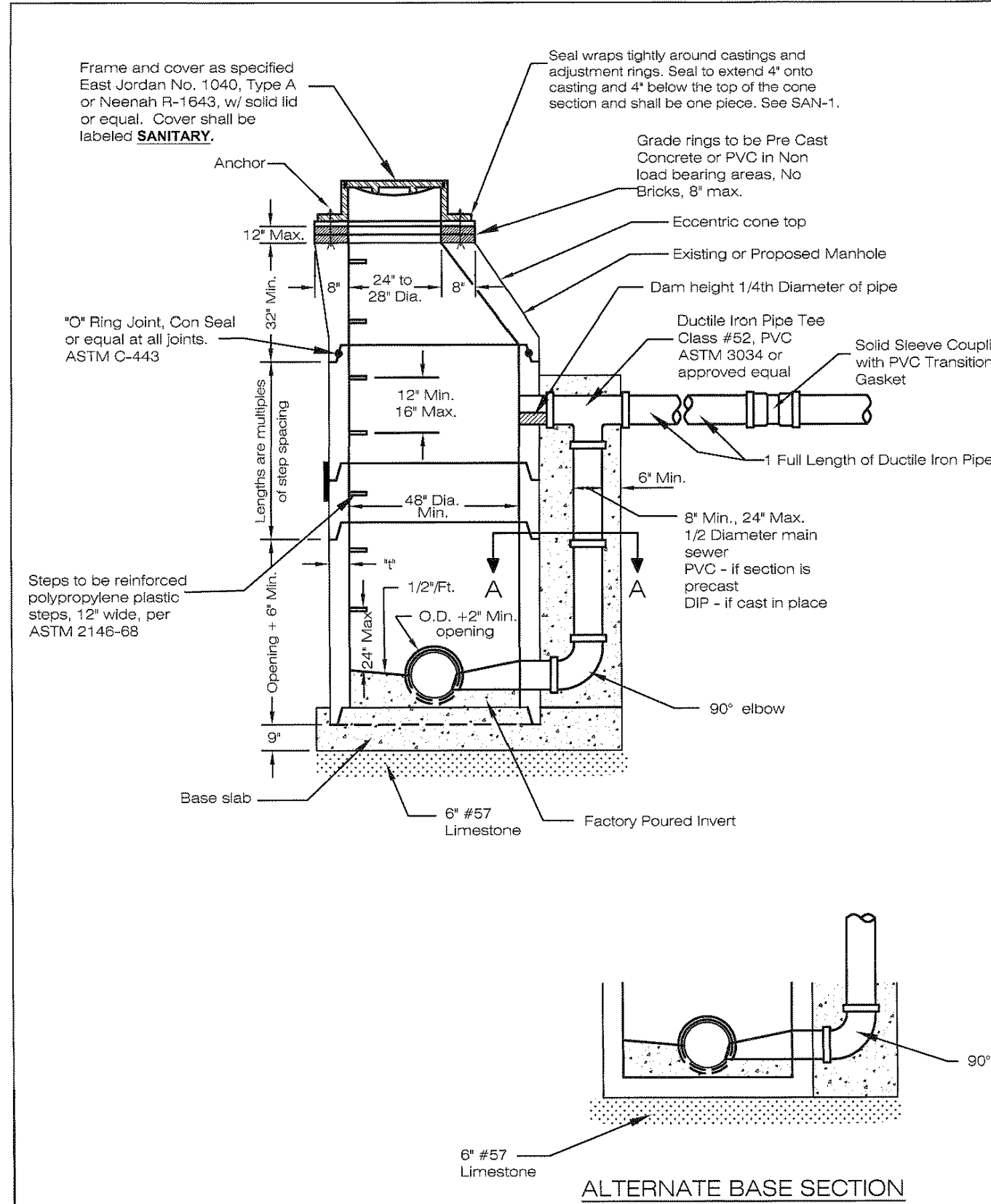
Castings in pavement shall have a solid lid and gasket.

Manhole Testing: All sanitary manholes shall be vacuum tested per ASTM C 1244.

Precast collars and/or bricks for height adjustments to manholes must meet ASTM C-32.

*Larry Kiffick*  
CITY OF NORTH RIDGEVILLE, ENGINEER

| REV. NO.                                                    | DATE  | BY | DESCRIPTION        |
|-------------------------------------------------------------|-------|----|--------------------|
| 1                                                           | 12/09 | CB | STEP SPECIFICATION |
| CITY OF NORTH RIDGEVILLE, OHIO<br>DEPARTMENT OF ENGINEERING |       |    |                    |
| PRECAST CONCRETE MANHOLE                                    |       |    |                    |
| SCALE: NOT TO SCALE                                         |       |    |                    |
| DATE: 10/01/08   DRAWN BY: JAB/TJB                          |       |    |                    |
| SAN-1                                                       |       |    |                    |



ALTERNATE BASE SECTION

CAST IN PLACE  
SECTION A - A

PRE-CAST  
SECTION A - A

*Larry Kiffick*  
CITY OF NORTH RIDGEVILLE, ENGINEER

### Notes:

A drop manhole shall be constructed in sewers when the distance between the inverts is 24" or greater.

The following notes on the Precast Concrete Manholes shall pertain to the Drop Manhole: Top or Transition Openings in riser sections, Joint Seal, Materials and Landing Platforms.

Poured in place concrete shall be 4000# concrete.

**ANCHORS** 1/2" dia. Allthread with washers and hex nut (Min 4). Lead anchor secured into the eccentric cone top.

**CASTINGS** for manholes shall be cleaned and painted in field with one coat of asphalt varnish or coal tar pitch paint.

**Sanitary Manholes**

Castings in pavement shall be solid lid and gasketed.

**Manhole Testing**

All sanitary manholes shall be vacuum tested per ASTM C 1244.

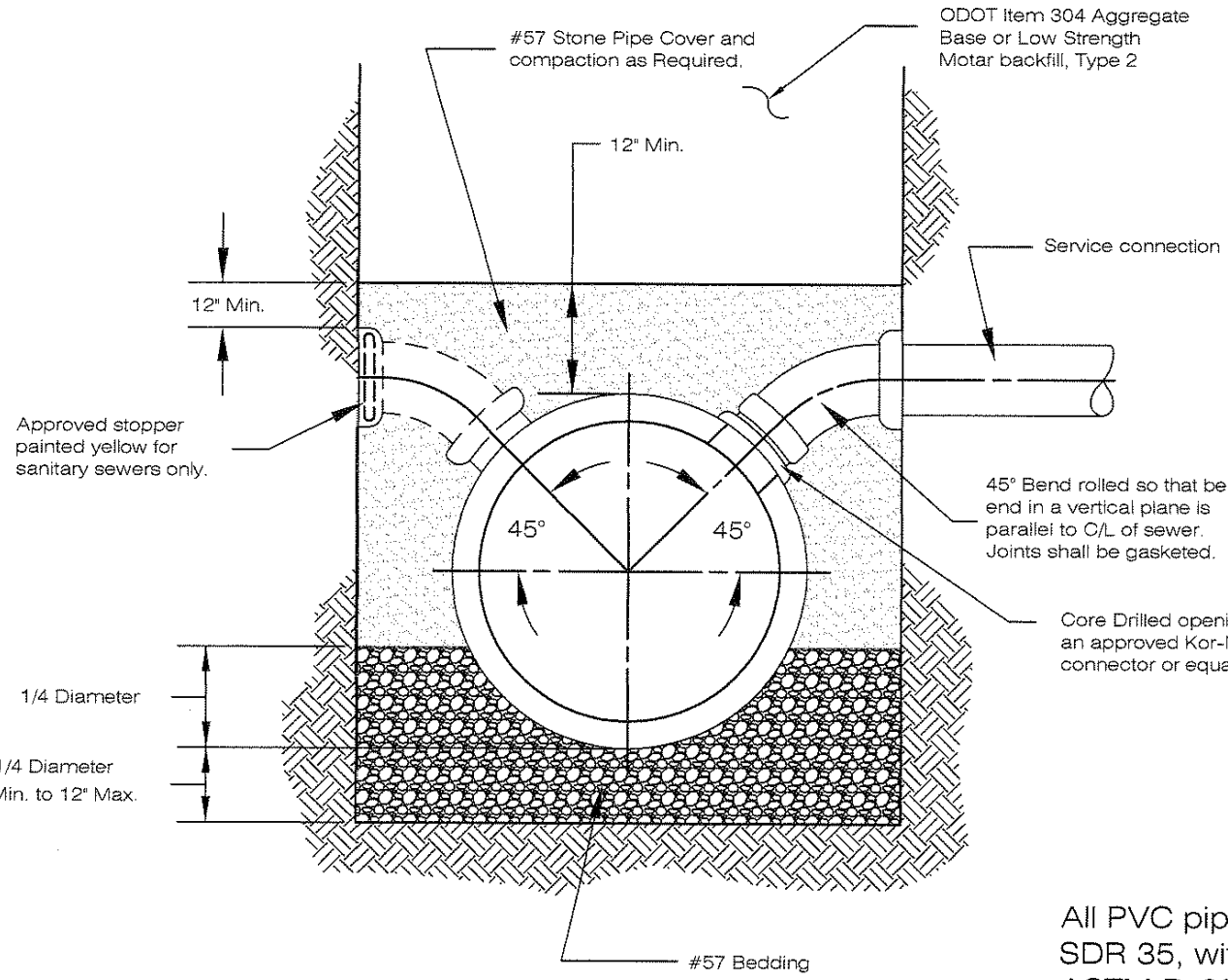
**JOINT SEAL ON ALL NEW MANHOLES:** The joint seal between precast manhole sections on sewers shall be resilient and flexible gasket joints per ASTM C-443 or latest edition.

The manhole seal at the top of the manhole (casting, adjustment rings, etc.) shall be a "WRAPIDSEAL" heat shrinkable seal manufactured by Canusa-CPS or approved equal.

All other joints shall be sealed with CONSEAL CS102 butyl sealant manufactured by Concrete Sealants, Inc. or an approved equal.

A watertight flexible sleeve "KOR-N-SEAL", "PRESS WEDGE" or equal to be provided at all connections between manholes and pipes and shall meet the requirements of ASTM C-923.

| REV. NO.                                                    | DATE | BY | DESCRIPTION |
|-------------------------------------------------------------|------|----|-------------|
| CITY OF NORTH RIDGEVILLE, OHIO<br>DEPARTMENT OF ENGINEERING |      |    |             |
| PRECAST CONCRETE DROP MANHOLE                               |      |    |             |
| SCALE: NOT TO SCALE                                         |      |    |             |
| DATE: 10/01/08   DRAWN BY: JAB/TJB                          |      |    |             |
| SAN-2                                                       |      |    |             |

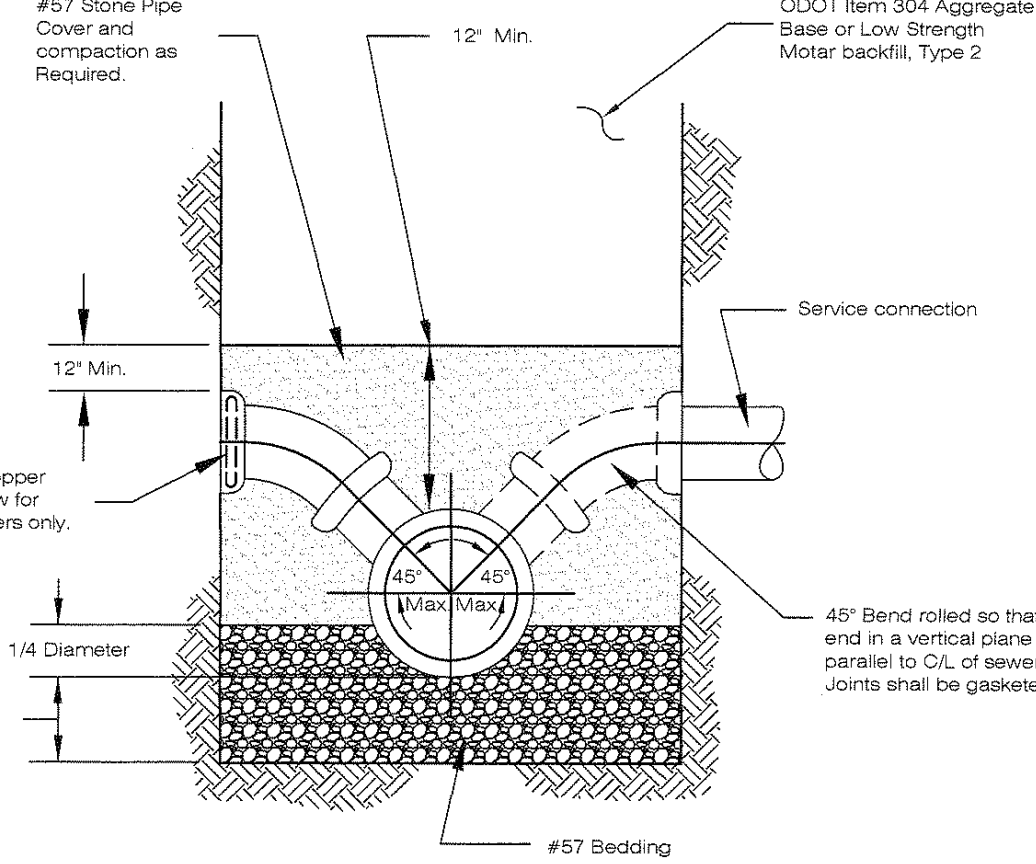


TYPICAL CORE AND TEE DETAIL  
(USE ON EXISTING MAINS)

**NOTES:** Provide gasketed plug in sanitary sewer connection at R/W line if connection is not to be used immediately.

Employ proper trench safety per latest OSHA Standards.

Bell ends are to be placed upstream.

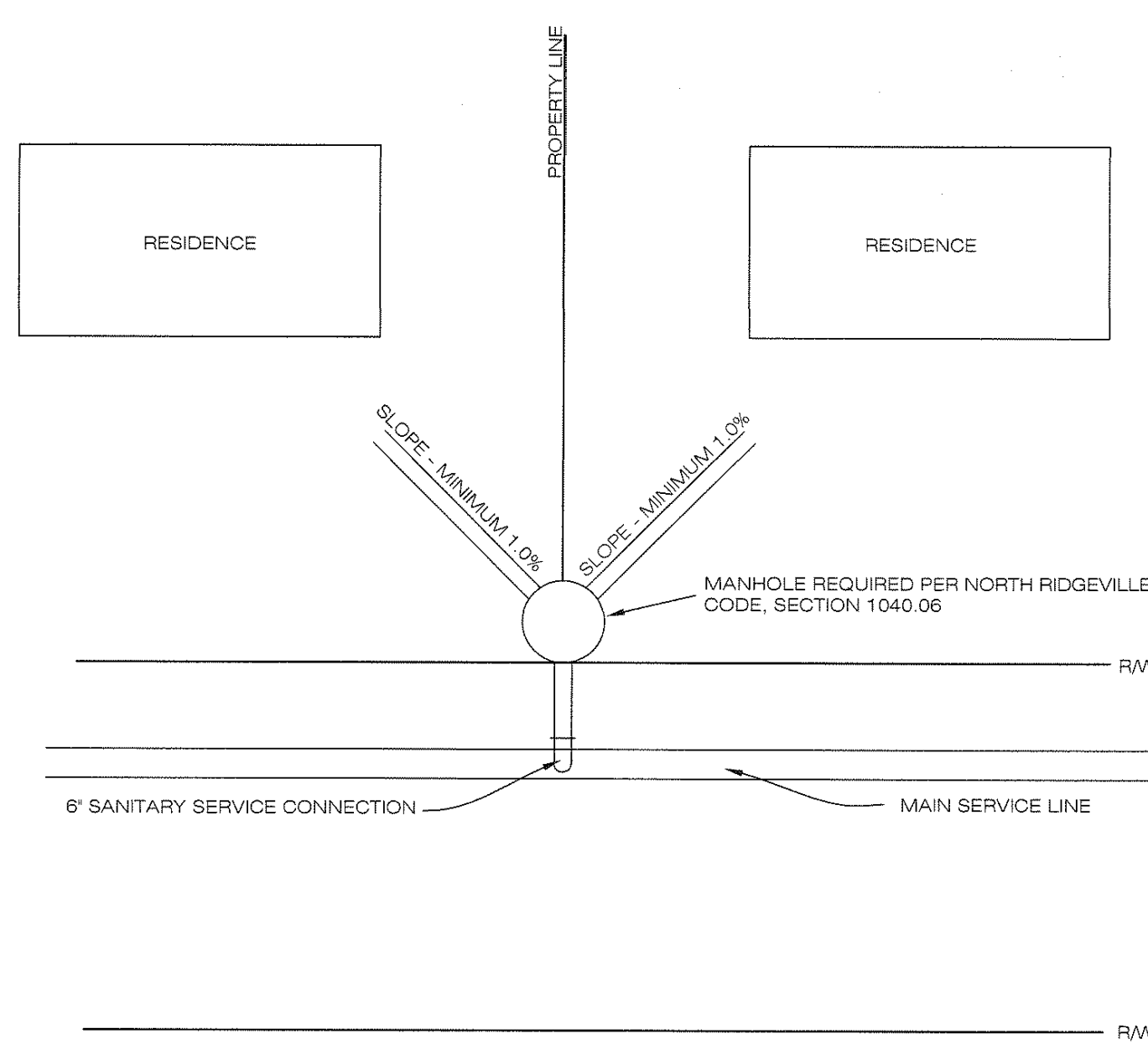


TYPICAL Y-BRANCH DETAIL

All PVC pipe shall be ASTM 3034 SDR 35, with 'O' Ring joints per ASTM D-3212

*Larry Kiffick*  
CITY OF NORTH RIDGEVILLE, ENGINEER

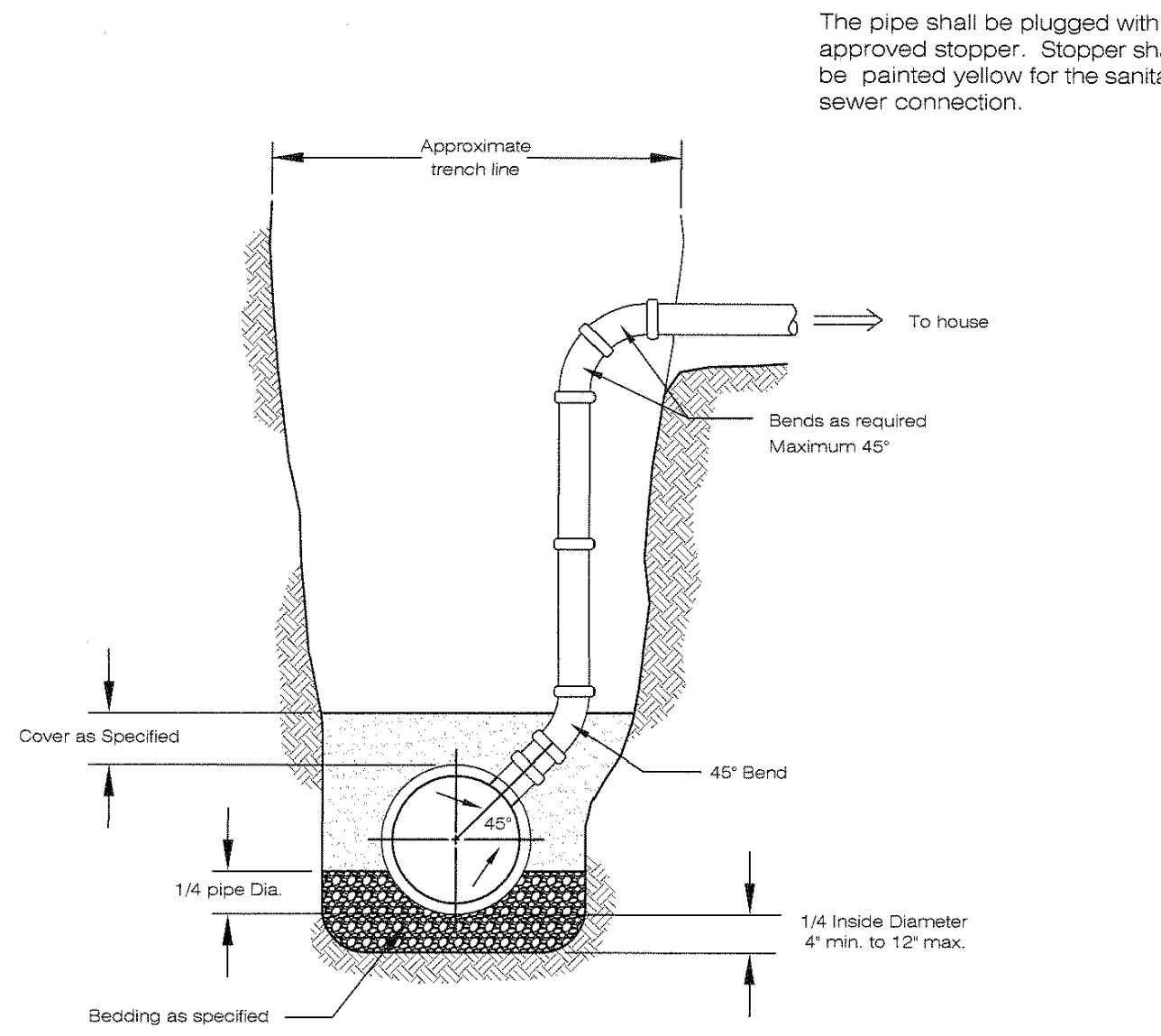
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|-------------------------------------------------------------|------|----|-------------|
| CITY OF NORTH RIDGEVILLE, OHIO<br>DEPARTMENT OF ENGINEERING |      |    |             |
| SANITARY SERVICE CONNECTION DETAILS                         |      |    |             |
| SCALE: NOT TO SCALE                                         |      |    |             |
| DATE: 10/01/08   DRAWN BY: JAB/TJB                          |      |    |             |
| SAN-5                                                       |      |    |             |



DOUBLE SERVICE  
CONNECTION

*Larry Kiffick*  
CITY OF NORTH RIDGEVILLE, ENGINEER

| REV. NO.                                                    | DATE | BY | DESCRIPTION |
|-------------------------------------------------------------|------|----|-------------|
| CITY OF NORTH RIDGEVILLE, OHIO<br>DEPARTMENT OF ENGINEERING |      |    |             |
| DOUBLE SERVICE CONNECTION                                   |      |    |             |
| SCALE: NOT TO SCALE                                         |      |    |             |
| DATE: 10/01/08   DRAWN BY: JAB/TJB                          |      |    |             |
| SAN-6                                                       |      |    |             |



The pipe shall be plugged with approved stopper. Stopper shall be painted yellow for the sanitary sewer connection.

### Note:

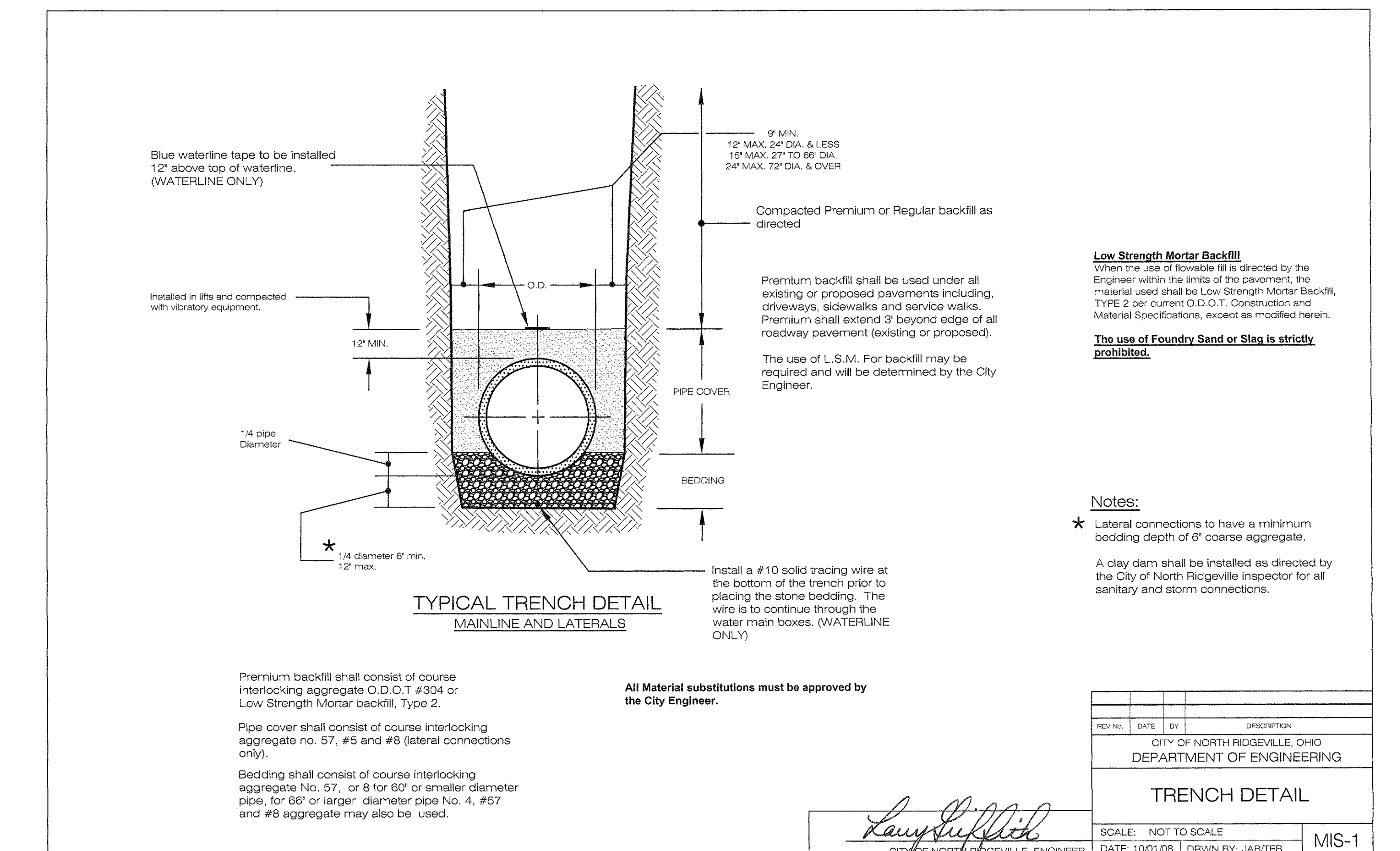
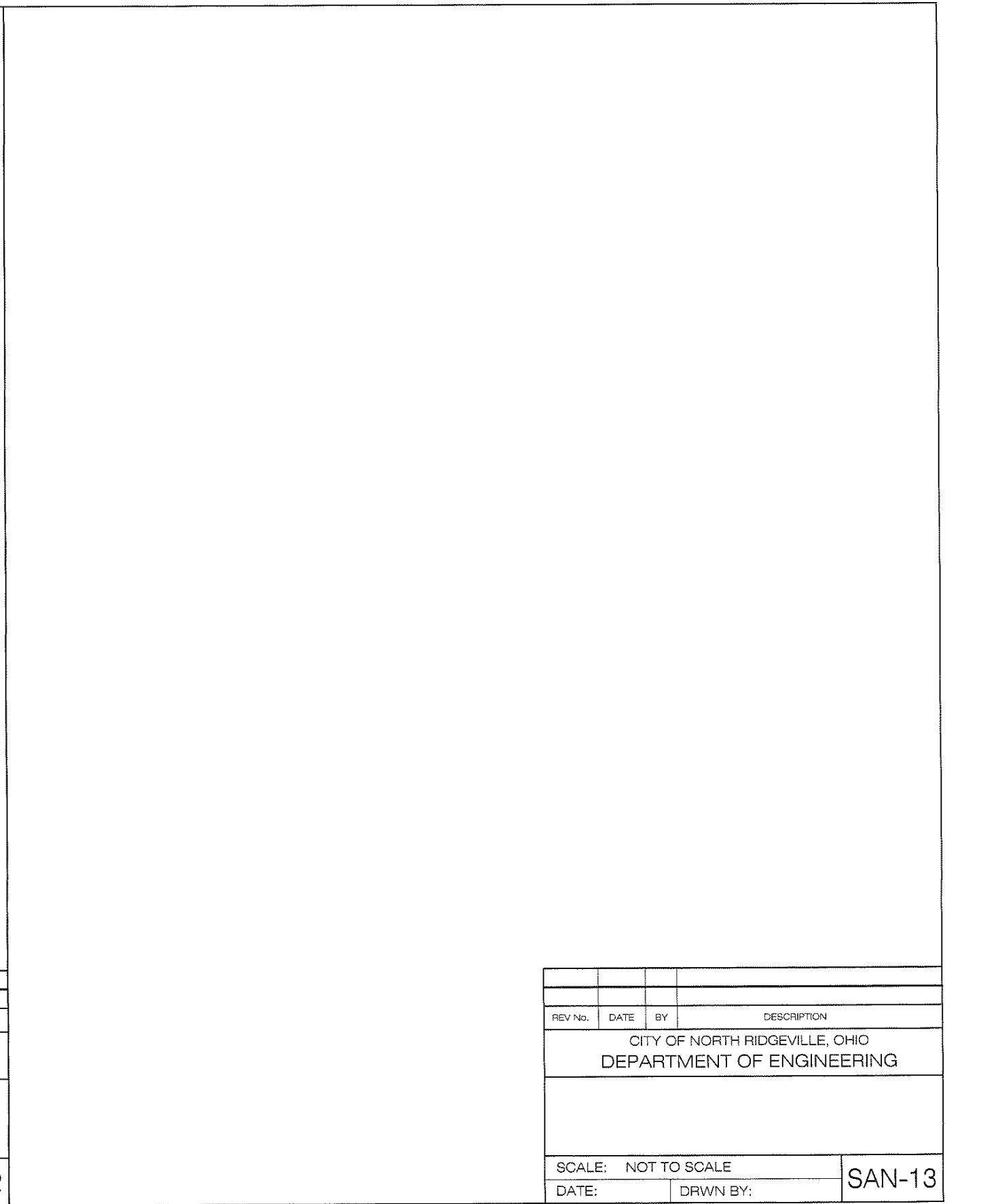
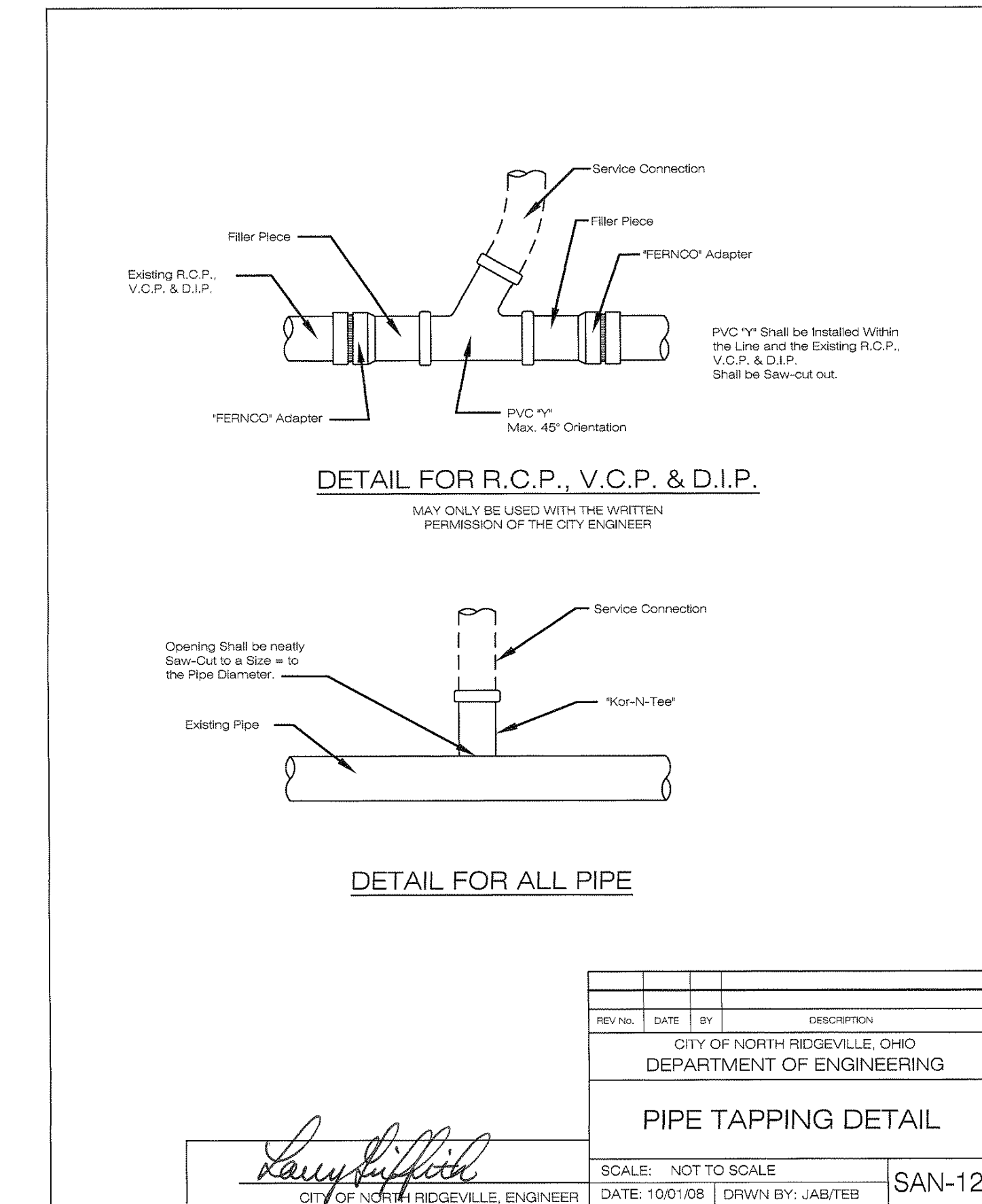
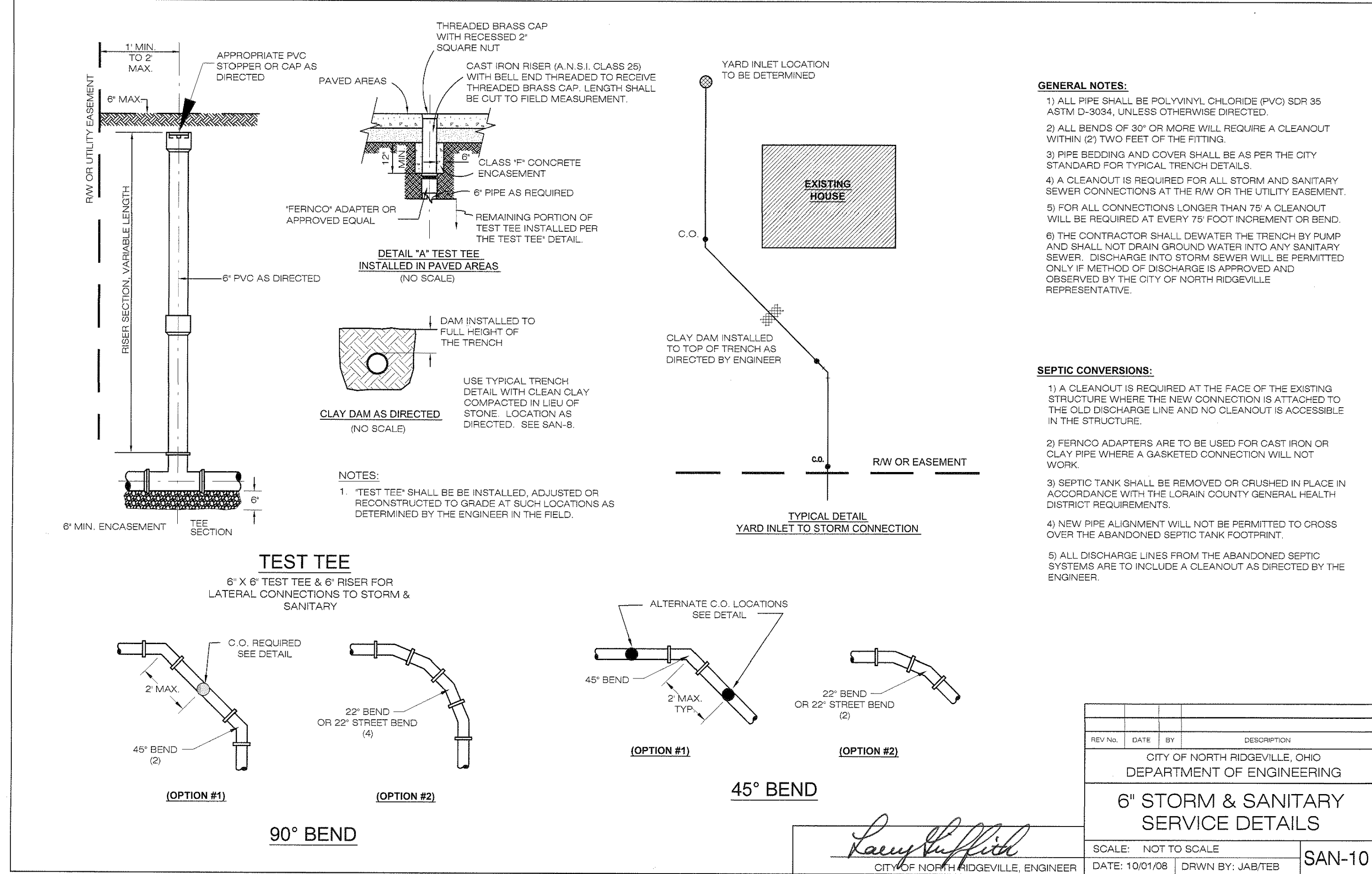
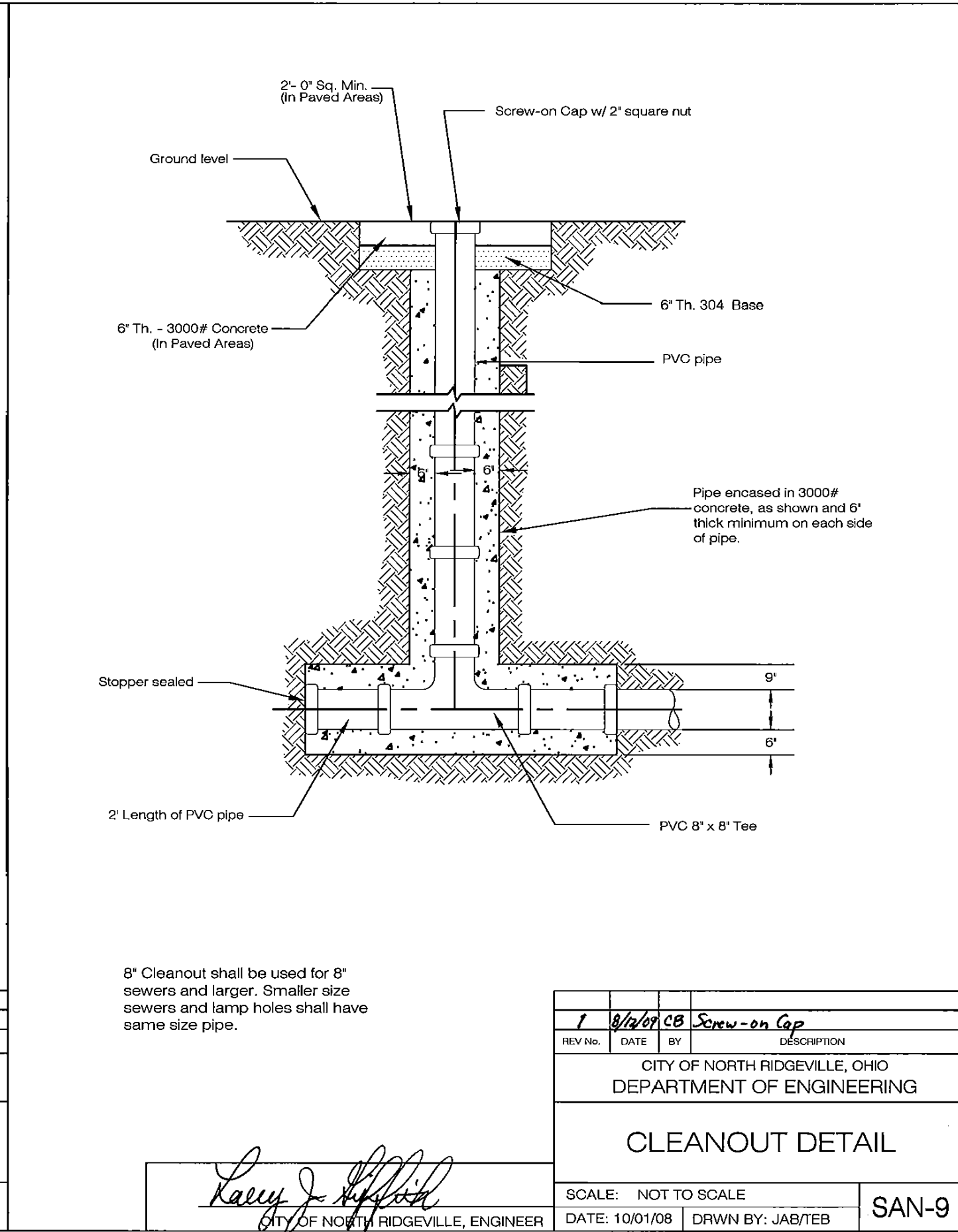
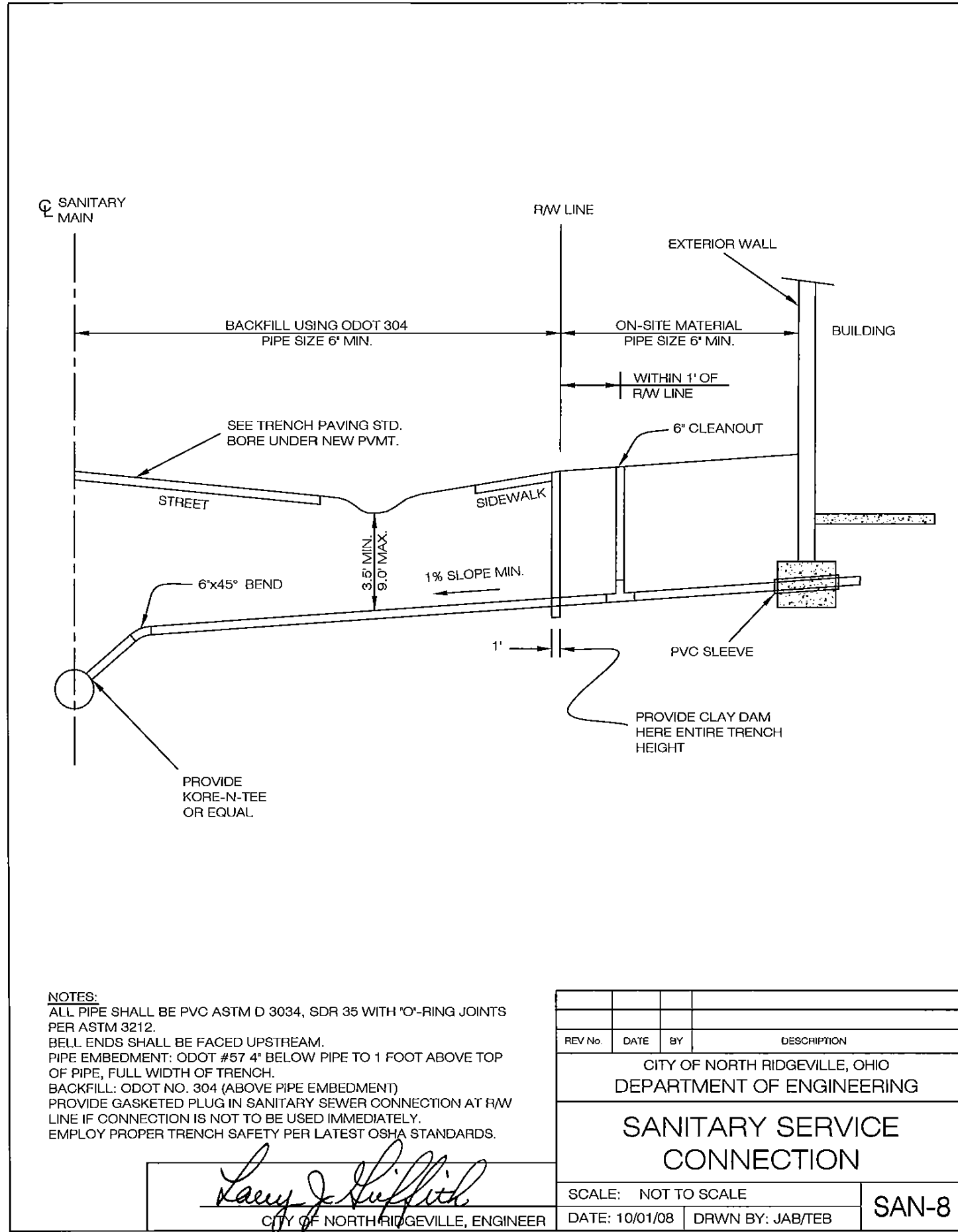
Bedding and Backfill shall meet the requirements of the City Standard Construction Drawing "Sanitary Service Connection Details".

When using PVC for construction, all portions of the riser shall be ASTM 3034 SDR 35 unless otherwise directed by the Engineer.

*Larry Kiffick*  
CITY OF NORTH RIDGEVILLE, ENGINEER

| REV. NO.                                                    | DATE | BY | DESCRIPTION |
|-------------------------------------------------------------|------|----|-------------|
| CITY OF NORTH RIDGEVILLE, OHIO<br>DEPARTMENT OF ENGINEERING |      |    |             |
| STANDARD RISER DETAIL                                       |      |    |             |
| SCALE: NOT TO SCALE                                         |      |    |             |
| DATE: 10/01/08   DRAWN BY: JAB/TJB                          |      |    |             |
| SAN-7                                                       |      |    |             |









- NOTE**
1. WELD ALL ENCASEMENT PIPE JOINTS.
  2. MINIMUM THICKNESS FOR NEW CASING PIPE IS 3/8".  
MINIMUM THICKNESS FOR USED CASING PIPE IS 1/2".  
1/2" IS MIN. FOR R.R. BORES.
  3. CASING DIAMETER SHALL BE A MINIMUM OF 6" GREATER THAN  
THE LARGEST O.D. OF THE CARRIER PIPE.
  4. PROVIDE A 3/4" COPPER DRAIN PIPE AT THE BOTTOM OF THE  
DOWNSTREAM BULKHEAD.

| STEEL CASING PIPE |      |        |           |
|-------------------|------|--------|-----------|
| CARRIER PIPE      |      |        |           |
| DIA.              | DIA. | THICK. | FILL TYPE |
| 3"                | 10"  | 3/8"   | GROUT     |
| 6"                | 16"  | 3/8"   | GROUT     |
| 8"                | 18"  | 3/8"   | GROUT     |
| 10"               | 22"  | 3/8"   | GROUT     |
| 12"               | 24"  | 1/2"   | GROUT     |
| 16"               | 28"  | 1/2"   | GROUT     |
| 18"               | 30"  | 1/2"   | GROUT     |
| 24"               | 36"  | 5/8"   | GROUT     |

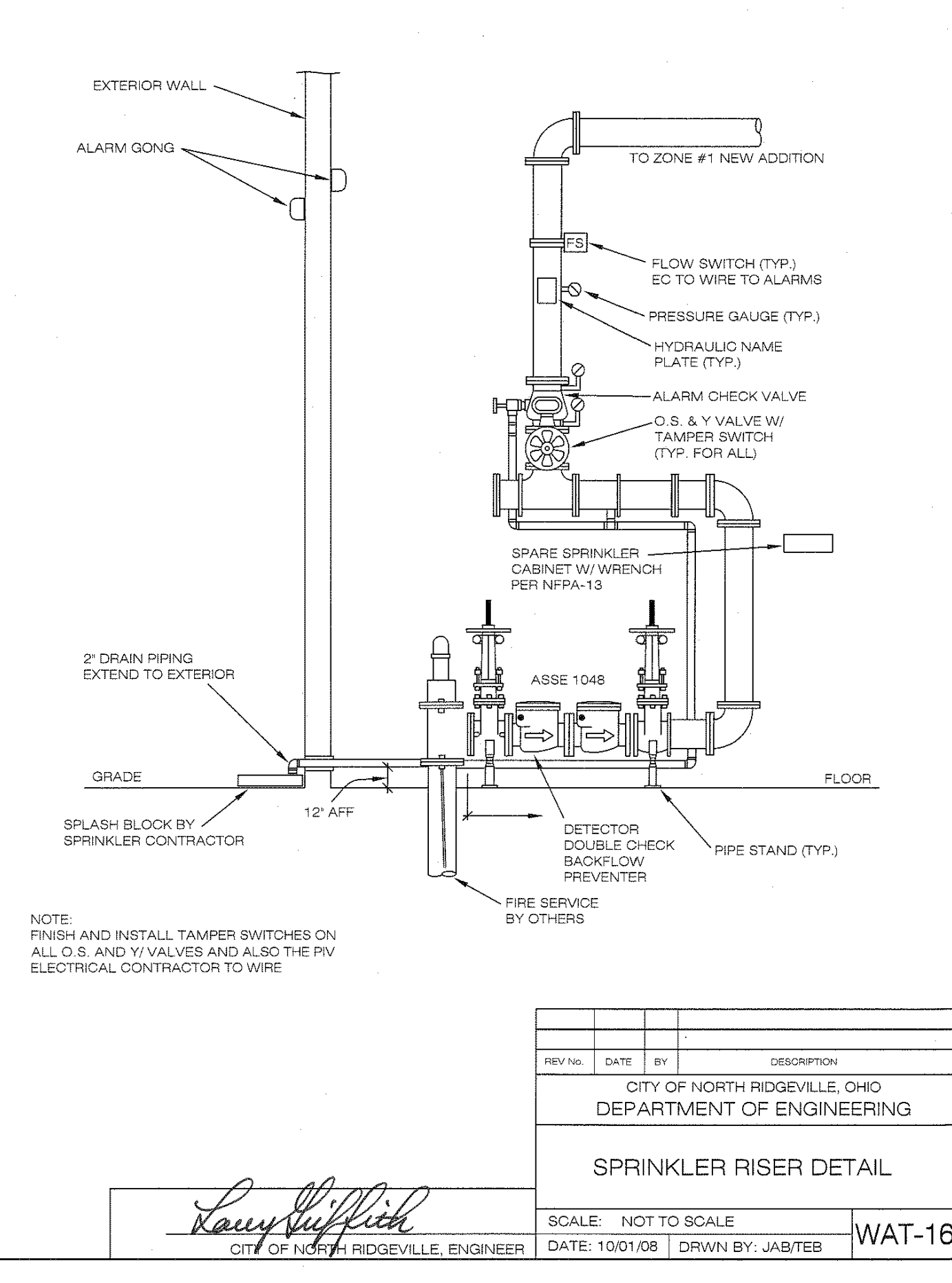
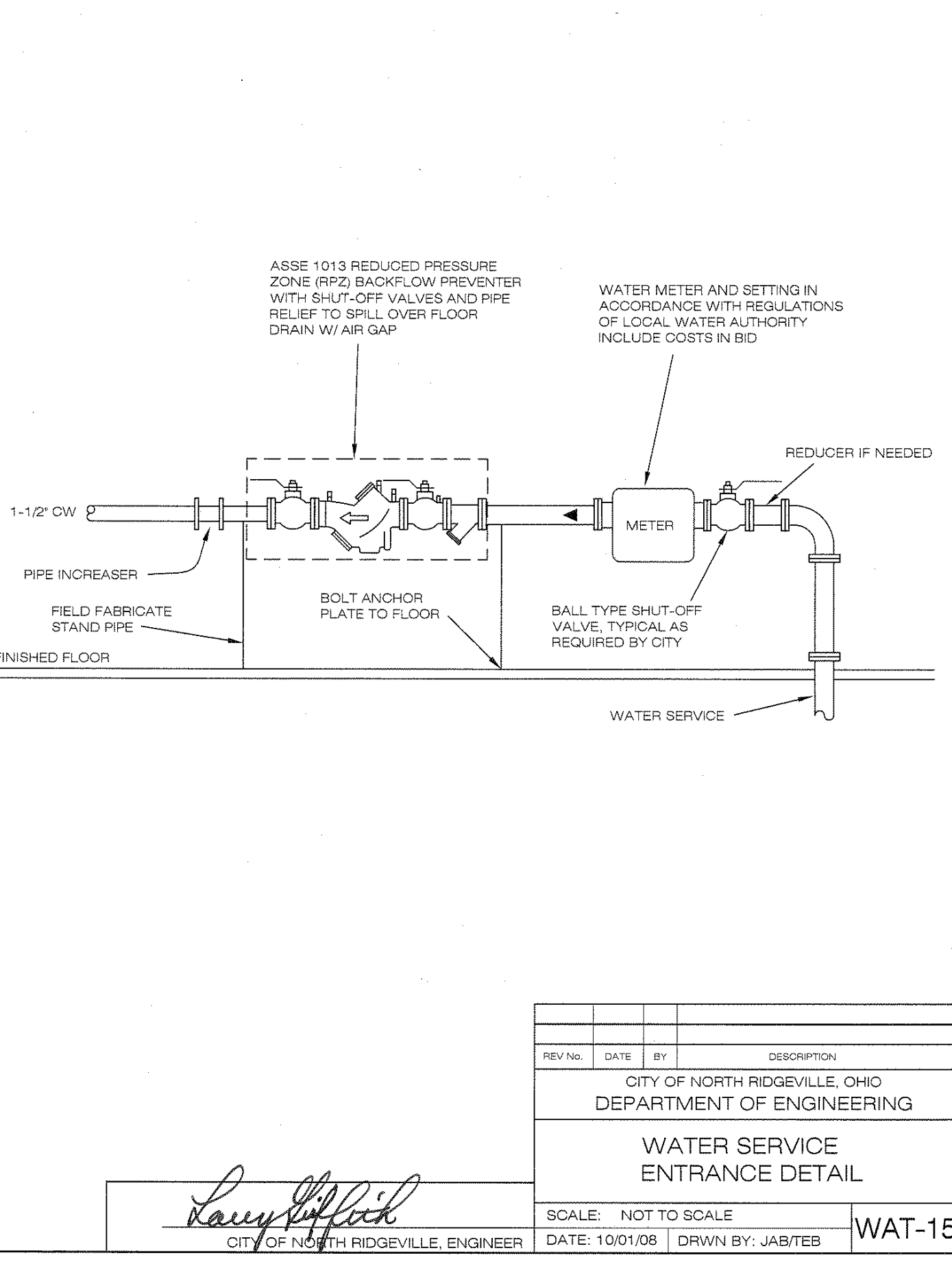
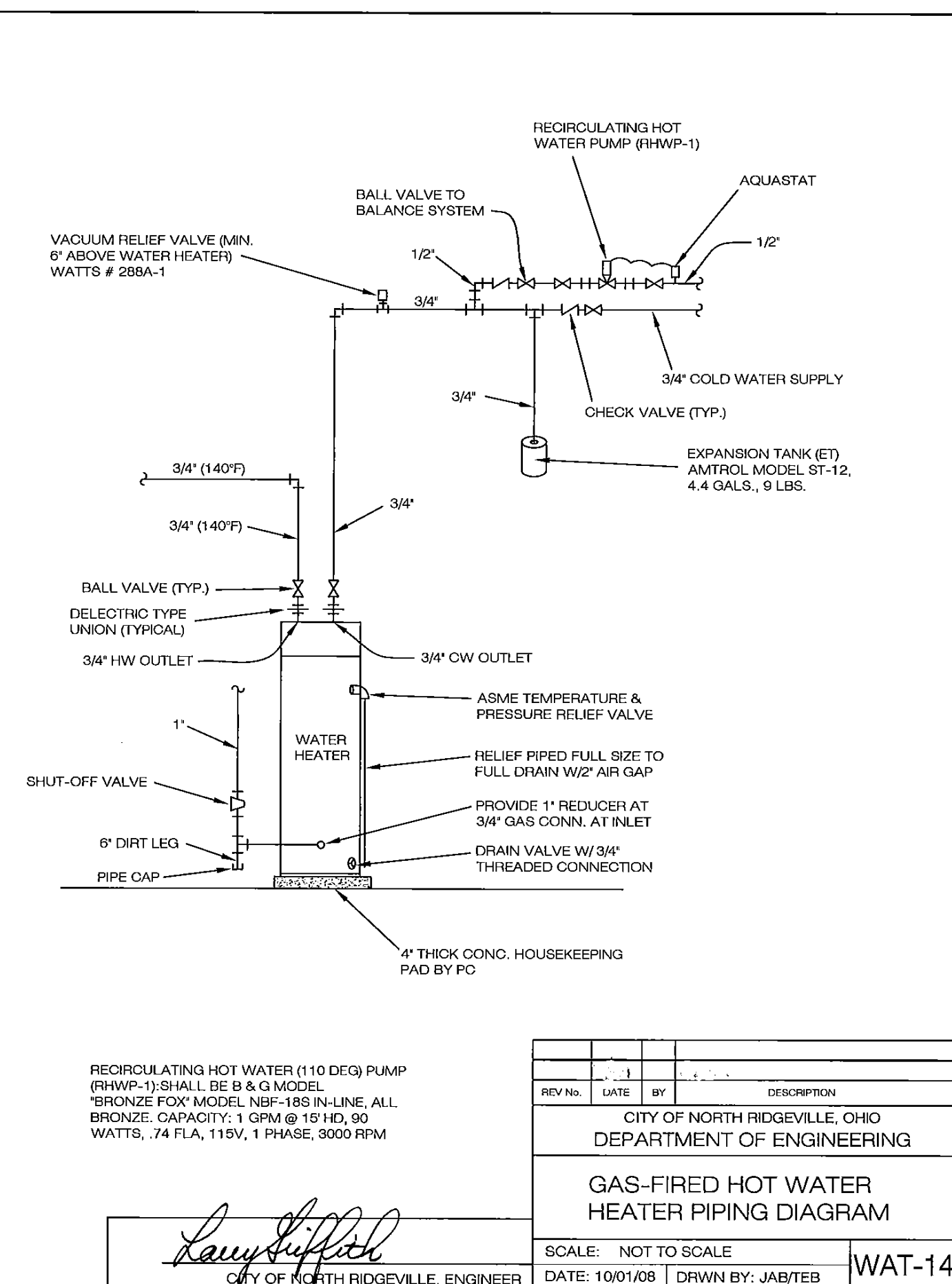
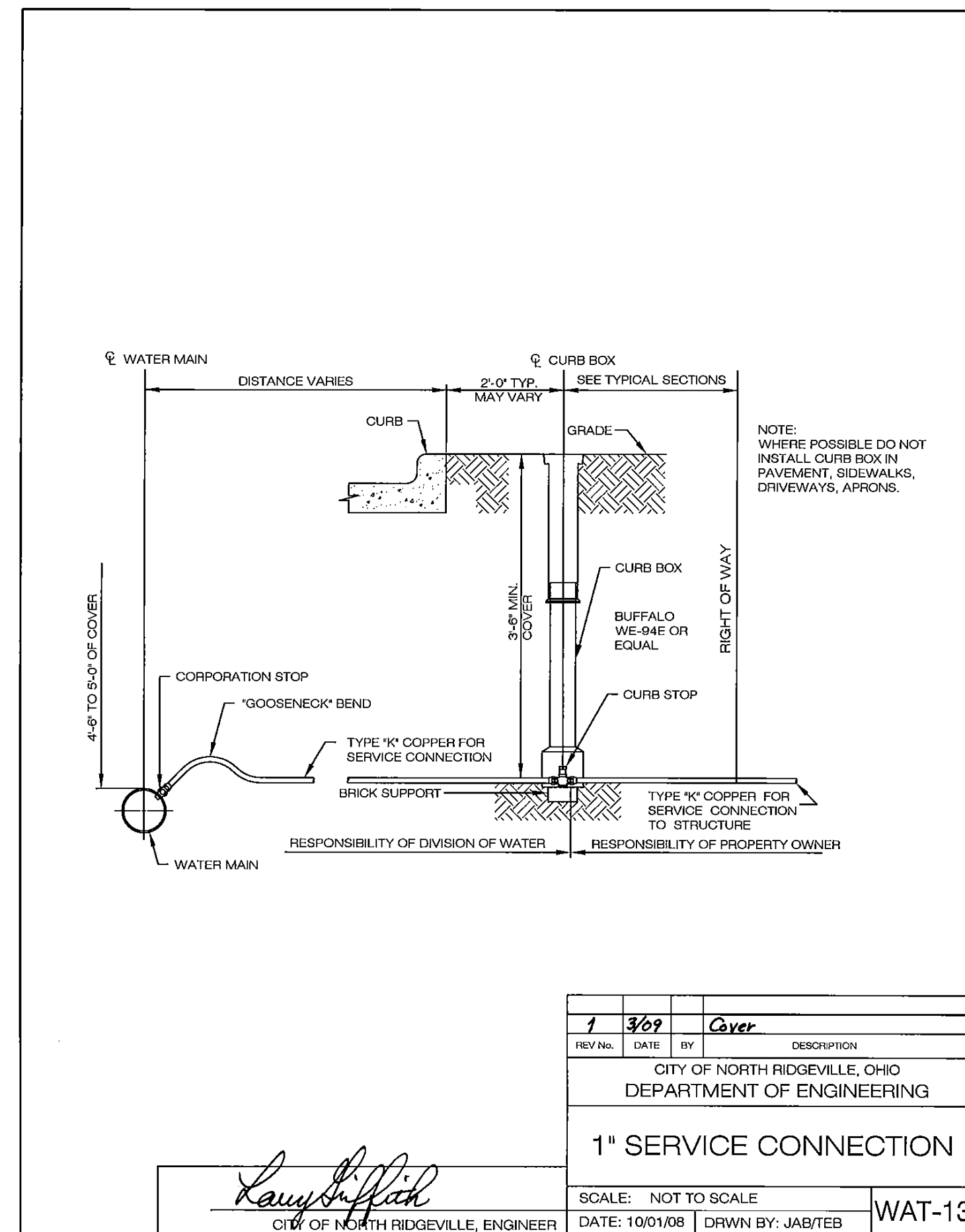
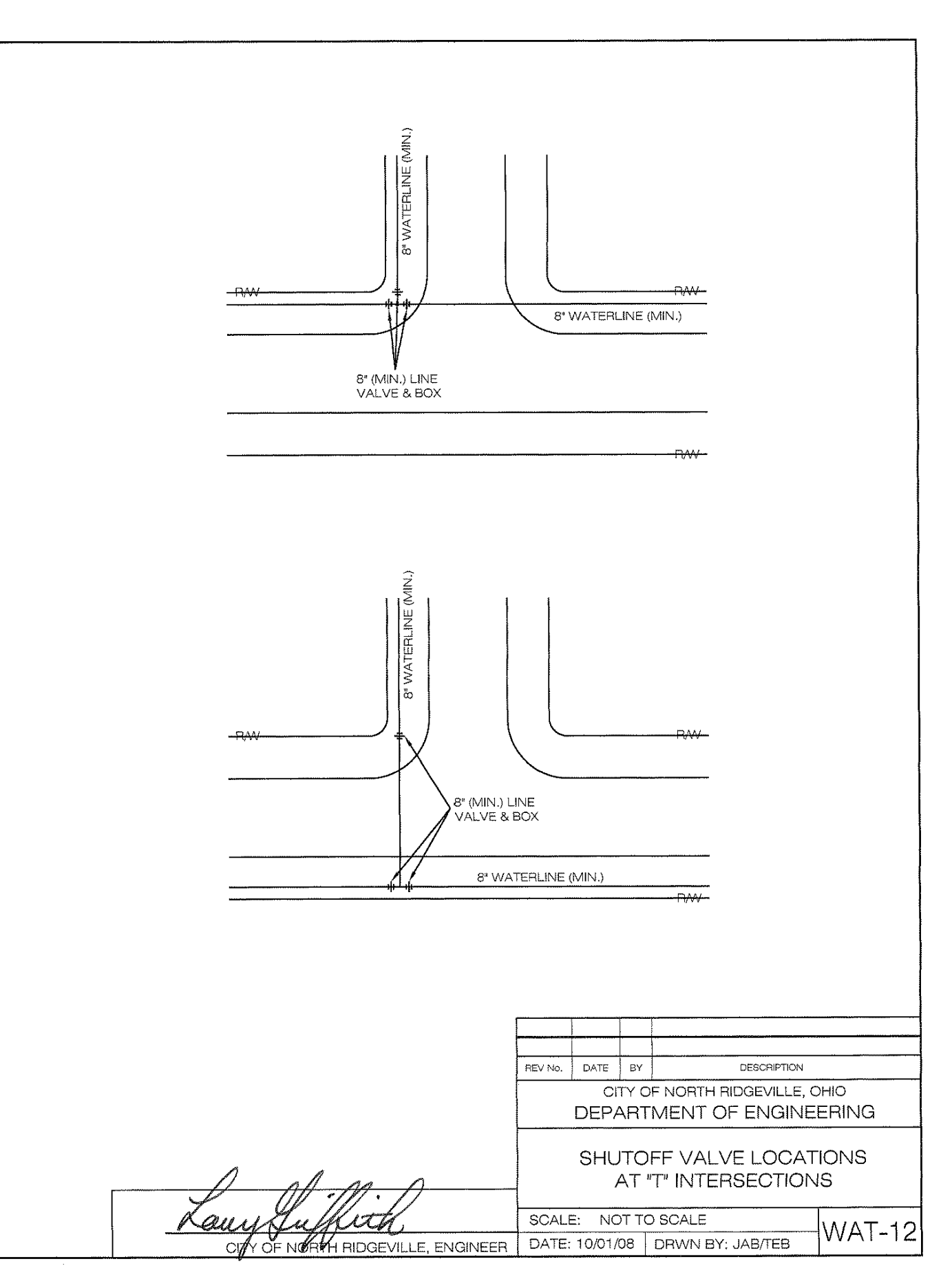
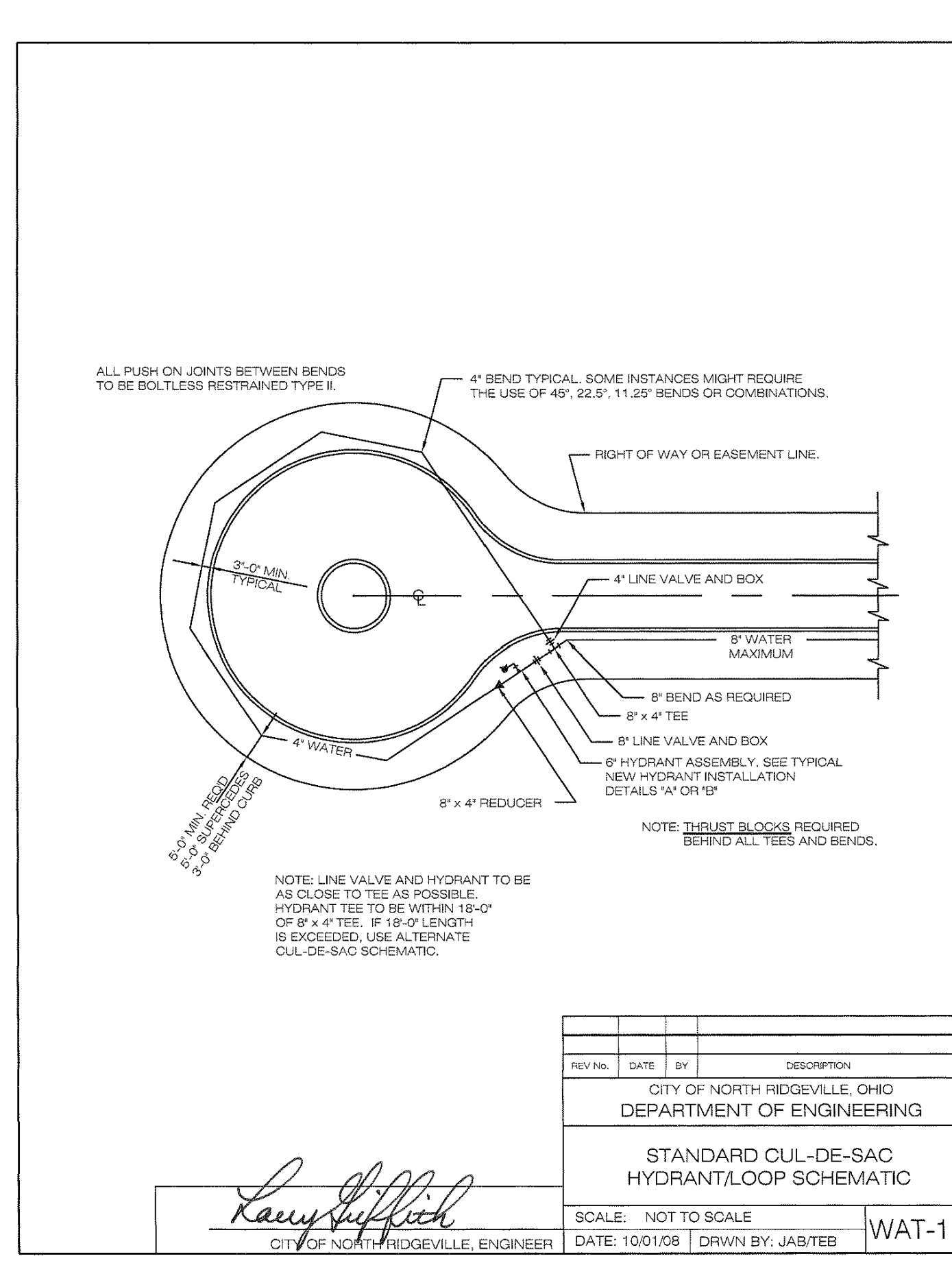
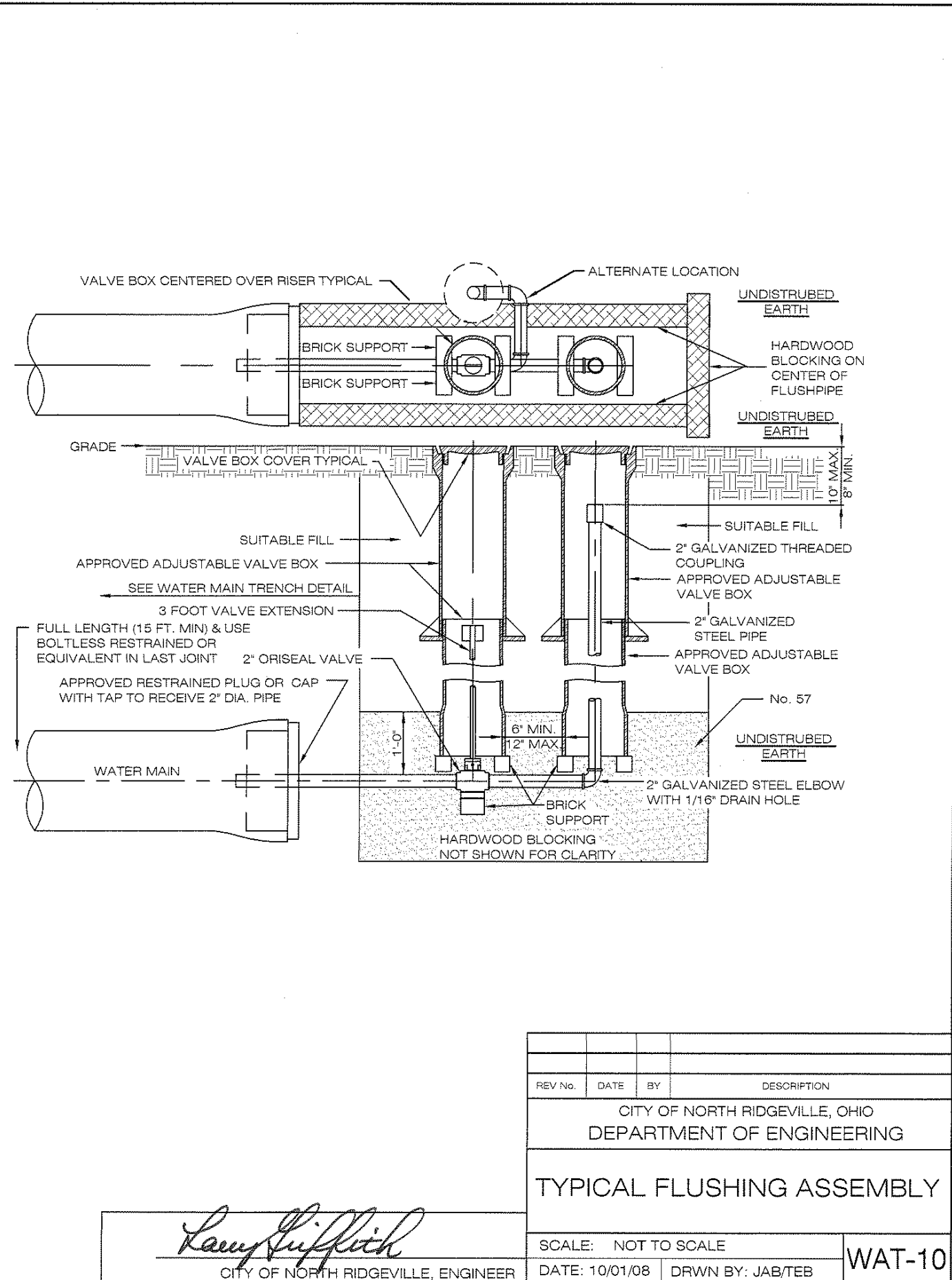
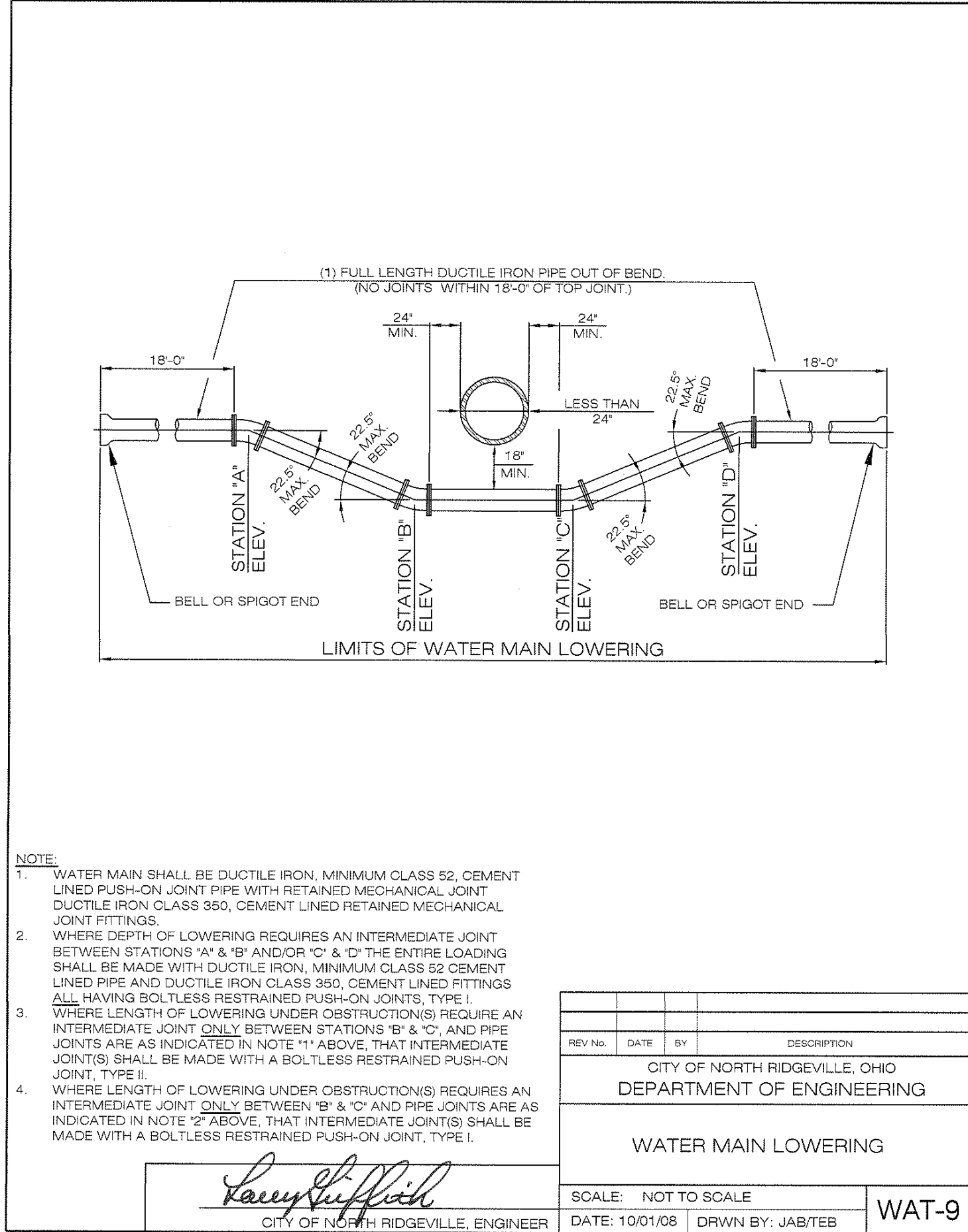
*Larry Suffitt*  
CITY OF NORTH RIDGEVILLE E. ENGINEER

|                                     |      |    |             |       |
|-------------------------------------|------|----|-------------|-------|
|                                     |      |    |             |       |
| REV No.                             | DATE | BY | DESCRIPTION |       |
| CITY OF NORTH RIDGEVILLE, OHIO      |      |    |             |       |
| DEPARTMENT OF ENGINEERING           |      |    |             |       |
| BORING DETAIL                       |      |    |             |       |
| SCALE: NOT TO SCALE                 |      |    |             | MIS-2 |
| DATE: 10/01/08    DRAWN BY: JAB/TER |      |    |             |       |





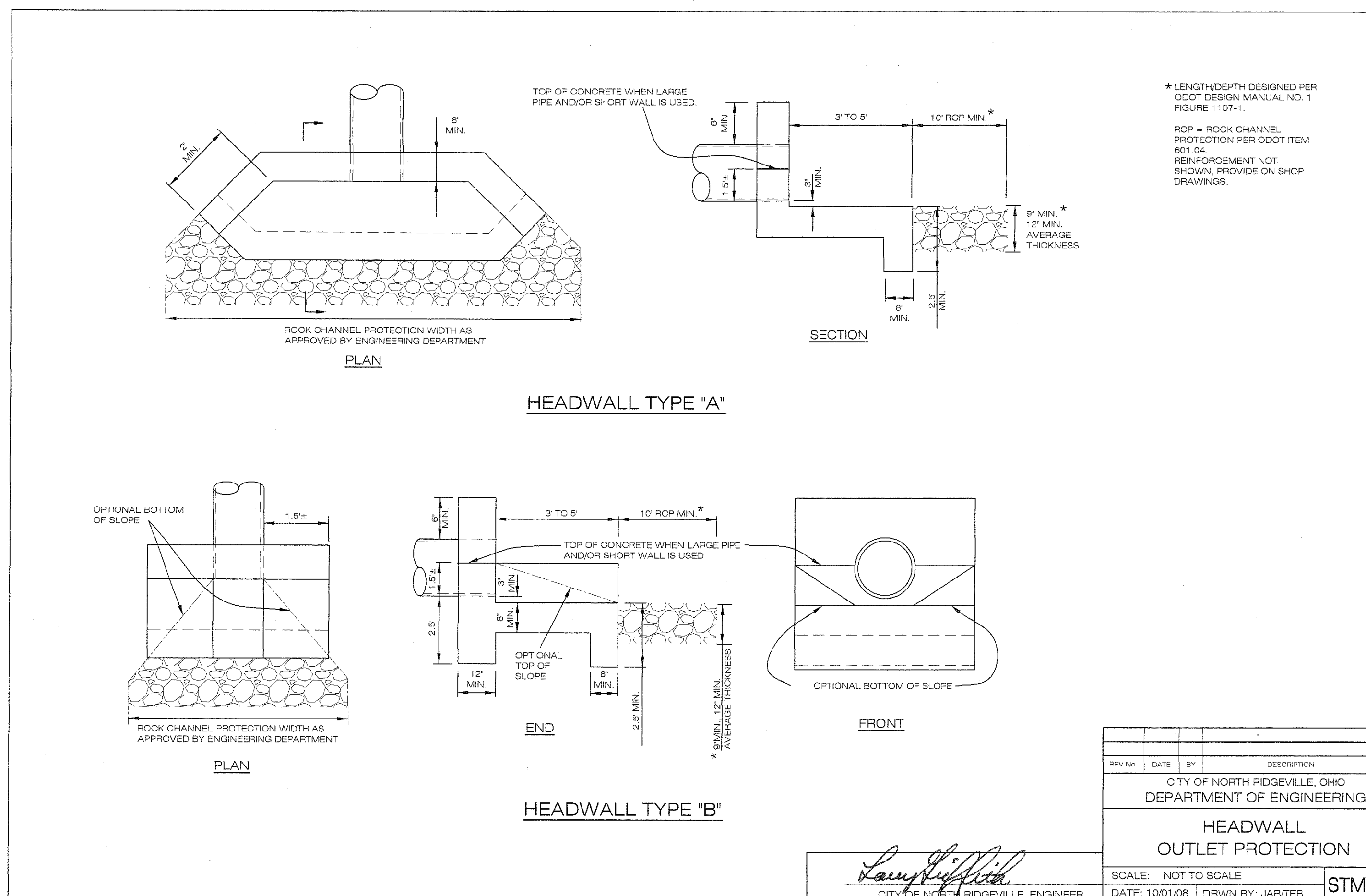
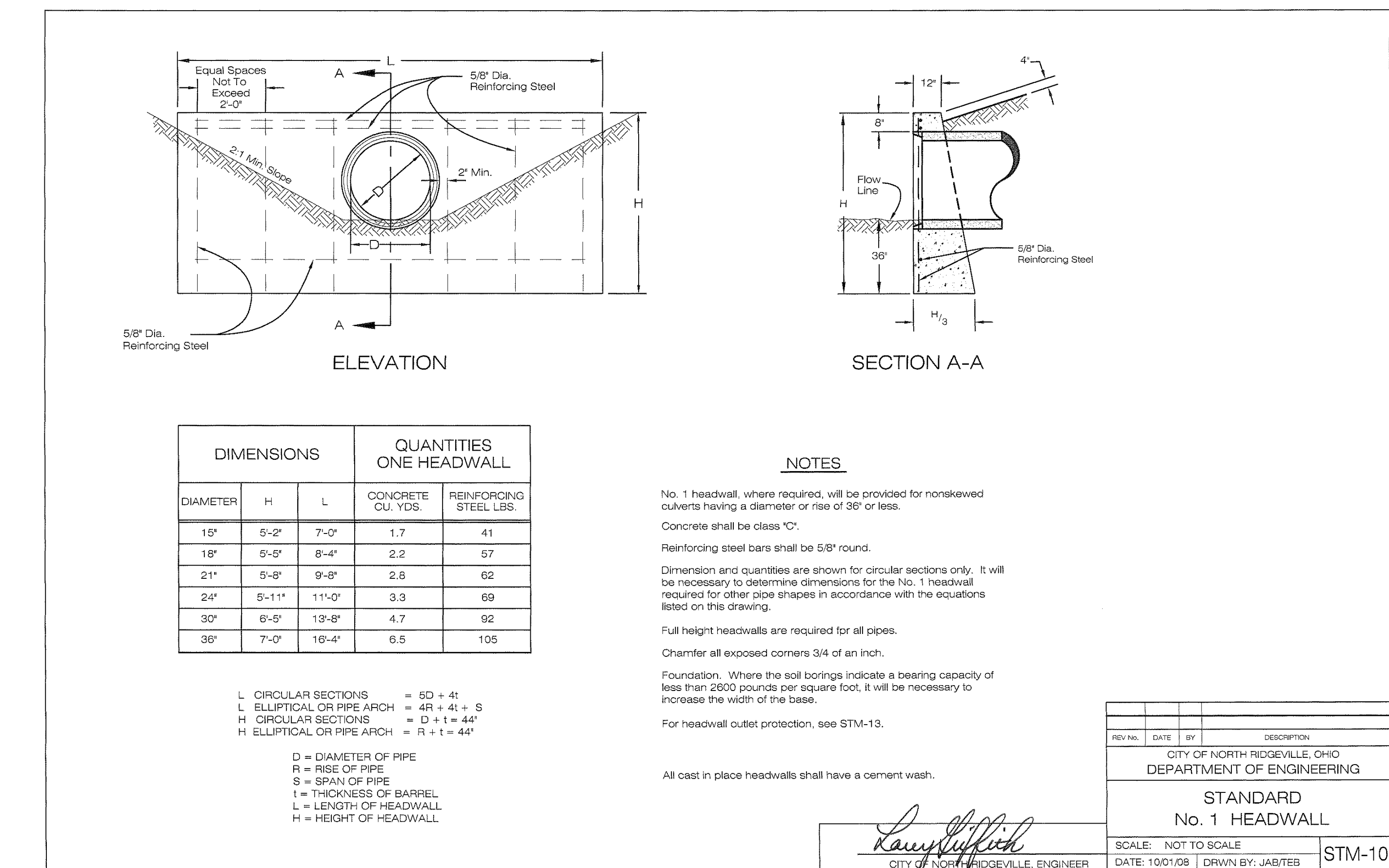




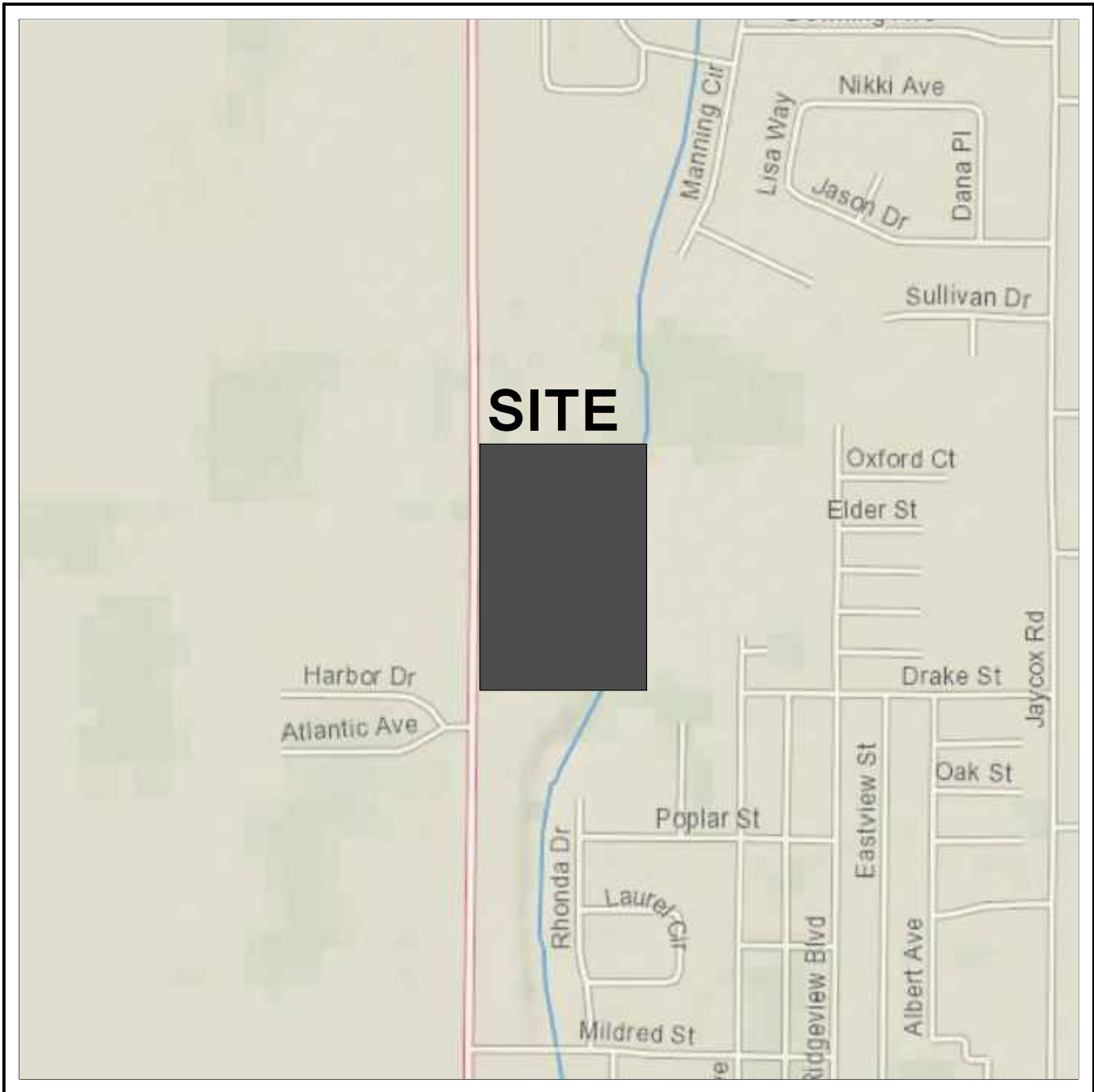








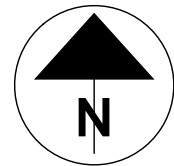




LOCATION MAP  
(NTS)

LATITUDE: 41°24'31"

LONGITUDE: 82°00'55"



#### BENCHMARKS (NAD83 & NAVD88)

BENCHMARK #1: TOP OF SANITARY MANHOLE, WEST OF AVON BELDEN ROAD  
ELEV= 706.94'

## IMPROVEMENT PLANS FOR

# THE CROSSING AT FRENCH CREEK

## CITY OF NORTH RIDGEVILLE, COUNTY OF LORAIN, STATE OF OHIO

| PROJECT DATA                               |              |
|--------------------------------------------|--------------|
| TOTAL AREA                                 | 50.39 AC     |
| EARTH DISTURBED AREA                       | 19.80 AC     |
| IMPERVIOUS AREA FOR PRE-CONSTRUCTION SITE  | 0.97 AC      |
| PERCENT IMPERVIOUS PRE-CONSTRUCTION SITE   | 2%           |
| NEW IMPERVIOUS AREA ADDED                  | 4.85 AC      |
| IMPERVIOUS AREA FOR POST-CONSTRUCTION SITE | 4.85 AC      |
| % IMPERVIOUS POST-CONSTRUCTION SITE        | 9%           |
| "C" COEFFICIENT FOR PRE-CONSTRUCTION SITE  | 0.30         |
| "C" COEFFICIENT FOR POST-CONSTRUCTION SITE | 0.65         |
| CURVE NUMBER PRE-DEVELOPMENT               | 79           |
| CURVE NUMBER POST-DEVELOPMENT              | 84           |
| PRIOR LAND USE                             | FARM FIELD   |
| TYPE OF CONSTRUCTION ACTIVITY              | RESIDENTIAL  |
| IMMEDIATE RECEIVING WATERS                 | FRENCH CREEK |
| SUBSEQUENT RECEIVING WATERS                | LAKE ERIE    |
| PROJECT START DATE                         |              |
| PROJECT END DATE                           |              |

| CERTIFICATION:<br>THE UNDERSIGNED HAS BEEN INFORMED AND UNDERSTANDS THEIR ROLE AND RESPONSIBILITY IN COMPLYING WITH THIS STORM WATER POLLUTION PREVENTION PLAN (SWP3): |              |       |         |      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------|---------|------|
| SIGNATURE                                                                                                                                                              | PRINTED NAME | TITLE | COMPANY | DATE |
|                                                                                                                                                                        |              |       |         |      |
|                                                                                                                                                                        |              |       |         |      |
|                                                                                                                                                                        |              |       |         |      |

#### APPROVALS

CHRISTOPHER M. SCHMIDT, P.E. \_\_\_\_\_ DATE \_\_\_\_\_

ONLY APPROVED PLANS SIGNED BY THE ENGINEER ARE TO BE USED FOR CONSTRUCTION.

CHRISTINA EAVENSON, P.E. \_\_\_\_\_ DATE \_\_\_\_\_  
CITY ENGINEER

OHIO EPA PERMIT TO INSTALL LETTER DATED:

OHIO EPA WATER PERMIT LETTER DATED:

OHIO EPA NPDES (3GC14917\*AG) PERMIT LETTER DATED: 03/04/2024

#### PROJECT DESCRIPTION:

THE PROJECT IS CONSTRUCTION OF RESIDENTIAL SINGLE-FAMILY HOMES WITH PAVEMENT, STORM SEWER, SANITARY SEWER, AND WATER MAINS.

#### DUTY TO INFORM:

NPDES AND SURFACE WATER POLLUTION PREVENTION PLAN CONTRACTORS AND SUBCONTRACTORS RESPONSIBLE FOR ANY EARTH DISTURBING ACTIVITY HAVE THE DUTY TO INFORM CONTRACTORS AND SUBCONTRACTORS (OHIO EPA PERMIT NO. OHCO00005 PART III. E)

#### OHIO EPA FACILITY PERMIT NUMBER:

OHIO EPA NPDES (3GC14917\*AG) PERMIT LETTER DATED: 03/04/2024



| CONTACT INFORMATION |              |                              |                  |                 |
|---------------------|--------------|------------------------------|------------------|-----------------|
|                     | SWP3 CONTACT | EMERGENCY<br>24-HOUR CONTACT | FACILITY CONTACT | SITE SUPERVISOR |
| CONTACT             |              |                              |                  |                 |
| COMPANY             |              |                              |                  |                 |
| ADDRESS             |              |                              |                  |                 |
| PHONE NUMBER        |              |                              |                  |                 |

| SWPPP SHEET SET |                                      |
|-----------------|--------------------------------------|
| Sheet Number    | Sheet Title                          |
| 29              | SWPPP TITLE SHEET                    |
| 30              | STORMWATER POLLUTION PREVENTION PLAN |
| 31              | POND 1 DETAILS                       |
| 32              | NORTH RIDGEVILLE SWPPP GENERAL NOTES |
| 33              | SWPPP DETAILS                        |
| 34              | SWPPP DETAILS                        |
| 35              | SWPPP DETAILS                        |
| 36              | SWPPP NOTES                          |
| 37              | SWPPP NOTES                          |
| 38              | SWPPP LOGS                           |

#### OWNER/DEVELOPER

TRIBAN INVESTMENT LLC  
7555 FREDLE DRIVE  
SUITE 210  
PAINESVILLE, OHIO 44077

CONTACT: HANNA COHAN PLESSNER  
440-346-0098

#### CONTRACTOR

TBD

#### DESIGN ENGINEER

DAVEY RESOURCE GROUP  
1310 SHARON COPLEY ROAD  
SHARON CENTER, OHIO 44274

CONTACT: CHRIS SCHMIDT, P.E.  
330-590-8004

#### BUILDER

DREES HOMES  
6860 W. SNOWVILLE ROAD, SUITE 105  
BRECKSVILLE, OHIO 44141

CONTACT: THOMAS SUTCLIFFE  
440-746-6434



800-925-0988 or 8-1-1  
www.ogpups.org



1-800-362-2764  
CALL TWO WORKING DAYS BEFORE YOU DIG  
(NON MEMBERS MUST BE CALLED DIRECTLY)



## SOIL DESCRIPTIONS

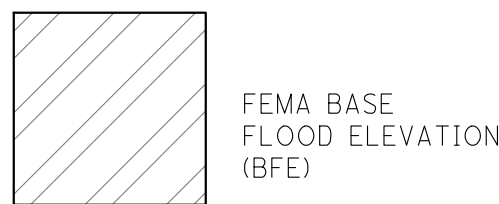
HsA-HASKINS LOAM, 0-2% SLOPES

MgA-MAHONING SILT LOAM, 0-2% SLOPES

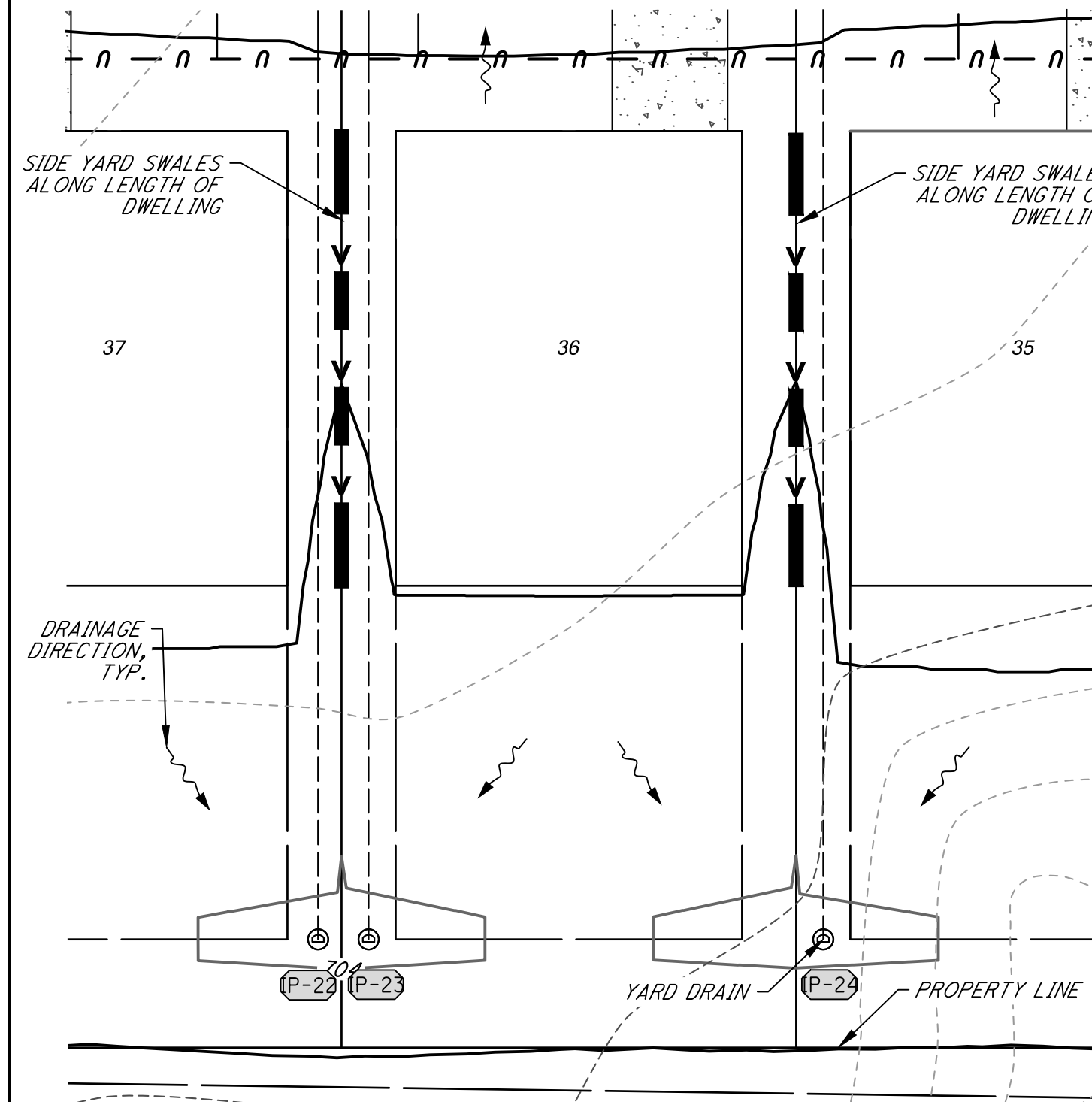
JsA-JIMTOWN SANDY LOAM, 0-2% SLOPES

## SWPPP LEGEND

|                                                             |       |        |
|-------------------------------------------------------------|-------|--------|
| SILT FENCE                                                  | — X — | (SF-#) |
| INLET PROTECTION                                            |       | (IP-#) |
| CONCRETE WASHOUT AREA                                       |       | (CW-#) |
| VEHICLE REFUELING                                           |       | (VR-#) |
| HAZARDOUS WASTE STORAGE AREA                                |       | (HW-#) |
| DUMPSTERS                                                   |       | (DP-#) |
| PORTABLE SANITARY FACILITY                                  |       | (PS-#) |
| STORAGE/LAY DOWN AREA                                       |       | (LD-#) |
| CONSTRUCTION ENTRANCE (24'W x 70'L x 10'D)                  |       | (CE-#) |
| SOIL TYPE                                                   |       | WuC2   |
| PERMANENT ROCK CHANNEL PROTECTION (4'W x 8'L x 18"D, TY. C) |       | (RC-#) |
| SOIL TYPE BOUNDARY                                          |       |        |
| CLEARING/ GRADING LIMITS                                    |       |        |
| EARTH DISTURBING LIMITS                                     |       |        |
| TEMPORARY DIVERSION CHANNEL (2' WIDE X 1' DEEP)             |       |        |



FEMA BASE FLOOD ELEVATION (BFE)



### TYPICAL UNIT SWPPP

1. MAINTAIN POSITIVE YARD DRAINAGE (TO SWALES, YARD DRAINS, NATURAL WATERCOURSES OR STREET) ACROSS ENTIRE LOT.
2. ALL SWALES MUST MAINTAIN A MINIMUM SLOPE OF 1%.
3. MAXIMUM 2% SLOPES ON LOT.

P.P.N. 0700030000281  
TECO BELDEN LLC  
2019-0712470  
5550 AVON BELDEN RD

P.P.N. 0700030000035  
LANDERS HELEN  
2021-0834237  
5550 AVON BELDEN RD

P.P.N. 0700030000034  
MILLER MAUREEN  
2000-0725548  
5634 AVON BELDEN RD

P.P.N. 0700029000079  
WROBLEWSKI SARAH M  
1993-0227777  
AVON BELDEN RD

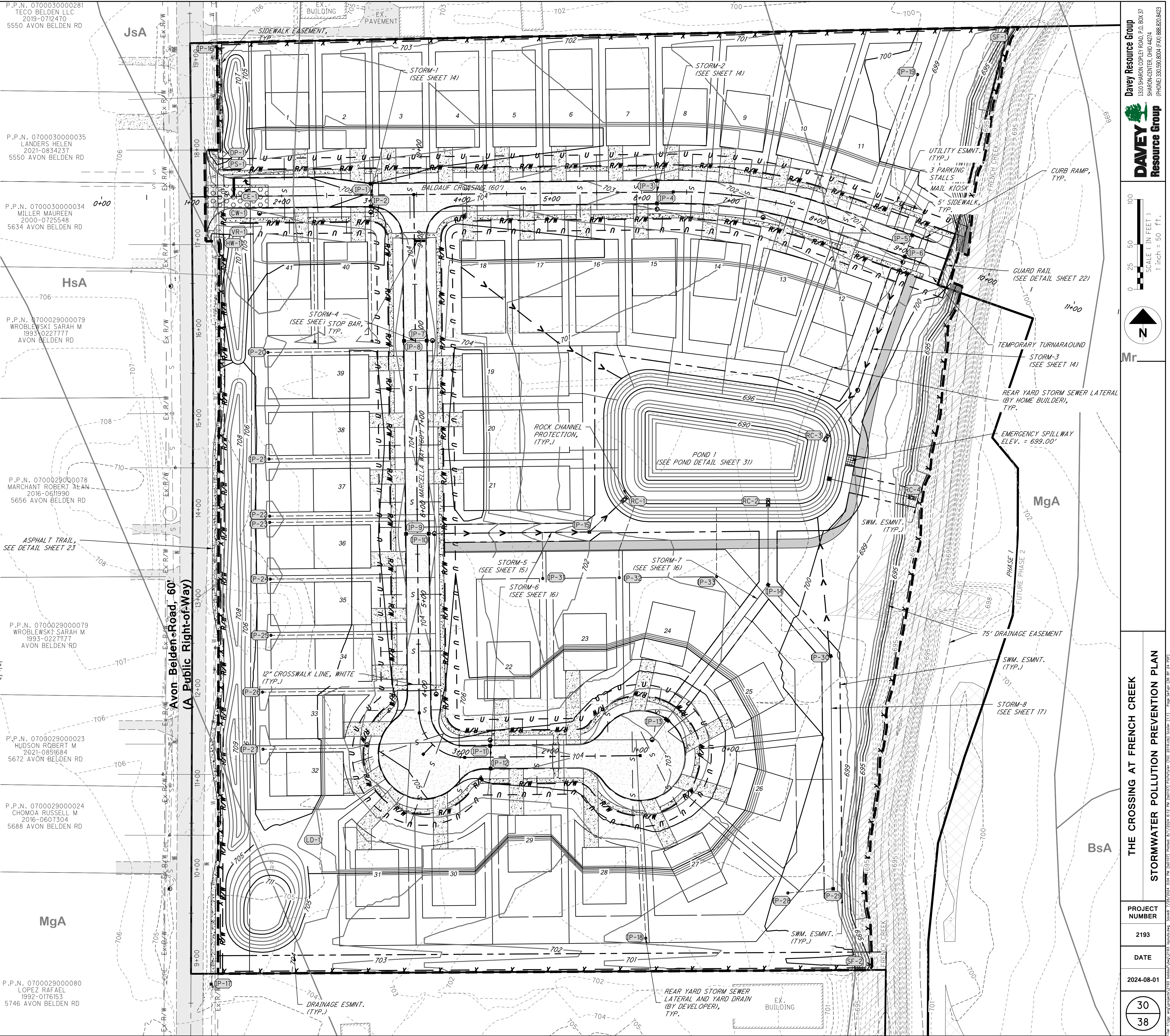
P.P.N. 0700029000078  
MARCHANT ROBERT ALAN  
2016-0619990  
5656 AVON BELDEN RD

P.P.N. 0700029000079  
WROBLEWSKI SARAH M  
1993-0227777  
AVON BELDEN RD

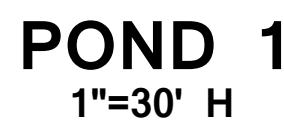
P.P.N. 0700029000023  
HUDSON ROBERT M  
2021-0851684  
5672 AVON BELDEN RD

P.P.N. 0700029000024  
CHOMOA RUSSELL M  
2016-0607304  
5688 AVON BELDEN RD

P.P.N. 0700029000080  
LOPEZ RAFAEL  
1992-0176153  
5746 AVON BELDEN RD

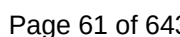






| Step 4 - Outlet Elevations and Storage Volumes                              |                      |   |                                                                                                                                   |
|-----------------------------------------------------------------------------|----------------------|---|-----------------------------------------------------------------------------------------------------------------------------------|
| WQ Orifice Invert Elevation =                                               | 694.00               |   |                                                                                                                                   |
| Elevation of Top of Edv =                                                   | 694.72               |   |                                                                                                                                   |
| Secondary Outlet Invert Elevation =                                         | 694.75               |   | <span style="border: 1px solid black; padding: 2px;">OKAY</span>                                                                  |
| WQ Treatment Volume Provided, $V_{\text{treatment}}$ =                      | 18,244 $\text{ft}^3$ |   |                                                                                                                                   |
| Treatment Vol Provided Relative to Edv, $V_{\text{treatment}}/\text{Edv}$ = | 1.05                 | = | <span style="border: 1px solid black; padding: 2px;">105%</span> <span style="border: 1px solid black; padding: 2px;">OKAY</span> |
| Permanent Pool Volume Provided, PPV =                                       | 89,888 $\text{ft}^3$ |   |                                                                                                                                   |
| Ratio PPV Provided to PPV Required =                                        | 4.33                 | = | <span style="border: 1px solid black; padding: 2px;">433%</span> <span style="border: 1px solid black; padding: 2px;">OKAY</span> |

| Step 5 - Outlet (Orifice) Sizing          |                       |                             |
|-------------------------------------------|-----------------------|-----------------------------|
| Maximum Hydraulic Head, $H_{max}$         | 0.72 ft               |                             |
| Orifice coefficient, $C$                  | 0.65                  |                             |
| Target (Minimum) Draw-down Time, $T_d$    | 24 hr                 |                             |
| Target Average Discharge, $Q_{avg}$       | 0.20 cfs              |                             |
| Average Hydraulic Head, $H_{avg}$         | 0.36 ft               |                             |
| Estimated Orifice Area, $A_{orifice}$     | 9.58 in <sup>2</sup>  | = 0.069 ft <sup>2</sup>     |
| Estimated Orifice Diameter, $D_{orifice}$ | 3.56 in               | = 0.30 ft                   |
| Design Orifice Diameter, $D_{orifice}$    | 4.25 in               | = 0.35 ft                   |
| Design Orifice Area, $A_{orifice}$        | 14.10 in <sup>2</sup> | = 0.098 ft <sup>2</sup>     |
| Time to Completely Drain EDV, $T_d$       | 31 hr                 | must be ≥ 24 hr <b>OKAY</b> |
| Volume Drained in First 8 hr =            | 8.214 ft <sup>3</sup> |                             |
| % of EDV =                                | 47.5%                 | must be ≤ 50% <b>OKAY</b>   |





CITY OF NORTH RIDGEVILLE  
SWP3 STANDARD GENERAL NOTES

GENERAL EROSION AND SEDIMENT CONTROL NOTES:

EROSION CONTROL SHALL CONSIST OF TEMPORARY CONTROL MEASURES AS DETAILED ON THE PLANS OR ORDERED BY THE GOVERNING AGENCY DURING THE LIFE OF THE CONTRACT TO CONTROL SOIL EROSION AND SEDIMENTATION THROUGH USE OF EROSION CONTROL BEST MANAGEMENT PRACTICES (BMP'S).

TEMPORARY EROSION AND SEDIMENT CONTROL ITEMS, THE LOCATION AND SIZE OF WHICH ARE DETAILED ON THE PLANS, SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF ANY CLEARING OR EARTHWORK OPERATIONS. CONDITIONS THAT DEVELOP DURING CONSTRUCTION THAT WERE NOT FORESEEN DURING DESIGN STAGE; THAT REQUIRE ADDITIONAL OR MODIFIED TEMPORARY OR PERMANENT BMP'S SHALL BE APPROVED BY THE CITY ENGINEER AND REFLECTED ON THE REVISED SWP3.

SEDIMENT PONDS, SEDIMENT TRAPS, AND PERIMETER SEDIMENT CONTROLS, SHALL BE IMPLEMENTED AS THE FIRST STEP OF GRADING AND WITHIN 7 DAYS FROM THE START OF GRUBBING. THEY SHALL CONTINUE TO FUNCTION UNTIL DISTURBED AREAS ARE RE-ESTABLISHED WITH TEMPORARY VEGETATION. NO SEDIMENT CONTROLS SHALL BE PLACED IN A STREAM.

TRENCH DEWATERING OR GROUND WATER, WHICH CONTAINS SEDIMENT SHALL PASS THROUGH A SEDIMENT SETTLING POND OR EQUALLY EFFECTIVE SEDIMENT CONTROL DEVICE. ALTERNATIVES MAY INCLUDE DEWATERING INTO SUMP PIT, FILTER BAG OR EXISTING VEGETATED UPSLOPE AREA. SEDIMENT LADEN WATER SHALL NOT BE DISCHARGED TO STREAMS OR THE STORM SEWER SYSTEM.

THE SWP3, NOTES AND DETAILED DRAWINGS ARE INTENDED TO SERVE AS BASIC GUIDELINES. ALL EROSION CONTROL PRACTICES SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE ODNR RAINWATER AND LAND DEVELOPMENT MANUAL.

ADDITIONAL EROSION CONTROL BMP'S MAY BE MANDATED BY THE GOVERNING AGENCY AT ANY TIME DURING THIS PROJECT AS UNFORSEEN SITUATIONS MAY ARISE THAT WARRANT FURTHER EROSION AND SEDIMENT CONTROL PRACTICES.

CLEARING AND GRUBBING

LIMITS OF CLEARING AND GRADING SHALL BE CLEARLY MARKED ON THE SITE WITH SIGNAGE, FLAGGING AND/OR ORANGE CONSTRUCTION FENCING.

THE CONTRACTOR SHALL LIMIT THE SURFACE AREA OF ERODIBLE EARTH MATERIAL EXPOSED BY EXCAVATION, BORROW, AND FILL OPERATIONS AND PROVIDE IMMEDIATE PERMANENT OR TEMPORARY CONTROL MEASURES TO PREVENT CONTAMINATION OF ADJACENT STREAMS OR OTHER WATER COURSES, LAKES, PONDS, WETLANDS OR OTHER AREAS OF WATER IMPOUNDMENT.

CONSTRUCTION ENTRANCE

A STONED CONSTRUCTION ENTRANCE SHALL BE INSTALLED FOR ALL INGRESS & EGRESS TO THE SITE. THE MINIMUM DIMENSIONS OF THE DRIVE SHALL BE 20 FT. WIDE AND 50 FT. LONG. THE STONE SHALL BE 8 INCHES DEEP WITH AN UNDERLAIN GEOTEXTILE FABRIC. THE DRIVE SHALL BE INSTALLED PRIOR TO ANY CLEARING AND GRUBBING. SEDIMENTS SHALL BE REMOVED FROM THE ROADWAYS DAILY.

STABILIZATION

PERMANENT AND TEMPORARY STABILIZATION ARE DEFINED IN PART VII OF THE OEPA AUTHORIZATION FOR FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

OHIO EPA PERMIT NO. OH000003 EFFECTIVE DATE 4/21/08 – EXPIRATION DATE 4/20/13 DISTURBED AREAS MUST BE STABILIZED AS SPECIFIED IN THE FOLLOWING TABLES BELOW:

| TABLE 1: PERMANENT STABILIZATION                      |                                                            |
|-------------------------------------------------------|------------------------------------------------------------|
| AREA REQUIRING PERMANENT STABILIZATION                | TIME FRAME TO APPLY EROSION CONTROL                        |
| ANY AREA THAT WILL BE DORMANT FOR ONE YEAR OR MORE    | WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE           |
| ANY AREA WITHIN 50 FT. OF A STREAM AND AT FINAL GRADE | WITHIN TWO DAYS OF REACHING FINAL GRADE                    |
| ANY OTHER AREAS AT FINAL GRADE                        | WITHIN SEVEN DAYS OF REACHING FINAL GRADE WITHIN THAT AREA |

TEMPORARY SEEDING

SEEDING AREAS SHALL BE INSPECTED AND WHERE THE SEED HAS NOT PRODUCED 80% COVER SHALL BE RESEEDED AS NECESSARY BY THE CONTRACTOR. AREAS SHALL BE STABILIZED WITH STRAW MULCH WHEN CONDITIONS PROHIBIT SEEDING.

STRAW MULCHING SHALL BE APPLIED AT A RATE 2-3 STANDARD 45 LB. BALES PER 1000 SQ.FT. OF DISTURBED AREA OR 2 TONS PER ACRE. ALL HYDROSEEDING MUST BE STRAW MULCHED ACCORDING TO THE ABOVE SPECIFICATIONS UNLESS IT IS WATERED WEEKLY.

ALL DETENTION PONDS, RETENTION PONDS, WATER QUALITY STRUCTURES, SEDIMENT PONDS, SEDIMENT TRAPS, EARTHEN DIVERSIONS OR EMBANKMENTS SHALL BE SEEDDED AND STRAW MULCHED WITHIN 7 DAYS OF COMPLETED CONSTRUCTION.

| TABLE 2: TEMPORARY STABILIZATION                                                                                                                        |                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AREA REQUIRING TEMPORARY STABILIZATION                                                                                                                  | TIME FRAME TO APPLY EROSION CONTROL                                                                                                                                                                                                                              |
| ANY DISTURBED AREAS WITHIN 50 FT. OF A STREAM AND NOT AT FINAL GRADE                                                                                    | WITHIN TWO DAYS OF THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS                                                                                                                                                                |
| FOR ALL CONSTRUCTION ACTIVITIES, ANY DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 21 DAYS BUT LESS THAN ONE YEAR, AND NOT WITHIN 50 FT. OF STREAM | WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA                                                                                                                                                                                                 |
| DISTURBED AREAS THAT WILL BE IDLE OVER WINTER                                                                                                           | FOR RESIDENTIAL SUBDIVISIONS, DISTURBED AREAS MUST BE STABILIZED AT LEAST SEVEN DAYS PRIOR TO TRANSFER OF PERMIT COVERAGE FOR THE INDIVIDUAL LOT(S)<br>PRIOR TO ONSET OF WINTER WEATHER (NOV.1) STRAW MULCH 2 TO 3 BALES PER 1000 SQ.FT. AND OR 2 TONS PER ACRE. |

PERMANENT STABILIZATION OF CONVEYANCE CHANNELS

OPERATORS SHALL UNDERTAKE SPECIAL MEASURES TO STABILIZE CHANNELS AND OUTFALLS AND PREVENT EROSION FLOWS. MEASURES MAY INCLUDE SEEDING, DORMANT SEEDING (AS DEFINED IN THE LATEST EDITION OF "ODNR RAINWATER AND LAND DEVELOPMENT MANUAL"), MULCHING, EROSION CONTROL MATTING, SODDING, RIPRAP NATURAL CHANNEL DESIGN WITH BIO ENGINEERING TECHNIQUES OR ROCK CHECK DAMS.

SOIL TRANSPORT ONTO PUBLIC ROADS

WHERE SOIL IS TRANSPORTED ONTO PUBLIC ROAD SURFACES, THE ROADS SHALL BE CLEANED THOROUGHLY BY EITHER SWEEPING OR SCRAPING AT THE END OF EACH WORK DAY OR MORE FREQUENTLY, IN ORDER TO ENSURE PUBLIC SAFETY. STREET WASHING SHALL NOT BE PERMITTED.

ERODIBLE MATERIAL RAMPS IN STREETS TO ENABLE EQUIPMENT TO CROSS CURBS SHALL BE PROPERLY REMOVED IMMEDIATELY AFTER USE.

SILT FENCE & DIVERSIONS

SHEET FLOW RUNOFF FROM DENUDED AREAS SHALL BE INTERCEPTED BY SILT FENCE OR DIVERSIONS TO PROTECT ADJACENT PROPERTIES AND WATER RESOURCES FROM SEDIMENT TRANSPORTED VIA SHEET FLOW. WHERE INTENDED TO PROVIDE SEDIMENT CONTROL, SILT FENCES SHALL BE PLACED ON A LEVEL CONTOUR. THE EPA PERMIT NO. OH000003 DOES NOT PRECLUDE THE USE OF OTHER SEDIMENT BARRIERS DESIGNED TO CONTROL SHEET FLOW RUNOFF. SILT FENCE IS NOT PERMITTED TO BE USED FOR CONTROLLING CONCENTRATED SURFACEWATER FLOW (ONLY SHEET FLOW). STORMWATER DIVERSION PRACTICES SHALL BE USED TO KEEP RUNOFF AWAY FROM DISTURBED AREAS AND STEEP SLOPES WHERE PRACTICAL. SUCH DEVICES, WHICH INCLUDE SWALES, DIKES OR BERMS, MAY RECEIVE FROM AREAS UP TO 10 ACRES.

INLET PROTECTION

INLET PROTECTION IS MANDATORY.

NON-SEDIMENT POLLUTANTS CONTROLS

NO SOLID (OTHER THAN SEDIMENT) OR LIQUID WASTE, INCLUDING BUILDING MATERIALS, SHALL BE DISCHARGED IN STORMWATER RUNOFF. ALL NECESSARY BMP'S MUST BE IMPLEMENTED TO PREVENT THE DISCHARGE OF NON-SEDIMENT POLLUTANTS TO THE DRAINAGE SYSTEM OF THE SITE OR SURFACE WATERS OF THE STATE. UNDER NO CIRCUMSTANCE SHALL CONCRETE TRUCKS WASH OUT DIRECTLY INTO A DRAINAGE CHANNEL. STORM SEWER OR SURFACE WATERS OF THE STATE. NO EXPOSURE OF STORMWATER TO WASTE MATERIALS IS RECOMMENDED.

TRENCH AND GROUND WATER CONTROL

THERE SHALL BE NO TURBID DISCHARGES TO SURFACE WATERS OF THE STATE RESULTING FROM DEWATERING ACTIVITIES. IF TRENCH OR GROUND WATERS CONTAIN SEDIMENT, IT MUST PASS THROUGH A SEDIMENT SETTLING POND OR OTHER EQUALLY EFFECTIVE SEDIMENT CONTROL DEVICE, PRIOR TO BEING DISCHARGED FROM THE CONSTRUCTION SITE. ALTERNATIVELY, SEDIMENT MAY BE REMOVED BY SETTLING IN PLACE OR DEWATERING INTO A SUMP PIT, FILTER BAG OR COMPARABLE PRACTICE. GROUND WATER DEWATERING WHICH DOES NOT CONTAIN SEDIMENT OR OTHER POLLUTANTS ARE NOT REQUIRED TO BE TREATED PRIOR TO DISCHARGE, HOWEVER, CARE MUST BE TAKEN WHEN DISCHARGING GROUND WATER TO ENSURE THAT IT DOES NOT BECOME POLLUTANT-LADEN BY TRAVERSING OVER DISTURBED SOILS OR OTHER POLLUTANT SOURCES.

MAINTENANCE

ALL TEMPORARY AND PERMANENT CONTROL PRACTICES SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ENSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. ALL SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED IN A FUNCTIONAL CONDITION UNTIL ALL UP SLOPE AREAS THEY CONTROL ARE PERMANENTLY STABILIZED. THE CONTRACTOR SHALL COMPLY WITH THE MAINTENANCE SCHEDULE INCLUDED IN THE APPROVED PLANS FOR THE PROPOSED EROSION CONTROLS. A WRITTEN DOCUMENT CONTAINING THE SIGNATURES OF ALL CONTRACTORS AND SUB-CONTRACTORS INVOLVED IN THE IMPLEMENTATION OF THE BMP'S MUST BE MAINTAINED AS PROOF ACKNOWLEDGING THAT THEY REVIEWED AND UNDERSTAND THE CONDITIONS AND RESPONSIBILITIES OF THE SWP3.

INSPECTION

ALL STORMWATER CONTROLS ON THE SITE ARE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN ONE-HALF INCH OF RAIN PER 24 HOUR PERIOD. A WRITTEN RECORD DOCUMENTATING THE RESULTS OF THESE INSPECTIONS MUST BE CREATED AND MAINTAINED WITH THE SWP3. DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE SWP3 SHALL BE OBSERVED TO ENSURE THAT THOSE ARE OPERATING CORRECTLY. DISCHARGE LOCATIONS SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION AND SEDIMENT CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO THE RECEIVING WATERS. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFF-SITE VEHICLE TRACKING.

WASTE DISPOSAL

CONTAINERS (e.g., DUMPSTERS, DRUMS) SHALL BE AVAILABLE FOR DISPOSAL OF DEBRIS, TRASH, HAZARDOUS OR PETROLEUM WASTES. ALL CONTAINERS MUST BE COVERED AND LEAK-PROOF. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT FACILITIES APPROVED FOR THE PERTINENT MATERIAL.

CLEAN HARD FILL

BRICKS, HARDENING CONCRETE, AND SOIL WASTE SHALL BE FREE FROM CONTAMINATION WHICH MAY LEACH CONSTITUENTS TO WATERS OF THE STATE. CLEAN CONSTRUCTION WASTES THAT WILL BE DISPOSED INTO THE PROPERTY, SHALL BE SUBJECT TO ANY LOCAL PROHIBITIONS FROM THIS TYPE OF DISPOSAL.

CONSTRUCTION & DEMOLITION DEBRIS

ALL CONSTRUCTION & DEMOLITION DEBRIS (C&DD) WASTE SHALL BE DISPOSED OF IN AN OHIO EPA APPROVED C&DD LANDFILL AS REQUIRED BY OHIO REVISED CODE (ORC) 3714. CONSTRUCTION DEBRIS MAY BE DISPOSED OF ON-SITE, BUT DEMOLITION DEBRIS MUST BE DISPOSED IN A OHIO EPA APPROVED LANDFILL. ALSO, MATERIALS WHICH CONTAIN ASBESTOS MUST COMPLY WITH AIR POLLUTION REGULATIONS (SEE OHIO ADMINISTRATIVE CODE (OAC) 3745-20).

CONSTRUCTION CHEMICAL COMPOUNDS

AREA SHALL BE DESIGNATED FOR MIXING OR STORAGE OF COMPOUNDS SUCH AS FERTILIZERS, LIME ASPHALT, OR CONCRETE. THESE DESIGNATED AREAS SHALL BE LOCATED AWAY FROM WATERCOURSES, DRAINAGE DITCHES, FIELD DRAINS, OR OTHER STORMWATER DRAINAGE AREA.

EQUIPMENT FUELING & MAINTENANCE

EQUIPMENT FUELING & MAINTENANCE SHALL BE IN DESIGNATED AREAS ONLY.

A SPILL PREVENTION CONTROL AND COUNTERMEASURES

A SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) PLAN MUST BE DEVELOPED FOR SITES WITH ONE ABOVE-GROUND STORAGE TANK OF 660 GALLONS OR MORE, TOTAL ABOVE-GROUND STORAGE OF 1,330 GALLONS, OR BELOW-GROUND STORAGE OF 4,200 GALLONS OF FUEL.

CONCRETE WASH WATER

ALL DESIGNATED CONCRETE WASHOUT AREAS SHALL BE LOCATED AWAY FROM WATERCOURSES, DRAINAGE DITCHES, FIELD DRAINS, OR OTHER STORMWATER DRAINAGE AREAS.

CONTAMINATED SOILS

ALL CONTAMINATED SOIL MUST BE TREATED AND/OR DISPOSED IN OHIO EPA APPROVED SOLID WASTE MANAGEMENT FACILITIES OR HAZARDOUS WASTE TREATMENT, STORAGE OR DISPOSAL FACILITIES (TSDFs).

SPILL REPORTING REQUIREMENTS

THE CONTRACTOR SHALL CONTACT THE OHIO EPA AT 800-282-9378 AND THE LOCAL FIRE DEPARTMENT IN THE EVENT OF A PETROLEUM SPILL (>25 GALLONS) OR THE PRESENCE OF SHEEN.

OPEN BURNING

OPEN BURNING IS NOT PERMITTED.

DUST CONTROLS/SUPPRESSANTS

USED OIL MAY NOT BE USED AS A DUST SUPPRESSANT. NO DUST SUPPRESSANT SHALL BE APPLIED NEAR CATCH BASINS, STORM SEWERS OR OTHER DRAINAGE WAYS.

STREAM CROSSINGS

STREAM CROSSINGS SHALL BE CONSTRUCTED ENTIRELY OF STONE, ROCK, OR CLEAN RECYCLED CONCRETE. SOIL OR EARTHEN MATERIAL MAY NOT BE USED. A 20 FT. STONE APRON ON EITHER SIDE OF THE STREAM SHALL BE CONSTRUCTED TO PREVENT LOCALIZED SEDIMENTATION. THE CHANNELBED AND BANKS SHALL BE RESTORED, AND ALL DISTURBED AREAS OF THE BANK WITHIN 50 FT. OF THE STREAM SHALL BE STABILIZED WITH SEED AND STRAW MULCH WITHIN 2 DAYS OF THE DISTURBANCE.

PERMITS

THIS SITE IS COVERED UNDER OHIO EPA CONSTRUCTION GENERAL PERMIT #\_\_\_\_\_

THIS SITE IS COVERED UNDER OEPA / ARMY 401 /404 PERMIT #\_\_\_\_\_

STRUCTURAL BMP'S

PERMANENT BMP'S FOR POST CONSTRUCTION TREATMENT OF STORMWATER (CONVERSION OF SEDIMENT LAND TO STORMWATER POND) SHALL NOT BE INSTALLED UNTIL 80% OF THE DISTURBED AREA IS STABILIZED.

SEEDING AND MULCHING

SEDIMENT CONTROL SHALL BE ACCOMPLISHED BY SEEDING AND MULCHING IMMEDIATELY UPON COMPLETION OF EXCAVATION OR FILL AND FINISHED GRADING IN ACCORDANCE WITH ITEM 659 OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER. THE FOLLOWING PRO-MIXTURE SHALL BE USED FOR SEEDING: S-21 CERTIFIED KENTUCKY BLUE GRASS – 35% PENNLAWN FESCUE – 25% MANHATTEN II RYEGRASS – 40% FERTILIZER – 10#/1000 S.F. (12-12-12) MULCH – STRAW – 2 TONS/ACRE RESTORATION OF ALL DISTURBED AREAS SHALL IMMEDIATELY FOLLOW EXCAVATION AND GRADING OPERATIONS. DELAY IN RESTORATION SHALL NECESSITATE TEMPORARY EROSION CONTROL MEASURES APPROVED BY THE ENGINEER AND AT THE CONTRACTOR'S COST.

RIPARIAN BUFFERS

THE RIPARIAN BUFFER (SETBACK) FOR ALL MAJOR AND MINOR DITCHES SHALL BE MARKED IN THE FIELD WITH ORANGE CONSTRUCTION FENCING BY THE CONSTRUCTION SITE OPERATOR PRIOR TO ANY EARTH DISTURBING ACTIVITIES.

ENFORCEMENT

ALL DEVELOPMENT SITES ARE SUBJECT TO INSPECTIONS BY THE CITY OF NORTH RIDGEVILLE AUTHORIZED AGENT(S) UNDER THE DIRECTION OF THE A LICENSED PROFESSIONAL ENGINEER TO ENSURE COMPLIANCE WITH THE APPROVED SITE DEVELOPMENT PLAN OR SWM PLAN.

IF IT IS FOUND THAT THE OPERATIONS ARE BEING CONDUCTED IN VIOLATION OF THE APPROVED SITE DEVELOPMENT PLAN AND SWM PLAN, A STOP-WORK ORDER MAY BE ISSUED BY THE CITY OF NORTH RIDGEVILLE UNTIL THE IDENTIFIED VIOLATIONS CEASE.

AFTER ISSUANCE OF A STOP-WORK ORDER PROVIDED IN THE PARAGRAPH ABOVE, BUT BEFORE THE IMPOSITION OF ANY FINES, THE APPLICANT SHALL HAVE TWO (2) BUSINESS DAYS TO REQUEST A MEETING WITH THE CITY LAW DIRECTOR AND THE CITY ENGINEER TO SHOW CAUSE WHY THE WORK SHOULD NOT BE STOPPED.

FOLLOWING THE ISSUANCE OF A STOP-WORK ORDER, THE CITY OF NORTH RIDGEVILLE SHALL DETERMINE IF AND WHEN THE DEVELOPMENT MAY PROCEED. ANY DETERMINATION BY THE CITY OF NORTH RIDGEVILLE PURSUANT TO THIS SECTION IS A FINAL ORDER FOR THE PURPOSE OF JUDICIAL REVIEW.

VIOLATIONS

THE CITY OF NORTH RIDGEVILLE SHALL NOTIFY THE STORM WATER PERMITTEE OF ANY VIOLATIONS OBSERVED IN WRITING. SAID NOTICE SHALL INDICATE THE EXACT NATURE OF THE VIOLATIONS AND OTHER SPECIFIC CORRECTIONS WHICH ARE REQUIRED.

THE PERMITTEE SHALL COMPLY WITH THE TIMELINE FOR CORRECTIONS SPECIFIED BELOW. TIMELINE EXTENSIONS FOR ADVERSE WEATHER CONDITIONS MAY BE GRANTED UPON APPROVAL OF THE CITY ENGINEER.

| NATURE OF VIOLATION:                                                 | NUMBER OF DAYS FROM INSPECTION TO CORRECT FUNCTIONING OF CONTROL PRACTICE: |
|----------------------------------------------------------------------|----------------------------------------------------------------------------|
| SILT FENCE                                                           | WITHIN THREE (3) DAYS                                                      |
| OUTLET CONTROL STRUCTURE                                             | WITHIN THREE (3) DAYS                                                      |
| TEMPORARY OR PERMANENT STABILIZATION WITHIN 50' OF DRAINAGE CHANNELS | WITHIN THREE (3) DAYS                                                      |
| TEMPORARY OR PERMANENT STABILIZATION FOR ALL OTHER DISTURBED AREAS   | WITHIN THREE (3) DAYS                                                      |
| STABILIZED CONSTRUCTION ENTRANCE                                     | WITHIN THREE (3) DAYS                                                      |
| PUMPING SEDIMENT-LADEN DISCHARGE INTO DRAINAGE CHANNEL               | IMMEDIATELY UPON NOTICE                                                    |
| SEDIMENT SETTLING POND                                               | WITHIN TEN (10) DAYS                                                       |
| ANY OTHER CONTROL PRACTICE NOT ADDRESSED IN THIS TABLE               | WITHIN THREE (3) DAYS                                                      |

PENALTIES SUBSEQUENT TO ISSUANCE OF STOP-WORK ORDER

SUBSEQUENT TO ISSUANCE OF A STOP-WORK ORDER, PENALTIES MAY BE IMPOSED ACCORDING TO THE CITY OF NORTH RIDGEVILLE CODIFIED ORDINANCE 1056.08(G)(1)(A), 1056.08(G)(1)(B) OR 1056.08(G)(1)(C).

REV. 11/22/16 OCTOBER 1, 2009



Specifications  
for  
**De-Watering**

1. A de-watering plan shall be developed prior to the commencement of any pumping activities.

2. The de-watering plan shall include all pumps and related equipment necessary for the de-watering activities and designate areas for placement of practices. Outlets for practices shall be protected from scour either by riprap protection, fabric lining, or other acceptable method of outlet protection.

3. Water that is not discharged into a settling/treatment basin but directly into waters of the state shall be monitored hourly. Discharged water shall be within +/- 0.7°F of the receiving waters.

4. Settling basins shall not be greater than four (4) feet in depth. The basin shall be constructed for sediment storage as outlined in Chapter 6, SEDIMENT BASIN OR SEDIMENT TRAP. The inlet and outlet for the basin shall be located at the furthest points of the storage. A floating outlet must be used to ensure that settled solids do not re-suspend during the discharge process. The settling basin shall be cleaned out when the storage has been reduced to 50% of its original capacity.

5. All necessary National, State and Local permits shall be secured prior to discharging into waters of the state.

INFORMATION OBTAINED FROM THE 2006 EDITION OF THE STATE OF OHIO'S "RAINWATER AND LAND DEVELOPMENT MANUAL".

REV No. DATE BY DESCRIPTION

CITY OF NORTH RIDGEVILLE, OHIO  
DEPARTMENT OF ENGINEERING

DE-WATERING

SCALE: NOT TO SCALE

DATE: 10/01/08

DRWN BY: JAB/TB

SWP-15

Larry J. Luffich

CITY OF NORTH RIDGEVILLE, ENGINEER

**Concrete Washout Areas**

Installation:

1. Concrete wash water shall not be allowed to flow to streams, ditches, storm drains, or any other water conveyance and washout pits shall be situated a minimum of fifty (50) feet from them.

2. Field tile or other subsurface drainage structures within 10 ft. of the sump shall be cut and plugged.

3. Ensure a stable path is provided for concrete trucks to reach the washout area.

4. A highly visible sign that reads "Concrete Washout Area" shall be erected adjacent to the washout pit.

5. Surface runoff generated from upslope areas shall be diverted away from below-grade washout pits so as not to flow into them.

6. A single centralized washout area may be utilized for multiple sublots.

Maintenance:

7. The washout pit must be inspected frequently to ensure the liner is intact.

8. Once 75% of the original volume of the washout pit is filled or if the liner is torn, the material must be removed and properly disposed of once it is completely hardened. Once the hardened concrete is removed, the liner must be replaced (if torn). A new pit must be constructed if the original structure is no longer suitable.

Removal:

9. Once the washout pit is no longer needed, ensure all washout material has completely hardened, then remove and properly dispose of all materials. If straw bales were used, they can be spread as mulch.

10. Prefabricated containers specifically designed for concrete washout collection may be used subject to prior approval by the Community Engineer. Follow the manufacturer's suggestions for installation, maintenance and removal procedures.

Sizing of Concrete Washout Pits

Below-grade (3-ft depth)

| # of concrete trucks expected to be washed out on site* | Width (ft) | Length (ft) |
|---------------------------------------------------------|------------|-------------|
| 2-3                                                     | 3          | 3           |
| 4-5                                                     | 4          | 4           |
| 6-7                                                     | 5          | 5           |
| 8-10                                                    | 6          | 6           |
| 11-14                                                   | 7          | 7           |

Above-grade (2-ft depth)

| # of concrete trucks expected to be washed out on site* | Width (ft) | Length (ft) |
|---------------------------------------------------------|------------|-------------|
| 2                                                       | 3          | 3           |
| 3-4                                                     | 4          | 4           |
| 5-6                                                     | 5          | 5           |
| 7-8                                                     | 6          | 6           |
| 9-11                                                    | 7          | 7           |
| 12-15                                                   | 8          | 8           |

\*For small projects using a maximum of only one truckload of concrete or utilizing on-site mixing, rinsing of equipment may take place on the lot without a pit, provided it can be done a minimum of fifty (50) feet away from any water conveyances.

ABOVE-GRADE CONCRETE WASHOUT PIT

STRAW BALE

DOUBLE-LINED W/10 MIL PLASTIC SHEETING (FREE OF HOLES, TEARS, SEAMS)

X-SECTION

N.T.S.

STAKES OR STAPLES TO ANCHOR PLASTIC LINER TO BALE

PLASTIC LINER TUCKED UNDER STRAW BALES

EXISTING GROUND

PLAN VIEW

N.T.S.

WOOD OR METAL STAKES (2 PER BALE) TO ANCHOR STRAW BALES

MINIMUM OF 2 STAKES OR STAPLES FOR EACH STRAW BALE (TO ANCHOR PLASTIC LINER)

STORAGE AREA

LENGTH (VARIABLE)

WIDTH (VARIABLE)

EXISTING GROUND

BELOW-GRADE CONCRETE WASHOUT PIT

X-SECTION

N.T.S.

PLASTIC LINER SECURED W/STAKES, STAPLES OR SANDBAGS

SINGLE-LINED W/10 MIL PLASTIC SHEETING (FREE OF HOLES, TEARS, SEAMS)

EXISTING GROUND

PLAN VIEW

N.T.S.

STAKES, STAPLES OR SANDBAGS PLACED EVENLY ON ALL FOUR SIDES

STORAGE AREA

2" MIN. OVERHANG OF PLASTIC SHEETING

WIDTH (VARIABLE)

LENGTH (VARIABLE)

INFORMATION OBTAINED FROM THE 2006 EDITION OF THE STATE OF OHIO'S "RAINWATER AND LAND DEVELOPMENT MANUAL".

REV No. DATE BY DESCRIPTION

CITY OF NORTH RIDGEVILLE, OHIO  
DEPARTMENT OF ENGINEERING

CONCRETE WASHOUT

SCALE: NOT TO SCALE

DATE: 10/01/08

DRWN BY: JAB/TB

SWP-33

Larry J. Luffich

CITY OF NORTH RIDGEVILLE, ENGINEER

**SUMP PUMP CONNECTION DETAIL**

NO SCALE

90° BEND

45° BEND

EMERGENCY OUTLET (OPEN TO AIR)

RISER WITH REMOVABLE CAP

LAWN YARD GRADE

PROPOSED HOUSE

DEPTH VARIES 2' MIN.

4" FOOTER DRAIN CONNECTION

WATER TIGHT CAP

BASEMENT WALL W/ WATERPROOFING PER CODE

STONE BACKFILL

FOOTER DRAIN

DISCHARGE LINE

DISCHARGE LINE TO EXTEND THROUGH RIM JOIST (1 1/2" PVC)

COUPLING/CHECK VALVE

ELECTRIC LINES PER N.E.C. (TYP.)

TOP COVER PLATE

SUBMERSIBLE SUMP PUMP (BACK UP PUMP SYSTEM AS REQUIRED)

SUMP BASIN 18" DIA x 36" DEEP

FLOAT SWITCH

**Silt Fence**

(Not to Scale)

Level contour

No slope

ELEVATION

SECTION

16" Min.

6" Min.

Flow

Flat slope in front of barrier

16" Min.

6" Min.

Joining sections of silt fence

\*\*Wrap geotextile around stakes before driving

Trench to be backfilled and compacted

INFORMATION OBTAINED FROM THE 2006 EDITION OF THE STATE OF OHIO'S "RAINWATER AND LAND DEVELOPMENT MANUAL".

REV No. DATE BY DESCRIPTION

CITY OF NORTH RIDGEVILLE, OHIO  
DEPARTMENT OF ENGINEERING

SILT FENCE

SCALE: NOT TO SCALE

DATE: 10/01/08

DRWN BY: JAB/TB

SWP-18

Larry J. Luffich

CITY OF NORTH RIDGEVILLE, ENGINEER

**Temporary Diversion**

(Not to Scale)

CROSS SECTION

1. Drainage area should not exceed 10 acres. Larger areas require a more extensive design.

2. The channel cross section may be parabolic or trapezoidal. Dike the base of the dike before placing fill. Build the dike 10% higher than designed for settlement. The dike shall be compacted by heavy-duty tracked earth-moving equipment.

3. The minimum cross section of the levee or dike will be as follows: (Minimum design levee shall be 0.3 foot.) Where construction traffic will cross, the top width may be made wider and the side slopes flatter than specified above.

4. The grade may be variable depending upon the topography. Soil must have a positive drainage to the outside and be stabilized to be non-erode.

Table 5.3.2  
Temporary Diversion Stabilization Treatment

| Disturbance Degree | < 2 ac.        | 2 - 5 ac.      | > 5 ac.        |
|--------------------|----------------|----------------|----------------|
| 0 - 2%             | Seed and Straw | Seed and Straw | Seed and Straw |
| 2 - 5%             | Seed and Straw | Seed and Straw | Mowing         |
| 5 - 10%            | Seed and Straw | Mowing         | Mowing         |
| 10 - 20%           | Seed and Straw | Mowing         | Engineered     |

Notes:  
1. Owners with deeper slopes or greater drainage areas should consult with the designer and not be designed for stability. Seed, straw and mowing need not meet the specifications for temporary seeding, mowing and mowing.

5. Outlet runoff onto a stabilized area, into a properly designed waterway, grade stabilization structure, or sediment trapping facility.

6. Diversion shall be seeded and mulched in accordance with the requirements in practice standards TEMPORARY SEEDING (or PERMANENT SEEDING) and MULCHING as soon as they are constructed or other suitable stabilization in order to preserve dike height and reduce

INFORMATION OBTAINED FROM THE 2006 EDITION OF THE STATE OF OHIO'S "RAINWATER AND LAND DEVELOPMENT MANUAL".

REV No. DATE BY DESCRIPTION

CITY OF NORTH RIDGEVILLE, OHIO  
DEPARTMENT OF ENGINEERING

TEMPORARY DIVERSION

SCALE: NOT TO SCALE

DATE: 10/01/08

DRWN BY: JAB/TB

SWP-9

Larry J. Luffich

CITY OF NORTH RIDGEVILLE, ENGINEER

**Rock Outlet Protection**

(Not to Scale)

PLAN VIEW

PROFILE

7% Slope

Gravel Bedding or Rock Riprap

Thickness Min 1'

Length of Riprap Outlet Protection

Width: Minimum 10' or 10' MIN.

INFORMATION OBTAINED FROM THE 2006 EDITION OF THE STATE OF OHIO'S "RAINWATER AND LAND DEVELOPMENT MANUAL".

REV No. DATE BY DESCRIPTION

CITY OF NORTH RIDGEVILLE, OHIO  
DEPARTMENT OF ENGINEERING

ROCK OUTLET PROTECTION

SCALE: NOT TO SCALE

DATE: 10/01/08

DRWN BY: JAB/TB

SWP-7

Larry J. Luffich

CITY OF NORTH RIDGEVILLE, ENGINEER

DAVEY  
Resource Group

1310 SHARON COPLEY ROAD, P.O. BOX 37  
SHARON CENTER, OHIO 44274  
(PHONE) 330.950.8004 FAX 888.820.8423

THE CROSSING AT FRENCH CREEK

SWPPP DETAILS

PROJECT NUMBER

2193

DATE

2024-08-01

33

38

Page 63 of 643



1. **Vegetative Cover and/mulch** – Apply temporary or permanent seeding and mulch to areas that will remain idle for over 21 days. Saving existing trees and large shrubs will also reduce soil and air movement across disturbed areas. See Temporary Seeding; Permanent Seeding, Mulching Practices; and Tree and Natural Area Protection practices.
2. **Watering** – Spray site with water until the surface is wet before and during grading and repeat as needed, especially on haul roads and other heavy traffic routes. Watering shall be done at a rate that prevents dust but does not cause soil erosion. Wetting agents shall be utilized according to manufacturers instructions.
3. **Spray-On Adhesives** – Apply adhesive according to the following table or manufacturers' instructions.

| Adhesive                         | Water Dilution<br>(Adhesive: Water) | Nozzle<br>Type | Application<br>Rate Gal./Ac. |
|----------------------------------|-------------------------------------|----------------|------------------------------|
| Latex Emulsion                   | 12.5:1                              | Fine           | 235                          |
| Resin in Water                   | 4:1                                 | Fine           | 300                          |
| Acrylic Emulsion<br>(No-traffic) | 7:1                                 | Coarse         | 450                          |
| Acrylic Emulsion<br>(Traffic)    | 3.5:1                               | Coarse         | 350                          |

5. **Stone** – Stabilized roadways and other suitable areas will be graded using crushed stone to course grade as soon as practicable after reaching an initial firm grade. Crusher stone or course grade can be used as a permanent cover to protect the soil from soil erosion.
  6. **Barriers** – Existing windbreak vegetation shall be marked and preserved. Snow fencing or other suitable barrier may be placed perpendicular to prevailing air currents at intervals of about 15 times the barrier height to control air currents and blowing soil.
  7. **Calcium Chloride** – This chemical may be applied by micro-sprayer, backpack, or granules on a truck. Apply at a rate that keeps the surface moist but not too high as to cause water pollution or plant damage. Application rates should be strictly in accordance with supplier's specified rates.
  8. **Operation and Maintenance** – When Temporary Dust Control measures are used, repetitive treatment should be applied as needed to accomplish control.
- Street Cleaning** – Paved areas that have accumulated sediment from construction should be cleaned daily, or as needed, using a street sweeper or bucket (i.e. spades, rakes, or scrapers).

*Larry Griffith*  
CITY OF NORTH RIDGEVILLE.

|                                |                   |    |             |
|--------------------------------|-------------------|----|-------------|
|                                |                   |    |             |
| REV No.                        | DATE              | BY | DESCRIPTION |
| CITY OF NORTH RIDGEVILLE, OHIO |                   |    |             |
| DEPARTMENT OF ENGINEERING      |                   |    |             |
| DUST CONTROL                   |                   |    |             |
| SCALE: NOT TO SCALE            |                   |    | SWP-29      |
| DATE: 10/01/08                 | DRAWN BY: JAB/TEB |    |             |

### Additional Construction Site Pollution Controls

- Construction personnel, including subcontractors who may use or handle hazardous or toxic materials, shall be made aware of the following general guidelines regarding disposal and handling of hazardous and construction wastes:
  - Prevent spills
  - Use products up
  - Follow label directions for disposal
  - Remove lids from empty bottles and cans when disposing in trash
  - Recycle wastes whenever possible
  - Don't pour into waterways, storm drains or onto the ground
  - Don't pour down the sink, floor drain or septic tanks
  - Don't bury chemicals or containers
  - Don't burn chemicals or containers
  - Don't mix chemicals together
2. Containers shall be provided for the proper collection of all waste material including construction debris, trash, petroleum products and any hazardous materials used on-site. Containers shall be covered and not leaking. All waste material shall be disposed of at facilities approved for that material. Construction Demolition and Debris (CDD&D) waste must be disposed of at an Ohio EPA approved CDD&D landfill.
3. No construction related waste materials are to be buried on-site. By exception, clean fill (bricks, hardened concrete, soil) may be utilized in a way which does not encroach upon natural wetlands, streams or floodplains or result in the contamination of waters of the state.
4. Handling Construction Chemicals. Mixing, pumping, transferring or other handling of construction chemicals such as fertilizer, lime, asphalt, concrete drying compounds, and all other potentially hazardous materials shall be performed in an area away from any watercourse, ditch or storm drain.
5. Equipment Fueling and Maintenance, oil changing, etc., shall be performed away from watercourses, ditches or storm drains, in an area designated for that purpose. The designated area shall be equipped for recycling oil and catching spills. Secondary containment shall be provided for all fuel oil storage tanks. These areas must be inspected every 30 days and within 24 hrs of a 0.5 inch or greater rain event to ensure there are no exposed materials which would contaminate storm water. Site operators must be aware that Spill Prevention Control and Countermeasures (SPCC) requirements may apply. An SPCC plan is required for sites with one single above ground tank of 660

6 CHAPTER 8 Pollution/Construction

70 ft. (or 30ft for Access to individual House Lot)

14ft Minimum and Not Less Than Width of Ingress or Egress

PLAN VIEW

Right of Way Division as Needed

Road or Other Existing Paved Surface

18" or Sufficient of Divert Runoff

PROFILE

Culvert as Needed

## Specifications for Construction Entrance

1. Stone Size—DOT 2 (2.5 to 5.1 mm) stone shall be used, or recycled concrete material.
2. Length—The stone or aggregate shall be as long as required to enable high traffic areas but not less than 70 ft (exception: apply to 10 ft minimum in specific residence lots).
3. Thickness—The stone layer shall be not less than 6 inches thick for light duty entrances or at least 10 inches for heavy duty use.
4. Width—The entrance shall be at least 14 feet wide, but not less than the full width at points where ingress or egress occurs.
5. Geotextile—A geotextile shall be placed over the entire area prior to placing stone. It shall be composed of strong net-proof polymeric fibers and meet the following specifications:
- Figure 7-4-1**
- | Geotextile Specification for Construction Entrance |         |
|----------------------------------------------------|---------|
| Minimum Tensile Strength                           | 200 lb. |
| Minimum Puncture Strength                          | 50 psi. |
| Minimum Tear Strength                              | 80 psi. |
| Minimum Elongation                                 | 100%    |
6. Timing—The construction entrance shall be installed as soon as is practicable before major grading activities.
7. Culvert—A pipe or culvert shall be constructed under the entrances if needed to prevent surface water from flowing across the entrance or to prevent runoff from being directed to paved surfaces.
8. Water Bar—A water bar shall be constructed as part of the construction entrance if needed to prevent surface runoff from flowing the length of the construction entrance and onto paved surfaces.
9. Maintenance—Top dressing of additional stone shall be applied as conditions demand. Mud, spilled, dropped, blowed or tracked onto pavement, or any surface visible to the public shall not be crushed or debris controls, shall be removed immediately. Removals shall be accomplished by spreading or sweeping.
10. Construction entrances shall not be relied upon to remove mud from vehicles and prevent debris tracking. Vehicles shall enter and leave the construction-site shall be restricted from muddy areas.
11. Removals—the entrance shall remain in place until the disturbed area is stabilized or replaced with a permanent roadway or entrance.

|                           |                            |
|---------------------------|----------------------------|
| Minimum Tensile Strength  | 200 lbs.                   |
| Minimum Puncture Strength | 80 psi                     |
| Minimum Tear Strength     | 50 lbs.                    |
| Minimum Burst Strength    | 320 psi                    |
| Minimum Elongation        | 20%                        |
| Equivalent Opening Size   | EOS < 0.8 mm.              |
| Permeability              | $1 \times 10^{-3}$ cm/sec. |

|                                |      |                   |             |        |
|--------------------------------|------|-------------------|-------------|--------|
|                                |      |                   |             |        |
| REV No.                        | DATE | BY                | DESCRIPTION |        |
| CITY OF NORTH RIDGEVILLE, OHIO |      |                   |             |        |
| DEPARTMENT OF ENGINEERING      |      |                   |             |        |
| CONSTRUCTION<br>ENTRANCE       |      |                   |             |        |
| SCALE: NOT TO SCALE            |      |                   |             | SWP-27 |
| DATE: 10/01/08                 |      | DRAWN BY: JAB/TEB |             |        |

*NOTES*

**MATERIALS:**  
Furnish 30" wide filter fabric with sound wood supports with maximum center spacing of 10'. Use filter fabric conforming to 70/90, Type C.

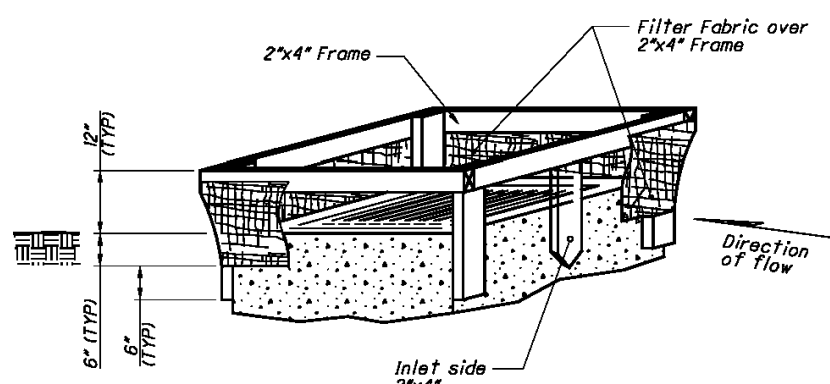
**CONSTRUCTION:**  
Trench the filter fabric fence as detailed. The contractor may elect to trench the fence detailed on steps 1 through 3 in one paving operation.

**PAYMENT:**  
The Department will pay for accepted quantities of the prices shown in Item 538 of Supplemental Specification 535 (S5352) for the following items:

- Perimeter Filter Fabric Fence

All Items shown on this Standard Construction Drawing that are required for construction that are not specifically identified in S5352 shall be paid for as incidental.

## INLET PROTECTION



## NOTES

**MATERIALS**  
Furnish inlet protection consisting of 2"x6" wide filter fabric, fabric with a securely nailed 2"x4" wood frame with a vertical grain of 18" on the inlet or flow side of the structure, use filter fabric designed to T-102.0, type C.

**CONSTRUCTION**  
Construct 18" wide filter fabric frame supported around a storm drain inlet or catch basin with a securely nailed 2"x4" wood frame. Excavate a 6" trench around the inlet, and install a 2"x4" wood frame over the trench. Nail the filter fabric to the frame at 12" intervals along the top edge of the frame. Secure it tightly, ensuring the 6" of fabric is in the trench. Overlap the fabric on adjacent frames by 6". Fold the bottom of the fabric over the trench and secure it with staples. Connect the excavated soil tightly onto the fabric. Place a vertical 2"x4" in the center of the frame, 6" from the top of the frame and the bottom is at least 6" below the bottom of the ditch.

**PAYMENT:**  
The Contractor will pay for accepted quantities of the prices shown in Appendix F of Supplemental Specification DS (SS)321 for the following Items:  
- Inlet Protection  
  
All items shown on this Standard Construction Drawing that are required for construction of the project specifically identified in SS&B appendix F are considered incidental.



## Specifications for

Table 7.8.1 Temporary Seeding Species Selection

| Seeding Dates           | Species                           | Lb./1000 f12 | Lb./Acre       |
|-------------------------|-----------------------------------|--------------|----------------|
| March 1 to August 15    | Oats                              | 3            | 128 (4 bushel) |
|                         | Tall Fescue                       | 1            | 40             |
|                         | Annual Ryegrass                   | 1            | 40             |
|                         | Perennial Ryegrass                | 1            | 40             |
|                         | Tall Fescue                       | 1            | 40             |
|                         | Annual Ryegrass                   | 1            | 40             |
|                         | Annual Ryegrass                   | 1.25         | 55             |
|                         | Perennial Ryegrass                | 3.25         | 142            |
|                         | Creeping Red Fescue               | 0.4          | 17             |
|                         | Kentucky Bluegrass                | 0.4          | 17             |
|                         | Oats                              | 3            | 128 (3 bushel) |
|                         | Tall Fescue                       | 1            | 40             |
|                         | Annual Ryegrass                   | 1            | 40             |
| August 16th to November | Rye                               | 3            | 112 (2 bushel) |
|                         | Tall Fescue                       | 1            | 40             |
|                         | Annual Ryegrass                   | 1            | 40             |
|                         | Wheat                             | 3            | 120 (2 bushel) |
|                         | Tall Fescue                       | 1            | 40             |
|                         | Annual Ryegrass                   | 1            | 40             |
|                         | Perennial Rye                     | 1            | 40             |
|                         | Tall Fescue                       | 1            | 40             |
|                         | Annual Ryegrass                   | 1            | 40             |
|                         | Annual Ryegrass                   | 1.25         | 40             |
|                         | Perennial Ryegrass                | 3.25         | 40             |
|                         | Creeping Red Fescue               | 0.4          | 40             |
|                         | Kentucky Bluegrass                | 0.4          | 40             |
| November 1 to Feb. 29   | Use mulch only or dormant seeding |              |                |

Note: Other approved species may be substituted.

1. Structural erosion and sediment control practices such as diversions and sediment traps shall be installed and stabilized with temporary seeding prior to grading the rest of the construction site.
2. Temporary seed shall be applied between construction operations on soil that will not be graded or reworked for 21 days or greater. These idle areas shall be seeded within 7 days after grading.
3. The seedbed should be pulverized and loose to ensure the success of establishing vegetation. Temporary seeding should not be postponed if ideal seedbed preparation is not possible.
4. Soil Amendments—Temporary vegetation seeding rates shall establish adequate stands of vegetation, which may require the use of soil amendments. Base rates for lime and fertilizer shall be used.
5. Seeding Method—Seed shall be applied uniformly with a cyclone spreader, drill, cultipacker seed, or hydroseeder. When feasible, seed that has been broadcast shall be covered by raking or dragging and then lightly tamped into place using a roller or cultipacker. If hydroseeding is used, the seed and fertilizer will be mixed on-site and the seeding shall be done immediately and without interruption.

## Specifications for

### Mulching Temporary Seeding

1. Applications of temporary seeding shall include mulch, which shall be applied during or immediately after seeding. Seedings made during optimum seeding dates on favorable, very flat soil conditions may not need mulch to achieve adequate stabilization.
  - Mechanical—A disk, crimper, or similar type tool shall be set straight to touch or anchor the mulch material into the soil. Straw mechanically anchored shall not be finely chopped but left to a length of approximately 6 inches.
  - Mulch Netting—Netting shall be used according to the manufacturers recommendations. Netting may be necessary to hold mulch in place in areas of concentrated runoff and on critical slopes.
  - Synthetic Binders—Synthetic binders such as Acrylic DLR (Agri-Tac), DCA-70, Petrosol, Terra Trac or equivalent may be used at rates recommended by the manufacturer.
  - Wood-Cellulose Fiber—Wood-cellulose fiber binder shall be applied at a net dry wt. of 750 lb./ac. The wood-cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 lb./100 gal.
2. Materials:
  - Straw—If straw is used, it shall be unrotted small-grain straw applied at a rate of 2 tons per acre or 90 lbs./1,000 sq. ft. (2-3 bales)
  - Hydroseeder—If wood cellulose fiber is used, it shall be used at 2000 lbs./ac. or 46 lb./1,000-sq.-ft.
  - Other—Other acceptable mulches including mulch mattings applied according to manufacturer's recommendations or wood chips applied at 6 ton/ac.

- 3. **Straw and Mulch Anchoring Methods**

Straw mulch shall be anchored immediately to minimize loss by wind or water.

    - Mechanical—A disk, crimper, or similar type tool shall be set straight to punch or anchor the mulch material into the soil. Straw mechanically anchored shall not be finely chopped but, generally, be longer than 6 inches.
    - Mulch Netting—Netting shall be used according to the manufacturer's recommendations. Netting may be necessary to hold mulch in place in areas of concentrated runoff and on critical slopes.
    - Asphalt Emulsion—Asphalt shall be applied as recommended by the manufacture or at the rate of 160 gallons per acre.
  - 4. **Synthetic Binders—Synthetic binders such as Acrylic DLR (Agi-Tac), DCA-70, Petrosol, Terra Tac or equivalent may be used at rates specified by the manufacturer.**
    - Wood Cellulose Fiber—Wood cellulose fiber shall be applied at a net dry weight of 750 pounds per acre. The wood cellulose fiber shall be mixed with water with the mixture containing a maximum of 50 pounds cellulose per 100 gallons of water.
- Irrigation**
- Permanent seeding shall include irrigation to establish vegetation during dry weather or on adverse site conditions, which require adequate moisture for seed germination and plant growth.
- Irrigation rates shall be monitored to prevent erosion and damage to seeded areas from excessive runoff.

Table 7.10.2 Permanent Seeding

| Seed Mix                 | Seeding Rate |                           | Notes:                                                     |
|--------------------------|--------------|---------------------------|------------------------------------------------------------|
|                          | Lbs./acre    | Lbs./1,000 Sq. Feet       |                                                            |
|                          |              | General Use               |                                                            |
| Creeping Red Fescue      | 20-40        | 1/2-1                     | For close mowing & for waterways with <2.0 ft/sec velocity |
| Domestic Bluegrass       | 10-20        | 1/2-2                     |                                                            |
| Kentucky Bluegrass       | 20-40        | 1/2-1                     |                                                            |
| Tall Fescue              | 40-50        | 1-1 1/4                   |                                                            |
| Turf-type (dwarf) Fescue | 90           | 2 1/4                     |                                                            |
|                          |              | Steep Banks or Cut Slopes |                                                            |
| Tall Fescue              | 40-50        | 1-1 1/4                   |                                                            |
| Crown Vetch              | 10-20        | 1/4-1/2                   | Do not seed later than August                              |
| Tall Fescue              | 20-30        | 1/2-3/4                   |                                                            |
| Flat Pea                 | 20-25        | 1/2-3/4                   | Do not seed later than August                              |
| Tall Fescue              | 20-30        | 1/2-3/4                   |                                                            |
|                          |              | Road Ditches and Swales   |                                                            |
| Tall Fescue              | 40-50        | 1-1 1/4                   |                                                            |
| Turf-type (dwarf) Fescue | 90           | 2 1/4                     |                                                            |
| Kentucky Bluegrass       | 5            | 0.1                       |                                                            |
|                          |              | Lawns                     |                                                            |
| Kentucky Bluegrass       | 100-120      | 2                         | For shaded areas                                           |
| Perennial Ryegrass       |              | 2                         |                                                            |
| Kentucky Bluegrass       | 100-120      | 2                         |                                                            |
| Creeping Red Fescue      |              | 1-1/2                     |                                                            |

Note: Other approved seed species may be substituted

## Specifications for

## Site Preparation

1. Subsoiler, plow, or other implement shall be used to reduce soil compaction and allow maximum infiltration. (Maximizing infiltration will help control both runoff rate and water quality.) Subsoiling should be done when the soil moisture is low enough to allow the soil to crack or fracture. Subsoiling shall not be done on slip-prone areas where soil preparation should be limited to what is necessary for establishing vegetation.
2. The site shall be graded as needed to permit the use of conventional equipment for seedbed preparation and seeding.
3. Topsoil shall be applied where needed to establish vegetation.

### Seedbed Preparation

1. Lime—Agricultural ground limestone shall be applied to acid soil as recommended by a soil test. In lieu of a soil test, lime shall be applied at the rate of 100 pounds per 1,000-sq. ft. or 2 tons per acre.
2. Fertilizer—Fertilizer shall be applied as recommended by a soil test. In place of a soil test, fertilizer shall be applied at a rate of 25 pounds per 1,000-sq. ft. or 1000 pounds per acre of a 10-10-10 or 12-12-12 analyses.
3. The lime and fertilizer shall be worked into the soil with a disk harrow, spring-tow harrow, or other suitable field implement to a depth of 3 inches. On sloping land, the soil shall be worked on the contour.

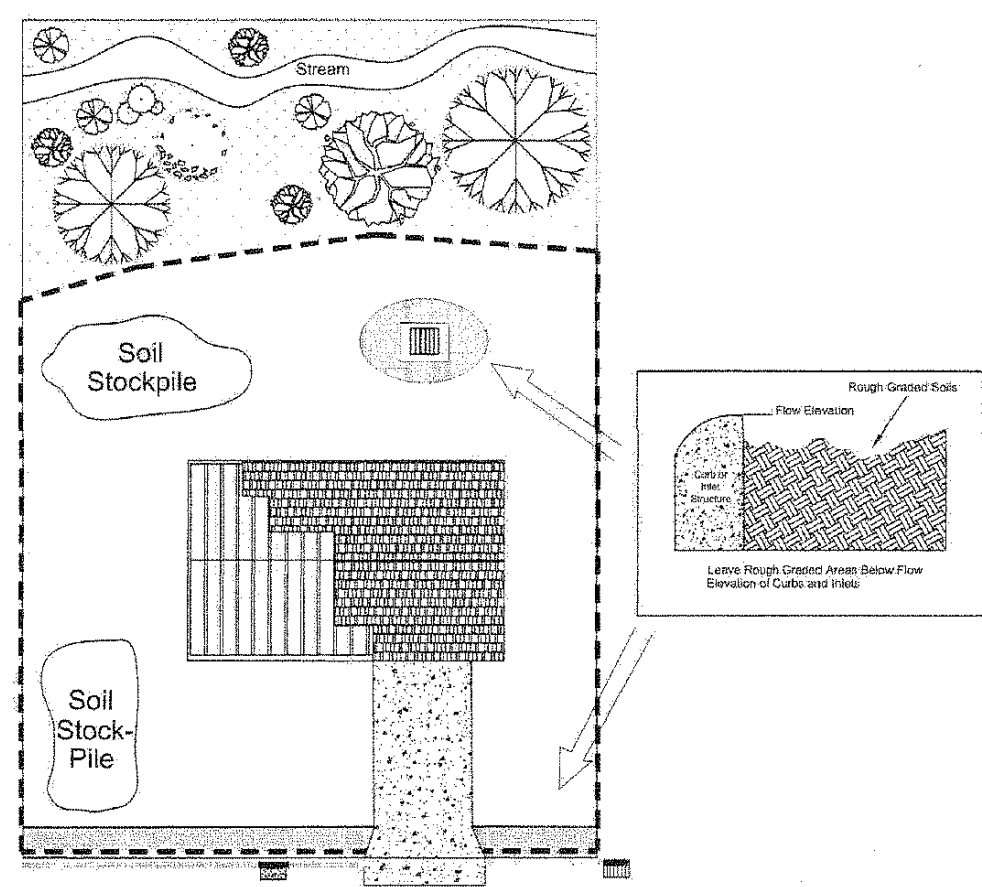
### Seeding Dates and Soil Conditions

Seeding should be done March 1 to May 31 or August 1 to September 30. If seeding occurs outside of the above-specified dates, additional mulch and irrigation may be required to ensure a minimum of 80% germination. Tillage for seedbed preparation should be done when the soil is dry enough to crumble and not form ribbons when compressed by hand. For winter seeding, see the following section on dormant seeding.

### Dormant Seedlings

1. Seedlings should not be made from October 1 through November 20. During this period, the seeds are likely to germinate but probably will not be able to survive the winter.
2. The following methods may be used for "Dormant Seeding":

### Small Construction Site Controls



### PLAN VIEW

-  Temporary seeding and/or mulch applied to rough graded areas  
 Construction Entrance gravel  
 Rough grade areas to allow settling below grade elevation  
 Storm Drain with inlet protection  
 Storm Drain without inlet protection  
 Yard Drain with inlet protection  
 Silt Fence  
 Curb

INFORMATION OBTAINED FROM THE 2006  
EDITION OF THE STATE OF OHIO'S "RAINWATER  
AND LAND DEVELOPMENT MANUAL".

*Larry Griffith*  
CITY OF NORTH RIDGEVILLE, ENG

|                                                             |      |    |             |
|-------------------------------------------------------------|------|----|-------------|
|                                                             |      |    |             |
| REV No.                                                     | DATE | BY | DESCRIPTION |
| CITY OF NORTH RIDGEVILLE, OHIO<br>DEPARTMENT OF ENGINEERING |      |    |             |
| SMALL CONSTRUCTION<br>SITE CONTROLS                         |      |    |             |
| SCALE: NOT TO SCALE                                         |      |    | SWP-32      |
| DATE: 10/01/08      DRAWN BY: JAB/TEB                       |      |    |             |



MAINTENANCE & INSPECTION SCHEDULE  
(AS UTILIZED ON THE PROJECT):

ALL PRACTICES SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH 0.5 INCH. RAINFALL EVENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF BMP's DURING CONSTRUCTION.

SILT FENCE:

1. INSURE THAT THE BOTTOM OF THE SILT FENCE IS EMBEDDED IN THE GROUND.
2. THE TOP OF THE SILT FENCE SHALL BE DRAWN TIGHT BETWEEN POSTS.
3. SILT SHALL BE REMOVED ONCE 40% OF THE CAPACITY IS LOST OR THE FENCE SHALL BE REPLACED.
4. JOINTS BETWEEN SECTIONS SHALL BE TIGHTLY JOINED WITHOUT GAPS.

DITCH CHECK:

1. MAINTAIN PARABOLIC SHAPE.
2. RUNOFF SHALL PASS OVER THE CENTER OF THE CHECK DAM.
3. ENSURE THAT EROSION IS NOT OCCURRING DOWNSTREAM OF THE CHECK DAM.

CONSTRUCTION ENTRANCE:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR THE WASHING AND REWORKING OF EXISTING STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES USED TO TRAP SEDIMENT.
2. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY. THE USE OF WATER TRUCKS TO REMOVE MATERIALS DROPPED, WASHED, OR TRACKED ONTO ROADWAYS WILL NOT BE PERMITTED UNDER ANY CIRCUMSTANCES.
3. ENSURE THAT THE CONSTRUCTION ENTRANCE IS APPROPRIATELY SIZED TO MINIMIZE TRACKING ONTO THE ROADWAY.
4. RESTRICT VEHICULAR ACCESS TO STABILIZED AREAS TO MINIMIZE OFF-SITE TRACKING.

VEGETATIVE STABILIZATION:

1. ENSURE A 70% STAND ESTABLISHMENT RATE.
2. REPAIR AREAS NOT MEETING SPECIFICATIONS.

ROLLED EROSION CONTROL PRODUCTS:

1. ENSURE MANUFACTURES INSTALLATION RECOMMENDATIONS ARE FOLLOWED.
2. ENSURE GOOD CONTACT BETWEEN SOIL AND THE BLANKET.
3. IF EROSION OCCURS UNDER THE BLANKET, REPAIR ERODED AREA AND REINSTALL.
4. ENSURE MANUFACTURES STAPLING GUIDELINES ARE FOLLOWED.
5. ENSURE EROSION STOPS ARE NOT USED.
6. IN CHANNELS, ENSURE THAT THE WIDTH OF THE BLANKET USED IS SUFFICIENT.
7. INSTALL BLANKET/MATTING UP SIDE SLOPES OF DITCH LINE AS WELL AS THE BOTTOM.
8. IF RUNOFF ERODES AROUND THE BLANKET, WIDEN AS NEEDED.

INLET PROTECTION:

1. INSURE THE BOTTOM OF THE FABRIC IS EMBEDDED IN THE GROUND AND THE FRAME OF THE INLET PROTECTOR HAS NOT COLLAPSED.
2. CLEAN OUT SEDIMENT ONCE 40% OF CAPACITY IS LOST.
3. INSURE THAT THE INLET IS NOT CAUSING STORM WATER TO BYPASS THE INLET.
4. MAINTAIN BYPASS PREVENTION DIKE.

SEDIMENT TRAP/BASIN:

1. THE CAPACITY AND FUNCTION OF THE SEDIMENT TRAP SHALL BE MAINTAINED BY INSPECTING ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT, AND BY PERFORMING THE NECESSARY ACTIVITIES SHOWN BELOW.
2. ESTABLISH VEGETATIVE COVER AND FERTILIZE AS NECESSARY TO MAINTAIN A VIGOROUS COVER AROUND THE SEDIMENT TRAP.
3. MOW GRASS TO MAINTAIN A HEIGHT OF 4 TO 6 INCHES. REMOVE GRASS CLIPPINGS.
4. BASED ON INSPECTION, PLANT AN ALTERNATIVE GRASS SPECIES IF THE ORIGINAL GRASS COVER HAS NOT BEEN SUCCESSFULLY ESTABLISHED.
5. INSPECT THE POOL AREA, EMBANKMENT AND SPILLWAY AREA FOR BURROWING RODENTS, SLOPE FAILURE, SEEPAGE, EXCESS SETTLEMENT, AND DISPLACED STONE. THE AREA SHOULD BE INSPECTED FOR STRUCTURAL SOUNDNESS AND REPAIRED AS NEEDED.
6. REGULARLY INSPECT WATER DISCHARGED FROM TRAP FOR EXCESS SUSPENDED SEDIMENTS. IDENTIFY AND PERFORM NECESSARY REPAIRS TO IMPROVE WATER QUALITY. EXCESSIVE SUSPENDED SEDIMENTS MAY REQUIRE DESIGN MODIFICATIONS OR TREATMENT WITH FLOCCULANTS.
7. REMOVE WOODY VEGETATED GROWTH ON THE EMBANKMENT AND SPILLWAY AREAS.
8. REMOVE TRASH AND DEBRIS THAT ACCUMULATE IN THE POND AND HAVE POTENTIAL TO BLOCK SPILLWAYS.
9. DEWATERING OUTLETS SHALL BE REGULARLY CHECKED TO ENSURE THAT PERFORMANCE IS MAINTAINED. FILTER STONE CHOKED WITH SEDIMENT SHALL BE REMOVED AND REPLACED TO RESTORE ITS FLOW CAPACITY.
10. REMOVE SEDIMENT AND RESTORE THE SEDIMENT TRAP TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO 40% OF THE SEDIMENT STORAGE DEPTH, OR THE DESIGN CLEANOUT ELEVATION. THIS ELEVATION SHALL BE SIGNIFIED BY THE TOP OF A STAKE NEAR THE CENTER OF THE TRAP. REMOVING SEDIMENT BY HAND MAY BE NECESSARY ADJACENT TO THE OUTLET SECTION OF THE EMBANKMENT TO PREVENT EQUIPMENT DAMAGE. PLACE THE REMOVED SEDIMENT AND STABILIZE WITH VEGETATION IN A DESIGNATED AREA WHERE IT WILL NOT EASILY ERODE AGAIN. RESTORE TRAP TO ITS ORIGINAL DIMENSIONS AND REPLACE STONE AS NEEDED ON THE OUTLET. BASIN SIDE SLOPES AND EMBANKMENTS SHALL BE PROTECTED FROM EROSION BY VEGETATION OF A DENSITY NOT LESS THAN 70%.
11. RISER PIPES: DEBRIS AND SEDIMENT SHOULD BE CLEANED FROM THE STRUCTURE AS NEEDED TO RESTORE DESIGN FLOW RATES. ALL JOINTS SHOULD BE INSPECTED TO INSURE WATER TIGHTNESS.
12. STONE SPILLWAYS: MAINTAIN FLOW OVER THE CENTER OF THE SPILLWAY, REPAIR

DAMAGE CAUSED BY EROSION. DOWNSTREAM CHANNELS SHOULD BE INSPECTED FOR EROSION CONTROL DAMAGE. IF DAMAGE IS OCCURRING, AN ADDITIONAL STONE APRON WILL BE NEEDED. DEBRIS AND SEDIMENT SHOULD BE REMOVED AS NEEDED.

13. AFTER THE ENTIRE CONSTRUCTION PROJECT IS COMPLETED, TEMPORARY SEDIMENT TRAPS SHOULD BE DEWATERED AND REGRADED SO AS TO CONFORM TO THE CONTOURS OF THE AREA. ALL TEMPORARY STRUCTURES SHOULD BE REMOVED AND THE AREA SEEDED, MULCHED AND STABILIZED AS NECESSARY.

CONCRETE WASH-OUT FACILITIES:

1. ENSURE MANUFACTURE'S INSTRUCTIONS ARE FOLLOWED.
2. MAINTAIN ADJACENT AREAS CLEAN AND TIDY AND PROTECTED FROM DISTURBANCE.
3. CHECK ALL CONCRETE WASHOUT FACILITIES DAILY TO DETERMINE IF THEY HAVE BEEN FILLED TO THE MANUFACTURERS SUGGESTED CAPACITY, WHICH IS WHEN THE FACILITIES NEED TO BE REMOVED/REPLACED. ENSURE THAT THE BMP IS INTACT AND SIDEWALLS HAVE NOT BEEN DAMAGED BY CONSTRUCTION ACTIVITIES. PRE-FABRICATED WASHOUT CONTAINERS SHOULD BE INSPECTED DAILY TO ENSURE THE CONTAINER IS NOT LEAKING OR NEARING CAPACITY. INSPECTORS SHOULD ALSO NOTE WHETHER THE FACILITIES ARE BEING USED REGULARLY; IF DRIVERS HAVE WASHED OUT THEIR CHUTES OR HOPPERS IN OTHER LOCATIONS, YOU MAY NEED TO PROVIDE MORE EDUCATION, INSTALL ADDITIONAL SIGNAGE, OR PLACE ADDITIONAL WASHOUTS IN MORE CONVENIENT LOCATIONS.
4. CONCRETE WASHOUTS ARE DESIGNED TO PROMOTE EVAPORATION WHERE FEASIBLE. HOWEVER, IF STORED LIQUIDS HAVE NOT EVAPORATED AND THE WASHOUT IS NEARING CAPACITY, VACUUM AND DISPOSE OF THE LIQUID IN AN APPROVED MANNER – CHECK WITH THE LOCAL SANITARY SEWER AUTHORITY TO DETERMINE IF THERE ARE SPECIAL DISPOSAL REQUIREMENTS FOR CONCRETE WASH WATER. REMOVE LIQUIDS OR COVER THE STRUCTURES BEFORE PREDICTED RAINSTORMS TO PREVENT OVERFLOWS.
5. AN IMPORTANT FACTOR THAT DICTATES THE SUCCESS OF CONCRETE WASHOUT FACILITIES IS WHETHER OR NOT CONCRETE TRUCK DRIVERS USE CONCRETE WASHOUTS. MAKE PERSONNEL AWARE OF THE PRESENCE OF THESE FACILITIES. EDUCATE CONCRETE SUBCONTRACTORS, POST SIGNAGE INDICATING THE LOCATION AND DESIGNATED USE OF THESE AREAS, AND PROVIDE CAREFUL OVERSIGHT TO INSPECT FOR EVIDENCE OF IMPROPER DUMPING OF CONCRETE WASTE AND WASH WATER. INCLUDE REQUIREMENTS IN CONTRACTS WITH CONCRETE DELIVERY COMPANIES THAT THEY BE COMMISSIONED TO PROVIDE CONCRETE WASHOUT FACILITIES.

PAVED AREAS

(AS UTILIZED ON THE PROJECT):

SEDIMENT TRAPS/BASINS

1. PUMP REMAINING WATER THROUGH GRAVITY BAG FILTER PLACED ADJACENT TO AND DOWNSTREAM OF THE SEDIMENT TRAP.
2. RE-GRADE TO FINAL ELEVATIONS AND SEED DISTURBED AREAS.

SILT FENCE

1. REMOVE SILT AND STABILIZE ON-SITE OR TRANSFER TO AN APPROVED OFF-SITE FACILITY.
2. REMOVE AND TRANSPORT SILT FENCE MATERIALS TO AN APPROVED OFF-SITE FACILITY.
3. RE-GRADE AND SEED DISTURBED AREAS.

DITCH CHECK

1. REMOVE SILT AND STABILIZE ON-SITE OR TRANSFER TO AN APPROVED OFF-SITE FACILITY.
2. REMOVE AND TRANSPORT CHECK DAM MATERIALS TO AN APPROVED OFF-SITE FACILITY.

CONSTRUCTION ENTRANCE

1. REMOVE SILT AND STABILIZE ON-SITE OR TRANSFER TO AN APPROVED OFF-SITE FACILITY.
2. STONE SHALL BE REMOVED. CLEAN STONE MAY BE INCORPORATED IN SUBBASE FOR PAVED AREAS (AS SPECIFICATIONS ALLOW). STONE NOT RE-USED SHALL BE TRANSPORTED TO AN OFF-SITE FACILITY FOR DISPOSAL.
3. RE-GRADE AND SEED DISTURBED AREAS.

PROCESS WATER/ LEACHATE MANAGEMENT

1. ALL PROCESS WASTEWATERS (EQUIPMENT WASHING, LEACHATE ASSOCIATED WITH ON-SITE WASTE DISPOSAL, AND CONCRETE WASH-OUTS) WILL BE COLLECTED AND DISPOSED OF PROPERLY TO A PUBLICLY-OWNED TREATMENT WORKS.
2. THE NPDES CONSTRUCTION STORM WATER GENERAL PERMIT ONLY AUTHORIZES THE DISCHARGE OF STORM WATER AND CERTAIN UNCONTAMINATED NON-STORM WATERS.
3. THE DISCHARGE OF NON-STORM WATERS TO WATERS OF THE STATE MAY BE IN VIOLATION OF LOCAL, STATE, AND FEDERAL LAWS AND REGULATIONS.

MANUFACTURED CONCRETE WASHOUT FACILITIES

1. TRANSFER STORAGE BAGS TO AN APPROVED OFF-SITE FACILITY FOR DISPOSAL.
2. RE-GRADE AND SEED DISTURBED AREAS.

CONSTRUCTED CONCRETE WASHOUT FACILITIES

1. TRANSFER WASTE WATER, SOLIDS AND CONTAINMENT MATERIALS TO AN APPROVED OFF-SITE DISPOSAL FACILITY.
2. RE-GRADE AND SEED DISTURBED AREAS.

POST CONSTRUCTION MAINTENANCE SCHEDULE:

THE HOA IS RESPONSIBLE FOR POST-CONSTRUCTION LONG-TERM MAINTENANCE OF STORMWATER BASIN, AND AN ANNUAL INSPECTION REPORT IS TO BE PROVIDED TO THE CITY ENGINEER.

WATER QUALITY POND MAINTENANCE, TO BE COMPLETED MONTHLY

1. MOW EMBANKMENTS.
2. CLEAR TRASH AND DEBRIS FROM THE OUTLET STRUCTURE.
3. REMOVE TRASH AND/ OR ACCUMULATED SEDIMENT.

WATER QUALITY POND MAINTENANCE, TO BE COMPLETED SEMI-ANNUALLY

1. INSPECT POND FOR INVASIVE PLANTS.
2. INSPECT OUTLET STRUCTURE FOR DAMAGE AND PROPER FLOW.

WATER QUALITY POND MAINTENANCE, TO BE COMPLETED ANNUALLY

1. INSPECT EMBANKMENT FOR DAMAGE AND PROPER FLOW.
2. REMOVE WOODY VEGETATION.
3. FIX ANY ERODED AREAS.
4. MONITOR SEDIMENT ACCUMULATION IN THE MAIN POOL.

WATER QUALITY POND MAINTENANCE, TO BE COMPLETED EVERY 15-20 YEARS

1. MONITOR SEDIMENT ACCUMULATIONS IN POND AND MAIN POOL AND CLEAN AS POND BECOMES EUTROPHIC OR POND VOLUME IS REDUCED SIGNIFICANTLY.



SWPPP NOTES:

GENERAL NOTES:

1. CONTRACTOR SHALL REVIEW AND STUDY THE PLANS AND SPECIFICATIONS. IMPLEMENTATION OF THE EROSION CONTROL ACTIVITIES SHOULD CORRESPOND TO CONSTRUCTION ACTIVITIES.
2. EROSION CONTROL MEASURES HAVE BEEN SHOWN FOR THE WORK AREAS AS IDENTIFIED ON THESE PLAN SHEETS. IF WORK IS CONDUCTED IN OTHER AREAS AS PART OF THIS PROJECT, ADDITION EROSION CONTROL MEASURES MAY BE REQUIRED.
3. THE OEPA PERMIT ASSOCIATED WITH THIS PLAN SHALL ACCOMPANY THIS PLAN. THE PLAN SHALL BE SIGNED IN ACCORDANCE WITH PART V.G. OF THE PERMIT AND BE RETAINED ON SITE DURING WORKING HOURS.
4. THE SWP3 SHALL CONTAIN SIGNATURES FROM ALL OF THE SUBCONTRACTORS ENGAGED IN ACTIVITIES THAT COULD IMPACT STORM WATER RUNOFF, INDICATING THAT THEY HAVE BEEN INFORMED AND UNDERSTAND THEIR ROLES AND RESPONSIBILITIES IN COMPLYING WITH THE SWP3. OHIO EPA RECOMMENDS THAT THE PRIMARY SITE OPERATOR REVIEW THE SWP3 WITH THE PRIMARY CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES AND KEEP A SWP3 TRAINING LOG TO DEMONSTRATE THAT THIS REVIEW OCCUR.
5. THE PROJECT ENGINEER OR EROSION CONTROL INSPECTOR SHOULD BE ABLE TO EXPLAIN THE SEDIMENT AND EROSION CONTROLS AND PLAN TO AN OUTSIDE INSPECTOR (I.E. OHIO EPA, ENVIRONMENTAL SERVICES, QAR INSPECTOR, COUNTY SCS).
6. OWNER AND CONTRACTOR SHALL COMPLY WITH SOIL SEDIMENT POLLUTION CONTROL ORDINANCES DURING CONSTRUCTION AND SHALL IMPLEMENT SEDIMENT CONTROL AS DIRECTED BY THE ENGINEER OR THE GOVERNING AGENCY.
7. ALL EROSION AND SEDIMENT CONTROL PRACTICES SPECIFIED ON THE PLANS SHALL CONFORM WITH DETAILS AND SPECIFICATIONS OUTLINED IN THE OHIO DEPARTMENT OF NATURAL RESOURCES BOOKLET, "RAINWATER AND LAND DEVELOPMENT".
8. ALL CONTRACTORS AND BUILDERS ARE REQUIRED TO INSTALL, REGULARLY INSPECT AND MAINTAIN TEMPORARY SEDIMENTATION CONTROLS TO MINIMIZE SOIL EROSION AND OFF-SITE SILTATION.
9. REGULAR INSPECTION AND MAINTENANCE SHALL BE PROVIDED FOR ALL EROSION CONTROL PRACTICES. PERMANENT RECORDS OF MAINTENANCE AND INSPECTIONS MUST BE MAINTAINED THROUGHOUT CONSTRUCTION. INSPECTIONS MUST BE MADE A MINIMUM OF ONCE EVERY SEVEN DAYS AND IMMEDIATELY AFTER STORM EVENTS GREATER THAN 0.5 INCHES IN A 24 HOUR PERIOD.
10. EROSION AND SEDIMENT CONTROL PRACTICES NOT ALREADY SPECIFIED MAY BE NECESSARY DUE TO UNFORESEEN ENVIRONMENTAL CONDITIONS AND/OR CHANGES IN THE DRAINAGE PATTERNS CAUSED BY EARTH-MOVING ACTIVITY. IF UNFORESEEN EROSION IS ENCOUNTERED DURING CONSTRUCTION, ADDITIONAL EROSION CONTROL MEASURES SHALL BE PROVIDED, AS DIRECTED BY THE ENGINEER, AT THE OWNER'S EXPENSE.
11. THE CONTRACTOR SHALL COMPLY WITH ANY FIELD ORDERS FOR SEDIMENT CONTROL AS ISSUED BY EITHER THE ENGINEERING DEPARTMENT, THE COUNTY OR THE OWNER'S ENGINEER.
12. THE CONSTRUCTION ENTRANCE SHALL BE PREPARED WITH EROSION MEASURES AND SILT FENCE SHALL BE INSTALLED BEFORE ANY ON-SITE CONSTRUCTION OR DEMOLITION COMMENCES.
13. SILT FENCE IS TO BE CONSTRUCTED AT LOCATIONS SHOWN ON THE PLANS PER "SPECIFICATIONS FOR SILT FENCE". SILT FENCE SHALL BE PLACED PRIOR TO ANY EARTH DISTURBING ACTIVITIES.
14. EROSION CONTROL MEASURES MUST BE PROVIDED AROUND ALL DIRT STOCKPILES AND OTHER TEMPORARILY DISTURBED AREAS.
15. THE OUTLET OF THE STORM COLLECTION SYSTEM WILL BE PROPERLY DESIGNED WITH VELOCITY DISSIPATING STRUCTURES/MEDIA. BY USING THESE PRACTICES, NO EROSION FLOW VELOCITIES ARE EXPECTED AT THE DISCHARGE LOCATION.
16. UPON THE COMPLETION OF EARTH MOVING ACTIVITIES IN ANY GIVEN AREA, ALL DISTURBED AND ERODED EARTH SHALL BE REGRADED AND SEEDED WITHIN SEVEN DAYS BY USING BIN RUN OATS OR ANNUAL RYE TO PROVIDE STABILITY AND SEDIMENT CONTROL WHERE POSSIBLE. GROWTH SHALL NOT BE MOWED UNTIL IT HAS GONE TO SEED FOR ONE YEAR.
17. PERMANENT GROUND COVER SHALL BE ESTABLISHED AS SOON AS POSSIBLE IN ACCORDANCE WITH THE PLAN.
18. MINIMIZE TRACKING OF SEDIMENTS BY VEHICLES BY UTILIZING THE CONSTRUCTION ENTRANCE AS THE ONLY ENTRANCE FOR VEHICLES. MAINTAIN THIS ENTRANCE WITH STONE AS NEEDED TO PREVENT DIRT AND MUD FROM TRACKING ONTO THE ROADWAY. REGULAR SWEEPING OF THE ROADWAY MAY BE NECESSARY TO ENSURE ROADWAY DOES NOT BUILD UP WITH SEDIMENTS. STREETS DIRECTLY ADJACENT TO CONSTRUCTION ENTRANCES AND RECEIVING TRAFFIC FROM THE DEVELOPMENT AREA SHALL BE CLEANED DAILY TO REMOVE SEDIMENT TRACKED OFF-SITE. IF APPLICABLE, THE CATCH BASINS ON THESE STREETS NEAREST THE CONSTRUCTION ENTRANCES SHALL ALSO BE CLEANED WEEKLY.
19. NO SOLID OR LIQUID WASTE, INCLUDING BUILDING MATERIALS, SHALL BE DISCHARGED INTO STORM WATER RUNOFF. THE PERMITTEE MUST IMPLEMENT ALL NECESSARY BMP'S TO PREVENT DISCHARGE OF NON-SEDIMENT POLLUTANTS TO THE DRAINAGE SYSTEM OF THE SITE OR SURFACE WATERS OF THE STATE. UNDER NO CIRCUMSTANCE SHALL CONCRETE TRUCKS WASH OUT DIRECTLY INTO A DRAINAGE CHANNEL, STORM SEWER OR SURFACE WATERS OF THE STATE. NO EXPOSURE OF STORM WATER TO WASTE MATERIALS IS RECOMMENDED.
20. ANY DISTURBED AREA THAT IS NOT GOING TO BE WORKED FOR 21 DAYS OR MORE MUST BE SEEDED AND MULCHED BY NOVEMBER 1 OR MUST HAVE DORMANT SEEDING OR MULCH COVER APPLIED BETWEEN NOVEMBER 1 AND MARCH 1.
21. MAKE FIELD ADJUSTMENTS TO:
- A) MEET FIELD CONDITIONS
- B) ANTICIPATE FUTURE WORK
- C) MAKE CORRECTION BASED ON THE WEEKLY INSPECTIONS
29. ALL FUELING VEHICLES SHALL BE EQUIPPED WITH SPILL KITS. ANY SPILLS OVER 5 GALLONS (OR THE MINIMUM REPORTING LEVEL) SHALL BE REPORTED TO THE APPROPRIATE AGENCY ACCORDING TO STATE AND LOCAL LAWS. FOR SPILLS OVER 25 GALLONS CONTACT THE EPA (1-800-282-9378), THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE (LEPC) WITHIN 30 MINUTES.
30. SITE STABILIZATION, EITHER PERMANENT OR TEMPORARY, MUST FOLLOW THE REQUIREMENTS AS APPLICABLE ON THE TABLES ON THIS SHEET.
31. CONTRACTOR TO IMPLEMENT GOOD HOUSEKEEPING PRACTICES THROUGHOUT CONSTRUCTION.

32. WHERE CONSTRUCTION ACTIVITIES ARE TO OCCUR ON SITES WITH CONTAMINATION FROM PREVIOUS ACTIVITIES, OPERATORS MUST BE AWARE THAT CONCENTRATIONS OF MATERIALS THAT MEET OTHER CRITERIA (IS NOT CONSIDERED A HAZARDOUS WASTE, MEETING VAP STANDARDS, ETC.) MAY STILL RESULT IN STORM WATER DISCHARGES IN EXCESS OF OHIO WATER QUALITY STANDARDS. SUCH DISCHARGES ARE NOT AUTHORIZED BY THIS PERMIT. APPROPRIATE BMP'S INCLUDE, BUT ARE NOT LIMITED TO: THE USE OF BERMS TRENCHES, AND PITS TO COLLECT CONTAMINATED RUNOFF AND PREVENT DISCHARGES, PUMPING RUNOFF INTO A SANITARY SEWER (WITH PRIOR APPROVAL OF THE SANITARY SEWER OPERATOR) OR INTO A CONTAINER FOR TRANSPORT TO AN APPROPRIATE TREATMENT/ DISPOSAL FACILITY AND COVERING AREAS OF CONTAMINATION WITH TARPS OR OTHER METHODS THAT PREVENT STORM WATER FROM COMING IN CONTACT WITH THE MATERIAL. OPERATORS SHOULD CONSULT WITH THE OHIO EPA DIVISION OF SURFACE WATER PRIOR TO SEEKING PERMIT COVERAGE.
32. ANY CONTAMINATED SOILS ENCOUNTERED SHALL BE STOCKPILED PER DIRECTION OF OWNER'S REPRESENTATIVE. "CLEAN" SOIL SHALL BE STOCKPILED SEPARATELY FROM CONTAMINATED SOIL AND SHALL NOT BE COMINGLED. CONTAMINATED SOILS SHALL BE PLACED ON, AND COVERED WITH VISQUEEN. A BERM SHALL BE CONSTRUCTED AROUND ENTIRE STOCKPILE TO HOLD VISQUEEN DOWN AND PREVENT SURFACE WATER AND RAIN FROM ENTERING SOIL PILE. ALL SEALS OR OVERLAPS IN THE VISQUEEN COVERING SHALL BE SECURED. ALL CONTAMINATED SOILS MUST BE TREATED AND/OR DISPOSED IN OHIO EPA APPROVED SOLID WASTE MANAGEMENT FACILITIES OR HAZARDOUS WASTE TREATMENT, STORAGE OR DISPOSAL FACILITIES (TSD'S).
33. ADDITIONAL EROSION CONTROL MEASURES MAY BECOME NECESSARY DUE TO CONSTRUCTION SEQUENCING. CONTRACTOR SHALL CONSULT WITH ENGINEER TO DETERMINE IF ADDITIONAL MEASURES ARE NECESSARY.
34. CONSTRUCTION ACTIVITIES SHALL BE IN COMPLIANCE WITH APPLICABLE STATE AND/OR LOCAL WASTE DISPOSAL, SANITARY SEWER OR SEPTIC SYSTEM REGULATIONS. WASTE DISPOSAL BY OPEN BURNING IS PROHIBITED. CONTRACTOR SHALL PROPERLY DISPOSE ANY CONTAMINATED SOILS, HAZARDOUS WASTE OR ASBESTOS CONTAINING MATERIAL ENCOUNTERED ON SITE ACCORDING TO CONTRACT DOCUMENTS.
35. CONTAINERS (E.G., DUMPSTERS, DRUMS) MUST BE MADE AVAILABLE FOR DISPOSAL OF DEBRIS, TRASH, HAZARDOUS OR PETROLEUM WASTE. ALL CONTAINERS MUST BE COVERED AND LEAK- PROOF. NO TOXIC OR HAZARDOUS WASTES SHALL BE DISPOSED INTO STORM DRAINS, SEPTIC TANKS, OR BY BURYING, BURNING, OR MIXING OF WASTES.
36. CONSTRUCTION AND DEMOLITION DEBRIS SHALL BE TRANSPORTED TO A LICENSED DISPOSAL FACILITY. THE MATERIAL SHALL BE COVERED WHILE BEING TRANSPORTED.
37. THERE SHALL BE NO TURBID DISCHARGES TO SURFACE WATERS OF THE STATE RESULTING FROM DEWATERING ACTIVITIES. IF TRENCH OR GROUND WATER CONTAINS SEDIMENT, IT MUST PASS THROUGH A SEDIMENT SETTLING POND OR OTHER EQUALLY EFFECTIVE SEDIMENT CONTROL DEVICE, PRIOR TO BEING DISCHARGED FROM THE CONSTRUCTION SITE. ALTERNATIVELY, SEDIMENT MAY BE REMOVED BY SETTING IN PLACE OR BY DEWATERING INTO A SUMP, PIT, FILTER BAG, OR COMPARABLE PRACTICE. GROUND WATER DEWATERING WHICH DOES NOT CONTAIN SEDIMENT OR OTHER POLLUTANTS IS NOT REQUIRED TO BE TREATED PRIOR TO DISCHARGE. HOWEVER, CARE MUST BE TAKEN WHEN DISCHARGING GROUND WATER TO ENSURE THAT IT DOES NOT BECOME POLLUTANT LADEN BY TRAVERSING OVER DISTURBED SOILS OR OTHER POLLUTANT SOURCES.
38. ALL EROSION AND SEDIMENT CONTROL SPECIFICATIONS, APPLICATIONS AND TIMETABLES ARE BASED ON THE DESCRIPTIONS AND STANDARDS OF THE OHIO DEPARTMENT OF NATURAL RESOURCES "RAINWATER AND LAND DEVELOPMENT MANUAL".
39. REFERENCE PROJECT DESIGN PLANS FOR ADDITIONAL EROSION AND SEDIMENT CONTROLS THAT MAY BE REQUIRED, BUT ARE NOT IDENTIFIED ON THESE PLANS.
- SWPPP INSPECTIONS:
1. AT A MINIMUM, PROCEDURES IN AN SWP3 SHALL PROVIDE THAT CONTROLS ON THE SITE ARE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN ONE-HALF INCH OF RAIN PER 24-HOUR PERIOD. THE INSPECTION FREQUENCY MAY BE REDUCED TO AT LEAST ONCE EVERY MONTH IF THE ENTIRE SITE IS TEMPORARILY STABILIZED OR RUNOFF IS UNLIKELY DUE TO WEATHER CONDITIONS (E.G., SITE IS COVERED IN SNOW, ICE, OR THE GROUND IS FROZEN). A WAIVER OF INSPECTION REQUIREMENTS IS AVAILABLE UNTIL ONE MONTH BEFORE THAWING CONDITIONS ARE EXPECTED TO RESULT IN A DISCHARGE IF ALL OF THE FOLLOWING CONDITIONS ARE MET: THE PROJECT IS LOCATED IN AN AREA WHERE FROZEN CONDITIONS ARE ANTICIPATED TO CONTINUE FOR EXTENDED PERIODS OF TIME (I.E., MORE THAN ONE MONTH); LAND DISTURBANCE ACTIVITIES HAVE BEEN SUSPENDED; AND THE BEGINNING AND ENDING DATES OF THE WAIVER PERIOD ARE DOCUMENTED IN THE SWP3. ONCE A DEFINABLE AREA HAS BEEN FINALLY STABILIZED, THIS MAY BE MARKED ON THE SWP3 AND NO FURTHER INSPECTION REQUIREMENTS APPLY TO THAT PORTION OF THE SITE. THE PERMITTEE SHALL ASSIGN "QUALIFIED INSPECTION PERSONNEL" TO CONDUCT THESE INSPECTIONS TO ENSURE THAT THE CONTROL PRACTICES ARE FUNCTIONAL AND TO EVALUATE WHETHER THE SWP3 IS ADEQUATE AND PROPERLY IMPLEMENTED IN ACCORDANCE WITH THE SCHEDULE PROPOSED HEREIN OR WHETHER ADDITIONAL CONTROL MEASURES ARE REQUIRED.
2. IF THE INSPECTION REVEALS THAT A CONTROL PRACTICE IS IN NEED OF REPAIR OR MAINTENANCE, WITH THE EXCEPTION OF A SEDIMENT SETTLING POND, IT MUST BE REPAIRED OR MAINTAINED WITHIN THREE DAYS OF THE INSPECTION. SEDIMENT SETTLING PONDS MUST BE REPAIRED OR MAINTAINED WITHIN 10 DAYS OF THE INSPECTION.
3. IF THE INSPECTION REVEALS THAT A CONTROL PRACTICE FAILS TO PERFORM ITS INTENDED FUNCTION AND THAT ANOTHER, MORE APPROPRIATE CONTROL PRACTICE IS REQUIRED, THE SWP3 MUST BE AMENDED AND THE NEW CONTROL PRACTICE MUST BE INSTALLED WITHIN 10 DAYS OF THE INSPECTION.
4. IF THE INSPECTION REVEALS THAT A CONTROL PRACTICE HAS NOT YET BEEN IMPLEMENTED IN ACCORDANCE WITH THE SWP3 SCHEDULE, THE CONTROL PRACTICE MUST BE IMPLEMENTED WITHIN 10 DAYS FROM THE DATE OF INSPECTION. IF THE INSPECTION REVEALS THAT THE PLANNED CONTROL PRACTICE IS NOT NEEDED, THE RECORD MUST CONTAIN A STATEMENT OF EXPLANATION AS TO WHY THE CONTROL PRACTICE IS NOT NEEDED.
5. AN INSPECTION CHECKLIST MUST BE COMPLETED AND SIGNED BY THE INSPECTOR AFTER EVERY SWP3 INSPECTION.
6. INSPECTION RECORDS ARE TO BE KEPT FOR 3 YEARS AFTER TERMINATION OF CONSTRUCTION ACTIVITIES.

- ADDITIONAL BMP'S:
1. EDUCATE CONSTRUCTION PERSONNEL, INCLUDING SUBCONTRACTORS WHO MAY USE OR HANDLE HAZARDOUS OR TOXIC MATERIALS, MAKING THEM AWARE OF THE FOLLOWING GENERAL GUIDELINES:
- DISPOSAL AND HANDLING OF HAZARDOUS AND OTHER CONSTRUCTION WASTE DO:
- PREVENT SPILLS
  - USE PRODUCTS UP
  - FOLLOW LABEL DIRECTIONS FOR DISPOSAL
  - REMOVE LIDS FROM EMPTY BOTTLES AND CANS WHEN DISPOSING IN TRASH
  - RECYCLE WASTES WHENEVER POSSIBLE
- DON'T:
- DON'T POUR INTO WATERWAYS, STORM DRAINS OR ONTO THE GROUND
  - DON'T POUR DOWN THE SINK, FLOOR DRAIN OR SEPTIC TANKS
  - DON'T BURY CHEMICALS OR CONTAINERS
  - DON'T BURN CHEMICALS OR CONTAINERS
  - DON'T MIX CHEMICALS TOGETHER

NO CONSTRUCTION RELATED WASTE MATERIALS ARE TO BE BURIED ON-SITE. BY EXCEPTION, CLEAN FILL (BRICKS, HARDENED CONCRETE, SOIL) MAY BE UTILIZED IN A WAY THAT DOES NOT ENCROACH UPON NATURAL WETLANDS, STREAMS OR THEIR FLOODPLAINS, UNLESS PROHIBITED BY LOCAL ORDINANCE OR ZONING. FILLING OF STREAM SIDE AREAS MAY REQUIRE FEDERAL, STATE AND LOCAL PERMITS AND MAY NOT BE PERMITTED TO RESULT IN THE CONTAMINATION OF WATERS OF THE STATE.

HANDLING CONSTRUCTION CHEMICALS:

MIXING, PUMPING, TRANSFERRING OR OTHER HANDLING OF CONSTRUCTION CHEMICALS SUCH AS FERTILIZER, LIME, ASPHALT, CONCRETE DRYING COMPOUNDS, AND ALL OTHER POTENTIALLY HAZARDOUS MATERIALS SHALL BE PERFORMED IN AN AREA AWAY FROM ANY WATERCOURSE, DITCH OR STORM DRAIN.

EQUIPMENT FUELING AND MAINTENANCE, OIL CHANGING, ETC., SHALL BE PERFORMED AWAY FROM WATERCOURSES, DITCHES OR STORM DRAINS, IN AN AREA DESIGNATED FOR THAT PURPOSE. THE DESIGNATED AREA SHALL BE EQUIPPED FOR RECYCLING OIL AND CATCHING SPILLS. SECONDARY CONTAINMENT SHALL BE PROVIDED FOR ALL FUEL TANKS OR TANKER. THESE AREAS MUST BE INSPECTED EVERY SEVEN DAYS AND WITHIN 24 HRS. OF A 0.5 INCH OR GREATER RAIN EVENT TO ENSURE THERE ARE NO EXPOSED MATERIALS WHICH WOULD CONTAMINATE STORM WATER. SITE OPERATORS MUST BE AWARE THAT SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) REQUIREMENTS MAY APPLY. AN SPCC PLAN IS REQUIRED FOR SITES WITH ONE SINGLE ABOVEGROUND TANK OF 660 GALLONS OR MORE, ACCUMULATIVE ABOVEGROUND STORAGE OF 1330 GALLONS OR MORE, OR 42,000 GALLONS OF UNDERGROUND STORAGE. SOILS THAT HAVE BECOME CONTAMINATED MUST BE DISPOSED OF ACCORDANCE WITH ITEM 6 "CONTAMINATED SOILS". ALL FUEL/LIQUID TANKS AND DRUMS SHALL BE STORED IN A MARKED STORAGE AREA. A DIKE SHALL BE CONSTRUCTED AROUND THIS STORAGE AREA WITH A MINIMUM CAPACITY EQUAL TO 110% OF THE VOLUME OF ALL CONTAINERS IN THE STORAGE AREA.

CONCRETE WASH WATER/WASH OUTS:

CONCRETE WASH WATER SHALL NOT BE ALLOWED TO FLOW TO STREAMS, DITCHES, STORM DRAINS, OR ANY OTHER WATER CONVEYANCE. A SUMP OR PIT WITH NO POTENTIAL FOR DISCHARGE SHALL BE CONSTRUCTED AS SPECIFIED TO CONTAIN CONCRETE WASH WATER. FIELD TILE OR OTHER SUBSURFACE DRAINAGE STRUCTURES WITHIN 10 FT. OF THE SUMP SHALL BE CUT AND PLUGGED. FOR SMALL PROJECTS, TRUCK CHUTES MAY BE RINSED ON THE LOT AWAY FROM ANY WATER CONVEYANCES. CONCRETE WASH-OUT AREAS ARE SHOWN ON THE PLAN. REFERENCE PLANS FOR CONSTRUCTION DETAILS.

CONTAMINATED SOILS:

IF SUBSTANCES SUCH AS OIL, DIESEL FUEL, HYDRAULIC FLUID, ANTIFREEZE, ETC. ARE SPILLED, LEAKED, OR RELEASED ONTO THE SOIL, THE SOIL SHOULD BE DUG UP AND DISPOSED OF AT LICENSED SANITARY LANDFILL OR OTHER APPROVED PETROLEUM CONTAMINATED SOIL REMEDIATION FACILITY (NOT A CONSTRUCTION/DEMOLITION DEBRIS LANDFILL). PLEASE BE AWARE THAT STORM WATER RUN OFF ASSOCIATED WITH CONTAMINATED SOILS ARE NOT AUTHORIZED UNDER OHIO EPA'S GENERAL STORM WATER PERMIT ASSOCIATED WITH CONSTRUCTION ACTIVITIES. IN THE EVENT THERE ARE LARGE EXTENSIVE AREAS OF CONTAMINATED SOILS ADDITIONAL MEASURES ABOVE AND BEYOND THE CONDITIONS OF OHIO EPA'S GENERAL CONSTRUCTION STORM WATER PERMIT WILL BE REQUIRED. DEPENDING ON THE EXTENT OF CONTAMINATION, ADDITIONAL TREATMENT AND/OR COLLECTION AND DISPOSAL MAY BE REQUIRED. ALL STORM WATER DISCHARGES ASSOCIATED WITH THE CONTAMINATED SOILS MUST BE AUTHORIZED UNDER AN ALTERNATE NPDES (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM) PERMIT.

SPILL REPORTING REQUIREMENTS:

SPILLS ON PAVEMENT SHALL BE ABSORBED WITH SAWDUST, KITTY LITTER OR OTHER ABSORBENT MATERIAL AND DISPOSED OF WITH THE TRASH AT A LICENSED SANITARY LANDFILL. HAZARDOUS OR INDUSTRIAL WASTES SUCH AS MOST SOLVENTS, GASOLINE, OIL-BASED PAINTS, AND CEMENT CURING COMPOUNDS REQUIRE SPECIAL HANDLING. SPILLS SHALL BE REPORTED TO OHIO EPA (1-800-282-9378). SPILLS OF 5 GALLONS OR MORE OF PETROLEUM PRODUCTS SHALL BE REPORTED TO OHIO EPA (1-800-282-9378), THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE WITHIN 30 MIN. OF THE DISCOVERY OF THE RELEASE. ALL SPILLS, WHICH RESULT IN CONTACT WITH WATERS OF THE STATE, MUST BE REPORTED TO OHIO EPA'S HOTLINE.

OPEN BURNING:

NO MATERIALS MAY BE BURNED WHICH CONTAIN RUBBER, GREASE, ASPHALT, OR PETROLEUM PRODUCTS SUCH AS TIRES, CARS, AUTOPARTS, PLASTICS OR PLASTIC COATED WIRE. (SEE OAC 3745-9) OPEN BURNING IS NOT ALLOWED IN RESTRICTED AREAS. RESTRICTED AREAS ARE DEFINED AS:

1) WITHIN CORPORATION LIMITS; 2) WITHIN 1000 FEET OUTSIDE A MUNICIPAL CORPORATION HAVING A POPULATION OF 1000 TO 10,000; AND 3) A ONE MILE ZONE OUTSIDE OF A CORPORATION OF 10,000 OR MORE. OUTSIDE A RESTRICTED AREA, NO OPEN BURNING CAN TAKE PLACE WITHIN 1000 FEET OF AN INHABITED BUILDING LOCATED OFF THE PROPERTY WHERE THE FIRE IS SET. OPEN BURNING IS PERMISSIBLE IN A RESTRICTED AREA FOR THE FOLLOWING ACTIVITIES: HEATING TAR, WELDING AND ACETYLENE TORCHES, SMUDGE POTS AND SIMILAR OCCUPATIONAL NEEDS, AND HEATING FOR WARMTH OR OUTDOOR BARBEQUES. OUTSIDE OF RESTRICTED AREAS, OPEN BURNING IS PERMISSIBLE FOR LANDSCAPE WASTES (PLANT MATERIAL), LAND-CLEARING WASTES (PLANT MATERIAL, WITH PRIOR WRITTEN PERMISSION FROM OHIO EPA), AND AGRICULTURAL WASTES (MATERIAL GENERATED BY CROP, HORTICULTURAL, OR LIVESTOCK PRODUCTION PRACTICES. THIS INCLUDES FENCE POSTS AND SCRAP LUMBER, BUT NOT BUILDINGS).

DUST CONTROL/SUPPRESSANTS:

DUST CONTROL IS REQUIRED TO PREVENT NUISANCE CONDITIONS. DUST CONTROLS MUST BE USED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND NOT BE APPLIED IN A MANNER WHICH WOULD RESULT IN A DISCHARGE TO WATERS OF THE STATE. ISOLATION DISTANCES FROM BRIDGES, CATCH BASINS, AND OTHER DRAINAGEWAYS MUST BE OBSERVED. APPLICATION (EXCLUDING WATER) MAY NOT OCCUR WHEN PRECIPITATION IS IMMINENT AS NOTED IN THE SHORT TERM FORECAST. USED OIL MAY NOT BE APPLIED FOR DUST CONTROL.

OTHER AIR PERMITTING REQUIREMENTS:

ALL CONTRACTORS AND SUB CONTRACTORS MUST BE MADE AWARE THAT CERTAIN ACTIVITIES ASSOCIATED WITH CONSTRUCTION WILL REQUIRE AIR PERMITS. ACTIVITIES INCLUDING BUT NOT LIMITED TO MOBILE CONCRETE BATCH PLANTS, MOBILE ASPHALT PLANTS, CONCRETE CRUSHERS, LARGE GENERATORS, ETC., WILL REQUIRE SPECIFIC OHIO EPA AIR PERMITS FOR INSTALLATION AND OPERATION. THESE ACTIVITIES MUST SEEK AUTHORIZATION FROM THE CORRESPONDING DISTRICT OF OHIO EPA. NOTIFICATION FOR RESTORATION AND DEMOLITION MUST BE SUBMITTED TO OHIO EPA FOR ALL COMMERCIAL SITES TO DETERMINE IF ASBESTOS CORRECTIVE ACTIONS ARE REQUIRED.

PROCESS WASTE WATER/LEACHATE MANAGEMENT:

ALL PROCESS WASTEWATERS MUST BE COLLECTED AND PROPERLY DISPOSED AT AN APPROVED DISPOSAL FACILITY. IN THE EVENT THERE ARE LEACHATE OUTBREAKS ASSOCIATED WITH ONSITE DISPOSAL, MEASURES MUST BE TAKEN TO ISOLATE THIS DISCHARGE FOR COLLECTION AND PROPER DISPOSAL. INVESTIGATIVE MEASURES AND CORRECTIVE ACTIONS MUST BE IMPLEMENTED TO IDENTIFY AND ELIMINATE THE SOURCE OF ALL LEACHATE OUTBREAKS.

PERMIT TO INSTALL (PTI) REQUIREMENTS:

ALL CONTRACTORS AND SUB CONTRACTORS MUST BE MADE AWARE THAT A PTI MUST BE SUBMITTED AND APPROVED BY OHIO EPA PRIOR TO THE CONSTRUCTION OF ALL CENTRALIZED SANITARY SYSTEMS, INCLUDING SEWER EXTENSIONS, AND SEWERAGE SYSTEMS (EXCEPT THOSE SERVING ONE, TWO, AND THREE FAMILY DWELLINGS) AND POTABLE WATER LINES. THE ISSUANCE OF AN OHIO EPA GENERAL PERMIT DOES NOT AUTHORIZE THE INSTALLATION OF ANY SEWERAGE SYSTEM WHERE OHIO EPA HAS NOT APPROVED A PTI.

GOOD HOUSEKEEPING BMP'S:

MATERIAL HANDLING AND WASTE MANAGEMENT

1. NON-HAZARDOUS WASTE MATERIALS:
- WASTE DISPOSAL CONTAINERS SHALL BE PROVIDED PRIOR TO MATERIALS BEING DELIVERED TO THE SITE. THE WASTE DISPOSAL CONTAINERS ARE FOR THE PROPER COLLECTION OF ALL WASTE MATERIAL INCLUDING CONSTRUCTION DEBRIS, SANITARY GARBAGE, PETROLEUM PRODUCTS AND ANY HAZARDOUS MATERIALS TO BE USED ON-SITE. CONTAINERS SHALL BE COVERED AND NOT LEAKING. THE DUMPSTERS SHALL BE INSPECTED WEEKLY AND IMMEDIATELY AFTER STORM EVENTS. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT FACILITIES APPROVED FOR THAT MATERIAL. CONSTRUCTION DEMOLITION AND DEBRIS (CD&D) WASTE MUST BE DISPOSED OF IN ACCORDANCE WITH ORC 3714. AT AN APPROVED OHIO EPA CD&D LANDFILL CD&D WASTE IS DEFINED AS ALL MATERIALS ATTACHED TO A STRUCTURE, WHICH IS BEING DEMOLISHED.
2. HAZARDOUS WASTE MATERIALS:
- THE CONTRACTOR WILL ESTABLISH A HAZARDOUS MATERIALS STORAGE AREA CONTAINING PROPER SHIPPING CONTAINERS USED TO STORE THE MATERIALS PRIOR TO THESE MATERIALS BEING DELIVERED TO THE SITE. ALL HAZARDOUS WASTE MATERIALS SUCH AS OIL FILTERS, PETROLEUM PRODUCTS, PAINT, AND EQUIPMENT MAINTENANCE FLUIDS WILL BE STORED IN STRUCTURALLY SOUND AND SEALED SHIPPING CONTAINERS, WITHIN THE HAZARDOUS MATERIALS STORAGE AREA. HAZARDOUS WASTE MATERIALS WILL BE STORED IN APPROPRIATE AND CLEARLY MARKED CONTAINERS AND SEGREGATED FROM OTHER NON-WASTE MATERIALS. SECONDARY CONTAINMENT WILL BE PROVIDED FOR ALL WASTE MATERIALS IN THE HAZARDOUS MATERIALS STORAGE AREA AND WILL CONSIST OF COMMERCIALY AVAILABLE SPILL PALLETS. THE AREA WILL BE INSPECTED WEEKLY AND AFTER STORM EVENTS. THE AREA WILL BE KEPT CLEAN, WELL ORGANIZED AND EQUIPPED WITH AMPLE CLEANUP SUPPLIES AS APPROPRIATE FOR THE MATERIALS BEING STORED. MATERIAL SAFETY DATA SHEETS, MATERIAL INVENTORY AND EMERGENCY CONTACT NUMBERS WILL BE MAINTAINED IN THE OFFICE TRAILER. ADDITIONALLY, ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE, AND MUNICIPAL REGULATIONS. HAZARDOUS WASTE MATERIALS WILL NOT BE DISPOSED OF INTO THE ON-SITE DUMPSTERS. ALL PERSONNEL WILL BE INSTRUCTED, DURING TAILGATE TRAINING SESSIONS, REGARDING PROPER PROCEDURES FOR HAZARDOUS WASTE DISPOSAL. NOTES THAT STATE THESE PROCEDURES WILL BE POSTED IN THE OFFICE TRAILER AND THE INDIVIDUAL WHO MANAGES DAY-TO-DAY SITE OPERATIONS WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.

3. TEMPORARY SANITARY FACILITIES (PORTABLE TOILETS) WILL BE PROVIDED AT THE START OF THE START OF CONSTRUCTION AND WILL REMAIN THROUGHOUT THE CONSTRUCTION PHASE. THE TOILETS WILL BE LOCATED BY THE CONTRACTOR, AWAY FROM ALL CONCENTRATED FLOW PATHS AND TRAFFIC FLOW AND WILL HAVE COLLECTION PANS UNDERNEATH AS SECONDARY CONTAINMENT. ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE FACILITIES AS NEEDED BY A LICENSED WASTE HAULER. THE PORTABLE TOILETS WILL BE INSPECTED WEEKLY FOR EVIDENCE OF LEAKING HOLDING TANKS. TOILETS WITH LEAKING HOLDING TANKS WILL BE REMOVED FROM THE SITE AND REPLACED WITH NEW PORTABLE TOILETS.

SPECIFIC BMP NOTES:

INLET/OUTLET PROTECTION AT STORM CULVERTS:

THE SWP3 INSPECTOR SHALL MONITOR CONDITIONS AT THE INLET AND OUTLET OF STORM CULVERTS. WHERE EROSION HAS OCCURRED OR SEDIMENT HAS ACCUMULATED, THIS EVIDENCE SHALL SERVE AS AN INDICATION THAT ADDITIONAL EROSION AND SEDIMENT CONTROLS MAY BE NECESSARY. ALL AREAS CONTRIBUTING FLOW TOWARD THE CULVERT SHALL BE INSPECTED FOR POSSIBLE SEDIMENT TRANSPORT. BMP'S SHALL BE INSTALLED WHERE NECESSARY TO REDUCE SEDIMENT TRANSPORT TO CONVEYANCE STRUCTURES.

CONCRETE WASHOUT, VEHICLE REFUELING AND MATERIALS STAGING:

THESE OPERATIONS SHALL BE PERFORMED IN AREAS FIELD LOCATED BY THE CONTRACTOR IN APPROPRIATE AREAS AWAY FROM CONCENTRATED STORM WATER RUNOFF OR STORM WATER INLETS. THESE FACILITIES SHALL NOT IMPEDE USE OF ADJACENT PROPERTY OR BE SITED ON PRIVATE PROPERTY NOT OTHERWISE OWNED OR WITHOUT STANDING AGREEMENTS MADE BY THE CONTRACTOR.

CONSTRUCTION ENTRANCE:

PRIOR TO EARTH DISTURBANCE IN ANY GIVEN AREA, BMP'S (CONSTRUCTION ENTRANCE) SHOULD BE INSTALLED TO PROHIBIT SOILS FROM BEING DISTURBED AND EXPOSED TO PRECIPITATION AT POINTS OF INGRESS TO/EGRESS FROM THE CONSTRUCTION SITE. THIS BMP WILL ALSO REDUCE TRACKING OF SEDIMENT OFF THE PROJECT SITE. THIS BMP SHOULD BE IMPLEMENTED IN APPROPRIATE AREAS ACCORDING TO PROJECT PHASING AND WORK ZONES. THE LOCATIONS FOR THIS BMP SHALL BE AMENDED AS NECESSARY BY THE CONTRACTOR TO MEET THESE CONDITIONS.

TEMPORARY STABILIZATION

| AREA REQUIRING TEMP. STABILIZATION                                                                                                                                                                                                              | TIME FRAME                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| ANY DISTURBED AREAS WITHIN 50 FEET OF A STREAM AND NOT AT FINAL GRADE                                                                                                                                                                           | WITHIN 2 DAYS OF THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN DORMANT FOR MORE THAN 21 DAYS |
| ALL OTHER AREAS                                                                                                                                                                                                                                 | WITHIN 7 DAYS OF THE MOST RECENT DISTURBANCE WITHIN AREA                                           |
| DISTURBED AREAS THAT WILL BE IDLE OVER WINTER                                                                                                                                                                                                   | PRIOR TO THE ONSET OF WINTER WEATHER                                                               |
| WHERE VEGETATIVE STABILIZATION TECHNIQUES MAY CAUSE STRUCTURAL INSTABILITY OR ARE OTHERWISE UNOBTAINABLE, ALTERNATIVE STABILIZATION TECHNIQUES MUST BE EMPLOYED. THESE TECHNIQUES MAY INCLUDE MULCHING, EROSION MATTING, OR PLACEMENT OF STONE. |                                                                                                    |

PERMANENT STABILIZATION

| AREA REQUIRING PERM. STABILIZATION                      | TIME FRAME                                                   |
|---------------------------------------------------------|--------------------------------------------------------------|
| ANY AREAS THAT WILL LIE DORMANT FOR ONE YEAR OR MORE    | WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE IN THE AREA |
| ANY AREAS WITHIN 50 FEET OF A STREAM AND AT FINAL GRADE | WITHIN TWO DAYS OF REACHING FINAL GRADE                      |
| ANY OTHER AREAS AT FINAL GRADE                          | WITHIN SEVEN DAYS OF REACHING FINAL GRADE WITHIN THAT AREA   |

CONSTRUCTION SEEDING AND MULCHING:

PER SWP3 DETAILS AND SPECIFICATIONS.

PERMANENT SEEDING AND MULCHING:

PER DESIGN PLANS.

TEMPORARY EROSION AND SEDIMENT CONTROL IMPLEMENTATION SCHEDULE – NARRATIVE

THE CONTRACTOR SHALL IMPLEMENT EROSION AND SEDIMENT CONTROL PRACTICES ACCORDING TO THE FOLLOWING CONSTRUCTION SCHEDULE IDENTIFIED BELOW. THE CONTRACTOR SHALL MODIFY THE ESTIMATED TIME FRAMES BASED ON FUTURE SCHEDULE CHANGES.

| SWPPP IMPLEMENTATION / CONSTRUCTION SCHEDULE                                                                                                                                                                                                                  |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| BMP DESCRIPTION                                                                                                                                                                                                                                               | ESTIMATED DATES |
| INSTALL TEMPORARY SANITARY FACILITIES AND DUMPSTERS (IF NECESSARY) AS THE FIRST STEP OF MOBILIZATION                                                                                                                                                          |                 |
| LIMITED CLEARING AND GRUBBING AS NECESSARY TO ALLOW FOR INSTALLATION OF PERIMETER BMP'S WHICH WILL BE INSTALLED WITHIN 7 DAYS OF THIS ACTIVITY                                                                                                                |                 |
| PREPARE CONSTRUCTION ENTRANCE AND INSTALL PERIMETER SILT FENCE, INLET PROTECTION FOR EXISTING STRUCTURES, PREPARE STAGING AND REFUELING AREAS, AND CONSTRUCT SEDIMENT BASIN BEFORE ANY ON-SITE MAJOR CLEARING/GRUBBING, CONSTRUCTION, OR DEMOLITION COMMENCES |                 |
| PERFORM MASS GRADING OPERATIONS PRIOR TO UTILITY INSTALLATION                                                                                                                                                                                                 |                 |
| APPLY TEMPORARY SOIL STABILIZATION AND UTILIZE DUST CONTROL                                                                                                                                                                                                   |                 |
| COMMENCE UTILITY INSTALLATION PRIOR TO PAVING OPERATIONS                                                                                                                                                                                                      |                 |
| INSTALL INLET PROTECTION FOR PROPOSED STRUCTURES CONCURRENT WITH UTILITY CONSTRUCTION                                                                                                                                                                         |                 |
| INSTALL CONCRETE WASHOUT AREAS                                                                                                                                                                                                                                |                 |
| INSTALL PAVEMENT                                                                                                                                                                                                                                              |                 |
| INSTALL DRY UTILITIES AND REGRADE RIGHT-OF-WAY                                                                                                                                                                                                                |                 |
| PERFORM PERMANENT SEEDING WITHIN (7) DAYS OF COMPLETION OF FINAL GRADING IN UNPAVED AREAS                                                                                                                                                                     |                 |
| REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER BMP IS NO LONGER NEEDED OR AFTER "FINAL STABILIZATION" IS COMPLETE                                                                                                                                            |                 |



## SWPPP INSPECTION FORM/CORRECTIVE ACTION LOG

[illegible]

## SWPPP AMENDMENT LOG

[illegible]

## GRADING AND STABILIZATION ACTIVITIES LOG

[illegible]



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## EXHIBITS

- “A”** - Legal Description
- “B”** - Articles of Incorporation
- “C”** - By-Laws
- “D”** - Possible Future Development - None



**DECLARATION OF COVENANTS,  
CONDITIONS AND RESTRICTIONS AND  
RESERVATION OF EASEMENTS  
FOR THE  
CROSSING SUBDIVISION**



**DECLARATION OF  
COVENANTS, CONDITIONS AND RESTRICTIONS  
AND RESERVATION OF EASEMENTS  
FOR THE  
CROSSING SUBDIVISION**

THIS DECLARATION, is made this \_\_\_\_ day of \_\_\_\_\_, 2024 by The Drees Company, a Kentucky Corporation, hereinafter sometimes referred to as the “Declarant”.

**WITNESSETH:**

WHEREAS, the Declarant is the owner of, or has the right to acquire, the real property described in Exhibit “A” attached hereto and incorporated herein and desires to create thereon a residential community consisting of single-family residences with permanent common elements for the benefit of said community; and

WHEREAS, the Declarant desires to provide for the preservation of the values and amenities in said community and for the maintenance of said Common Elements; and to this end, desires to subject the real property described in Exhibit “A” attached hereto to the provisions of O.R.C. §5312 and the covenants, conditions, restrictions, easements, charges and liens, hereinafter set forth, each and all of which is and are for the benefit of said Property and the Owners thereof; and

WHEREAS, the Declarant has deemed it desirable, for the efficient preservation of the values and amenities in said community, to create an Association to which should be delegated and assigned the powers and duties of maintaining and administering the common elements and administering and enforcing the within covenants and restrictions and disbursing the charges and assessments hereinafter created; and

WHEREAS, the Declarant has formed the Crossing Homeowners’ Association, Inc., as a non-profit Ohio corporation for the purpose of carrying out the powers and duties aforesaid;

NOW, THEREFORE, the Declarant hereby declares that all of the Properties described in Exhibit “A” attached hereto and such other property as may be subjected to the provisions hereof pursuant to Article II, shall be held, sold and conveyed subject to the covenants, conditions, restrictions, easements, charges and liens set forth in this Declaration and in accordance with the provisions of O.R.C. § 5312 and any subdivision plat which includes the Property, which are for the purpose of protecting the value and desirability of, and which shall run with, the real property and be binding on all parties having any right, title, or interest in the described Properties or any part thereof, their heirs, successors and assigns, and shall inure to the benefit of each Owner thereof.



## **ARTICLE I**

### **DEFINITIONS**

The words in this Declaration which begin with capitalized letters, other than words which would be normally capitalized, unless the context otherwise requires, shall have the same meanings as the definitions of those words in this Article I.

1.1 “Articles” shall mean those Articles, filed with the Secretary of Ohio, incorporating the Crossing Homeowners’ Association, Inc. as a corporation not for profit under the provisions of the Ohio Revised Code, as the same may be amended from time to time. A true copy of the Articles as shown in Exhibit “B” is attached hereto and made a part hereof.

1.2 “Association” shall mean and refer to the Crossing Homeowners’ Association, Inc., its successors and assigns.

1.3 “Board” shall mean the Board of Directors of the Association, which shall also be known as the “Board of Directors”.

1.4 “Builder” shall mean and refer to The Drees Company, a Kentucky corporation.

1.5 “By-Laws” shall mean the By-Laws of the Association, as the same may be amended from time to time. A true copy of the By-Laws as shown on Exhibit “C” is attached hereto and made a part hereof.

1.6 “Common Elements” shall mean and refer to subdivision entrance walls, signs, islands, private drives, landscape mounds, fences, storm water facilities (not dedicated to a public entity), fountains, lighting, sidewalk/walking path (if any) and landscaping constructed for the common use and enjoyment of the Owners, and such areas designated as “common elements” or “open space” on the record plat or plats for the Property. Common Elements may be situated in easements created for the benefit of the Association.

1.7 “Declarant” shall mean and refer to The Drees Company, a Kentucky Corporation, its successors and/or assigns..

1.8 “Developer” shall mean and refer to The Drees Company, a Kentucky Corporation, its successors and assigns, if such successors or assigns shall acquire any unsold Lots and/or unplatted property which adjoins any property already developed and which is intended to be developed into Lots.

1.9 “Development Period” shall mean the period commencing on the date on which this Declaration is recorded and terminating on the earlier of: (a) December 31, 2050, or (b) the next day following the day on which the Declarant no longer owns any part of the Property.



1.10 “Living Unit” shall mean and refer to a single-family residence designated and intended for use and occupancy as a residence by a single family.

1.11 “Lot” shall mean and refer to any parcel of land upon any recorded subdivision plat of the Properties which may or may not contain a Living Unit.

1.12 “Member” shall mean any one of those Owners who are Members of the Association as provided in Article IV hereof.

1.13 “Owner” shall mean and refer to the record owner, whether one or more persons or entities, of a fee simple title to any Lot which is a part of the Properties, including contract sellers, but excluding those having such interest merely as security for the performance of an obligation.

1.14 “Private Drive” shall mean and refer to the private roads or passageways which are built or installed as part of the original construction on the properties to serve multiple single-family lots as shown on the final plat of the Subdivision, if any.

1.15 “Properties” or “Property” shall mean and refer to that certain real property hereinbefore described and incorporated herein as Exhibit “A” and such additions thereto as may hereafter be brought within the jurisdiction of the Association.

1.16 “Storm Water Facilities” shall mean and refer to the storm sewers, swales, streams, ditches, catch basins, drainage lines, man holes and detention and retention basins (ponds) situated on storm sewer easements or drainage easements encumbering certain Lots or Property as designated on the record plat or plats for the Property and maintained by the Association, the Owner or appropriate governmental authorities for the common use and enjoyment of the Owners, as applicable.

1.17 “Director” and “Directors” shall mean that person or those persons serving, at the time pertinent, as a Director or Directors of the Association, and shall mean that same person or those persons serving in the capacity of a member of the Board of Directors of the Association. Such individuals may also be known as “Directors”.

## **ARTICLE II**

### **PROPERTY DEVELOPMENT - ANNEXATION**

2.1 Property Subject to Declaration. The real property which is, and shall be held, conveyed, hypothecated or encumbered, sold, leased, rented, used, occupied and improved subject to this Declaration is located in the County of Lorain, State of Ohio, and is more particularly described in Exhibit “A” attached hereto and by this reference made a part hereof.

2.2 Additional Common Elements. Developer shall have the right, from time to time during the Development Period, to convey to the Association for nominal or other appropriate consideration, and the Association shall accept conveyance of any property or interest in property owned by Developer along with any structure, improvement, or other facility including related



fixtures, equipment and furnishings located thereon. Upon conveyance of such property, the property shall constitute Common Elements.

2.3 Annexation of Additional Property. During the Development Period, additional property (Additional Land”), may be annexed to the above-described Property by the Declarant without the assent of the Members of the Association, if any. Thereafter, such additional property may be annexed only with the consent of fifty-one (51%) percent of each class of Members of the Association. Any additional property so annexed, however, must be adjacent to or in the immediate vicinity of the above-described Property. The scheme of the within covenants and restrictions shall not, however, be extended to include any such additional property unless and until the same is annexed to the real property described on Exhibit “A” as hereinafter provided.

Any annexations made pursuant to this Article, or otherwise shall be made by recording a Supplement/Amendment to this Declaration with the Recorder of Lorain County, Ohio, which supplementary Declaration shall extend the scheme of some, or all, of the within covenants and restrictions to such annexed property. Such supplementary Declaration may contain such additional covenants, conditions, restrictions, easements, assessments, charges and liens as the Declarant shall deem appropriate for the purpose of completing the development of the Property.

### **ARTICLE III**

#### **PROPERTY RIGHTS**

3.1 Owner’s Right of Enjoyment. Every Owner and, in the case of rented Lots, such Owner’s tenants, shall have a right to an easement for the enjoyment of, in, and to the Common Elements, and such right and easement shall be appurtenant to and shall pass with title to every Lot, subject to the following:

(a) The right of the Association, in accordance with its Articles of Incorporation and By-Laws, to borrow money for the purpose of improving or repairing the Common Elements.

(b) The right of the Association to dedicate or transfer all or any part of the Common Elements to any public or municipal agency, authority or utility for purposes consistent with the purpose of this Declaration.

(c) Easements and restrictions of record.

(d) The right of the Association or the Declarant to grant additional easements over the Common Elements as provided in Section 3.5.

(e) The right of the Association to suspend the voting rights and the right to use of any community facility situated upon the Common Elements for any period during which any assessment remains unpaid, and for any period, as reasonably determined by the Board from time to time, for any infraction of its published rules and regulations; provided that the rights set forth in subparagraph (g) below shall not be suspended;



(f) The right of the Board to adopt rules and regulations pertaining to the use and operation of the Common Elements and the Properties; and

(g) The rights of the Association and Owners of Lots to a perpetual easement over any Common Elements, and upon other Lots for such portions of their Living Units that may overhang or encroach on said Common Elements, or upon any other Lot, and for necessary pedestrian and automotive ingress and egress to and from such Living Unit over said streets, driveways and walkways of said Common Elements and for gas, electric, telephone, water, sewer, stormwater, drainage, cable television connections, and other utility conduits with rights to repair, maintain, and replace same, as they may be established over, upon, and through said Common Elements or other Lots, which rights are hereby expressly established, granted, and reserved for the benefit of the individual Lots.

3.2 Reservation of Easements. The Declarant / Developer shall have and hereby reserves easements in favor of itself, its successors and assigns, and such other persons or entities as it may designate as follows:

(a) In, on and over those strips of land as shown on the final plat of the Subdivision for the purpose of access to construct, use and maintain signage, lighting and landscaping; and

(b) In, on and over the utility and drainage easements depicted on the plat of subdivision for the Property for the installation and maintenance of utility and drainage systems.

3.3 Delegation of Use. Any Owner may delegate, in accordance with the applicable By-Laws of the Association, his right of enjoyment in the Common Elements to the members of his family, guests, and his tenants or contract purchasers who reside on the Property. No one other than the Declarant, the Association or the Owner on whose Lot is situated a Common Element shall be permitted to have access to, or enter onto, such Common Elements.

3.4 Title to Common Elements. The title to any portion of the Common Elements that is to be owned by the Association in fee simple, if any, shall be conveyed to the Association by the Developer, prior to the expiration of the Development Period, free and clear of all liens and encumbrances; provided, however, that the Declarant shall have the right from time to time to reserve for the purpose of development of the Property all or any portion of the Property for various easements and rights of way, together with the right to dedicate same where applicable and customary and the right of ingress and egress across the Common Elements in connection with the development of the Property. The Declarant's rights hereunder shall not unreasonably interfere with the Owner's easement of enjoyment.

3.5 Right to Grant Easements. Declarant hereby reserves the right, to grant, on behalf of the Association and/or the Owners and without the consent of the Association, or any Owner, easements, across, through or under the Common Elements. Such easements, which shall be exclusive or non-exclusive, shall be limited to utility easements (including cable television), green belt easements, sign easements, access easements or roadway easements. Declarant's and/or Developer's rights under this Section shall terminate upon expiration of the Development Period.



The Association, without the consent of any Owner, shall have the right at any time to grant easements as set forth in this Section.

## **ARTICLE IV**

### **MEMBERSHIP AND VOTING RIGHTS**

4.1 Members. Every Owner of a Lot which is subject to assessment shall be a Member of the Association. Membership shall be appurtenant to and may not be separated from ownership of any Lot which is subject to assessment.

4.2 Classes of Members; Voting. The Association shall have two classes of voting membership:

4.2.1 Class A Members shall be all Owners, with the exception of the Declarant, and shall be entitled to one vote for each Lot owned. When more than one person holds an interest in any Lot, all such persons shall be Members. The vote for such Lot shall be exercised as they determine, but in no event shall more than one vote be cast with respect to any Lot.

4.2.2 Class B Member shall be the Declarant and the Declarant shall be entitled to five (5) votes for each Lot owned, provided, however, that the Class B membership shall terminate after the Class A Members are entitled to elect all of the Board. At such time as Class B membership shall terminate, the Declarant, for any Lot owned, shall be deemed a Class A Member with reference to such Lot or Lots and entitled to the voting and all other rights of such Class A Member.

4.3 Prohibition of Sexual Predators. To protect the community from a potential safety risk, sexual offenders for whom sheriff notification is required shall be prohibited from living in a home within the community association. This prohibition only applies to those offenders for whom public notice of their intent to live within said community is sent by the sheriff. If the Association or its Members receive a notice from the sheriff that an offender is living in said community, the collective safety and property values of its Members shall be deemed at risk, and so those individuals will be prohibited from residing on the property.

Note that the prohibition is limited to banning offenders from living or residing within the Association; it does not ban an offender from owning a home within the Association, as this would potentially conflict with federal and Ohio law. Thus, while an offender could own a home in our community the said offender cannot live there. Additionally, owners will therefore not have the need to disclose the presence of a serious sexual offender when selling their home.



**ARTICLE V**  
**ASSESSMENTS**

5.1 Covenant for Assessments. The Declarant for each Lot owned by it (and as hereinafter limited by the provisions of this Declaration) and each person, group of persons, or entity who becomes an Owner of a Lot by acceptance of a deed therefor, whether or not it shall be so expressed in any such deed or other conveyance shall be deemed to covenant and agree to pay to the Association: (1) Annual General Assessments; (2) Individual Assessments; and (3) Special Assessments; such assessments to be fixed, established and collected from time to time as hereinafter provided. All assessments, together with interest thereon as hereafter provided and costs of collection thereof (including court costs and reasonable attorney's fees) as hereinafter provided shall be a charge on the land and shall be a continuing lien upon the property and Lot against which such assessment is made. Each such assessment, together with such interest thereon and cost of collection thereof as herein provided, shall also be the personal obligation of the person, group of persons, or entity who was the Owner of such property and Lot at the time when the assessment fell due.

5.2 Annual General Assessments, Purposes. The Annual General Assessments levied by the Association are for the purpose of promoting the recreation, scenic enjoyment, health, welfare and safety of the residents and for protecting, advancing and promoting the environmental concept of the Property and preserving the aesthetic and scenic qualities of the development.

To carry out these purposes, an Annual General Assessment shall be levied by the Association to be used currently, and to provide an adequate reserve fund for future use, for the improvement, expansion and maintenance of the Common Elements, including, but not limited to, the payment of taxes, insurance and fidelity bonds, and for repairs, replacements and additions, and for the cost of labor, equipment, and materials, management and supervision, and including the maintenance, repair and landscaping of Storm Water Facilities as well as streets and right of ways, and, in the discretion of the Association, including any entrance roads or adjoining roads or areas, whether public or private, which may affect the recreation, scenic enjoyment, health, welfare and safety of the residents even though not owned by the Association. Such assessment may also be used for the purpose of renting, operating and maintaining street lights for the community.

To take advantage of commonly used practices, the Board of Directors is authorized to establish a required or preferred form of payment, ACH withdrawals being an example. The amendment also gives the Board the option to impose a fee for other forms of payment an owner might want to use, such as credit cards, checks, or cash.

5.3 Annual General Assessments, Initial Amount. The initial amount of the Annual General Assessment per Living Unit shall be determined by the Declarant during the Development Period. Thereafter, the Board of Directors shall control. Such initial assessment amount shall be known as the "Maximum Annual General Assessment".

5.4 Annual General Assessment, Maximum Increase.



(a) From and after the date of the commencement of the Annual General Assessment, the amount of the Maximum Annual General Assessment, set out in Section 5.3 above, for all membership will increase automatically ten percent (10%) per year in addition to the maximum sum allowed for the previous year (whether changed or not), unless prior to the levying of such new assessment year, the Board of Directors vote to reduce the assessment below that allowed to be changed in such year. As used herein, the term “allowed to be changed” shall mean the sum set out in Section 5.3 above, increased and compounded ten percent (10%) per year, beginning with the year immediately following the date of the commencement of the Annual General Assessment.

(b) From and after the date of the commencement of the Annual General Assessment, the Maximum Annual General Assessment for all membership may be increased above that established by the preceding paragraph, by a vote of Members as hereinafter provided for the next succeeding year and at the end of such year for each succeeding year. Any change made pursuant to this paragraph shall have the assent of fifty-one percent (51%) of the total number of votes held by Class A Members and fifty-one percent (51%) of the total number of votes held by the Class B Members.

(c) The assessment may be billed in advance on a monthly, quarterly, or annual basis. The Board of Directors may fix the annual assessment at any amount not in excess of the maximum thereinabove provided for. The assessment shall be fixed at a uniform rate based upon Living Units.

5.5 Individual Assessments. In the event an Owner of any Lot in the Properties shall fail to maintain the premises and the improvements situated thereon in a manner satisfactory to the Board of Directors and such maintenance is not that to be provided by the Association under Section 5.2 above for which assessments are provided, then the Association, after approval by sixty-six and two-thirds percent (66 2/3%) vote of all Members of the Board shall have the right through its agents and employees, to enter upon said Lot and to repair, maintain and restore the Lot and the exterior of the buildings and any other improvements erected thereon. The cost of such exterior maintenance and repair (including charges incurred by the Association for attorney’s fees, court costs, or other expenses incurred to obtain access to the subject Lot) shall be added to and become part of the total assessment to which such Lot is subject. In addition, the Association may assess an individual lot for all fees set forth in O.R.C. §5312.11.

5.6 Special Assessments. In addition to the Annual Assessments authorized by this Article, the Association may levy in any assessment year Special Assessments, applicable to that year only, for the purpose of defraying, in whole or in part, the cost of any construction or reconstruction, unexpected repair, replacement or addition of a described capital improvement located upon the Common Elements, which cost has not otherwise been provided for in full as part of the Annual Assessment, including the necessary fixtures and personal property related thereto. Any Special Assessments levied by the Association pursuant to the provisions of this Section shall be fixed at a uniform rate based upon the number of applicable Living Units. All monies received by the Association as a Special Assessment shall be held in trust by the Association for the benefit of the Members to be used solely for the purpose of the Special Assessment and any income derived therefrom shall be held as a separate fund and shall be accounted for separately from the



other assets coming under the control of the Association. The assessment may be billed in advance on a monthly, quarterly or annual basis.

5.7 Commencement of Assessments. The Annual Assessments shall commence on a date to be determined by the Declarant, or Board of Directors, as the case may be. The first assessment for any such membership may be made for the balance of the calendar year and shall become due and payable and a lien on the date aforesaid. The Board may from time to time determine the manner and schedule of payments.

It shall be the duty of the Board of Directors of the Association to periodically fix the amount of the assessment against each Lot for such assessment period and the Board of Directors shall make reasonable efforts to fix the amount of the assessment against each Lot for each assessment period at least thirty (30) days in advance of such date or period and shall, at the time, prepare a roster of the Lots and assessments applicable thereto which shall be kept in the office of the Association and shall be opened to inspection by any Owner upon reasonable notice to the Board. Written notice of the assessment shall thereupon be sent to the Owner of any Lot subject thereto. Annual Assessments subsequent to the first Annual Assessment shall become a lien on January 1 of each year; Individual and Special Assessments shall become a lien at the time designated by the Board of Directors. No notice of lien other than this Declaration need be recorded to establish the validity of any such lien, and this Declaration shall stand as notice thereof.

5.8 Assessment of Declarant and Builder.

Any provision of this Declaration or of the Articles of Incorporation or By-Laws of the Association notwithstanding, the Declarant and Builder shall be completely exempt from payment of an assessment for any recorded, unsettled Lot in which it has an interest. The provisions of this Section 5.8 shall not apply to the assessment of any Lot held by Declarant for rental purposes which is or has been occupied as a Living Unit; in which event the Declarant shall be required to pay the full amount of the assessments levied thereon. The provisions of this Section 5.8 shall not apply to the assessment of any Lot held by a Builder for rental purposes which is or has been occupied as a Living Unit, or for a market or model home; in which event the Builder shall be required to pay the full amount of the assessments levied thereon.

5.9 Assessment Certificates. The Association shall, upon demand, at any reasonable time, furnish to the Owner liable for assessment a certificate in writing signed by an officer or other authorized agent of the Association, setting forth the status of said assessment, i.e., whether the same is paid or unpaid. Such certificate shall be conclusive evidence of the payment of any assessment therein stated to have been paid. A reasonable charge may be levied in advance by the Association for each certificate so delivered.

5.10 Non-Payment of Assessment. Any assessment levied pursuant to these covenants which is not paid on the date when due shall be delinquent and shall, together with such interest thereon and cost of collection thereof, as hereinafter provided, thereupon become a continuing lien upon the property which shall bind such Lot in the hands of the then Owner, his heirs, devisees, personal representatives and assigns. The personal obligation of the then Owner to pay such assessment, however, shall remain his personal obligation for the statutory period and shall not



pass to his successors in title unless expressly assumed by them with the consent of the Association.

If the assessment is not paid within ten (10) days after the due date, the assessment shall bear interest at the rate of ten percent (10%) per annum, and the Association may bring an action at law against the Owner personally obligated to pay the same, or foreclose the lien against the property, in either of which events interest, costs and reasonable attorney's fees shall be added to the amount of each assessment. No Owner shall waive or otherwise escape liability for the assessments herein provided for by non-use of the Common Elements or abandonment of his Lot or Living Unit.

In addition to the ten percent (10%) per annum interest provided above, the Board of Directors in its discretion, may establish a reasonable late charge to be paid in the event of any assessment that is not paid within ten (10) days after due date, provided that such late charge shall not exceed a sum equal to ten (10%) percent of the amount of the assessment which is delinquent by ten (10) days.

5.11 Subordination of Lien to Mortgage. The lien of the assessments provided for herein shall be subordinate to the lien of any first mortgage. Sale or transfer of any Lot shall not affect the assessment lien. However, any first mortgagee who obtains title to a Lot pursuant to the remedies in the mortgage or through foreclosure shall not be liable for more than six (6) months of the Lot's unpaid assessments or charges accrued before the acquisition of title to the Lot by the mortgagee.

5.12 Capital Contributions. At the time of the closing on the purchase of a Lot from the Declarant and/or Builder, the purchaser shall be required to pay to the Association the sum of \_\_\_\_\_ (\$ \_\_\_\_\_) as such purchaser's initial capital contribution to the working capital of the Association. This assessment shall be used by the Association for its operating expenses. Such assessment is not an advance payment of assessments, and it will not be held in any sort of trust or reserve account. Additionally, at the time of such closing, each purchaser of a Lot shall be required to pay a pro-rata share of the Annual General Assessment for the balance of the current year to the extent that such assessment is not otherwise being collected by the Association. The Declarant shall be exempt from the assessments collected pursuant to this Section. Further, any future resale purchasers of any Lot shall be required to pay to the Association the sum of \_\_\_\_\_ (\$ \_\_\_\_\_) as such resale purchaser's contribution to the reserve account of the association.

5.13 Developer Subsidies. It is the intent of the Declarant that the assessments collected pursuant to this Article V shall be sufficient to pay the cost to maintain, repair and replace the Common Elements of the Association. In the event that the capital of the Association is insufficient to cover the cost as set forth in its yearly budget and the Declarant determines it is in the best interest of the Association to subsidize said budget, then any subsidy paid by the Declarant shall be considered a loan to the Association and repaid to the Declarant at such time as the Association has sufficient funds or is turned over to the owners of the Lots.



5.14 Electronic Notice and Usage of Technology. As it is in the community's best interest to give the Association the ability and flexibility to utilize technology to operate more efficiently, the following provisions shall apply;

First, this the Association shall be permitted to send notices to residents and Members electronically, should such residents and Members opt to do so. If one does not wish to receive notices electronically, they will receive them via regular U.S. mail. If a resident or Member wishes to receive notices electronically, they may opt-in by including their email information on the provided consent ballot, otherwise again they will continue to receive notices by regular U.S. mail.

Second, the Association will allow Owners to use mail-in and electronic ballots to vote. The Board, at its sole discretion, will decide if votes will be submitted by the Owners in person at a meeting or if the votes can be submitted by ballot before the meeting. Ballots can be used to vote for Directors and on any other Association matter that requires a meeting to vote.

Third, the Association may elect to hold meetings virtually or in person. This will enable Owners to have more options available to actively participate and become involved with the Association functions in the community and save the Association money on costs associated with mailings.

## **ARTICLE VI**

### **INSURANCE**

6.1 Liability Insurance. The Association shall obtain and maintain a comprehensive policy of public liability insurance covering all of the Common Elements, insuring the Association, Directors, and Owners and Members of their respective families, tenants and occupants in an amount of not less than One Million 00/100 Dollars (\$1,000,000.00), per occurrence for personal injury and/or property damage. This insurance shall include protection against such risks as are customarily covered with respect to a development similar in construction, location and use, as determined by the Board. The insurance shall contain a "severability of interest" endorsement which shall preclude the insurer from denying the claim of an Owner, tenant or occupant because of negligent acts of the Association, the Board, or other Owners, tenants or occupants.

6.2 Other Insurance. In addition, the Association shall obtain and maintain contractual liability insurance, Directors' and Officers' liability insurance and such other insurance as the Board may deem desirable from time to time.

6.3 Insufficient Insurance. In the event the improvements forming a part of the Common Elements shall suffer damage or destruction from any cause or peril which is not insured against, or if insured against, the insurance proceeds from which shall not be sufficient to pay the cost of repair, restoration or reconstruction, then, the Association shall advance such costs in excess of available insurance proceeds. The amount so advanced by the Association shall become a Special Assessment against all of the Lots for which whose benefit the amount was so advanced, and such assessment shall have the same force and effect, and if not paid, may be enforced in the same manner as herein provided for the nonpayment of assessments. The action required to be



taken by the Association under this Section shall not require any vote of the Members of the Association.

6.4 Fidelity Bonds. The Board shall ensure there is fidelity bond coverage, naming the Association as an insured, with respect to any person or agent handling Association funds in an amount of not less than Five Thousand Dollars (\$5,000.00) as determined by the Board.

## **ARTICLE VII**

### **ARCHITECTURAL CONTROL AND DEVELOPMENT RESTRICTIONS**

7.1 Architectural Standards. All Property at any time subject to this Declaration shall be governed and controlled by this Article. Until the date that all Lots within the subdivision have been sold by the Declarant and the initial construction on all Lots has been completed, the Builder shall have the exclusive authority to determine the architectural standards which shall govern the construction of Improvements on the Property. Each Owner covenants and agrees by acceptance of a deed to a Lot, to comply with, and to cause his/her Lot and any occupancy thereof to comply with the standards promulgated by the Builder. All plans, specifications and site surveys for the construction and placement of each Living Unit shall be submitted to the Builder prior to the commencement of construction for its approval. Further, Builder or the Association may adopt additional architectural standards from time to time.

7.2 Approval Required. No building, deck, structure, fence, landscaping or other exterior improvement shall be commenced, erected or maintained upon the Lots, nor shall any exterior addition to or change or alteration therein be made until the plans and specifications showing the nature, kind, shape, height, materials and location of the same shall have been submitted to and approved in writing by the appropriate entity. Such plans and specifications shall be reviewed as to harmony of external design and location in relation to surrounding structures and topography in accordance with the requirements hereinafter set forth and the design review criteria established from time to time by such entity.

Review of the construction of the original dwellings and related improvements and alterations shall be completed by the Builder or the Board (as the case may be), including:

- (a) A site plan showing the location of all proposed structures on the Lot;
- (b) A grading plan showing finished contours existing environmental features and any significant tree stands;
- (c) Architectural plans, including floor plans, decks or balconies, in elevations clearly depicting the design and exterior appearance including specification of materials, color scheme, trim and other details effecting the exterior appearance of the proposed structure.

All construction shall be performed substantially in accordance with the approved plans and specification and any modifications to such plans and specifications shall be resubmitted to the Builder or the Board (as the case may be) for approval.



7.3 Approval - Not a Guarantee. No approval of plans and specifications shall be construed as representing or implying that such plans, specifications or standards will, if followed, result in properly designed improvements. Such approvals shall in no event be construed as representing or guaranteeing that any Living Unit or other improvement built in accordance therewith will be built in a good and workmanlike manner. Neither Builder nor the Association shall be responsible or liable for any defects in any plans or specifications submitted, revised or approved pursuant to the terms of this Article, any loss or damage to any person arising out of the approval or disapproval of any plans or specifications, any loss or damage arising from the non-compliance of such plans and specifications, any loss or damage arising from the non-compliance of such plans and specifications with any governmental ordinances and regulations, nor any defects in construction undertaken pursuant to such plans and specifications. Owners are required to obtain all necessary approvals from all governmental agencies.

7.4 General Requirements. The following requirements shall be applicable to all Living Units and the Lots upon which such Living Units are located:

7.4.1 General Conditions. Except for Lots designed as Common Elements lots, no building shall be erected, altered, placed or be permitted to remain on any Lot other than one Living Unit with a private garage suitable for parking not less than two (2) cars which is to be attached to the principal dwelling.

Except for improvements constructed by a Declarant in connection with the development of the Property, no improvement of any kind shall be erected, altered, placed or permitted to remain on the Common Elements (including areas designated as “open-space easements”). Additionally, no improvement constructed by the Declarant in connection with the development of the Property shall be removed from the Common Elements (including areas designated as “open-space easements”) without the prior written consent of the Builder and/or the Association.

7.4.2 House Placement and Yard Grading. Residences and Lots shall conform to existing grade and drainage patterns as set forth on the grading plan for the Property filed with the appropriate governmental authorities. Existing grades at Lot lines shall not be altered more than one (1) foot without the written consent of Builder or the appropriate governmental authorities.

7.4.3 Underground Houses and Log Homes. Underground and log structures are prohibited.

7.4.4 Driveways. All driveways shall be surfaced with concrete, pavers or similar substance. Any modifications to a driveway shall require the written approval of the Builder or the Association.

7.4.5 Water Discharge. Storm water must be disposed of in accordance with drainage plans established by the Builder, Developer or the Board of the Association. Owners shall not alter, or cause to alter, any Storm Water Facilities



constructed by the Builder or Declarant for the purposes of storm water management for the Subdivision. Pursuant to Article IX hereof, any alteration caused by Owners shall be the sole responsibility of same to ameliorate to the satisfaction of the Builder, Declarant, Association, and any governing authorities as the case may be.

7.4.6 Radio and Television Antennae and Satellite Dishes. All television and radio antennas, including CB radio antennas, must be enclosed within the residence located on the Lot. Satellite dishes shall be permitted on any Lot provided they are installed in compliance with the following criteria: (a) the diameter of the dish does not exceed twenty-four (24) inches; (b) it is screened from view of all adjacent Lots; and (c) is located in the rear yard area of the Lot.

7.4.7 Air Conditioning and Heat Pump Equipment. Such equipment shall be located only in side or rear yards.

7.4.8 Awnings. No metal, canvas or plastic awnings for windows, doors or patios may be erected or used. Canvas awnings may be used on any Lot subject to prior written approval of a Declarant or the Association.

7.4.9. Fences.

(a) No fence or wall of any kind, specifically including the use of a hedge or other growing plants as a fence, and for any purpose, excepting a retaining wall, shall be erected, placed or suffered to remain upon (i) any landscape easement, (ii) greenbelt easement, or (iv) upon any Lot nearer to any street than the rear building line of the residence located on the Lot. Unless otherwise approved by the Board, fences shall be limited to: (i) a three-rail, split rail fencing with or without black or nonreflective, wire mesh; (ii) a three-rail board fence, with or without black or nonreflective, wire mesh; (iii) a picket fence; (iv) aluminum fencing or (v) a hedge or other growing plants used as a fence; and no such fence shall exceed five feet (5') in height. On a corner Lot, in addition to the restrictions set forth above, no fence or portion thereof shall be erected or placed or suffered to remain upon said corner Lot, closer to the side street than the building set back line for such residence.

(b) Fence as used herein shall be liberally construed as to accomplish the purpose of these restrictions, and shall specifically include, but not be limited to, contrived barriers of any type including those of shrubs, hedges or walls. Side street as used herein shall refer to any street contiguous to any Lot which does not face the front door of the residence.

(c) This Section shall not apply to: (i) underground invisible dog-type fences or (ii) decorative fences or retaining walls installed by the Declarant or a Builder in connection with the development of the Property or residences.



7.4.10 Exterior Carpeting. No exterior carpeting shall be allowed if it is visible from the street or adjoining properties.

7.4.11 Completion. Construction of a residential building on any tract shall be completed within one (1) year from the date construction is started and the disturbed yard area must be sodded or seeded, provided, however, that the completion date shall be extended for stoppages caused by strike, lockout, labor disputes, fire, unusual delay in transportation, unavoidable casualty, weather and acts of God.

7.4.12 Roofs. All roofs on residences shall be asphalt shingle. A replacement roof shall be color matched to the original roof unless otherwise approved.

7.4.13 Zoning. All improvements shall be constructed in accordance with and subject to all applicable zoning regulations and building codes.

7.4.14 Standby Electric Generators. Any standby electric generator (“Generator”) installed by or on behalf of an Owner must comply with the following requirements:

- (i) be installed and maintained in compliance with the manufacturer’s specifications and all applicable governmental health, safety, electrical and building codes;

- (ii) all electrical, plumbing and fuel-line connections for a Generator must be installed by a licensed contractor only;

- (iii) non-integral Generator fuel tanks must be installed to comply with all applicable municipal zoning ordinances and all applicable governmental health, safety, electrical and building codes;

- (iv) Generator must be located in the rear yard on Owner’s Sublot and may not be located in the front or side yard;

- (v) Generator must be screened from view if visible from the street, or any adjoining Lot, and such screening must be approved by the Association in its sole and absolute discretion;

- (vi) Generator cannot be used for all, or substantially all, of the electrical power for a residence, except when utility-generated electrical power is unavailable or is intermittent due to causes other than non-payment for utility services to the residence.

Prior to the installation of a Generator, an Owner must submit plans and specifications showing the proposed location of the Generator and any applicable screening. Such application to install a Generator shall be submitted and reviewed in the same manner and following the same procedures as any other request to modify or improve the exterior of a Living Unit. The Declarant, Builder or the



Board are not responsible for ensuring that an approved submission complies with any applicable governmental, health, safety, electrical or building codes.

7.4.15 Gazebos, Play Equipment and Other Structures. No gazebo or similar type of recreational or decorative structures shall be placed on any Lot without the prior written approval of the Builder or the Association. Basketball goals are prohibited from being attached to the living units but shall be permitted as permanent installations adjacent to the driveway of the home and within a specific dimension of the house so as they are not installed near the right-of-way or street.

Playsets shall be permitted on any Lot provided they are installed in compliance with the following criteria: (a) they shall be of a semi-permanent nature; (b) they are made primarily of wood; and (c) they are located in the rear yard area of the Lot and are not within the prohibited rear or side yard setback areas. Playsets shall not be used for storage. Metal playsets and trampolines are not permitted without the express written permission of the Builder or Association.

7.5 Variances. In order to avoid unnecessary hardship and/or to overcome practical difficulties in the application of certain provisions of the Declaration, the Builder or Board shall have the authority to grant reasonable variances from the provisions of Section 7.1 through 7.4 inclusive. Additionally, so long as Declarant owns one or more Lots on the Property, such Declarant, may grant reasonable variances from the provisions of Section 7.4. No variance shall materially injure or materially adversely affect any other part of the Property or any other Owner or occupant. No variance granted pursuant to the authority of this Section 7.5 shall constitute a waiver of any provision of the Declaration as applied to any other party or other part of the Property, and no variance may be granted to permit anything that is prohibited by applicable law. All provisions of the Declaration not affected by the grant of a variance shall continue to apply with full force and effect to the Lot for which the variance is granted and to the balance of the Property.

## **ARTICLE VIII**

### **USE RESTRICTIONS AND MAINTENANCE**

8.1 Restrictions. The following requirements shall be applicable to all Living Units and the Lots upon which such Living Units are located.

8.1.1 Purpose of Property. Except for parcels designated as Common Elements, the Property shall be used only for residential purposes and common recreational purposes auxiliary thereto. Garages shall be used only for the parking of vehicles and other customary uses and shall not be used for or converted into living area, (e.g. family room, bedrooms, offices or recreational rooms). Additionally, no storage is permitted in garages that prevents the parking of vehicles within said garage. A Declarant or a Builder shall have the right to use unsold residences as model homes or sales offices.



8.1.2 Nuisance. No obnoxious or offensive activity of any kind shall be engaged in on any Lot nor shall any Owner or occupant thereof engage in any activities that interfere with the quiet enjoyment, comfort and health of the occupants of adjacent neighboring Lots. This paragraph shall not apply to any Lots owned by a Declarant or a Builder and held for sale.

8.1.3 Animals and Pets. No animals, livestock or poultry of any kind shall be raised, bred or kept on any Lot, except that dogs, cats or other household pets (excluding pot-belly pigs) may be kept, provided that they do not exceed four (4) in number and they are not kept, bred or maintained for any commercial purpose. Notwithstanding the above, in the event such household pets have a litter, the Owner shall have a period of one hundred twenty (120) days from the date of such birth to dispose of such excess pets. This paragraph shall not apply to fish kept in a small landscape type pond provided such fish are not maintained for commercial purposes. The Association shall have the right to establish rules and regulations concerning pets within the Subdivision including, but not limited to, the number and size. In addition, all pets shall be kept on a leash and all owners shall be responsible for cleaning up after their pets in the Common Elements and on their Lots. The Association shall have the right to fine owners who fail to properly control their pets or abide by the rules of this section.

8.1.4 Signage. No sign of any kind shall be displayed to the public view on any Lot except: (a) one (1) professional sign of not more than six (6) square feet; or (b) one (1) sign of not more than nine (9) square feet advertising the property for sale. Additionally, no signs may be installed by an Owner on the Common Elements. Foreclosure, bankruptcy and other distressed sale references are specifically prohibited. Signs disparaging, defaming or demeaning any person, including Declarant, the Association, any Builder, regarding any development activities, or for any other reason are specifically prohibited. The Declarant or a Builder may display signs without size limitations and place signs anywhere to advertise the Property during the construction or sale period.

8.1.5 Trash. No burning of any trash and no accumulation or storage of litter, new or used building materials or trash of any kind shall be permitted on any Lot. Trash and garbage shall be placed in sanitary containers and shall not be permitted to remain in the public view except on days of trash collection. This paragraph shall not apply to any Lots owned by a Declarant or a Builder and held for sale.

8.1.6 Prohibited Accessory Structures, Swimming Pools, and Play Equipment. No permanent or temporary accessory building (see Section 8.1.13 for storage sheds), tent, mobile home or free standing greenhouse shall be erected or permitted to remain upon a Lot. Decks are permitted provided they are located within the permitted building area of the Lot and attached to the residence. Swimming Pools and related appurtenances are permitted on Lots provided they are in-ground type pools. Hot tubs, spas and related appurtenances are also permitted on Lots in



locations approved and accepted by the Builder or the Board. See Section 7.4.15 for play equipment.

8.1.7 Maintenance and Landscaping. Each and every Lot and house thereon shall be maintained by the Owner thereof in a reasonable manner in accordance with the general standards of maintenance prevailing throughout the Property. All landscaping on the Lots including any street trees shall be maintained in good condition. In the event any Owner fails to replace a street tree that dies or is damaged, within sixty (60) days after notice from the Association (subject to a reasonable extension for appropriate planting seasons), the Association shall have the right to replace such street tree and assess the cost thereof against such Owner's Lot. Any replacement tree shall be a minimum 3" caliper. All Lots, including any areas designated as "open-space easements" on such Lots, shall be kept free of debris and clutter and shall be kept mowed. This paragraph shall not apply to any Lots owned by the Declarant or a Builder and held for sale.

8.1.8 Automobiles, Recreational Vehicles, Boats, Travel Trailers. No recreational vehicle, mobile home, boat or travel trailer shall be parked or stored on any Lot, for a period in excess of forty-eight (48) hours during any calendar month, unless the same is in the garage and completely out of view. Commercial vehicles and trucks exceeding a  $\frac{3}{4}$  ton rating are prohibited unless such commercial vehicles or trucks are kept in the garage and completely out of view. A vehicle or truck shall be considered a commercial vehicle or truck when exhibiting, but not limited to, lettering, numbering or graphics relating to business usage or identification or a with a clearly commercial use, bed, body or accessory such as lifts, buckets, snowplows, etc. without any specific markings. No vehicle in inoperable condition or unlicensed condition shall be stored on any Lot for a period in excess of five (5) days unless the same is in the garage and completely out of view. This paragraph shall not apply to any Lots owned by a Declarant or a Builder and held for sale.

8.1.9 Garage and Yard Sales and Holiday Decorations. There shall be no more than two (2) garage or yard sales held by the Owner or residents of any Lot during any twelve (12) month period.

Christmas lights and other holiday-type decorations may be erected no sooner than five (5) weeks prior to and removed not later than two (2) weeks after such holiday.

8.1.10 Obstruction of Easements and Drainage. No structure, planting or other material other than driveways, or sidewalks shall be placed or permitted to remain upon any Lot which may damage or interfere with any easement or the installation or maintenance of utilities, or which may change, obstruct or retard direction or flow of any drainage channels in the easement area. The easement area of each Lot and all improvements in an easement area shall be maintained by the Owner of the Lot, except for those improvements for which a public authority, utility company or the Association is responsible.



8.1.11 Streams, Lakes; Detention and Retention Ponds. All lakes, ponds, streams, detention or retention ponds within the Property, if any, shall be aesthetic amenities only and no other use thereof, including without limitation, swimming, boating, fishing, playing or use of personal flotation devices shall be permitted. Neither the Declarant, the Builder nor the Association shall be responsible for any loss, damage or injury to any person or property arising out of the authorized or unauthorized use of the lakes, ponds or streams and detention ponds within the Property.

8.1.12 Irrigation Systems. No irrigation system outlets shall be located in the public right-of-way, except as may be approved by the appropriate governmental authorities. This paragraph does not apply to irrigation systems installed by the Declarant, Builder or Developer.

8.1.13 Storage Sheds. No storage shed shall be placed on any Lot without the prior written approval of the Builder or the Association. Storage sheds will be permitted on any Lot provided that they are installed with the following criteria: (a) they are located in the rear yard area of the Lot and are not within the prohibited rear or side yard setback areas' (b) they are constructed with a similar design, materials and colors as the main home on the Lot; and (c) they do not exceed 100' in area (10' x 10' footprint) and are single story.

8.1.14 Commercial or Professional Uses. Except as expressly permitted in this Declaration, or by rules adopted in accordance with this Declaration, no industry, business, trade or full-time occupation or profession of any kind, commercial, educational, or otherwise, designated for profit, altruism, exploration or otherwise, shall be conducted, maintained or permitted on any part of the Property; provided, however, subject to local ordinance or regulations an Owner may use a portion of his or her Living Unit for his or her office or studio, so long as the activities therein shall not interfere with the quiet enjoyment or comfort of any other Owner and that such use does not result in the Living Unit becoming principally an office, school or studio as distinct from a Living Unit.

8.1.15 Owner's Right to Lease Dwelling Unit. An Owner shall have the right to lease all (but not less than all) of such Owner's Living Unit upon such terms and conditions as the Owner may deem advisable, except that no Living Unit shall be leased or subleased for transient or hotel purposes. Any lease or sublease of a Living Unit for a period of less than six (6) months shall be deemed to be a lease or sublease for transient or hotel purposes. Any lease or sublease of a Living Unit shall be in writing and shall provide: (1) that the lease or sublease shall be subject to the terms of this Declaration, and that any failure of a lessee to comply with the terms of this Declaration shall be in default under the lease or sublease; and (2) the limitations with respect to leasing of Living Units shall not apply to the: (A) Declarant, Builder or an affiliate of the Declarant; (B) a mortgage holder in connection with a mortgage foreclosure (or an acceptance of a deed in lieu of foreclosure) or with respect to any sale or transfer from a mortgage holder or any



other person who acquired the Living Unit in connection with a foreclosure or deed-in-lieu.

(a) Association's Rights with Respect to Leased Living Units. Violations of these covenants, conditions or restrictions shall be grounds for the Association or any Owner to commence a civil action for damages, injunctive relief, or both, and an award of court costs and reasonable attorneys' fees in both types of action. The Association has the following rights in order to implement the provisions of this Section 8.1.14:

(1) The Association may initiate eviction proceedings pursuant to Chapters 5321 and 1923 of the Ohio Revised Code to evict a tenant for a violation of this Section. The action shall be brought by the Association, as the Owner's agent, in the name of the Owner.

(2) In addition to any procedures required by Chapters 5321 and 1923 of the Revised Code, the Association shall give the Owner at least ten (10) days' written notice of the intended eviction action.

(3) The costs of any eviction action brought pursuant to this Section, including reasonable attorneys' fees, shall be charged to the Owner and shall be the subject of a special assessment against the offending Living Unit and made a lien against that Living Unit.

8.1.16 Group Homes, Day Care and Rehabilitation Home. No part of any residence may be used for the operation of a group home, halfway house, day-care center, rehabilitation center, treatment facility, or residence of unrelated individuals who are engaging in, undertaking, or participating in any group living, rehabilitation, treatment, therapy, or training with respect to previous or continuing criminal activities or convictions, alleged criminal activities, alcohol or drug dependency, physical or mental handicaps or illness, or other similar matters.

8.1.17 Flag Display (a) If a flag is displayed, it may only be of a country or state flag, or a flag of one of the U.S armed forces, and it must be hung from a pole/rod that is attached to the house and not exceed 15 square feet in size; no freestanding flag poles are permitted. This paragraph shall not apply to marketing or advertising flags on any Lots owned by a Declarant or a Builder and held for sale.

8.1.18 Interior Window Coverings as viewed from the Exterior. Interior window coverings shall only be permitted if the colors visible from the street, when such window coverings are closed, are white, cream, tan, gray, brown or black. Any variance from these colors must be approved in writing by the Builder or the Association.



8.1.19 Firearms; Preservation of Wildlife; Ice Skating. Firearms, ammunition and explosives of every kind shall not be discharged nor shall any traps or snares be set, nor shall any hunting or poisoning of wildlife of any kind be permitted in or upon the Property, except for rodent/nuisance wildlife control, with the prior written approval of the Board. No Owner of a Lot, or any resident, guest or invitee of an Owner shall be allowed to fish or ice skate on any Lot, open space or anywhere within the Property.

## **ARTICLE IX**

### **EASEMENTS AND MAINTENANCE**

9.1 Access Easements. All Lots shall be subject to an access easement in favor of the Declarant and the Association for the purposes of maintaining, cleaning, repairing, improving, regulating, operating, replacing and otherwise dealing with the Common Elements, including all improvements thereon. Such access easement shall also permit the Declarant and the Association to enter upon any Lot for the purpose of correcting grade and drainage patterns for the benefit of the entire Properties, provided that the Lot shall be restored with any pavement, grass or sod which shall have been removed.

9.2 Private Drainage Easements. Except as otherwise set forth on the record plat or plats for the Property, same Lots are subject to private drainage easements in favor of the Declarant, the Builder, and the Association. Such private drainage easements shall be as set forth on the record plat or plats for the Property. Additionally, except as otherwise set forth on the record plat or plats for the Property, all Lots are subject to a five foot (5') in width private drainage easement adjacent to the rear line of the Lot. The Declarant, Builders and the Association shall have the right to enter upon a private drainage easement for the purpose of establishing or re-establishing drainage swales in order to control and direct storm water to collection facilities.

9.3 Right of Association to Remove or Correct Violations. The Declarant or Association may, in the interest or the general welfare of all of the Owners, enter upon any Lot or the exterior of any Living Unit at reasonable hours on any day for the purpose of removing or correcting any violation or breach of any attempted violation of any of the covenants and restrictions contained in this Declaration, or for the purpose of abating anything herein defined as a prohibited use or nuisance, provided however, that no such action shall be taken without a resolution of the Board of Directors of the Association authorizing access to any Lot or property covered under this Section and any charges incurred by the Association in correcting the violation hereunder, (including court costs and reasonable attorney's fees) shall constitute a charge against the subject property and a personal obligation of the Owner thereof, and the Association shall have a lien upon the property and Lot for such expenses, and including costs of collection of said lien amount, which lien shall be subordinate to first mortgages as provided in Article V, Section 5.11. The Declarant or Association shall not, by reason or taking such action above, be deemed liable in any manner, for such entry, abatement or removal, including but not limited to trespass, conversion, theft or the destruction of property.



9.4 Maintenance of Common Elements. The Association shall be responsible for the care and maintenance of the Common Elements of the subdivision except as set forth below. Such obligation of the Association shall include the care and maintenance of any improvements (including landscaping) constructed by the Developer, Declarant or the Association in an open-space easement or signage easement. The Association shall also be responsible for the care and maintenance of the water drainage functions of the Storm Water Facilities and related storm water improvements in a manner satisfactory to the appropriate governmental authority to the extent such facilities are not being maintained by such governmental authority. The Owner of a Lot shall be responsible for the care and maintenance of all other portions of such Owner's Lot, including the Living Unit, but excluding any improvements installed by the Declarant or the Association in an open-space easement or signage easement. Notwithstanding the above, the Owner of a Lot on which is situated Storm Water Facilities or a signage easement shall be responsible for all grass cutting in such easement areas. Should any Owner fail to maintain his Lot, to the extent provided in the Declaration, the Association may do so, after notice, and assess such Owner for the cost. The assessment shall be a lien on the Owner's Lot to the same extent as other liens provided for herein.

9.5 Lot and Common Element Maintenance Easement. There is hereby reserved for the benefit of the Association and their respective agents, employees, successors and assigns, but not to the public in general, a permanent non-exclusive right and easement to enter upon any and all Lots and Common Elements for the purpose of mowing, removing, clearing cutting or pruning underbrush, weeds, stumps, or other unsightly growth and removing trash and debris in order to maintain reasonable standards of health fire safety and appearance within the Property, provided that such easements shall not impose any duty or obligation upon Declarant, Developer, Builder, or the Association to perform any such actions.

9.6 Association's Right to Maintain Lots. In the event that any Owner shall fail to provide maintenance as required by this Declaration in a manner satisfactory to the Association, and such Owner has failed to comply for fourteen (14) days after being so notified of such failure and upon being provided an opportunity to be heard concerning such failure, then the Association, and its respective agents, employees, successors and assigns, shall have the right to enter upon said Lot to repair, maintain and restore the Lot, including but not limited to, for the purpose of removing, clearing, cutting or pruning grass, underbrush, weeds, stumps, or other unsightly growth, removing trash and debris , or taking any other action necessary to repair, restore, and/or maintain the Lot. In the event that such failure poses a health, safety or security risk, then no notice or hearing need to be given. The cost of such maintenance and repair shall be assessed against the subject Lot in accordance with Article V. There is hereby reserved for the benefit of the Association, and its respective agents, employees, successors and assigns, an alienable, transferrable and perpetual easement right and easement to enter upon any and all of the Lots for the purpose of mowing, removing, clearing, cutting or pruning grass, underbrush, weeds, stumps or other unsightly growth and removing trash and debris in order to maintain the standard generally prevailing throughout the Property as required by the Declaration, provided that such easements shall not impose any duty or obligation upon the Association to perform any such actions. Nothing in this section shall be construed as (a) imposing any duty on the Association to perform, repair, maintain, and restore a Lot, and/or (b) giving the Association any right to repair, maintain or restore



any Living Unit.

## **ARTICLE X**

### **FEDERAL HOME LOAN MORTGAGE CORPORATION PROVISIONS**

10.1 FHLMC. The following provisions are included herein for the benefit of the holders of first mortgages on any Lot within that portion of the Association which is subject to the provisions of this Declaration (PUD), in order to permit compliance with the requirements of Federal Home Loan Mortgage Corporation (FHLMC) as a condition to the purchase of loans on Living Units in the PUD. The covenants and provisions hereinafter set forth shall run in favor only of the first mortgage holders, and the provisions hereinafter set forth may be altered, amended, revised or rescinded by actions of the Board of Directors of the Association, without approval of the Members of the Association, but only without such approval to the extent that such alteration, amendment, revision or rescission is necessary to comply with the requirements of FHLMC.

10.2 Approvals. It is provided as follows:

- (a) Unless at least sixty-six and two-thirds percent (66-2/3%) of the first mortgagees (based upon one vote for each first mortgage owned) or Owners (other than the Declarant or Developer) of the individual units in the PUD have given their prior written approval, the Association shall not be entitled to:
  - (i) By act or omission seek to abandon, partition, subdivide, encumber, sell or transfer the common property owned, directly or indirectly, by such homeowners association for the benefit of the units in the PUD (the granting of easements for public utilities or for other public purposes consistent with the intended use of such common property by the Association shall not be deemed a transfer within the meaning of this clause);
  - (ii) change the method of determining the obligations, assessments, dues or other charges which may be levied against a PUD unit owner;
  - (iii) by act or omission change, waive or abandon any scheme of regulations, or enforcement thereof, pertaining to the architectural design or the exterior appearance of units, the exterior maintenance of units, the maintenance of units, the maintenance of the common property party walks or common fences and driveways, or the upkeep of lawns and plantings in the PUD;
  - (iv) fail to maintain fire and extended coverage on insurable PUD common property on a current replacement cost basis in an amount not less than one hundred percent (100%) of the insurable value



(based on current replacement cost);

- (v) use hazard insurance proceeds for losses to any PUD common property for other than the repair, replacement or reconstruction of such common property.
- (b) First mortgagees of PUD units may, jointly or singly, pay taxes or other charges which are in default and which may or have become a charge against any PUD common property and may pay overdue premiums on hazard insurance policies, or secure new hazard insurance coverage on the lapse of a policy, for such common property and first mortgagees making such payments shall be owed immediate reimbursement therefor from the PUD homeowners association. All first mortgagees of units in the PUD shall be entitled to such reimbursement.
- (c) No PUD Unit Owner, or any other party, has priority over any rights of any first mortgagee of a PUD unit pursuant to its mortgage in the case of a distribution to such PUD Unit Owner of insurance proceeds or condemnation awards for losses to or taking of PUD common property.
- (d) A first mortgagee, upon request, is entitled to written notification from the Association of any default in the performance by the individual PUD unit Borrower of any obligation under the PUD constituent documents which is not cured within sixty (60) days.

## **ARTICLE XI**

### **DEVELOPMENT RIGHTS**

11.1 Submission of Additional Land. The Declarant reserves the rights to submit all or any portion of the Additional Land to the terms of this Declaration without consent of the Owners at any time during the Development Period. The submission shall be accomplished by the filing of a Supplemental Declaration identifying the Additional Land, the Lots and the Common Elements.

11.2 Notice to the Board. The Declarant shall promptly notify the Board of the filing of any Supplemental Declaration.

11.3 Easements Reserved. The Declarant reserves for itself, its successors and assigns and any Builder, the following easements:

11.3.1 Easements for drainage and all utilities as shown on the Record Plan.

11.3.2 Easements for ingress, egress, drainage and all utilities over the Common Elements provided that such easements do not unreasonably interfere with any Owner's right of enjoyment.



11.3.3 An easement over the Common Elements as may be reasonably necessary for the purpose of discharging its obligations or exercising any rights under the Declaration.

11.3.4 An easement for ingress, egress, drainage and all utilities over the Common Elements and in favor of the Additional Property and the right to convey that easement to others in the event that the Additional Property is not submitted to this Declaration.

11.4 Assignment of Development Rights. The Declarant reserves the right to assign any or all of its Development Rights to any person or entity for the purpose of further development and improvement of the Property. No assignment shall be effective unless in a writing filed with the Recorder of Lorain County, Ohio.

11.5 Transfer of Development Rights by Foreclosure. Unless otherwise provided in any mortgage securing the Property held by Declarant, in the case of foreclosure of such mortgage, deed in lieu of foreclosure, judicial sale, tax sale, sale under the U.S. Bankruptcy Code or receivership proceedings, of any portion of the Property held by the Declarant subject to the Development Rights herein reserved (including the Special Declarant Rights), a person acquiring title to such property, but only upon his request, succeeds to all such Development Rights. The judgment or instrument conveying title must provide for the transfer of such rights. Upon foreclosure sale, deed in lieu of foreclosure, judicial sale, tax sale, sale under the U.S. Bankruptcy Code or receivership proceedings, the Declarant ceases to have any of the rights herein reserved. A successor to the Development Rights held by the transferee who acquired such rights pursuant to this Section, may declare by a recorded instrument the intention to hold such rights solely for transfer to another person. Thereafter, until transferring such Development Rights to any person acquiring title to the Property subject to the Development Rights, or until recording an instrument permitting exercise of such rights, that successor may not exercise any of those rights, and any attempted exercise is void. So long as a successor declarant may not exercise any Development Rights under this section, such declarant is not subject to any liability as a declarant.

11.6 Realignment of Lot Lines. During the Development Period, The Declarant (and thereafter, the Association) reserves unto itself, its successors and assigns, including any Builder or the Association, the right to realign the lot lines of any Lot for the purpose of eliminating any encroachment of any portion of a Living Unit or any fixture attached thereto on another Lot or on the Common Elements. The Declarant may effect such realignment by conveyance of a portion of a Common Element to the Owner or by replat of the Common Elements and Lot or Lots. Such conveyance or replat shall not require the joinder of the Owners, the Association or any mortgagee. Declarant reserves unto itself, its successors and assigns, including any Builder and the Association, a power of attorney coupled with this reserved interest, to act on behalf of any person having an interest in the Property or in the Common Elements and Lots, whether such interest is legal or equitable, including interests held as security for an obligation, for the purpose of effecting such realignment.

## **ARTICLE XII**



## **SPECIAL DECLARANT RIGHTS**

12.1 **Use for Sale Purposes.** Declarant reserves for itself, its successors and assigns, and any Builder the right to maintain sales offices and models on the Lots.

12.2 **Signs and Marketing.** The Declarant reserves the right for itself and any Builder to post signs and displays in the Property to promote sales of Lots, and to conduct general sales activities, in a manner as will not unreasonably disturb the rights of Owners.

12.3 **Control of the Association.**

12.3.1 **Appointment of Directors and Officers.** The Declarant reserves the right to appoint and remove the members of the Board and the Officers of the Association during the Declarant Control Period which shall commence upon the recording of this Declaration and shall terminate not later than the conveyance of all Lots (including Lots to be included as Additional Land) to Owners other than Declarant or any Builder.

12.3.2 **Early Termination of Control.** The Declarant may voluntarily surrender the right to appoint and remove Directors and officers before the termination of the period set forth above. In that event, the Declarant may require, for the duration of that period, that specified actions of the Association or the Board, be approved by Declarant before they become effective. Such voluntary termination shall be evidenced by a recorded instrument executed by the Declarant setting forth the termination of right to appoint and the actions which require Declarant's approval.

12.4 **Declarant's Personal Property.** The Declarant and Builder reserve the right to retain all personal property and equipment used in sales, management, construction and maintenance of the premises that has not been represented as property of the Association. The Declarant and Builder reserve the right to remove, within One (1) year after the sale of the last Lot, from the Property any and all goods and improvements used in development, marketing and construction, whether or not they have become fixtures.

12.5 **Declarant Liability.** The Declarant shall not be responsible or liable for the acts of the Association.

12.6 **Right to Impose Additional Restrictions.** Declarant reserves the right to file a Supplemental Declaration with respect to all or portions of the Property, which imposes expressly or by reference, additional restrictions and obligations on the land described therein, assigns maintenance responsibility, or designates property as Common Elements.

## **ARTICLE XIII**



## **GENERAL PROVISIONS**

13.1 Enforcement. The Declarant, the Association, or any Owner, shall have the right to enforce, by any proceeding at law or in equity, all restrictions, conditions, covenants, reservations, liens and charges now or hereafter imposed by the provisions of this Declaration. Failure by the Declarant, the Association or by any Owner to enforce any covenant or restriction herein contained shall in no event be deemed a waiver of the right to do so thereafter.

13.2 Severability. Invalidity of any one of these covenants or restrictions by judgment or court order shall in no way affect any other provisions which shall remain in full force and effect.

13.3 Amendment. Except as otherwise provided in this Declaration, the covenants and restrictions of this Declaration shall run with and bind the land for a term of twenty (20) years from the date this Declaration is recorded, after which time they shall be automatically extended for successive periods of ten (10) years. This Declaration may be amended during the first twenty (20) year period by an instrument signed by not less than seventy-five percent (75%) of the Lot Owners, and thereafter by an instrument signed by not less than fifty-one percent (51%) of the Lot Owners. Any amendment must be recorded. No amendment to the covenants and restrictions of this Declaration shall be binding upon any Lot owned by the Declarant or upon any additional property annexed to the terms of this Declaration by the Declarant, or upon any Lot upon which a single-family dwelling has not yet been erected unless the Declarant or any such Lot Owner agrees to said amendment in a recorded writing. Notwithstanding the above, a vote to terminate the applicability of this Declaration and to dissolve the planned community requires the unanimous consent of the Owners.

13.4 Right to Amend Documents. Notwithstanding anything above to the contrary, this Declaration and the By-Laws may be amended at any time without the vote of Owners by a written instrument executed by the Declarant for the purpose of: eliminating or correcting any typographical or other inadvertent error herein; eliminating or resolving any ambiguity herein; making nominal changes; clarifying Declarant's original intent; conforming to any requirements imposed or requested by any governmental agency, public authority or financial institution; provided, however, that no such amendment shall materially affect any Owner's interest in the Association. Each Owner and his mortgagees, by acceptance of a deed to a Lot or a mortgage encumbering such Lot, shall be deemed to have consented to and approved of the provisions of this paragraph and the amendment of this Declaration and the By-Laws by Declarant as provided in the immediately preceding sentence. All such Owners and their mortgagees, upon request of Declarant, shall execute and deliver from time to time all such instruments and perform all such acts as may be deemed by Declarant to be necessary or proper to effectuate the provisions of this paragraph.

13.5 Professional Management Contracts and other Contracts. The Association may delegate all or any portion of its authority to discharge its responsibilities herein to a manager or managing agent. Any management agreement shall not exceed three (3) years and shall provide for termination by either party without cause or without payment of a termination fee on ninety (90) days or less written notice.



13.6 Non-Discrimination. No Lot Owner (including the Declarant) and no employee, agent or representative of a Lot Owner shall discriminate on the basis of sex, race, color, creed or national origin in the sale or lease of any Lot or in the use of the Common Elements.

13.7 Personal Liability. Nothing in this Declaration, the Articles or the regulations of the Association, or any rules or regulations enacted pursuant to any of the aforesaid, shall impose personal liability upon any member of the Board of Directors or any officer of the Association acting in his capacity as such, for the maintenance, repair or replacement of any part of the Common Elements or give rise to a cause of action against any of them except for damages resulting from their own willful omissions or misconduct and each person who becomes an Owner or Member hereby releases and discharges all liability for injury or damages to such Member or Owner or to such Member's or Owner's property and covenants not to initiate any legal proceedings against any such person or persons unless such said person is covered by insurance and in such event the amount of recovery shall be limited in the amount of insurance.

13.8 Non-Liability of Declarant. Neither the Declarant nor its representatives, successors or assigns shall be liable for any claim whatsoever arising out of or by reason of any actions performed pursuant to any authorities granted or delegated to them by or pursuant to this Declaration or the By-Laws, whether or not such claims shall be asserted by an Owner, occupant, the Association, or by any person or entity claiming through any of them; or shall be on account of injury to person or damage to or loss of property wherever located and however caused. Without limiting the generality of the foregoing, the foregoing enumeration includes all claims for, or arising by reason of, the Property or any part thereof becoming out of repair or by reason of any act or neglect of any Owner, occupant, the Association and their representative agents, employees, guests and invitees or by reason of any neighboring property or personal property located on or about the Property, or by reason of the failure to furnish or disrepair of any utility services (heat, air conditioning, electricity, gas, water, sewage, cable television, etc.), except as provided by any written warranty provided by the Declarant to an Owner or the Association.

13.9 Articles of Incorporation and By-Laws. Copies of the Articles of Incorporation and By-Laws for the Association are attached hereto as Exhibits "B" and "C".

[SIGNATURES ON FOLLOWING PAGE]



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**EXHIBIT “A”**

**Legal Description**



## **EXHIBIT “B”**

### **Articles of Incorporation**



## **EXHIBIT “C”**

### **By-Laws**



**EXHIBIT “C”**  
**BY-LAWS OF THE**  
**CROSSING HOMEOWNERS’ ASSOCIATION, INC.**

ARTICLE I

NAME AND PURPOSE

The name of this Association shall be the Crossing Homeowners’ Association, Inc. (the “Association”). and its sole purpose shall be to manage, govern and control the community facilities for the Crossing Subdivision in accordance with the Declaration of Covenants, Conditions and Restrictions and Reservation of Easements (the “Declaration”) for the subject property and the provisions of O.R.C. §5312.

ARTICLE II

MEMBERSHIP

Section 1: Each Lot Owner shall be a Member of the Association, as provided in Article IV of the Declaration.

ARTICLE III

VOTERS

Section 1: The number of votes for each Member is calculated as provided in Section 4.2 of the Declaration.

Section 2: This voting power can be exercised in person or by proxy by the Owner, or Owners, of a Lot, his or her heirs, assigns or personal representative. All proxies shall be in writing and filed with the Secretary of the Association. Every proxy shall be revocable and shall automatically cease upon the conveyance by the Lot Owner of his Lot.

ARTICLE IV

MEETINGS

Section 1: ANNUAL MEETING. There shall be an annual meeting of the Members held in Lorain County, Ohio, within the first calendar quarter of each year at a date and time and at a place from time to time designated by the Board.



Section 2: ELECTION OF TRUSTEES. At the annual meeting, the Members shall elect the Board of Trustees as provided in these By-Laws and the Declaration.

Section 3: ITEMS FOR DISCUSSION. At the annual meeting, any matters concerning the welfare of the Crossing subdivision may be discussed and referred to the Board for proper attention.

Section 4: REPORTS. At the annual meeting, the President, Secretary and Treasurer shall submit reports for the year just ending, which reports shall be read to the Members.

Section 5: SPECIAL MEETINGS. Special meetings may be called by the Board or by the President, or by Members constituting at least twenty percent (20%) of the voting power of the membership by written notice mailed to each Member at least five (5) days before the time and date for such meeting as shown in such notice. Notice of such meeting may be waived in writing.

Section 6: PRESIDING OFFICER. Annual and Special Meetings shall be presided over and conducted by the President, or in his absence, the Secretary or Treasurer, in that order.

Section 7: NOTICE. Except as otherwise provided in the Declaration, written notice of each meeting of the Members shall be given by, or at the direction of, the Secretary or person authorized to call the meeting, by mailing or delivering a copy of such notice to each Member entitled to vote thereat, at least seven (7) days in advance of such meeting, addressed to the Member's address last appearing on the books of the Association, or supplied by such Member to the Association for the purpose of notice. Such notice shall specify the time and place of the meeting, and in the case of a Special Meeting, the purpose of the meeting.

Section 8: QUORUM. To constitute a quorum at the annual or any Special Meeting at least ten percent (10%) of the voting power of the membership (in person or by proxy) must be present at such meeting.

Section 9: VOTING POWER. Except as otherwise provided in the Declaration, or by law, the vote of a majority of the Members voting on any matter that may be determined by the Members at a duly called and noticed meeting at which a quorum is present shall be sufficient to determine that matter.

Section 10: ORDER OF BUSINESS. The order of business at all meetings of Members shall be as follows:

- a. Calling of meeting to order;
- b. Roll call; determination of whether there is a quorum;
- c. Proof of notice of meeting or waiver of notice;



- d. Reading of minutes of preceding meeting;
- e. Reports of officers;
- f. Reports of committees;
- g. Election of Trustees (when appropriate);
- h. Unfinished and/or old business;
- i. New business;
- j. Adjournment.

Section 11: WRITTEN CONSENT. Any action that could be taken by Members at a meeting may be taken without a meeting by the written consent of the Members having not less than fifty-one percent (51%) of the voting power of the membership unless the approval of a greater number of Members is required by the Declaration, or other Ohio Law to take the action being taken.

Section 12: SUSPENSION OF VOTING PRIVILEGES. No Member shall be eligible to vote or to be elected to the Board of Trustees who is shown on the books of the Association to be more than sixty (60) days delinquent in the payment of any assessment due the Association.

## ARTICLE V

### BOARD OF TRUSTEES AND OFFICERS

Section 1: BOARD OF TRUSTEES. Until the first annual meeting, the initial Board shall consist of three (3) Trustees appointed by the Class B Member who shall serve until their respective successors are appointed and qualified. Declarant appointed Trustees need not be Members of the Association.

Except as otherwise hereafter provided and except for the period during which the Declarant shall control the Board, Trustees shall be elected for three (3) year terms of office and shall serve until their respective successors are elected and qualified.

At the annual meeting after which 75% of the Lots are sold, or at such sooner time as determined by the Board or required by the Declaration, the Class B Member shall appoint two (2) Trustees for a three (3) year term. At such meeting, the Class A Members shall elect one (1) Trustee for a three (3) year term. Thereafter, at each tri-annual meeting, the Class B Member, until such time as the Declarant shall transfer control of the Board to the Class A Members, shall appoint two (2) Trustees for a three (3) year term. At the expiration of the terms of the Trustee elected by the Class A Members, until such time as the Declarant shall transfer control of the Board to the



Class A Members, the Class A Members shall, at the tri-annual meeting, elect a successor Trustee for a three (3) year term. All elected Trustees, and their successors, shall be owners, spouses of owners or residents in the Crossing Subdivision.

The Declarant shall transfer control of the Board to the Class A Members at the first annual meeting after the earlier of the following events: (i) the expiration of the Development Period, (ii) all Lots have been transferred to owners, or (iii) the Class B member voluntarily resigns in writing its Class B membership rights. At this meeting, all Declarant appointed Trustees shall be deemed removed from office, and the Class A Members, including the Declarant if it is then an Owner, shall elect a Trustee to fill each vacancy on the Board. The terms of said elected Trustees shall be from one (1) to three (3) years, as determined by the Board, so that in any one (1) year thereafter, the terms of no more than one (1) Trustee shall expire. Additionally, after this meeting, all Trustees, and their successors, shall be elected by Class A Members and shall be elected for a three (3) year term.

Notwithstanding anything above to the contrary, the Class B Member may, by written notice to the Board, at or before any annual meeting, relinquish to the Class A Members, the Class B Members' right to elect one or more Trustees at such annual meeting pursuant to this section.

Section 2: REMOVAL. Excepting only Trustees named in the Articles or selected by the Declarant, any Trustee may be removed from the Board with or without cause, by a majority vote of the Members. In the event of the death, resignation, or removal of a Trustee other than the one named in the Articles or a substitute selected by the Declarant, that Trustee's successors shall be selected by the remaining members of the Board and shall serve the unexpired term of such deceased, resigned, or removed Trustee. The Declarant shall have the sole right to remove, with or without cause, any Trustee designated in the Articles, or a substitute selected by Declarant, and select the successor of any Trustee so selected who dies, resigns, is removed or leaves office for any reason before the election of Trustees by all of the Members as provided in the Declaration.

Section 3: NOMINATIONS. Nominations for the election of Trustees to be elected by the Members shall be made by a nominating committee. Nominations may also be made from the floor at the meeting. The nominating committee shall consist of a chairman, who shall be a member of the Board, and two (2) or more Members appointed by the Board. The nominating committee shall make as many nominations for elections to the Board as it shall, in its discretion, determine, but no less than the number of vacancies that are to be filled.

Section 4: ELECTIONS. Election to the Board by the Members shall be by secret written ballot. At such elections, the Members or their proxies may cast, in respect to each vacancy, such voting power as they are entitled to exercise under the provisions of the Declaration. The persons receiving the largest number of votes shall be elected. Cumulative voting shall not be permitted.

Section 5: COMPENSATION. Unless otherwise determined by the Members at a meeting duly called and noticed for such purpose, no Trustee shall receive compensation for any service



rendered to the Association as a Trustee. However, any Trustee may be reimbursed for his or her actual out of pocket expenses incurred in the performance of his or her duty.

Section 6: REGULAR MEETINGS. Regular meetings of the Board shall be held no less than yearly, without notice, on such date and at such place and hour as may be fixed from time to time by resolution of the Board.

Section 7: SPECIAL MEETINGS. Special meetings of the Board shall be held when called by the President of the Board, or by any two (2) Trustees, after no less than three (3) days notice to each Trustee.

Section 8: QUORUM. The presence at any duly called and noticed meeting, in person or by proxy, of Trustees entitled to cast a majority of the voting power of the Trustees, shall constitute a quorum for such meeting.

Section 9: VOTING POWER. Except as otherwise provided in the Declaration, or by law, the vote of a majority of the Trustees voting on any matter that may be determined by the Board at a duly called and noticed meeting at which a quorum is present shall be sufficient to determine that matter.

Section 10: ACTIONS IN WRITING WITHOUT MEETING. Any action that could be taken by the Board at a meeting may be taken without a meeting with the affirmative vote or approval, in a writing or writings, of all of the Trustees.

Section 11: POWERS. The Board shall exercise all powers and authority, under law, and under the provisions of the Declaration, that are not specifically and exclusively reserved to the Members by law or by other provisions thereof, and without limiting the generality of the foregoing, the Board shall have the right, power and authority to:

- a. Take all actions deemed necessary or desirable to comply with all requirements of law, and the Declaration;
- b. Obtain insurance coverage not less than that required pursuant to the Declaration;
- c. Enforce the covenants, conditions and restrictions set forth in the Declaration;
- d. Repair, maintain, and improve the Common Elements;
- e. Annually adopt and amend an estimated budget for revenues and expenditures which budget shall include reserves in an amount adequate to repair and replace major capital items in the normal course of operations;



- f. Establish, enforce, levy and collect assessments as provided in the Declaration;
- g. Adopt and publish rules and regulations, subject to the provisions of Article VI, governing the use of the Common Elements and the personal conduct of the Members, occupants and their guests thereon, and establish penalties for the infraction thereof;
- h. Suspend the voting rights of a Member during any period in which such Member shall be in default in the payment of any assessment levied by the Association (such rights may also be suspended after notice and a hearing, for a period not to exceed sixty (60) days for each infraction of published rules and regulations or of any provisions of the Declaration);
- i. Declare the office of a member of the Board to be vacant in the event that such Trustee shall be absent from three (3) consecutive regular meetings of the Board;
- j. Authorize the Officers to enter into one or more management agreements in order to facilitate the efficient operation of the Property; (it shall be the primary purpose of such management agreements to provide for administration, management, repair and maintenance as provided in the Declaration, and the receipt and disbursement of funds as may be authorized by the Board - the terms of any management agreement shall be as determined by the Board to be in the best interests of the Association, subject, in all respects, to the provisions of the Declaration); and
- k. Do all things and take all actions permitted to be taken by the Association by law, or the Declaration not specifically reserved thereby to others.

Section 12: DUTIES. It shall be the duty of the Board to:

- a. Cause to be kept a complete record of all its acts and corporate affairs and to present a statement thereof to the Members at each annual meeting of the Members, or any special meeting when such statement is requested in writing by Members representing thirty percent (30%) of each class of Members who are entitled to vote;
- b. Supervise all Officers, agents and employees of the Association and see that their duties are properly performed;
- c. As more fully provided in the Declaration, to:
  - (i) Fix the amount of assessments against each Lot;



- (ii) Give written notice of each assessment to every Member subject thereto within the time limits set forth therein; and
  - (iii) Foreclose a lien against any property for which assessments are not paid within a reasonable time after they are authorized by the Declaration to do so, or bring an action at law against the Member(s) personally obligated to pay the same, or both;
- d. Issue, or to cause an appropriate representative to issue, at a reasonable charge, upon demand by any person, a certificate setting forth whether or not any assessment has been paid;
- e. Procure and maintain insurance as provided in the Declaration, and as the Board deems advisable;
- f. Cause all Officers or employees handling Association funds to be bonded;
- g. Cause the property subject to the Association's jurisdiction to be maintained within the scope of authority provided in the Declaration;
- h. Cause the restrictions created by the Declaration to be enforced; and
- i. Take all other actions required to comply with all requirements of law and the Declaration.

Section 13: LITIGATION. Notwithstanding any other provision of the By-Laws, the Declaration or the Articles, no judicial or administrative proceeding shall be commenced or prosecuted by the Association unless approved by at least seventy-five percent (75%) of the Lot Owners. This Section shall not apply, however, to (a) actions brought by the Association to enforce the provisions of the Declaration (including, without limitation, the enforcement of the restrictive covenants or the foreclosure of liens), (b) the imposition and collection of assessments as provided in Article V of the Declaration, (c) proceedings involving challenges to ad valorem taxation, or (d) counter claims brought by the Association in proceedings instituted against it. This Section shall not be amended unless such amendment is made by the Declarant pursuant to Section 13.4 of the Declaration or is approved by the percentage vote, and pursuant to the procedures set forth in Section 13.3 of the Declaration.

Section 14: ENUMERATION OF OFFICERS. The Officers of this Association shall be a President, Secretary, Treasurer and such other Officers as the Board may from time to time determine. The officers shall be Owners, residents in the subdivision or representatives of the Declarant or the Developer and the same person may hold more than one office except the office of President and Secretary.



Section 15: SELECTION AND TERM. Except as otherwise specifically provided in the Declaration or by law, the Officers of the Association shall be selected by the Board, from time to time, to serve until the Board selects their successors.

Section 16: SPECIAL APPOINTMENTS. The Board may elect such other Officers as the affairs of the Association may require, each of whom shall hold office for such period, have such authority, and perform such duties as the Board may, from time to time, determine.

Section 17: RESIGNATION AND REMOVAL. Any Officer may be removed from office with or without cause, by the Board. Any Officer may resign at any time by giving written notice to the Board, the President, or the Secretary. Such resignation shall take effect on the date of receipt of such notice or at any later time specified therein, and the acceptance of such resignation shall not be necessary to make it effective.

Section 18: DUTIES. The duties of the Officers shall be as the Board may from time to time determine. Unless the Board otherwise determines, the duties of the Officers shall be as follows:

- a. President. The President shall preside at all meetings of the Board, shall have the authority to see that orders and resolutions of the Board are carried out, and shall sign all legal instruments on behalf of the Association.
- b. Secretary. The Secretary shall record the votes and keep the minutes and proceedings of meetings of the Board and of the Members, serve notice of meetings of the Board and of the Members, keep appropriate current records showing the names of Members of the Association together with their addresses and shall act in the place instead of the President in the event of the President's absence or refusal to act.
- c. Treasurer. The Treasurer shall assume responsibility for the receipt of and deposit in appropriate bank accounts all monies of the Association, the disbursement of such funds as directed by resolution of the Board, the keeping of proper books of account, the preparation of an annual budget and statement of income and expenditures to be presented to the Members at annual meetings, and the delivery or mailing of a copy of each to each of the Members.



## ARTICLE VI

### ADMINISTRATIVE RULES AND REGULATIONS

Section 1: The Board may adopt administrative rules and regulations governing the operation and use of the Property not in conflict with the Declaration or these By-Laws.

## ARTICLE VII

### NOTICES AND DEMANDS

Section 1: Any notice by the Board or by the Officers to a Member shall be deemed to be duly given, and any demand upon him shall be deemed by him to have been duly made, if delivered in writing to him personally, or if mailed by first class mail, postage prepaid, addressed to him at the Lot address and any notice by a Member to the Association shall be deemed to be duly given and any demand upon the Association shall be deemed to have been duly made, if in writing and delivered to an Officer of the Association.

## ARTICLE VIII

### AMENDMENT

Section 1: These By-Laws may be amended from time to time at an annual or special meeting of the Association in accordance with the provisions set forth in the Declaration for amendment thereto.

## ARTICLE IX

### AUDIT

Section 1: The Board, at its option, shall cause the preparation of an audited financial statement of the Association for the previous accounting year. In such event, the Board shall furnish such statement to those requesting it, provided that no such statement needs to be furnished earlier than ninety (90) days following the end of such accounting year.

## ARTICLE X

### INDEMNIFICATION OF TRUSTEES AND OFFICERS

Section 1: A Trustee or an Officer shall not be liable to the Members for any mistake of judgment, or negligent act, except there shall be liability for a Trustee's or Officer's individual willful misconduct or bad faith. The Association shall indemnify Trustees and Officers, their heirs, executors and administrators, against all losses, costs and expenses, including attorney's fees, reasonably incurred by any such person in connection with any action, suit or proceeding to which



such person may be made a party by reason of being or having been or being a representative of a Trustee or Officer, except as to matters as to which the Trustee or Officer shall be finally adjudged in this action, suit or proceeding to be liable for willful misconduct or bad faith. The Board may purchase insurance in the amount it deems appropriate to provide this indemnification, and the cost of this insurance shall be an expense of the Association. In the event of any settlement, indemnification shall be provided only in connection with those matters covered by the settlement as to which the Association is advised by counsel that the Trustee or Officer has not been guilty of willful misconduct or bad faith as a Trustee or Officer in relation to the matter involved. The foregoing rights shall not be exclusive of other rights to which a Trustee or Officer may be entitled. All liability, loss, damage, cost and expenses incurred or suffered by the Association by reason or arising out of or in connection with the foregoing indemnification provision shall be treated by the Association as an expense of the Association. Nothing in this section shall be deemed to obligate the Association to indemnify any Member, who is or has been a Trustee or Officer, with respect to any duties or obligations assumed or liabilities incurred by the Member as a Member rather than as a Trustee or Officer.

## ARTICLE XI

### MISCELLANEOUS

Section 1: TITLE, BOOKS AND RECORDS. The books, records and papers of the Association shall at all times, during reasonable business hours, be subject to inspection by any Member. The Declaration, the Articles, and the By-Laws of the Association shall be available for inspection by any Member at the principal office of the Association, where copies may be purchased at reasonable cost.

Section 2: FISCAL YEAR. The fiscal year shall begin on the first day of January of every year, except that the first fiscal year of the Association shall begin at the date of incorporation. The commencement date of the fiscal year herein established shall be subject to change by the Board of Trustees should corporate practice subsequently dictate.

Section 3: CONFLICT. In the case of any conflict between the Articles and these By-Laws, the Articles shall control; and in the case of conflict between the Declaration and these By-Laws, the Declaration shall control.

Section 4: RULES AND REGULATIONS. As provided in Article VI hereof, the Board may adopt such reasonable rules and regulations and from time to time amend the same supplementing the rules and regulations set forth in the Declaration and these By-Laws as it may deem advisable for the maintenance, conservation and beautification of the Property, and for the health, comfort, safety and general welfare of the Owners and occupants of the Property. Written notice of such rules and regulations shall be given to all Members and occupants and the Property shall at all times be maintained subject to such rules and regulations. In the event such supplemental rules and regulations shall conflict with any provisions of the Declaration or of these By-Laws, the provisions of the Declaration and of these By-Laws shall govern.



Section 5: NO ACTIVE BUSINESS TO BE CONDUCTED FOR PROFIT. Nothing herein contained shall be construed to give the Association authority to conduct an active business for profit on behalf of all the Members or any of them.

Section 6: DEFINITIONS. All terms used herein shall have the same meaning as set forth in the Declaration.

Section 7: DELEGATION OF DUTIES. Nothing herein contained shall be construed so as to preclude the Association from delegating to persons, firms or corporations of its choice, including any manager or managing agent, such duties and responsibilities of the Association as the Board shall from time to time specify, and to provide for reasonable compensation for the performance of such duties and responsibilities.



# Planning Commission Application

RECEIVED

NOV 15 2024



## SUBMITTAL INSTRUCTIONS AND PROCEDURES

Plan reviews will be carried out according to the processes described in the City's Zoning Code.

- **Pre-Application.** Prior to making application, applicants are recommended to contact the city to discuss their development project. City staff will outline the review process and provide a checklist of required submittals.
- **Application Submittal.** Following the pre-application meeting, the applicant shall submit this completed application, fee and ten (10) sets of all required exhibits. All submissions shall be made in hard copy to the Building Division. Plans shall be collated, folded and easily legible.
- **Staff Review.** The applicant shall attend a staff review meeting and may be required to submit additional information and/or revised plans based on staff input.
- **Variances.** Where zoning variances are sought by the applicant, review by the Board of Zoning and Building Appeals will be necessary prior to consideration by the Planning Commission, requiring a separate application.
- **Decision or Referral.** Following staff review, complete submittals for Administrative Review projects may be considered for approval. For Council Review projects, complete submittals shall be referred to the next available Planning Commission meeting, which are held the second Tuesday of each month.

## PROJECT INFORMATION

34620 Bainbridge Rd., North Ridgeville, OH 44039 0700016104233

Location address

Parcel number(s)

Project type: ☒ Commercial/Industrial/Multi-Fam ☐ Prelim Major Subdivision ☐ Final Major Subdivision ☐ Lot Split

Project elements: ☒ New Construction ☐ Building Addition/Alteration ☐ Site Improvements ☐ Plat

A new Transportation and Maintenance Center to replace existing facilities, which will be demolished.

Project description

## APPLICANT/AGENT INFORMATION

Claire Bank / ThenDesign Architecture (TDA)

Name/Company

4230 River Street, Willoughby, OH 44094

Applicant address

(440)269-2266

cbank@thendesign.com

Applicant phone

Applicant email

## PROPERTY OWNER INFORMATION

Roxann Ramsey-Caserio / North Ridgeville City Schools

Name/Company

34620 Bainbridge Rd., North Ridgeville, OH 44039

Property owner address

(440)353-1108

roxanncaserio@nracs.net

Property owner phone

Property owner email

## AUTHORIZATION AND ACKNOWLEDGEMENT

Claire Bank

Applicant signature

Digitally signed by Claire Bank  
DN: cn=US, email=cbank@thendesign.com, cn=Claire Bank  
Reason: I have reviewed this document  
Date: 2024.11.14 19:28:27-0500

Property owner signature

I hereby authorize the City of North Ridgeville, including Planning Commission members, to view the premises and consent to their entry onto the property for the purpose of observing site conditions related to review of my application.

|        |               |                   |        |
|--------|---------------|-------------------|--------|
| OFFICE | PPZ No.       | Planning Fee Paid | ACTION |
|        | PPZ 2024-0321 | N/C Per Mayor     |        |



## Planning Review

November 19, 2024

*Preliminary Review*

Project: North Ridgeville City Schools Transportation Center  
Location: 7001 Ranger Way  
PPNs: 07-00-016-104-233  
District: R-1 Residence District

### Project Summary:

This proposal consists of a new transportation and maintenance center for the North Ridgeville City Schools. The property is zoned R-1 Residence District. Surrounding property is primarily zoned R-1 Residence District, as well, with the exception of several commercial lots along Center Ridge Road which are zoned B-3 Highway Commercial District. The facility will be located in the field area north of the parking lot west of the stadium and across the street from Fire Station #1 on Ranger Way. Schools and other public uses are permitted uses in the R-1 District.

The approximate 18,500 square foot building is a pre-engineered metal building with metal roof panel. There will be a 2'8" high wainscot of red brick around the base of the building to match the Academic Center. The metal of the building will be slate gray in color. Overhead doors are provided on the north and south elevations of the building to allow access for buses and other vehicles and equipment requiring maintenance.

The site will be paved and striped for bus parking. Pavement will be asphalt with concrete curbing. Spaces for 74 buses are provided along with additional standard parking spaces for employees adjacent to the building. An additional row of parking is provided to the north of the existing lot. A fueling station is proposed. The site is enclosed by an 8-foot-high black vinyl coated chain link fence. A dumpster enclosure is provided to the east of the building; screening is comprised of chain link with privacy slats.

Two new curb cuts are shown on Ranger Way. The northernmost curb cut will be enter only, while the new southern curb cut will be exit only. Connectivity to the existing parking lot and internal driveways is provided. A traffic impact study has been submitted for the entire development of the site which is currently under review. A sidewalk currently exists on the east side of Ranger Way.

A portion of the new development will be constructed in the existing flood zone adjacent to Robinson Ditch. The site will be regraded to promote drainage. Stormwater will flow to a detention basin in the northeast corner of the development area.

### Preliminary Comments:

- Provide exhibit showing location of Fire Station #1 to provide better context for review of proposed curb cuts on Ranger Way.



- Provide landscape plan.
- For the purpose of reviewing parking count, how many employees will be working out of the transportation center?
- Fencing shown across entrance and exit drives. Are gates proposed? Show fence detail.
- Is there sufficient space between the building and the fence to the south for buses to exit the maintenance center and make the turn?
- How will the fence between the transportation center and existing parking lot be protected from vehicles? It doesn't appear there is curbing, bollards or other means of protecting the fence from people backing out of the new row of spaces.
- 1285.08(c)(1): Provide cut sheets of all building mounted and pole mounted lighting fixtures. Fixtures must be full cut off.
- 1285.08(e): Provide calculation zones and summary table for illumination levels.
- 1294.01(h)(2): Fences in residential districts cannot exceed 6 feet in height and cannot be located closer to the street than the front building line.



### PROJECT INFORMATION

Transportation & Maintenance Center

Proposed project

34620 Bainbridge Rd

Location

December 10, 2024

Meeting date

07-00-016-104-233

Parcel number

December 1, 2024

Comments due

### RECOMMENDATIONS

Please contact Asst. Chief Mike Uhnak with the North Ridgeville Fire Department. To discuss the following code requirements:

1: OFC Rule5 Fire Service Feature-

Section 506: Fire Department Lock Box

Section 503: Fire Access Roads

Section 507: Fire Protection Water Supply

2: OFC Rule 33 Fire Safety During Construction.

3: NFPA 241 Standard for Safeguarding Construction Operations.

4: Chapter 16 Fire Prevention North Ridgeville City Ordinance.

1640.01: Fire Hydrants: All portions of the building must be within 300ft of a hydrant. The plan does not show this hydrant requirement.

5: State Fire Marshal will permit all fuel dispensing installation.

6: All storage areas for Flammable/Combustible Liquid need identified and properly protected/stored. Please decide if a control area will be needed.

7: The Fire Department Connection preferred location is on the wall of the building. Also, a fire hydrant within 50ft.

8: The plans show a 4" fire connection. 6" will be the minimum requirement, but that will be decided by the hydraulic calculations for the sprinkler system.

9: Please have a licensed fire protection company conduct the water flow test.

10: Please determine the Minimum Fire Flow Requirements as tabled in the International Fire Code. Table B105.1

Respectfully:

Asst. Chief Mike Uhnak  
North Ridgeville Fire Department  
[Muhnak@nridgeville.org](mailto:Muhnak@nridgeville.org)  
(440)653-6362



## Planning Commission Comment Sheet



### SUBMITTED BY

**Mike Uhnak**

Administrative officer signature

**Asst. Chief**

Title

**Planning Commission Bylaws Article V Section 2 – Administrative Review.** All applications including those plans and maps submitted to the Commission shall be referred to Administrative Officers. Comments and recommendations by Administrative Officers, if any, shall be forwarded to the Secretary not later than ten (10) calendar days after receipt. Administrative Officers who have not acted within the allotted time shall be deemed to have concurred with plans as submitted.



## Planning Commission Comment Sheet



### PROJECT INFORMATION

Transportation & Maintenance Center

Proposed project

34620 Bainbridge Rd

Location

December 10, 2024

Meeting date

07-00-016-104-233

Parcel number

December 1, 2024

Comments due

### RECOMMENDATIONS

Type comments here. Attach additional sheets as necessary.

Suggest traffic study. With the possible increase in traffic in this area, consideration should be given to the nearby safety forces buildings (Fire Station No. 1 and Police Department)

### SUBMITTED BY

Guy M. Fursdon

Administrative officer signature

Chief Building Official

Title

**Planning Commission Bylaws Article V Section 2 – Administrative Review.** All applications including those plans and maps submitted to the Commission shall be referred to Administrative Officers. Comments and recommendations by Administrative Officers, if any, shall be forwarded to the Secretary not later than ten (10) calendar days after receipt. Administrative Officers who have not acted within the allotted time shall be deemed to have concurred with plans as submitted.



## Staff Meeting Bulletin

**Meeting Date:** November 26, 2024

**Project:** North Ridgeville City Schools Transportation Center, 7001 Ranger Way, North Ridgeville, OH 44039

**Applicant:** Claire Bank, ThenDesign Architecture, 4230 River St, Willoughby, OH 44094

**Zoning:** R-1 Residence District

**In Attendance:** Kevin Corcoran, Mayor  
Kim Lieber, Planning & Development Director  
Christina Eavenson, City Engineer  
Mike Freeman, Police Chief  
John Reese, Fire Chief  
Mike Uhnak, Assistant Fire Chief  
Roxann Ramsey-Caserio, North Ridgeville City Schools  
David Pritt, North Ridgeville City Schools  
Claire Bank, ThenDesign Architecture  
Bill Schurman, Hammond Construction

### Project Introduction

- Claire stated that the transportation center was meant to replace two of the buildings, the maintenance and transportation centers that were existing on the east side of the North Ridgeville campus. She explained that the plan was to put it north of NRAC and combine those facilities. She discussed that it would be the transportation facility with bus bays on one side and then the maintenance facility with truck bays on the other as well as parking for the buses to the north of it. She mentioned that the storm water was being treated on site in a basin to the north of the lot. She described the building as being pre-engineered metal with a masonry base to it and that they would have gates in and out of the lot to keep the buses secure. She said that one of the comments she received had to do with the height of the fence, which was more of a school district preference, as far as if they wanted six or eight feet.

### Staff Comments

- Kim asked if Claire would talk about how the fence and gate worked because it looked like it went across the driveway and asked if there was a system for bus drivers to scan in that opened and closed them. Claire stated that the plan was that those were going to be powered sliding gates with card readers or a keypad with two heights, so one would be at the bus driver height, and one would be at car height with one being in only and one being out only.
- Kim asked about employee parking. Claire stated that a lot of it would be parking outside of the fence where they were extending the parking to the north of the existing lot and mirroring that one row of parking and they had just a handful of spots within the facility that would be more for probably the maintenance staff, but most would be parking outside of that fence and there would be a manned gate to get into the fence enclosure.
- Kim asked regarding the fence and the location of it between the building and then heading south, because she was trying to understand how it was attached to the ground and then how it would be protected from cars that would be either parked in the parking lot side, south of the fence, or the buses. She asked if they had a plan or a thought of how that would be protected. Claire stated that they did ask their civil engineer about it, and they don't traditionally do protection around the fence and that a curb wouldn't really stop that anybody from hitting it unless it was really far off of that



fence, and bollards along that whole stretch seemed like a lot. Claire stated that currently that width of that aisle was the same as the parking rows so if someone could get out of their spot and not hit cars that were parked across, that would be the cause of the placement of that fence keeping it that same distance away.

- Christina encouraged their engineer to look at the parking ordinance and that they had a requirement for a buffer on end caps to protect vehicles when drivers were rounding corners and the ordinance talked about parking dimensions and drive aisles.
- Mike stated that regarding the fence, the electric gates would need some kind of Knox box actuation place for the fire department. He asked if the exit was just one way, and they couldn't go in that way. Claire stated that was correct. Mike commented that all the traffic that would be entering would be through that north entrance and asked if there would be gates by the football field. Claire stated that there would be a gate that direction to get through and the one that was over with the bigger drive, there would be a gate over there.
- Kim stated that they would need to provide cut sheets of new light fixtures and said that their lighting plan identified each point in the grid, but they needed to provide a summary for each calculation zone. Areas around the building could be a little higher than general parking lots. Claire asked if there were different lighting targets. Kim said she would send a link to the code.
- Kim asked regarding the fence height, what was the district's preference in that regard and asked if it was just a safety and security thing. Claire stated it wasn't untypical of them to see districts with a little bit taller bus fencing just to limit the temptation of anybody getting in and messing with the buses and that was why they had initially shown 8 feet. Kim asked about the landscape plan and Claire stated that they would get that to her, but the plan was to keep it pretty simple as far as that site. They were aware of the requirements in the code based on the building perimeter.
- Mike stated that the fire department connection needed to be attached to the building. He asked if they had done their calculations, as all portions of the building had to be within 300 feet of the fire hydrant. Claire stated that they sent that over to Civil and they were checking on that. Mike asked if they did their water flow calculations. Claire stated they had requested testing, but she didn't know if they got those results. Mike mentioned that they would usually call him for the test so that he could be present as well. Mike stated that he saw that all of their hazardous material were protected and whatever was in the building, if they could indicate on their plans if there was any storage area was for that. Mike commented that the fuel dispensing would be permitted through the State Fire Marshall's Office. Chief Reese asked if that was above ground. Claire stated that it was. Mike asked how big that was going to be and Claire stated it was 14,000 gallons and it would be a split tank that would be partial diesel and partial gas.
- Kim asked regarding deliveries for materials, parts, gas and products, how they would get in if they were using a key card from Ranger. Roxann stated that they would give them access via a card.
- Chief Reese asked if there was a dumpster next to the fuel tank in the back. Claire stated that it was and would be in a chain link with vinyl sides to shield it.
- Christina asked about the intent to maintain the existing swale along Ranger Way as there was some drainage coming along there that got picked up and asked if there were pipes underneath. Claire stated that was correct and said that the swale would remain just piped underneath the aprons and the basin they were grading it so that it could be mowed. Christina asked if the storm water management was taken care of on the property in itself, so that basin would address the entirety of this impervious surface. Claire stated that was correct.
- Chief Freeman asked for a greater turn radius for the drives coming out onto Ranger Way to allow busses to turn north, a wide enough turn radius where they wouldn't enter the center lane. He said like they had at Bainbridge and Ranger Way, those buses go over top of the curb and had a hard time going north on Ranger Way because the cut was not wide enough.
- Chief Reese asked if any of those driveways were affected by the fire light and stated that the fire light was a three-way light. He stated that if one of those driveways were affected, they would have to



make sure they had a light going that way for the bus driver so that they knew when the fire light was triggered and commented that it was something to think about.

#### **Next Steps**

- The applicant will provide updated plans for the December 10 meeting.



# Memorandum

|                 |                                                                              |              |       |
|-----------------|------------------------------------------------------------------------------|--------------|-------|
| <b>Date:</b>    | 12/06/24                                                                     |              |       |
| <b>To:</b>      | Kim Lieber, AICP – Director of Planning and Development                      |              |       |
| <b>From:</b>    | Claire Markwardt Bank – ThenDesign Architecture                              |              |       |
| <b>Project:</b> | NRCSD – Transportation and Maintenance Center<br>7001 Ranger Way             | <b>Job#:</b> | 19114 |
| <b>Subject:</b> | Planning Commission Preliminary Review Responses for comments dated 11/19/24 |              |       |

## Planning Commission Preliminary Review Comment Responses:

- 1) **Comment:** Provide exhibit showing location of Fire Station #1 to provide better context for review of proposed curb cuts on Ranger Way.  
[Response:](#) Please see attached revised site plan with Fire Station Drive Labeled.  
[Reference file "2024-1206-Revised Transportation Site Plan.pdf"](#)
- 2) **Comment:** Provide landscape plan.  
[Response:](#) Please see attached conceptual landscape plan.  
[Reference file "2024-1206-Transportation Landscape Plan.pdf"](#)
- 3) **Comment:** For the purpose of reviewing parking count, how many employees will be working out of the transportation center?  
[Response:](#) There will be 8 maintenance staff, and 80 transportation staff.  
(drivers/aides/mechanics). Parking zones are now noted on the revised site plan.  
[Reference file "2024-1206-Revised Transportation Site Plan.pdf"](#)
- 4) **Comment:** Fencing shown across entrance and exit drives. Are gates proposed? Show fence detail.  
[Response:](#) Yes, sliding, powered gates are proposed.  
[Reference file "2024-1206-A520 Fencing Details.pdf"](#), details 6-8/A520.
- 5) **Comment:** Is there sufficient space between the building and the fence to the south for buses to exit the maintenance center and make the turn?  
[Response:](#) Yes, there is sufficient space. Please reference attached file showing turn movement.  
[Reference file: "2024-1206-Turn Movement.pdf"](#)
- 6) **Comment:** How will the fence between the transportation center and existing parking lot be protected from vehicles? It doesn't appear there is curbing, bollards or other means of protecting the fence from people backing out of the new row of spaces.  
[Response:](#) The team is not planning to put protection around the fence. A curb would have to be placed rather far from the fence to stop someone impacting it, and bollards would have to be closely placed. The aisle has been widened by 2' since the first submission, so it now matches typical drive aisles.
- 7) **1285.08(c)(1):** - Provide cut sheets of all building mounted and pole mounted lighting fixtures. Fixtures must be full cut off.  
[Response:](#) Please reference attached cut sheets. The parking lot lighting is meant to match the style of the lights installed at the 3-8.  
[Reference file "2024-1206-Transportation Center Lighting Cut Sheets.pdf"](#)



## Memorandum, continued

- 8) **1285.08(e)** – Provide calculation zones and summary table for illumination levels.  
Response: If possible, we would like our electrical engineer to present the illumination levels and lighting calculation. The zone is a little bit complicated because we are attempting to keep light poles out of the middle of the parking lot. That means light has to travel a greater distance from the perimeter to cover the middle adequately. The engineer feels the statistics themselves won't provide enough information and the whole story, so he would like to have a conversation to allow for more dialogue.
- 9) **1294.01(h)(2)** – Fences in residential districts cannot exceed 6 feet in height and cannot be located closer to the street than the front building line.  
Response: The fence is now 6 feet in height. It is currently placed where it needs to be to allow for the bus parking capacity needed, so if it needs to move back, we may need to seek a variance.

### Attachments:

#### Drawings:

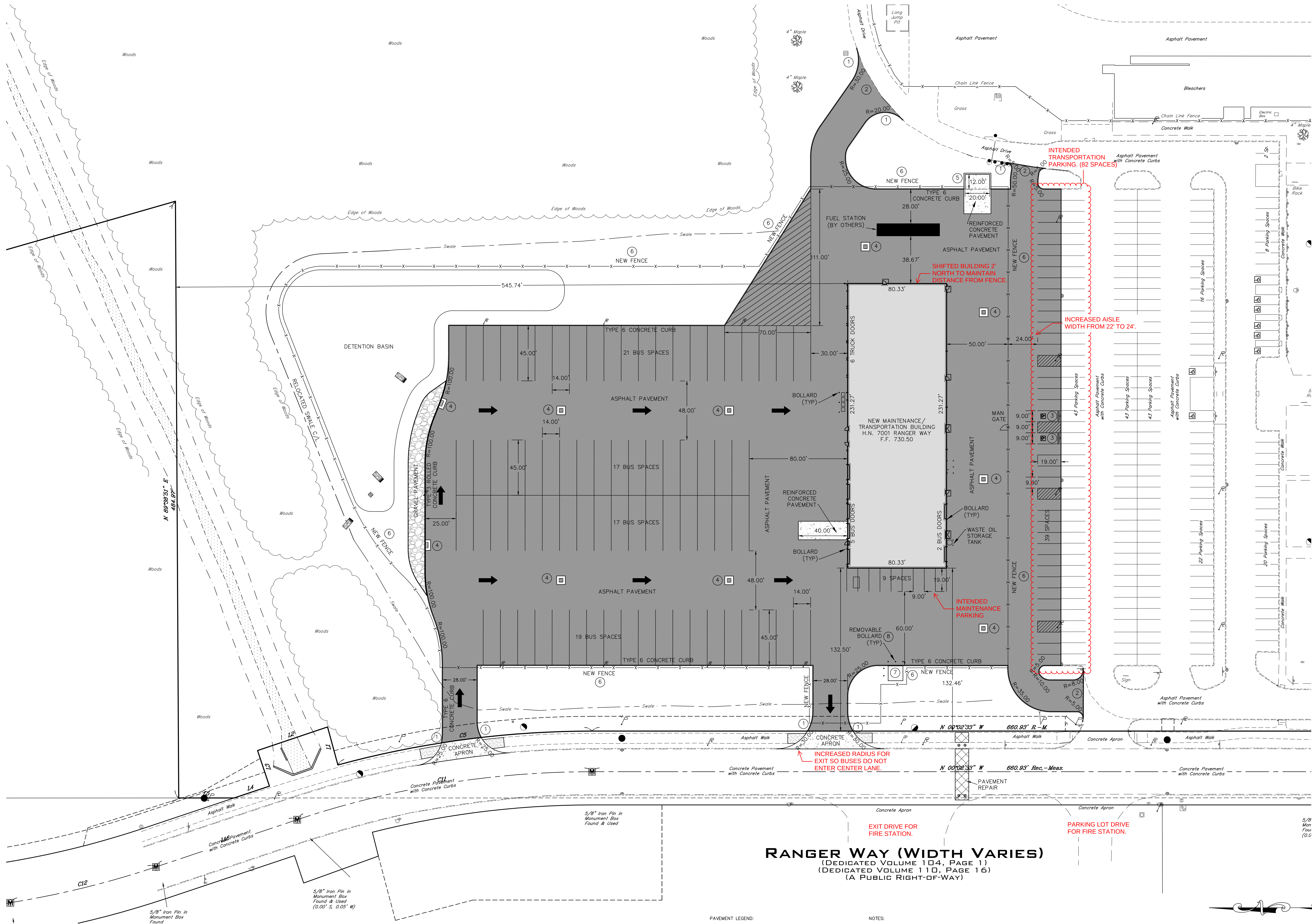
- 2024-1206-A520 Fencing Details.pdf
- 2024-1206-Revised Transportation Site Plan.pdf
- 2024-1206-Transportation Center Lighting Cut Sheets.pdf
- 2024-1206-Transportation Landscape Plan.pdf
- 2024-1206-Turn Movement.pdf

Respectfully Submitted,

**Claire Markwardt Bank, AIA, NCARB**  
**ThenDesign Architecture**

**cc:** File  
Roxann Ramsey-Caserio  
David Pritt  
William Schurman





LEGEND

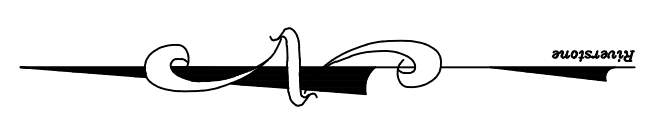
|  |                        |  |                      |
|--|------------------------|--|----------------------|
|  | Monument Box Found     |  | Spot Elevation Tag   |
|  | Iron Pin or Pipe Found |  | Water Service Valve  |
|  | 5/8\"/>                |  | Water Valve          |
|  | Gas Meter              |  | Water Meter          |
|  | Gas Valve              |  | Sanitary Manhole     |
|  | Utility Pole           |  | Storm Manhole        |
|  | Light Pole             |  | Sanitary Catch Basin |
|  | Guy Anchor & Line      |  | Catch Basin          |
|  | Telephone Box          |  | Property Line        |
|  | Cable Box              |  | Centerline           |
|  | Bollard                |  |                      |
|  | Cleanout / Test Tee    |  |                      |

PAVEMENT LEGEND:

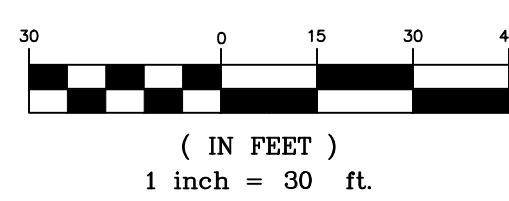
|  |                              |
|--|------------------------------|
|  | ASPHALT PAVEMENT             |
|  | REINFORCED CONCRETE PAVEMENT |
|  | CONCRETE WALKS               |
|  | GRAVEL PAVEMENT              |

NOTES:

- END CURB PER END CURB TAPER DETAIL, SEE DETAIL SHEET C6.01.
- SEAL JOINT BETWEEN EXISTING PAVEMENT AND PROPOSED ASPHALT PAVEMENT PER ODOT ITEM 705.04.
- ADA PARKING STALL AND SIGN, SEE DETAIL SHEET C6.01.
- CONCRETE COLLAR, SEE DETAIL SHEET C6.01.
- DUMPSTER ENCLOSURE, SEE ARCHITECTURAL PLANS FOR DETAILS.
- 8\"/>
- TRANSFORMER PAD, SEE ELECTRICAL PLANS FOR DETAILS. PROVIDE 3\"/>
- REMOVABLE BOLLARDS, SEE ARCHITECTURAL SHEET A520 FOR DETAILS.



GRAPHIC SCALE



2024-102

Preliminary  
Not for  
Construction

TRANSPORTATION CENTER  
NORTH RIDGEVILLE CITY SCHOOL DISTRICT  
7001 RANGER WAY  
NORTH RIDGEVILLE, OH 44039

| no.            | description         | date       |
|----------------|---------------------|------------|
| 1              | Design Development  | 8/30/2024  |
| 2              | Planning Commission | 11/15/2024 |
| Project Issues |                     |            |

Revised: 11/15/2024  
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drawn by:

checked by:

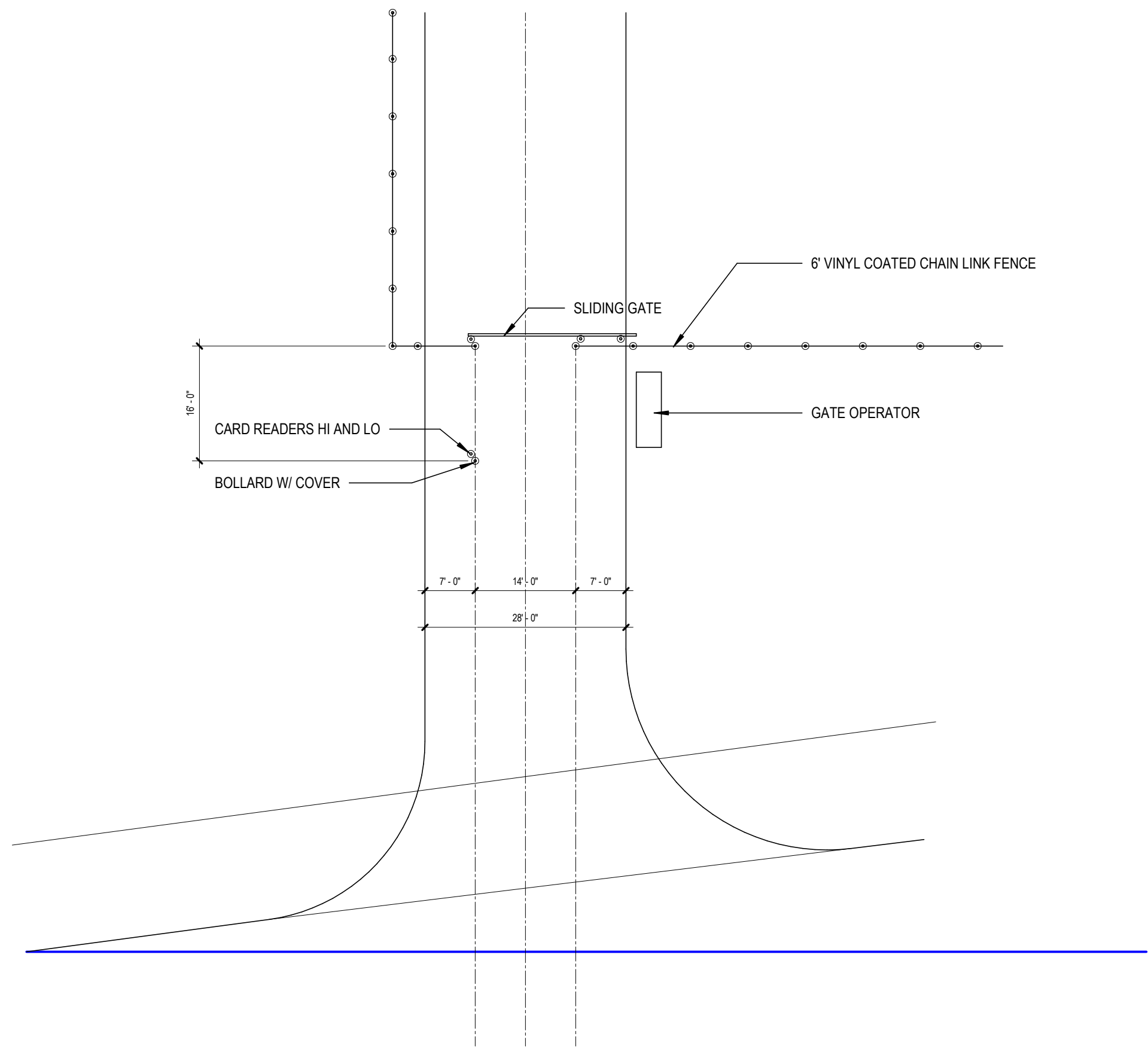
sheet number:

C3.01

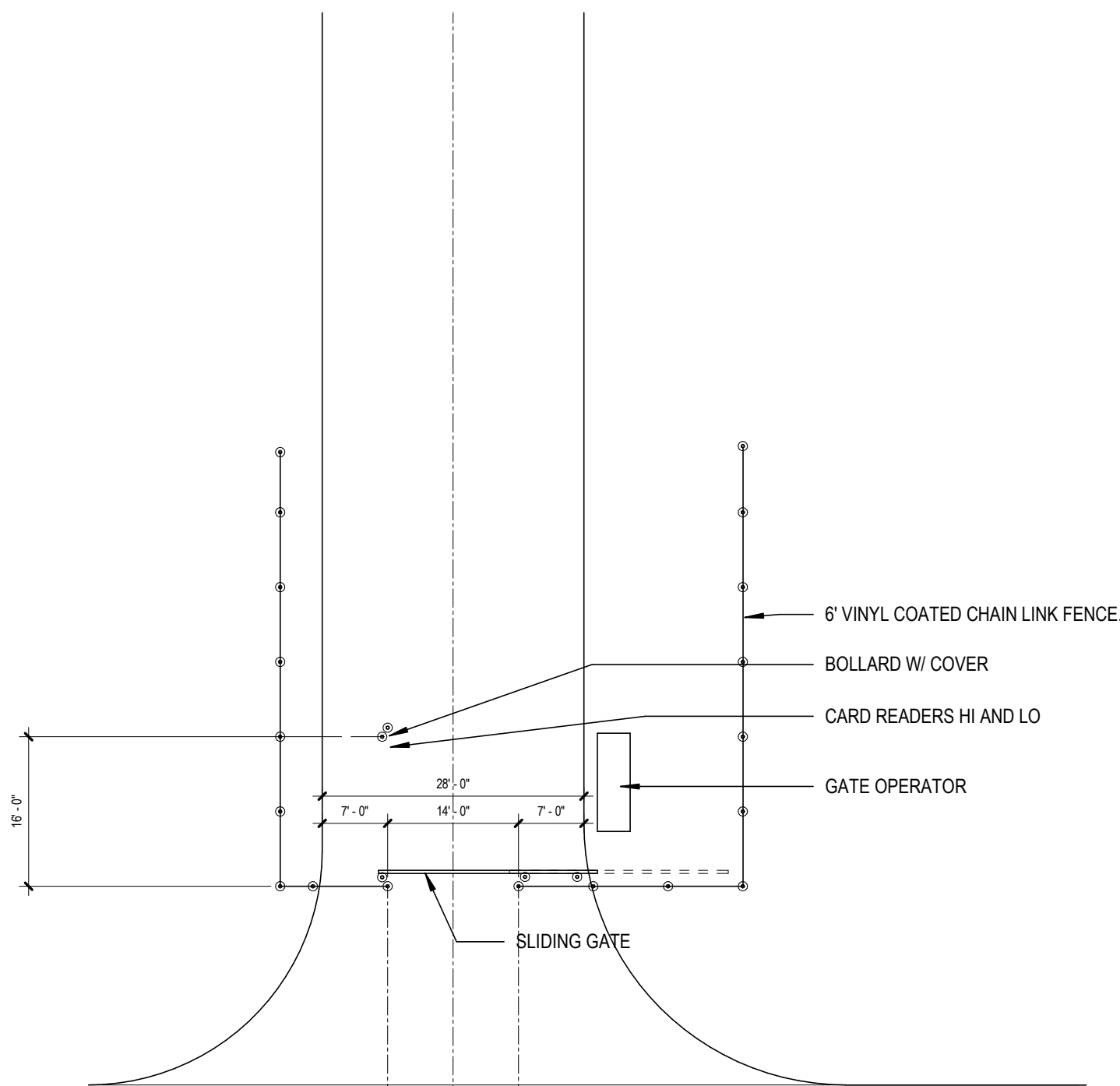
job number:

23099

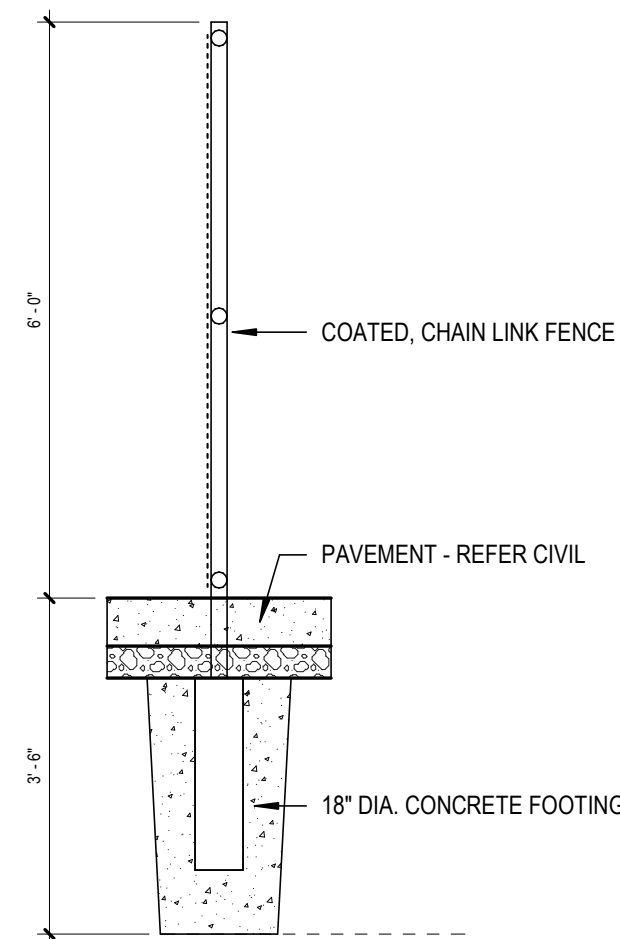




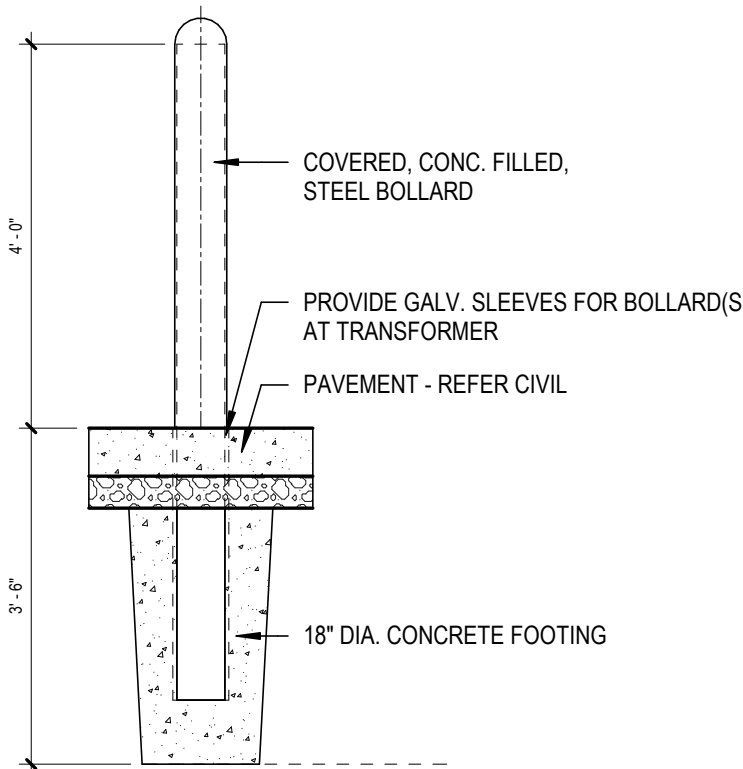
7 ENTRANCE  
A520 SCALE: 1/16" = 1'-0"



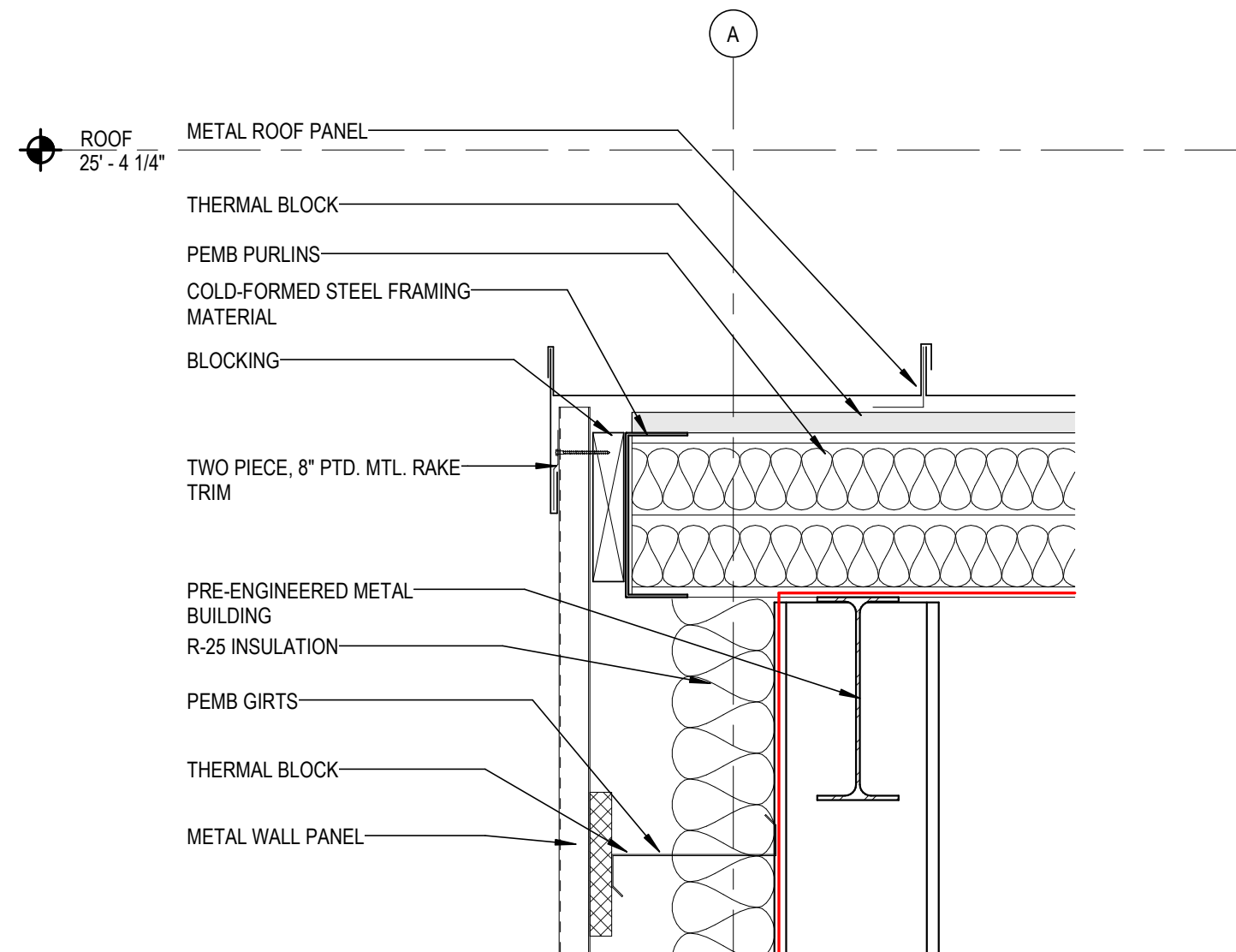
8 EXIT  
A520 SCALE: 1/16" = 1'-0"



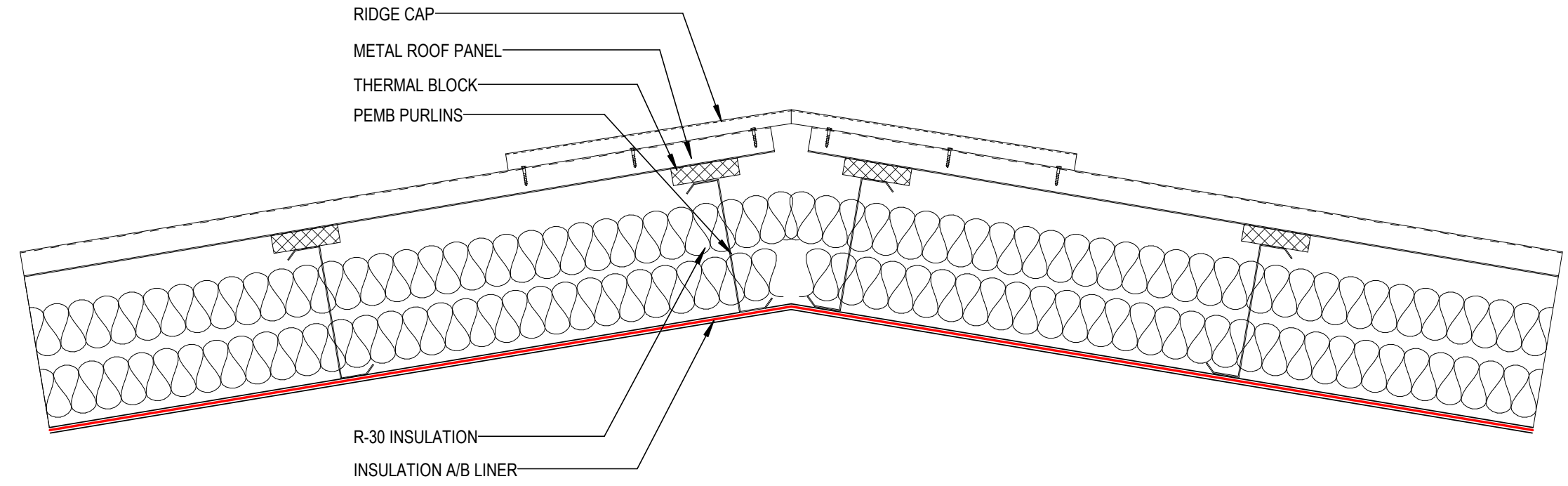
6 FENCE  
A520 SCALE: 1/2" = 1'-0"



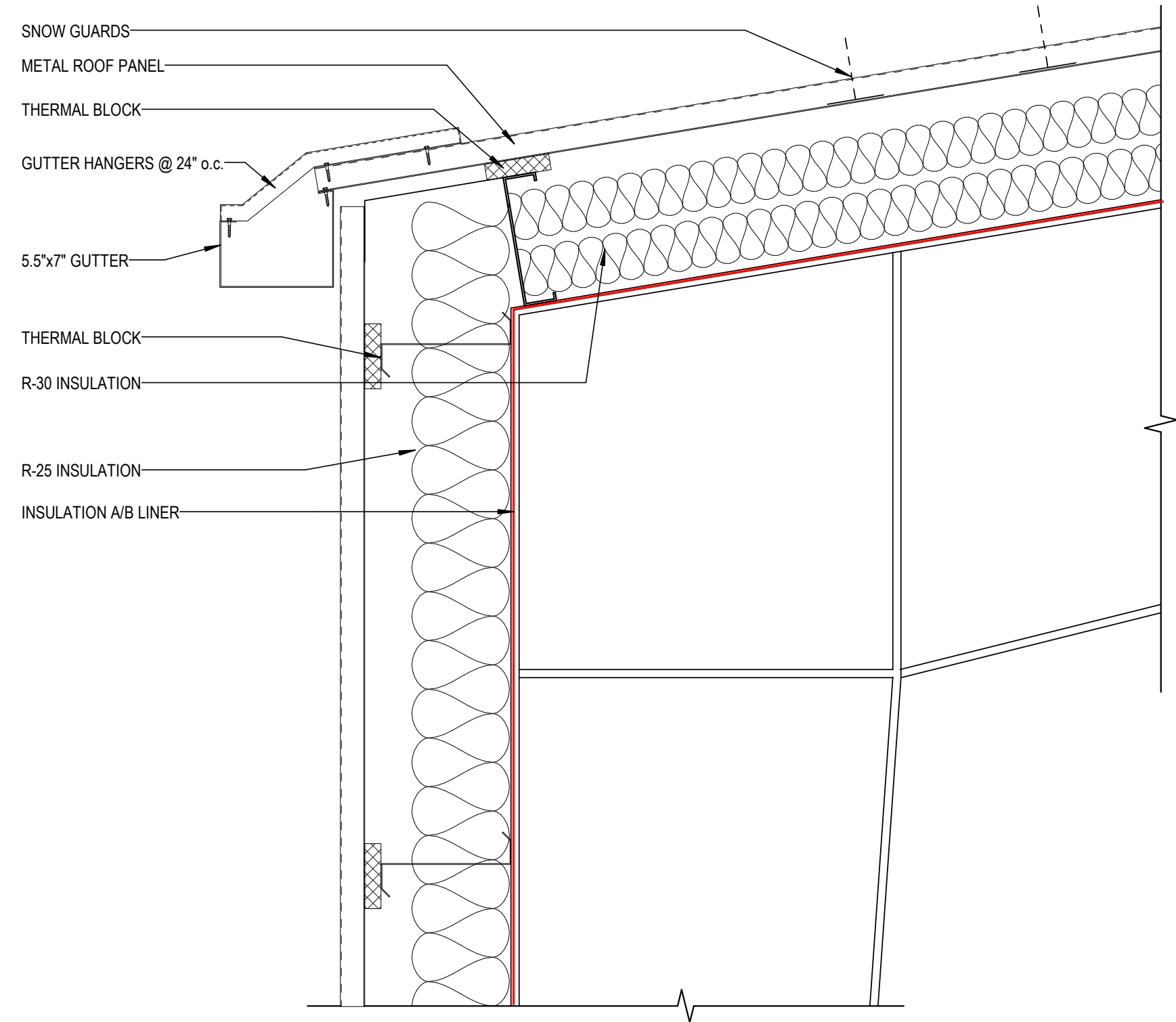
5 BOLLARD  
A520 SCALE: 1/2" = 1'-0"



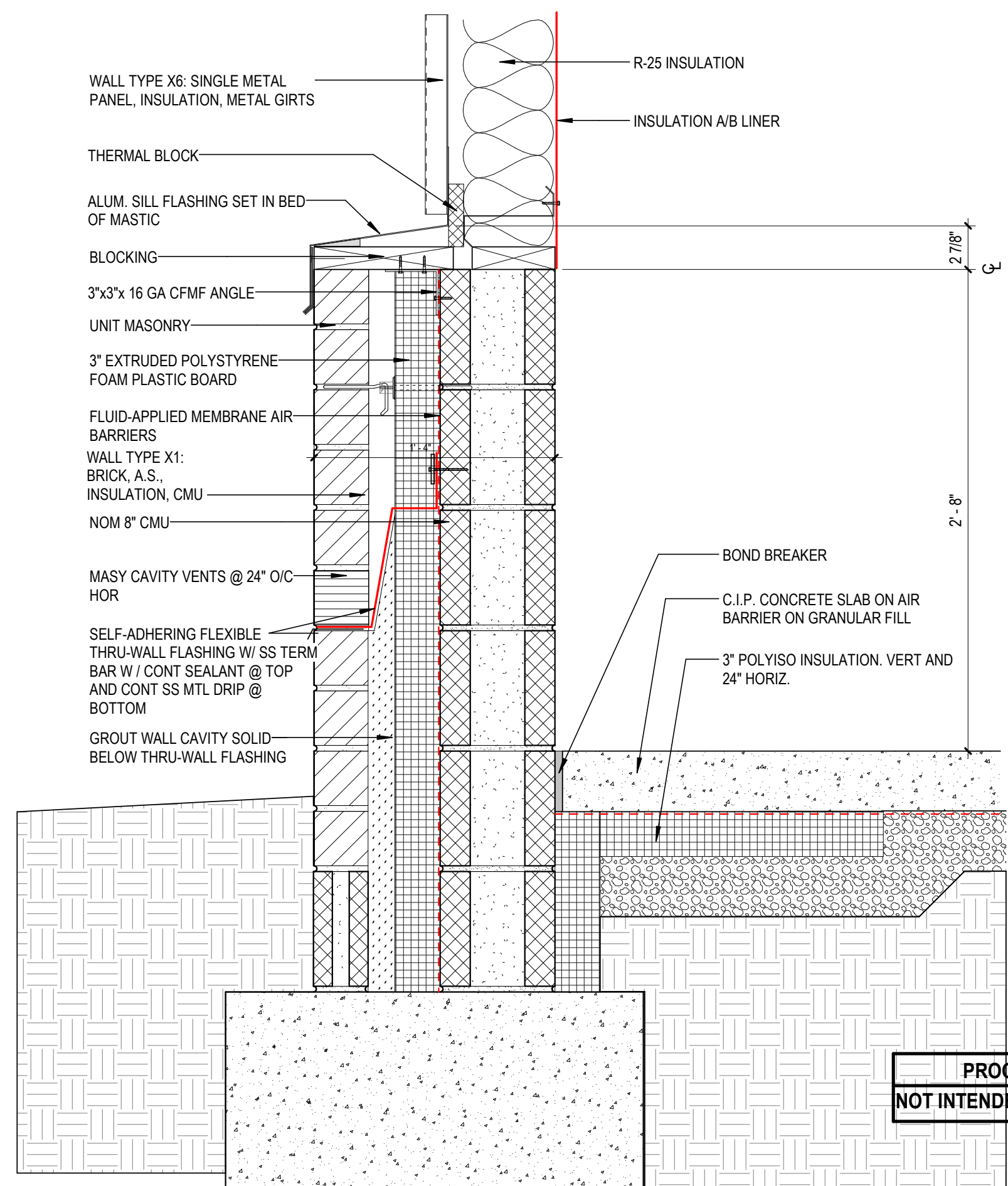
4 PEMB RAKE  
A520 SCALE: 1 1/2" = 1'-0" REF. FROM: 4 / A500



3 RIDGE DETAIL  
A520 SCALE: 1 1/2" = 1'-0"



2 EAVE DETAIL  
A520 SCALE: 1 1/2" = 1'-0"



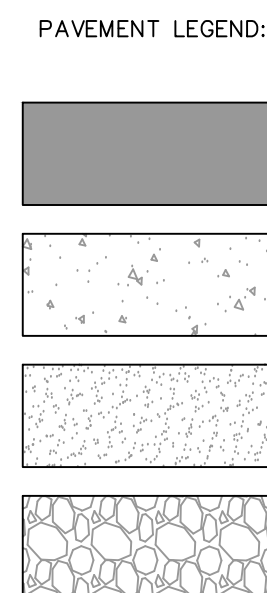
1 TYPICAL BASE  
A520 SCALE: 1 1/2" = 1'-0" REF. FROM: 4 / A500

| no.             | description | date       |
|-----------------|-------------|------------|
| Sheet Revisions |             |            |
| 03              | PC RESPONSE | 12/06/2024 |
| 02              | DO          | 8/30/2024  |
| 01              | SD          | 5/17/2024  |
| Project Issues  |             |            |

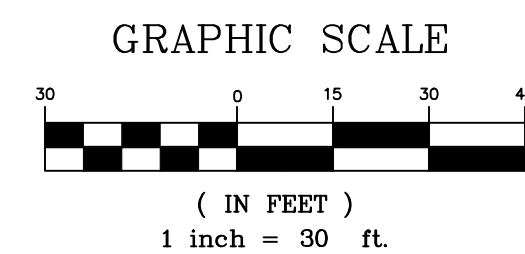
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thendesign architecture llc  
sheet name:  
DETAILS

drawn by:  
checked by:  
sheet number:  
A520  
job number:  
23099





- ① END CURB PER END CURB TAPER DETAIL, SEE DETAIL SHEET C6.01.
- ② SEAL JOINT BETWEEN EXISTING PAVEMENT AND PROPOSED ASPHALT PAVEMENT PER CDOT ITEM 705.04.
- ③ ADA PARKING STALL AND SIGN, SEE DETAIL SHEET C6.01.
- ④ CONCRETE COLLAR, SEE DETAIL SHEET C6.01.
- ⑤ DUMPSTER ENCLOSURE, SEE ARCHITECTURAL PLANS FOR DETAILS.
- ⑥ 8" BLACK VINYL COATED CHAIN LINK FENCE, SEE ARCHITECTURAL PLANS FOR DETAILS.
- ⑦ TRANSFORMER PAD, SEE ELECTRICAL PLANS FOR DETAILS, PROVIDE 3' MIN. CLEARANCE ON ALL SIDES AND 10' MIN. AT ALL OPENINGS.
- ⑧ REMOVABLE BOLLARDS, SEE ARCHITECTURAL SHEET A2.050 FOR DETAILS.

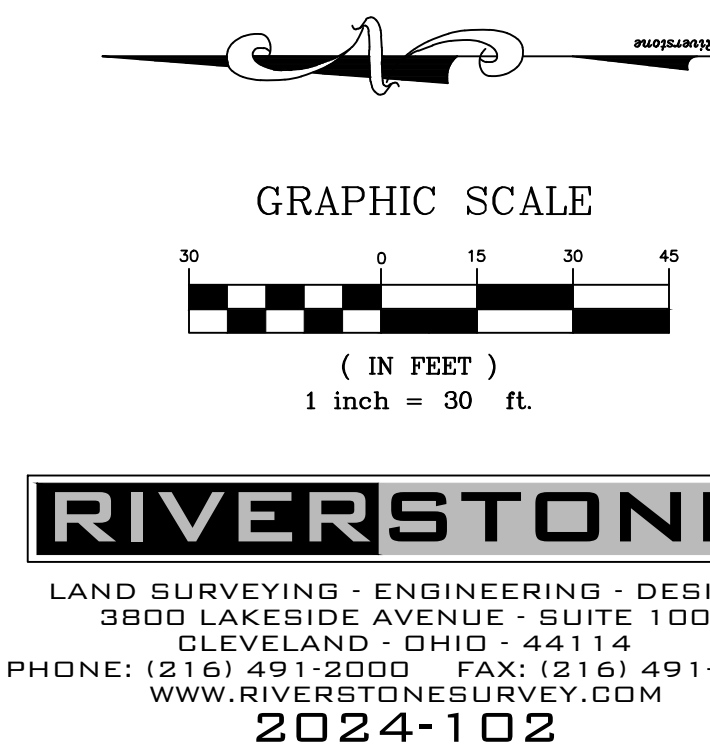


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2024-102

## LEGEND

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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|  Manhole Box Found<br> Invert Pin or Blow Found<br> Survey Point<br> Gas Meter<br> Water Meter<br> Water Service Valve<br> Water Meter<br> Light Pole<br> Another Line<br> Telephone Pole<br> Cable Box<br> Property Line<br> Cleanout<br> Spot Elevation Tag |  Hydrant<br> Water Service Valve<br> Water Meter<br> Water Meter<br> Storm Manhole<br> Storm Sewer<br> Curb Inlet<br> Catch Basin<br> Property Line<br> Centerline |  Ex. Parrel line<br> Original Sublot Line<br> Proposed Sublot Line<br> Right-of-way Line<br> Electric Line<br> Sanitary/Cleanout Sewer<br> Waterline<br> Waterline (Wooden)<br> Guardrail |  Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N. |  Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N. |  Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> Adj. A.F.N.<br> |
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# RSXF3 LED Floodlight

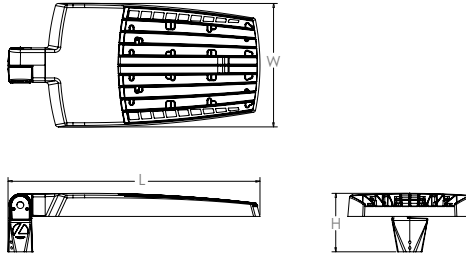


|                |
|----------------|
| Catalog Number |
| Notes          |
| Type           |

Hit the Tab key or mouse over the page to see all interactive elements.

## Specifications

|                |                                               |
|----------------|-----------------------------------------------|
| EPA (ft²@45°): | 3.7 ft² (0.3 m²)                              |
| Length:        | 32.8" (83.3 cm)                               |
| Width:         | 16.1" (40.9 cm)                               |
| Height:        | 3.0" (7.6 cm) Main Body<br>7.6" (19.3 cm) Arm |
| Weight (max):  | 48 lbs (21.8 kg)                              |



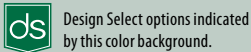
## Introduction

The new RSXF LED Flood family delivers maximum value by providing significant energy savings, long life and outstanding photometric performance at an affordable price. The RSXF3 delivers 25,000 to 41,000 lumens allowing it to replace 400W to 1000W HID floodlights.

The RSXF features an adjustable integral slipfitter that allows the luminaire to be mounted on a 2-3/8" OD tenon. Integral cover/wire box serves as an approved splice compartment allowing for fast, easy mounting and wiring without opening the electrical compartment. A yoke and other mounting configurations are available.



Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit [www.acuitybrands.com/designselect](http://www.acuitybrands.com/designselect).  
\*See ordering tree for details



## Ordering Information

**EXAMPLE:** RSXF3 LED P4 40K WFL MVOLT IS DDBXD

| RSXF3 LED |                      |                                     |                                                                                                                |                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------|----------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Series    | Performance Package  | Color Temperature                   | Distribution                                                                                                   | Voltage                                                                                                                                                                                                                                                          | Mounting                                                                                                                                                                                                                                                                                                                                                                            |
| RSXF3 LED | P1<br>P2<br>P3<br>P4 | 30K 3000K<br>40K 4000K<br>50K 5000K | AWFD Area Wide Forward<br>WFL Wide Flood<br>MFL Medium Flood<br>NFL Narrow Flood<br>SP Spot<br>NSP Narrow Spot | MVOLT (120V-277V) <sup>1</sup><br>HVOLT (347V-480V) <sup>2</sup><br>XVOLT (277V-480V) <sup>4</sup><br>(use specific voltage for options as noted)<br>120 <sup>3</sup> 277 <sup>3</sup><br>208 <sup>3</sup> 347 <sup>3</sup><br>240 <sup>3</sup> 480 <sup>3</sup> | IS Adjustable slipfitter (fits 2-3/8" OD tenon) <sup>5</sup><br>YKC64 Yoke with 16-3 SO cord, 4ft <sup>5</sup><br>AASP Adjustable tilt arm square pole mounting <sup>5</sup><br>AARP Adjustable tilt arm round pole mounting <sup>5</sup><br>AAWB Adjustable tilt arm with wall bracket <sup>5</sup><br>AAWSC Adjustable tilt arm wall bracket and surface conduit box <sup>5</sup> |

| Options                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                       | Finish                                                                                                                                                                                                                                                                                                                                                                                            |                                           |             |                                                                      |       |                                          |                  |                                          |         |                                 |                      |                                      |                |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                                                                              |     |                                                               |     |                                    |    |                                                       |     |                                  |    |                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-------------|----------------------------------------------------------------------|-------|------------------------------------------|------------------|------------------------------------------|---------|---------------------------------|----------------------|--------------------------------------|----------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------------------------------------------------------------------------------------|-----|---------------------------------------------------------------|-----|------------------------------------|----|-------------------------------------------------------|-----|----------------------------------|----|---------------------------|
| <b>Shipped Installed</b><br><table><tr><td>PE</td><td>Photocontrol, button style <sup>6,7</sup></td></tr><tr><td>PER7</td><td>Seven-wire twist-lock receptacle only (no controls) <sup>7,8,9</sup></td></tr><tr><td>SF</td><td>Single fuse (120, 277, 347) <sup>3</sup></td></tr><tr><td>DF</td><td>Double fuse (208, 240, 480) <sup>3</sup></td></tr><tr><td>SPD20KV</td><td>20KV Surge pack (10KV standard)</td></tr><tr><td>FAO</td><td>Field adjustable output <sup>7</sup></td></tr><tr><td>DMG</td><td>0-10V dimming extend out back of housing for external control (control ordered separate) <sup>7</sup></td></tr></table> |                                                                                                       | PE                                                                                                                                                                                                                                                                                                                                                                                                | Photocontrol, button style <sup>6,7</sup> | PER7        | Seven-wire twist-lock receptacle only (no controls) <sup>7,8,9</sup> | SF    | Single fuse (120, 277, 347) <sup>3</sup> | DF               | Double fuse (208, 240, 480) <sup>3</sup> | SPD20KV | 20KV Surge pack (10KV standard) | FAO                  | Field adjustable output <sup>7</sup> | DMG            | 0-10V dimming extend out back of housing for external control (control ordered separate) <sup>7</sup> | <b>Shipped Installed</b><br><b>*Standalone and Networked Sensors/Controls (factory default settings, see table page 5)</b><br><table><tr><td>NLTAIR2 PIRHN</td><td>nLight AIR generation 2, with Networked Bi-Level motion/ambient sensor <sup>7,10,11,12</sup></td></tr><tr><td>BAA</td><td>Buy America(n) Act and/or Build America Buy America Qualified</td></tr><tr><td>CCE</td><td>Coastal Construction <sup>13</sup></td></tr></table><br><b>Shipped Separately (requires some field assembly)</b><br><table><tr><td>FV</td><td>Full Visor (360° around light aperture) <sup>14</sup></td></tr><tr><td>UBV</td><td>Upper/bottom visor <sup>14</sup></td></tr><tr><td>BS</td><td>Bird spikes <sup>15</sup></td></tr></table><br><b>*Note:</b> NLTAIR2 PIRHN with nLight Air can be used as a standalone or networked solution. Sensor coverage pattern is affected when luminaire is tilted. | NLTAIR2 PIRHN | nLight AIR generation 2, with Networked Bi-Level motion/ambient sensor <sup>7,10,11,12</sup> | BAA | Buy America(n) Act and/or Build America Buy America Qualified | CCE | Coastal Construction <sup>13</sup> | FV | Full Visor (360° around light aperture) <sup>14</sup> | UBV | Upper/bottom visor <sup>14</sup> | BS | Bird spikes <sup>15</sup> |
| PE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Photocontrol, button style <sup>6,7</sup>                                                             |                                                                                                                                                                                                                                                                                                                                                                                                   |                                           |             |                                                                      |       |                                          |                  |                                          |         |                                 |                      |                                      |                |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                                                                              |     |                                                               |     |                                    |    |                                                       |     |                                  |    |                           |
| PER7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Seven-wire twist-lock receptacle only (no controls) <sup>7,8,9</sup>                                  |                                                                                                                                                                                                                                                                                                                                                                                                   |                                           |             |                                                                      |       |                                          |                  |                                          |         |                                 |                      |                                      |                |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                                                                              |     |                                                               |     |                                    |    |                                                       |     |                                  |    |                           |
| SF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Single fuse (120, 277, 347) <sup>3</sup>                                                              |                                                                                                                                                                                                                                                                                                                                                                                                   |                                           |             |                                                                      |       |                                          |                  |                                          |         |                                 |                      |                                      |                |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                                                                              |     |                                                               |     |                                    |    |                                                       |     |                                  |    |                           |
| DF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Double fuse (208, 240, 480) <sup>3</sup>                                                              |                                                                                                                                                                                                                                                                                                                                                                                                   |                                           |             |                                                                      |       |                                          |                  |                                          |         |                                 |                      |                                      |                |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                                                                              |     |                                                               |     |                                    |    |                                                       |     |                                  |    |                           |
| SPD20KV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 20KV Surge pack (10KV standard)                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                   |                                           |             |                                                                      |       |                                          |                  |                                          |         |                                 |                      |                                      |                |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                                                                              |     |                                                               |     |                                    |    |                                                       |     |                                  |    |                           |
| FAO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Field adjustable output <sup>7</sup>                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                   |                                           |             |                                                                      |       |                                          |                  |                                          |         |                                 |                      |                                      |                |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                                                                              |     |                                                               |     |                                    |    |                                                       |     |                                  |    |                           |
| DMG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0-10V dimming extend out back of housing for external control (control ordered separate) <sup>7</sup> |                                                                                                                                                                                                                                                                                                                                                                                                   |                                           |             |                                                                      |       |                                          |                  |                                          |         |                                 |                      |                                      |                |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                                                                              |     |                                                               |     |                                    |    |                                                       |     |                                  |    |                           |
| NLTAIR2 PIRHN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | nLight AIR generation 2, with Networked Bi-Level motion/ambient sensor <sup>7,10,11,12</sup>          |                                                                                                                                                                                                                                                                                                                                                                                                   |                                           |             |                                                                      |       |                                          |                  |                                          |         |                                 |                      |                                      |                |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                                                                              |     |                                                               |     |                                    |    |                                                       |     |                                  |    |                           |
| BAA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Buy America(n) Act and/or Build America Buy America Qualified                                         |                                                                                                                                                                                                                                                                                                                                                                                                   |                                           |             |                                                                      |       |                                          |                  |                                          |         |                                 |                      |                                      |                |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                                                                              |     |                                                               |     |                                    |    |                                                       |     |                                  |    |                           |
| CCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Coastal Construction <sup>13</sup>                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                   |                                           |             |                                                                      |       |                                          |                  |                                          |         |                                 |                      |                                      |                |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                                                                              |     |                                                               |     |                                    |    |                                                       |     |                                  |    |                           |
| FV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Full Visor (360° around light aperture) <sup>14</sup>                                                 |                                                                                                                                                                                                                                                                                                                                                                                                   |                                           |             |                                                                      |       |                                          |                  |                                          |         |                                 |                      |                                      |                |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                                                                              |     |                                                               |     |                                    |    |                                                       |     |                                  |    |                           |
| UBV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Upper/bottom visor <sup>14</sup>                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                   |                                           |             |                                                                      |       |                                          |                  |                                          |         |                                 |                      |                                      |                |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                                                                              |     |                                                               |     |                                    |    |                                                       |     |                                  |    |                           |
| BS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Bird spikes <sup>15</sup>                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                   |                                           |             |                                                                      |       |                                          |                  |                                          |         |                                 |                      |                                      |                |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                                                                              |     |                                                               |     |                                    |    |                                                       |     |                                  |    |                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                       | <table><tr><td>DDBXD</td><td>Dark Bronze</td></tr><tr><td>DBLXD</td><td>Black</td></tr><tr><td>DNAXD</td><td>Natural Aluminum</td></tr><tr><td>DWHXD</td><td>White</td></tr><tr><td>DDBTXD</td><td>Textured Dark Bronze</td></tr><tr><td>DBLBXD</td><td>Textured Black</td></tr><tr><td>DNATXD</td><td>Textured Natural Aluminum</td></tr><tr><td>DWHGXD</td><td>Textured White</td></tr></table> | DDBXD                                     | Dark Bronze | DBLXD                                                                | Black | DNAXD                                    | Natural Aluminum | DWHXD                                    | White   | DDBTXD                          | Textured Dark Bronze | DBLBXD                               | Textured Black | DNATXD                                                                                                | Textured Natural Aluminum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | DWHGXD        | Textured White                                                                               |     |                                                               |     |                                    |    |                                                       |     |                                  |    |                           |
| DDBXD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Dark Bronze                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                   |                                           |             |                                                                      |       |                                          |                  |                                          |         |                                 |                      |                                      |                |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                                                                              |     |                                                               |     |                                    |    |                                                       |     |                                  |    |                           |
| DBLXD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Black                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                   |                                           |             |                                                                      |       |                                          |                  |                                          |         |                                 |                      |                                      |                |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                                                                              |     |                                                               |     |                                    |    |                                                       |     |                                  |    |                           |
| DNAXD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Natural Aluminum                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                   |                                           |             |                                                                      |       |                                          |                  |                                          |         |                                 |                      |                                      |                |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                                                                              |     |                                                               |     |                                    |    |                                                       |     |                                  |    |                           |
| DWHXD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | White                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                   |                                           |             |                                                                      |       |                                          |                  |                                          |         |                                 |                      |                                      |                |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                                                                              |     |                                                               |     |                                    |    |                                                       |     |                                  |    |                           |
| DDBTXD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Textured Dark Bronze                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                   |                                           |             |                                                                      |       |                                          |                  |                                          |         |                                 |                      |                                      |                |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                                                                              |     |                                                               |     |                                    |    |                                                       |     |                                  |    |                           |
| DBLBXD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Textured Black                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                   |                                           |             |                                                                      |       |                                          |                  |                                          |         |                                 |                      |                                      |                |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                                                                              |     |                                                               |     |                                    |    |                                                       |     |                                  |    |                           |
| DNATXD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Textured Natural Aluminum                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                   |                                           |             |                                                                      |       |                                          |                  |                                          |         |                                 |                      |                                      |                |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                                                                              |     |                                                               |     |                                    |    |                                                       |     |                                  |    |                           |
| DWHGXD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Textured White                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                   |                                           |             |                                                                      |       |                                          |                  |                                          |         |                                 |                      |                                      |                |                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                                                                                              |     |                                                               |     |                                    |    |                                                       |     |                                  |    |                           |



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Lithonia RSXF3 Flood LED  
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## Ordering Information

### Accessories

Ordered and shipped separately.

|                    |                                                     |
|--------------------|-----------------------------------------------------|
| RSXF3FV U          | Full visor (specify finish)                         |
| RSXF3UBV U         | Upper/bottom visor (specify finish)                 |
| DLL127F 1.5 JU     | Photocell - SSL twist-lock (120-277V) <sup>15</sup> |
| DLL347F 1.5 CUL JU | Photocell - SSL twist-lock (347V) <sup>14</sup>     |
| DLL480F 1.5 CUL JU | Photocell - SSL twist-lock (480V) <sup>16</sup>     |
| DSHORT SBK U       | Shorting cap <sup>16</sup>                          |

### NOTES

- 1 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
- 2 HVOLT driver operates on any line voltage from 347-480V (50/60 Hz).
- 3 Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
- 4 XVOLT driver operates on any line voltage from 277V-480V (50/60 Hz). XVOLT not available with fusing (SF or DF) and not available with PE.
- 5 Maximum tilt is 90° above horizontal.
- 6 Requires MOVLT or 347V.
- 7 Two or more of the following options cannot be combined including PE, DMG, PER7, FAO and NLTAIR2 PIRHN. (Exception: PE and FAO can be combined; also PE and DMG can be combined.)
- 8 Compatible with standard twist-lock photocells for dusk to dawn operation or advanced control nodes that provide 0-10V dimming signals. Wire 4/Wire 5 wired to dimming leads on driver. Wire6/Wire7 capped inside luminaire. Twistlock photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting Cap included.
- 9 For units with option PER7, the mounting must be restricted to +/- 45° from horizontal aim per ANSI C136.10-2010.
- 10 Must be ordered with PIRHN.
- 11 Requires MVOLT or HVOLT.
- 12 Must be ordered with NLTAIR2. For additional information on PIRHN visit [here](#).
- 13 CCE option not available with AASP, AARP, AAWB, AAWBSC, UVB, FV and BS.
- 14 May be ordered as an accessory.
- 15 Option BS must be ordered with fixture for factory pre-drilling.
- 16 Requires luminaire to be specified with PER7 option. Ordered and shipped as a separate line item from Acuity Brands Controls.

## External Shields



UBV Visor - Top Mounted



UBV Visor - Bottom Mounted

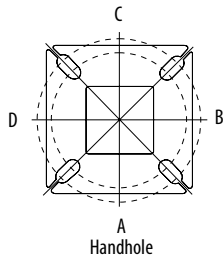


Full Visor - 360°

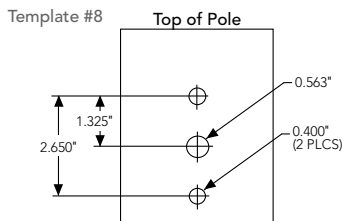
## Pole/Mounting Information

Accessories including bullhorns, cross arms and other adapters are available on pages X-XX. For the complete line of accessories available, visit the accessories tab at Lithonia's Outdoor Poles and Arms product page. Click here to visit [Accessories](#).

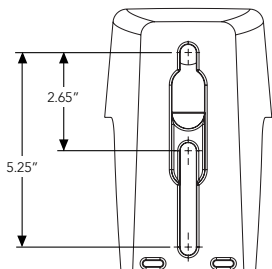
### HANDHOLE ORIENTATION



### RSX POLE DRILLING



### RSXF ADJUSTABLE ARM



### Round Tenon Mount - Pole Top Slipfitters

| Tenon O.D. | RSX Mounting | Single    | 2 @ 180   | 2 @ 90    | 3 @ 120   | 3 @ 90    | 4 @ 90    |
|------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2 - 3/8"   | AARP         | AS3-5190  | AS3-5280  | AS3-5290  | AS3-5320  | AS3-5390  | AS3-5490  |
| 2 - 7/8"   | AARP         | AST25-190 | AST25-280 | AST25-290 | AST25-320 | AST25-390 | AST25-490 |
| 4"         | AARP         | AST35-190 | AST35-280 | AST35-290 | AST35-320 | AST35-390 | AST35-490 |

### Drill Side Location by Configuration Type

| Drilling Template | Mounting Option    | Single | 2 @ 180    | 2 @ 90     | 3 @ 120         | 3 @ 90        | 4 @ 90           |
|-------------------|--------------------|--------|------------|------------|-----------------|---------------|------------------|
| #8                | Head Location      | Side B | Side B & D | Side B & C | Round Pole Only | Side B, C & D | Side A, B, C & D |
|                   | Drill Nomenclature | DM19AS | DM28AS     | DM29AS     | DM32AS          | DM39AS        | DM49AS           |

### RSXF3 - Luminaire EPA

\*Includes luminaire and integral mounting arm. Other tenons, arms, brackets or other accessories are not included in this EPA data.

| Fixture Quantity & Mounting Configuration                                             |      | EPA (ft²)                                                                           |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|---------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                                                                                       |      | Single                                                                              | 2 @ 90                                                                              | 2 @ 180                                                                             | 3 @ 90                                                                               | 3 @ 120                                                                               | 4 @ 90                                                                                | 2 Side by Side                                                                        | 3 Side by Side                                                                        | 4 Side by Side                                                                        |
| Mounting Type                                                                         | Tilt |  |  |  |  |  |  |  |  |  |
| IS - Integral Slipfitter<br>YK - Yoke<br>AASP/AARP - Adjustable Arm Square/Round Pole | 0°   | 0.7                                                                                 | 1.32                                                                                | 1.37                                                                                | 2                                                                                    | 1.76                                                                                  | 2.62                                                                                  | 1.39                                                                                  | 2.09                                                                                  | 2.8                                                                                   |
|                                                                                       | 10°  | 0.96                                                                                | 1.85                                                                                | 1.84                                                                                | 2.76                                                                                 | 2.4                                                                                   | 3.64                                                                                  | 1.92                                                                                  | 1.92                                                                                  | 3.84                                                                                  |
|                                                                                       | 20°  | 1.34                                                                                | 2.58                                                                                | 2.64                                                                                | 3.83                                                                                 | 3.35                                                                                  | 5.11                                                                                  | 2.68                                                                                  | 2.68                                                                                  | 5.36                                                                                  |
|                                                                                       | 30°  | 2.04                                                                                | 3.52                                                                                | 3.79                                                                                | 5.2                                                                                  | 4.7                                                                                   | 7.03                                                                                  | 4.09                                                                                  | 4.09                                                                                  | 8.16                                                                                  |
|                                                                                       | 40°  | 3.12                                                                                | 4.54                                                                                | 5.23                                                                                | 6.6                                                                                  | 6.33                                                                                  | 9.02                                                                                  | 6.23                                                                                  | 6.23                                                                                  | 12.48                                                                                 |
|                                                                                       | 45°  | 3.72                                                                                | 5.05                                                                                | 6.12                                                                                | 7.35                                                                                 | 7.15                                                                                  | 10.01                                                                                 | 7.45                                                                                  | 7.45                                                                                  | 14.88                                                                                 |
|                                                                                       | 50°  | 4.01                                                                                | 5.49                                                                                | 6.6                                                                                 | 7.87                                                                                 | 7.81                                                                                  | 10.88                                                                                 | 8.02                                                                                  | 8.02                                                                                  | 16.04                                                                                 |
|                                                                                       | 60°  | 4.72                                                                                | 6.36                                                                                | 7.69                                                                                | 9.09                                                                                 | 9.11                                                                                  | 12.61                                                                                 | 9.44                                                                                  | 9.44                                                                                  | 18.88                                                                                 |
|                                                                                       | 70°  | 4.9                                                                                 | 7.01                                                                                | 8.05                                                                                | 10.02                                                                                | 9.78                                                                                  | 13.94                                                                                 | 9.80                                                                                  | 9.80                                                                                  | 19.6                                                                                  |
|                                                                                       | 80°  | 4.95                                                                                | 7.4                                                                                 | 8.23                                                                                | 10.61                                                                                | 10.26                                                                                 | 14.75                                                                                 | 9.90                                                                                  | 9.90                                                                                  | 19.8                                                                                  |
| 90°                                                                                   | 4.91 | 7.55                                                                                | 8.34                                                                                | 10.88                                                                               | 10.54                                                                                | 15.05                                                                                 | 9.82                                                                                  | 9.82                                                                                  | 19.64                                                                                 |                                                                                       |



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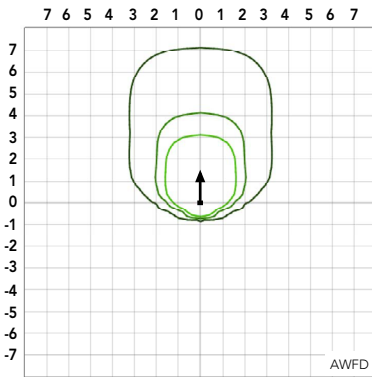
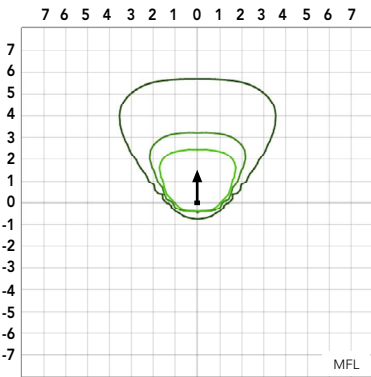
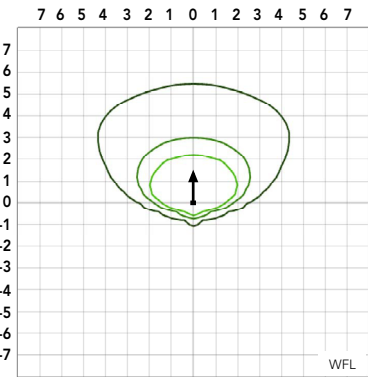
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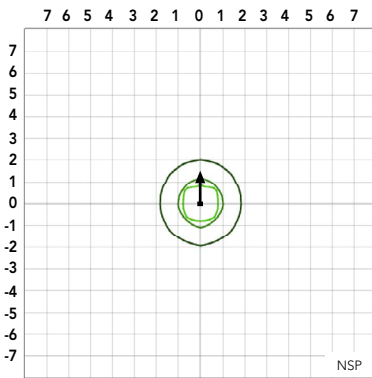
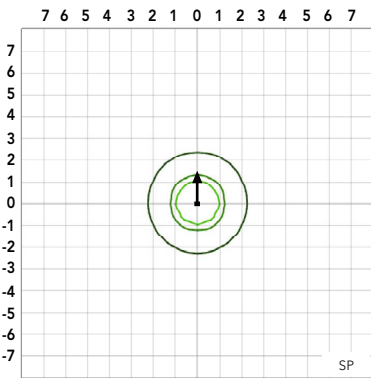
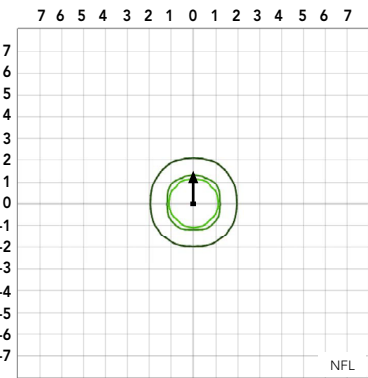
Isofootcandle plots for the RSXF3 LED P4 40K. Distances are in units of mounting height (30').

- LEGEND
- 0.1 fc
  - 0.5 fc
  - 1.0 fc

Luminaires tilted at 45°



Luminaires tilted at 0°





Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-50°C (32-122°F).

| Ambient | Ambient | Lumen Multiplier |
|---------|---------|------------------|
| 0°C     | 32°F    | 1.05             |
| 5°C     | 41°F    | 1.04             |
| 10°C    | 50°F    | 1.03             |
| 15°C    | 59°F    | 1.02             |
| 20°C    | 68°F    | 1.01             |
| 25°C    | 77°F    | 1.00             |
| 30°C    | 86°F    | 0.99             |
| 35°C    | 95°F    | 0.98             |
| 40°C    | 104°F   | 0.97             |
| 45°C    | 113°F   | 0.96             |
| 50°C    | 122°F   | 0.95             |

Electrical Load

|                     |                  | Current (A) |      |      |      |      |      |
|---------------------|------------------|-------------|------|------|------|------|------|
| Performance Package | System Watts (W) | 120V        | 208V | 240V | 277V | 347V | 480V |
| P1                  | 194W             | 1.61        | 0.92 | 0.80 | 0.69 | 0.56 | 0.40 |
| P2                  | 222W             | 1.85        | 1.06 | 0.92 | 0.80 | 0.63 | 0.45 |
| P3                  | 266W             | 2.22        | 1.27 | 1.10 | 0.95 | 0.76 | 0.55 |
| P4                  | 312W             | 2.60        | 1.49 | 1.29 | 1.11 | 0.89 | 0.64 |

Projected LED Lumen Maintenance

| Operating Hours          | 50,000 | 75,000 | 100,000 |
|--------------------------|--------|--------|---------|
| Lumen Maintenance Factor | >0.97  | >0.95  | >0.92   |

Values calculated according to IESNA TM-21-11 methodology and valid up to 40°C.

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

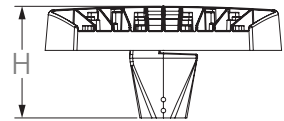
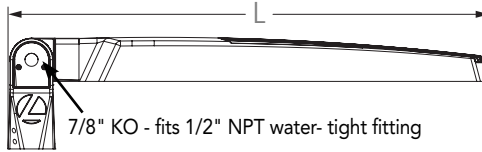
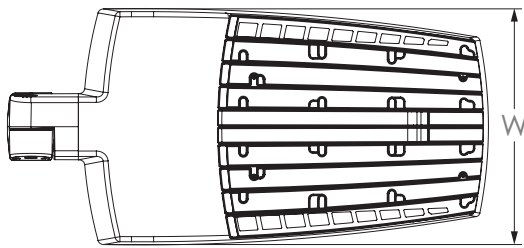
| Performance Package | System Watts | Distribution Type | Field Angle |     | Beam Angle |    | 30K<br>(3000K, 70 CRI) |     |         | 40K<br>(4000K, 70 CRI) |     |         | 50K<br>(5000K, 70 CRI) |     |         |
|---------------------|--------------|-------------------|-------------|-----|------------|----|------------------------|-----|---------|------------------------|-----|---------|------------------------|-----|---------|
|                     |              |                   | °H          | °V  | °H         | °V | Lumens                 | LPW | Max CD  | Lumens                 | LPW | Max CD  | Lumens                 | LPW | Max CD  |
| P1                  | 194W         | AWFD              | 119         | 120 | 69         | 41 | 24,880                 | 128 | 20,380  | 27,336                 | 141 | 22,392  | 27,336                 | 141 | 22,392  |
|                     |              | WFL               | 133         | 129 | 116        | 80 | 24,376                 | 126 | 10,378  | 26,782                 | 138 | 11,402  | 26,782                 | 138 | 11,402  |
|                     |              | MFL               | 105         | 110 | 91         | 96 | 25,421                 | 131 | 11,541  | 27,930                 | 144 | 12,680  | 27,930                 | 144 | 12,680  |
|                     |              | NFL               | 78          | 79  | 44         | 45 | 24,536                 | 126 | 36,280  | 26,957                 | 139 | 39,860  | 26,957                 | 139 | 39,860  |
|                     |              | SP                | 48          | 48  | 27         | 27 | 23,747                 | 122 | 75,642  | 26,091                 | 134 | 83,109  | 26,091                 | 134 | 83,109  |
|                     |              | NSP               | 42          | 44  | 19         | 21 | 24,165                 | 125 | 127,593 | 26,550                 | 137 | 140,186 | 26,550                 | 137 | 140,186 |
| P2                  | 222W         | AWFD              | 119         | 120 | 69         | 41 | 27,942                 | 126 | 22,888  | 30,700                 | 138 | 25,147  | 30,700                 | 138 | 25,147  |
|                     |              | WFL               | 133         | 129 | 116        | 80 | 27,376                 | 123 | 11,655  | 30,078                 | 135 | 12,806  | 30,078                 | 135 | 12,806  |
|                     |              | MFL               | 105         | 110 | 91         | 96 | 28,549                 | 129 | 12,961  | 31,367                 | 141 | 14,240  | 31,367                 | 141 | 14,240  |
|                     |              | NFL               | 78          | 79  | 44         | 45 | 27,555                 | 124 | 40,744  | 30,275                 | 136 | 44,766  | 30,275                 | 136 | 44,766  |
|                     |              | SP                | 48          | 48  | 27         | 27 | 26,670                 | 120 | 84,953  | 29,302                 | 132 | 93,337  | 29,302                 | 132 | 93,337  |
|                     |              | NSP               | 42          | 44  | 19         | 21 | 27,139                 | 122 | 143,296 | 29,817                 | 134 | 157,436 | 29,817                 | 134 | 157,436 |
| P3                  | 266W         | AWFD              | 119         | 120 | 69         | 41 | 32,398                 | 122 | 26,538  | 35,596                 | 134 | 29,158  | 35,596                 | 134 | 29,158  |
|                     |              | WFL               | 133         | 129 | 116        | 80 | 31,742                 | 119 | 13,514  | 34,875                 | 131 | 14,848  | 34,875                 | 131 | 14,848  |
|                     |              | MFL               | 105         | 110 | 91         | 96 | 33,103                 | 124 | 15,028  | 36,369                 | 137 | 16,511  | 36,369                 | 137 | 16,511  |
|                     |              | NFL               | 78          | 79  | 44         | 45 | 31,950                 | 120 | 47,243  | 35,103                 | 132 | 51,905  | 35,103                 | 132 | 51,905  |
|                     |              | SP                | 48          | 48  | 27         | 27 | 30,923                 | 116 | 98,500  | 33,975                 | 128 | 108,222 | 33,975                 | 128 | 108,222 |
|                     |              | NSP               | 42          | 44  | 19         | 21 | 31,467                 | 118 | 166,148 | 34,572                 | 130 | 182,543 | 34,572                 | 130 | 182,543 |
| P4                  | 312W         | AWFD              | 119         | 120 | 69         | 41 | 36,634                 | 117 | 30,008  | 40,249                 | 129 | 32,969  | 40,249                 | 129 | 32,969  |
|                     |              | WFL               | 133         | 129 | 116        | 80 | 35,892                 | 115 | 15,281  | 39,434                 | 126 | 16,789  | 39,434                 | 126 | 16,789  |
|                     |              | MFL               | 105         | 110 | 91         | 96 | 37,430                 | 120 | 16,993  | 41,124                 | 132 | 18,670  | 41,124                 | 132 | 18,670  |
|                     |              | NFL               | 78          | 79  | 44         | 45 | 36,127                 | 116 | 53,419  | 39,692                 | 127 | 58,691  | 39,692                 | 127 | 58,691  |
|                     |              | SP                | 48          | 48  | 27         | 27 | 34,966                 | 112 | 111,379 | 38,416                 | 123 | 122,368 | 38,416                 | 123 | 122,368 |
|                     |              | NSP               | 42          | 44  | 19         | 21 | 35,581                 | 114 | 187,870 | 39,092                 | 125 | 206,409 | 39,092                 | 125 | 206,409 |

Note: XVOLT configurations only for all RSXF3 LED P4 — Inputs watts is reduced by 9% to 285W. Delivered lumens reduced by 8% for all published values under P4. IES files for RSXF3 LED P4 with XVOLT are available on Acuitybrands.com.



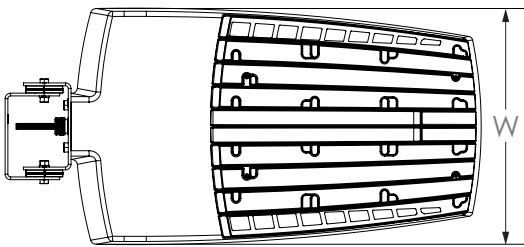
## Dimensions

### RSXF3 with Adjustable Slipfitter (IS)



Length: 32.8" (83.3 cm)  
 Width: 16.1" (40.9 cm)  
 Height: 3.0" (7.6 cm) Main Body  
 7.6" (19.3 cm) Arm

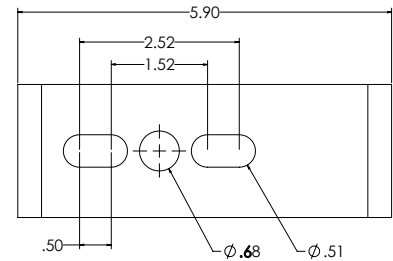
### RSXF3 with Yoke (YKC64)



Length: 32.5" (82.6 cm)  
 Width: 16.1" (40.9 cm)  
 Height: 3.0" (7.6 cm) Main Body

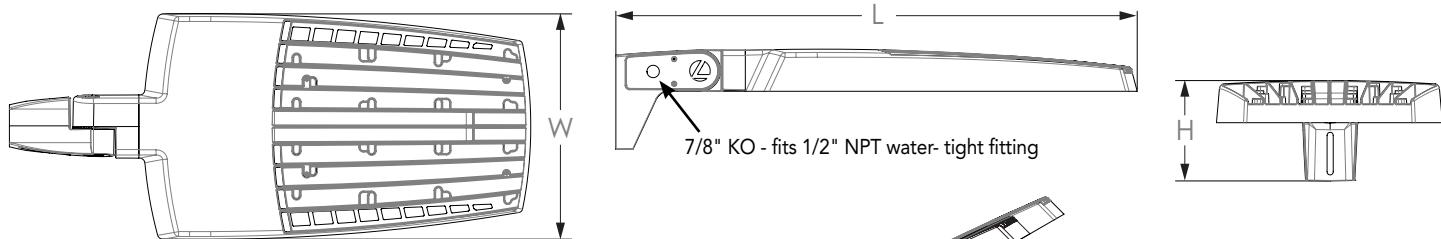
### Yoke (YK) Mounting Detail

**Note:** Mounting hole pattern is in-line with center of luminaire





## RSXF3 with Adjustable Tilt Arm - Square or Round Pole (AASP or AARP)



Length: 37.2" (94.5 cm) **AASP**  
 38.2" (97.1 cm) **AARP**  
 Width: 16.1" (40.9 cm)  
 Height: 3.0" (7.6 cm) Main Body  
 7.2" (18.2 cm) Arm

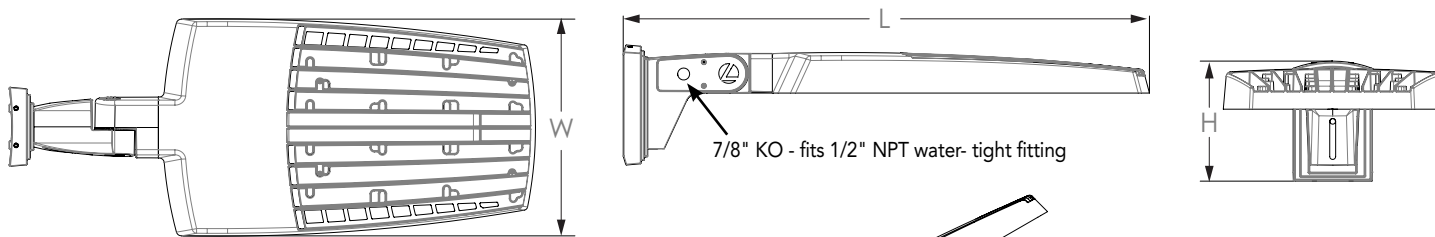
**NOTE:**  
 RPA - Round Pole mount can also be used to mount on square poles by omitting the round pole adapter plate shown here.

### Notes

AASP: Requires 3.5" min. square pole for mounting 2, 3, 4 at 90°. Requires 3.0" min. square pole for 1 at 90°.

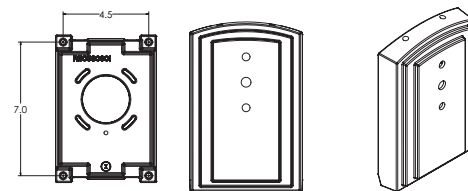
AARP: Requires 3.2" min. dia. round pole for 2, 3, 4 at 90°. Requires 3.0" min. dia. round pole for mounting 1 at 90°, 2 at 180°, 3 at 120°.

## RSXF3 with Adjustable Tilt Arm with Wall Bracket (AAWB)



Length: 39.0" (99.1 cm)  
 Width: 16.1" (40.9 cm)  
 Height: 3.0" (7.6 cm) Main Body  
 8.9" (22.6 cm) Arm

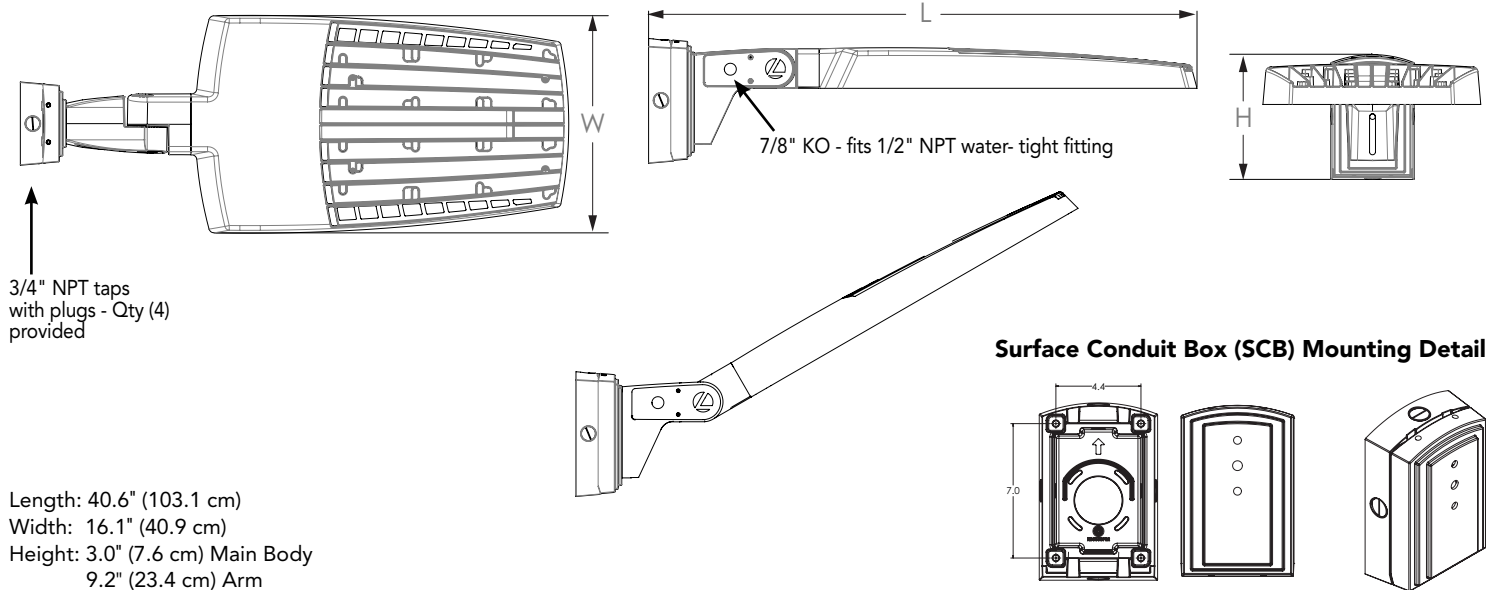
### Wall Bracket (WBA) Mounting Detail





## Dimensions

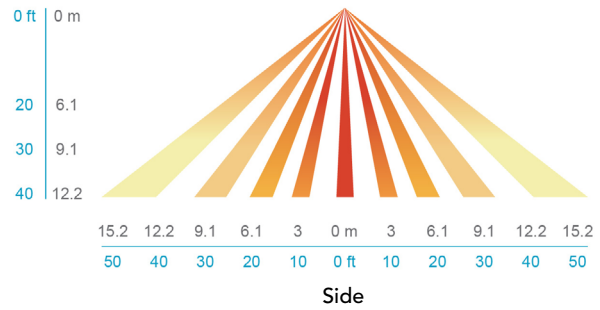
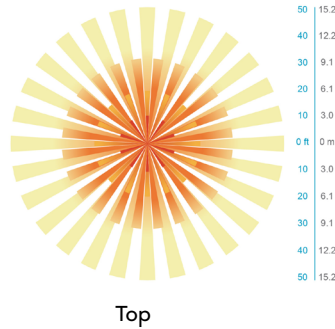
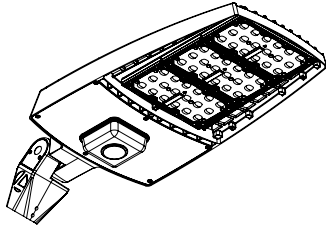
### RSXF3 with Adjustable Tilt Arm with Wall Bracket and Surface Conduit Box (AAWSC)





## PIRHN nLight Sensor Coverage Pattern

### nLight PIRHN



| Motion Sensor Default Settings - Option PIRHN |                           |                            |                     |                                   |                                            |                                              |
|-----------------------------------------------|---------------------------|----------------------------|---------------------|-----------------------------------|--------------------------------------------|----------------------------------------------|
| Option                                        | Dimmed State (unoccupied) | High Level (when occupied) | Photocell Operation | Dwell Time (occupancy time delay) | Ramp-up Time (from unoccupied to occupied) | Ramp-down Time (from occupied to unoccupied) |
| PIRHN                                         | Approx. 30% Output        | 100% Output                | Enabled @ 1.5FC     | 7.5 minutes                       | 3 seconds                                  | 5 minutes                                    |

\*Note: PIRHN default settings including photocell set-point, high/low dim rates, and occupancy sensor time delay are all configurable using the Clarity Pro App.

## FEATURES & SPECIFICATIONS

### INTENDED USE

The RSX LED flood family is designed to provide a long-lasting, energy-efficient solution for the one-for-one replacement of existing metal halide or high pressure sodium lighting. The RSXF3 delivers 25,000 to 41,000 lumens and is ideal for replacing 400W to 100W HID floodlights in parking lots and other area lighting applications.

### CONSTRUCTION

The RSX LED flood luminaire features a rugged die-cast aluminum main body that uses heat-dissipating fins and flow-through venting to provide optimal thermal management that both enhances LED performance and extends component life. Integral adjustable slipfitter mounts on a 2 3/8" OD tenon. The adjustable slipfitter has an integral junction box for easy installation. The light engines and housing are sealed against moisture and environmental contaminants to IP66. The low-profile design results in a low EPA, allowing pole optimization. Vibration rated per ANSI 136.31: RSXF and mountings rated for 3G vibration include IS, YK, AASP and AARP. RSXF and mountings rated for 1.5G vibration include AAWB and AAWSC.

### FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures superior adhesion as well as a minimum finish thickness of 3 mils. The result is a high-quality finish that is warrantied not to crack or peel.

### COASTAL CONSTRUCTION (CCE)

Optional corrosion resistant construction is engineered with added corrosion protection in materials and/or pre-treatment of base material under super durable paint. Provides additional corrosion protection for applications near coastal areas. Finish is salt spray tested to over 5,000 hours per ASTM B117 with scribe rating of 10. Additional lead-times apply.

### OPTICS

Precision acrylic refractive lenses are engineered for superior application efficiency, distributing the light to where it is needed most. Available in short and wide pattern distributions including Wide Flood, Medium Flood, Narrow Flood, Spot, Narrow Spot and an Area Wide/Forward distribution pattern featuring a strong forward throw reach that is ideal for lighting large areas from the perimeter.

### ELECTRICAL

Light engine(s) configurations consist of high-efficacy LEDs mounted on metal-core circuit boards and aluminum heat sinks to maximize heat dissipation. Light engines are IP66 rated. LED lumen maintenance is >L92/100,000 hours. CCT's of 3000K, 4000K and 5000K (minimum 70 CRI) are available. Fixtures ship standard with 0-10v dimming driver. Class 1 electronic drivers ensure system power factor >90% and THD <20%. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

### STANDARD CONTROLS

The RSX LED flood luminaire has a wide assortment of control options. Dusk to dawn controls include MVOLT and 347V button-type photocells and NEMA twist-lock photocell receptacles.

### nLIGHT AIR CONTROLS

The RSXF LED flood luminaire is also available with nLight® AIR which can be used for simple motion occupancy dimming or for the ultimate in wireless control. This powerful controls platform provides out-of-the-box basic motion sensing with photocontrol functionality and is suitable for mounting heights up to 40 feet. No commissioning is required when using factory default settings that provide basic stand-alone motion occupancy dimming that is switched on and off with a built-in photocell. See chart above for motion sensor default out-of-box settings. For more advanced wireless functionality, such as group dimming, nLight AIR can be commissioned using a smartphone and the easy-to-use CLAIRITY app. nLight AIR equipped luminaires can be grouped, resulting in motion sensor and photocell group response without the need for additional equipment. Scheduled dimming with motion sensor over-ride can be achieved when used with the nLight Eclipse. Additional information about nLight Air can be found [here](#).

### INSTALLATION

The integral "IS" mount offers an adjustable slipfitter that mounts on a 2 3/8" OD tenon. The adjustable slipfitter has an integral junction box and offers easy installation, wiring and precision distribution pattern aiming. A steel yoke mount is also available and includes a water tight cord grip and cord. Additional mountings are available including an adjustable tilt arm for direct-to-pole and wall and a surface conduit box for wall mount applications. All mountings are adjustable in 5° increments. RSXF flood is not rated for tilting above 90° or mounting within 4 feet of ground. Can be tilted up to 90° above horizontal.

### LISTINGS

CSA Certified to meet U.S. and Canadian standards. Suitable for wet locations. Rated for -40°C minimum ambient. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at [www.designlights.org/QPL](http://www.designlights.org/QPL) to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only. U.S. Patent No. D882,156S

### GOVERNMENT PROCUREMENT

BAA – Buy America(n) Act: Product with the BAA option qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product with the BAA option also qualifies as manufactured in the United States under DOT Buy America regulations. BABA – Build America Buy America: Product with the BAA option also qualifies as produced in the United States under the definitions of the Build America, Buy America Act. Please refer to [www.acuitybrands.com/buy-american](http://www.acuitybrands.com/buy-american) for additional information.

### WARRANTY

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:

[www.acuitybrands.com/support/warranty/terms-and-conditions](http://www.acuitybrands.com/support/warranty/terms-and-conditions)

**Note:** Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.



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# RSXF4 LED Floodlight

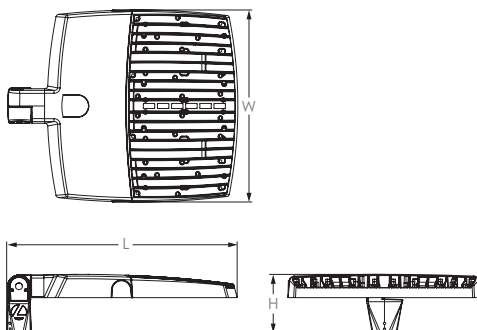


|                |
|----------------|
| Catalog Number |
| Notes          |
| Type           |

Hit the Tab key or mouse over the page to see all interactive elements.

## Specifications

|                             |                                               |
|-----------------------------|-----------------------------------------------|
| EPA (ft <sup>2</sup> @45°): | 5.5 ft <sup>2</sup> (0.51 m <sup>2</sup> )    |
| Length:                     | 30.0" (76.2 cm) (IS mount)                    |
| Width:                      | 25.0" (63.5 cm)                               |
| Height:                     | 3.0" (7.6 cm) Main Body<br>7.6" (19.3 cm) Arm |
| Weight (max):               | 68 lbs (30.8 kg)                              |



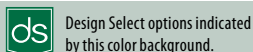
## Introduction

The new RSXF LED Flood family delivers maximum value by providing significant energy savings, long life and outstanding photometric performance at an affordable price. The RSXF4 delivers 40,000 to 85,000 lumens allowing it to replace 1000W and 1500W HID floodlights.

The RSXF features an adjustable integral slipfitter that allows the luminaire to be mounted on a 2-3/8" OD tenon. Integral cover/wire box serves as an approved splice compartment allowing for fast, easy mounting and wiring without opening the electrical compartment. A yoke and other mounting configurations are available.



Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit [www.acuitybrands.com/designselect](http://www.acuitybrands.com/designselect).  
\*See ordering tree for details



## Ordering Information

EXAMPLE: RSXF4 LED P8 40K WFL MVOLT IS DDBXD

| RSXF4 LED |                                                                        |                                     |                                                                                                                             |                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------|------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Series    | Performance Package                                                    | Color Temperature                   | Distribution                                                                                                                | Voltage                                                                                                                                                                                                                                                          | Mounting                                                                                                                                                                                                                                                                                                                                                                            |
| RSXF4 LED | P1<br>P2<br>P3<br>P4<br>P5<br>P6<br>P7 <sup>1</sup><br>P8 <sup>1</sup> | 30K 3000K<br>40K 4000K<br>50K 5000K | AWFD Area Wide Forward<br>WFL Wide Flood<br>MFL Medium Flood <sup>1</sup><br>NFL Narrow Flood<br>SP Spot<br>NSP Narrow Spot | MVOLT (120V-277V) <sup>2</sup><br>HVOLT (347V-480V) <sup>3</sup><br>XVOLT (277V-480V) <sup>4</sup><br>(use specific voltage for options as noted)<br>120 <sup>5</sup> 277 <sup>5</sup><br>208 <sup>5</sup> 347 <sup>5</sup><br>240 <sup>5</sup> 480 <sup>5</sup> | IS Adjustable slipfitter (fits 2-3/8" OD tenon) <sup>6</sup><br>YKC64 Yoke with 16-3 SO cord, 4ft <sup>6</sup><br>AASP Adjustable tilt arm square pole mounting <sup>6</sup><br>AARP Adjustable tilt arm round pole mounting <sup>6</sup><br>AAWB Adjustable tilt arm with wall bracket <sup>6</sup><br>AAWSC Adjustable tilt arm wall bracket and surface conduit box <sup>6</sup> |

| Options                                                                                                                                                                                                                                             |                                                                                                       | Finish |                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|--------|---------------------------|
| <b>Shipped Installed</b>                                                                                                                                                                                                                            |                                                                                                       |        |                           |
| PE                                                                                                                                                                                                                                                  | Photocontrol, button style <sup>7,8</sup>                                                             | DDBXD  | Dark Bronze               |
| PER7                                                                                                                                                                                                                                                | Seven-wire twist-lock receptacle only (no controls) <sup>8,9,10</sup>                                 | DBLXD  | Black                     |
| SF                                                                                                                                                                                                                                                  | Single fuse (120, 277, 347) <sup>5</sup>                                                              | DNAXD  | Natural Aluminum          |
| DF                                                                                                                                                                                                                                                  | Double fuse (208, 240, 480) <sup>5</sup>                                                              | DWHXD  | White                     |
| SPD20KV                                                                                                                                                                                                                                             | 20KV Surge pack (10KV standard)                                                                       | DDBTXD | Textured Dark Bronze      |
| FAO                                                                                                                                                                                                                                                 | Field adjustable output <sup>8</sup>                                                                  | DBLBXD | Textured Black            |
| DMG                                                                                                                                                                                                                                                 | 0-10V dimming extend out back of housing for external control (control ordered separate) <sup>8</sup> | DNATXD | Textured Natural Aluminum |
| DS                                                                                                                                                                                                                                                  | Dual switching <sup>8,11</sup>                                                                        | DWHGXD | Textured White            |
| <b>Shipped Installed</b>                                                                                                                                                                                                                            |                                                                                                       |        |                           |
| <b>*Standalone and Networked Sensors/Controls (factory default settings, see table page 5)</b>                                                                                                                                                      |                                                                                                       |        |                           |
| NLTAIR2 PIRHN                                                                                                                                                                                                                                       | nLight AIR generation 2, with Networked Bi-Level motion/ambient sensor <sup>8,12,13,14</sup>          |        |                           |
| BAA                                                                                                                                                                                                                                                 | Buy America(n) Act and/or Build America Buy America Qualified                                         |        |                           |
| CCE                                                                                                                                                                                                                                                 | Coastal Construction <sup>15</sup>                                                                    |        |                           |
| <b>Shipped Separately (requires some field assembly)</b>                                                                                                                                                                                            |                                                                                                       |        |                           |
| UBV                                                                                                                                                                                                                                                 | Upper/bottom visor <sup>16</sup>                                                                      |        |                           |
| FV                                                                                                                                                                                                                                                  | Full visor <sup>16</sup>                                                                              |        |                           |
| BS                                                                                                                                                                                                                                                  | Bird spikes <sup>17</sup>                                                                             |        |                           |
| <br>*Note: NLTAIR2 PIRHN with nLight Air can be used as a standalone dimming sensor with out-of-box settings or as a wireless networked solution. See factory default settings table. Sensor coverage pattern is affected when luminaire is tilted. |                                                                                                       |        |                           |



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Lithonia RSXF4 Flood LED  
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## Ordering Information

### Accessories

Ordered and shipped separately.

|                     |                                                    |
|---------------------|----------------------------------------------------|
| RSXF4FV (FINISH) U  | RSXF4 Full visor (specify finish)                  |
| RSXF4UBV (FINISH) U | RSXF4 Upper/bottom visor (specify finish)          |
| DLL127F 1.5 JU      | Photocell -SSL twist-lock (120-277V) <sup>18</sup> |
| DLL347F 1.5 CUL JU  | Photocell -SSL twist-lock (347V) <sup>18</sup>     |
| DLL480F 1.5 CUL JU  | Photocell -SSL twist-lock (480V) <sup>18</sup>     |
| DSHORT SBK U        | Shorting cap <sup>18</sup>                         |

### NOTES

- MFL not available with performance packages P7 and P8.
- MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
- HVOLT driver operates on any line voltage from 347-480V (50/60 Hz).
- XVOLT driver operates on any line voltage from 277V-480V (50/60 Hz). XVOLT not available with fusing (SF or DF) and not available with PE.
- Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
- Maximum tilt is 90° above horizontal.
- Requires MVOLT or 347V.
- Two or more of the following options cannot be combined including PE, DMG, PER7, FAO, DS and NLTAIR2 PIRHN. (Exception: PE and FAO can be combined; also PE and DMG can be combined.)
- Compatible with standard twist-lock photocells for dusk to dawn operation or advanced control nodes that provide 0-10V dimming signals. Wire 4/Wire 5 wired to dimming leads on driver. Wire 6/Wire 7 capped inside luminaire. Twistlock photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting Cap included.
- For units with option PER7, the mounting must be restricted to +/- 45° from horizontal aim per ANSI C136.10-2010.
- DS requires (2) separately switched circuits. DS provides 50/50 fixture operation via (2) different sets of leads using (2) drivers. DS only available with packages P4, P5, P6, P7 and P8.
- Must be ordered with PIRHN.
- Must be ordered with NLTAIR2. For additional information on PIRHN visit [here](#).
- Requires MVOLT or HVOLT.
- CCE option not available with AASP, AARP, AAWB, AAWBSC, UVB, FV and BS.
- May be ordered as an accessory.
- Must be ordered with fixture for factory pre-drilling.
- Requires luminaire to be specified with PER7 option. Ordered and shipped as a separate line item from Acuity Brands Controls.

## External Shields



UBV Visor - Top Mounted



UBV Visor - Bottom Mounted

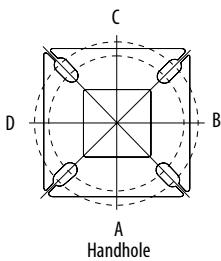


Full Visor - 360°

## Pole/Mounting Information

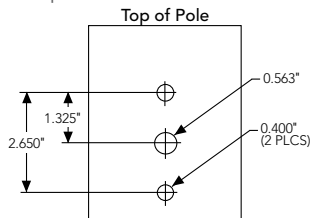
Accessories including bullhorns, cross arms and other adapters are available on pages 5-7. For the complete line of accessories available, visit the accessories tab at Lithonia's Outdoor Poles and Arms product page. Click here to visit [Accessories](#).

### HANDHOLE ORIENTATION

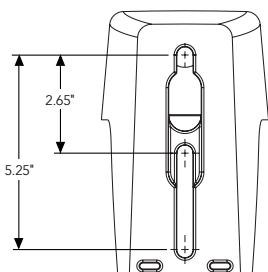


### RSXF POLE DRILLING

Template #8



### RSXF ADJUSTABLE ARM



### Round Tenon Mount - Pole Top Slipfitters

| Tenon O.D. | RSX Mounting | Single    | 2 @ 180   | 2 @ 90    | 3 @ 120   | 3 @ 90    | 4 @ 90    |
|------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2 - 3/8"   | AARP         | AS3-5190  | AS3-5280  | AS3-5290  | AS3-5320  | AS3-5390  | AS3-5490  |
| 2 - 7/8"   | AARP         | AST25-190 | AST25-280 | AST25-290 | AST25-320 | AST25-390 | AST25-490 |
| 4"         | AARP         | AST35-190 | AST35-280 | AST35-290 | AST35-320 | AST35-390 | AST35-490 |

### Drill Side Location by Configuration Type

| Drilling Template | Mounting Option    | Single | 2 @ 180    | 2 @ 90     | 3 @ 120         | 3 @ 90        | 4 @ 90           |
|-------------------|--------------------|--------|------------|------------|-----------------|---------------|------------------|
| #8                | Head Location      | Side B | Side B & D | Side B & C | Round Pole Only | Side B, C & D | Side A, B, C & D |
|                   | Drill Nomenclature | DM19AS | DM28AS     | DM29AS     | DM32AS          | DM39AS        | DM49AS           |

### RSXF4 - Luminaire EPA

\*Includes luminaire and integral mounting arm. Other tenons, arms, brackets or other accessories are not included in this EPA data.

| Fixture Quantity & Mounting Configuration                                   |      | Single | 2 @ 90 | 2 @ 180 | 3 @ 90 | 3 @ 120 | 4 @ 90 | 2 Side by Side | 3 Side by Side | 4 Side by Side |
|-----------------------------------------------------------------------------|------|--------|--------|---------|--------|---------|--------|----------------|----------------|----------------|
| Mounting Type                                                               | Tilt |        |        |         |        |         |        |                |                |                |
| IS - Integral Slipfitter<br>AASP/AARP - Adjustable Arm<br>Square/Round Pole | 0°   | 0.69   | 1.34   | 1.36    | 1.80   | 2.00    | 2.66   | 1.39           | 2.08           | 2.78           |
|                                                                             | 10°  | 1.13   | 2.05   | 2.22    | 3.10   | 2.91    | 4.01   | 2.26           | 3.39           | 4.52           |
|                                                                             | 20°  | 1.91   | 3.14   | 3.57    | 4.84   | 4.26    | 6.23   | 3.82           | 5.73           | 7.64           |
|                                                                             | 30°  | 3.23   | 4.70   | 5.70    | 7.25   | 6.52    | 9.31   | 6.46           | 9.69           | 12.92          |
|                                                                             | 40°  | 4.71   | 6.04   | 7.96    | 9.37   | 9.04    | 12.04  | 9.42           | 14.13          | 18.84          |
|                                                                             | 45°  | 5.46   | 6.72   | 9.10    | 10.47  | 10.31   | 13.40  | 10.92          | 16.38          | 21.84          |
|                                                                             | 50°  | 5.58   | 7.29   | 9.51    | 11.46  | 10.93   | 14.56  | 11.16          | 16.74          | 22.32          |
|                                                                             | 60°  | 5.81   | 8.50   | 10.35   | 13.44  | 12.41   | 16.89  | 11.62          | 17.43          | 23.24          |
|                                                                             | 70°  | 6.13   | 9.29   | 10.98   | 14.92  | 13.50   | 18.57  | 12.26          | 18.39          | 24.52          |
|                                                                             | 80°  | 6.28   | 9.88   | 11.47   | 15.86  | 14.22   | 19.72  | 12.56          | 18.84          | 25.12          |
|                                                                             | 90°  | 6.43   | 10.17  | 11.78   | 16.26  | 14.56   | 20.33  | 12.86          | 19.29          | 25.72          |
| YK - Yoke Mounting                                                          | 0°   | 0.88   | 1.62   | 1.72    | 2.19   | 2.41    | 3.21   | 1.66           | 2.49           | 3.32           |
|                                                                             | 10°  | 1.31   | 2.32   | 2.58    | 3.42   | 3.36    | 4.55   | 2.53           | 3.80           | 5.06           |
|                                                                             | 20°  | 2.09   | 3.41   | 3.93    | 5.16   | 4.71    | 6.77   | 4.09           | 6.14           | 8.18           |
|                                                                             | 30°  | 3.41   | 4.97   | 6.06    | 7.57   | 6.97    | 9.85   | 6.73           | 10.10          | 13.46          |
|                                                                             | 40°  | 4.89   | 6.31   | 8.32    | 9.69   | 9.49    | 12.58  | 9.69           | 14.54          | 19.38          |
|                                                                             | 45°  | 5.64   | 6.99   | 9.46    | 10.79  | 10.76   | 13.94  | 11.19          | 16.79          | 22.38          |
|                                                                             | 50°  | 5.76   | 7.56   | 9.87    | 11.78  | 11.38   | 15.10  | 11.43          | 17.15          | 22.86          |
|                                                                             | 60°  | 5.99   | 8.77   | 10.71   | 13.76  | 12.86   | 17.43  | 11.89          | 17.84          | 23.78          |
|                                                                             | 70°  | 6.31   | 9.56   | 11.34   | 15.24  | 13.95   | 19.11  | 12.53          | 18.80          | 25.06          |
|                                                                             | 80°  | 6.46   | 10.15  | 11.83   | 16.18  | 14.67   | 20.26  | 12.83          | 19.25          | 25.66          |
|                                                                             | 90°  | 6.61   | 10.44  | 12.14   | 16.58  | 15.01   | 20.87  | 13.13          | 19.70          | 26.26          |



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Lithonia RSXF4 Flood LED  
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## Photometric Diagrams

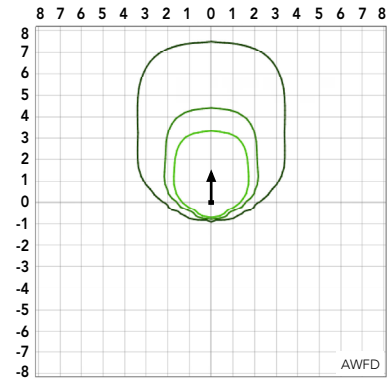
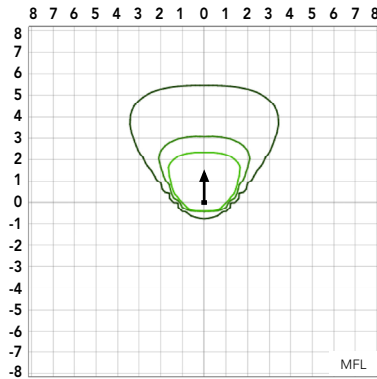
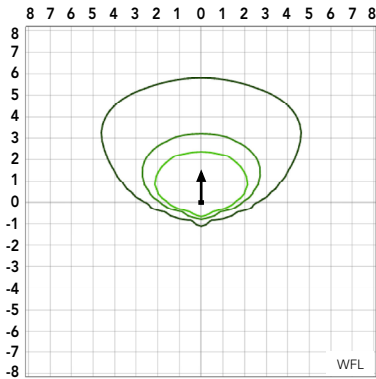
To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's [RSX Flood homepage](#).

Isofootcandle plots for the RSXF4 LED P8 40K. Distances are in units of mounting height (40').

### LEGEND

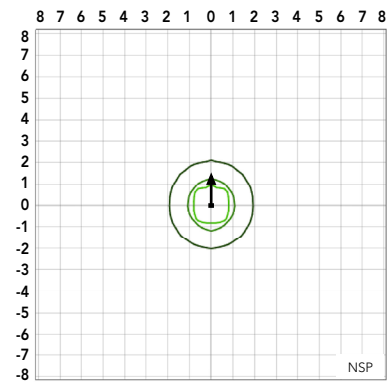
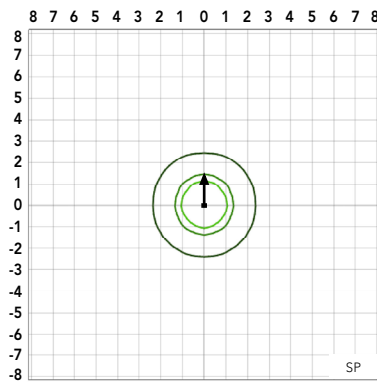
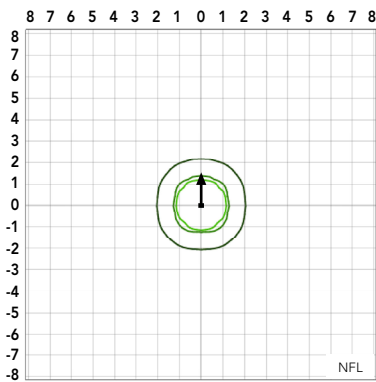


### Luminaires tilted at 45°



Note: Distribution type MFL shown at maximum performance package P6.

### Luminaires tilted at 0°



## Performance Data

### Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-50°C (32-122°F).

| Ambient | Ambient | Lumen Multiplier |
|---------|---------|------------------|
| 0°C     | 32°F    | 1.05             |
| 5°C     | 41°F    | 1.04             |
| 10°C    | 50°F    | 1.03             |
| 15°C    | 59°F    | 1.02             |
| 20°C    | 68°F    | 1.01             |
| 25°C    | 77°F    | 1.00             |
| 30°C    | 86°F    | 0.99             |
| 35°C    | 95°F    | 0.98             |
| 40°C    | 104°F   | 0.97             |
| 45°C    | 113°F   | 0.96             |
| 50°C    | 122°F   | 0.95             |

### Electrical Load

| Performance Package | System Watts (W) | Current (A) |      |      |      |      |      |
|---------------------|------------------|-------------|------|------|------|------|------|
|                     |                  | 120V        | 208V | 240V | 277V | 347V | 480V |
| P1                  | 275W             | 2.34        | 1.38 | 1.22 | 1.08 | 0.83 | 0.62 |
| P2                  | 320W             | 2.60        | 1.56 | 1.37 | 1.22 | 0.97 | 0.71 |
| P3                  | 369W             | 3.08        | 1.79 | 1.57 | 1.39 | 1.09 | 0.80 |
| P4                  | 431W             | 3.61        | 2.11 | 1.88 | 1.76 | 1.24 | 0.90 |
| P5                  | 483W             | 3.97        | 2.28 | 1.99 | 1.74 | 1.36 | 0.98 |
| P6                  | 546W             | 4.48        | 2.55 | 2.21 | 1.93 | 1.54 | 1.12 |
| P7                  | 520W             | 4.28        | 2.47 | 2.15 | 1.88 | 1.54 | 1.11 |
| P8                  | 646W             | 5.54        | 3.13 | 2.71 | 2.34 | 1.90 | 1.37 |

### Projected LED Lumen Maintenance

| Operating Hours          | 50,000 | 75,000 | 100,000 |
|--------------------------|--------|--------|---------|
| Lumen Maintenance Factor | >0.97  | >0.95  | >0.92   |

Values calculated according to IESNA TM-21-11 methodology and valid up to 40°C.



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## Performance Data

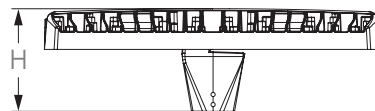
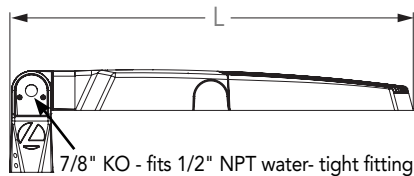
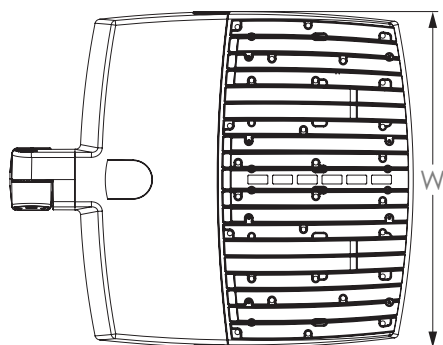
### Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

| Performance Package | System Watts | Distribution Type | Field Angle |     | Beam Angle |    | 30K             |     |         | 40K             |     |         | 50K             |     |         |
|---------------------|--------------|-------------------|-------------|-----|------------|----|-----------------|-----|---------|-----------------|-----|---------|-----------------|-----|---------|
|                     |              |                   |             |     |            |    | (3000K, 70 CRI) |     |         | (4000K, 70 CRI) |     |         | (5000K, 70 CRI) |     |         |
|                     |              |                   | °H          | °V  | °H         | °V | Lumens          | LPW | Max Cd  | Lumens          | LPW | Max Cd  | Lumens          | LPW | Max Cd  |
| P1                  | 275W         | AWFD              | 119         | 120 | 69         | 41 | 37,453          | 136 | 30,678  | 41,149          | 150 | 33,706  | 41,149          | 150 | 33,706  |
|                     |              | WFL               | 133         | 129 | 116        | 80 | 36,666          | 133 | 15,610  | 40,285          | 146 | 17,151  | 40,285          | 146 | 17,151  |
|                     |              | MFL               | 105         | 110 | 91         | 96 | 37,721          | 137 | 17,126  | 41,444          | 151 | 18,816  | 41,444          | 151 | 18,816  |
|                     |              | NFL               | 78          | 79  | 44         | 45 | 37,008          | 135 | 54,721  | 40,660          | 148 | 60,122  | 40,660          | 148 | 60,122  |
|                     |              | SP                | 48          | 48  | 27         | 27 | 35,880          | 130 | 114,288 | 39,420          | 143 | 125,568 | 39,420          | 143 | 125,568 |
|                     |              | NSP               | 42          | 43  | 19         | 21 | 36,350          | 132 | 191,937 | 39,938          | 145 | 210,881 | 39,938          | 145 | 210,881 |
| P2                  | 320W         | AWFD              | 119         | 120 | 69         | 41 | 42,605          | 133 | 34,899  | 46,810          | 146 | 38,344  | 46,810          | 146 | 38,344  |
|                     |              | WFL               | 133         | 129 | 116        | 80 | 41,710          | 130 | 17,758  | 45,827          | 143 | 19,511  | 45,827          | 143 | 19,511  |
|                     |              | MFL               | 105         | 110 | 91         | 96 | 42,910          | 134 | 19,483  | 47,145          | 147 | 21,406  | 47,145          | 147 | 21,406  |
|                     |              | NFL               | 78          | 79  | 44         | 45 | 42,099          | 131 | 62,251  | 46,254          | 144 | 68,395  | 46,254          | 144 | 68,395  |
|                     |              | SP                | 48          | 48  | 27         | 27 | 40,815          | 127 | 130,014 | 44,843          | 140 | 142,847 | 44,843          | 140 | 142,847 |
|                     |              | NSP               | 42          | 43  | 19         | 21 | 41,351          | 129 | 218,348 | 45,432          | 142 | 239,899 | 45,432          | 142 | 239,899 |
| P3                  | 369W         | AWFD              | 119         | 120 | 69         | 41 | 47,519          | 129 | 38,923  | 52,208          | 141 | 42,765  | 52,208          | 141 | 42,765  |
|                     |              | WFL               | 133         | 129 | 116        | 80 | 46,520          | 126 | 19,806  | 51,111          | 138 | 21,761  | 51,111          | 138 | 21,761  |
|                     |              | MFL               | 105         | 110 | 91         | 96 | 47,859          | 130 | 21,730  | 52,581          | 142 | 23,874  | 52,581          | 142 | 23,874  |
|                     |              | NFL               | 78          | 79  | 44         | 45 | 46,954          | 127 | 69,430  | 51,588          | 140 | 76,283  | 51,588          | 140 | 76,283  |
|                     |              | SP                | 48          | 48  | 27         | 27 | 45,522          | 123 | 145,009 | 50,015          | 135 | 159,321 | 50,015          | 135 | 159,321 |
|                     |              | NSP               | 42          | 43  | 19         | 21 | 46,120          | 125 | 243,530 | 50,671          | 137 | 267,566 | 50,671          | 137 | 267,566 |
| P4                  | 431W         | AWFD              | 119         | 120 | 69         | 41 | 52,342          | 122 | 42,810  | 57,422          | 133 | 47,035  | 57,422          | 133 | 47,035  |
|                     |              | WFL               | 133         | 129 | 116        | 80 | 51,201          | 119 | 21,784  | 56,215          | 131 | 23,934  | 56,215          | 131 | 23,934  |
|                     |              | MFL               | 105         | 110 | 91         | 96 | 52,640          | 122 | 23,899  | 57,832          | 134 | 26,258  | 57,832          | 134 | 26,258  |
|                     |              | NFL               | 78          | 79  | 44         | 45 | 51,643          | 120 | 76,364  | 56,739          | 132 | 83,901  | 56,739          | 132 | 83,901  |
|                     |              | SP                | 48          | 48  | 27         | 27 | 50,387          | 117 | 159,490 | 55,009          | 128 | 175,232 | 55,009          | 128 | 175,232 |
|                     |              | NSP               | 42          | 43  | 19         | 21 | 50,754          | 118 | 267,850 | 55,731          | 129 | 294,287 | 55,731          | 129 | 294,287 |
| P5                  | 483W         | AWFD              | 119         | 120 | 69         | 41 | 58,213          | 120 | 47,683  | 63,958          | 132 | 52,389  | 63,958          | 132 | 52,389  |
|                     |              | WFL               | 133         | 129 | 116        | 80 | 56,990          | 118 | 24,264  | 62,614          | 130 | 26,658  | 62,614          | 130 | 26,658  |
|                     |              | MFL               | 105         | 110 | 91         | 96 | 58,629          | 121 | 26,620  | 64,415          | 133 | 29,247  | 64,415          | 133 | 29,247  |
|                     |              | NFL               | 78          | 79  | 44         | 45 | 57,521          | 119 | 85,056  | 63,198          | 131 | 93,451  | 63,198          | 131 | 93,451  |
|                     |              | SP                | 48          | 48  | 27         | 27 | 55,767          | 115 | 177,645 | 61,270          | 127 | 195,178 | 61,270          | 127 | 195,178 |
|                     |              | NSP               | 42          | 43  | 19         | 21 | 56,499          | 117 | 298,339 | 62,075          | 128 | 327,785 | 62,075          | 128 | 327,785 |
| P6                  | 546W         | AWFD              | 119         | 120 | 69         | 41 | 64,747          | 119 | 53,035  | 71,136          | 130 | 58,270  | 71,136          | 130 | 58,270  |
|                     |              | WFL               | 133         | 129 | 116        | 80 | 63,387          | 116 | 26,987  | 69,642          | 128 | 29,651  | 69,642          | 128 | 29,651  |
|                     |              | MFL               | 105         | 110 | 91         | 96 | 65,210          | 120 | 29,608  | 71,645          | 131 | 32,530  | 71,645          | 131 | 32,530  |
|                     |              | NFL               | 78          | 79  | 44         | 45 | 63,977          | 117 | 94,603  | 70,291          | 129 | 103,940 | 70,291          | 129 | 103,940 |
|                     |              | SP                | 48          | 48  | 27         | 27 | 62,027          | 114 | 197,584 | 68,148          | 125 | 217,085 | 68,148          | 125 | 217,085 |
|                     |              | NSP               | 42          | 43  | 19         | 21 | 62,841          | 115 | 331,825 | 69,042          | 127 | 364,576 | 69,042          | 127 | 364,576 |
| P7                  | 520W         | AWFD              | 119         | 120 | 69         | 41 | 66,229          | 127 | 56,581  | 72,765          | 140 | 62,166  | 72,765          | 140 | 62,166  |
|                     |              | WFL               | 133         | 129 | 116        | 80 | 64,785          | 125 | 28,791  | 71,178          | 137 | 31,633  | 71,178          | 137 | 31,633  |
|                     |              | NFL               | 78          | 79  | 44         | 45 | 65,346          | 126 | 100,928 | 71,795          | 138 | 110,890 | 71,795          | 138 | 110,890 |
|                     |              | SP                | 48          | 48  | 27         | 27 | 63,757          | 123 | 210,794 | 70,049          | 135 | 231,600 | 70,049          | 135 | 231,600 |
|                     |              | NSP               | 42          | 43  | 19         | 21 | 64,222          | 124 | 354,011 | 70,559          | 136 | 388,952 | 70,559          | 136 | 388,952 |
| P8                  | 646W         | AWFD              | 119         | 120 | 69         | 41 | 77,128          | 119 | 65,892  | 84,740          | 131 | 72,396  | 84,740          | 131 | 72,396  |
|                     |              | WFL               | 133         | 129 | 116        | 80 | 75,446          | 117 | 33,529  | 82,892          | 128 | 36,839  | 82,892          | 128 | 36,839  |
|                     |              | NFL               | 78          | 79  | 44         | 45 | 76,100          | 118 | 117,537 | 83,610          | 130 | 129,138 | 83,610          | 130 | 129,138 |
|                     |              | SP                | 48          | 48  | 27         | 27 | 74,250          | 115 | 245,483 | 81,577          | 126 | 269,712 | 81,577          | 126 | 269,712 |
|                     |              | NSP               | 42          | 43  | 19         | 21 | 74,791          | 116 | 412,267 | 82,171          | 127 | 452,958 | 82,171          | 127 | 452,958 |

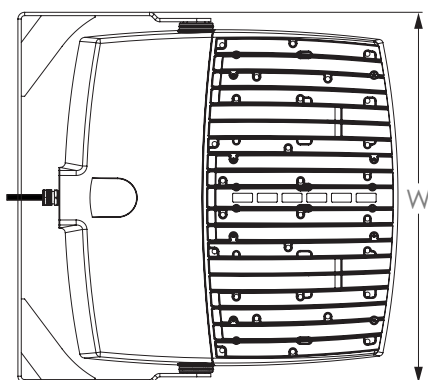


## RSXF4 with Adjustable Slipfitter (IS)



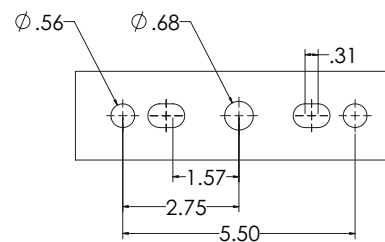
Length: 30.0" (76.2 cm)  
Width: 25.0" (63.5 cm)  
Height: 3.0" (7.6 cm) Main Body  
7.6" (19.3 cm) Arm

## RSXF4 with Yoke (YKC64)



Length: 28.3" (96.3 cm)  
Width: 27.6" (63.5 cm)  
Height: 3.2" (7.6 cm) Main Body

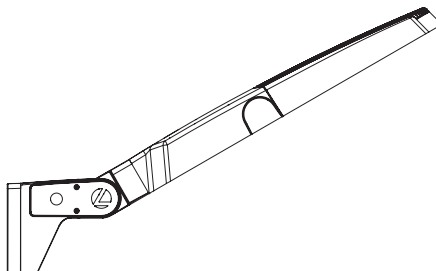
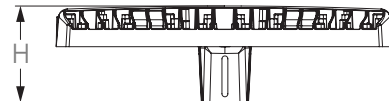
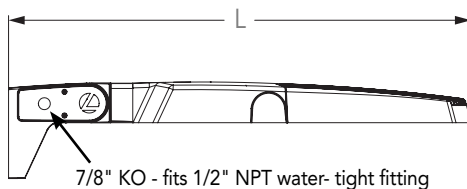
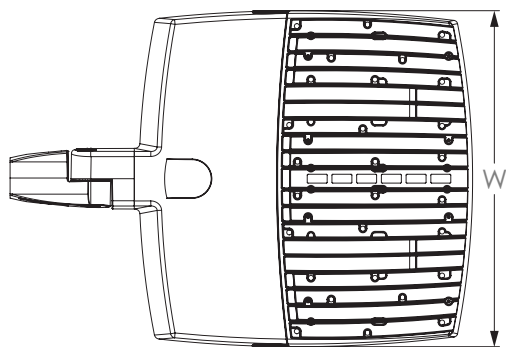
### Yoke (YK) Mounting Detail





## Dimensions

### RSXF4 with Adjustable Tilt Arm - Square or Round Pole (AASP or AARP)



**NOTE:**  
RPA - Round Pole mount can also be used to mount on square poles by omitting the round pole adapter plate shown here.



Length: 34.4" (87.4 cm) **AASP**  
35.4" (89.9 cm) **AARP**  
Width: 25.0" (63.5 cm)  
Height: 3.0" (7.6 cm) Main Body  
7.2" (18.3 cm) Arm

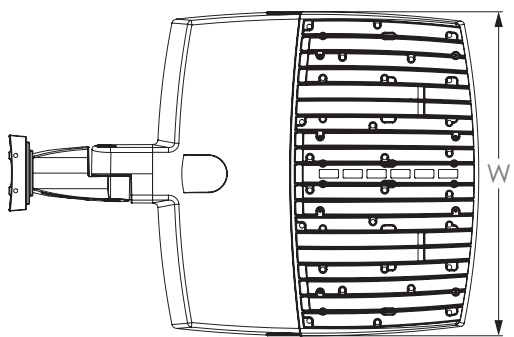
#### Notes

AASP: Requires 3.0" min. square pole for 1 at 90°. Requires 3.5" min. square pole for mounting 2, 3, 4 at 90°.

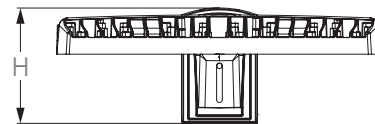
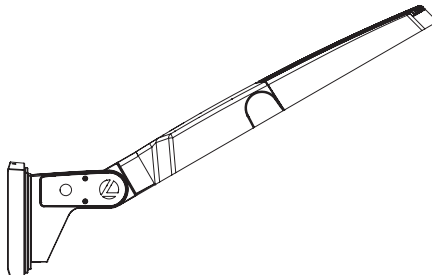
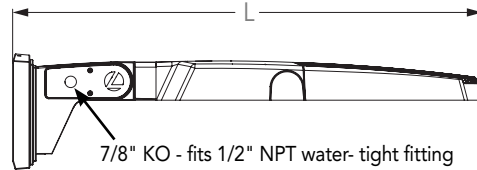
AARP: Requires 3.2" min. dia. round pole for 2, 3, 4 at 90°. Requires 3.0" min. dia. round pole for mounting 1 at 90°, 2 at 180°, 3 at 120°.

## Dimensions

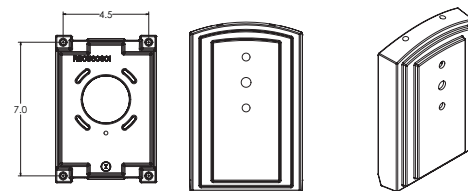
### RSXF4 with Adjustable Tilt Arm with Wall Bracket (AAWB)



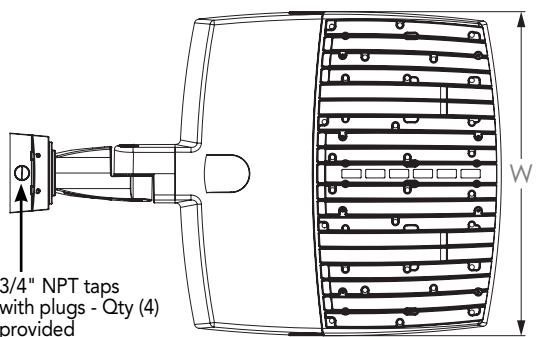
Length: 36.2" (91.9 cm)  
 Width: 25.0" (63.5 cm)  
 Height: 3.0" (7.6 cm) Main Body  
 8.9" (22.6 cm) Arm



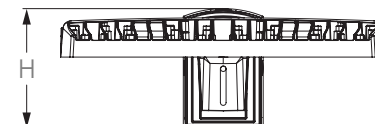
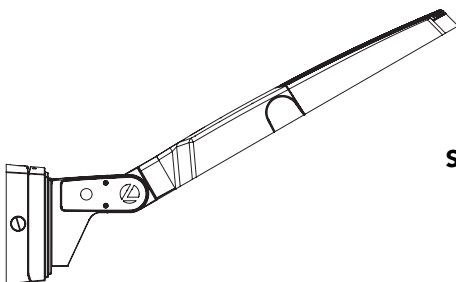
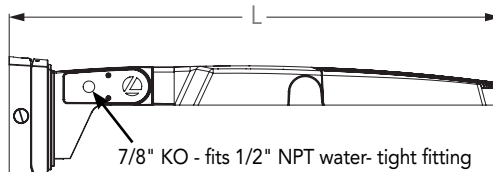
#### Wall Bracket (WBA) Mounting Detail



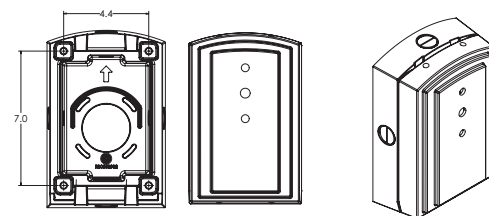
### RSXF4 with Adjustable Tilt Arm with Wall Bracket and Surface Conduit Box (AAWSC)



Length: 37.9" (96.3 cm)  
 Width: 25.0" (63.5 cm)  
 Height: 3.0" (7.6 cm) Main Body  
 9.2" (23.4 cm) Arm



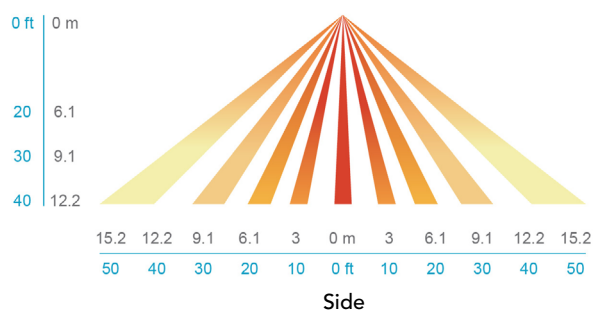
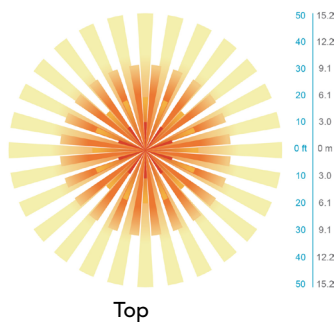
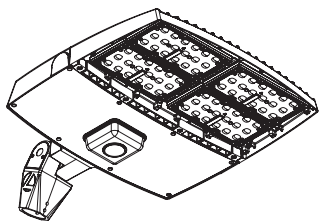
#### Surface Conduit Box (SCB) Mounting Detail





## PIRHN nLight Sensor Coverage Pattern

### nLight PIRHN



| Motion Sensor Default Settings - Option PIRHN |                           |                            |                     |                                   |                                            |                                              |
|-----------------------------------------------|---------------------------|----------------------------|---------------------|-----------------------------------|--------------------------------------------|----------------------------------------------|
| Option                                        | Dimmed State (unoccupied) | High Level (when occupied) | Photocell Operation | Dwell Time (occupancy time delay) | Ramp-up Time (from unoccupied to occupied) | Ramp-down Time (from occupied to unoccupied) |
| PIRHN                                         | Approx. 30% Output        | 100% Output                | Enabled @ 1.5FC     | 7.5 minutes                       | 3 seconds                                  | 5 minutes                                    |

\*Note: PIRHN default settings including photocell set-point, high/low dim rates, and occupancy sensor time delay are all configurable using the Clairity Pro App.

## FEATURES & SPECIFICATIONS

### INTENDED USE

The RSXF LED flood family is designed to provide a long-lasting, energy-efficient solution for the one-for-one replacement of existing metal halide or high pressure sodium lighting. The RSXF4 delivers 40,000 to 85,000 lumens and is ideal for replacing 1000W and 1500W HID floodlights in parking lots and other large area lighting applications.

### CONSTRUCTION

The RSXF LED flood luminaire features a rugged die-cast aluminum main body that uses heat-dissipating fins and flow-through venting to provide optimal thermal management that both enhances LED performance and extends component life. Integral adjustable slipfitter mounts on a 2 3/8" OD tenon. The adjustable slipfitter has an integral junction box for easy installation. The light engines and housing are sealed against moisture and environmental contaminants to IP66. RSXF is Vibration rated per ANSI C136.31: RSXF and mountings rated for 3G vibration include IS, YK, AASP and AARP. RSXF and mountings rated for 1.5G vibration include AAWB and AAWSC.

### FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures superior adhesion as well as a minimum finish thickness of 3 mils. The result is a high-quality finish that is warranted not to crack or peel.

### COASTAL CONSTRUCTION (CCE)

Optional corrosion resistant construction is engineered with added corrosion protection in materials and/or pre-treatment of base material under super durable paint. Provides additional corrosion protection for applications near coastal areas. Finish is salt spray tested to over 5,000 hours per ASTM B117 with scribe rating of 10. Additional lead-times apply.

### OPTICS

Precision acrylic refractive lenses are engineered for superior application efficiency, distributing the light to where it is needed most. Available in narrow and wide pattern distributions including Wide Flood, Medium Flood, Narrow Flood, Spot, Narrow Spot and an Area Wide/Forward distribution pattern featuring a strong forward throw reach that is ideal for lighting large areas from the perimeter.

### ELECTRICAL

Light engine(s) configurations consist of high-efficacy LEDs mounted on metal-core circuit boards and aluminum heat sinks to maximize heat dissipation. Light engines are IP66 rated. LED lumen maintenance is >L92/100,000 hours. CCT's of 3000K, 4000K and 5000K (minimum 70 CRI) are available. Fixtures ship standard with 0-10v dimming driver. Class 1 electronic drivers ensure system power factor >90% and THD <20%. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

### STANDARD CONTROLS

The RSXF LED flood luminaire has a wide assortment of control options. Dusk to dawn controls include MVOLT and 347V button-type photocells and NEMA twist-lock photocell receptacles.

### nLIGHT AIR CONTROLS

The RSXF LED flood luminaire is also available with nLight® AIR which can be used for simple motion occupancy dimming or for the ultimate in wireless control. This powerful controls platform provides out-of-the-box basic motion sensing with photocontrol functionality and is suitable for mounting heights up to 40 feet. No commissioning is required when using factory default settings that provide basic stand-alone motion occupancy dimming that is switched on and off with a built-in photocell. See chart above for motion sensor default out-of-box settings. For more advanced wireless functionality, such as group dimming, nLight AIR can be commissioned using a smartphone and the easy-to-use CLAIRITY app. nLight AIR equipped luminaires can be grouped, resulting in motion sensor and photocell group response without the need for additional equipment. Scheduled dimming with motion sensor over-ride can be achieved when used with the nLight Eclipse. Additional information about nLight Air can be found [here](#).

### INSTALLATION

The integral "IS" mount offers an adjustable slipfitter that mounts on a 2 3/8" OD tenon. The adjustable slipfitter has an integral junction box and offers easy installation, wiring and precision distribution pattern aiming. A steel yoke mount is also available and includes a water tight cord grip and cord. Additional mountings are available including an adjustable tilt arm for direct-to-pole and wall and a surface conduit box for wall mount applications. All mountings are adjustable in 5° increments. RSXF flood is not rated for tilting above 90° or mounting within 4 feet of ground. Can be tilted up to 90° above horizontal.

### LISTINGS

CSA Certified to meet U.S. and Canadian standards. Suitable for wet locations. Rated for -40°C minimum ambient. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at [www.designlights.org/QPL](http://www.designlights.org/QPL) to confirm which versions are qualified.

International Dark-Sky Association (IDA) Fixture Seal of Approval (FSA) is available for all products on this page utilizing 3000K color temperature only. U.S. Patent No. D882,146S and U.S. Patent No. 11,085,619 B2

### GOVERNMENT PROCUREMENT

BAA – Buy America(n) Act: Product with the BAA option qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product with the BAA option also qualifies as manufactured in the United States under DOT Buy America regulations. BABA – Build America Buy America: Product with the BAA option also qualifies as produced in the United States under the definitions of the Build America, Buy America Act. Please refer to [www.acuitybrands.com/buy-american](http://www.acuitybrands.com/buy-american) for additional information.

### WARRANTY

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:

[www.acuitybrands.com/support/warranty/terms-and-conditions](http://www.acuitybrands.com/support/warranty/terms-and-conditions)

**Note:** Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.



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Lithonia RSXF4 Flood LED  
Rev. 10/09/24  
Page 8 of 8



# TWX2 LED

## LED Wall Luminaire



Catalog  
Number

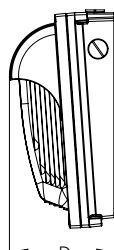
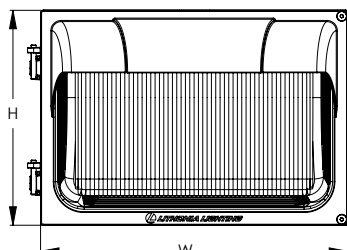
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### Specifications

**Depth:** 4.5"  
**Height:** 9.0"  
**Width:** 13.0"  
**Weight:** 11 lbs  
(without options)



### Introduction

TWX LED wall pack family, a ground-up design that has the low initial cost customers demand while providing superior performance and a traditional form. The TWX2 LED is energy efficient, saving up to 82% in energy costs when replacing a metal halide luminaire. Offering an expected service life of more than 20 years, the TWX2 LED eliminates frequent lamp and ballast replacements associated with traditional technologies.

The Adjustable Light Output (ALO) feature allows the contractor to set the light output during installation, to a level perfectly suited for the job site. The TWX2 LED ALO luminaires can replace anything from a 70W to 250W metal halide luminaire.

### TWX LED Family Overview

| Luminaire | Voltage                      | Photocell | Lumens (4000K) |        |        |        |
|-----------|------------------------------|-----------|----------------|--------|--------|--------|
|           |                              |           | P1             | P2     | P3     | P4     |
| TWX1 LED  | MVOLT (120-277V)             | YES       | 1,600          | 2,950  | --     | --     |
| TWX2 LED  | MVOLT (120-277V), 347V, 480V | YES       | 3,250          | 4,400  | 5,250  | 6,850  |
| TWX3 LED  | MVOLT (120-277V), 347V       | YES       | 8,800          | 10,650 | 12,900 | 13,850 |

### Ordering Information

#### EXAMPLE: TWX2 LED ALO 40K MVOLT DDBXD

| Series   | Package                  | Color Temperature | Voltage          | Options                   | Finish                 |                                  |
|----------|--------------------------|-------------------|------------------|---------------------------|------------------------|----------------------------------|
| TWX2 LED | P1 3,250 lumens          | 30K 3000K         | MVOLT (120-277V) | PE Photocell, Button Type | DDBXD Dark bronze      | DDBTXD Textured dark bronze      |
|          | P2 4,400 lumens          | 40K 4000K         | 347              |                           | DBLXD Black            | DBLBXD Textured black            |
|          | P3 5,250 lumens          | 50K 5000K         | 480              |                           | DWHXD White            | DWHGXD Textured White            |
|          | P4 6,850 lumens          |                   |                  |                           | DNAXD Natural aluminum | DNATXD Textured natural aluminum |
|          | ALO 1,450 - 6,850 lumens |                   |                  |                           |                        |                                  |

### Accessories

\*543982 RK1 PEB SHLD U Button style photocell shield

### FEATURES & SPECIFICATIONS

#### INTENDED USE

The TWX2 LED is an energy-efficient, low maintenance LED wall pack for replacing up to a 250W MH fixture, providing the same footprint on the wall. TWX2 is ideal for applications such as carports, loading areas, driveways and parking areas.

#### CONSTRUCTION

Two-piece die-cast aluminum housing to optimize thermal management through conductive and convective cooling. The door is hinged on the side and can be removed for easy installation. The housing is completely sealed against moisture and environmental contaminants (IP65) and is suitable for the hose-down applications.

#### FINISH

Exterior painted parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling.

#### OPTICS

The advanced optical design uses both reflector and refractor technologies that work together to create superior illumination and further throw, getting the light where it is needed. The US-made borosilicate glass refractor is specifically designed to maximize light extraction and create a fully luminous luminaire for a better nighttime look.

#### ELECTRICAL

Light engine consists of high-efficacy LEDs mounted to housing to maximize heat dissipation and promote long-life (up to L81/100,000 hours at 25°C). The electronic driver has a power factor of >90%, THD <20%.

#### INSTALLATION

Designed for wall mounting above four feet from the ground. Housing is configured for mounting directly over a standard junction box (by others) or for surface wiring via any of three 1/2" threaded entry hubs.

#### LISTINGS

CSA certified to U.S. and Canadian standards. IP65 rated for outdoor applications. Rated for -40°C minimum ambient. DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at [www.designlights.org/QPL](http://www.designlights.org/QPL) to confirm which versions are qualified.

#### WARRANTY

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: [www.acuitybrands.com/support/warranty/terms-and-conditions](http://www.acuitybrands.com/support/warranty/terms-and-conditions)

**Note:** Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.



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TWX2 LED  
Rev. 11/30/22



## Performance Data

### Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

| Performance Package | System Watts | 30K (3000K, 80 CRI) |     | 40K (4000K, 80 CRI) |     | 50K (5000K, 80 CRI) |     |
|---------------------|--------------|---------------------|-----|---------------------|-----|---------------------|-----|
|                     |              | Lumens              | LPW | Lumens              | LPW | Lumens              | LPW |
| P1                  | 23W          | 3,100               | 135 | 3,250               | 141 | 3,250               | 141 |
| P2                  | 32W          | 4,200               | 131 | 4,400               | 138 | 4,400               | 138 |
| P3                  | 39W          | 5,050               | 129 | 5,250               | 135 | 5,250               | 135 |
| P4/ALO              | 54W          | 6,550               | 121 | 6,850               | 127 | 6,850               | 127 |

### Electrical Load

| Performance Package | System Watts | Current (A) |       |       |       |       |       |
|---------------------|--------------|-------------|-------|-------|-------|-------|-------|
|                     |              | 120V        | 208V  | 240V  | 277V  | 347V  | 480V  |
| P1                  | 23W          | 0.195       | 0.112 | 0.097 | 0.084 | 0.067 | 0.049 |
| P2                  | 32W          | 0.268       | 0.154 | 0.134 | 0.116 | 0.093 | 0.067 |
| P3                  | 39W          | 0.326       | 0.188 | 0.163 | 0.141 | 0.113 | 0.082 |
| P4/ALO              | 54W          | 0.447       | 0.258 | 0.224 | 0.194 | 0.155 | 0.112 |

### Adjustable Lumen Output (ALO) Table

| Setting | System Watts | Lumen Output | Replaces Metal Halide |
|---------|--------------|--------------|-----------------------|
| 8*      | 54W          | 6,850        | 250W                  |
| 7       | 51W          | 6,550        |                       |
| 6       | 42W          | 5,650        | 150/175W              |
| 5       | 36W          | 4,900        |                       |
| 4       | 29W          | 4,050        |                       |
| 3       | 22W          | 3,200        | 100W                  |
| 2       | 15W          | 2,200        | 70W                   |
| 1       | 9W           | 1,450        |                       |

\* Factory default setting is #8

### Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

| Ambient |       | Lumen Multiplier |
|---------|-------|------------------|
| 0°C     | 32°F  | 1.05             |
| 10°C    | 50°F  | 1.03             |
| 20°C    | 68°F  | 1.01             |
| 25°C    | 77°F  | 1.00             |
| 30°C    | 86°F  | 0.99             |
| 40°C    | 104°F | 0.97             |

### Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11). To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

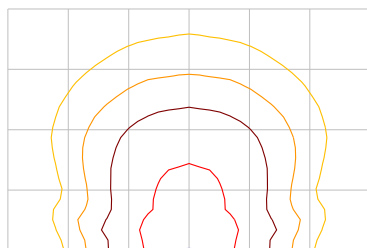
| Operating Hours          | 0   | 25,000 | 50,000 | 60,000 | 100,000 |
|--------------------------|-----|--------|--------|--------|---------|
| Lumen Maintenance Factor | 1.0 | >0.95  | >0.90  | >0.88  | >0.81   |

## Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit the Lithonia Lighting TWX LED homepage. Tested in accordance with IESNA LM-79 and LM-80 standards

#### LEGEND

|         |
|---------|
| 0.25 fc |
| 0.5 fc  |
| 1.0 fc  |
| 3.0 fc  |



TWX2 LED ALO

MH = 15ft  
Grid = 15ft x 15ft  
ISO lines = 0.25fc, 0.5fc, 1.0fc, 3.0fc



# TWX3 LED

## LED Wall Luminaire



Catalog  
Number

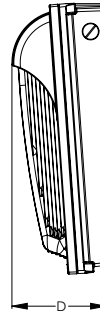
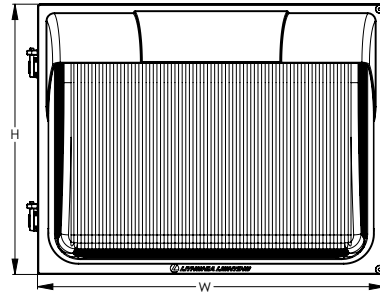
Notes

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### Specifications

**Depth:** 5.0"  
**Height:** 14.0"  
**Width:** 18.0"  
**Weight:** 21 lbs  
(without options)



### Introduction

TWX LED wall pack family, a ground-up design that has the low initial cost customers demand while providing superior performance and a traditional form. The TWX3 LED is energy efficient, saving up to 84% in energy costs when replacing a metal halide luminaire. Offering an expected service life of more than 20 years, the TWX3 LED eliminates frequent lamp and ballast replacements associated with traditional technologies.

The Adjustable Light Output (ALO) feature allows the contractor to set the light output during installation, to a level perfectly suited for the job site. The TWX3 LED ALO luminaires can replace anything from a 100W to 400W metal halide luminaire.

### TWX LED Family Overview

| Luminaire | Voltage                      | Photocell | Lumens (4000K) |        |        |        |
|-----------|------------------------------|-----------|----------------|--------|--------|--------|
|           |                              |           | P1             | P2     | P3     | P4     |
| TWX1 LED  | MVOLT (120-277V)             | YES       | 1,600          | 2,950  | --     | --     |
| TWX2 LED  | MVOLT (120-277V), 347V, 480V | YES       | 3,250          | 4,400  | 5,250  | 6,850  |
| TWX3 LED  | MVOLT (120-277V), 347V       | YES       | 8,800          | 10,650 | 12,900 | 13,850 |

### Ordering Information

### EXAMPLE: TWX3 LED ALO 40K MVOLT DDBXD

| Series   | Package                   | Color Temperature | Voltage                 | Options                   | Finish                 |                                  |
|----------|---------------------------|-------------------|-------------------------|---------------------------|------------------------|----------------------------------|
| TWX3 LED | P1 8,800 lumens           | 30K 3000K         | MVOLT (120-277V)<br>347 | PE Photocell, Button Type | DDBXD Dark bronze      | DDBTXD Textured dark bronze      |
|          | P2 10,650 lumens          | 40K 4000K         |                         |                           | DBLXD Black            | DBLTXD Textured black            |
|          | P3 12,900 lumens          | 50K 5000K         |                         |                           | DWHXD White            | DWHGXD Textured White            |
|          | P4 13,850 lumens          |                   |                         |                           | DNAXD Natural aluminum | DNATXD Textured natural aluminum |
|          | ALO 2,900 - 13,850 lumens |                   |                         |                           |                        |                                  |

### Accessories

\*543982 RK1 PEB SHLD U Button style photocell shield

### FEATURES & SPECIFICATIONS

#### INTENDED USE

The TWX3 LED is an energy-efficient, low maintenance LED wall pack for replacing up to a 400W MH fixture, providing the same footprint on the wall. TWX3 is ideal for higher mounting height applications such as industrial buildings, warehouses and schools.

#### CONSTRUCTION

Two-piece die-cast aluminum housing to optimize thermal management through conductive and convective cooling. The door is hinged on the side and can be removed for easy installation. The housing is completely sealed against moisture and environmental contaminants (IP65) and is suitable for the hose-down applications.

#### FINISH

Exterior painted parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling.

#### OPTICS

The advanced optical design uses both reflector and refractor technologies that work together to create superior illumination and further throw, getting the light where it is needed. The US-made borosilicate glass refractor is specifically designed to maximize light extraction and create a fully luminous luminaire for a better nighttime look.

#### ELECTRICAL

Light engine consists of high-efficacy LEDs mounted to housing to maximize heat dissipation and promote long-life (up to L81/100,000 hours at 25°C). The electronic driver has a power factor of >90%, THD <20%.

#### INSTALLATION

Designed for wall mounting above four feet from the ground. Housing is configured for mounting directly over a standard junction box (by others) or for surface wiring via any of three 1/2" threaded entry hubs.

#### LISTINGS

CSA certified to U.S. and Canadian standards. IP65 rated for outdoor applications. Rated for -40°C minimum ambient. DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at [www.designlights.org/QPL](http://www.designlights.org/QPL) to confirm which versions are qualified.

#### WARRANTY

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: [www.acuitybrands.com/support/warranty/terms-and-conditions](http://www.acuitybrands.com/support/warranty/terms-and-conditions)

**Note:** Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.



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TWX3 LED  
Rev. 11/30/22



## Performance Data

### Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

| Performance Package | System Watts | 30K (3000K, 80 CRI) |     | 40K (4000K, 80 CRI) |     | 50K (5000K, 80 CRI) |     |
|---------------------|--------------|---------------------|-----|---------------------|-----|---------------------|-----|
|                     |              | Lumens              | LPW | Lumens              | LPW | Lumens              | LPW |
| P1                  | 65W          | 8,450               | 130 | 8,800               | 135 | 8,800               | 135 |
| P2                  | 79W          | 10,200              | 129 | 10,650              | 135 | 10,650              | 135 |
| P3                  | 97W          | 12,300              | 127 | 12,900              | 133 | 12,900              | 133 |
| P4/ALO              | 108W         | 13,250              | 123 | 13,850              | 128 | 13,850              | 128 |

### Electrical Load

| Performance Package | System Watts | Current (A) |       |       |       |       |
|---------------------|--------------|-------------|-------|-------|-------|-------|
|                     |              | 120V        | 208V  | 240V  | 277V  | 347V  |
| P1                  | 65W          | 0.538       | 0.310 | 0.269 | 0.233 | 0.186 |
| P2                  | 79W          | 0.656       | 0.379 | 0.328 | 0.284 | 0.227 |
| P3                  | 97W          | 0.806       | 0.465 | 0.403 | 0.349 | 0.279 |
| P4/ALO              | 108W         | 0.900       | 0.519 | 0.450 | 0.390 | 0.311 |

### Adjustable Lumen Output (ALO) Table

| Setting | System Watts | Lumen Output | Replaces Metal Halide |
|---------|--------------|--------------|-----------------------|
| 8*      | 108W         | 13,850       | 400W                  |
| 7       | 102W         | 13,250       |                       |
| 6       | 85W          | 11,400       |                       |
| 5       | 71W          | 9,900        |                       |
| 4       | 57W          | 8,200        | 250W                  |
| 3       | 44W          | 6,450        |                       |
| 2       | 29W          | 4,500        | 150/175W              |
| 1       | 18W          | 2,900        | 100W                  |

\* Factory default setting is #8

### Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

| Ambient |       | Lumen Multiplier |
|---------|-------|------------------|
| 0°C     | 32°F  | 1.04             |
| 10°C    | 50°F  | 1.03             |
| 20°C    | 68°F  | 1.01             |
| 25°C    | 77°F  | 1.00             |
| 30°C    | 86°F  | 0.99             |
| 40°C    | 104°F | 0.97             |

### Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11). To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

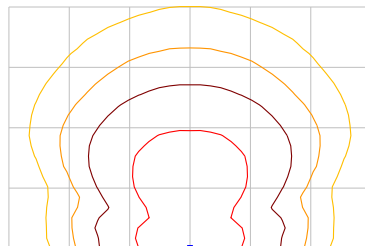
| Operating Hours          | 0   | 25,000 | 50,000 | 60,000 | 100,000 |
|--------------------------|-----|--------|--------|--------|---------|
| Lumen Maintenance Factor | 1.0 | >0.95  | >0.90  | >0.88  | >0.81   |

## Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit the Lithonia Lighting TWX LED homepage. Tested in accordance with IESNA LM-79 and LM-80 standards

#### LEGEND

|         |
|---------|
| 0.25 fc |
| 0.5 fc  |
| 1.0 fc  |
| 3.0 fc  |



TWX3 LED ALO

MH = 18ft  
Grid = 18ft x 18ft  
ISO lines = 0.25fc, 0.5fc, 1.0fc, 3.0fc

### **COMMISSION AUTHORITY**

The Planning Commission is a five-member board with the responsibility to hear applications for land use, zoning classifications or districts; to review and recommend legislation and regulations on all matters of municipal planning, land use and zoning; and to review and recommend to Council ordinances creating regulations governing all development and redevelopment, both public and private. The Commission has control over platting and subdividing of lands. The Commission evaluates the plan, design, location, removal, relocation and alteration of buildings and structures located on public lands and along public streets. All plans and recommendations of the Planning Commission must be approved by Council.

### **APPLICATIONS**

Commission meetings are held in Council Chambers at City Hall on the second Tuesday of each month starting at 7:00 p.m. Complete applications must be received at least 25 days prior to a regular meeting to appear on the agenda. To be considered complete, an application must be signed by the property owner, include the required fee and be accompanied by the required plans, exhibits and materials of the type and number listed in the application. All materials submitted become the property of the Commission.

### **FEES**

See the Planning and Zoning Fee Schedule for a complete list of applicable fees for your project.

### **SUBMITTAL REQUIREMENTS**

For residential subdivisions and other platting of property, applicant shall refer to the City's Subdivision Regulations for submittal requirements. For all other projects, Section 1243.05 of the Zoning Code contains the complete list of development plan requirements. Applicants shall submit information responsive to these requirements, as applicable and directed by city staff.

Note that a traffic impact study is required for all developments involving a new use, change of use and/or expansion of use based on trip generation rates and in accordance with the requirements of Chapter 1210.

All drawings for subdivision of property must have the seal of a licensed professional engineer or registered surveyor. Development plans should be stamped by a registered architect or licensed professional engineer. Plats shall be 24 by 36 inches in size. Site improvement plans shall be 22 by 34 inches in size.

### **NOTICE AND APPEARANCE**

The Commission is required to give public notice ten days in advance of a meeting, as well as notice to all parties in interest, including owners of adjoining properties. Applicants and owners are required to attend the meeting where their application is considered.

### **APPLICANT PRESENTATION**

Applicants are expected to submit any documents or information relevant to their request with their application. At the meeting, the applicant, owner or authorized agent (design professional, contractor, attorney, etc.) should be prepared to make a presentation of their project or request and answer questions of the Commission. Adjoining property owners or other interested parties may also make comment or ask questions. Any public comment or questions regarding a project are directed to the Commission chair.



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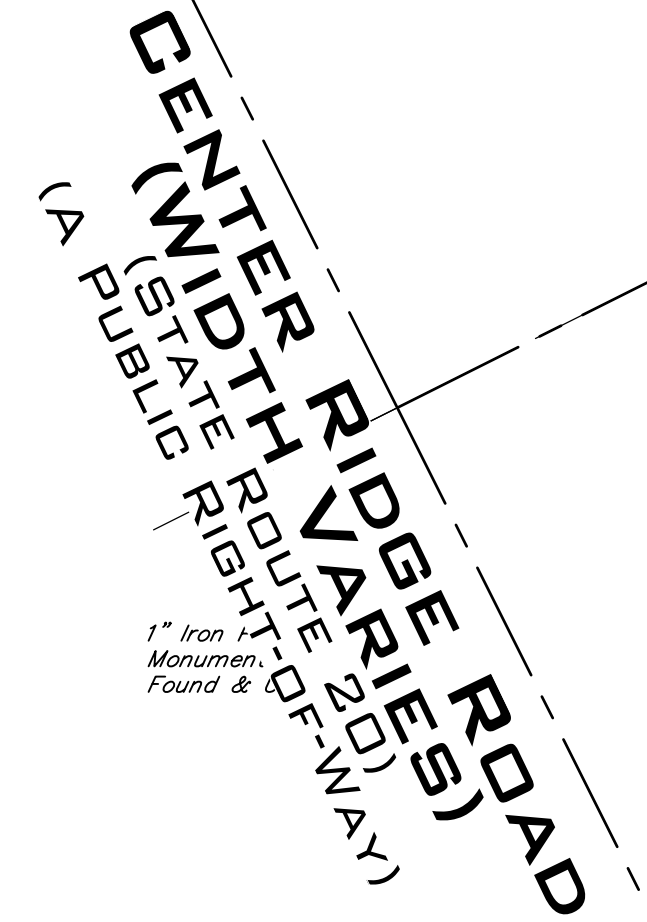
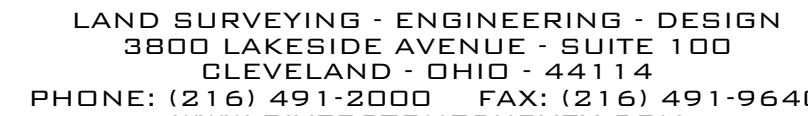
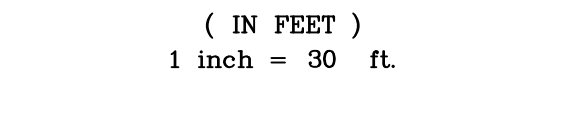
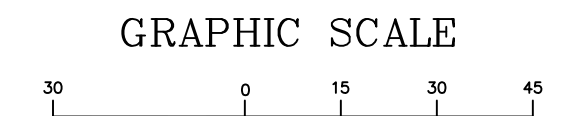
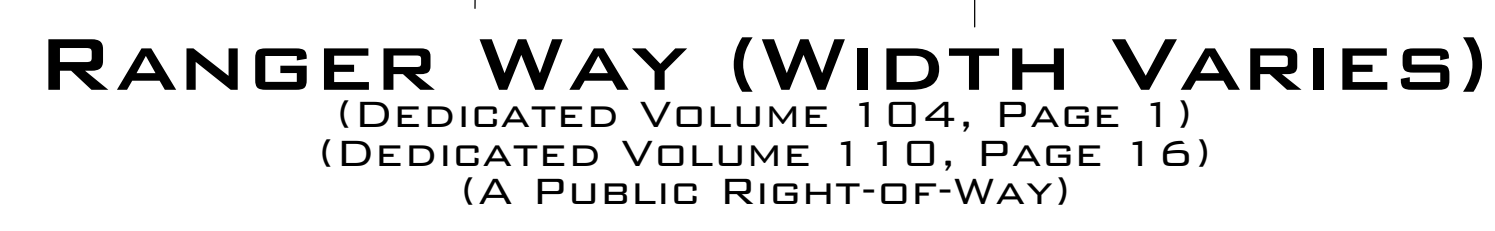
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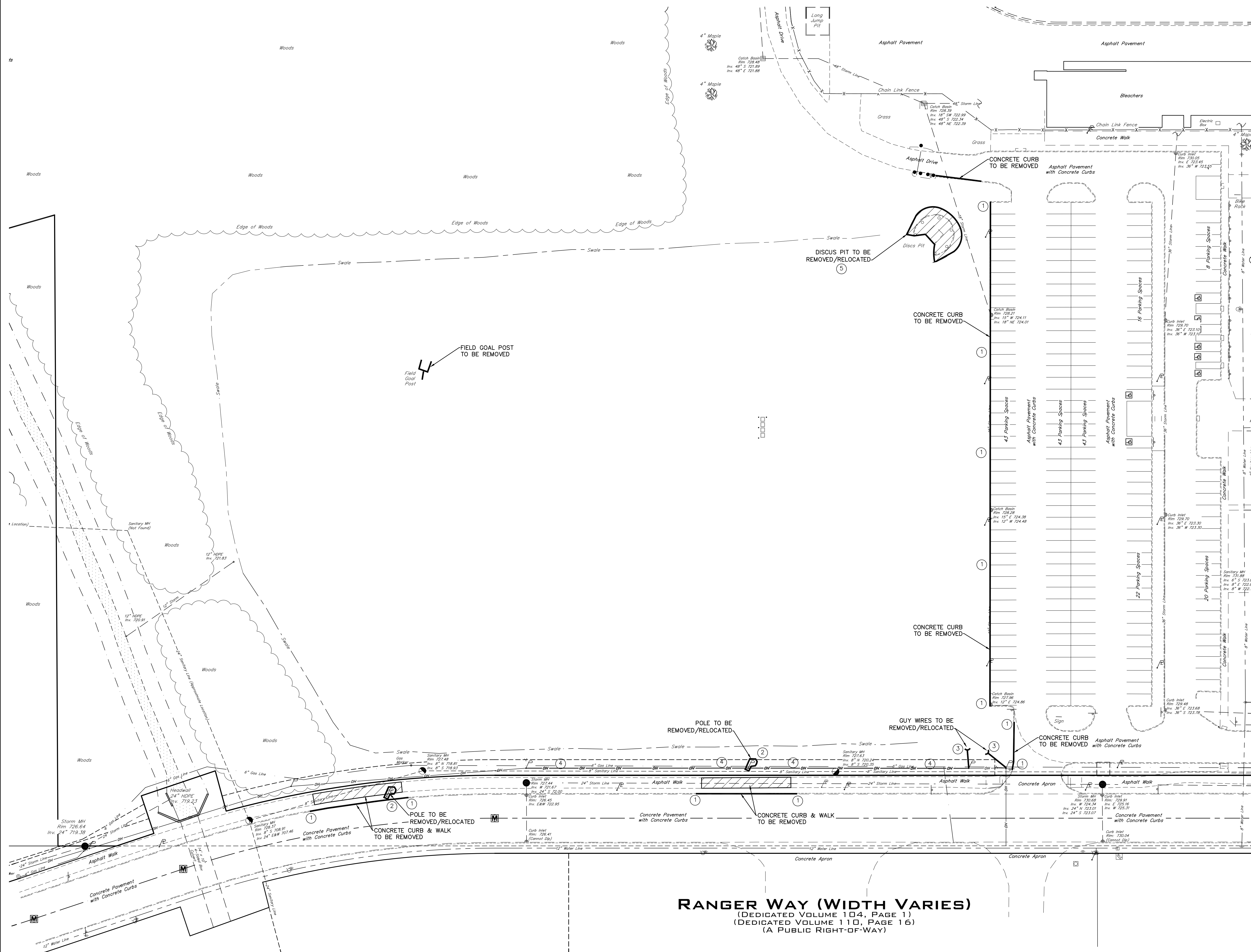
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Page 10 of 10

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GENERAL SITE DEMOLITION NOTES:

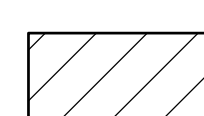
CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL PERMITS NECESSARY FOR  
SITE DEMOLITION AND SHALL BE RESPONSIBLE FOR ALL FEES.

CONTRACTOR SHALL CALL THE OHIO UTILITIES PROTECTION SERVICE (OUPS) A MINIMUM OF 48 HOURS BEFORE ANY DEMOLITION WORK.

CONTRACTOR IS RESPONSIBLE TO COORDINATE ALL UTILITY DEMOLITION WORK WITH THE APPROPRIATE UTILITIES PRIOR TO DEMOLITION. ALL UTILITY CONNECTIONS SHALL BE REMOVED ACCORDING TO UTILITY COMPANY REQUIREMENTS.

SANITARY AND WATER CONNECTIONS TO REMAIN FOR REUSE SHALL BE LOCATED, INSPECTED AND MARKED IN THE FIELD. CONTRACTOR SHALL NOTIFY ENGINEER OF EXACT LOCATIONS AND ELEVATIONS. ALL OTHER CONNECTIONS NOT PROPOSED TO BE REUSED SHALL BE PLUGGED AND ABANDON PER UTILITY REQUIREMENTS.

SITE DEMOLITION LEGEND:



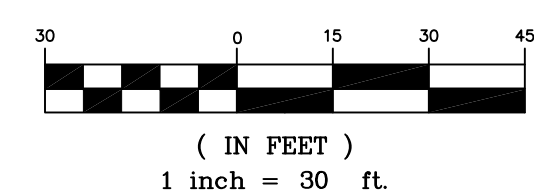
PAVEMENT (CONCRETE, ASPHALT OR GRAVEL) TO BE REMOVED -  
SAWCUT ALL PAVEMENTS & SIDEWALKS AT NEAREST CONTROL JOINT  
WHERE EXISTING PAVEMENT & SIDEWALKS SHALL REMAIN.

## SITE DEMOLITION PLAN KEYNOTES

- ① SAWCUT AND REMOVE CURB. CONTRACTOR SHALL SAWCUT AND REMOVE CURB PROVIDING A CLEAN SMOOTH EDGE AND ENSURE THE INTEGRITY OF THE PAVEMENT TO REMAIN.
- ② POLE TO BE REMOVED/RELOCATED. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES PRIOR TO ANY CONSTRUCTION.
- ③ GUY WIRE TO BE REMOVED OR RELOCATED. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES PRIOR TO ANY CONSTRUCTION.
- ④ OVERHEAD LINES TO BE REMOVED OR RELOCATED. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES PRIOR TO ANY CONSTRUCTION.
- ⑤ EXISTING DISCUS CAGE TO BE SALVAGED AND RELOCATED. THE CONTRACTOR SHALL COORDINATE DISCUS RELOCATION WITH OWNER PRIOR TO CONSTRUCTION.



GRAPHIC SCALE



LAND SURVEYING - ENGINEERING - DESIGN  
3800 LAKESIDE AVENUE - SUITE 100  
CLEVELAND - OHIO - 44114  
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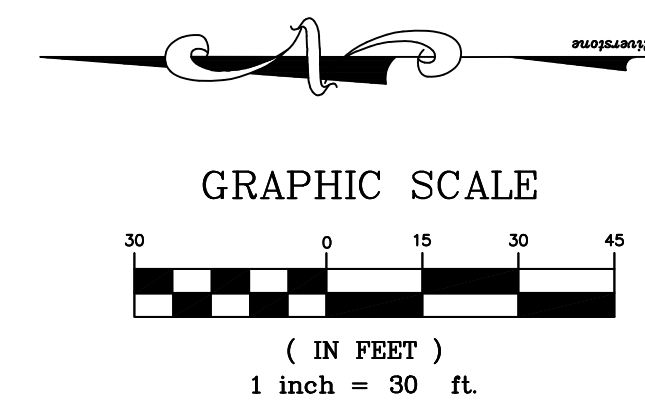






| LEGEND |                                   |  |                     |  |                      |  |                                |  |                |
|--------|-----------------------------------|--|---------------------|--|----------------------|--|--------------------------------|--|----------------|
|        | Manhole Box Found                 |  | Spot Elevation      |  | Original Sublot Line |  | Adjacent A.F.N.                |  | Invert Measure |
|        | Iron Pin or Flag Found            |  | Hydrant             |  | Centerline           |  | Adjacent Auditor's File Number |  | MFL            |
|        | 2' from Pin and Set Boundary Line |  | Water Service Valve |  | Right-of-way Line    |  | Adjacent Record File Number    |  | MFL            |
|        | Gas Meter                         |  | Water Meter         |  | Electric Line        |  | Adjacent City Map              |  | P.F.N.         |
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- ① EXISTING CURB INLET TO BE REPLACED WITH FLUSH GRATE AND ADJUSTED TO GRADE.
- ② PROPOSED OIL INTERCEPTOR. SEE PLUMBING DRAWINGS FOR DETAILS.
- ③ PROPOSED VAULT FOR METER AND BACKFLOW PREVENTOR. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
- ④ CONTRACTOR SHALL COORDINATE ALL ELECTRICAL WORK WITH ELECTRICAL PLANS AND POWER COMPANY PRIOR TO CONSTRUCTION



**RIVERSTONE**  
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CLEVELAND • OHIO • 44114  
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**2024-102**



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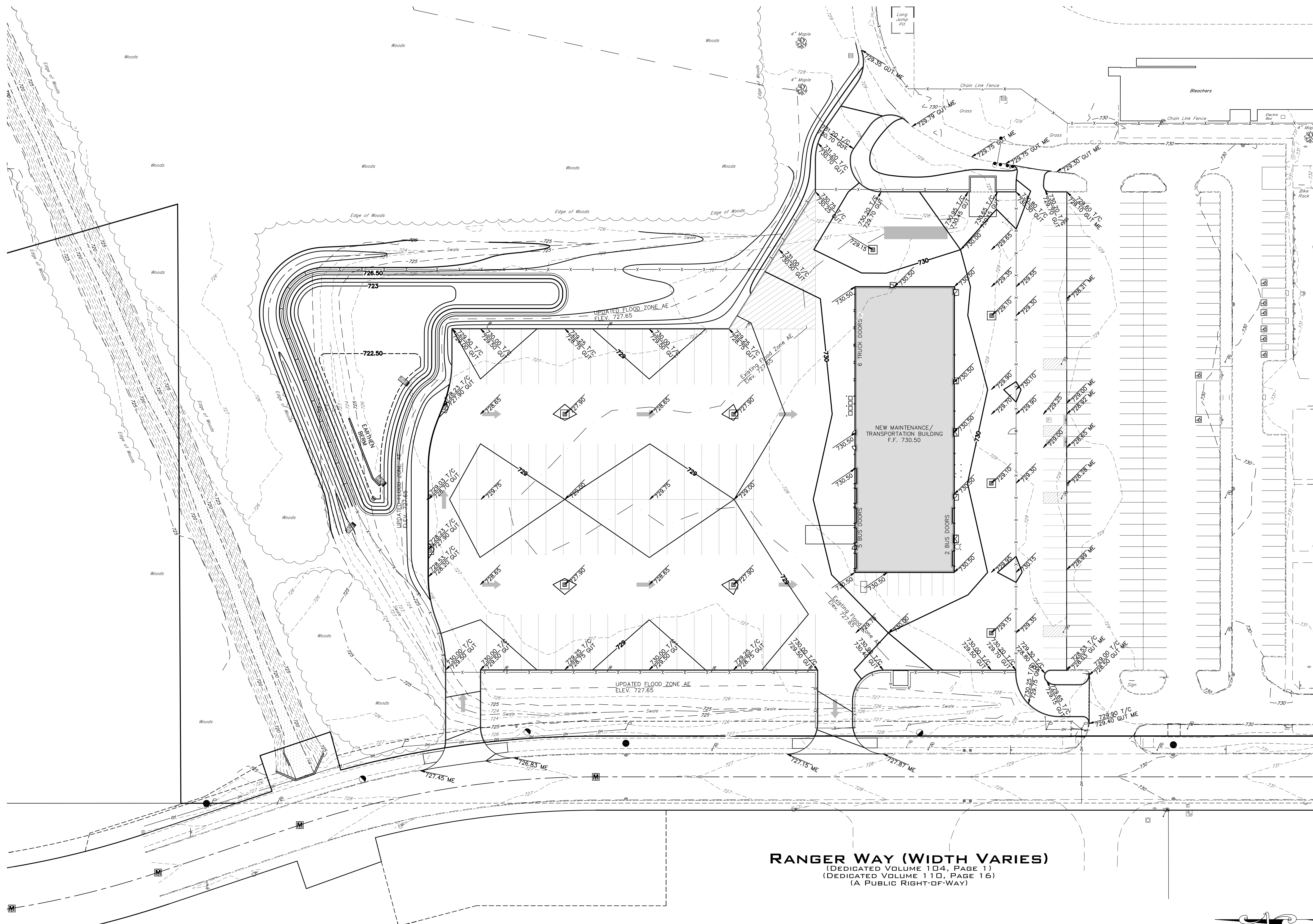
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| 2   | Planning Commission | 11/15/2 |
| 1   | Design Development  | 8/30/2  |
| no. | description         | date    |

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sheet name:

**GRADING PLAN**

drawn by:  
JD  
checked by:  
DAP  
sheet number:  
**C5.01**  
job number:  
23099



**RANGER WAY (WIDTH VARIES)**  
(DEDICATED VOLUME 104, PAGE 1)  
(DEDICATED VOLUME 110, PAGE 16)  
(A PUBLIC RIGHT-OF-WAY)

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GRAPHIC SCALE

( IN FEET )  
1 inch = 30 ft

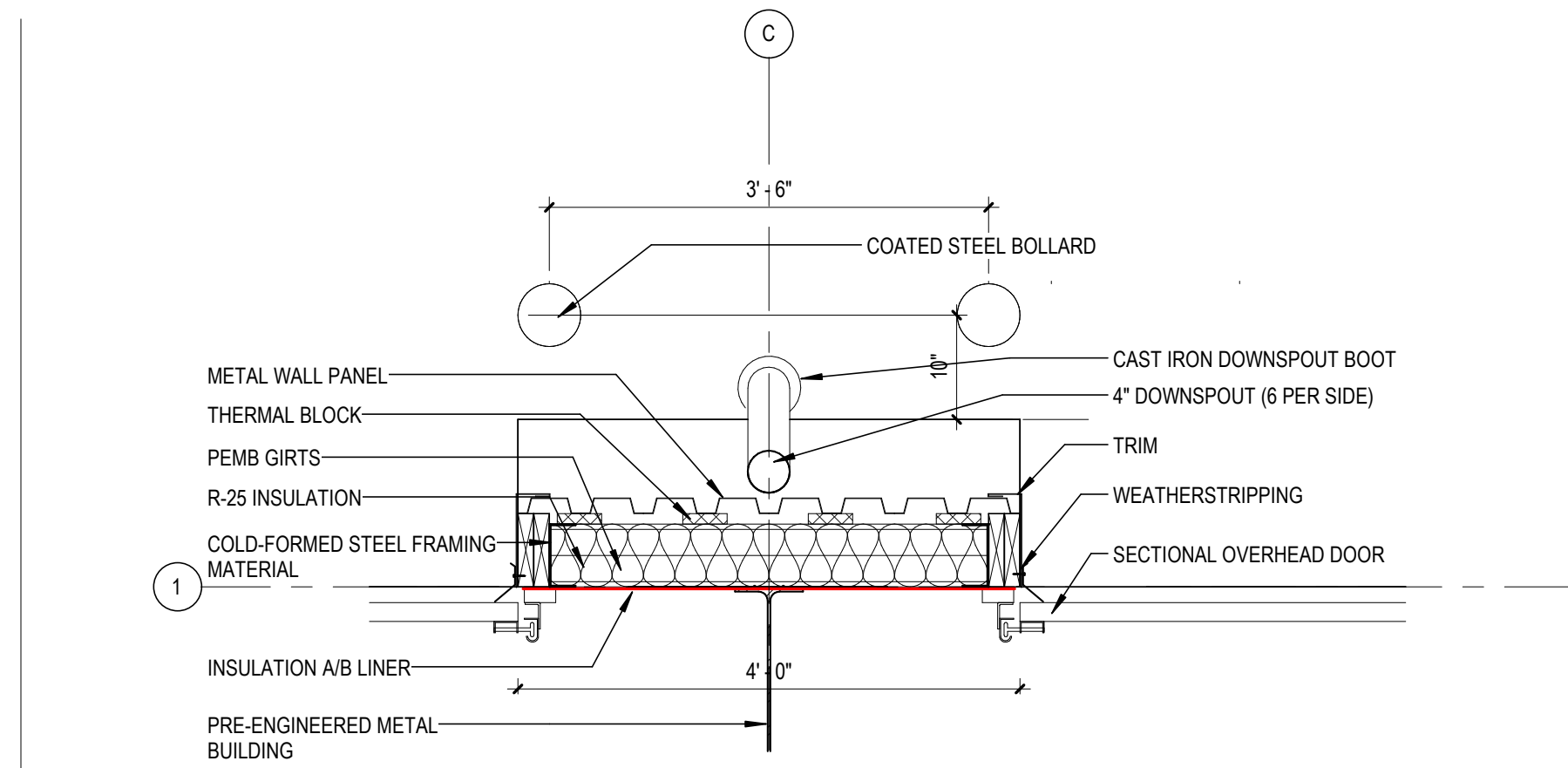
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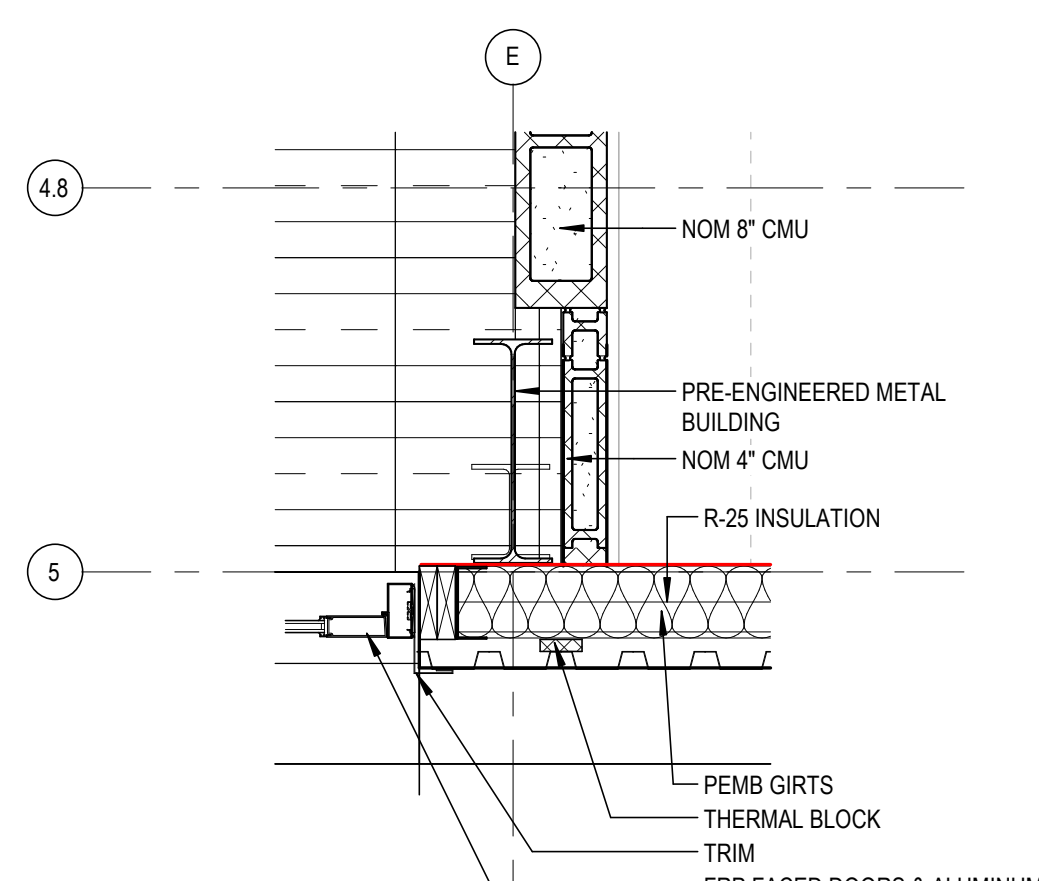
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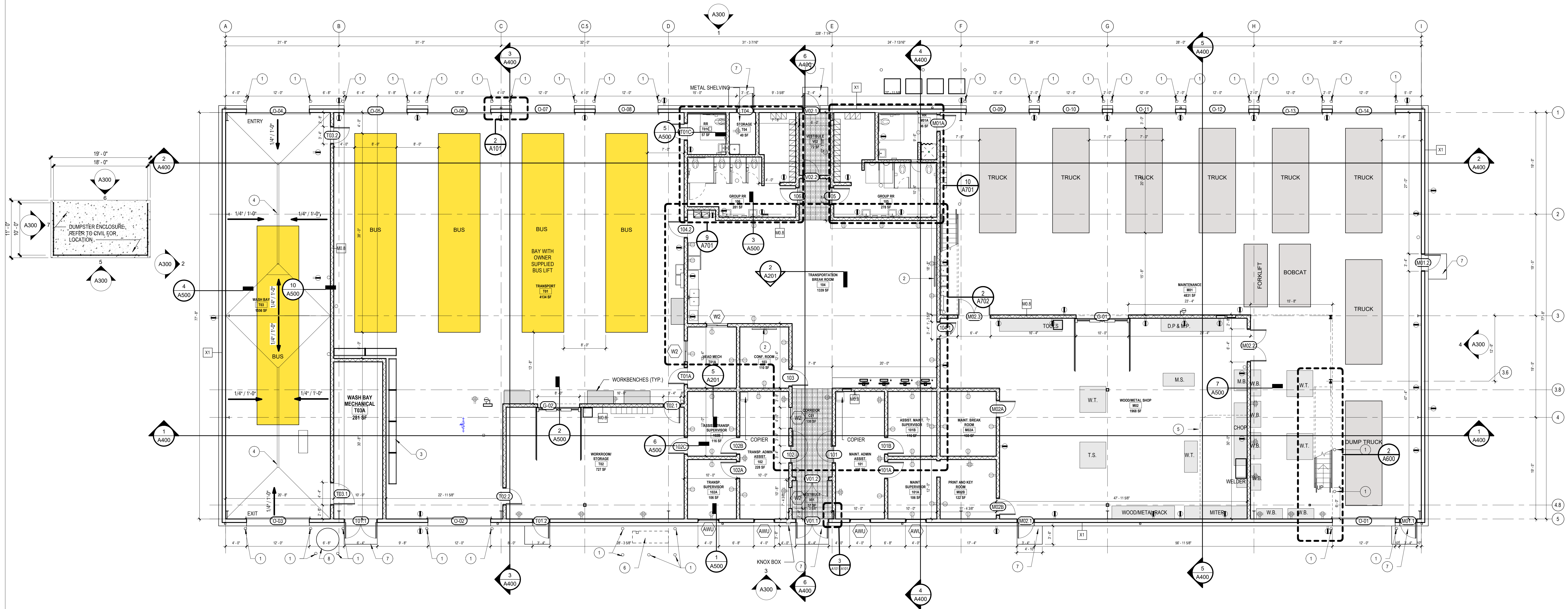
2 DOOR PIER  
A101 SCALE: 3/4" = 1'-0" REF. FROM: 1 / A101



3 PLAN DETAIL @ PEMB  
A101 SCALE: 3/4" = 1'-0" REF. FROM: 1 / A101

| CODED NOTES - ARCH PLAN |                                           |
|-------------------------|-------------------------------------------|
| 1                       | 6" STEEL BOLLARD, PTD                     |
| 2                       | TV, BY OWNER                              |
| 3                       | BUS TIRE RACKS                            |
| 4                       | TRENCH DRAIN                              |
| 5                       | WELDING CURTAIN                           |
| 6                       | GAS METER, PROVE BOLLARDS AROUND ASSEMBLY |
| 7                       | FROST FREE SLAB                           |
| 8                       | WASTE OIL TANK                            |

- GENERAL NOTES - ARCHITECTURAL
- FOR CASEWORK AND FURNITURE, SEE A700s and I0200s.
  - FOR CEILING PLANS, SEE A200s.
  - SEE A800s FOR DOOR SCHEDULE, TYPES, FRAMES, & DETAILS.
  - SEE A800S FOR WINDOW TYPES & DETAILS.
  - ALL DIMENSIONS ARE DRAWN TO FINISH FACE OF WALL.
  - DO NOT SCALE DRAWINGS. DIMENSIONS LOCATED ON PLANS, ELEVATIONS, AND DETAILS SHALL GOVERN OVER SMALL SCALE DETAILS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM THE ARCHITECT BEFORE CONTINUING WITH CONSTRUCTION.
  - DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO FABRICATION AND INSTALLATION OF CASEWORK. REFER TO CASEWORK NOTES FOR ADDITIONAL INFORMATION.
  - FULLY RECESSED KNOX BOXES TO BE PROVIDED AND INSTALLED BY THE CONTRACTOR (KNOX BOX TYPE TO BE PER FIRE DEPARTMENT'S REQUIREMENTS). MOUNT AT 48" A.F.F.
  - ALL MASONRY WALLS TO BE TYPE "M.8." UNO.



1 LEVEL 1 - FLOOR PLAN  
A101 SCALE: 1/8" = 1'-0"

TRANSPORTATION CENTER  
NORTH RIDGEVILLE CITY SCHOOL DISTRICT  
34620 BAINBRIDGE RD.  
NORTH RIDGEVILLE, OH 44039

| no.             | description   | date       |
|-----------------|---------------|------------|
| Sheet Revisions |               |            |
| 03              | PC Submission | 11/15/2024 |
| 02              | DO            | 8/30/2024  |
| 01              | SD            | 5/17/2024  |
| Project Issues  |               |            |
| no.             | description   | date       |

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sheet name:  
FLOOR PLAN - LEVEL 1

PROGRESS DRAWING  
NOT INTENDED FOR CONSTRUCTION

1



KEY PLAN

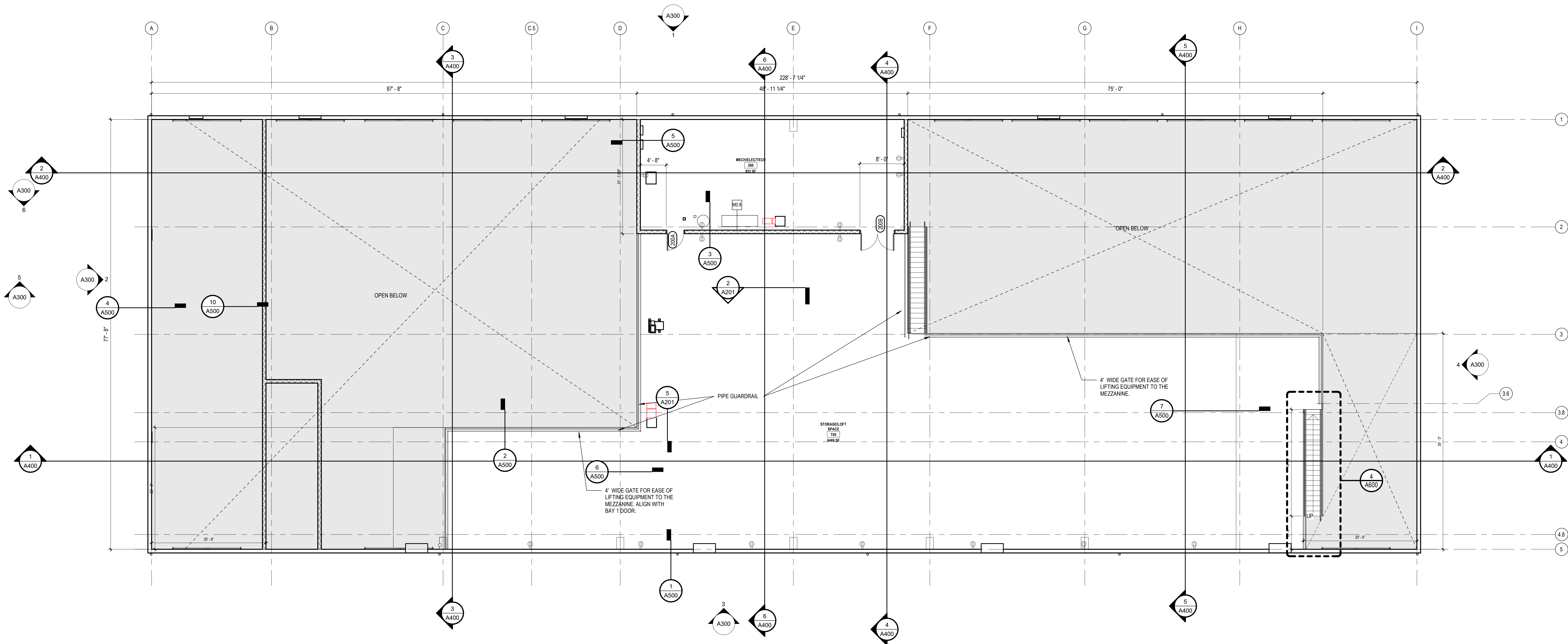
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job number:  
23099



CODED NOTES - ARCH PLAN

GENERAL NOTES - ARCHITECTURAL

1. FOR CASEWORK AND FURNITURE, SEE A700s and I0200s.
2. FOR CEILING PLANS, SEE A200s.
3. SEE A800s FOR DOOR SCHEDULE, TYPES, FRAMES, & DETAILS.
4. SEE A800S FOR WINDOW TYPES & DETAILS.
5. ALL DIMENSIONS ARE DRAWN TO FINISH FACE OF WALL.
6. DO NOT SCALE DRAWINGS. DIMENSIONS LOCATED ON PLANS, ELEVATIONS, AND DETAILS SHALL GOVERN OVER SMALL SCALE DETAILS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM THE ARCHITECT BEFORE CONTINUING WITH CONSTRUCTION.
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8. FULLY RECESSED KNOX BOXES TO BE PROVIDED AND INSTALLED BY THE CONTRACTOR (KNOX BOX TYPE TO BE PER FIRE DEPARTMENT'S REQUIREMENTS). MOUNT AT 4" A-F-F.
9. ALL MASONRY WALLS TO BE TYPE "\_\_\_M0 8\_\_\_" UNO.



1  
A102 LEVEL 2 - FLOOR PLAN  
SCALE: 1/8" = 1'-0"

PROGRESS DRAWING  
NOT INTENDED FOR CONSTRUCTION

1



KEY PLAN

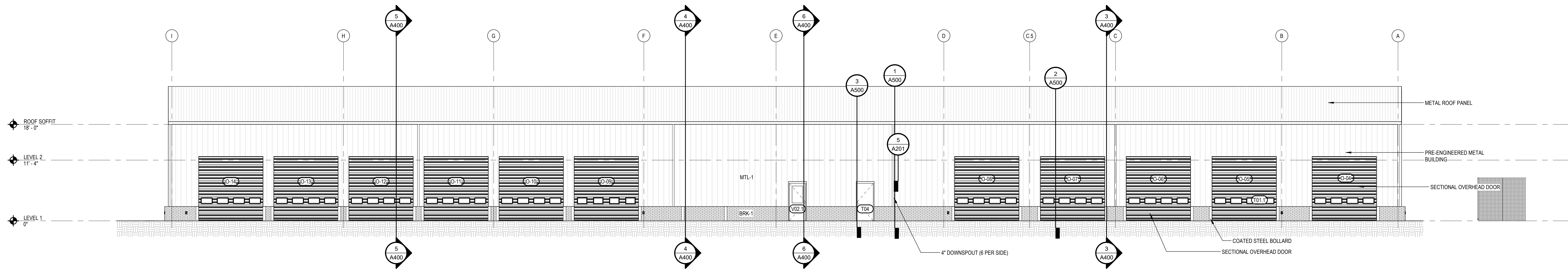
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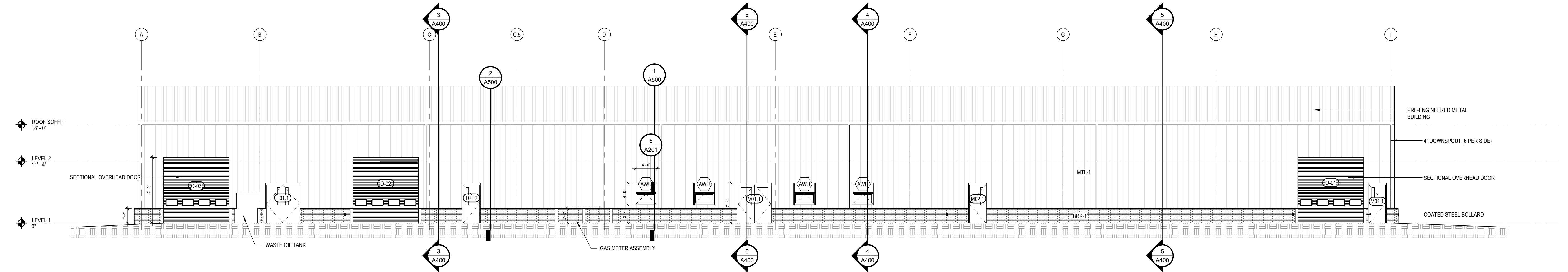
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A102  
job number:  
23099





**1 SOUTH ELEVATION**  
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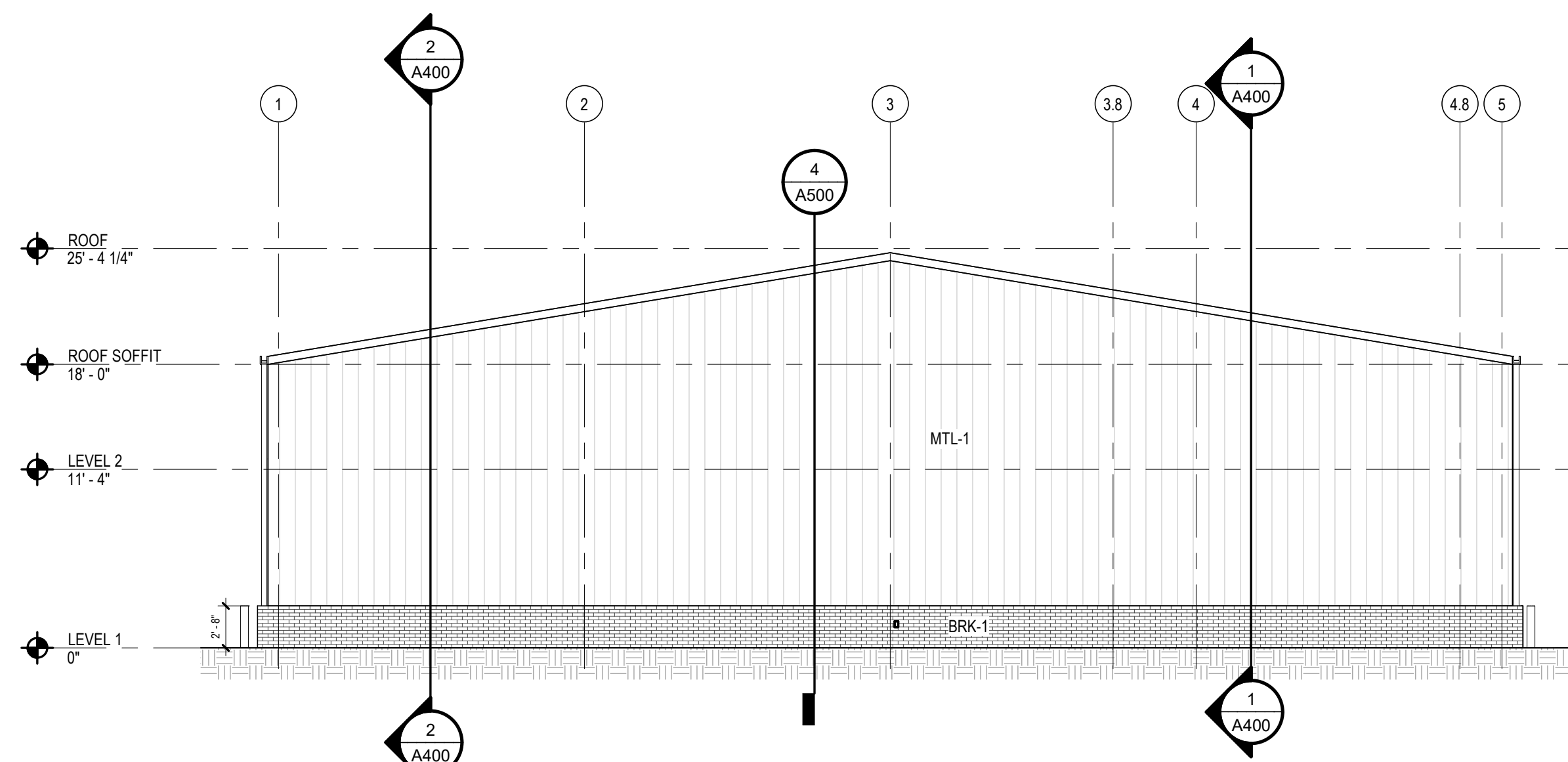


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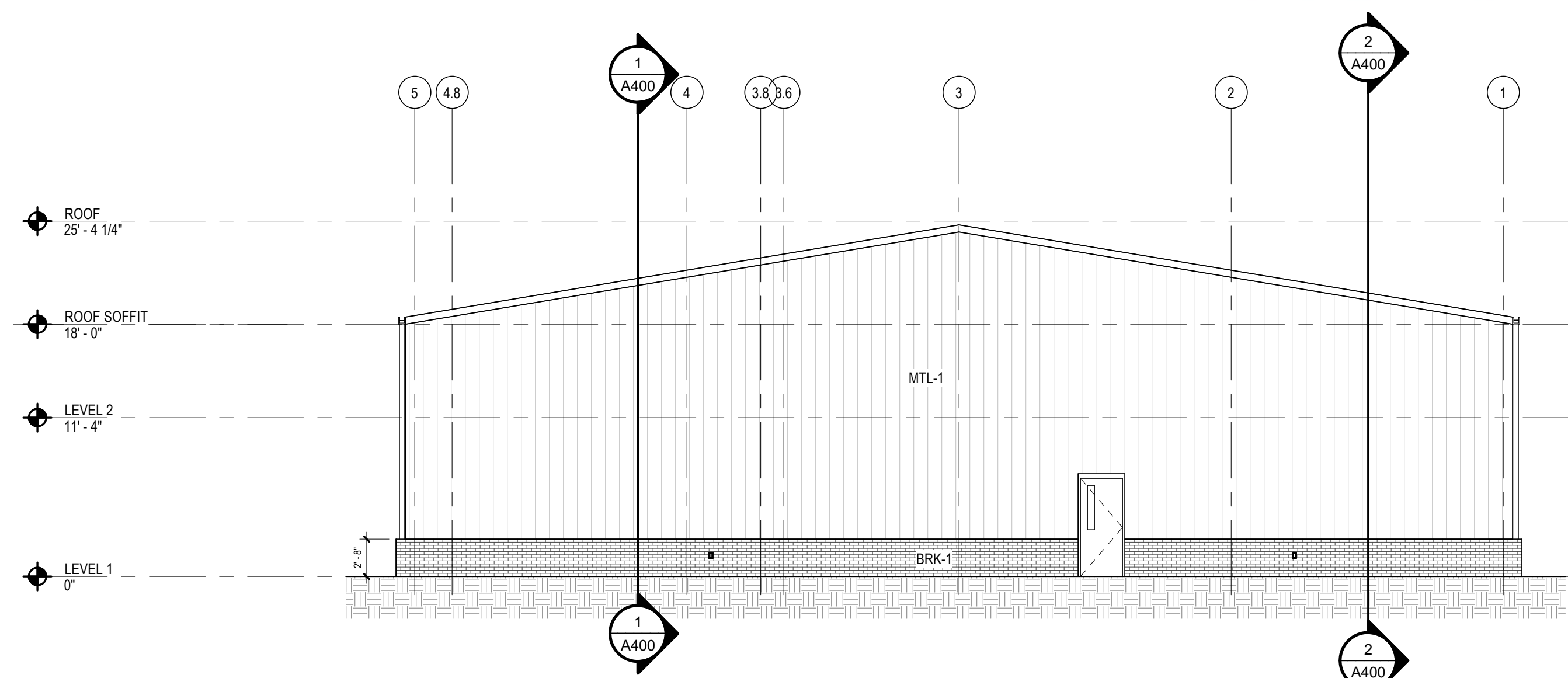
**Brick Information:**  
The Brick is Glen Gery Piqua Blend, which is a mix of Mansfield Red and Kokomo Colors.

**SLATE GREY**  
Reference Number: 20  
SRI: 42  
TSR: 0.4

**Metal Information:**  
Color Selection - Slate Gray - ATAS International



**2 WEST ELEVATION**  
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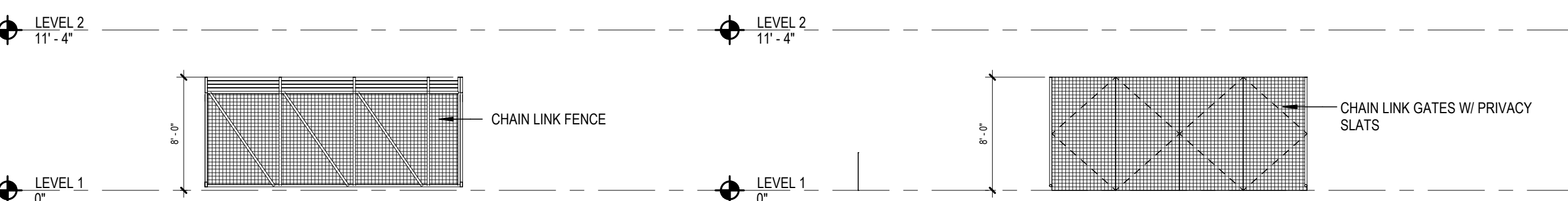


**4 EAST ELEVATION**  
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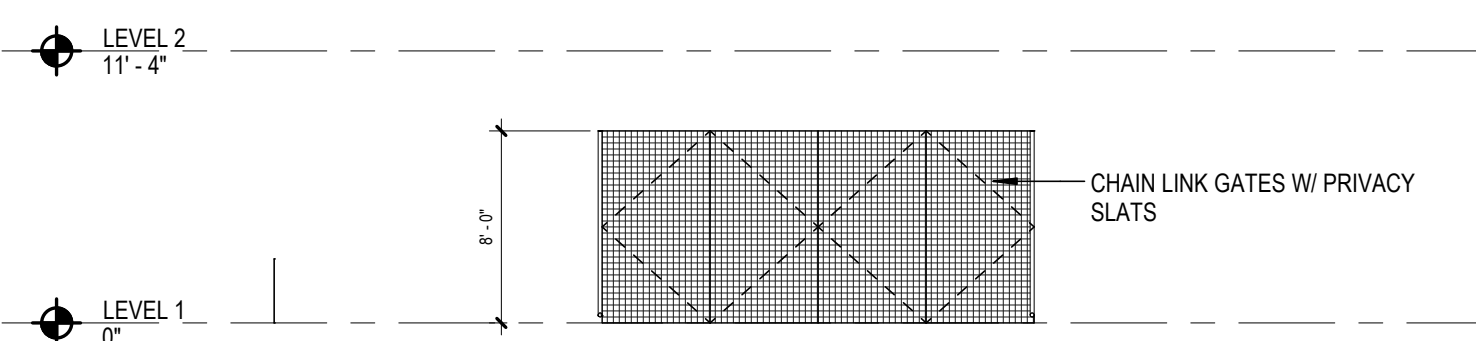
| EXTERIOR FINISH LEGEND              |                                                                                           |
|-------------------------------------|-------------------------------------------------------------------------------------------|
| SYMBOL                              | MATERIAL                                                                                  |
| MASONRY                             |                                                                                           |
| BRK-1                               | FACE BRICK - BASIS OF DESIGN - PIQUA BLEND - GLEN GERY (MATCHES EXISTING ACADEMIC CENTER) |
| METAL PANEL                         |                                                                                           |
| MTL-1                               | METAL PANEL - TYPE 1 - MATCH SLATE GREY METAL PANEL OF THE ACADEMIC CENTER.               |
| WINDOWS / CURTAIN WALL / STOREFRONT |                                                                                           |
| AWJ                                 | ALUMINUM WINDOW UNIT                                                                      |
| MISCELLANEOUS                       |                                                                                           |
| FRP                                 | FRP DOOR UNIT                                                                             |
| LV                                  | METAL LOUVER; SEE MECH. DWGS.                                                             |
| GU-DS                               | GUTTER W/ DOWNSPOUT                                                                       |

NOTES:  
1. NOT ALL MATERIALS LISTED MAY BE USED.  
2. TEMPERED GLASS LOCATED AT ALL EXTERIOR GLASS TYPES  
3. SEE MECHANICAL DRAWINGS FOR DETAILED INFORMATION ON LOUVERS.

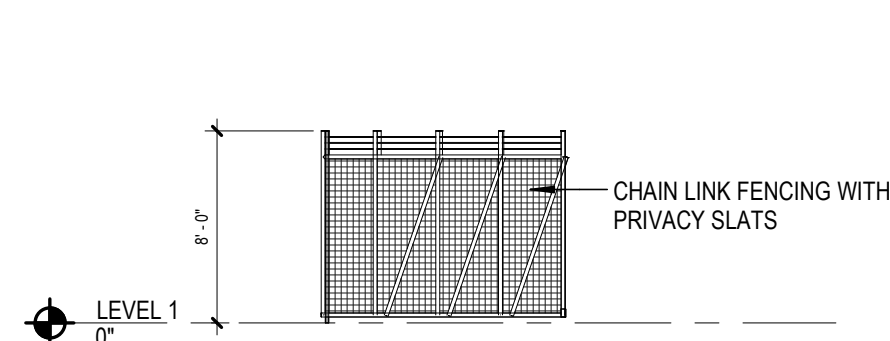
- Ⓢ CAMERA; SEE TECHNOLOGY DRAWINGS
- Ⓛ LIGHT FIXTURE; SEE ELECTRICAL DRAWINGS
- Ⓢ CARD READER; SEE TECHNOLOGY DRAWINGS
- Ⓢ DOOR OPENER BUTTON; SEE ELECTRICAL DRAWINGS



**5 SCREEN - NORTH WALL**  
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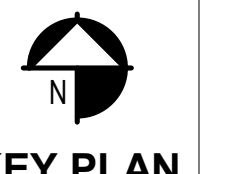
**6 SCREEN - SOUTH WALL**  
A300 SCALE: 1/8" = 1'-0" REF. FROM: 1 / A101



**7 SCREEN - WEST WALL ( EAST SIM.)**  
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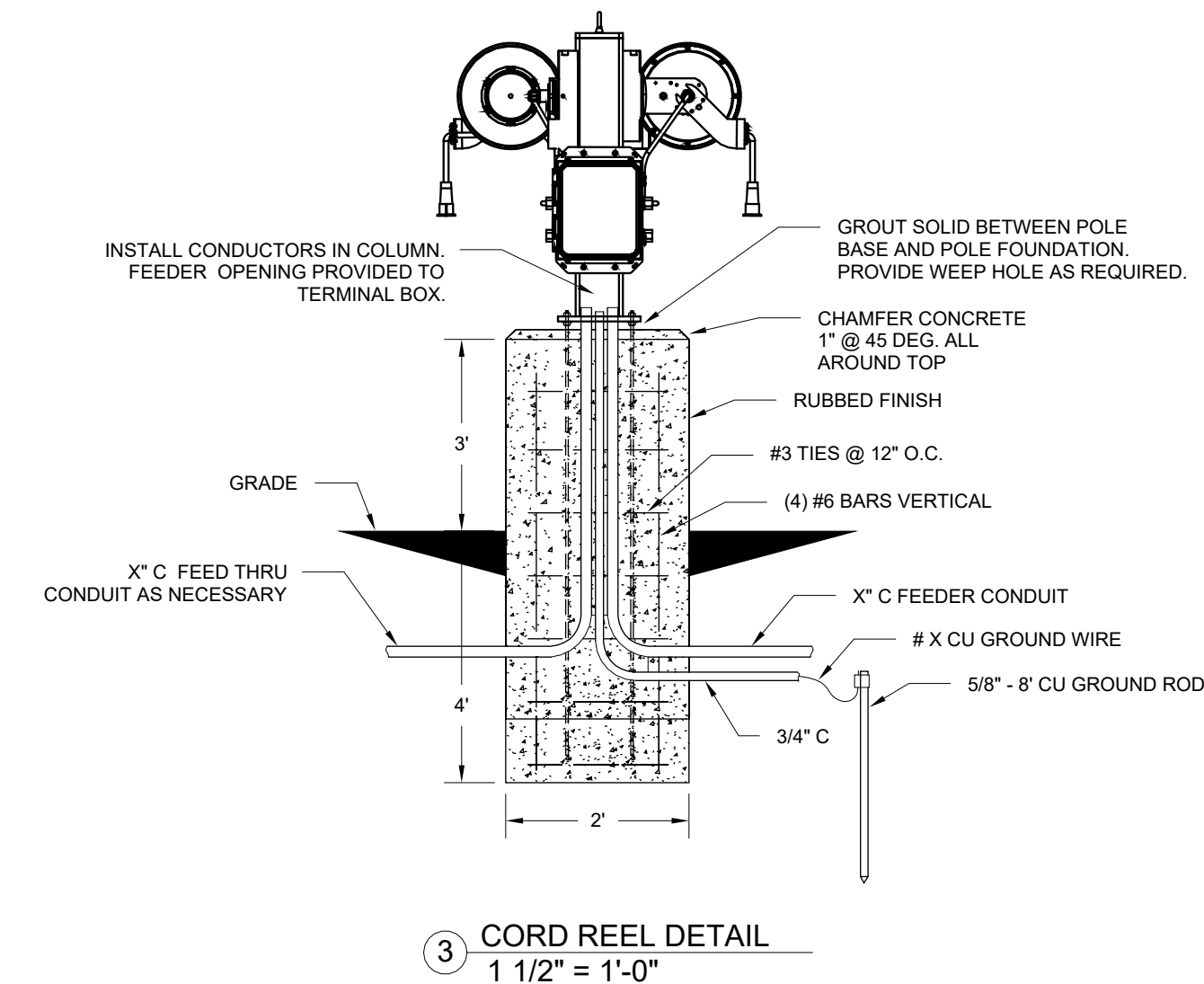
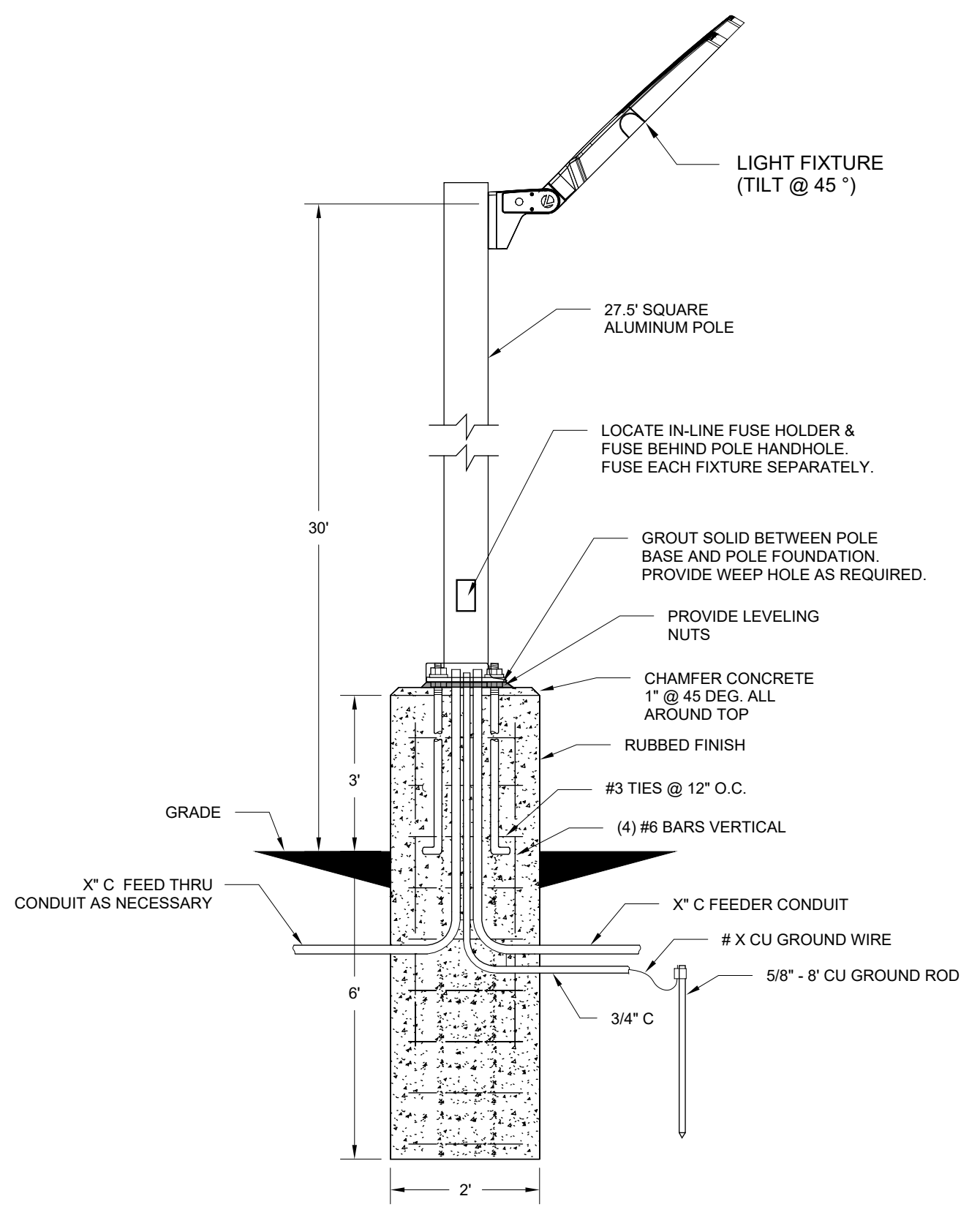
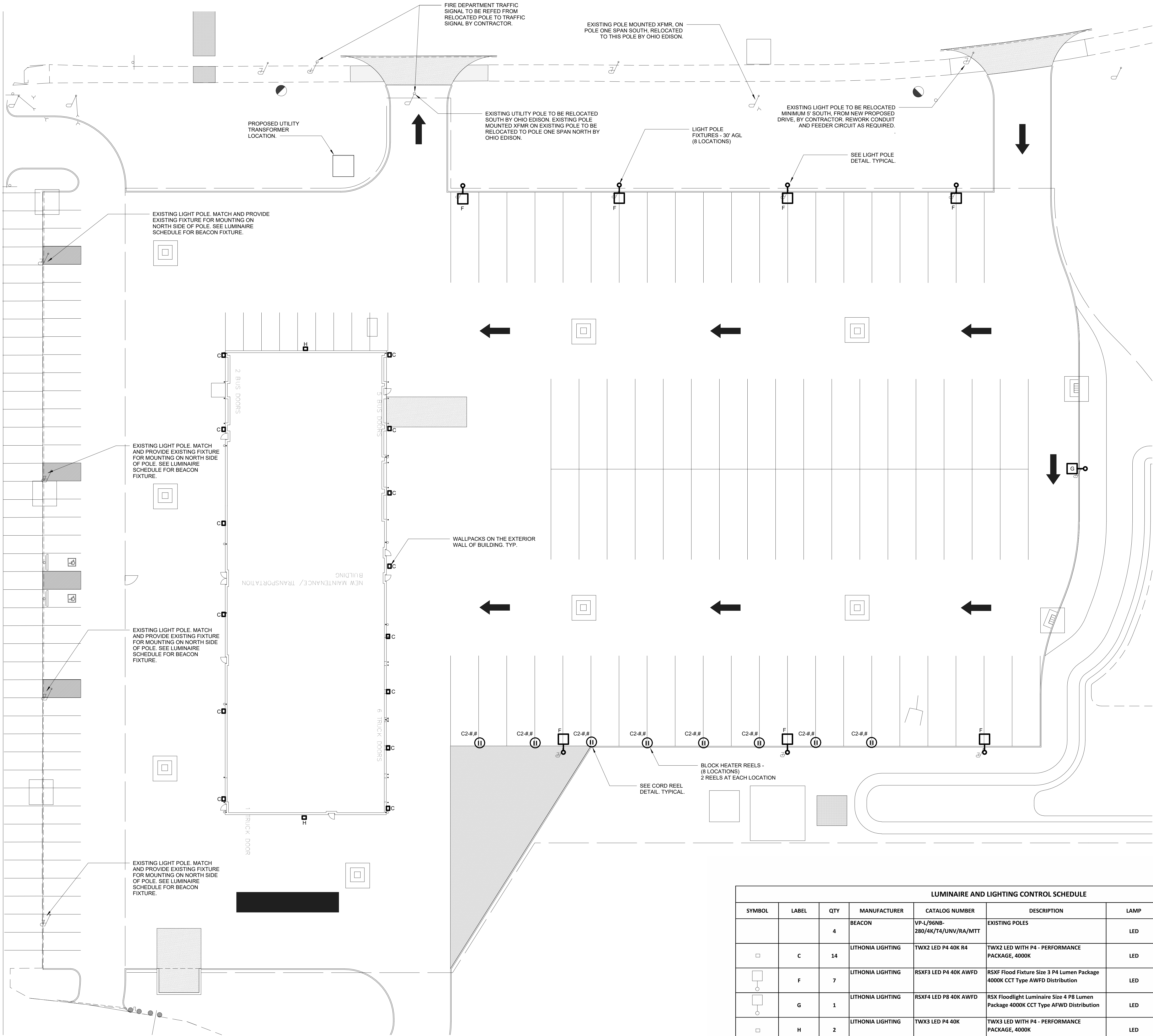
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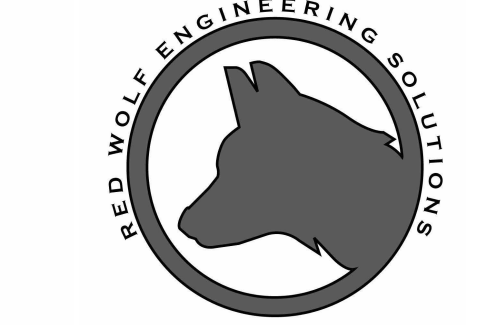




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| LUMINAIRE AND LIGHTING CONTROL SCHEDULE |       |     |                   |                                |                                                                                  |      |                 |     |         |
|-----------------------------------------|-------|-----|-------------------|--------------------------------|----------------------------------------------------------------------------------|------|-----------------|-----|---------|
| SYMBOL                                  | LABEL | QTY | MANUFACTURER      | CATALOG NUMBER                 | DESCRIPTION                                                                      | LAMP | LUMENS PER LAMP | LLF | Wattage |
|                                         |       | 4   | BEACON            | VP-L/96NB-280/4K/T4/UNV/RA/MTT | EXISTING POLES                                                                   | LED  |                 | /   | 280     |
| □                                       | C     | 14  | LITHONIA LIGHTING | TWX2 LED P4 40K R4             | TWX2 LED WITH P4 - PERFORMANCE PACKAGE, 4000K                                    | LED  | 6850            | /   | 53.7    |
| □                                       | F     | 7   | LITHONIA LIGHTING | RSXF3 LED P4 40K AWF           | RSXF Flood Fixture Size 3 P4 Lumen Package 4000K CCT Type AWF Distribution       | LED  | 40247.7         | /   | 311.9   |
| □                                       | G     | 1   | LITHONIA LIGHTING | RSXF4 LED P8 40K AWF           | RSX Floodlight Luminaire Size 4 P8 Lumen Package 4000K CCT Type AWF Distribution | LED  | 84740           | /   | 645.6   |
| □                                       | H     | 2   | LITHONIA LIGHTING | TWX3 LED P4 40K                | TWX3 LED WITH P4 - PERFORMANCE PACKAGE, 4000K                                    | LED  | 13850           | /   | 108     |
|                                         |       |     |                   |                                |                                                                                  |      |                 |     |         |
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1 Electrical Site Plan  
1" = 20'-0"



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| 5 |   |

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thendesign architecture

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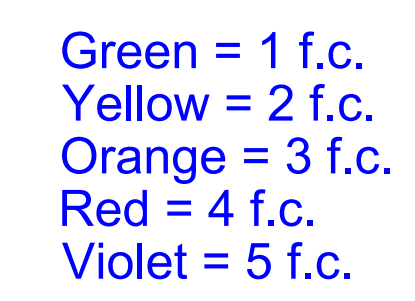
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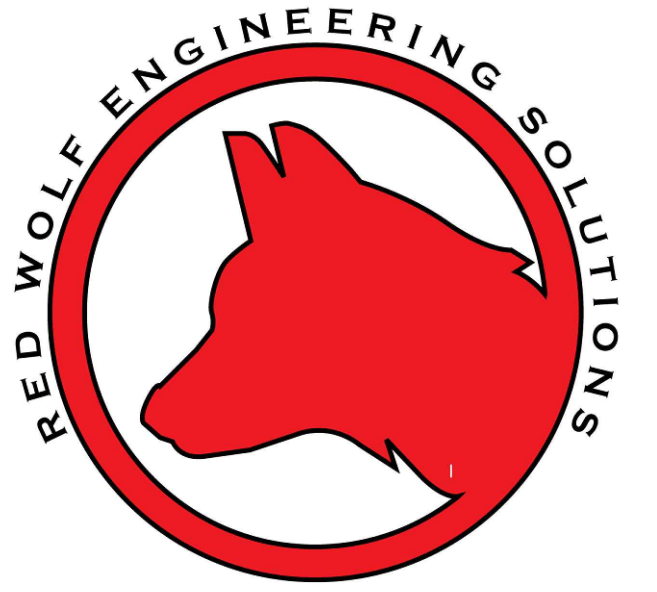
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drawn by:  
Author  
checked by:  
Checker  
sheet number:  
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job number:  
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NORTH RIDGEVILLE, OHIO 44039

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# **North Ridgeville CSD Traffic Impact Study**

**North Ridgeville, Ohio**

November 13, 2024

Prepared for:

**North Ridgeville City School District**

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North Ridgeville City School District

# North Ridgeville CSD Traffic Impact Study

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# North Ridgeville City School District

## North Ridgeville CSD Traffic Impact Study

### EXECUTIVE SUMMARY

DGL was commissioned by ThenDesign Architecture to analyze the impacts of a new high school and transportation facility on the North Ridgeville City School District (NRCSD) Campus in North Ridgeville, Ohio. The proposed high school is projected to be approximately 340,000 square feet to serve 1,692 students from grades 9 through 12. The project also includes the construction of a new 22,000 square foot Maintenance/Transportation Facility on the campus which includes the demolition of the existing facility on the eastern side of the site.

The North Ridgeville City School District Campus is located in the eastern half of the North Ridgeville City limits and north of the Ohio Turnpike and south of US-20/SR-113 (Center Ridge Road). **The school district's campus currently has four points of access and is projected to retain the same number of access points. However, the use of one drive will be changed and the traffic circulation around the new high school will also be adjusted.**

Based on the analysis within this study, the following recommendations are presented to mitigate the effects of the school traffic on the surrounding roadway network:

- Center Ridge Rd & Ranger Way/Jaycox Rd: Corridor signal timing adjustments should be reviewed. The intersection is currently being studied by others in the 2024 City of North Ridgeville SR 83 & Bainbridge Traffic Study.
- Ranger Way & Fire Station/School Drive: While the intersection will experience delays for the westbound approach (exiting the campus), Ranger Way will not be affected and should remain a Two-Way-Stop-Controlled intersection.
- Ranger Way & Bainbridge Road: will function at acceptable levels but the delay on the southbound approach is projected to increase. It is recommended that the intersection remain a Two-Way-Stop-Controlled intersection.
- Bainbridge Rd & Repurposed Drive (Drive 2): will function at acceptable levels but the southbound approach is projected to experience delays. The addition of the warranted eastbound left turn on Bainbridge Road decreases the delay experienced by drivers on Bainbridge Road by less than 10 seconds, it is not recommended at this time.
- Bainbridge Road & W Point School/Drive: It is anticipated that a significant delay will occur on the approaches entering and exiting the campus by almost double. No change in delay is anticipated on Bainbridge Road. **If North Ridgeville City Schools would like to minimize the delay, the following improvements, located within the public right of way, would help mitigate these delays:**
  - All Way Stop Control: convert the existing Two-Way-Stop-Controlled intersection to an All-Way-Stop-Controlled
  - Install a Traffic Signal: a signal is warranted based on the peak hour volumes
  - Install a mini-roundabout: a mini roundabout would alleviate traffic delays and increase traffic calming along Bainbridge



# North Ridgeville City School District

## North Ridgeville CSD Traffic Impact Study

### 1. INTRODUCTION

This report summarizes the methodologies, results, and findings of a traffic impact study conducted by DGL Consulting Engineers, LLC in connection with the proposed project in the City of North Ridgeville, Ohio.

The school campus site is located on the north side of Bainbridge Road, in between Ranger Way and Pitts Boulevard. The campus covers a total area of approximately 92 acres. Figure 1 illustrates the location of the site along Bainbridge Road.

The purpose of this study is to examine the existing traffic conditions and evaluate the roadway network's ability to facilitate an increase in traffic volumes generated by the project. This traffic impact study follows the guidelines presented in the Ohio Department of Transportation (ODOT) *State Highway Access Management Manual* (SHAMM). The sections of this report present the following:

- Existing roadway conditions
- Directional Distribution of the existing traffic generated by current facilities
- Vehicle trip generation for the proposed development
- Projected traffic conditions with the proposed development
- Traffic analyses for peak school hours in the morning and afternoon

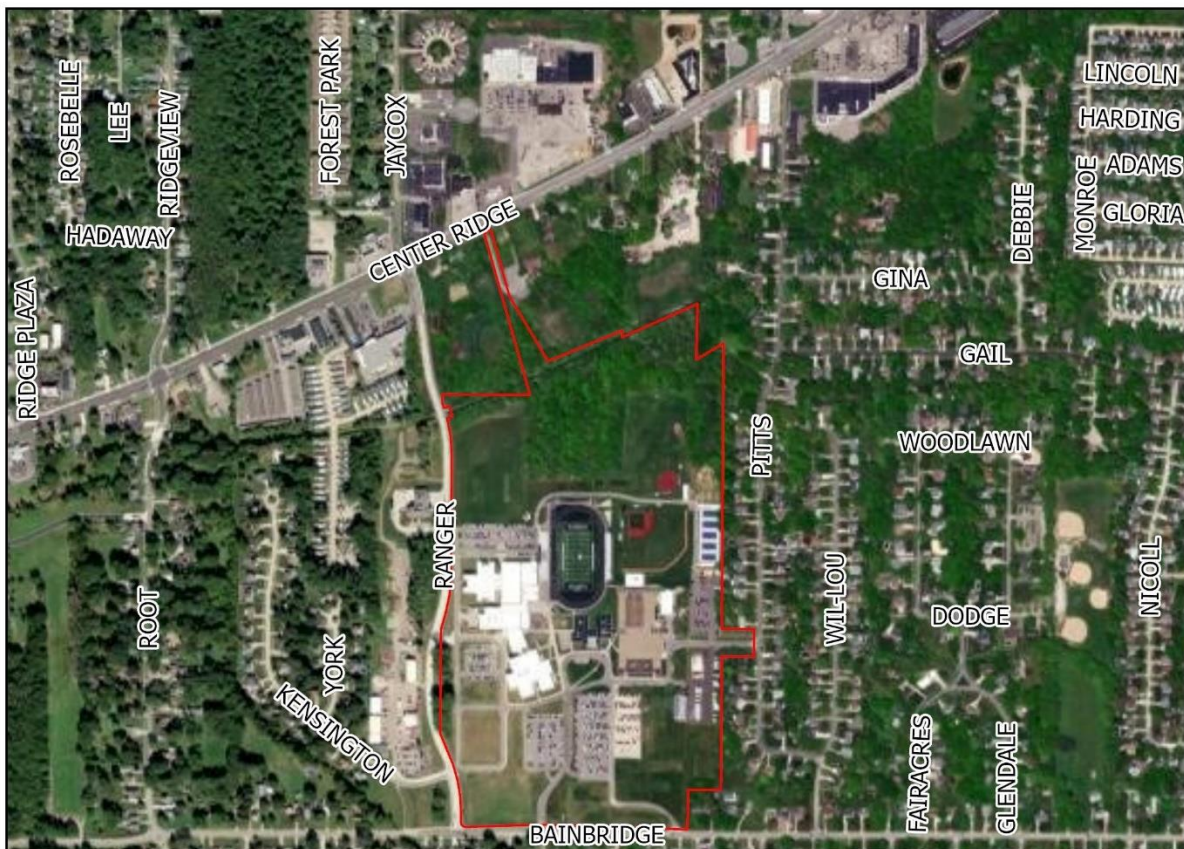
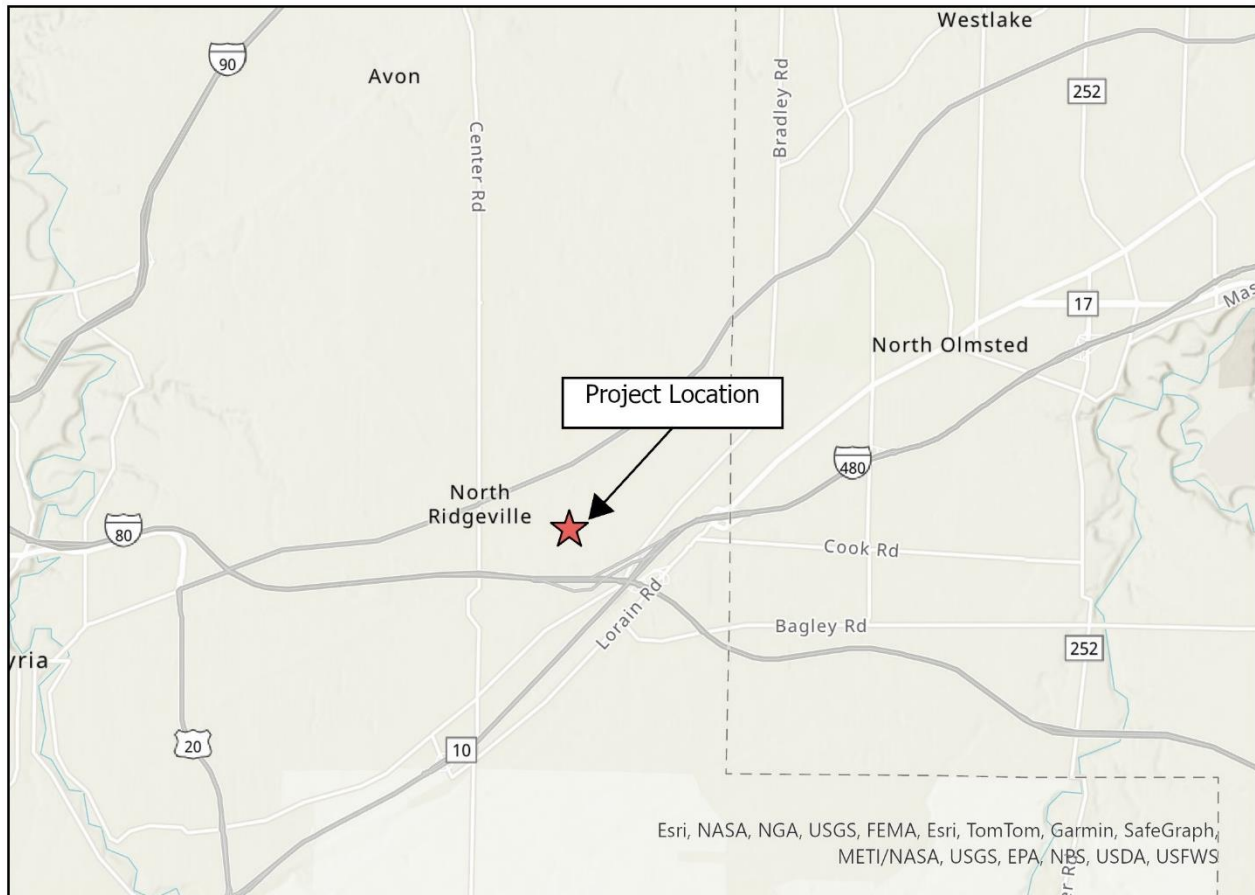


Figure 1 - Proposed Location

# North Ridgeville City School District

## North Ridgeville CSD Traffic Impact Study

### 2. STUDY LOCATION



**Figure 2 - Study Location**

As shown in Figure 2, the site is located north of the Ohio Turnpike and in close proximity to interchanges for I-80, SR-10, and I-480. SR-10 and I-480 are major east-west routes for the region as SR-20 connects North Ridgeville to the Downtown area of Cleveland while I-480 connects North Ridgeville to the suburbs east of Cleveland. The Ohio Turnpike is one of the major east-west routes for the state and connects the western and eastern sides of Ohio.

### 3. EXISTING CONDITIONS

Existing traffic and roadway conditions were documented based on field visits, data provided by ODOT, and traffic counts conducted by DGL. The following provides a detailed description of the physical characteristics including traffic control and adjacent land uses.



# North Ridgeville City School District

## North Ridgeville CSD Traffic Impact Study

### 3a. Existing Roadway System Characteristics

A list of the roadways involved is shown below:

#### **Bainbridge Road**

Functional Class: Major Collector  
Speed Limit: 35 MPH  
AADT: 7,776 (2022)  
Maintenance Responsibility: City  
Number of Lanes: 2 lanes

#### **Pitts Boulevard**

Functional Class: Local  
Speed Limit: 25 MPH  
AADT: Not Available  
Maintenance Responsibility: City  
Number of Lanes: 2 lanes

#### **US-20/SR-113 (Center Ridge Road)**

Functional Class: Principal Arterial  
Speed Limit: 35 MPH  
AADT: 16,338 (2022)  
Maintenance Responsibility: City/ODOT  
Number of Lanes: 4 lanes

#### **Kensington Drive**

Functional Class: Major Collector  
Speed Limit: 35 MPH  
AADT: Not Available  
Maintenance Responsibility: City  
Number of Lanes: 2 lanes

#### **Ranger Way**

Functional Class: Local  
Speed Limit: 25 MPH  
AADT: Not Available  
Maintenance Responsibility: City  
Number of Lanes: 2 lanes

## 4. TRAFFIC DATA COLLECTION

Traffic data was collected for 4 hours by DGL in 2024 via video counts over two days at the end of April/beginning of May for the following locations:

- US-20/SR-113 (Center Ridge Road) & Ranger Way
- Ranger Way & Fire Station/School Parking Lot
- Ranger Way & NRAC Drive
- Ranger Way & Kensington Drive
- Ranger Way & Bainbridge Road
- Bainbridge Road & W Point Drive/School Drive
- Bainbridge Road & High School Drive (ATR)
- Pitts Boulevard & High School Drive

The peak hours of traffic varied depending on the intersection with AM Peak Hours ranged from starting at 7:00 to 7:15 and the PM Peak Hours ranged from starting at 14:30 to 15:00. Traffic volumes for each intersection were compared to determine the Peak Hours with the most amount of traffic. Based on the traffic volume comparison, the peak hours were determined to be 7:15-8:15 and 14:45-15:45.

# North Ridgeville City School District

## North Ridgeville CSD Traffic Impact Study

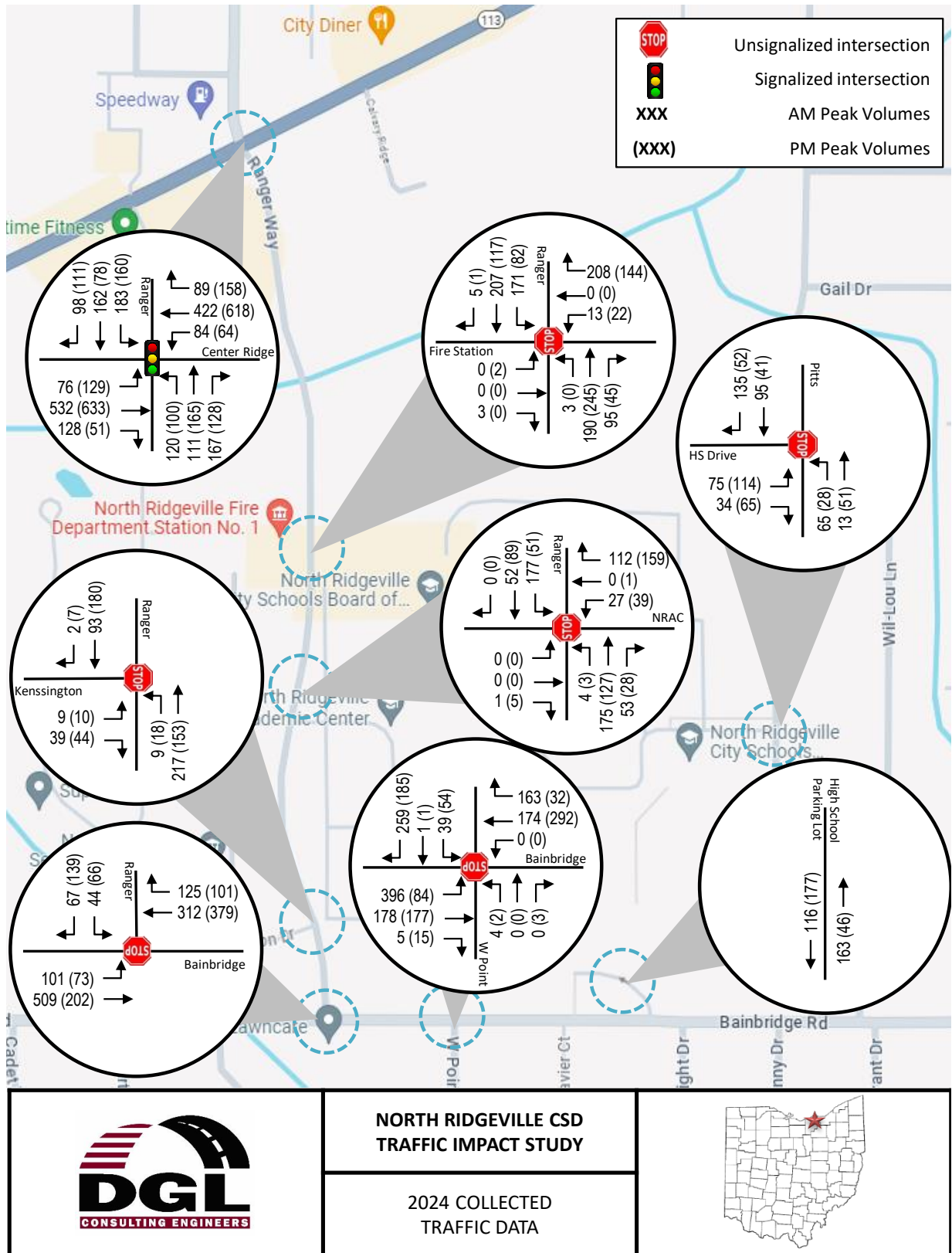


Figure 3 - 2024 Collected Traffic Data



North Ridgeville City School District

# North Ridgeville CSD Traffic Impact Study

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## 5. PROPOSED CONDITIONS

### 5a. Access Locations and Proposed Site Circulation

As shown in Figure 4, the proposed high school will alter the existing circulation of the site by altering the use of one access point on Bainbridge Road as well as creating a four-leg intersection at Kensington Drive. All other existing access points entering and exiting the site will be maintained. The figure also shows two additional drives that are proposed to be constructed north of the fire station to be used exclusively for school buses at the new Transportation/Maintenance Facility.

**The main difference between the existing circulation and the proposed circulation is the change in use for the easternmost access point on Bainbridge Road from being used as parking only to only serving high school students drop-off/pick-up loop and parking.**

With the circulation adjustments made to the proposed site, all access points to the campus are being used in some capacity for student pick-up/drop-off. The uses of some of the access points were adjusted to facilitate efficient traffic movement in and around the campus. The changes in use are listed below:

- Grades 5-8 pick-up/drop-off loop enter exit Bainbridge Road (Drive 1); no longer serves grades 9-12
- Grades 9-12 pick-up/drop-off loop enter exit Bainbridge Road (Drive 2)
- Grades 9-12 pick-up/drop-off loop enter exit Pitts Boulevard

While Drive 2 on Bainbridge Road is being analyzed as a full access drive for the high school, the spacing of Ranger Way, Drive 1, and Drive 2 along Bainbridge Road will create three access points within 1,200 feet of each other. For reference, ODOT's SHAMM states a minimum distance of ¼ mile between intersections. But because of the nature of the driveways, school circulation, and the residential nature of Bainbridge Road the three access points within 1,200 feet is acceptable. It should be noted that the district utilizes offset schedules for start/end times of different grades to reduce the potential for traffic congestion around campus. The start/end times are listed below:

- NRAC (Grades 3-8): 07:40-14:50
- High School (Grades 9-12): 08:20-15:12

# North Ridgeville City School District

## North Ridgeville CSD Traffic Impact Study

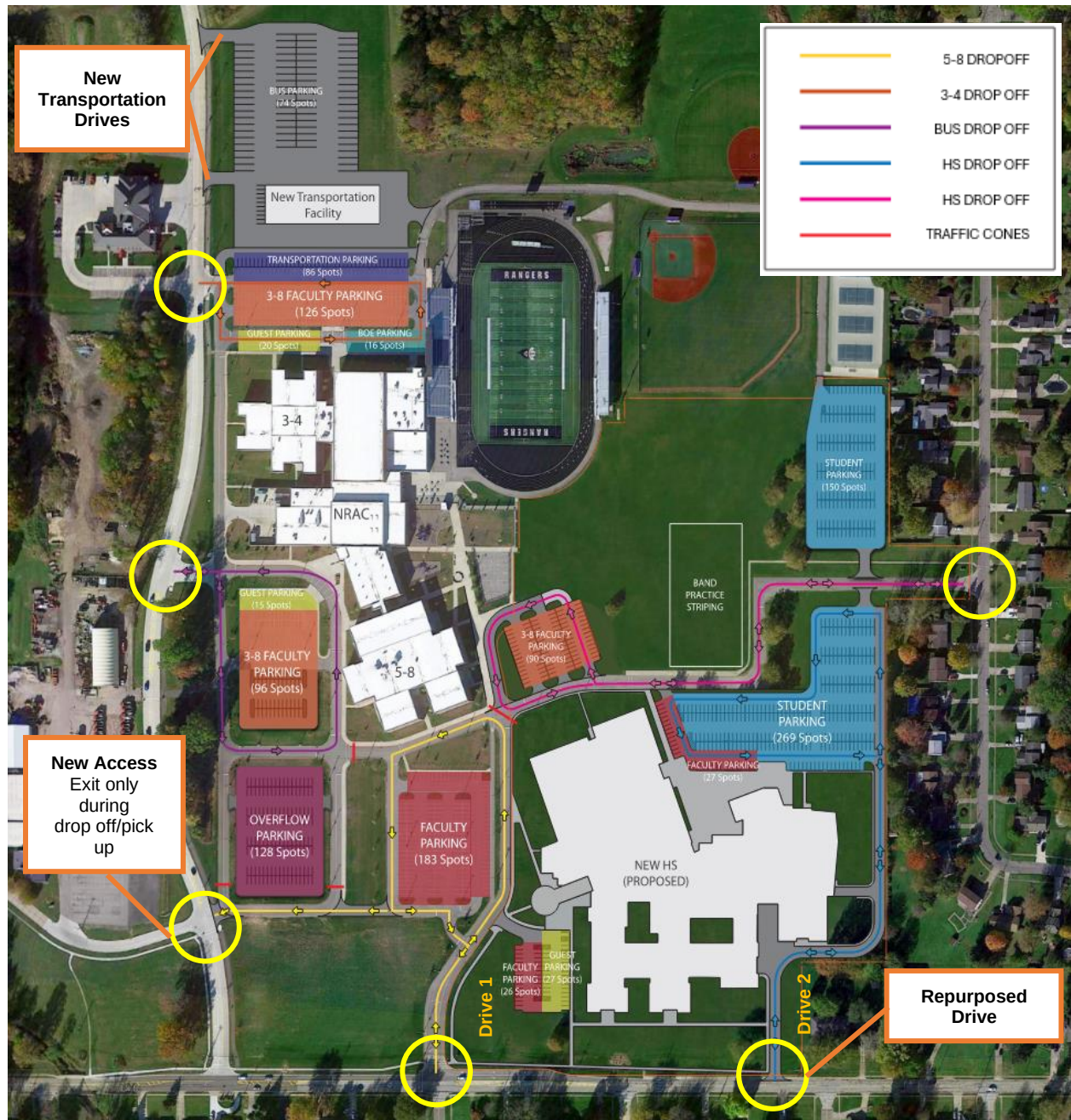


Figure 4 - Proposed Site Plan



# North Ridgeville City School District

## North Ridgeville CSD Traffic Impact Study

### 6. ANALYSIS

#### 6a. Trip Generation

The Institute of Transportation Engineers (ITE), Trip Generation, 11th Edition was used to calculate the peak hour trips for the site. Land Use represents the average site usage for the proposed project. Because the existing high school is already located on the campus, the difference in trips based on the students served will be used as New Trips generated by the new high school. Information regarding the number of students for the new high school was given by ThenDesign Architecture and the number of students at the existing high school were gathered using the Ohio Department of Education's School Report Card system.

The Peak Hour trips for the project were calculated as follows:

| Table 1: Overall Trip Generation Calculations |                                       |          |         |          |         |
|-----------------------------------------------|---------------------------------------|----------|---------|----------|---------|
| Land Use                                      |                                       | AM Enter | AM Exit | PM Enter | PM Exit |
| 525                                           | Proposed High School (1,692 students) | 587      | 276     | 273      | 368     |
| 525                                           | Existing High School (1,257 students) | 436      | 205     | 129      | 275     |
| Total New Trips                               |                                       | 151      | 71      | 44       | 93      |

In addition to the total new trips generated by the new high school, a portion of existing trips were moved from the intersection of Bainbridge Road and W Point Drive to the second access point on Bainbridge Road further east. These trips were moved due to the removal of the existing high school parking lot as well as a spike in traffic at 08:00 that can be attributed to the high school since the NRAC school day begins at 07:40 and the high school begins at 8:20. Approximately 70% of the traffic that occurred during the 15-minute period from 08:00 to 08:15 was moved to the access point for the new high school parking lot.

#### 6b. No Build Conditions

Collected traffic volumes was grown by 0.5% per year to estimate the 2029 and 2049 traffic volumes. Turning movements for the Repurposed Drive (Drive 2) were calculated based on the collected drive volume and the distribution of Bainbridge Road. Figure 5 - and Figure 6 - show the No Build traffic conditions.

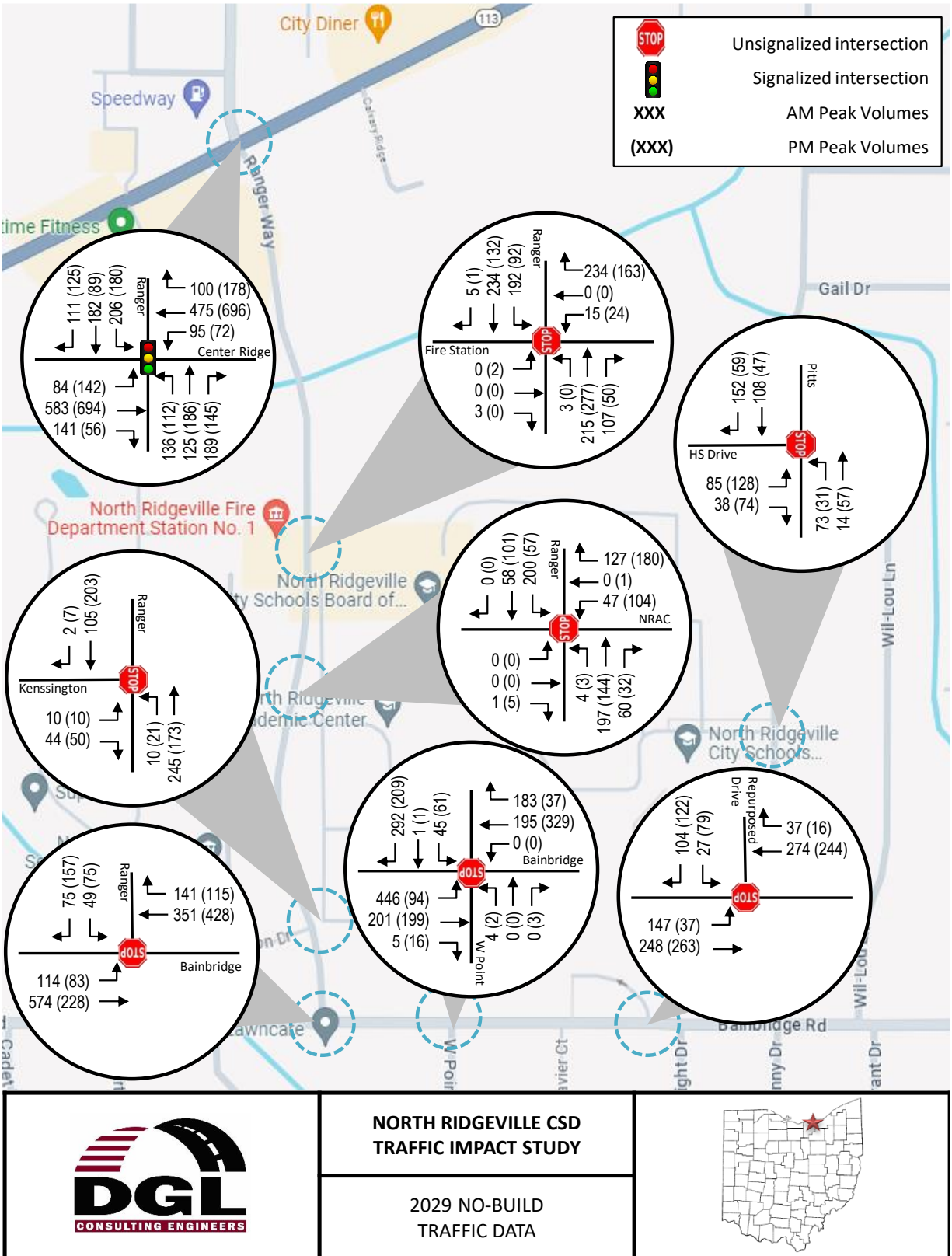
#### 6c. Trip Distribution

The new trips to the proposed school location were distributed based on the existing traffic patterns as well as projected circulation patterns. Figure 7 - and Figure 8 - shows the proposed trip distributions.

#### 6d. Build Conditions

Like the No-Build Conditions, traffic volumes were grown by 0.5% to estimate the 2029 and 2049 traffic volumes at the State Road and Valley Ridge Parkway intersection. Trips from the trip generation calculations were then added to the grown volumes to obtain the projected traffic at the intersection and along the roadways. Figure 9 - and Figure 10 - illustrate Build traffic conditions

# North Ridgeville City School District



**Figure 5 - 2029 No-Build Traffic Volumes**



# North Ridgeville City School District

## North Ridgeville CSD Traffic Impact Study

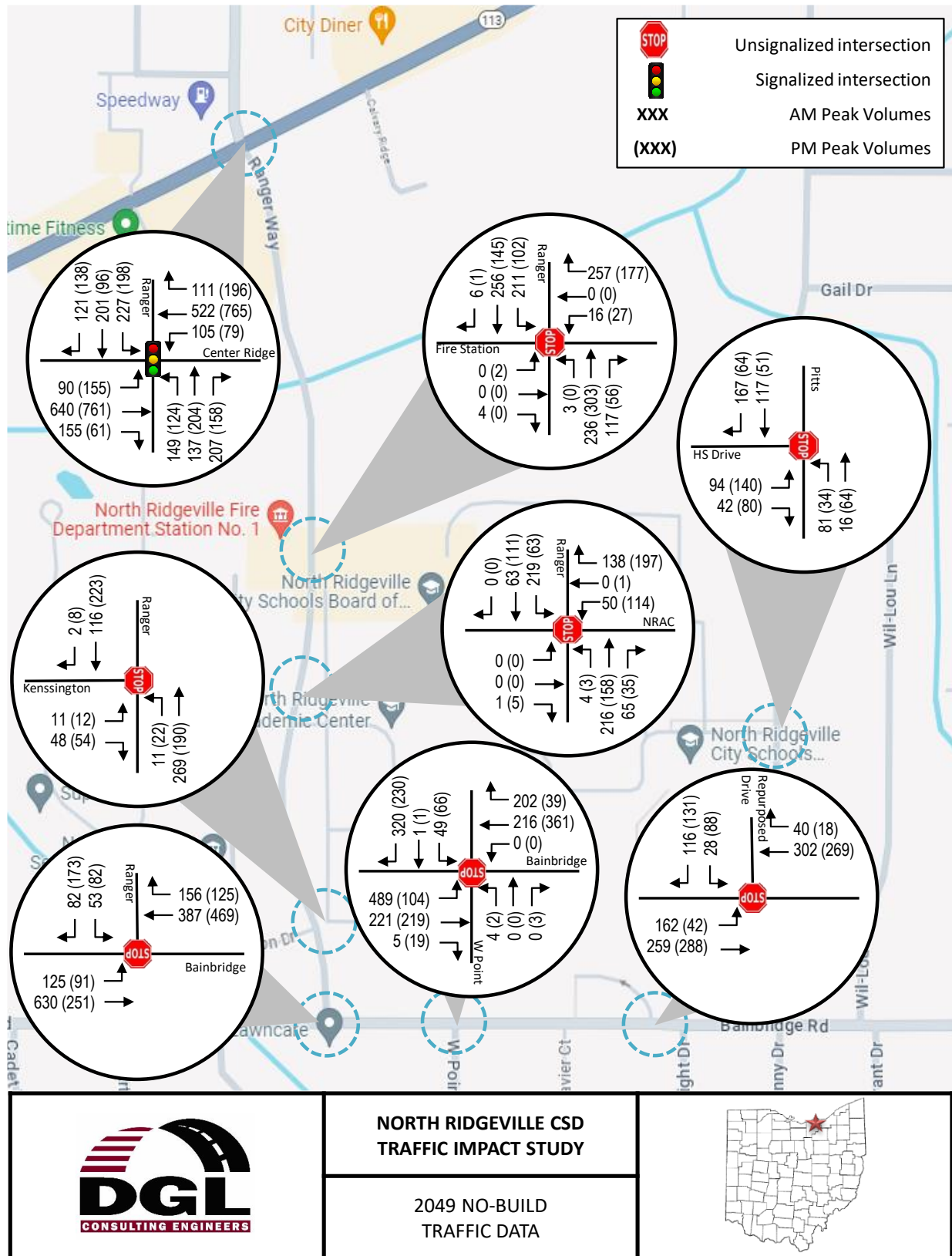


Figure 6 - 2049 No-Build Traffic Volumes

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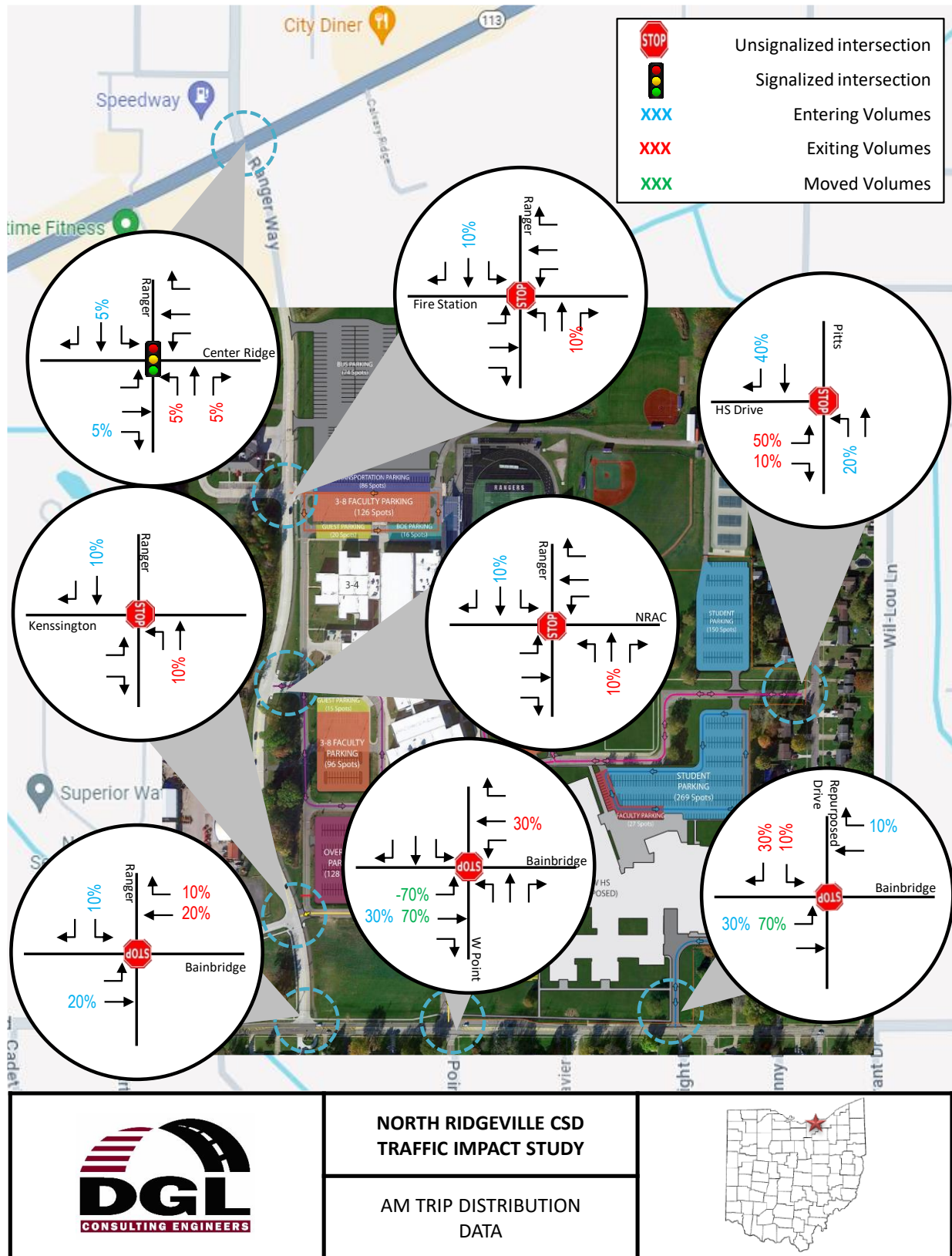


Figure 7 - Proposed AM Trip Distribution



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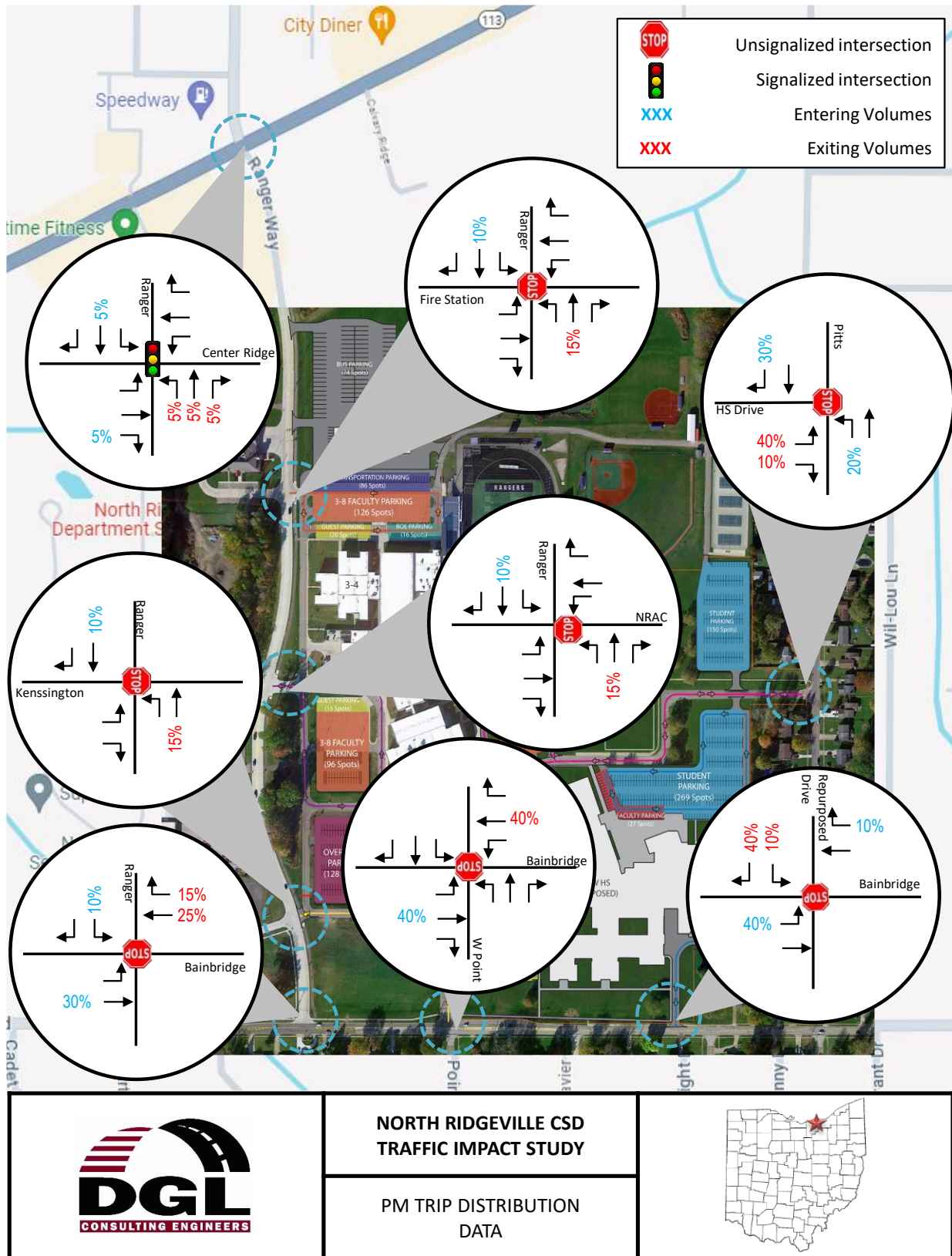


Figure 8 - Proposed PM Trip Distribution

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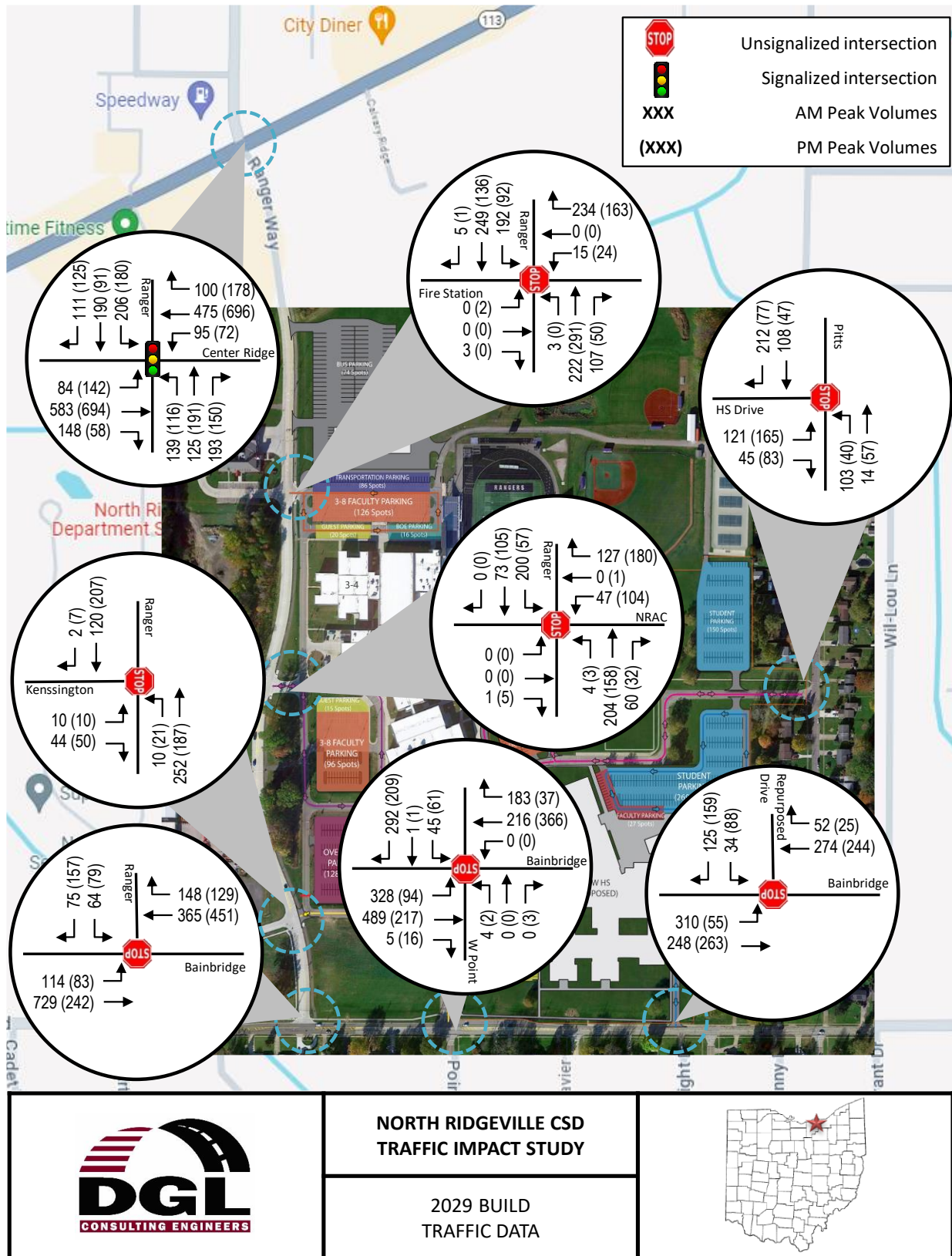


Figure 9 - 2029 Build Traffic Volumes



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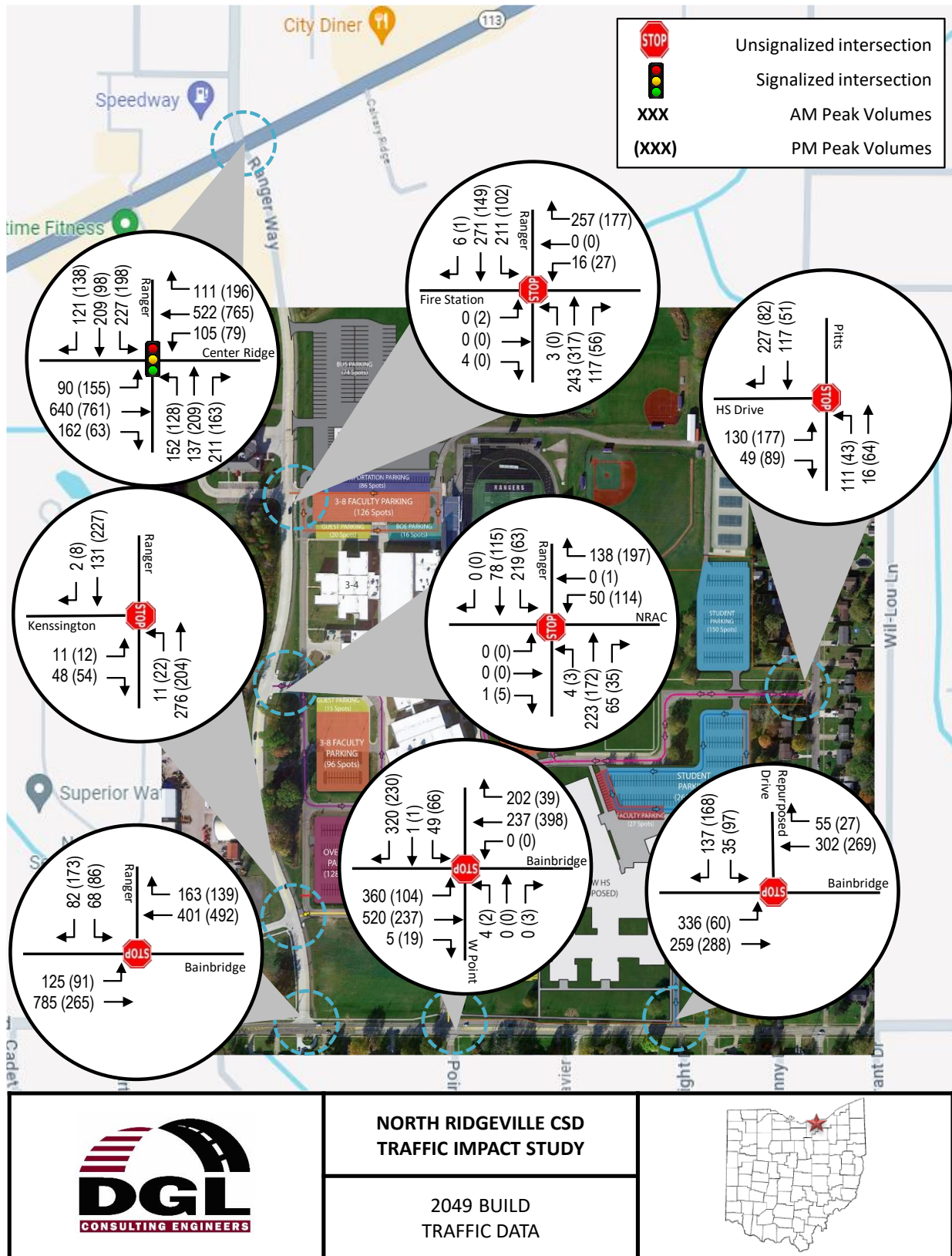


Figure 10 - 2049 Build Traffic Volumes

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### 6e. Turn Lane Warrant Analysis

Turn lane warrant analysis was conducted for the school access points. Turn lanes will reduce congestion while making the corridor safer by moving turning vehicles out of the through traveling traffic. It should be noted that the access points to campus along Ranger Way currently have left turn lanes.

The analyses were conducted using the Ohio Department of Transportation Location and Design Manual (L&D) Volume 1 using 2029 and 2049 AM and PM Peaks Build Scenario volumes.

The results of the analyses reveal the following:

- Bainbridge Road & Repurposed Drive (Drive 2) – warrant requirements were met for a left turn for EB Bainbridge Road.
- Pitts Boulevard & High School Drive – warrant requirements were met for a right turn for SB Pitts Road.
- Ranger Way & Kensington Drive – warrant requirements were *not met* for any additional turn lanes on any of the three approaches.
- Ranger Way & NRAC Drive – warrant requirements were *not met* for additional turn lanes on any of the four approaches.
- Ranger Way & Fire Station/School Drive – warrant requirements were *not met* for additional turn lanes on any of the four approaches.

Turn lane lengths were also developed based on the 2049 AM and PM Peak Volumes in accordance with the ODOT L&D Manual and can be found in Table 2: below.

| Table 2: Turn Lane Length Recommendations    |                       |                        |                   |                              |
|----------------------------------------------|-----------------------|------------------------|-------------------|------------------------------|
| Location                                     | Left Turn Lane Length | Right Turn Lane Length | Thru Block Length | Recommended Turn Lane Length |
| Bainbridge Road @ Repurposed Drive (Drive 2) | 300 feet              | -                      | -                 | 300 feet                     |
| Pitts Boulevard @ High School Drive          | -                     | 225 feet               | -                 | 225 feet                     |

### 6f. Signal Warrant Analysis

Signal Warrant Analysis was conducted using ODOT's Signal Warrant Spreadsheet which is based on ODOT's Ohio Manual of Uniform Traffic Control Devices. Traffic was counted for a four-hour period in early May 2024. **Currently, the intersection of Bainbridge Road and W Point Drive/School Drive does meet signal warrants based on the Peak Hour Volume.** The traffic was expanded to 2029, and the high school traffic was added to the intersection volumes. For 2029, signal warrants were met for the Peak Hour Volume with no right turn reduction since the signal is completely within city limits. Table 3: below shows the warrant information.

| Table 3: Signal Warrant Analysis – Bainbridge & W Point Drive/School Drive |                            |                               |                                |                               |
|----------------------------------------------------------------------------|----------------------------|-------------------------------|--------------------------------|-------------------------------|
| Analysis Year                                                              | Warrant 1<br>8 Hour Volume | Warrant 2<br>Four Hour Volume | Warrant 3<br>Peak Hour Volume* | Warrant 7<br>Crash Experience |
| 2024 Existing                                                              | 2 of 8<br>Hours Met        | 2 of 4<br>Hours Met           | 1 of 1<br>Hours Met            | 1 of 5<br>Crashes Met         |
| 2029 No Build                                                              | 3 of 8<br>Hours Met        | 2 of 4<br>Hours Met           | 1 of 1<br>Hours Met            | 1 of 5<br>Crashes Met         |
| 2029 Build                                                                 | 3 of 8<br>Hours Met        | 3 of 4<br>Hours Met           | 1 of 1<br>Hours Met            | 1 of 5<br>Crashes Met         |



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Signal warrant analysis was also conducted for the intersection of Bainbridge Road & Ranger Way. Based on the analysis, the intersection does not currently meet signal warrants. Traffic was expanded to 2029 and 2049, and the trips generated by the new high school were added to the intersection volumes. Using the Build volumes, the intersection did not meet signal warrants for 2029 and 2049. Table 4 summarizes the results below.

| Table 4: Signal Warrant Analysis – Bainbridge & Ranger Way |                               |                                  |                                   |                                  |
|------------------------------------------------------------|-------------------------------|----------------------------------|-----------------------------------|----------------------------------|
| Analysis Year                                              | Warrant 1<br>8 Hour<br>Volume | Warrant 2<br>Four Hour<br>Volume | Warrant 3<br>Peak Hour<br>Volume* | Warrant 7<br>Crash<br>Experience |
| 2029 Build                                                 | 0 of 8<br>Hours Met           | 0 of 4<br>Hours Met              | 0 of 1<br>Hours Met               | 2 of 5<br>Crashes Met            |
| 2049 Build                                                 | 0 of 8<br>Hours Met           | 0 of 4<br>Hours Met              | 0 of 1<br>Hours Met               | 2 of 5<br>Crashes Met            |

## 6g. Intersection Capacity

The level of service (LOS) is a way to classify the intersection on a scale of A to F, from a functional standpoint. Intersections and approaches are assigned an overall grade based on traffic volumes, capacity, and overall delay experienced by drivers.

Capacity Analysis was conducted for various geometric and traffic control alternatives for the intersections being studied. HCS 2024 Software was used to determine the LOS for signalized scenarios and stop-controlled intersections. LOS is generally identified for each movement or approach. LOS C is considered acceptable in all conditions, while LOS D is considered acceptable in congested urban areas, such as interchanges and commuter corridors. For Two-Way Stop controlled intersections, the LOS is undefined for the overall intersection.

| Table 5: Intersection Level Of Service And Delay<br>(in seconds) |    |        |                           |    |        |                         |    |        |
|------------------------------------------------------------------|----|--------|---------------------------|----|--------|-------------------------|----|--------|
| Signalized Intersection                                          |    |        | Unsignalized Intersection |    |        | Roundabout Intersection |    |        |
| A                                                                | <= | 10s    | A                         | <= | 10s    | A                       | <= | 10s    |
| B                                                                | >  | 10-20s | B                         | >  | 10-15s | B                       | >  | 10-15s |
| C                                                                | >  | 20-35s | C                         | >  | 15-25s | C                       | >  | 15-25s |
| D                                                                | >  | 35-55s | D                         | >  | 25-35s | D                       | >  | 25-35s |
| E                                                                | >  | 55-80s | E                         | >  | 35-50s | E                       | >  | 35-50s |
| F                                                                | >  | 80s    | F                         | >  | 50s    | F                       | >  | 50s    |

For the analysis, traffic is analyzed for the overall peak hours of the roadway were determined to be 7:15-8:15 and 14:45-15:45. *Therefore, the analysis is for the “worst case” scenario on the roadway network. The district utilizes offset schedules for start/end times of the different schools on the campus to reduce the potential for traffic congestion around campus with a 40-minute difference between start times.*

### Existing Conditions

The 2024 counted traffic was analyzed to review how the intersections being studied are currently functioning. The AM Peak for the intersection and the PM Peak were analyzed. Based on the results of the analysis, the AM Peak seems to be the most congested period during the school day with the access points of Ranger Way & Fire Station/School Drive, Ranger Way & Bainbridge Road, and Bainbridge Road & W Point Drive/High School Drive all having intersection legs operating at unacceptable levels.

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| Table 6: Existing Conditions                         |           |       |          |       |
|------------------------------------------------------|-----------|-------|----------|-------|
|                                                      | AM Peak   |       | PM Peak  |       |
|                                                      | LOS       | Delay | LOS      | Delay |
| <b>Center Ridge Rd &amp; Ranger Way/Jaycox Rd</b>    |           |       |          |       |
| Eastbound                                            | B (12.1)  |       | B (11.6) |       |
| Westbound                                            | B (11.0)  |       | B (13.0) |       |
| Northbound                                           | D (53.8)  |       | D (47.9) |       |
| Southbound                                           | F (162.2) |       | F (82.7) |       |
| Overall                                              | D (50.1)  |       | C (28.4) |       |
| <b>Ranger Way &amp; Fire Station/School Drive</b>    |           |       |          |       |
| Eastbound                                            | B (10.0)  |       | C (24.5) |       |
| Westbound                                            | D (28.8)  |       | C (17.9) |       |
| Northbound                                           | A (0.1)   |       | A (0.0)  |       |
| Southbound                                           | A (4.2)   |       | A (3.7)  |       |
| Overall                                              | -         |       | -        |       |
| <b>Ranger Way &amp; NRAC Drive</b>                   |           |       |          |       |
| Eastbound                                            | A (8.6)   |       | A (8.9)  |       |
| Westbound                                            | C (15.1)  |       | B (12.9) |       |
| Northbound                                           | A (0.2)   |       | A (0.2)  |       |
| Southbound                                           | A (6.7)   |       | A (2.8)  |       |
| Overall                                              | -         |       | -        |       |
| <b>Ranger Way &amp; Kenssington Drive</b>            |           |       |          |       |
| Eastbound                                            | B (10.1)  |       | B (10.3) |       |
| Northbound                                           | A (0.3)   |       | A (0.8)  |       |
| Southbound                                           | -         |       | -        |       |
| Overall                                              | -         |       | -        |       |
| <b>Ranger Way &amp; Bainbridge Road</b>              |           |       |          |       |
| Eastbound                                            | A (1.5)   |       | A (2.4)  |       |
| Westbound                                            | -         |       | -        |       |
| Southbound                                           | D (27.7)  |       | C (18.1) |       |
| Overall                                              | -         |       | -        |       |
| <b>Bainbridge Rd &amp; High School Dr/W Point Dr</b> |           |       |          |       |
| Eastbound                                            | A (7.6)   |       | A (2.6)  |       |
| Westbound                                            | A (0.0)   |       | A (0.0)  |       |
| Northbound                                           | F (326.7) |       | C (20.4) |       |
| Southbound                                           | F (62.9)  |       | C (17.1) |       |
| Overall                                              | -         |       | -        |       |
| <b>Pitts Blvd &amp; High School Drive</b>            |           |       |          |       |
| Eastbound                                            | B (12.3)  |       | B (13.6) |       |
| Northbound                                           | A (6.8)   |       | A (2.9)  |       |
| Southbound                                           | -         |       | -        |       |
| Overall                                              | -         |       | -        |       |

## No-Build & Build Conditions

**Bainbridge Road & W Point School/Drive:** The No-Build condition shows the minor street approaches are expected to continue to fail in 2029 and 2049. The Build condition shows delays decreasing due to moving a portion of high school traffic to the new parking lot. *There is no adverse impact on Bainbridge Road in either condition and is it anticipated to function at acceptable levels.*



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**Center Ridge Road/SR-83 & Ranger Way/Jaycox Street:** The intersection currently functions at an acceptable level, but the intersection is projected to fail in 2029 and 2049 during the AM Peak Hour. This was confirmed in the 2024 City of North Ridgeville SR 83 & Bainbridge Traffic Study. *With the additional trips generated by the new high school in the Build condition, the delay at the intersection is projected increase by less than 10 seconds.*

**Ranger Way & Fire Station/School Drive:** The intersection is projected to operate at acceptable levels in the No-Build conditions, however, the delay for the westbound approach (exiting the campus) is expected to increase in the Build condition opening year and design year during the AM Peak Hour due to the traffic growth on Ranger Way.

**Ranger Way & Bainbridge Road:** is expected to function at acceptable levels during the PM Peak Hour but the delay on the southbound approach is projected to increase during the AM Peak Hour. It should be noted that the 0.5% annual traffic growth contributed to a 46s increase between the years 2029 and 2049 in the No Build condition. The Build condition is expected to impact the intersection by increasing delays on the southbound approach by 50 to 100 seconds when compared to the No-Build condition of the same year. *There is no adverse impact on Bainbridge Road in either condition and it is anticipated to function at acceptable levels.*

The Repurposed Drive (Drive 2) to access the new high school parking lot is anticipated to function at acceptable levels, however, the southbound approach is expected to experience delays for exiting traffic.

The remaining intersections are projected to function at acceptable levels during both peak hours for each condition. Table 6 below summarizes the results of the capacity analysis.

| Table 7: No-Build & Build Condition Comparison |            |                  |       |               |       |                  |       |               |       |
|------------------------------------------------|------------|------------------|-------|---------------|-------|------------------|-------|---------------|-------|
|                                                |            | 2029<br>No-Build |       | 2029<br>Build |       | 2049<br>No-Build |       | 2049<br>Build |       |
|                                                |            | LOS              | Delay | LOS           | Delay | LOS              | Delay | LOS           | Delay |
| Center Ridge Rd & Ranger Way/Jaycox Rd         |            |                  |       |               |       |                  |       |               |       |
| AM Peak                                        | Eastbound  | B (12.6)         |       | B (12.7)      |       | B (13.3)         |       | B (13.3)      |       |
|                                                | Westbound  | B (11.5)         |       | B (11.5)      |       | B (11.9)         |       | B (11.9)      |       |
|                                                | Northbound | E (69.6)         |       | E (73.9)      |       | F (87.3)         |       | F (92.2)      |       |
|                                                | Southbound | F (214.4)        |       | F (220.7)     |       | F (265.7)        |       | F (272.2)     |       |
|                                                | Overall    | E (64.4)         |       | E (66.9)      |       | E (78.6)         |       | F (81.3)      |       |
| PM Peak                                        | Eastbound  | B (12.1)         |       | B (12.2)      |       | B (12.8)         |       | B (12.8)      |       |
|                                                | Westbound  | B (13.7)         |       | B (13.7)      |       | B (14.5)         |       | B (14.5)      |       |
|                                                | Northbound | E (58.8)         |       | E (63.7)      |       | E (75.0)         |       | F (80.9)      |       |
|                                                | Southbound | F (121.7)        |       | F (122.8)     |       | F (150.6)        |       | F (151.8)     |       |
|                                                | Overall    | D (36.6)         |       | D (37.7)      |       | D (44.0)         |       | D (45.4)      |       |
| Ranger Way & Fire Station/School Drive         |            |                  |       |               |       |                  |       |               |       |
| AM Peak                                        | Eastbound  | B (10.3)         |       | B (10.5)      |       | B (10.6)         |       | B (10.8)      |       |
|                                                | Westbound  | F (59.7)         |       | F (66.8)      |       | F (129.9)        |       | F (144.9)     |       |
|                                                | Northbound | A (0.1)          |       | A (0.1)       |       | A (0.1)          |       | A (0.1)       |       |
|                                                | Southbound | A (4.5)          |       | A (4.3)       |       | A (4.7)          |       | A (4.6)       |       |
| PM Peak                                        | Eastbound  | D (30.9)         |       | D (32.3)      |       | E (38.5)         |       | E (40.5)      |       |
|                                                | Westbound  | C (21.5)         |       | C (22.5)      |       | D (26.7)         |       | D (28.2)      |       |
|                                                | Northbound | A (0.0)          |       | A (0.0)       |       | A (0.0)          |       | A (0.0)       |       |
|                                                | Southbound | A (3.8)          |       | A (3.8)       |       | A (4.0)          |       | A (3.9)       |       |

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| No-Build & Build Condition Comparison - Continued |            |                  |       |               |       |                  |       |               |       |
|---------------------------------------------------|------------|------------------|-------|---------------|-------|------------------|-------|---------------|-------|
|                                                   |            | 2029<br>No-Build |       | 2029<br>Build |       | 2049<br>No-Build |       | 2049<br>Build |       |
|                                                   |            | LOS              | Delay | LOS           | Delay | LOS              | Delay | LOS           | Delay |
| Ranger Way & NRAC Drive                           |            |                  |       |               |       |                  |       |               |       |
| AM Peak                                           | Eastbound  | A (8.6)          |       | A (8.7)       |       | A (8.7)          |       | A (8.8)       |       |
|                                                   | Westbound  | C (17.8)         |       | C (18.5)      |       | C (20.9)         |       | C (21.9)      |       |
|                                                   | Northbound | A (0.1)          |       | A (0.1)       |       | A (0.1)          |       | A (0.1)       |       |
|                                                   | Southbound | A (6.9)          |       | A (6.5)       |       | A (7.1)          |       | A (6.8)       |       |
|                                                   | Overall    | -                |       | -             |       | -                |       | -             |       |
| PM Peak                                           | Eastbound  | A (9.0)          |       | A (9.0)       |       | A (9.1)          |       | A (9.1)       |       |
|                                                   | Westbound  | B (14.3)         |       | B (14.8)      |       | C (15.8)         |       | C (16.5)      |       |
|                                                   | Northbound | A (0.2)          |       | A (0.1)       |       | A (0.1)          |       | A (0.1)       |       |
|                                                   | Southbound | A (2.8)          |       | A (2.8)       |       | A (2.9)          |       | A (2.8)       |       |
|                                                   | Overall    | -                |       | -             |       | -                |       | -             |       |
| Ranger Way & Kenssington Drive                    |            |                  |       |               |       |                  |       |               |       |
| AM Peak                                           | Eastbound  | B (10.4)         |       | B (10.6)      |       | B (10.7)         |       | B (10.9)      |       |
|                                                   | Northbound | A (0.3)          |       | A (0.3)       |       | A (0.3)          |       | A (0.3)       |       |
|                                                   | Southbound | -                |       | -             |       | -                |       | -             |       |
| PM Peak                                           | Eastbound  | B (10.6)         |       | B (10.7)      |       | B (10.9)         |       | B (11.0)      |       |
|                                                   | Northbound | A (0.8)          |       | A (0.8)       |       | A (0.8)          |       | A (0.8)       |       |
|                                                   | Southbound | -                |       | -             |       | -                |       | -             |       |
| Ranger Way & Bainbridge Road                      |            |                  |       |               |       |                  |       |               |       |
| AM Peak                                           | Eastbound  | A (1.3)          |       | A (1.3)       |       | A (1.4)          |       | A (1.4)       |       |
|                                                   | Westbound  | -                |       | -             |       | -                |       | -             |       |
|                                                   | Southbound | F (61.9)         |       | F (118.3)     |       | F (107.9)        |       | F (202.7)     |       |
|                                                   | Overall    | -                |       | -             |       | -                |       | -             |       |
| PM Peak                                           | Eastbound  | A (2.5)          |       | A (2.4)       |       | A (2.6)          |       | A (2.5)       |       |
|                                                   | Westbound  | -                |       | -             |       | -                |       | -             |       |
|                                                   | Southbound | C (22.5)         |       | D (25.2)      |       | D (28.4)         |       | D (33.1)      |       |
|                                                   | Overall    | -                |       | -             |       | -                |       | -             |       |
| Bainbridge Rd & W Point Drive/School Drive        |            |                  |       |               |       |                  |       |               |       |
| AM Peak                                           | Eastbound  | A (8.7)          |       | A (4.4)       |       | B (10.1)         |       | A (4.9)       |       |
|                                                   | Westbound  | A (0.0)          |       | A (0.0)       |       | A (0.0)          |       | A (0.0)       |       |
|                                                   | Northbound | F (847.2)        |       | F (788.9)     |       | F (2162.9)       |       | F (1832.3)    |       |
|                                                   | Southbound | F (146.5)        |       | F (127.6)     |       | F (289.1)        |       | F (223.3)     |       |
|                                                   | Overall    | -                |       | -             |       | -                |       | -             |       |
| PM Peak                                           | Eastbound  | A (2.7)          |       | A (2.6)       |       | A (2.7)          |       | A (2.6)       |       |
|                                                   | Westbound  | A (0.0)          |       | A (0.0)       |       | A (0.0)          |       | A (0.0)       |       |
|                                                   | Northbound | D (26.0)         |       | D (29.8)      |       | D (34.3)         |       | E (40.7)      |       |
|                                                   | Southbound | C (20.6)         |       | C (23.1)      |       | D (25.3)         |       | D (29.2)      |       |
|                                                   | Overall    | -                |       | -             |       | -                |       | -             |       |
| Pitts Blvd & High School Drive                    |            |                  |       |               |       |                  |       |               |       |
| AM Peak                                           | Eastbound  | B (13.2)         |       | C (17.4)      |       | B (14.3)         |       | C (19.7)      |       |
|                                                   | Northbound | A (7.0)          |       | A (7.7)       |       | A (7.1)          |       | A (7.8)       |       |
|                                                   | Southbound | -                |       | -             |       | -                |       | -             |       |
|                                                   | Overall    | -                |       | -             |       | -                |       | -             |       |
| PM Peak                                           | Eastbound  | C (15.4)         |       | C (21.2)      |       | C (17.4)         |       | D (26.2)      |       |
|                                                   | Northbound | A (2.9)          |       | A (3.5)       |       | A (2.9)          |       | A (3.5)       |       |
|                                                   | Southbound | -                |       | -             |       | -                |       | -             |       |
|                                                   | Overall    | -                |       | -             |       | -                |       | -             |       |



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| No-Build & Build Condition Comparison - Continued |            |                   |          |               |                   |                  |       |               |       |
|---------------------------------------------------|------------|-------------------|----------|---------------|-------------------|------------------|-------|---------------|-------|
|                                                   |            | 2029<br>No-Build  |          | 2029<br>Build |                   | 2049<br>No-Build |       | 2049<br>Build |       |
|                                                   |            | LOS               | Delay    | LOS           | Delay             | LOS              | Delay | LOS           | Delay |
| Bainbridge Rd & Repurposed Drive (Drive 2)        |            |                   |          |               |                   |                  |       |               |       |
| AM Peak                                           | Eastbound  | Not<br>Applicable | A (7.4)  |               | Not<br>Applicable | A (8.2)          |       |               |       |
|                                                   | Westbound  |                   | -        |               |                   | -                |       |               |       |
|                                                   | Southbound |                   | F (67.3) |               |                   | F (140.2)        |       |               |       |
|                                                   | Overall    |                   | -        |               |                   | -                |       |               |       |
| PM Peak                                           | Eastbound  | Not<br>Applicable | A (2.0)  |               | Not<br>Applicable | A (2.1)          |       |               |       |
|                                                   | Westbound  |                   | -        |               |                   | -                |       |               |       |
|                                                   | Southbound |                   | D (30.0) |               |                   | E (46.7)         |       |               |       |
|                                                   | Overall    |                   | -        |               |                   | -                |       |               |       |

### NRAC & High School Traffic Analysis

The intersection analysis presented to this point is based on worst case scenarios where additional traffic from the proposed high school is added to the peak hour for the entire campus. The AM Peak Hour for the roadway (07:15) aligns more with the traffic for the start time of the NRAC (07:40-2:50) rather than the High School (08:20-3:12), though an overlap exists between the hour for the start times for both buildings. To determine the impacts of both buildings on traffic operations at Bainbridge Road & W Point Drive/School Drive as well as the Repurposed Drive (Drive 2) on Bainbridge Road, the peak hours for each building were shifted to be more representative of the traffic they generate. The following time periods were analyzed to review a more accurate road network during the school day:

- NRAC Peak Hours 7:15-8:15 & 2:30-3:30
  - This is the AM peak hour analyzed in the “worst case” scenario
- High School Peak Hours 7:45-8:45 & 3:00-4:00

Even though the intersection of Bainbridge Road & W Point Drive/School Drive is used primarily for traffic circulation of the NRAC, a portion of the current high school traffic also uses the intersection to access the parking lot on the west side of the School Drive. Because of the proposed changes to the site, 70% of the traffic that entered the School Drive after the start time of the NRAC was moved to the repurposed drive that is to be utilized by high school traffic for both circulation and parking. A summary of the two analysis hours results, which included trips generated by the proposed high school, and moved traffic, is shown in Table 7.

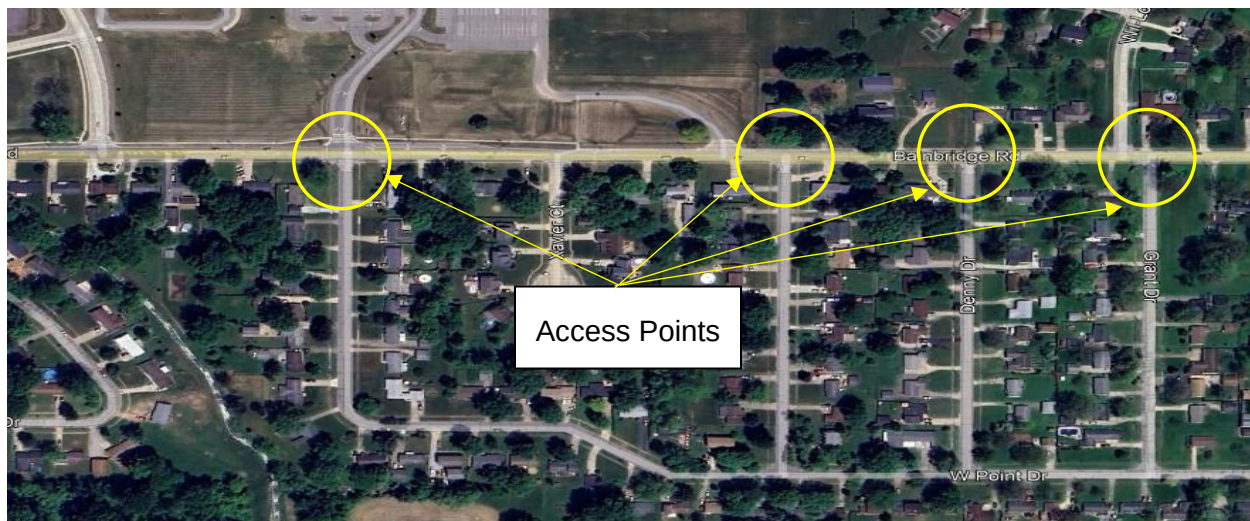
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| Table 8: High School/NRAC Peak Hour Comparison          |            |              |       |                |       |              |       |                |       |
|---------------------------------------------------------|------------|--------------|-------|----------------|-------|--------------|-------|----------------|-------|
|                                                         |            | 2029 HS Peak |       | 2029 NRAC Peak |       | 2049 HS Peak |       | 2049 NRAC Peak |       |
|                                                         |            | LOS          | Delay | LOS            | Delay | LOS          | Delay | LOS            | Delay |
| <b>Bainbridge Road &amp; W Point Drive/School Drive</b> |            |              |       |                |       |              |       |                |       |
| AM Peak                                                 | Eastbound  | A (2.7)      |       | A (5.2)        |       | A (2.8)      |       | A (5.5)        |       |
|                                                         | Westbound  | A (0.1)      |       | A (0.0)        |       | A (0.0)      |       | A (0.0)        |       |
|                                                         | Northbound | E (45.8)     |       | F (526.7)      |       | F (60.4)     |       | F (1033.4)     |       |
|                                                         | Southbound | E (35.6)     |       | F (89.9)       |       | F (60.1)     |       | F (148.0)      |       |
|                                                         | Overall    | -            |       | -              |       | -            |       | -              |       |
| PM Peak                                                 | Eastbound  | A (2.1)      |       | A (3.7)        |       | A (2.2)      |       | A (3.8)        |       |
|                                                         | Westbound  | A (0.0)      |       | A (0.1)        |       | A (0.0)      |       | A (0.1)        |       |
|                                                         | Northbound | E (35.1)     |       | C (23.5)       |       | E (47.4)     |       | D (30.3)       |       |
|                                                         | Southbound | C (21.1)     |       | C (24.4)       |       | D (25.7)     |       | D (32.8)       |       |
|                                                         | Overall    | -            |       | -              |       | -            |       | -              |       |
| <b>Bainbridge Road &amp; Repurposed Drive (Drive 2)</b> |            |              |       |                |       |              |       |                |       |
| AM Peak                                                 | Eastbound  | A (7.0)      |       | A (8.7)        |       | A (7.3)      |       | A (9.4)        |       |
|                                                         | Westbound  | -            |       | -              |       | -            |       | -              |       |
|                                                         | Southbound | C (17.4)     |       | E (43.4)       |       | C (19.7)     |       | F (81.2)       |       |
|                                                         | Overall    | -            |       | -              |       | -            |       | -              |       |
| PM Peak                                                 | Eastbound  | A (1.9)      |       | A (2.7)        |       | A (1.9)      |       | A (2.8)        |       |
|                                                         | Westbound  | -            |       | -              |       | -            |       | -              |       |
|                                                         | Southbound | D (28.1)     |       | D (34.5)       |       | E (45.2)     |       | F (57.5)       |       |
|                                                         | Overall    | -            |       | -              |       | -            |       | -              |       |

The analysis results show that traffic associated with the NRAC negatively impacts the intersections more than the traffic associated with the proposed high school. However, the analysis also shows that the intersection of Bainbridge Road & W Point Drive/School Drive is not projected to operate with acceptable levels of delay during the campus peak hour, the NRAC peak hour, or the High School peak hour in 2049.

It should be noted that the excessive delay at W Point Drive is for *less than ten vehicles in either peak hour*. W Point Drive connects to several other streets that also have access to Bainbridge Road.



**Figure 11 - Neighborhood Access to Bainbridge Road**



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It is highly likely that any vehicles trying to access Bainbridge Road during school hours will take an alternate route to avoid sitting at the Bainbridge Road and W Point Drive intersection, there are several other adjacent streets that access Bainbridge Road as shown in Figure 11. Therefore, if the school district would like to improve the level of service and delay on their site the following analysis of intersection improvements are presented in the following section.

### Build Conditions with Intersection Improvements

Due to the projected delays at Bainbridge Road & W Point Drive/School Drive and the Bainbridge Road & Repurposed Drive/Drive 2 intersections, traffic control alternatives were evaluated to improve intersection operations. All-Way-Stop-Control (AWSC), a traffic signal, and a single-lane roundabout were evaluated to determine which traffic control would allow the intersection to operate at an acceptable level.

#### **Bainbridge Road & W Point Drive/School Drive**

- All-Way-Stop-Control (AWSC) Improvement – slightly improves overall delay for the intersection, but it would still operate at an unacceptable level during the AM Peak hour in 2029 and 2049 while also increasing the delay on Bainbridge Road by over 100 seconds. AWSC at this intersection is not recommended.
- Signalized Improvement – improves the delay for the northbound and southbound approaches but increases the delay on Bainbridge Road.
- Roundabout Improvement – improves the delay for the northbound and southbound approaches and increases the delay on Bainbridge Road during the AM Peak. The roundabout is projected to provide the least amount of delay for each approach as well as the intersection overall while also providing traffic calming for Bainbridge Road.

#### **Bainbridge Road & Repurposed Drive (Drive 2)**

- Two-Way-Stop-Control + Turn Lanes Improvement – the addition of the warranted eastbound left turn on Bainbridge Road decreases the delay experienced by drivers on Bainbridge Road by less than 10 seconds, it is not recommended at this time.
- All-Way-Stop-Control (AWSC) Improvement – improves the southbound delay but increases the delay for Bainbridge Road by 10-20 seconds including the addition of an eastbound left and southbound right turn lane.
- Signalized Improvement – a signal was not warranted and was not analyzed.
- Roundabout Improvement – improves the delay for the northbound and approaches and increase the delay on Bainbridge Road. The roundabout is projected to provide the least amount of delay for each approach as well as the intersection overall while also providing traffic calming for Bainbridge Road.

Table 8 outlines the analysis of the proposed improvements.

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**Table 9: Build Condition & Build Condition + Improvement Comparison**

|                                              |            | 2029<br>Build +<br>AWSC      |       | 2029<br>Build +<br>Signal    |       | 2029<br>Build + RAB |       | 2049<br>Build +<br>AWSC |       | 2049<br>Build +<br>Signal    |       | 2049<br>Build + RAB |       |
|----------------------------------------------|------------|------------------------------|-------|------------------------------|-------|---------------------|-------|-------------------------|-------|------------------------------|-------|---------------------|-------|
|                                              |            | LOS                          | Delay | LOS                          | Delay | LOS                 | Delay | LOS                     | Delay | LOS                          | Delay | LOS                 | Delay |
| Bainbridge Road & W Point Drive/School Drive |            |                              |       |                              |       |                     |       |                         |       |                              |       |                     |       |
| AM<br>Peak                                   | Eastbound  | F (123.4)                    |       | B (17.8)                     |       | C (21.5)            |       | F (171.8)               |       | C (21.0)                     |       | D (30.2)            |       |
|                                              | Westbound  | C (18.6)                     |       | C (31.2)                     |       | B (14.3)            |       | C (22.2)                |       | D (37.4)                     |       | C (18.8)            |       |
|                                              | Northbound | B (12.1)                     |       | D (43.6)                     |       | A (8.8)             |       | B (12.6)                |       | D (48.2)                     |       | A (9.6)             |       |
|                                              | Southbound | D (28.0)                     |       | C (32.0)                     |       | A (8.6)             |       | E (39.2)                |       | C (34.1)                     |       | A (9.8)             |       |
|                                              | Overall    | F (75.8)                     |       | C (24.4)                     |       | C (16.9)            |       | F (103.8)               |       | C (28.2)                     |       | C (22.7)            |       |
| PM<br>Peak                                   | Eastbound  | C (15.0)                     |       | B (10.9)                     |       | A (6.1)             |       | C (17.4)                |       | B (11.9)                     |       | A (6.6)             |       |
|                                              | Westbound  | D (30.9)                     |       | C (21.4)                     |       | A (7.7)             |       | E (47.0)                |       | C (23.5)                     |       | A (8.5)             |       |
|                                              | Northbound | B (10.6)                     |       | C (32.4)                     |       | A (4.4)             |       | B (11.1)                |       | C (34.0)                     |       | A (4.6)             |       |
|                                              | Southbound | B (13.9)                     |       | C (25.3)                     |       | A (9.7)             |       | C (15.7)                |       | C (26.2)                     |       | B (11.2)            |       |
|                                              | Overall    | C (21.0)                     |       | B (19.1)                     |       | A (7.7)             |       | D (28.7)                |       | C (20.5)                     |       | A (8.6)             |       |
|                                              |            | 2029<br>Build +<br>AWSC + TL |       | 2029<br>Build + Turn<br>Lane |       | 2029<br>Build + RAB |       | 2049<br>Build +<br>AWSC |       | 2049<br>Build + Turn<br>Lane |       | 2049<br>Build + RAB |       |
| Bainbridge Road & Repurposed Drive (Drive 2) |            |                              |       |                              |       |                     |       |                         |       |                              |       |                     |       |
| AM<br>Peak                                   | Eastbound  | C (18.5)                     |       | A (5.5)                      |       | A (9.1)             |       | C (22.2)                |       | A (5.9)                      |       | A (9.9)             |       |
|                                              | Westbound  | C (17.7)                     |       | -                            |       | B (10.2)            |       | C (21.6)                |       | -                            |       | B (11.9)            |       |
|                                              | Southbound | B (12.1)                     |       | D (28.4)                     |       | A (6.1)             |       | B (13.0)                |       | E (38.2)                     |       | A (6.7)             |       |
|                                              | Overall    | C (17.3)                     |       | -                            |       | A (9.0)             |       | C (20.6)                |       | -                            |       | B (10.0)            |       |
| PM<br>Peak                                   | Eastbound  | C (16.9)                     |       | A (1.4)                      |       | A (6.7)             |       | C (20.6)                |       | A (1.4)                      |       | A (7.3)             |       |
|                                              | Westbound  | C (16.7)                     |       | -                            |       | A (5.6)             |       | C (20.5)                |       | -                            |       | A (6.0)             |       |
|                                              | Southbound | C (15.3)                     |       | C (16.8)                     |       | A (7.7)             |       | C (17.8)                |       | C (19.8)                     |       | A (8.6)             |       |
|                                              | Overall    | C (16.4)                     |       | -                            |       | A (6.6)             |       | C (19.8)                |       | -                            |       | A (7.2)             |       |

## 7. CONCLUSIONS

The construction of the new proposed high school is projected to be approximately 340,000 square feet to serve 1,692 students from grades 9 to 12. The project also includes the construction of a new, 22,000 square foot Maintenance/Transportation Facility on campus that includes the demolition of the existing facility on the eastern side of the site. This new project will affect the surrounding roadway network during school drop-off/pick-up times. It is anticipated that the three drives along Bainbridge Road will experience delays on the drives themselves but will not impact Bainbridge Road operations.

The study analyzed a “worse case” scenario with both the NRAC and the High School trips entering and exiting the campus at the same time. Currently there is a 40-minute difference between start times, therefore DGL also analyzed the individual peak hours. It is anticipated that there will be a steady influx of traffic throughout the beginning and end of the day for over an hour and not an extremely large volume of traffic heading to/from campus at the same time.

The evaluation of the separated peak hours for the NRAC and the High School along Bainbridge Road shows the intersection at W Point Drive/School Drive is projected to operate at unacceptable levels for the different peak hours analyzed. **The high delays for W Point Drive are experienced by less than ten vehicles in both peak hours.** *There is also access to*



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*Road through different routes other than W Point Drive. The delay experienced by those leaving the school site could be mitigated by improvements at the intersection or an alternative of the circulation of traffic around campus.*

### 8. RECOMMENDATIONS

The following recommendations are presented to mitigate the effects of the school traffic on the surrounding roadway network:

- Center Ridge Rd & Ranger Way/Jaycox Rd: Corridor signal timing adjustments should be reviewed. The intersection is currently being studied in the 2024 City of North Ridgeville SR 83 & Bainbridge Traffic Study. Consideration should be given to implementing specific timing plans for school traffic exiting Ranger Way.
- Ranger Way & Fire Station/School Drive: While the intersection will experience delay for the westbound approach (exiting the campus) Ranger Way will not be affected and should remain a Two-Way-Stop-Controlled intersection.
- Ranger Way & Bainbridge Road: will function at acceptable levels but the delays on the southbound approach are projected to increase. It is recommended that the intersection remain a Two-Way-Stop-Controlled intersection
- Bainbridge Rd & Repurposed Drive (Drive 2): will function at acceptable levels but the southbound approach is projected to experience delays. The addition of the warranted eastbound left turn on Bainbridge Road decreases the delay experienced by drivers on Bainbridge Road by less than 10 seconds, it is not recommended at this time.
- Bainbridge Road & W Point/School Drive: It is anticipated that a significant delay will occur on minor street approaches. If North Ridgeville City Schools would like to minimize the delay on the school drives, the following improvements, located within the public right of way, would help mitigate these excessive delays:
  - All Way Stop Control: convert the existing Two-Way-Stop-Controlled intersection to an All-Way-Stop-Controlled
  - Install a Traffic Signal: a signal is warranted based on the peak hour volumes
  - Install a mini-roundabout: a mini roundabout would alleviate traffic delays and increase traffic calming along Bainbridge

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## **Appendix A Turn Movement Counts**



| Leg                     | Center Ridge Rd |       |       |       |         |          | Center Ridge Rd |       |       |       |         |          | Ranger Way |       |       |       |         |          | Jaycox Rd  |       |       |       |         |          |           |
|-------------------------|-----------------|-------|-------|-------|---------|----------|-----------------|-------|-------|-------|---------|----------|------------|-------|-------|-------|---------|----------|------------|-------|-------|-------|---------|----------|-----------|
| Direction               | Eastbound       |       |       |       |         |          | Westbound       |       |       |       |         |          | Northbound |       |       |       |         |          | Southbound |       |       |       |         |          |           |
| Start Time              | Left            | Thru  | Right | Total | Peds CW | Peds CCW | Left            | Thru  | Right | Total | Peds CW | Peds CCW | Left       | Thru  | Right | Total | Peds CW | Peds CCW | Left       | Thru  | Right | Total | Peds CW | Peds CCW | Int Total |
| 2024-05-02 07:00:00     | 10              | 123   | 17    | 150   | 0       | 0        | 15              | 45    | 14    | 74    | 7       | 2        | 7          | 7     | 7     | 21    | 0       | 3        | 41         | 32    | 26    | 99    | 2       | 0        | 344       |
| 2024-05-02 07:15:00     | 16              | 100   | 67    | 183   | 0       | 0        | 33              | 89    | 11    | 133   | 12      | 0        | 34         | 30    | 44    | 108   | 0       | 2        | 40         | 51    | 21    | 112   | 4       | 0        | 536       |
| 2024-05-02 07:30:00     | 22              | 155   | 28    | 205   | 0       | 0        | 28              | 90    | 29    | 147   | 7       | 0        | 38         | 30    | 74    | 142   | 0       | 2        | 48         | 35    | 31    | 114   | 3       | 0        | 608       |
| 2024-05-02 07:45:00     | 16              | 138   | 6     | 160   | 0       | 0        | 7               | 138   | 33    | 178   | 3       | 0        | 28         | 34    | 37    | 99    | 0       | 2        | 54         | 19    | 21    | 94    | 1       | 0        | 531       |
| 2024-05-02 08:00:00     | 22              | 139   | 27    | 188   | 0       | 0        | 16              | 105   | 16    | 137   | 4       | 0        | 20         | 17    | 12    | 49    | 0       | 0        | 41         | 57    | 25    | 123   | 3       | 0        | 497       |
| AM Peak Hour Totals     | 76              | 532   | 128   | 736   | 0       | 0        | 84              | 422   | 89    | 595   | 26      | 0        | 120        | 111   | 167   | 398   | 0       | 6        | 183        | 162   | 98    | 443   | 11      | 0        | 2172      |
| AM PHF                  | 0.86            | 0.86  | 0.48  | 0.90  |         |          | 0.64            | 0.76  | 0.67  | 0.84  |         |          | 0.79       | 0.82  | 0.56  | 0.70  |         |          | 0.85       | 0.71  | 0.79  | 0.90  |         |          | 0.89      |
| 2024-05-02 08:15:00     | 32              | 147   | 9     | 188   | 0       | 0        | 5               | 98    | 33    | 136   | 2       | 0        | 18         | 22    | 12    | 52    | 2       | 0        | 38         | 22    | 27    | 87    | 0       | 0        | 463       |
| 2024-05-02 08:30:00     | 19              | 140   | 6     | 165   | 0       | 0        | 8               | 78    | 33    | 119   | 0       | 0        | 4          | 7     | 11    | 22    | 0       | 1        | 42         | 11    | 16    | 69    | 0       | 0        | 375       |
| 2024-05-02 08:45:00     | 23              | 112   | 7     | 142   | 0       | 0        | 9               | 108   | 22    | 139   | 0       | 0        | 4          | 5     | 5     | 14    | 2       | 0        | 57         | 19    | 26    | 102   | 0       | 0        | 397       |
| 2024-05-02 14:30:00     | 27              | 126   | 12    | 165   | 1       | 0        | 29              | 144   | 35    | 208   | 0       | 0        | 6          | 12    | 8     | 26    | 1       | 0        | 26         | 26    | 33    | 85    | 1       | 0        | 484       |
| 2024-05-02 14:45:00     | 32              | 139   | 12    | 183   | 0       | 0        | 10              | 121   | 28    | 159   | 0       | 18       | 18         | 26    | 30    | 74    | 4       | 1        | 48         | 21    | 19    | 88    | 0       | 4        | 504       |
| 2024-05-02 15:00:00     | 31              | 187   | 17    | 235   | 0       | 0        | 24              | 155   | 42    | 221   | 0       | 82       | 32         | 44    | 29    | 105   | 9       | 0        | 34         | 20    | 23    | 77    | 1       | 25       | 638       |
| 2024-05-02 15:15:00     | 26              | 123   | 8     | 157   | 0       | 0        | 13              | 144   | 39    | 196   | 0       | 16       | 32         | 63    | 48    | 143   | 5       | 0        | 42         | 23    | 49    | 114   | 1       | 4        | 610       |
| 2024-05-02 15:30:00     | 40              | 184   | 14    | 238   | 0       | 4        | 17              | 198   | 49    | 264   | 0       | 3        | 18         | 32    | 21    | 71    | 2       | 0        | 36         | 14    | 20    | 70    | 1       | 0        | 643       |
| PM Peak Hour Totals     | 129             | 633   | 51    | 813   | 0       | 0        | 64              | 618   | 158   | 840   | 0       | 119      | 100        | 165   | 128   | 393   | 20      | 1        | 160        | 78    | 111   | 349   | 3       | 33       | 2395      |
| PM PHF                  | 0.81            | 0.85  | 0.75  | 0.85  |         |          | 0.67            | 0.78  | 0.81  | 0.80  |         |          | 0.78       | 0.65  | 0.67  | 0.69  |         |          | 0.83       | 0.85  | 0.57  | 0.77  |         |          | 0.93      |
| 2024-05-02 15:45:00     | 35              | 155   | 12    | 202   | 3       | 0        | 20              | 159   | 46    | 225   | 0       | 2        | 25         | 31    | 9     | 65    | 3       | 0        | 45         | 19    | 48    | 112   | 3       | 2        | 604       |
| 2024-05-02 16:00:00     | 25              | 128   | 6     | 159   | 1       | 0        | 17              | 189   | 59    | 265   | 3       | 5        | 12         | 16    | 14    | 42    | 1       | 0        | 55         | 23    | 33    | 111   | 3       | 3        | 577       |
| 2024-05-02 16:15:00     | 35              | 149   | 7     | 191   | 0       | 3        | 20              | 173   | 51    | 244   | 1       | 1        | 11         | 17    | 14    | 42    | 0       | 0        | 39         | 20    | 43    | 102   | 1       | 2        | 579       |
| Grand Total             | 411             | 2245  | 255   | 2911  | 5       | 7        | 271             | 2034  | 540   | 2845  | 39      | 129      | 307        | 393   | 375   | 1075  | 29      | 11       | 686        | 412   | 461   | 1559  | 24      | 40       | 8390      |
| % Approach              | 14.1%           | 77.1% | 8.8%  |       |         |          | 9.5%            | 71.5% | 19.0% |       |         |          | 28.6%      | 36.6% | 34.9% |       |         |          | 44.0%      | 26.4% | 29.6% |       |         |          |           |
| % Total                 | 4.9%            | 26.8% | 3.0%  | 34.7% |         |          | 3.2%            | 24.2% | 6.4%  | 33.9% |         |          | 3.7%       | 4.7%  | 4.5%  | 12.8% |         |          | 8.2%       | 4.9%  | 5.5%  | 18.6% |         |          |           |
| Lights                  | 400             | 2166  | 242   | 2808  |         |          | 258             | 1981  | 527   | 2766  |         |          | 292        | 386   | 369   | 1047  |         |          | 660        | 396   | 457   | 1513  |         |          | 8134      |
| % Lights                | 97.3%           | 96.5% | 94.9% | 96.5% |         |          | 95.2%           | 97.4% | 97.6% | 97.2% |         |          | 95.1%      | 98.2% | 98.4% | 97.4% |         |          | 96.2%      | 96.1% | 99.1% | 97.0% |         |          | 96.9%     |
| Heavys                  | 11              | 79    | 13    | 103   |         |          | 13              | 53    | 13    | 79    |         |          | 15         | 7     | 6     | 28    |         |          | 26         | 16    | 4     | 46    |         |          | 256       |
| % Heavys                | 2.7%            | 3.5%  | 5.1%  | 3.5%  |         |          | 4.8%            | 2.6%  | 2.4%  | 2.8%  |         |          | 4.9%       | 1.8%  | 1.6%  | 2.6%  |         |          | 3.8%       | 3.9%  | 0.9%  | 3.0%  |         |          | 3.1%      |
| Pedestrians             |                 |       |       |       | 2       | 7        |                 |       |       |       | 37      | 122      |            |       |       |       | 26      | 10       |            |       |       |       | 22      | 38       |           |
| % Pedestrians           |                 |       |       |       | 40.0%   | 100.0%   |                 |       |       |       | 94.9%   | 94.6%    |            |       |       |       | 89.7%   | 90.9%    |            |       |       |       | 91.7%   | 95.0%    |           |
| Bicycles on Crosswalk   |                 |       |       |       | 3       | 0        |                 |       |       |       | 2       | 7        |            |       |       |       | 3       | 1        |            |       |       |       | 2       | 2        |           |
| % Bicycles on Crosswalk |                 |       |       |       | 60.0%   | 0.0%     |                 |       |       |       | 5.1%    | 5.4%     |            |       |       |       | 10.3%   | 9.1%     |            |       |       |       | 8.3%    | 5.0%     |           |



| Leg                     | Fire Station |         |         |       |         |          | School Parking Lot |         |       |       |         |          | Ranger Way |       |        |       |         |          | Ranger Way |       |       |       |         |          |           |
|-------------------------|--------------|---------|---------|-------|---------|----------|--------------------|---------|-------|-------|---------|----------|------------|-------|--------|-------|---------|----------|------------|-------|-------|-------|---------|----------|-----------|
| Direction               | Eastbound    |         |         |       |         |          | Westbound          |         |       |       |         |          | Northbound |       |        |       |         |          | Southbound |       |       |       |         |          |           |
| Start Time              | Left         | Thru    | Right   | Total | Peds CW | Peds CCW | Left               | Thru    | Right | Total | Peds CW | Peds CCW | Left       | Thru  | Right  | Total | Peds CW | Peds CCW | Left       | Thru  | Right | Total | Peds CW | Peds CCW | Int Total |
| 2024-04-30 07:00:00     | 0            | 0       | 0       | 0     | 0       | 0        | 0                  | 0       | 0     | 0     | 5       | 0        | 0          | 19    | 11     | 30    | 0       | 0        | 17         | 33    | 0     | 50    | 0       | 0        | 80        |
| 2024-04-30 07:15:00     | 0            | 0       | 0       | 0     | 0       | 0        | 0                  | 0       | 72    | 72    | 9       | 0        | 0          | 32    | 46     | 78    | 0       | 0        | 82         | 51    | 0     | 133   | 0       | 0        | 283       |
| 2024-04-30 07:30:00     | 0            | 0       | 0       | 0     | 0       | 0        | 0                  | 0       | 103   | 103   | 6       | 0        | 1          | 76    | 43     | 120   | 0       | 0        | 73         | 54    | 1     | 128   | 0       | 0        | 351       |
| 2024-04-30 07:45:00     | 0            | 0       | 0       | 0     | 0       | 0        | 13                 | 0       | 30    | 43    | 4       | 0        | 1          | 36    | 0      | 37    | 0       | 0        | 8          | 30    | 3     | 41    | 0       | 0        | 121       |
| 2024-04-30 08:00:00     | 0            | 0       | 3       | 3     | 0       | 0        | 0                  | 0       | 3     | 3     | 0       | 0        | 1          | 46    | 6      | 53    | 0       | 0        | 8          | 72    | 1     | 81    | 0       | 0        | 140       |
| AM Peak Hour Totals     | 0            | 0       | 3       | 3     | 0       | 0        | 13                 | 0       | 208   | 221   | 19      | 0        | 3          | 190   | 95     | 288   | 0       | 0        | 171        | 207   | 5     | 383   | 0       | 0        | 895       |
| AM PHF                  | #DIV/0!      | #DIV/0! | 0.25    | 0.25  |         |          | 0.25               | #DIV/0! | 0.50  | 0.54  |         |          | 0.75       | 0.63  | 0.52   | 0.60  |         |          | 0.52       | 0.72  | 0.42  | 0.72  |         |          | 0.64      |
| 2024-04-30 08:15:00     | 1            | 0       | 2       | 3     | 0       | 0        | 0                  | 0       | 5     | 5     | 1       | 0        | 1          | 52    | 2      | 55    | 0       | 0        | 2          | 43    | 0     | 45    | 0       | 0        | 108       |
| 2024-04-30 08:30:00     | 2            | 0       | 3       | 5     | 0       | 0        | 0                  | 0       | 0     | 0     | 0       | 0        | 3          | 26    | 0      | 29    | 0       | 0        | 1          | 19    | 1     | 21    | 0       | 0        | 55        |
| 2024-04-30 08:45:00     | 1            | 0       | 3       | 4     | 0       | 0        | 0                  | 0       | 4     | 4     | 1       | 0        | 4          | 8     | 2      | 14    | 0       | 0        | 4          | 19    | 0     | 23    | 0       | 0        | 45        |
| 2024-04-30 14:30:00     | 0            | 0       | 0       | 0     | 0       | 0        | 0                  | 0       | 3     | 3     | 0       | 0        | 0          | 29    | 9      | 38    | 0       | 0        | 21         | 28    | 0     | 49    | 0       | 0        | 90        |
| 2024-04-30 14:45:00     | 0            | 0       | 0       | 0     | 0       | 0        | 6                  | 0       | 44    | 50    | 0       | 90       | 0          | 29    | 15     | 44    | 0       | 1        | 25         | 32    | 0     | 57    | 0       | 0        | 151       |
| 2024-04-30 15:00:00     | 2            | 0       | 0       | 2     | 0       | 0        | 11                 | 0       | 69    | 80    | 0       | 10       | 0          | 56    | 3      | 59    | 0       | 0        | 27         | 38    | 1     | 66    | 0       | 0        | 207       |
| 2024-04-30 15:15:00     | 0            | 0       | 0       | 0     | 0       | 0        | 3                  | 0       | 21    | 24    | 0       | 6        | 0          | 122   | 18     | 140   | 0       | 0        | 15         | 21    | 0     | 36    | 0       | 0        | 200       |
| 2024-04-30 15:30:00     | 0            | 0       | 0       | 0     | 0       | 0        | 2                  | 0       | 10    | 12    | 1       | 1        | 0          | 38    | 9      | 47    | 0       | 0        | 15         | 26    | 0     | 41    | 0       | 0        | 100       |
| PM Peak Hour Totals     | 2            | 0       | 0       | 2     | 0       | 0        | 22                 | 0       | 144   | 166   | 1       | 107      | 0          | 245   | 45     | 290   | 0       | 1        | 82         | 117   | 1     | 200   | 0       | 0        | 658       |
| PM PHF                  | 0.25         | #DIV/0! | #DIV/0! | 0.25  |         |          | 0.50               | #DIV/0! | 0.52  | 0.52  |         |          | #DIV/0!    | 0.50  | 0.63   | 0.52  |         |          | 0.76       | 0.77  | 0.25  | 0.76  |         |          | 0.79      |
| 2024-04-30 15:45:00     | 0            | 0       | 0       | 0     | 0       | 0        | 4                  | 0       | 7     | 11    | 0       | 2        | 0          | 40    | 23     | 63    | 0       | 0        | 22         | 29    | 0     | 51    | 0       | 0        | 125       |
| 2024-04-30 16:00:00     | 1            | 0       | 1       | 2     | 0       | 0        | 1                  | 0       | 10    | 11    | 0       | 2        | 0          | 48    | 18     | 66    | 0       | 0        | 37         | 37    | 0     | 74    | 0       | 0        | 153       |
| 2024-04-30 16:15:00     | 0            | 0       | 0       | 0     | 0       | 0        | 11                 | 0       | 34    | 45    | 0       | 0        | 0          | 28    | 18     | 46    | 0       | 0        | 35         | 43    | 0     | 78    | 0       | 0        | 169       |
| Grand Total             | 7            | 0       | 12      | 19    | 0       | 0        | 51                 | 0       | 415   | 466   | 27      | 111      | 11         | 685   | 223    | 919   | 0       | 1        | 392        | 575   | 7     | 974   | 0       | 0        | 2378      |
| % Approach              | 36.8%        | 0.0%    | 63.2%   |       |         |          | 10.9%              | 0.0%    | 89.1% |       |         |          | 1.2%       | 74.5% | 24.3%  |       |         |          | 40.2%      | 59.0% | 0.7%  |       |         |          |           |
| % Total                 | 0.3%         | 0.0%    | 0.5%    | 0.8%  |         |          | 2.1%               | 0.0%    | 17.5% | 19.6% |         |          | 0.5%       | 28.8% | 9.4%   | 38.6% |         |          | 16.5%      | 24.2% | 0.3%  | 41.0% |         |          |           |
| Lights                  | 6            | 0       | 9       | 15    |         |          | 51                 | 0       | 413   | 464   |         |          | 8          | 645   | 223    | 876   |         |          | 382        | 551   | 6     | 939   |         |          | 2294      |
| % Lights                | 85.7%        | 0.0%    | 75.0%   | 78.9% |         |          | 100.0%             | 0.0%    | 99.5% | 99.6% |         |          | 72.7%      | 94.2% | 100.0% | 95.3% |         |          | 97.4%      | 95.8% | 85.7% | 96.4% |         |          | 96.5%     |
| Heavys                  | 1            | 0       | 3       | 4     | 0       | 0        | 0                  | 0       | 2     | 2     | 0       | 0        | 3          | 40    | 0      | 43    | 0       | 0        | 10         | 24    | 1     | 35    | 0       | 0        | 84        |
| % Heavys                | 14.3%        | #DIV/0! | 25.0%   | 21.1% |         |          | 0.0%               | #DIV/0! | 0.5%  | 0.4%  |         |          | 27.3%      | 5.8%  | 0.0%   | 4.7%  |         |          | 2.6%       | 4.2%  | 14.3% | 3.6%  |         |          | 3.5%      |
| Pedestrians             |              |         |         |       | 0       | 0        |                    |         |       |       | 25      | 108      |            |       |        |       | 0       | 1        |            |       |       |       | 0       | 0        |           |
| % Pedestrians           |              |         |         |       | 0.0%    | 0.0%     |                    |         |       |       | 92.6%   | 97.3%    |            |       |        |       | 0.0%    | 100.0%   |            |       |       |       | 0.0%    | 0.0%     |           |
| Bicycles on Crosswalk   |              |         |         |       | 0       | 0        |                    |         |       |       | 2       | 3        |            |       |        |       | 0       | 0        |            |       |       |       | 0       | 0        |           |
| % Bicycles on Crosswalk |              |         |         |       | 0.0%    | 0.0%     |                    |         |       |       | 7.4%    | 2.7%     |            |       |        |       | 0.0%    | 0.0%     |            |       |       |       | 0.0%    | 0.0%     |           |



| Leg                     | NRAC Dr   |         |        |        |         |          | NRAC Dr   |         |       |       |         |          | Ranger Way |       |       |       |         |          | Ranger Way |       |         |       |         |          |           |
|-------------------------|-----------|---------|--------|--------|---------|----------|-----------|---------|-------|-------|---------|----------|------------|-------|-------|-------|---------|----------|------------|-------|---------|-------|---------|----------|-----------|
| Direction               | Eastbound |         |        |        |         |          | Westbound |         |       |       |         |          | Northbound |       |       |       |         |          | Southbound |       |         |       |         |          |           |
| Start Time              | Left      | Thru    | Right  | Total  | Peds CW | Peds CCW | Left      | Thru    | Right | Total | Peds CW | Peds CCW | Left       | Thru  | Right | Total | Peds CW | Peds CCW | Left       | Thru  | Right   | Total | Peds CW | Peds CCW | Int Total |
| 2024-04-30 07:00:00     | 0         | 0       | 1      | 1      | 0       | 0        | 0         | 0       | 11    | 11    | 0       | 0        | 0          | 17    | 12    | 29    | 0       | 0        | 16         | 17    | 0       | 33    | 0       | 0        | 74        |
| 2024-04-30 07:15:00     | 0         | 0       | 1      | 1      | 0       | 0        | 6         | 0       | 14    | 20    | 0       | 0        | 0          | 72    | 32    | 104   | 0       | 0        | 41         | 10    | 0       | 51    | 0       | 0        | 176       |
| 2024-04-30 07:30:00     | 0         | 0       | 0      | 0      | 0       | 0        | 22        | 0       | 38    | 60    | 0       | 0        | 2          | 77    | 9     | 88    | 0       | 0        | 46         | 10    | 0       | 56    | 0       | 0        | 204       |
| 2024-04-30 07:45:00     | 0         | 0       | 0      | 0      | 0       | 0        | 8         | 0       | 21    | 29    | 0       | 0        | 1          | 10    | 6     | 17    | 0       | 0        | 23         | 22    | 0       | 45    | 0       | 0        | 91        |
| 2024-04-30 08:00:00     | 0         | 0       | 0      | 0      | 0       | 0        | 5         | 0       | 39    | 44    | 0       | 0        | 1          | 16    | 6     | 23    | 0       | 0        | 67         | 10    | 0       | 77    | 0       | 0        | 144       |
| AM Peak Hour Totals     | 0         | 0       | 1      | 1      | 0       | 0        | 41        | 0       | 112   | 153   | 0       | 0        | 4          | 175   | 53    | 232   | 0       | 0        | 177        | 52    | 0       | 229   | 0       | 0        | 615       |
| AM PHF                  | #DIV/0!   | #DIV/0! | 0.25   | 0.25   |         |          | 0.47      | #DIV/0! | 0.72  | 0.64  |         |          | 0.50       | 0.57  | 0.41  | 0.56  |         |          | 0.66       | 0.59  | #DIV/0! | 0.74  |         |          | 0.75      |
| 2024-04-30 08:15:00     | 0         | 0       | 1      | 1      | 0       | 0        | 4         | 0       | 32    | 36    | 0       | 0        | 0          | 23    | 5     | 28    | 0       | 0        | 34         | 8     | 0       | 42    | 0       | 0        | 107       |
| 2024-04-30 08:30:00     | 0         | 0       | 1      | 1      | 0       | 0        | 2         | 0       | 9     | 11    | 0       | 0        | 0          | 17    | 1     | 18    | 0       | 0        | 9          | 12    | 0       | 21    | 0       | 0        | 51        |
| 2024-04-30 08:45:00     | 0         | 0       | 0      | 0      | 0       | 0        | 0         | 0       | 5     | 5     | 0       | 0        | 0          | 16    | 4     | 20    | 0       | 0        | 13         | 10    | 1       | 24    | 0       | 0        | 49        |
| 2024-04-30 14:30:00     | 0         | 0       | 1      | 1      | 0       | 0        | 9         | 0       | 14    | 23    | 0       | 0        | 1          | 20    | 9     | 30    | 0       | 0        | 10         | 18    | 0       | 28    | 0       | 0        | 82        |
| 2024-04-30 14:45:00     | 0         | 0       | 2      | 2      | 0       | 0        | 34        | 0       | 20    | 54    | 3       | 0        | 2          | 28    | 6     | 37    | 0       | 0        | 10         | 29    | 0       | 39    | 0       | 0        | 132       |
| 2024-04-30 15:00:00     | 0         | 0       | 0      | 0      | 0       | 0        | 21        | 0       | 27    | 48    | 1       | 0        | 1          | 25    | 11    | 37    | 0       | 0        | 24         | 28    | 0       | 52    | 0       | 0        | 137       |
| 2024-04-30 15:15:00     | 0         | 0       | 1      | 1      | 0       | 0        | 30        | 0       | 92    | 122   | 0       | 0        | 0          | 45    | 7     | 52    | 0       | 0        | 9          | 13    | 0       | 22    | 0       | 0        | 197       |
| 2024-04-30 15:30:00     | 0         | 0       | 2      | 2      | 0       | 0        | 7         | 1       | 20    | 28    | 0       | 2        | 0          | 29    | 4     | 33    | 0       | 0        | 8          | 19    | 0       | 27    | 0       | 0        | 90        |
| PM Peak Hour Totals     | 0         | 0       | 5      | 5      | 0       | 0        | 92        | 1       | 159   | 252   | 4       | 2        | 3          | 127   | 28    | 159   | 0       | 0        | 51         | 89    | 0       | 140   | 0       | 0        | 556       |
| PM PHF                  | #DIV/0!   | #DIV/0! | 0.63   | 0.63   |         |          | 0.68      | 0.25    | 0.43  | 0.52  | 0.63    |          | 0.38       | 0.71  | 0.64  | 0.76  |         |          | 0.53       | 0.77  | #DIV/0! | 0.67  |         |          | 0.71      |
| 2024-04-30 15:45:00     | 0         | 0       | 0      | 0      | 0       | 0        | 9         | 0       | 15    | 24    | 1       | 0        | 0          | 49    | 8     | 57    | 0       | 0        | 10         | 23    | 0       | 33    | 0       | 0        | 114       |
| 2024-04-30 16:00:00     | 0         | 0       | 1      | 1      | 0       | 0        | 3         | 0       | 15    | 18    | 0       | 0        | 1          | 46    | 6     | 53    | 0       | 0        | 7          | 30    | 1       | 38    | 0       | 0        | 110       |
| 2024-04-30 16:15:00     | 0         | 0       | 2      | 2      | 0       | 0        | 5         | 0       | 9     | 14    | 0       | 0        | 0          | 41    | 5     | 46    | 0       | 0        | 15         | 38    | 1       | 54    | 0       | 0        | 116       |
| Grand Total             | 0         | 0       | 13     | 13     | 0       | 0        | 165       | 1       | 381   | 547   | 5       | 2        | 9          | 531   | 131   | 672   | 0       | 0        | 342        | 297   | 3       | 642   | 0       | 0        | 1874      |
| % Approach              | 0.0%      | 0.0%    | 100.0% |        |         |          | 30.2%     | 0.2%    | 69.7% |       |         |          | 1.3%       | 79.0% | 19.5% |       |         | 53.3%    | 46.3%      | 0.5%  |         |       |         |          |           |
| % Total                 | 0.0%      | 0.0%    | 0.7%   | 0.7%   |         |          | 8.8%      | 0.1%    | 20.3% | 29.2% |         |          | 0.5%       | 28.3% | 7.0%  | 35.9% |         |          | 18.2%      | 15.8% | 0.2%    | 34.3% |         |          |           |
| Lights                  | 0         | 0       | 13     | 13     |         |          | 138       | 1       | 351   | 490   |         |          | 8          | 522   | 118   | 649   |         |          | 322        | 290   | 1       | 613   |         |          | 1765      |
| % Lights                | 0.0%      | 0.0%    | 100.0% | 100.0% |         |          | 83.6%     | 100.0%  | 92.1% | 89.6% |         |          | 88.9%      | 98.3% | 90.1% | 96.6% |         |          | 94.2%      | 97.6% | 33.3%   | 95.5% |         |          | 94.2%     |
| Heavys                  | 0         | 0       | 0      | 0      | 0       | 0        | 27        | 0       | 30    | 57    | 0       | 0        | 1          | 9     | 13    | 23    | 0       | 0        | 20         | 7     | 2       | 29    | 0       | 0        | 109       |
| % Heavys                | #DIV/0!   | #DIV/0! | 0.0%   | 0.0%   |         |          | 16.4%     | 0.0%    | 7.9%  | 10.4% |         |          | 11.1%      | 1.7%  | 9.9%  | 3.4%  |         |          | 5.8%       | 2.4%  | 66.7%   | 4.5%  |         |          | 5.8%      |
| Pedestrians             |           |         |        |        | 0       | 0        |           |         |       |       | 5       | 2        |            |       |       |       | 0       | 0        |            |       |         |       | 0       | 0        |           |
| % Pedestrians           |           |         |        |        | 0.0%    | 0.0%     |           |         |       |       | 100.0%  | 100.0%   |            |       |       |       | 0.0%    | 0.0%     |            |       |         |       | 0.0%    | 0.0%     |           |
| Bicycles on Crosswalk   |           |         |        |        | 0       | 0        |           |         |       |       | 0       | 0        |            |       |       |       | 0       | 0        |            |       |         |       | 0       | 0        |           |
| % Bicycles on Crosswalk |           |         |        |        | 0.0%    | 0.0%     |           |         |       |       | 0.0%    | 0.0%     |            |       |       |       | 0.0%    | 0.0%     |            |       |         |       | 0.0%    | 0.0%     |           |



North Ridgeville CSD Traffic Impact Study  
Ranger Way & Kensington Drive

5/17/2024

| Leg                            | Kensington Dr |             |              |          |          | Ranger Way  |             |              |           |           | Ranger Way  |             |              |          |          |              |
|--------------------------------|---------------|-------------|--------------|----------|----------|-------------|-------------|--------------|-----------|-----------|-------------|-------------|--------------|----------|----------|--------------|
| Direction                      | Eastbound     |             |              |          |          | Northbound  |             |              |           |           | Southbound  |             |              |          |          |              |
| Start Time                     | Left          | Right       | Total        | Peds CW  | Peds CCW | Left        | Thru        | Total        | Peds CW   | Peds CCW  | Thru        | Right       | Total        | Peds CW  | Peds CCW | Int Total    |
| 2024-04-30 07:00:00            | 0             | 5           | 5            | 0        | 0        | 2           | 28          | 30           | 0         | 0         | 17          | 0           | 17           | 0        | 0        | 52           |
| 2024-04-30 07:15:00            | 1             | 9           | 10           | 0        | 0        | 4           | 105         | 109          | 0         | 2         | 16          | 1           | 17           | 0        | 0        | 136          |
| 2024-04-30 07:30:00            | 3             | 8           | 11           | 0        | 0        | 0           | 77          | 77           | 0         | 1         | 33          | 1           | 34           | 0        | 0        | 122          |
| 2024-04-30 07:45:00            | 1             | 13          | 14           | 0        | 0        | 3           | 15          | 18           | 0         | 2         | 28          | 0           | 28           | 0        | 0        | 60           |
| 2024-04-30 08:00:00            | 4             | 9           | 13           | 0        | 0        | 2           | 20          | 22           | 0         | 1         | 16          | 0           | 16           | 0        | 0        | 51           |
| <b>AM Peak Hour Totals</b>     | <b>9</b>      | <b>39</b>   | <b>48</b>    | <b>0</b> | <b>0</b> | <b>9</b>    | <b>217</b>  | <b>226</b>   | <b>0</b>  | <b>6</b>  | <b>93</b>   | <b>2</b>    | <b>95</b>    | <b>0</b> | <b>0</b> | <b>369</b>   |
| <b>AM PHF</b>                  | <b>0.56</b>   | <b>0.75</b> | <b>0.86</b>  |          |          | <b>0.56</b> | <b>0.52</b> | <b>0.52</b>  |           |           | <b>0.70</b> | <b>0.50</b> | <b>0.70</b>  |          |          | <b>0.68</b>  |
| 2024-04-30 08:15:00            | 3             | 4           | 7            | 0        | 0        | 4           | 26          | 30           | 0         | 0         | 12          | 0           | 12           | 0        | 0        | 49           |
| 2024-04-30 08:30:00            | 2             | 1           | 3            | 0        | 0        | 2           | 15          | 17           | 0         | 0         | 14          | 1           | 15           | 0        | 0        | 35           |
| 2024-04-30 08:45:00            | 2             | 7           | 9            | 0        | 0        | 2           | 15          | 17           | 0         | 0         | 8           | 2           | 10           | 0        | 0        | 36           |
| 2024-04-30 14:30:00            | 0             | 1           | 1            | 0        | 0        | 6           | 30          | 36           | 0         | 81        | 27          | 2           | 29           | 0        | 0        | 66           |
| 2024-04-30 14:45:00            | 3             | 5           | 8            | 0        | 0        | 6           | 32          | 38           | 8         | 1         | 62          | 3           | 65           | 0        | 2        | 111          |
| 2024-04-30 15:00:00            | 3             | 34          | 37           | 0        | 0        | 1           | 32          | 33           | 0         | 0         | 47          | 1           | 48           | 0        | 0        | 118          |
| 2024-04-30 15:15:00            | 2             | 0           | 2            | 0        | 0        | 4           | 51          | 55           | 7         | 1         | 43          | 2           | 45           | 0        | 0        | 102          |
| 2024-04-30 15:30:00            | 2             | 5           | 7            | 0        | 0        | 7           | 38          | 45           | 0         | 0         | 28          | 1           | 29           | 0        | 0        | 81           |
| <b>PM Peak Hour Totals</b>     | <b>10</b>     | <b>44</b>   | <b>54</b>    | <b>0</b> | <b>0</b> | <b>18</b>   | <b>153</b>  | <b>171</b>   | <b>15</b> | <b>2</b>  | <b>180</b>  | <b>7</b>    | <b>187</b>   | <b>0</b> | <b>2</b> | <b>412</b>   |
| <b>PM PHF</b>                  | <b>0.83</b>   | <b>0.32</b> | <b>0.36</b>  |          |          | <b>0.64</b> | <b>0.75</b> | <b>0.78</b>  |           |           | <b>0.73</b> | <b>0.58</b> | <b>0.72</b>  |          |          | <b>0.87</b>  |
| 2024-04-30 15:45:00            | 2             | 4           | 6            | 0        | 0        | 4           | 50          | 54           | 1         | 0         | 27          | 3           | 30           | 0        | 0        | 90           |
| 2024-04-30 16:00:00            | 1             | 6           | 7            | 0        | 0        | 1           | 50          | 51           | 0         | 0         | 34          | 2           | 36           | 0        | 0        | 94           |
| 2024-04-30 16:15:00            | 0             | 0           | 0            | 0        | 0        | 1           | 47          | 48           | 0         | 0         | 42          | 1           | 43           | 0        | 0        | 91           |
| <b>Grand Total</b>             | <b>29</b>     | <b>111</b>  | <b>140</b>   | <b>0</b> | <b>0</b> | <b>49</b>   | <b>631</b>  | <b>680</b>   | <b>16</b> | <b>89</b> | <b>454</b>  | <b>20</b>   | <b>474</b>   | <b>0</b> | <b>2</b> | <b>1294</b>  |
| <b>% Approach</b>              | 20.7%         | 79.3%       |              |          |          | 7.2%        | 92.8%       |              |           |           | 95.8%       | 4.2%        |              |          |          |              |
| <b>% Total</b>                 | 2.2%          | 8.6%        | <b>10.8%</b> |          |          | 3.8%        | 48.8%       | <b>52.6%</b> |           |           | 35.1%       | 1.5%        | <b>36.6%</b> |          |          |              |
| <b>Lights</b>                  | 26            | 103         | <b>129</b>   |          |          | 43          | 611         | <b>654</b>   |           |           | 425         | 15          | <b>440</b>   |          |          | <b>1223</b>  |
| <b>% Lights</b>                | 89.7%         | 92.8%       | <b>92.1%</b> |          |          | 87.8%       | 96.8%       | <b>96.2%</b> |           |           | 93.6%       | 75.0%       | <b>92.8%</b> |          |          | <b>94.5%</b> |
| <b>Heavys</b>                  | 3             | 8           | <b>11</b>    | 0        | 0        | 6           | 20          | <b>26</b>    | 0         | 0         | 29          | 5           | <b>34</b>    | 0        | 0        | <b>71</b>    |
| <b>% Heavys</b>                | 10.3%         | 7.2%        | <b>7.9%</b>  | #DIV/0!  | #DIV/0!  | 12.2%       | 3.2%        | <b>3.8%</b>  | 0.0%      | 0.0%      | 6.4%        | 25.0%       | <b>7.2%</b>  | #DIV/0!  | 0.0%     | <b>5.5%</b>  |
| <b>Pedestrians</b>             |               |             |              | 0        | 0        |             |             |              | 13        | 86        |             |             |              | 0        | 2        |              |
| <b>% Pedestrians</b>           |               |             |              | 0.0%     | 0.0%     |             |             |              | 81.3%     | 96.6%     |             |             |              | 0.0%     | 100.0%   |              |
| <b>Bicycles on Crosswalk</b>   |               |             |              | 0        | 0        |             |             |              | 3         | 3         |             |             |              | 0        | 0        |              |
| <b>% Bicycles on Crosswalk</b> |               |             |              | 0.0%     | 0.0%     |             |             |              | 18.8%     | 3.4%      |             |             |              | 0.0%     | 0.0%     |              |





| Leg                     | Bainbridge Rd |       |       |         |          | Bainbridge Rd |       |       |         |          | Ranger Way |       |       |         |          |           |
|-------------------------|---------------|-------|-------|---------|----------|---------------|-------|-------|---------|----------|------------|-------|-------|---------|----------|-----------|
| Direction               | Eastbound     |       |       |         |          | Westbound     |       |       |         |          | Southbound |       |       |         |          |           |
| Start Time              | Left          | Thru  | Total | Peds CW | Peds CCW | Thru          | Right | Total | Peds CW | Peds CCW | Left       | Right | Total | Peds CW | Peds CCW | Int Total |
| 2024-04-30 07:00:00     | 17            | 49    | 66    | 0       | 0        | 34            | 13    | 47    | 0       | 0        | 14         | 5     | 19    | 0       | 0        | 132       |
| 2024-04-30 07:15:00     | 57            | 112   | 169   | 0       | 0        | 66            | 53    | 119   | 0       | 0        | 10         | 10    | 20    | 0       | 0        | 308       |
| 2024-04-30 07:30:00     | 28            | 132   | 160   | 0       | 0        | 121           | 49    | 170   | 0       | 0        | 10         | 25    | 35    | 0       | 0        | 365       |
| 2024-04-30 07:45:00     | 6             | 88    | 94    | 0       | 0        | 68            | 11    | 79    | 0       | 0        | 14         | 23    | 37    | 0       | 0        | 210       |
| 2024-04-30 08:00:00     | 10            | 177   | 187   | 0       | 0        | 57            | 12    | 69    | 0       | 0        | 10         | 9     | 19    | 0       | 0        | 275       |
| AM Peak Hour Totals     | 101           | 509   | 610   | 0       | 0        | 312           | 125   | 437   | 0       | 0        | 44         | 67    | 111   | 0       | 0        | 1158      |
| AM PHF                  | 0.44          | 0.72  | 0.82  |         |          | 0.64          | 0.59  | 0.64  |         |          | 0.79       | 0.67  | 0.75  |         |          | 0.79      |
| 2024-04-30 08:15:00     | 12            | 70    | 82    | 0       | 0        | 48            | 19    | 67    | 0       | 0        | 9          | 6     | 15    | 0       | 0        | 164       |
| 2024-04-30 08:30:00     | 11            | 31    | 42    | 0       | 0        | 27            | 6     | 33    | 0       | 0        | 9          | 5     | 14    | 0       | 0        | 89        |
| 2024-04-30 08:45:00     | 8             | 50    | 58    | 0       | 0        | 30            | 9     | 39    | 0       | 0        | 2          | 11    | 13    | 0       | 1        | 110       |
| 2024-04-30 14:30:00     | 17            | 61    | 78    | 0       | 0        | 35            | 19    | 54    | 0       | 0        | 16         | 7     | 23    | 25      | 0        | 155       |
| 2024-04-30 14:45:00     | 20            | 53    | 73    | 0       | 0        | 74            | 20    | 94    | 0       | 0        | 20         | 40    | 60    | 1       | 2        | 227       |
| 2024-04-30 15:00:00     | 13            | 58    | 71    | 0       | 2        | 84            | 21    | 105   | 0       | 0        | 21         | 55    | 76    | 0       | 3        | 252       |
| 2024-04-30 15:15:00     | 16            | 38    | 54    | 0       | 0        | 161           | 39    | 200   | 0       | 0        | 10         | 28    | 38    | 0       | 3        | 292       |
| 2024-04-30 15:30:00     | 24            | 53    | 77    | 0       | 0        | 60            | 21    | 81    | 0       | 0        | 15         | 16    | 31    | 0       | 0        | 189       |
| PM Peak Hour Totals     | 73            | 202   | 275   | 0       | 2        | 379           | 101   | 480   | 0       | 0        | 66         | 139   | 205   | 1       | 8        | 960       |
| PM PHF                  | 0.76          | 0.87  | 0.89  |         |          | 0.59          | 0.65  | 0.60  |         |          | 0.79       | 0.63  | 0.67  |         |          | 0.82      |
| 2024-04-30 15:45:00     | 27            | 50    | 77    | 0       | 0        | 59            | 26    | 85    | 0       | 0        | 12         | 17    | 29    | 0       | 0        | 191       |
| 2024-04-30 16:00:00     | 27            | 51    | 78    | 0       | 0        | 57            | 25    | 82    | 0       | 0        | 19         | 16    | 35    | 0       | 0        | 195       |
| 2024-04-30 16:15:00     | 27            | 52    | 79    | 0       | 0        | 50            | 21    | 71    | 0       | 0        | 14         | 29    | 43    | 0       | 1        | 193       |
| Grand Total             | 320           | 1125  | 1445  | 0       | 2        | 1031          | 364   | 1395  | 0       | 0        | 205        | 302   | 507   | 26      | 10       | 3347      |
| % Approach              | 22.1%         | 77.9% |       |         |          | 73.9%         | 26.1% |       |         |          | 40.4%      | 59.6% |       |         |          |           |
| % Total                 | 9.6%          | 33.6% | 43.2% |         |          | 30.8%         | 10.9% | 41.7% |         |          | 6.1%       | 9.0%  | 15.1% |         |          |           |
| Lights                  | 296           | 1105  | 1401  |         |          | 1012          | 360   | 1372  |         |          | 199        | 271   | 470   |         |          | 3243      |
| % Lights                | 92.5%         | 98.2% | 97.0% |         |          | 98.2%         | 98.9% | 98.4% |         |          | 97.1%      | 89.7% | 92.7% |         |          | 96.9%     |
| Heavys                  | 24            | 20    | 44    | 0       | 0        | 19            | 4     | 23    | 0       | 0        | 6          | 31    | 37    | 0       | 0        | 104       |
| % Heavys                | 7.5%          | 1.8%  | 3.0%  | #DIV/0! | 0.0%     | 1.8%          | 1.1%  | 1.6%  | #DIV/0! | #DIV/0!  | 2.9%       | 10.3% | 7.3%  | 0.0%    | 0.0%     | 3.1%      |
| Pedestrians             |               |       |       | 0       | 2        |               |       |       | 0       | 0        |            |       |       | 25      | 9        |           |
| % Pedestrians           |               |       |       | 0.0%    | 100.0%   |               |       |       | 0.0%    | 0.0%     |            |       |       | 96.2%   | 90.0%    |           |
| Bicycles on Crosswalk   |               |       |       | 0       | 0        |               |       |       | 0       | 0        |            |       |       | 1       | 1        |           |
| % Bicycles on Crosswalk |               |       |       | 0.0%    | 0.0%     |               |       |       | 0.0%    | 0.0%     |            |       |       | 3.8%    | 10.0%    |           |

| Leg                     | Bainbridge Rd |       |       |       |         |          | Bainbridge Rd |       |       |       |         |          | W Point Dr |         |         |       |         |          | School Drive |        |       |       |         |          |           |
|-------------------------|---------------|-------|-------|-------|---------|----------|---------------|-------|-------|-------|---------|----------|------------|---------|---------|-------|---------|----------|--------------|--------|-------|-------|---------|----------|-----------|
| Direction               | Eastbound     |       |       |       |         |          | Westbound     |       |       |       |         |          | Northbound |         |         |       |         |          | Southbound   |        |       |       |         |          |           |
| Start Time              | Left          | Thru  | Right | Total | Peds CW | Peds CCW | Left          | Thru  | Right | Total | Peds CW | Peds CCW | Left       | Thru    | Right   | Total | Peds CW | Peds CCW | Left         | Thru   | Right | Total | Peds CW | Peds CCW | Int Total |
| 2024-04-30 07:00:00     | 19            | 48    | 1     | 68    | 1       | 0        | 0             | 35    | 8     | 43    | 0       | 0        | 3          | 0       | 0       | 3     | 1       | 0        | 5            | 0      | 7     | 12    | 0       | 1        | 126       |
| 2024-04-30 07:15:00     | 90            | 40    | 0     | 130   | 3       | 0        | 0             | 50    | 56    | 106   | 0       | 0        | 2          | 0       | 0       | 2     | 2       | 0        | 4            | 0      | 72    | 76    | 0       | 0        | 314       |
| 2024-04-30 07:30:00     | 97            | 46    | 2     | 145   | 1       | 0        | 0             | 58    | 74    | 132   | 0       | 0        | 0          | 0       | 0       | 0     | 0       | 0        | 15           | 1      | 111   | 127   | 0       | 2        | 404       |
| 2024-04-30 07:45:00     | 60            | 46    | 1     | 107   | 1       | 0        | 0             | 34    | 11    | 45    | 0       | 0        | 2          | 0       | 0       | 2     | 0       | 0        | 16           | 0      | 38    | 54    | 0       | 0        | 208       |
| 2024-04-30 08:00:00     | 149           | 46    | 2     | 197   | 2       | 0        | 0             | 32    | 22    | 54    | 0       | 0        | 0          | 0       | 0       | 0     | 2       | 0        | 4            | 0      | 38    | 42    | 0       | 0        | 293       |
| AM Peak Hour Totals     | 396           | 178   | 5     | 579   | 7       | 0        | 0             | 174   | 163   | 337   | 0       | 0        | 4          | 0       | 0       | 4     | 4       | 0        | 39           | 1      | 259   | 299   | 0       | 2        | 1219      |
| AM PHF                  | 0.66          | 0.97  | 0.63  | 0.73  |         |          | #DIV/0!       | 0.75  | 0.55  | 0.64  |         |          | 0.50       | #DIV/0! | #DIV/0! | 0.50  |         |          | 0.61         | 0.25   | 0.58  | 0.59  |         |          | 0.75      |
| 2024-04-30 08:15:00     | 36            | 42    | 1     | 79    | 0       | 0        | 1             | 32    | 4     | 37    | 0       | 0        | 1          | 0       | 0       | 1     | 0       | 0        | 19           | 0      | 32    | 51    | 0       | 0        | 168       |
| 2024-04-30 08:30:00     | 4             | 37    | 2     | 43    | 0       | 0        | 0             | 35    | 0     | 35    | 0       | 0        | 0          | 0       | 2       | 2     | 0       | 0        | 0            | 0      | 2     | 2     | 0       | 0        | 82        |
| 2024-04-30 08:45:00     | 14            | 37    | 3     | 54    | 0       | 0        | 0             | 31    | 2     | 33    | 0       | 0        | 2          | 0       | 0       | 2     | 0       | 0        | 0            | 0      | 2     | 2     | 0       | 1        | 91        |
| 2024-04-30 14:30:00     | 48            | 35    | 3     | 86    | 0       | 0        | 3             | 48    | 11    | 62    | 0       | 0        | 1          | 0       | 2       | 3     | 0       | 0        | 1            | 0      | 4     | 5     | 0       | 0        | 156       |
| 2024-04-30 14:45:00     | 35            | 40    | 2     | 77    | 0       | 19       | 0             | 58    | 12    | 70    | 0       | 0        | 0          | 0       | 1       | 1     | 0       | 9        | 18           | 0      | 45    | 63    | 1       | 0        | 211       |
| 2024-04-30 15:00:00     | 32            | 44    | 7     | 83    | 0       | 6        | 0             | 48    | 9     | 57    | 0       | 0        | 1          | 0       | 1       | 2     | 0       | 1        | 14           | 0      | 50    | 64    | 0       | 0        | 206       |
| 2024-04-30 15:15:00     | 10            | 35    | 3     | 48    | 2       | 3        | 0             | 122   | 5     | 127   | 0       | 0        | 0          | 0       | 1       | 1     | 0       | 1        | 21           | 1      | 75    | 97    | 0       | 0        | 273       |
| 2024-04-30 15:30:00     | 7             | 58    | 3     | 68    | 0       | 0        | 0             | 64    | 6     | 70    | 0       | 0        | 1          | 0       | 0       | 1     | 0       | 0        | 1            | 0      | 15    | 16    | 0       | 3        | 155       |
| PM Peak Hour Totals     | 84            | 177   | 15    | 276   | 2       | 28       | 0             | 292   | 32    | 324   | 0       | 0        | 2          | 0       | 3       | 5     | 0       | 11       | 54           | 1      | 185   | 240   | 1       | 3        | 845       |
| PM PHF                  | 0.60          | 0.76  | 0.54  | 0.83  |         |          | #DIV/0!       | 0.60  | 0.67  | 0.64  |         |          | 0.50       | #DIV/0! | 0.75    | 0.63  |         |          | 0.64         | 0.25   | 0.62  | 0.62  |         |          | 0.77      |
| 2024-04-30 15:45:00     | 16            | 47    | 0     | 63    | 0       | 0        | 1             | 73    | 8     | 82    | 0       | 0        | 1          | 0       | 0       | 1     | 0       | 0        | 3            | 0      | 10    | 13    | 0       | 0        | 159       |
| 2024-04-30 16:00:00     | 13            | 56    | 3     | 72    | 0       | 0        | 0             | 73    | 6     | 79    | 0       | 0        | 1          | 0       | 0       | 1     | 1       | 0        | 4            | 0      | 5     | 9     | 0       | 0        | 161       |
| 2024-04-30 16:15:00     | 20            | 45    | 2     | 67    | 0       | 1        | 0             | 63    | 7     | 70    | 0       | 0        | 0          | 0       | 0       | 0     | 0       | 0        | 2            | 0      | 8     | 10    | 0       | 0        | 147       |
| Grand Total             | 650           | 702   | 35    | 1387  | 10      | 29       | 5             | 856   | 241   | 1102  | 0       | 0        | 15         | 0       | 7       | 22    | 6       | 11       | 127          | 2      | 514   | 643   | 1       | 7        | 3154      |
| % Approach              | 46.9%         | 50.6% | 2.5%  |       |         |          | 0.5%          | 77.7% | 21.9% |       |         |          | 68.2%      | 0.0%    | 31.8%   |       |         |          | 19.8%        | 0.3%   | 79.9% |       |         |          |           |
| % Total                 | 20.6%         | 22.3% | 1.1%  | ##### |         |          | 0.2%          | 27.1% | 7.6%  | ##### |         |          | 0.5%       | 0.0%    | 0.2%    | 0.7%  |         |          | 4.0%         | 0.1%   | 16.3% | ##### |         |          |           |
| Lights                  | 645           | 680   | 32    | 1357  |         |          | 5             | 834   | 240   | 1079  |         |          | 14         | 0       | 7       | 21    |         |          | 127          | 2      | 509   | 638   |         |          | 3095      |
| % Lights                | 99.2%         | 96.9% | 91.4% | ##### |         |          | 100.0%        | 97.4% | 99.6% | ##### |         |          | 93.3%      | 0.0%    | 100.0%  | ##### |         |          | 100.0%       | 100.0% | 99.0% | ##### |         |          | 98.1%     |
| Heavys                  | 5             | 22    | 3     | 30    |         |          | 0             | 22    | 1     | 23    |         |          | 1          | 0       | 0       | 1     |         |          | 0            | 0      | 5     | 5     |         |          | 59        |
| %Heavys                 | 0.8%          | 3.1%  | 8.6%  | 2.2%  |         |          | 0.0%          | 2.6%  | 0.4%  | 2.1%  |         |          | 6.7%       | #DIV/0! | 0.0%    | 4.5%  |         |          | 0.0%         | 0.0%   | 1.0%  | 0.8%  |         |          | 1.9%      |
| Pedestrians             |               |       |       |       | 8       | 28       |               |       |       |       | 0       | 0        |            |         |         |       | 5       | 10       |              |        |       |       | 0       | 5        |           |
| % Pedestrians           |               |       |       |       | 80.0%   | 96.6%    |               |       |       |       | 0.0%    | 0.0%     |            |         |         |       | 83.3%   | 90.9%    |              |        |       |       | 0.0%    | 71.4%    |           |
| Bicycles on Crosswalk   |               |       |       |       | 2       | 1        |               |       |       |       | 0       | 0        |            |         |         |       | 1       | 1        |              |        |       |       | 1       | 2        |           |
| % Bicycles on Crosswalk |               |       |       |       | 20.0%   | 3.4%     |               |       |       |       | 0.0%    | 0.0%     |            |         |         |       | 16.7%   | 9.1%     |              |        |       |       | 100.0%  | 28.6%    |           |





| Leg                     | High School Drive |       |       |         |          | Pitts Rd   |       |       |         |          | Pitts Rd   |       |       |         |          |           |
|-------------------------|-------------------|-------|-------|---------|----------|------------|-------|-------|---------|----------|------------|-------|-------|---------|----------|-----------|
| Direction               | Eastbound         |       |       |         |          | Northbound |       |       |         |          | Southbound |       |       |         |          |           |
| Start Time              | Left              | Right | Total | Peds CW | Peds CCW | Left       | Thru  | Total | Peds CW | Peds CCW | Thru       | Right | Total | Peds CW | Peds CCW | Int Total |
| 2024-04-30 07:00:00     | 5                 | 0     | 5     | 0       | 0        | 1          | 0     | 1     | 0       | 0        | 8          | 14    | 22    | 0       | 0        | 28        |
| 2024-04-30 07:15:00     | 12                | 3     | 15    | 0       | 0        | 11         | 3     | 14    | 0       | 0        | 23         | 42    | 65    | 0       | 1        | 94        |
| 2024-04-30 07:30:00     | 11                | 6     | 17    | 0       | 0        | 31         | 7     | 38    | 0       | 0        | 31         | 24    | 55    | 0       | 2        | 110       |
| 2024-04-30 07:45:00     | 16                | 9     | 25    | 1       | 0        | 7          | 1     | 8     | 0       | 0        | 20         | 31    | 51    | 0       | 0        | 84        |
| 2024-04-30 08:00:00     | 36                | 16    | 52    | 1       | 0        | 16         | 2     | 18    | 0       | 0        | 21         | 38    | 59    | 0       | 1        | 129       |
| AM Peak Hour Totals     | 75                | 34    | 109   | 2       | 0        | 65         | 13    | 78    | 0       | 0        | 95         | 135   | 230   | 0       | 4        | 417       |
| AM PHF                  | 0.52              | 0.53  | 0.52  |         |          | 0.52       | 0.46  | 0.51  |         |          | 0.77       | 0.80  | 0.88  |         |          | 0.81      |
| 2024-04-30 08:15:00     | 20                | 10    | 30    | 1       | 0        | 5          | 7     | 12    | 0       | 0        | 11         | 19    | 30    | 0       | 3        | 72        |
| 2024-04-30 08:30:00     | 1                 | 0     | 1     | 0       | 0        | 0          | 3     | 3     | 0       | 0        | 5          | 0     | 5     | 0       | 0        | 9         |
| 2024-04-30 08:45:00     | 3                 | 0     | 3     | 0       | 1        | 1          | 3     | 4     | 0       | 0        | 4          | 38    | 42    | 0       | 0        | 49        |
| 2024-04-30 14:30:00     | 2                 | 1     | 3     | 0       | 0        | 3          | 4     | 7     | 0       | 0        | 9          | 18    | 27    | 0       | 0        | 37        |
| 2024-04-30 14:45:00     | 26                | 5     | 31    | 0       | 1        | 10         | 11    | 21    | 0       | 0        | 12         | 22    | 34    | 5       | 0        | 86        |
| 2024-04-30 15:00:00     | 18                | 9     | 27    | 0       | 0        | 8          | 8     | 16    | 0       | 0        | 13         | 16    | 29    | 15      | 0        | 72        |
| 2024-04-30 15:15:00     | 60                | 45    | 105   | 0       | 3        | 8          | 24    | 32    | 0       | 1        | 7          | 9     | 16    | 27      | 2        | 153       |
| 2024-04-30 15:30:00     | 10                | 6     | 16    | 0       | 1        | 2          | 8     | 10    | 0       | 0        | 9          | 5     | 14    | 0       | 0        | 40        |
| PM Peak Hour Totals     | 114               | 65    | 179   | 0       | 5        | 28         | 51    | 79    | 0       | 1        | 41         | 52    | 93    | 47      | 2        | 351       |
| PM PHF                  | 0.48              | 0.36  | 0.43  |         |          | 0.70       | 0.53  | 0.62  |         |          | 0.79       | 0.59  | 0.68  |         |          | 0.57      |
| 2024-04-30 15:45:00     | 7                 | 5     | 12    | 0       | 0        | 2          | 11    | 13    | 0       | 0        | 11         | 5     | 16    | 0       | 0        | 41        |
| 2024-04-30 16:00:00     | 5                 | 0     | 5     | 0       | 0        | 1          | 7     | 8     | 0       | 0        | 7          | 10    | 17    | 0       | 0        | 30        |
| 2024-04-30 16:15:00     | 4                 | 1     | 5     | 0       | 0        | 5          | 6     | 11    | 0       | 0        | 4          | 13    | 17    | 0       | 0        | 33        |
| Grand Total             | 236               | 116   | 352   | 3       | 6        | 111        | 105   | 216   | 0       | 1        | 195        | 304   | 499   | 47      | 9        | 1067      |
| % Approach              | 67.0%             | 33.0% |       |         |          | 51.4%      | 48.6% |       |         |          | 39.1%      | 60.9% |       |         |          |           |
| % Total                 | 22.1%             | 10.9% | 33.0% |         |          | 10.4%      | 9.8%  | 20.2% |         |          | 18.3%      | 28.5% | 46.8% |         |          |           |
| Lights                  | 225               | 112   | 337   |         |          | 102        | 100   | 202   |         |          | 190        | 248   | 438   |         |          | 977       |
| % Lights                | 95.3%             | 96.6% | 95.7% |         |          | 91.9%      | 95.2% | 93.5% |         |          | 97.4%      | 81.6% | 87.8% |         |          | 91.6%     |
| Heavys                  | 11                | 4     | 15    | 0       | 0        | 9          | 5     | 14    | 0       | 0        | 5          | 56    | 61    | 0       | 0        | 90        |
| % Heavys                | 4.7%              | 3.4%  | 4.3%  |         |          | 8.1%       | 4.8%  | 6.5%  |         |          | 2.6%       | 18.4% | 12.2% |         |          | 8.4%      |
| Pedestrians             |                   |       |       | 3       | 6        |            |       |       | 0       | 1        |            |       |       | 47      | 9        |           |
| % Pedestrians           |                   |       |       | 100.0%  | 100.0%   |            |       |       | 0.0%    | 100.0%   |            |       |       | 100.0%  | 100.0%   |           |
| Bicycles on Crosswalk   |                   |       |       | 0       | 0        |            |       |       | 0       | 0        |            |       |       | 0       | 0        |           |
| % Bicycles on Crosswalk |                   |       |       | 0.0%    | 0.0%     |            |       |       | 0.0%    | 0.0%     |            |       |       | 0.0%    | 0.0%     |           |



North Ridgeville CSD TIS  
High School Drive (South)

5/17/2024

| Leg                 | High School Parking |           | High School Parking |           |           |
|---------------------|---------------------|-----------|---------------------|-----------|-----------|
| Direction           | Northbound          |           | Southbound          |           |           |
| Start Time          | Direction           | App Total | Direction           | App Total | Int Total |
| 2024-04-30 07:00:00 | 2                   | 2         | 2                   | 2         | 4         |
| 2024-04-30 07:15:00 | 16                  | 16        | 21                  | 21        | 37        |
| 2024-04-30 07:30:00 | 38                  | 38        | 58                  | 58        | 96        |
| 2024-04-30 07:45:00 | 33                  | 33        | 12                  | 12        | 45        |
| 2024-04-30 08:00:00 | 76                  | 76        | 25                  | 25        | 101       |
| AM Peak Hour Totals | 163                 | 163       | 116                 | 116       | 279       |
| AM PHF              | 0.54                | 0.54      | 0.50                | 0.50      | 0.69      |
| 2024-04-30 08:15:00 | 23                  | 23        | 6                   | 6         | 29        |
| 2024-04-30 08:30:00 | 4                   | 4         | 0                   | 0         | 4         |
| 2024-04-30 08:45:00 | 5                   | 5         | 2                   | 2         | 7         |
| 2024-04-30 14:30:00 | 13                  | 13        | 7                   | 7         | 20        |
| 2024-04-30 14:45:00 | 19                  | 19        | 36                  | 36        | 55        |
| 2024-04-30 15:00:00 | 20                  | 20        | 20                  | 20        | 40        |
| 2024-04-30 15:15:00 | 4                   | 4         | 107                 | 107       | 111       |
| 2024-04-30 15:30:00 | 3                   | 3         | 14                  | 14        | 17        |
| PM Peak Hour Totals | 46                  | 46        | 177                 | 177       | 223       |
| PM PHF              | 0.58                | 0.58      | 0.41                | 0.41      | 0.50      |
| 2024-04-30 15:45:00 | 7                   | 7         | 4                   | 4         | 11        |
| 2024-04-30 16:00:00 | 3                   | 3         | 5                   | 5         | 8         |
| 2024-04-30 16:15:00 | 9                   | 9         | 1                   | 1         | 10        |
| Grand Total         | 275                 | 275       | 320                 | 320       | 595       |
| % Approach          | 100.0%              |           | 100.0%              |           |           |
| % Total             | 46.2%               | 46.2%     | 53.8%               | 53.8%     |           |
| Lights              | 275                 | 275       | 313                 | 313       | 588       |
| % Lights            | 100.0%              | 100.0%    | 97.8%               | 97.8%     | 98.8%     |
| Heavys              | 0                   | 0         | 7                   | 7         | 7         |
| % Heavy             | 0.0%                | 0.0%      | 2.2%                | 2.2%      | 1.2%      |



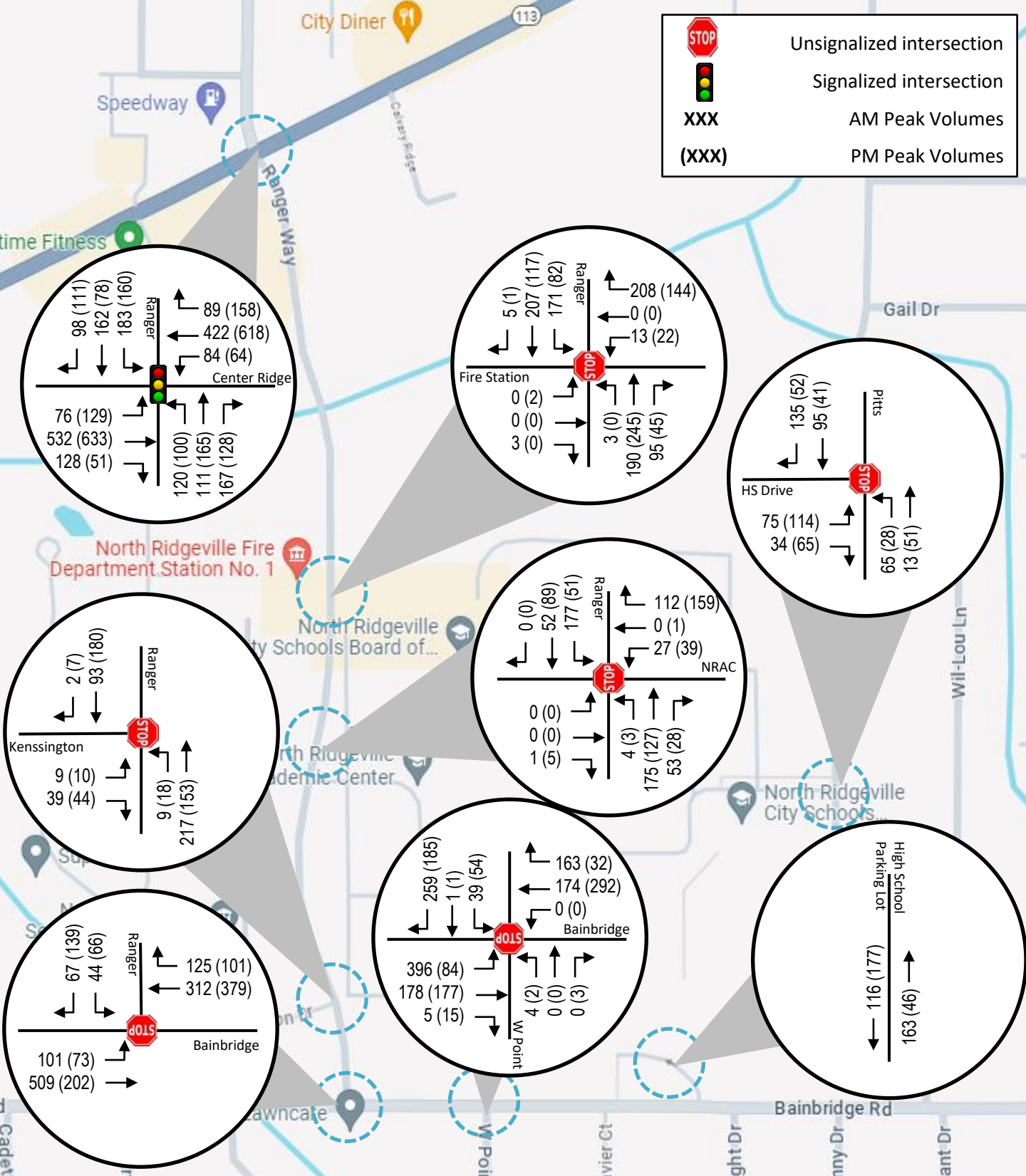
North Ridgeville City School District

# **North Ridgeville CSD Traffic Impact Study**

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## **Appendix B**

### **Traffic Figures**

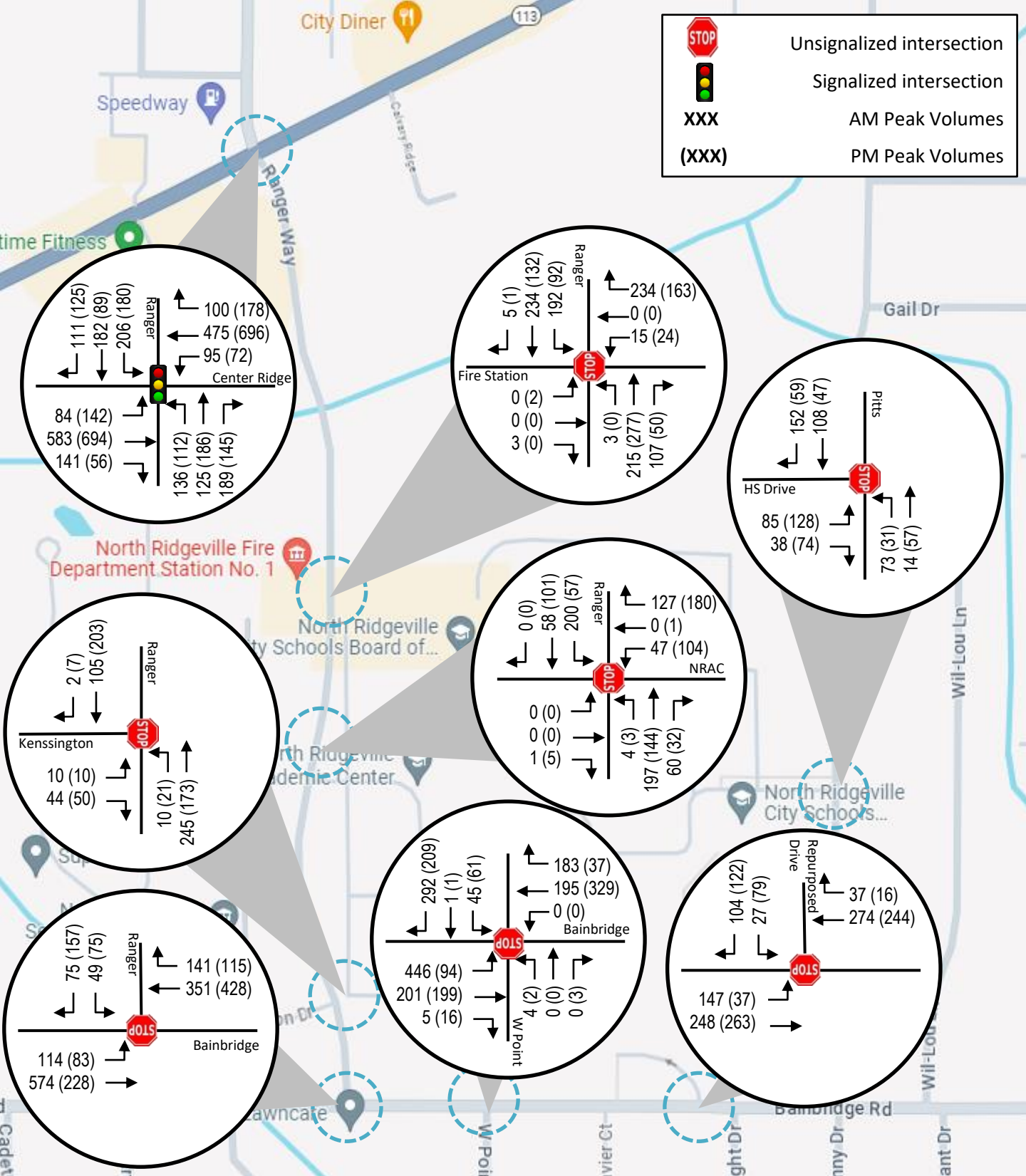


## NORTH RIDGEVILLE CSD TRAFFIC IMPACT STUDY

2024 COLLECTED  
TRAFFIC DATA



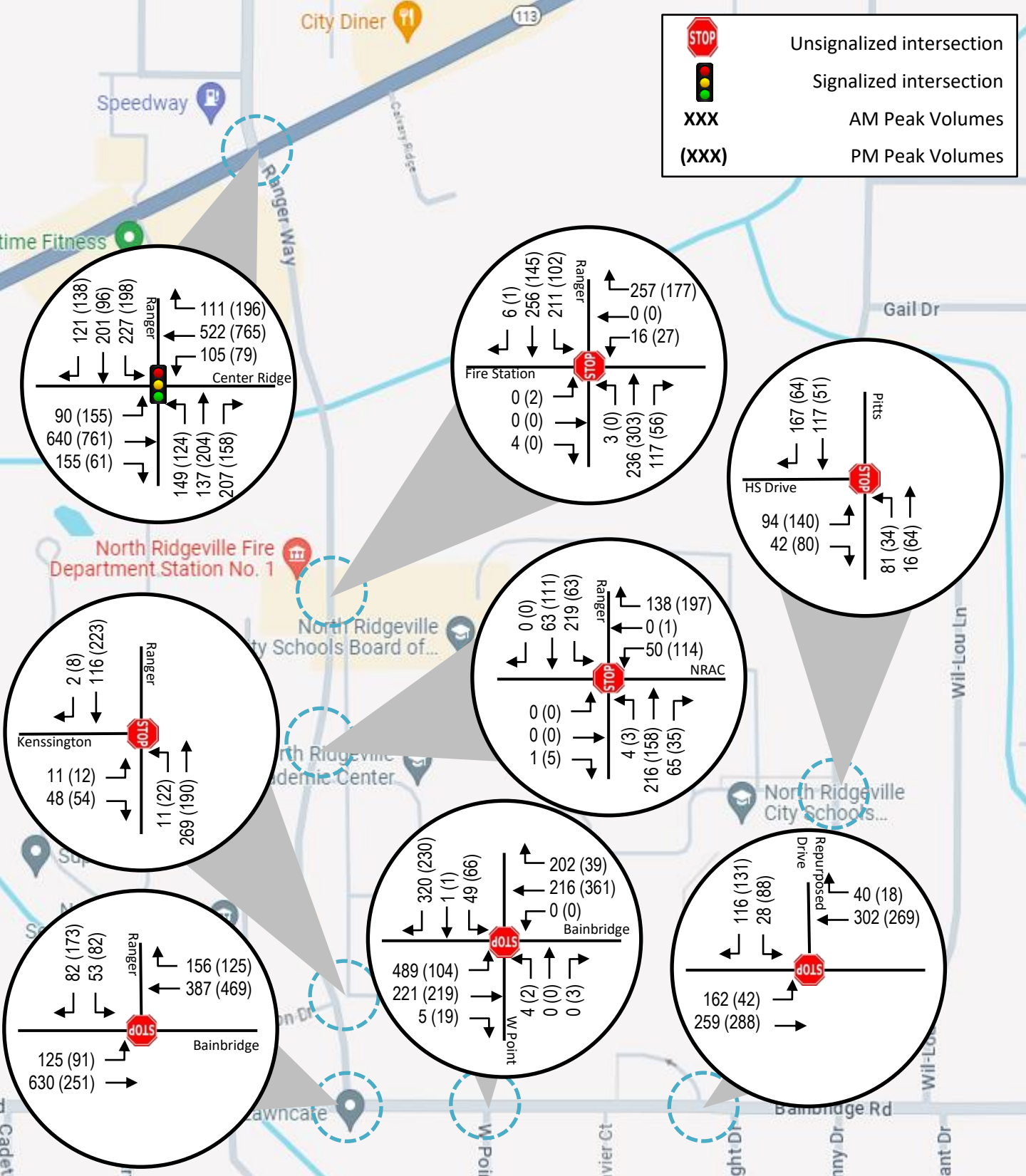




## NORTH RIDGEVILLE CSD TRAFFIC IMPACT STUDY

2029 NO-BUILD  
TRAFFIC DATA



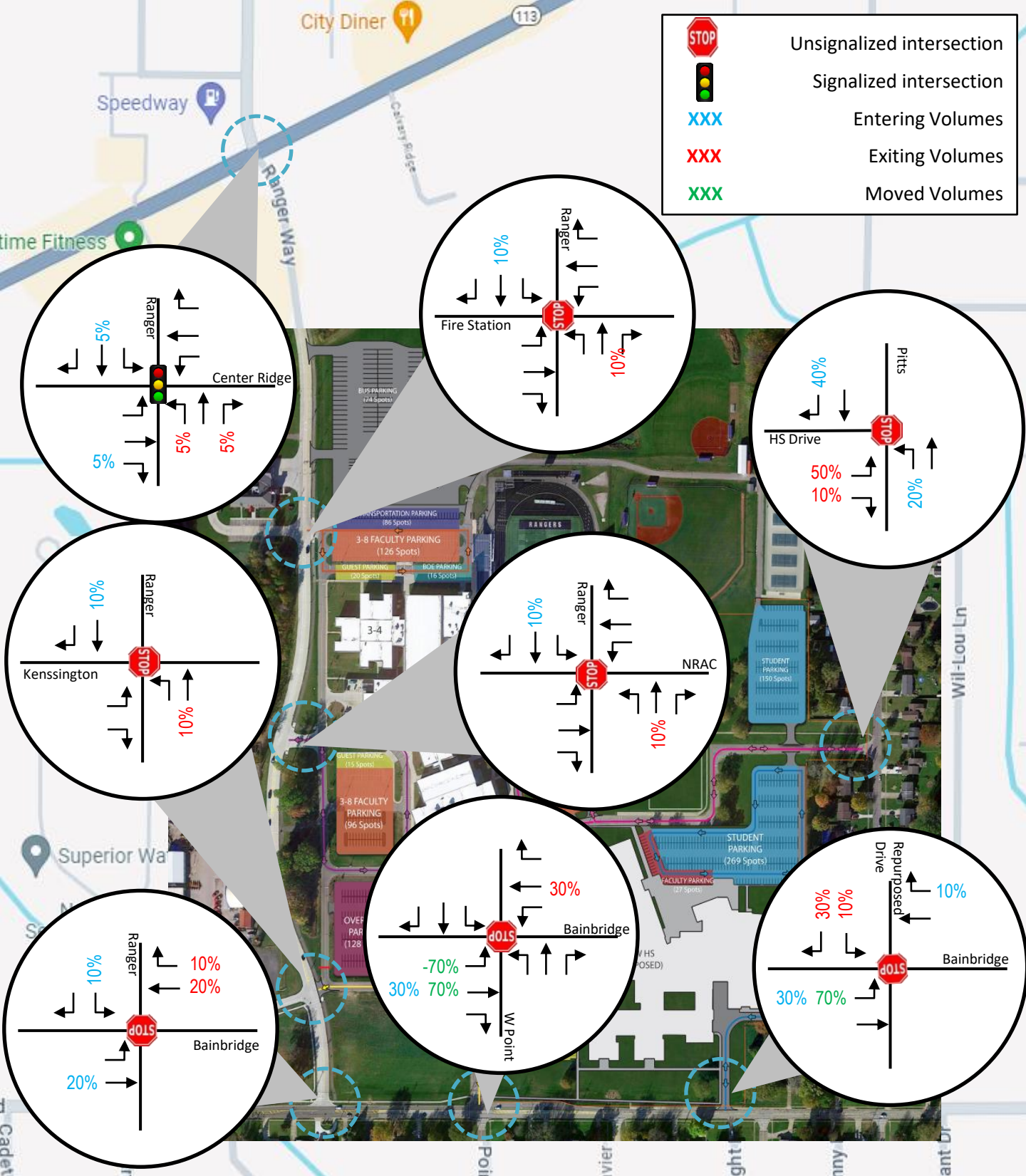


## NORTH RIDGEVILLE CSD TRAFFIC IMPACT STUDY

2049 NO-BUILD  
TRAFFIC DATA



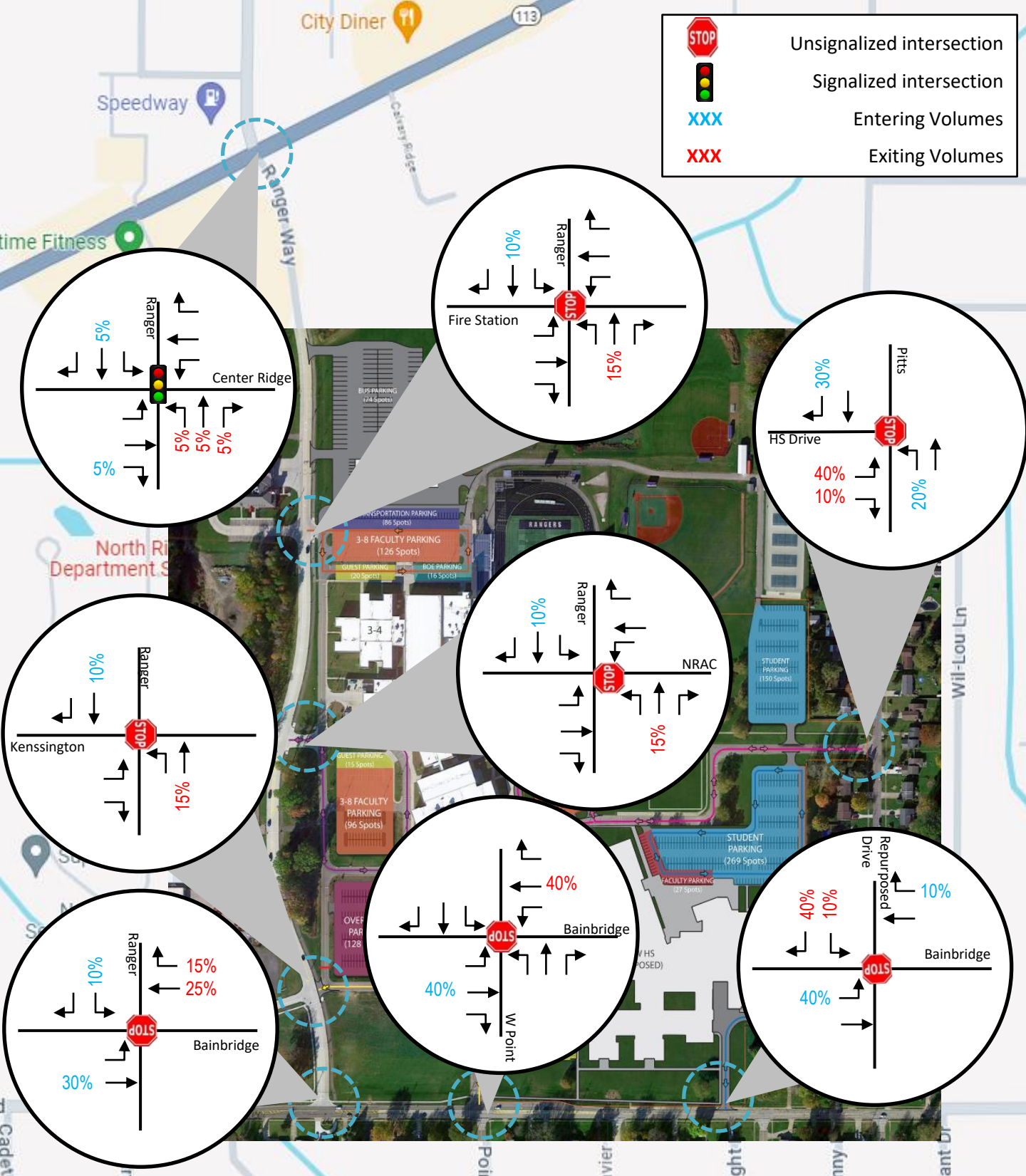




# **NORTH RIDGEVILLE CSD TRAFFIC IMPACT STUDY**

**AM TRIP DISTRIBUTION  
DATA**



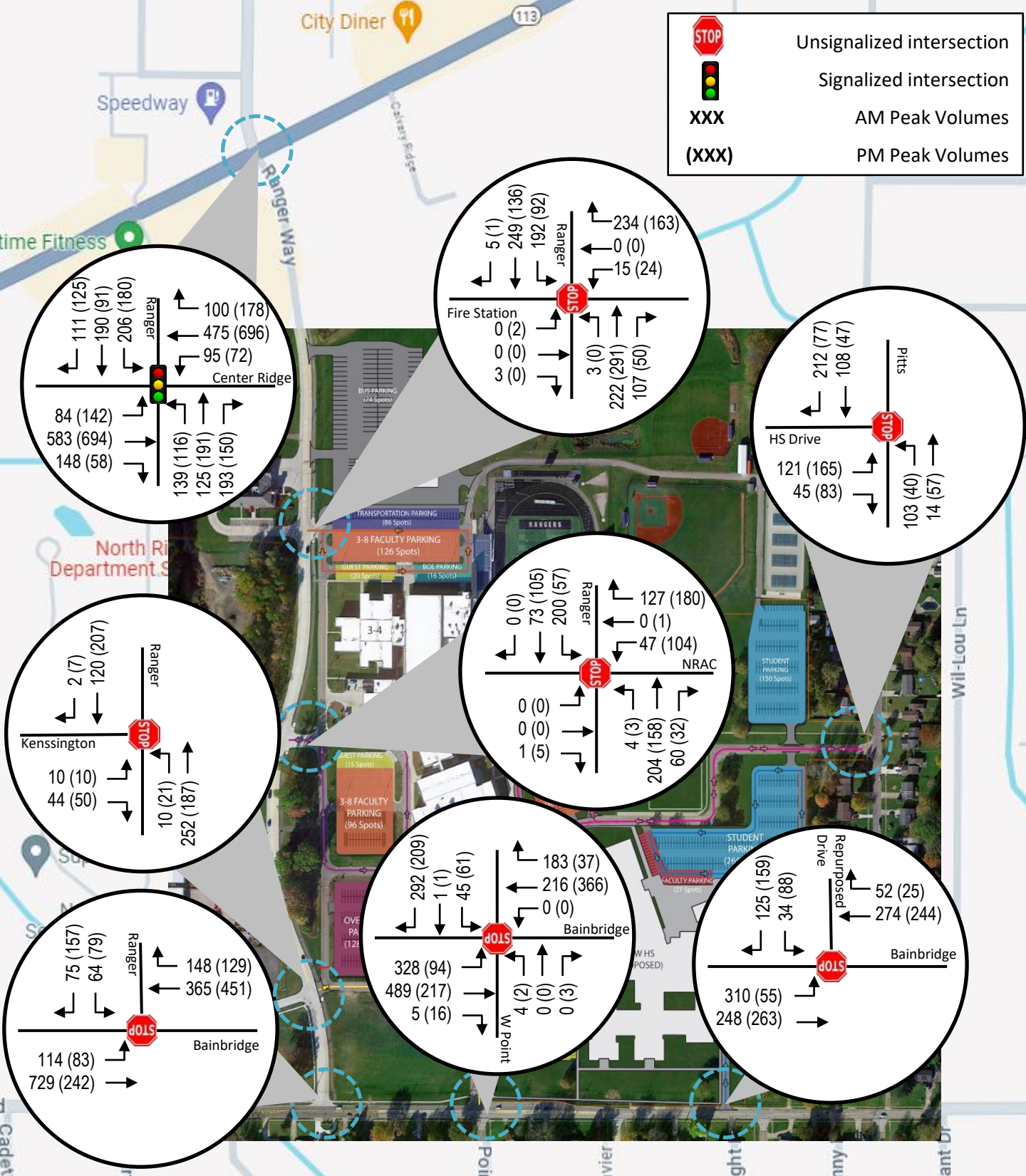


# NORTH RIDGEVILLE CSD TRAFFIC IMPACT STUDY

PM TRIP DISTRIBUTION  
DATA



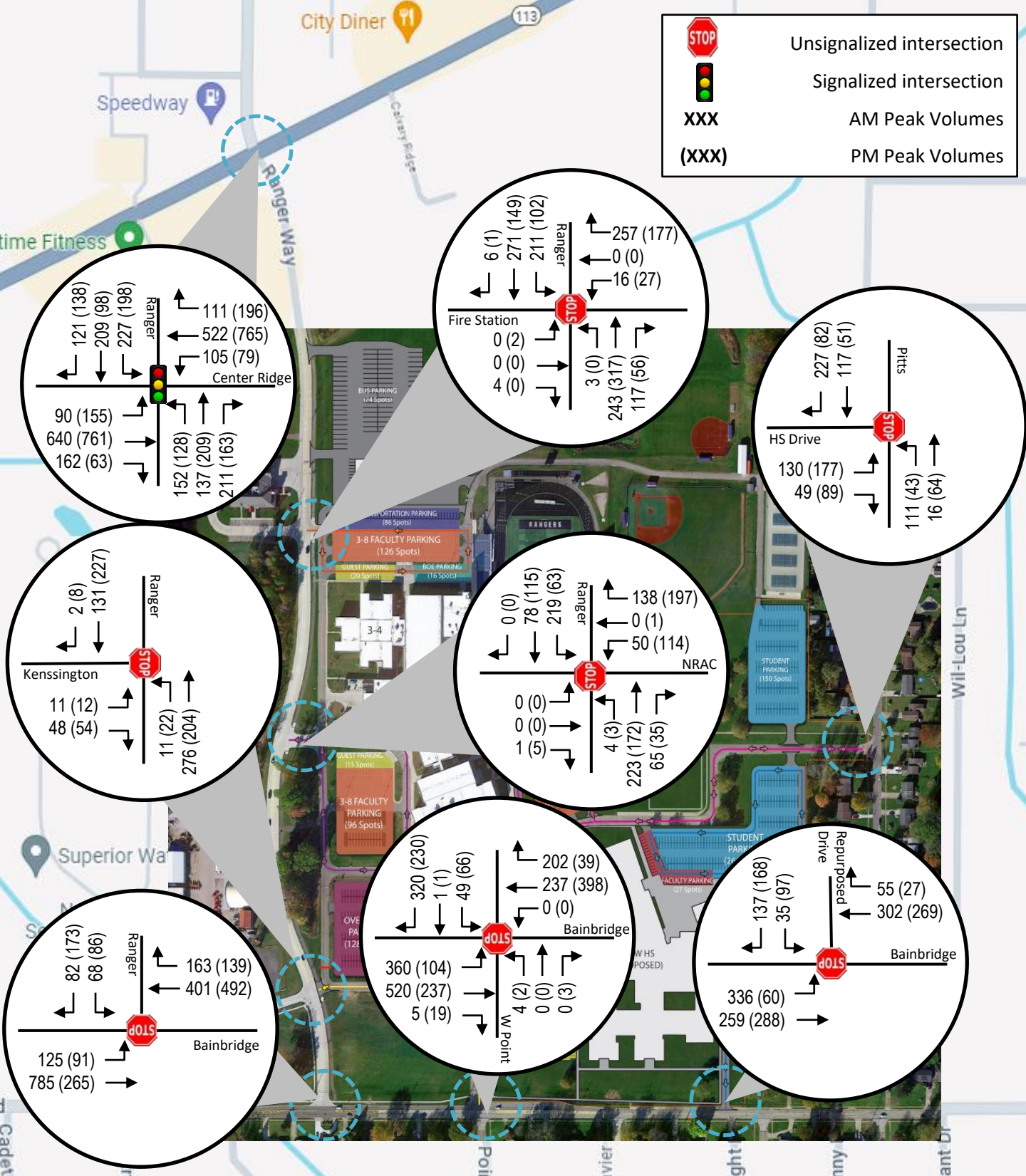




# NORTH RIDGEVILLE CSD TRAFFIC IMPACT STUDY

2029 BUILD  
TRAFFIC DATA







North Ridgeville City School District

# **North Ridgeville CSD Traffic Impact Study**

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## **Appendix C**

### **Calculations**



Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

| Center Ridge Road & Ranger Way         |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
|----------------------------------------|-----------------|------|-------|--------|-----------|-----------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|-------------|
| Opening Peak Hour Traffic Calculations |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Start Time                             | Center Ridge Rd |      |       |        |           | Center Ridge Rd |      |       |        |           | Ranger Way |      |       |        |           | Jaycox Rd  |      |       |        |           | Peak Period |
|                                        | Eastbound       |      |       |        |           | Westbound       |      |       |        |           | Northbound |      |       |        |           | Southbound |      |       |        |           |             |
|                                        | Left            | Thru | Right | U-Turn | App Total | Left            | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                                | 18              | 110  | 73    |        |           | 37              | 100  | 12    |        |           | 38         | 34   | 50    |        |           | 45         | 58   | 24    |        |           |             |
| 7:30 AM                                | 24              | 170  | 31    |        |           | 32              | 101  | 33    |        |           | 43         | 34   | 83    |        |           | 54         | 39   | 35    |        |           |             |
| 7:45 AM                                | 18              | 151  | 7     |        |           | 8               | 156  | 37    |        |           | 32         | 38   | 42    |        |           | 61         | 21   | 24    |        |           |             |
| 8:00 AM                                | 24              | 152  | 30    |        |           | 18              | 118  | 18    |        |           | 23         | 19   | 14    |        |           | 46         | 64   | 28    |        |           | 2427        |
| No-Build AM Peak                       | 84              | 583  | 141   | 0      | 0         | 95              | 475  | 100   | 0      | 0         | 136        | 125  | 189   | 0      | 0         | 206        | 182  | 111   | 0      | 0         | 2427        |
| Entering Traffic                       |                 |      | 7     |        |           |                 |      |       |        |           |            |      |       |        |           |            | 8    |       |        |           |             |
| Exiting Traffic                        |                 |      |       |        |           |                 |      |       |        |           | 3          |      | 4     |        |           |            |      |       |        |           |             |
| Move Traffic                           |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                        |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build AM Peak Total                    | 84              | 583  | 148   | 0      | 815       | 95              | 475  | 100   | 0      | 670       | 139        | 125  | 193   | 0      | 457       | 206        | 190  | 111   | 0      | 507       | 2427        |
|                                        |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| 2:45 PM                                | 35              | 152  | 13    |        |           | 11              | 136  | 32    |        |           | 20         | 29   | 34    |        |           | 54         | 24   | 21    |        |           |             |
| 3:00 PM                                | 34              | 205  | 19    |        |           | 27              | 175  | 47    |        |           | 36         | 50   | 33    |        |           | 38         | 23   | 26    |        |           |             |
| 3:15 PM                                | 29              | 135  | 9     |        |           | 15              | 162  | 44    |        |           | 36         | 71   | 54    |        |           | 47         | 26   | 55    |        |           |             |
| 3:30 PM                                | 44              | 202  | 15    |        |           | 19              | 223  | 55    |        |           | 20         | 36   | 24    |        |           | 41         | 16   | 23    |        |           | 2675        |
| No-Build PM Peak                       | 142             | 694  | 56    | 0      | 0         | 72              | 696  | 178   | 0      | 0         | 112        | 186  | 145   | 0      | 0         | 180        | 89   | 125   | 0      | 0         | 2675        |
| Entering Traffic                       |                 |      | 2     |        |           |                 |      |       |        |           |            |      |       |        |           |            | 2    |       |        |           |             |
| Exiting Traffic                        |                 |      |       |        |           |                 |      |       |        |           | 4          | 5    | 5     |        |           |            |      |       |        |           |             |
| Move Traffic                           |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                        |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build PM Peak Total                    | 142             | 694  | 58    | 0      | 894       | 72              | 696  | 178   | 0      | 946       | 116        | 191  | 150   | 0      | 456       | 180        | 91   | 125   | 0      | 396       | 2675        |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |





Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

| Ranger Way & Fire Station/School Parking Lot |              |      |       |        |           |                    |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
|----------------------------------------------|--------------|------|-------|--------|-----------|--------------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|-------------|
| Opening Peak Hour Traffic Calculations       |              |      |       |        |           |                    |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Start Time                                   | Fire Station |      |       |        |           | School Parking Lot |      |       |        |           | Ranger Way |      |       |        |           | Ranger Way |      |       |        |           | Peak Period |
|                                              | Eastbound    |      |       |        |           | Westbound          |      |       |        |           | Northbound |      |       |        |           | Southbound |      |       |        |           |             |
|                                              | Left         | Thru | Right | U-Turn | App Total | Left               | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                                      |              |      |       |        |           |                    |      | 81    |        |           |            | 36   | 52    |        |           | 92         | 58   |       |        |           |             |
| 7:30 AM                                      |              |      |       |        |           |                    |      | 116   |        |           | 1          | 86   | 48    |        |           | 82         | 61   | 1     |        |           |             |
| 7:45 AM                                      |              |      |       |        |           | 15                 |      | 34    |        |           | 1          | 41   |       |        |           | 9          | 34   | 3     |        |           |             |
| 8:00 AM                                      |              |      | 3     |        |           |                    |      | 3     |        |           | 1          | 52   | 7     |        |           | 9          | 81   | 1     |        |           | 1008        |
| No-Build AM Peak                             | 0            | 0    | 3     | 0      | 0         | 15                 | 0    | 234   | 0      | 0         | 3          | 215  | 107   | 0      | 0         | 192        | 234  | 5     | 0      | 0         | 1008        |
| Entering Traffic                             |              |      |       |        |           |                    |      |       |        |           |            |      |       |        |           |            | 15   |       |        |           |             |
| Exiting Traffic                              |              |      |       |        |           |                    |      |       |        |           |            | 7    |       |        |           |            |      |       |        |           |             |
| Move Traffic                                 |              |      |       |        |           |                    |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                              |              |      |       |        |           |                    |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build AM Peak Total                          | 0            | 0    | 3     | 0      | 3         | 15                 | 0    | 234   | 0      | 249       | 3          | 222  | 107   | 0      | 332       | 192        | 249  | 5     | 0      | 446       | 1008        |
|                                              |              |      |       |        |           |                    |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| 2:45 PM                                      |              |      |       |        |           | 7                  |      | 50    |        |           |            | 33   | 17    |        |           | 28         | 36   |       |        |           |             |
| 3:00 PM                                      | 2            |      |       |        |           | 12                 |      | 78    |        |           |            | 63   | 3     |        |           | 30         | 43   | 1     |        |           |             |
| 3:15 PM                                      |              |      |       |        |           | 3                  |      | 24    |        |           |            | 138  | 20    |        |           | 17         | 24   |       |        |           |             |
| 3:30 PM                                      |              |      |       |        |           | 2                  |      | 11    |        |           |            | 43   | 10    |        |           | 17         | 29   |       |        |           | 741         |
| No-Build PM Peak                             | 2            | 0    | 0     | 0      | 0         | 24                 | 0    | 163   | 0      | 0         | 0          | 277  | 50    | 0      | 0         | 92         | 132  | 1     | 0      | 0         | 741         |
| Entering Traffic                             |              |      |       |        |           |                    |      |       |        |           |            |      |       |        |           |            | 4    |       |        |           |             |
| Exiting Traffic                              |              |      |       |        |           |                    |      |       |        |           |            | 14   |       |        |           |            |      |       |        |           |             |
| Move Traffic                                 |              |      |       |        |           |                    |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                              |              |      |       |        |           |                    |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build PM Peak Total                          | 2            | 0    | 0     | 0      | 2         | 24                 | 0    | 163   | 0      | 187       | 0          | 291  | 50    | 0      | 341       | 92         | 136  | 1     | 0      | 229       | 741         |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |



Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

| Ranger Way & NRAC Drive                |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
|----------------------------------------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|-------------|
| Opening Peak Hour Traffic Calculations |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Start Time                             | NRAC Drive |      |       |        |           | NRAC Drive |      |       |        |           | Ranger Way |      |       |        |           | Ranger Way |      |       |        |           | Peak Period |
|                                        | Eastbound  |      |       |        |           | Westbound  |      |       |        |           | Northbound |      |       |        |           | Southbound |      |       |        |           |             |
|                                        | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                                |            |      | 1     |        |           | 7          |      | 16    |        |           |            | 81   | 36    |        |           | 46         | 11   |       |        |           |             |
| 7:30 AM                                |            |      |       |        |           | 25         |      | 43    |        |           | 2          | 87   | 10    |        |           | 52         | 11   |       |        |           |             |
| 7:45 AM                                |            |      |       |        |           | 9          |      | 24    |        |           | 1          | 11   | 7     |        |           | 26         | 25   |       |        |           |             |
| 8:00 AM                                |            |      |       |        |           | 6          |      | 44    |        |           | 1          | 18   | 7     |        |           | 76         | 11   |       |        |           | 694         |
| No-Build AM Peak                       | 0          | 0    | 1     | 0      | 0         | 47         | 0    | 127   | 0      | 0         | 4          | 197  | 60    | 0      | 0         | 200        | 58   | 0     | 0      | 0         | 694         |
| Entering Traffic                       |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            | 15   |       |        |           |             |
| Exiting Traffic                        |            |      |       |        |           |            |      |       |        |           |            | 7    |       |        |           |            |      |       |        |           |             |
| Move Traffic                           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                        |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build AM Peak Total                    | 0          | 0    | 1     | 0      | 1         | 47         | 0    | 127   | 0      | 174       | 4          | 204  | 60    | 0      | 268       | 200        | 73   | 0     | 0      | 273       | 694         |
|                                        |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| 2:45 PM                                |            |      | 2     |        |           | 38         |      | 23    |        |           | 2          | 32   | 7     | 1      |           | 11         | 33   |       |        |           |             |
| 3:00 PM                                |            |      |       |        |           | 24         |      | 30    |        |           | 1          | 28   | 12    |        |           | 27         | 32   |       |        |           |             |
| 3:15 PM                                |            |      | 1     |        |           | 34         |      | 104   |        |           |            | 51   | 8     |        |           | 10         | 15   |       |        |           |             |
| 3:30 PM                                |            |      | 2     |        |           | 8          | 1    | 23    |        |           |            | 33   | 5     |        |           | 9          | 21   |       |        |           | 628         |
| No-Build PM Peak                       | 0          | 0    | 5     | 0      | 0         | 104        | 1    | 180   | 0      | 0         | 3          | 144  | 32    | 1      | 0         | 57         | 101  | 0     | 0      | 0         | 628         |
| Entering Traffic                       |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            | 4    |       |        |           |             |
| Exiting Traffic                        |            |      |       |        |           |            |      |       |        |           |            | 14   |       |        |           |            |      |       |        |           |             |
| Move Traffic                           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                        |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build PM Peak Total                    | 0          | 0    | 5     | 0      | 5         | 104        | 1    | 180   | 0      | 285       | 3          | 158  | 32    | 1      | 194       | 57         | 105  | 0     | 0      | 162       | 628         |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |





Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

| Ranger Way & Kenssington Drive         |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
|----------------------------------------|----------------|------|-------|--------|-----------|-----------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|-------------|
| Opening Peak Hour Traffic Calculations |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Start Time                             | Kenssington Dr |      |       |        |           | -         |      |       |        |           | Ranger Way |      |       |        |           | Ranger Way |      |       |        |           | Peak Period |
|                                        | Eastbound      |      |       |        |           | Westbound |      |       |        |           | Northbound |      |       |        |           | Southbound |      |       |        |           |             |
|                                        | Left           | Thru | Right | U-Turn | App Total | Left      | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                                | 1              |      | 10    |        |           |           |      |       |        |           | 5          | 118  |       |        |           |            | 18   | 1     |        |           |             |
| 7:30 AM                                | 3              |      | 9     |        |           |           |      |       |        |           |            | 87   |       |        |           |            | 37   | 1     |        |           |             |
| 7:45 AM                                | 1              |      | 15    |        |           |           |      |       |        |           | 3          | 17   |       |        |           |            | 32   |       |        |           |             |
| 8:00 AM                                | 5              |      | 10    |        |           |           |      |       |        |           | 2          | 23   |       |        |           |            | 18   |       |        |           | 416         |
| No-Build AM Peak                       | 10             | 0    | 44    | 0      | 0         | 0         | 0    | 0     | 0      | 0         | 10         | 245  | 0     | 0      | 0         | 0          | 105  | 2     | 0      | 0         | 416         |
| Entering Traffic                       |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            | 15   |       |        |           |             |
| Exiting Traffic                        |                |      |       |        |           |           |      |       |        |           |            | 7    |       |        |           |            |      |       |        |           |             |
| Move Traffic                           |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                        |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build AM Peak Total                    | 10             | 0    | 44    | 0      | 54        | 0         | 0    | 0     | 0      | 0         | 10         | 252  | 0     | 0      | 262       | 0          | 120  | 2     | 0      | 122       | 416         |
|                                        |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| 2:45 PM                                | 3              |      | 6     |        |           |           |      |       |        |           | 7          | 36   |       |        |           |            | 70   | 3     |        |           |             |
| 3:00 PM                                | 3              |      | 38    |        |           |           |      |       |        |           | 1          | 36   |       |        |           |            | 53   | 1     |        |           |             |
| 3:15 PM                                | 2              |      |       |        |           |           |      |       |        |           | 5          | 58   |       |        |           |            | 48   | 2     |        |           |             |
| 3:30 PM                                | 2              |      | 6     |        |           |           |      |       |        |           | 8          | 43   |       |        |           |            | 32   | 1     |        |           | 464         |
| No-Build PM Peak                       | 10             | 0    | 50    | 0      | 0         | 0         | 0    | 0     | 0      | 0         | 21         | 173  | 0     | 0      | 0         | 0          | 203  | 7     | 0      | 0         | 464         |
| Entering Traffic                       |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            | 4    |       |        |           |             |
| Exiting Traffic                        |                |      |       |        |           |           |      |       |        |           |            | 14   |       |        |           |            |      |       |        |           |             |
| Move Traffic                           |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                        |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build PM Peak Total                    | 10             | 0    | 50    | 0      | 60        | 0         | 0    | 0     | 0      | 0         | 21         | 187  | 0     | 0      | 208       | 0          | 207  | 7     | 0      | 214       | 464         |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |



Study Name: North Ridgeville CSD TIS  
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| Ranger Way & Bainbridge Road           |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
|----------------------------------------|---------------|------|-------|--------|-----------|---------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|
| Opening Peak Hour Traffic Calculations |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
| Start Time                             | Bainbridge Rd |      |       |        |           | Bainbridge Rd |      |       |        |           | North Road |      |       |        |           | Ranger Way |      |       |        |           |
|                                        | Eastbound     |      |       |        |           | Westbound     |      |       |        |           | Northbound |      |       |        |           | Southbound |      |       |        |           |
|                                        | Left          | Thru | Right | U-Turn | App Total | Left          | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total |
| 7:15 AM                                | 64            | 126  |       |        |           |               | 74   | 60    |        |           |            |      |       |        |           | 11         |      | 11    |        |           |
| 7:30 AM                                | 32            | 149  |       |        |           |               | 136  | 55    |        |           |            |      |       |        |           | 11         |      | 28    |        |           |
| 7:45 AM                                | 7             | 99   |       |        |           |               | 77   | 12    |        |           |            |      |       |        |           | 16         |      | 26    |        |           |
| 8:00 AM                                | 11            | 200  |       |        |           |               | 64   | 14    |        |           |            |      |       |        |           | 11         |      | 10    |        | 1304      |
| No-Build AM Peak                       | 114           | 574  | 0     | 0      | 0         | 0             | 351  | 141   | 0      | 0         | 0          | 0    | 0     | 0      | 0         | 49         | 0    | 75    | 0      | 0         |
| Entering Traffic                       |               | 30   |       |        |           |               |      |       |        |           |            |      |       |        |           | 15         |      |       |        |           |
| Exiting Traffic                        |               |      |       |        |           |               | 14   | 7     |        |           |            |      |       |        |           |            |      |       |        |           |
| Move Traffic                           |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
| Balance Traffic                        |               | 125  |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
| Build AM Peak Total                    | 114           | 729  | 0     | 0      | 843       | 0             | 365  | 148   | 0      | 513       | 0          | 0    | 0     | 0      | 0         | 64         | 0    | 75    | 0      | 139       |
| 2:45 PM                                | 23            | 60   |       |        |           |               | 83   | 23    |        |           |            |      |       |        |           | 23         |      | 45    |        |           |
| 3:00 PM                                | 15            | 65   |       |        |           |               | 95   | 24    |        |           |            |      |       |        |           | 24         |      | 62    |        |           |
| 3:15 PM                                | 18            | 43   |       |        |           |               | 182  | 44    |        |           |            |      |       |        |           | 11         |      | 32    |        |           |
| 3:30 PM                                | 27            | 60   |       |        |           |               | 68   | 24    |        |           |            |      |       |        |           | 17         |      | 18    |        | 1086      |
| No-Build PM Peak                       | 83            | 228  | 0     | 0      | 0         | 0             | 428  | 115   | 0      | 0         | 0          | 0    | 0     | 0      | 0         | 75         | 0    | 157   | 0      | 0         |
| Entering Traffic                       |               | 14   |       |        |           |               |      |       |        |           |            |      |       |        |           | 4          |      |       |        |           |
| Exiting Traffic                        |               |      |       |        |           |               | 23   | 14    |        |           |            |      |       |        |           |            |      |       |        |           |
| Move Traffic                           |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
| Balance Traffic                        |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
| Build PM Peak Total                    | 83            | 242  | 0     | 0      | 325       | 0             | 451  | 129   | 0      | 580       | 0          | 0    | 0     | 0      | 0         | 79         | 0    | 157   | 0      | 236       |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |





Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

| Bainbridge Road & W Point Drive        |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
|----------------------------------------|---------------|------|-------|--------|-----------|---------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|--------------|------|-------|--------|-----------|-------------|
| Opening Peak Hour Traffic Calculations |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Start Time                             | Bainbridge Rd |      |       |        |           | Bainbridge Rd |      |       |        |           | W Point Dr |      |       |        |           | School Drive |      |       |        |           | Peak Period |
|                                        | Eastbound     |      |       |        |           | Westbound     |      |       |        |           | Northbound |      |       |        |           | Southbound   |      |       |        |           |             |
|                                        | Left          | Thru | Right | U-Turn | App Total | Left          | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left         | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                                | 101           | 45   |       |        |           |               | 56   | 63    |        |           | 2          |      |       |        |           | 5            |      | 81    |        |           |             |
| 7:30 AM                                | 109           | 52   | 2     |        |           |               | 65   | 83    |        |           |            |      |       |        |           | 17           | 1    | 125   |        |           |             |
| 7:45 AM                                | 68            | 52   | 1     |        |           |               | 38   | 12    |        |           | 2          |      |       |        |           | 18           |      | 43    |        |           |             |
| 8:00 AM                                | 168           | 52   | 2     |        |           |               | 36   | 25    |        |           |            |      |       |        |           | 5            |      | 43    |        |           | 1372        |
| No-Build AM Peak                       | 446           | 201  | 5     | 0      | 652       | 0             | 195  | 183   | 0      | 0         | 4          | 0    | 0     | 0      | 0         | 45           | 1    | 292   | 0      | 0         | 1372        |
| Entering Traffic                       |               | 45   |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Exiting Traffic                        |               |      |       |        |           |               | 21   |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Move Traffic                           | -118          | 118  |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Balance Traffic                        |               | 125  |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Build AM Peak Total                    | 328           | 489  | 5     | 0      | 822       | 0             | 216  | 183   | 0      | 399       | 4          | 0    | 0     | 0      | 4         | 45           | 1    | 292   | 0      | 338       | 1372        |
|                                        |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| 2:45 PM                                | 39            | 45   | 2     |        |           |               | 65   | 14    |        |           |            |      | 1     |        |           | 20           |      | 51    |        |           |             |
| 3:00 PM                                | 36            | 50   | 8     |        |           |               | 54   | 10    |        |           | 1          |      | 1     |        |           | 16           |      | 56    |        |           |             |
| 3:15 PM                                | 11            | 39   | 3     |        |           |               | 138  | 6     |        |           |            |      | 1     |        |           | 24           | 1    | 85    |        |           |             |
| 3:30 PM                                | 8             | 65   | 3     |        |           |               | 72   | 7     |        |           | 1          |      |       |        |           | 1            |      | 17    |        |           | 951         |
| No-Build PM Peak                       | 94            | 199  | 16    | 0      | 309       | 0             | 329  | 37    | 0      | 0         | 2          | 0    | 3     | 0      | 0         | 61           | 1    | 209   | 0      | 0         | 951         |
| Entering Traffic                       |               | 18   |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Exiting Traffic                        |               |      |       |        |           |               | 37   |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Move Traffic                           |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Balance Traffic                        |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Build PM Peak Total                    | 94            | 217  | 16    | 0      | 327       | 0             | 366  | 37    | 0      | 403       | 2          | 0    | 3     | 0      | 5         | 61           | 1    | 209   | 0      | 271       | 951         |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |



Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

| Pitts Road & High School Drive         |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
|----------------------------------------|----------------|------|-------|--------|-----------|-----------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|-------------|
| Opening Peak Hour Traffic Calculations |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Start Time                             | High School Dr |      |       |        |           | -         |      |       |        |           | Pitts Rd   |      |       |        |           | Pitts Rd   |      |       |        |           | Peak Period |
|                                        | Eastbound      |      |       |        |           | Westbound |      |       |        |           | Northbound |      |       |        |           | Southbound |      |       |        |           |             |
|                                        | Left           | Thru | Right | U-Turn | App Total | Left      | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                                | 14             |      | 3     |        |           |           |      |       |        |           | 12         | 3    |       |        |           |            | 26   | 47    |        |           |             |
| 7:30 AM                                | 12             |      | 7     |        |           |           |      |       |        |           | 35         | 8    |       |        |           |            | 35   | 27    |        |           |             |
| 7:45 AM                                | 18             |      | 10    |        |           |           |      |       |        |           | 8          | 1    |       |        |           |            | 23   | 35    |        |           |             |
| 8:00 AM                                | 41             |      | 18    |        |           |           |      |       |        |           | 18         | 2    |       |        |           |            | 24   | 43    |        |           | 470         |
| No-Build AM Peak                       | 85             | 0    | 38    | 0      | 0         | 0         | 0    | 0     | 0      | 0         | 73         | 14   | 0     | 0      | 0         | 0          | 108  | 152   | 0      | 0         | 470         |
| Entering Traffic                       |                |      |       |        |           |           |      |       |        |           | 30         |      |       |        |           |            |      | 60    |        |           |             |
| Exiting Traffic                        | 36             |      | 7     |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Move Traffic                           |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                        |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build AM Peak Total                    | 121            | 0    | 45    | 0      | 166       | 0         | 0    | 0     | 0      | 0         | 103        | 14   | 0     | 0      | 117       | 0          | 108  | 212   | 0      | 320       | 470         |
|                                        |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| 2:45 PM                                | 29             |      | 6     |        |           |           |      |       |        |           | 11         | 12   |       |        |           |            | 14   | 25    |        |           |             |
| 3:00 PM                                | 20             |      | 10    |        |           |           |      |       |        |           | 9          | 9    |       |        |           |            | 15   | 18    |        |           |             |
| 3:15 PM                                | 68             |      | 51    |        |           |           |      |       |        |           | 9          | 27   |       |        |           |            | 8    | 10    |        |           |             |
| 3:30 PM                                | 11             |      | 7     |        |           |           |      |       |        |           | 2          | 9    |       |        |           |            | 10   | 6     |        |           | 396         |
| No-Build PM Peak                       | 128            | 0    | 74    | 0      | 0         | 0         | 0    | 0     | 0      | 0         | 31         | 57   | 0     | 0      | 0         | 0          | 47   | 59    | 0      | 0         | 396         |
| Entering Traffic                       |                |      |       |        |           |           |      |       |        |           | 9          |      |       |        |           |            |      | 18    |        |           |             |
| Exiting Traffic                        | 37             |      | 9     |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Move Traffic                           |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                        |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build PM Peak Total                    | 165            | 0    | 83    | 0      | 249       | 0         | 0    | 0     | 0      | 0         | 40         | 57   | 0     | 0      | 97        | 0          | 47   | 77    | 0      | 124       | 396         |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |





Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

| Bainbridge Road & Repurposed Drive     |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |             |
|----------------------------------------|---------------|------|-------|--------|-----------|---------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|-------------------------|------|-------|--------|-----------|-------------|
| Opening Peak Hour Traffic Calculations |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| Start Time                             | Bainbridge Rd |      |       |        |           | Bainbridge Rd |      |       |        |           | -          |      |       |        |           | High School Parking Lot |      |       |        |           | Peak Period |
|                                        | Eastbound     |      |       |        |           | Westbound     |      |       |        |           | Northbound |      |       |        |           | Southbound              |      |       |        |           |             |
|                                        | Left          | Thru | Right | U-Turn | App Total | Left          | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left                    | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                                | 14            | 36   |       |        |           |               | 100  | 4     |        |           |            |      |       |        |           | 5                       |      | 19    |        |           |             |
| 7:30 AM                                | 34            | 35   |       |        |           |               | 96   | 9     |        |           |            |      |       |        |           | 13                      |      | 52    |        |           |             |
| 7:45 AM                                | 30            | 40   |       |        |           |               | 39   | 7     |        |           |            |      |       |        |           | 3                       |      | 11    |        |           |             |
| 8:00 AM                                | 69            | 12   |       |        |           |               | 39   | 17    |        |           |            |      |       |        |           | 6                       |      | 22    |        |           | 315         |
| No-Build AM Peak                       | 147           | 123  | 0     | 0      | 0         | 0             | 274  | 37    | 0      | 0         | 0          | 0    | 0     | 0      | 0         | 27                      | 0    | 104   | 0      | 0         | 315         |
| Entering Traffic                       | 45            |      |       |        |           |               |      | 15    |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| Exiting Traffic                        |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           | 7                       |      | 21    |        |           |             |
| Move Traffic                           | 118           |      |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| Balance Traffic                        |               | 125  |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| Build AM Peak Total                    | 310           | 248  | 0     | 0      | 558       | 0             | 274  | 52    | 0      | 326       | 0          | 0    | 0     | 0      | 0         | 34                      | 0    | 125   | 0      | 159       | 1043        |
|                                        |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| 2:45 PM                                | 15            | 66   |       |        |           |               | 54   | 6     |        |           |            |      |       |        |           | 16                      |      | 25    |        |           |             |
| 3:00 PM                                | 16            | 67   |       |        |           |               | 50   | 7     |        |           |            |      |       |        |           | 9                       |      | 14    |        |           |             |
| 3:15 PM                                | 4             | 64   |       |        |           |               | 71   | 2     |        |           |            |      |       |        |           | 48                      |      | 73    |        |           |             |
| 3:30 PM                                | 2             | 66   |       |        |           |               | 69   | 1     |        |           |            |      |       |        |           | 6                       |      | 10    |        |           | 253         |
| No-Build PM Peak                       | 37            | 263  | 0     | 0      | 0         | 0             | 244  | 16    | 0      | 0         | 0          | 0    | 0     | 0      | 0         | 79                      | 0    | 122   | 0      | 0         | 253         |
| Entering Traffic                       | 18            |      |       |        |           |               |      | 9     |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| Exiting Traffic                        |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           | 9                       |      | 37    |        |           |             |
| Move Traffic                           |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| Balance Traffic                        |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| Build PM Peak Total                    | 55            | 263  | 0     | 0      | 318       | 0             | 244  | 25    | 0      | 269       | 0          | 0    | 0     | 0      | 0         | 88                      | 0    | 159   | 0      | 247       | 834         |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |



Study Name: North Ridgeville CSD TIS  
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| Center Ridge Road & Ranger Way        |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
|---------------------------------------|-----------------|------|-------|--------|-----------|-----------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|-------------|
| Design Peak Hour Traffic Calculations |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Start Time                            | Center Ridge Rd |      |       |        |           | Center Ridge Rd |      |       |        |           | Ranger Way |      |       |        |           | Jaycox Rd  |      |       |        |           | Peak Period |
|                                       | Eastbound       |      |       |        |           | Westbound       |      |       |        |           | Northbound |      |       |        |           | Southbound |      |       |        |           |             |
|                                       | Left            | Thru | Right | U-Turn | App Total | Left            | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                               | 19              | 120  | 81    |        |           | 41              | 110  | 14    |        |           | 42         | 37   | 54    |        |           | 50         | 63   | 26    |        |           |             |
| 7:30 AM                               | 26              | 187  | 34    |        |           | 35              | 111  | 36    |        |           | 47         | 37   | 92    |        |           | 59         | 43   | 38    |        |           |             |
| 7:45 AM                               | 19              | 166  | 7     |        |           | 9               | 171  | 41    |        |           | 35         | 42   | 46    |        |           | 67         | 24   | 26    |        |           |             |
| 8:00 AM                               | 26              | 167  | 33    |        |           | 20              | 130  | 20    |        |           | 25         | 21   | 15    |        |           | 51         | 71   | 31    |        |           | 2665        |
| No-Build AM Peak                      | 90              | 640  | 155   | 0      | 0         | 105             | 522  | 111   | 0      | 0         | 149        | 137  | 207   | 0      | 0         | 227        | 201  | 121   | 0      | 0         | 2665        |
| Entering Traffic                      |                 |      | 7     |        |           |                 |      |       |        |           |            |      |       |        |           |            | 8    |       |        |           |             |
| Exiting Traffic                       |                 |      |       |        |           |                 |      |       |        |           | 3          |      | 4     |        |           |            |      |       |        |           |             |
| Move Traffic                          |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                       |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build AM Peak Total                   | 90              | 640  | 162   | 0      | 892       | 105             | 522  | 111   | 0      | 738       | 152        | 137  | 211   | 0      | 500       | 227        | 209  | 121   | 0      | 557       | 2665        |
|                                       |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| 2:45 PM                               | 39              | 167  | 14    |        |           | 12              | 150  | 35    |        |           | 22         | 32   | 37    |        |           | 59         | 26   | 24    |        |           |             |
| 3:00 PM                               | 37              | 225  | 20    |        |           | 30              | 192  | 52    |        |           | 40         | 54   | 36    |        |           | 42         | 25   | 28    |        |           |             |
| 3:15 PM                               | 31              | 148  | 10    |        |           | 16              | 178  | 48    |        |           | 40         | 78   | 59    |        |           | 52         | 28   | 61    |        |           |             |
| 3:30 PM                               | 48              | 221  | 17    |        |           | 21              | 245  | 61    |        |           | 22         | 40   | 26    |        |           | 45         | 17   | 25    |        |           | 2935        |
| No-Build PM Peak                      | 155             | 761  | 61    | 0      | 0         | 79              | 765  | 196   | 0      | 0         | 124        | 204  | 158   | 0      | 0         | 198        | 96   | 138   | 0      | 0         | 2935        |
| Entering Traffic                      |                 |      | 2     |        |           |                 |      |       |        |           |            |      |       |        |           |            | 2    |       |        |           |             |
| Exiting Traffic                       |                 |      |       |        |           |                 |      |       |        |           | 4          | 5    | 5     |        |           |            |      |       |        |           |             |
| Move Traffic                          |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                       |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build PM Peak Total                   | 155             | 761  | 63    | 0      | 979       | 79              | 765  | 196   | 0      | 1040      | 128        | 209  | 163   | 0      | 499       | 198        | 98   | 138   | 0      | 434       | 2935        |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |





Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

| Ranger Way & Fire Station/School Parking Lot |              |      |       |        |           |                    |      |       |        |           |                       |      |       |        |           |                       |      |       |        |           |             |
|----------------------------------------------|--------------|------|-------|--------|-----------|--------------------|------|-------|--------|-----------|-----------------------|------|-------|--------|-----------|-----------------------|------|-------|--------|-----------|-------------|
| Design Peak Hour Traffic Calculations        |              |      |       |        |           |                    |      |       |        |           |                       |      |       |        |           |                       |      |       |        |           |             |
| Start Time                                   | Fire Station |      |       |        |           | School Parking Lot |      |       |        |           | Ranger Way Northbound |      |       |        |           | Ranger Way Southbound |      |       |        |           | Peak Period |
|                                              | Eastbound    |      |       |        |           | Westbound          |      |       |        |           |                       |      |       |        |           |                       |      |       |        |           |             |
|                                              | Left         | Thru | Right | U-Turn | App Total | Left               | Thru | Right | U-Turn | App Total | Left                  | Thru | Right | U-Turn | App Total | Left                  | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                                      |              |      |       |        |           |                    |      | 89    |        |           |                       | 40   | 57    |        |           | 101                   | 63   |       |        |           |             |
| 7:30 AM                                      |              |      |       |        |           |                    |      | 127   |        |           | 1                     | 94   | 53    |        |           | 90                    | 67   | 1     |        |           |             |
| 7:45 AM                                      |              |      |       |        |           | 16                 |      | 37    |        |           | 1                     | 45   |       |        |           | 10                    | 37   | 4     |        |           |             |
| 8:00 AM                                      |              |      | 4     |        |           |                    |      | 4     |        |           | 1                     | 57   | 7     |        |           | 10                    | 89   | 1     |        |           | 1106        |
| No-Build AM Peak                             | 0            | 0    | 4     | 0      | 0         | 16                 | 0    | 257   | 0      | 0         | 3                     | 236  | 117   | 0      | 0         | 211                   | 256  | 6     | 0      | 0         | 1106        |
| Entering Traffic                             |              |      |       |        |           |                    |      |       |        |           |                       |      |       |        |           |                       | 15   |       |        |           |             |
| Exiting Traffic                              |              |      |       |        |           |                    |      |       |        |           |                       | 7    |       |        |           |                       |      |       |        |           |             |
| Move Traffic                                 |              |      |       |        |           |                    |      |       |        |           |                       |      |       |        |           |                       |      |       |        |           |             |
| Balance Traffic                              |              |      |       |        |           |                    |      |       |        |           |                       |      |       |        |           |                       |      |       |        |           |             |
| Build AM Peak Total                          | 0            | 0    | 4     | 0      | 4         | 16                 | 0    | 257   | 0      | 273       | 3                     | 243  | 117   | 0      | 363       | 211                   | 271  | 6     | 0      | 488       | 1106        |
|                                              |              |      |       |        |           |                    |      |       |        |           |                       |      |       |        |           |                       |      |       |        |           |             |
| 2:45 PM                                      |              |      |       |        |           | 7                  |      | 54    |        |           |                       | 36   | 19    |        |           | 31                    | 40   |       |        |           |             |
| 3:00 PM                                      | 2            |      |       |        |           | 14                 |      | 85    |        |           |                       | 69   | 4     |        |           | 33                    | 47   | 1     |        |           |             |
| 3:15 PM                                      |              |      |       |        |           | 4                  |      | 26    |        |           |                       | 151  | 22    |        |           | 19                    | 26   |       |        |           |             |
| 3:30 PM                                      |              |      |       |        |           | 2                  |      | 12    |        |           |                       | 47   | 11    |        |           | 19                    | 32   |       |        |           | 813         |
| No-Build PM Peak                             | 2            | 0    | 0     | 0      | 0         | 27                 | 0    | 177   | 0      | 0         | 0                     | 303  | 56    | 0      | 0         | 102                   | 145  | 1     | 0      | 0         | 813         |
| Entering Traffic                             |              |      |       |        |           |                    |      |       |        |           |                       |      |       |        |           |                       | 4    |       |        |           |             |
| Exiting Traffic                              |              |      |       |        |           |                    |      |       |        |           |                       | 14   |       |        |           |                       |      |       |        |           |             |
| Move Traffic                                 |              |      |       |        |           |                    |      |       |        |           |                       |      |       |        |           |                       |      |       |        |           |             |
| Balance Traffic                              |              |      |       |        |           |                    |      |       |        |           |                       |      |       |        |           |                       |      |       |        |           |             |
| Build PM Peak Total                          | 2            | 0    | 0     | 0      | 2         | 27                 | 0    | 177   | 0      | 204       | 0                     | 317  | 56    | 0      | 373       | 102                   | 149  | 1     | 0      | 252       | 813         |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |



Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

| Ranger Way & NRAC Drive               |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
|---------------------------------------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|-------------|
| Design Peak Hour Traffic Calculations |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Start Time                            | NRAC Drive |      |       |        |           | NRAC Drive |      |       |        |           | Ranger Way |      |       |        |           | Ranger Way |      |       |        |           | Peak Period |
|                                       | Eastbound  |      |       |        |           | Westbound  |      |       |        |           | Northbound |      |       |        |           | Southbound |      |       |        |           |             |
|                                       | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                               |            |      | 1     |        |           | 7          |      | 17    |        |           |            | 89   | 40    |        |           | 51         | 12   |       |        |           |             |
| 7:30 AM                               |            |      |       |        |           | 27         |      | 47    |        |           | 2          | 95   | 11    |        |           | 57         | 12   |       |        |           |             |
| 7:45 AM                               |            |      |       |        |           | 10         |      | 26    |        |           | 1          | 12   | 7     |        |           | 28         | 27   |       |        |           |             |
| 8:00 AM                               |            |      |       |        |           | 6          |      | 48    |        |           | 1          | 20   | 7     |        |           | 83         | 12   |       |        |           | 756         |
| No-Build AM Peak                      | 0          | 0    | 1     | 0      | 0         | 50         | 0    | 138   | 0      | 0         | 4          | 216  | 65    | 0      | 0         | 219        | 63   | 0     | 0      | 0         | 756         |
| Entering Traffic                      |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            | 15   |       |        |           |             |
| Exiting Traffic                       |            |      |       |        |           |            |      |       |        |           |            | 7    |       |        |           |            |      |       |        |           |             |
| Move Traffic                          |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                       |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build AM Peak Total                   | 0          | 0    | 1     | 0      | 1         | 50         | 0    | 138   | 0      | 188       | 4          | 223  | 65    | 0      | 292       | 219        | 78   | 0     | 0      | 297       | 756         |
|                                       |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| 2:45 PM                               |            |      | 2     |        |           | 42         |      | 25    |        |           | 2          | 35   | 7     | 1      |           | 12         | 36   |       |        |           |             |
| 3:00 PM                               |            |      |       |        |           | 26         |      | 33    |        |           | 1          | 31   | 14    |        |           | 30         | 35   |       |        |           |             |
| 3:15 PM                               |            |      | 1     |        |           | 37         |      | 114   |        |           |            | 56   | 9     |        |           | 11         | 16   |       |        |           |             |
| 3:30 PM                               |            |      | 2     |        |           | 9          | 1    | 25    |        |           |            | 36   | 5     |        |           | 10         | 24   |       |        |           | 688         |
| No-Build PM Peak                      | 0          | 0    | 5     | 0      | 0         | 114        | 1    | 197   | 0      | 0         | 3          | 158  | 35    | 1      | 0         | 63         | 111  | 0     | 0      | 0         | 688         |
| Entering Traffic                      |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            | 4    |       |        |           |             |
| Exiting Traffic                       |            |      |       |        |           |            |      |       |        |           |            | 14   |       |        |           |            |      |       |        |           |             |
| Move Traffic                          |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                       |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build PM Peak Total                   | 0          | 0    | 5     | 0      | 5         | 114        | 1    | 197   | 0      | 312       | 3          | 172  | 35    | 1      | 211       | 63         | 115  | 0     | 0      | 178       | 688         |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |





Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

| Ranger Way & Kenssington Drive        |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
|---------------------------------------|----------------|------|-------|--------|-----------|-----------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|-------------|
| Design Peak Hour Traffic Calculations |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Start Time                            | Kenssington Dr |      |       |        |           | -         |      |       |        |           | Ranger Way |      |       |        |           | Ranger Way |      |       |        |           | Peak Period |
|                                       | Eastbound      |      |       |        |           | Westbound |      |       |        |           | Northbound |      |       |        |           | Southbound |      |       |        |           |             |
|                                       | Left           | Thru | Right | U-Turn | App Total | Left      | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                               | 1              |      | 11    |        |           |           |      |       |        |           | 5          | 130  |       |        |           |            | 20   | 1     |        |           |             |
| 7:30 AM                               | 4              |      | 10    |        |           |           |      |       |        |           |            | 95   |       |        |           |            | 41   | 1     |        |           |             |
| 7:45 AM                               | 1              |      | 16    |        |           |           |      |       |        |           | 4          | 19   |       |        |           |            | 35   |       |        |           |             |
| 8:00 AM                               | 5              |      | 11    |        |           |           |      |       |        |           | 2          | 25   |       |        |           |            | 20   |       |        |           | 457         |
| No-Build AM Peak                      | 11             | 0    | 48    | 0      | 0         | 0         | 0    | 0     | 0      | 0         | 11         | 269  | 0     | 0      | 0         | 0          | 116  | 2     | 0      | 0         | 457         |
| Entering Traffic                      |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            | 15   |       |        |           |             |
| Exiting Traffic                       |                |      |       |        |           |           |      |       |        |           |            | 7    |       |        |           |            |      |       |        |           |             |
| Move Traffic                          |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                       |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build AM Peak Total                   | 11             | 0    | 48    | 0      | 59        | 0         | 0    | 0     | 0      | 0         | 11         | 276  | 0     | 0      | 287       | 0          | 131  | 2     | 0      | 133       | 457         |
|                                       |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| 2:45 PM                               | 4              |      | 6     |        |           |           |      |       |        |           | 7          | 40   |       |        |           |            | 77   | 4     |        |           |             |
| 3:00 PM                               | 4              |      | 42    |        |           |           |      |       |        |           | 1          | 40   |       |        |           |            | 58   | 1     |        |           |             |
| 3:15 PM                               | 2              |      |       |        |           |           |      |       |        |           | 5          | 63   |       |        |           |            | 53   | 2     |        |           |             |
| 3:30 PM                               | 2              |      | 6     |        |           |           |      |       |        |           | 9          | 47   |       |        |           |            | 35   | 1     |        |           | 509         |
| No-Build PM Peak                      | 12             | 0    | 54    | 0      | 0         | 0         | 0    | 0     | 0      | 0         | 22         | 190  | 0     | 0      | 0         | 0          | 223  | 8     | 0      | 0         | 509         |
| Entering Traffic                      |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            | 4    |       |        |           |             |
| Exiting Traffic                       |                |      |       |        |           |           |      |       |        |           |            | 14   |       |        |           |            |      |       |        |           |             |
| Move Traffic                          |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                       |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build PM Peak Total                   | 12             | 0    | 54    | 0      | 66        | 0         | 0    | 0     | 0      | 0         | 22         | 204  | 0     | 0      | 226       | 0          | 227  | 8     | 0      | 235       | 509         |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |



Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

| Ranger Way & Bainbridge Road          |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
|---------------------------------------|---------------|------|-------|--------|-----------|---------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|
| Design Peak Hour Traffic Calculations |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
| Start Time                            | Bainbridge Rd |      |       |        |           | Bainbridge Rd |      |       |        |           | North Road |      |       |        |           | Ranger Way |      |       |        |           |
|                                       | Eastbound     |      |       |        |           | Westbound     |      |       |        |           | Northbound |      |       |        |           | Southbound |      |       |        |           |
|                                       | Left          | Thru | Right | U-Turn | App Total | Left          | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total |
| 7:15 AM                               | 71            | 139  |       |        |           |               | 82   | 66    |        |           |            |      |       |        |           | 12         |      | 12    |        |           |
| 7:30 AM                               | 35            | 163  |       |        |           |               | 150  | 61    |        |           |            |      |       |        |           | 12         |      | 31    |        |           |
| 7:45 AM                               | 7             | 109  |       |        |           |               | 84   | 14    |        |           |            |      |       |        |           | 17         |      | 28    |        |           |
| 8:00 AM                               | 12            | 219  |       |        |           |               | 71   | 15    |        |           |            |      |       |        |           | 12         |      | 11    |        | 1433      |
| No-Build AM Peak                      | 125           | 630  | 0     | 0      | 0         | 0             | 387  | 156   | 0      | 0         | 0          | 0    | 0     | 0      | 0         | 53         | 0    | 82    | 0      | 1433      |
| Entering Traffic                      |               | 30   |       |        |           |               |      |       |        |           |            |      |       |        |           | 15         |      |       |        |           |
| Exiting Traffic                       |               |      |       |        |           |               | 14   | 7     |        |           |            |      |       |        |           |            |      |       |        |           |
| Move Traffic                          |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
| Balance Traffic                       |               | 125  |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
| Build AM Peak Total                   | 125           | 785  | 0     | 0      | 910       | 0             | 401  | 163   | 0      | 564       | 0          | 0    | 0     | 0      | 0         | 68         | 0    | 82    | 0      | 1433      |
| 2:45 PM                               | 25            | 66   |       |        |           |               | 92   | 25    |        |           |            |      |       |        |           | 25         |      | 50    |        |           |
| 3:00 PM                               | 16            | 72   |       |        |           |               | 104  | 26    |        |           |            |      |       |        |           | 26         |      | 68    |        |           |
| 3:15 PM                               | 20            | 47   |       |        |           |               | 199  | 48    |        |           |            |      |       |        |           | 12         |      | 35    |        |           |
| 3:30 PM                               | 30            | 66   |       |        |           |               | 74   | 26    |        |           |            |      |       |        |           | 19         |      | 20    |        | 1191      |
| No-Build PM Peak                      | 91            | 251  | 0     | 0      | 0         | 0             | 469  | 125   | 0      | 0         | 0          | 0    | 0     | 0      | 0         | 82         | 0    | 173   | 0      | 1191      |
| Entering Traffic                      |               | 14   |       |        |           |               |      |       |        |           |            |      |       |        |           | 4          |      |       |        |           |
| Exiting Traffic                       |               |      |       |        |           |               | 23   | 14    |        |           |            |      |       |        |           |            |      |       |        |           |
| Move Traffic                          |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
| Balance Traffic                       |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
| Build PM Peak Total                   | 91            | 265  | 0     | 0      | 356       | 0             | 492  | 139   | 0      | 631       | 0          | 0    | 0     | 0      | 0         | 86         | 0    | 173   | 0      | 1191      |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |





Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

| Bainbridge Road & W Point Drive       |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
|---------------------------------------|---------------|------|-------|--------|-----------|---------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|--------------|------|-------|--------|-----------|-------------|
| Design Peak Hour Traffic Calculations |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Start Time                            | Bainbridge Rd |      |       |        |           | Bainbridge Rd |      |       |        |           | W Point Dr |      |       |        |           | School Drive |      |       |        |           | Peak Period |
|                                       | Eastbound     |      |       |        |           | Westbound     |      |       |        |           | Northbound |      |       |        |           | Southbound   |      |       |        |           |             |
|                                       | Left          | Thru | Right | U-Turn | App Total | Left          | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left         | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                               | 111           | 50   |       |        |           |               | 62   | 69    |        |           | 2          |      |       |        |           | 5            |      | 89    |        |           |             |
| 7:30 AM                               | 120           | 57   | 2     |        |           |               | 72   | 92    |        |           |            |      |       |        |           | 19           | 1    | 137   |        |           |             |
| 7:45 AM                               | 74            | 57   | 1     |        |           |               | 42   | 14    |        |           | 2          |      |       |        |           | 20           |      | 47    |        |           |             |
| 8:00 AM                               | 184           | 57   | 2     |        |           |               | 40   | 27    |        |           |            |      |       |        |           | 5            |      | 47    |        |           | 1507        |
| No-Build AM Peak                      | 489           | 221  | 5     | 0      | 0         | 0             | 216  | 202   | 0      | 0         | 4          | 0    | 0     | 0      | 0         | 49           | 1    | 320   | 0      | 0         | 1507        |
| Entering Traffic                      |               | 45   |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Exiting Traffic                       |               |      |       |        |           |               | 21   |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Move Traffic                          | -129          | 129  |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Balance Traffic                       |               | 125  |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Build AM Peak Total                   | 360           | 520  | 5     | 0      | 885       | 0             | 237  | 202   | 0      | 439       | 4          | 0    | 0     | 0      | 4         | 49           | 1    | 320   | 0      | 370       | 1507        |
|                                       |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| 2:45 PM                               | 43            | 50   | 2     |        |           |               | 72   | 15    |        |           |            |      | 1     |        |           | 22           |      | 56    |        |           |             |
| 3:00 PM                               | 40            | 54   | 9     |        |           |               | 59   | 11    |        |           | 1          |      | 1     |        |           | 17           |      | 62    |        |           |             |
| 3:15 PM                               | 12            | 43   | 4     |        |           |               | 151  | 6     |        |           |            |      | 1     |        |           | 26           | 1    | 93    |        |           |             |
| 3:30 PM                               | 9             | 72   | 4     |        |           |               | 79   | 7     |        |           | 1          |      |       |        |           | 1            |      | 19    |        |           | 1044        |
| No-Build PM Peak                      | 104           | 219  | 19    | 0      | 0         | 0             | 361  | 39    | 0      | 0         | 2          | 0    | 3     | 0      | 0         | 66           | 1    | 230   | 0      | 0         | 1044        |
| Entering Traffic                      |               | 18   |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Exiting Traffic                       |               |      |       |        |           |               | 37   |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Move Traffic                          |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Balance Traffic                       |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Build PM Peak Total                   | 104           | 237  | 19    | 0      | 360       | 0             | 398  | 39    | 0      | 437       | 2          | 0    | 3     | 0      | 5         | 66           | 1    | 230   | 0      | 297       | 1044        |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |



Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

| Pitts Road & High School Drive        |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
|---------------------------------------|----------------|------|-------|--------|-----------|-----------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|-------------|
| Design Peak Hour Traffic Calculations |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Start Time                            | High School Dr |      |       |        |           | -         |      |       |        |           | Pitts Rd   |      |       |        |           | Pitts Rd   |      |       |        |           | Peak Period |
|                                       | Eastbound      |      |       |        |           | Westbound |      |       |        |           | Northbound |      |       |        |           | Southbound |      |       |        |           |             |
|                                       | Left           | Thru | Right | U-Turn | App Total | Left      | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                               | 15             |      | 4     |        |           |           |      |       |        |           | 14         | 4    |       |        |           |            | 28   | 52    |        |           |             |
| 7:30 AM                               | 14             |      | 7     |        |           |           |      |       |        |           | 38         | 9    |       |        |           |            | 38   | 30    |        |           |             |
| 7:45 AM                               | 20             |      | 11    |        |           |           |      |       |        |           | 9          | 1    |       |        |           |            | 25   | 38    |        |           |             |
| 8:00 AM                               | 45             |      | 20    |        |           |           |      |       |        |           | 20         | 2    |       |        |           |            | 26   | 47    |        |           | 517         |
| No-Build AM Peak                      | 94             | 0    | 42    | 0      | 0         | 0         | 0    | 0     | 0      | 0         | 81         | 16   | 0     | 0      | 0         | 0          | 117  | 167   | 0      | 0         | 517         |
| Entering Traffic                      |                |      |       |        |           |           |      |       |        |           | 30         |      |       |        |           |            |      | 60    |        |           |             |
| Exiting Traffic                       | 36             |      | 7     |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Move Traffic                          |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                       |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build AM Peak Total                   | 130            | 0    | 49    | 0      | 179       | 0         | 0    | 0     | 0      | 0         | 111        | 16   | 0     | 0      | 127       | 0          | 117  | 227   | 0      | 344       | 517         |
|                                       |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| 2:45 PM                               | 32             |      | 6     |        |           |           |      |       |        |           | 12         | 14   |       |        |           |            | 15   | 27    |        |           |             |
| 3:00 PM                               | 22             |      | 11    |        |           |           |      |       |        |           | 10         | 10   |       |        |           |            | 16   | 20    |        |           |             |
| 3:15 PM                               | 74             |      | 56    |        |           |           |      |       |        |           | 10         | 30   |       |        |           |            | 9    | 11    |        |           |             |
| 3:30 PM                               | 12             |      | 7     |        |           |           |      |       |        |           | 2          | 10   |       |        |           |            | 11   | 6     |        |           | 433         |
| No-Build PM Peak                      | 140            | 0    | 80    | 0      | 0         | 0         | 0    | 0     | 0      | 0         | 34         | 64   | 0     | 0      | 0         | 0          | 51   | 64    | 0      | 0         | 433         |
| Entering Traffic                      |                |      |       |        |           |           |      |       |        |           | 9          |      |       |        |           |            |      | 18    |        |           |             |
| Exiting Traffic                       | 37             |      | 9     |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Move Traffic                          |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                       |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build PM Peak Total                   | 177            | 0    | 89    | 0      | 267       | 0         | 0    | 0     | 0      | 0         | 43         | 64   | 0     | 0      | 107       | 0          | 51   | 82    | 0      | 133       | 433         |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |





Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

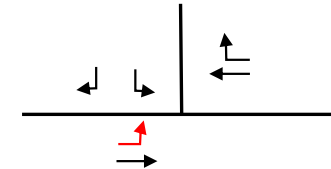
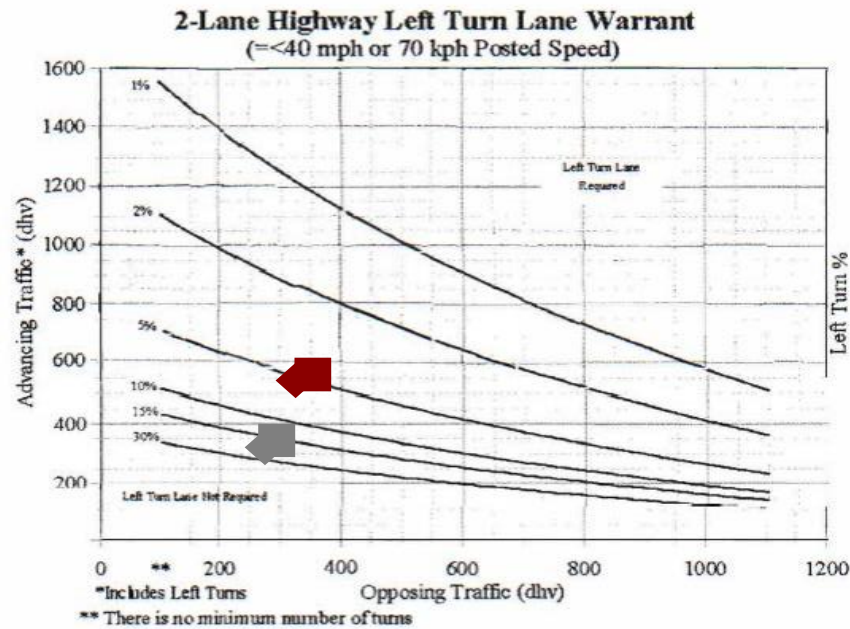
| Bainbridge Road & Repurposed Drive    |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |
|---------------------------------------|---------------|------|-------|--------|-----------|---------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|-------------------------|------|-------|--------|-----------|
| Design Peak Hour Traffic Calculations |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |
| Start Time                            | Bainbridge Rd |      |       |        |           | Bainbridge Rd |      |       |        |           | -          |      |       |        |           | High School Parking Lot |      |       |        |           |
|                                       | Eastbound     |      |       |        |           | Westbound     |      |       |        |           | Northbound |      |       |        |           | Southbound              |      |       |        |           |
|                                       | Left          | Thru | Right | U-Turn | App Total | Left          | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left                    | Thru | Right | U-Turn | App Total |
| 7:15 AM                               | 16            | 39   |       |        |           |               | 110  | 4     |        |           |            |      |       |        |           | 5                       |      | 21    |        |           |
| 7:30 AM                               | 38            | 38   |       |        |           |               | 106  | 9     |        |           |            |      |       |        |           | 14                      |      | 58    |        |           |
| 7:45 AM                               | 33            | 44   |       |        |           |               | 44   | 8     |        |           |            |      |       |        |           | 3                       |      | 12    |        |           |
| 8:00 AM                               | 75            | 13   |       |        |           |               | 42   | 19    |        |           |            |      |       |        |           | 6                       |      | 25    |        | 346       |
| No-Build AM Peak                      | 162           | 134  | 0     | 0      | 0         | 0             | 302  | 40    | 0      | 0         | 0          | 0    | 0     | 0      | 0         | 28                      | 0    | 116   | 0      | 0         |
| Entering Traffic                      | 45            |      |       |        |           |               |      | 15    |        |           |            |      |       |        |           |                         |      |       |        |           |
| Exiting Traffic                       |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           | 7                       |      | 21    |        |           |
| Move Traffic                          | 129           |      |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |
| Balance Traffic                       |               | 125  |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |
| Build AM Peak Total                   | 336           | 259  | 0     | 0      | 595       | 0             | 302  | 55    | 0      | 357       | 0          | 0    | 0     | 0      | 0         | 35                      | 0    | 137   | 0      | 172       |
| 2:45 PM                               | 17            | 73   |       |        |           |               | 60   | 7     |        |           |            |      |       |        |           | 18                      |      | 27    |        |           |
| 3:00 PM                               | 18            | 72   |       |        |           |               | 55   | 8     |        |           |            |      |       |        |           | 10                      |      | 15    |        |           |
| 3:15 PM                               | 4             | 70   |       |        |           |               | 78   | 2     |        |           |            |      |       |        |           | 53                      |      | 79    |        |           |
| 3:30 PM                               | 3             | 73   |       |        |           |               | 76   | 1     |        |           |            |      |       |        |           | 7                       |      | 10    |        | 277       |
| No-Build PM Peak                      | 42            | 288  | 0     | 0      | 0         | 0             | 269  | 18    | 0      | 0         | 0          | 0    | 0     | 0      | 0         | 88                      | 0    | 131   | 0      | 0         |
| Entering Traffic                      | 18            |      |       |        |           |               |      | 9     |        |           |            |      |       |        |           |                         |      |       |        |           |
| Exiting Traffic                       |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           | 9                       |      | 37    |        |           |
| Move Traffic                          |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |
| Balance Traffic                       |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |
| Build PM Peak Total                   | 60            | 288  | 0     | 0      | 348       | 0             | 269  | 27    | 0      | 296       | 0          | 0    | 0     | 0      | 0         | 97                      | 0    | 168   | 0      | 266       |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |

Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

## Bainbridge Road & Proposed Drive

### Turn Lane Warrant Analysis



| Bainbridge Road & Proposed Drive                                                    |              |                  |                   |            |              |                     |
|-------------------------------------------------------------------------------------|--------------|------------------|-------------------|------------|--------------|---------------------|
| Eastbound Left Turn                                                                 |              |                  |                   |            |              |                     |
|                                                                                     |              | Opposing Traffic | Advancing Traffic | Left Turns | % Left Turns | Turn Lane Warranted |
|  | 2029 AM Peak | 326              | 558               | 310        | 56%          | YES                 |
|  | 2029 PM Peak | 269              | 318               | 55         | 17%          | NO                  |
|  | 2049 AM Peak | 357              | 595               | 336        | 56%          | YES                 |
|  | 2049 PM Peak | 296              | 348               | 60         | 17%          | YES                 |



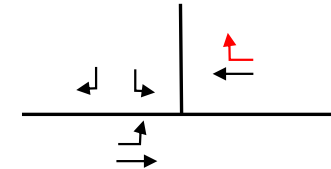
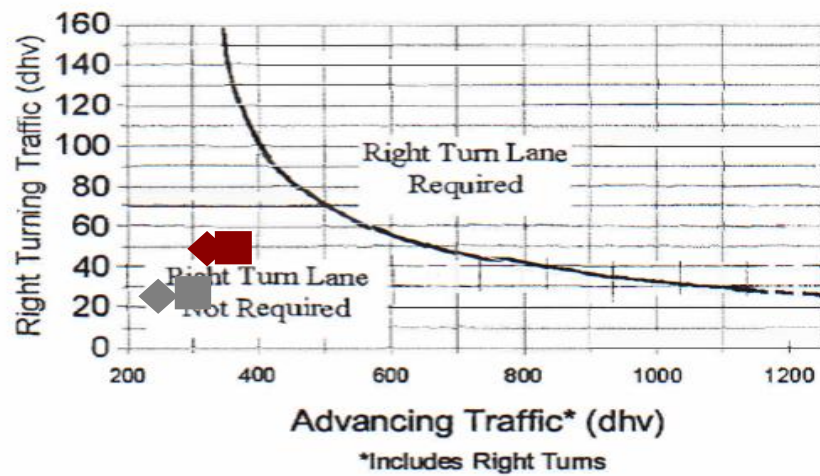


Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

### Bainbridge Road & Proposed Drive

#### Turn Lane Warrant Analysis

#### 2-Lane Highway Right Turn Lane Warrant =< 40 mph or 70 kph Posted Speed



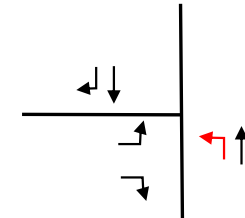
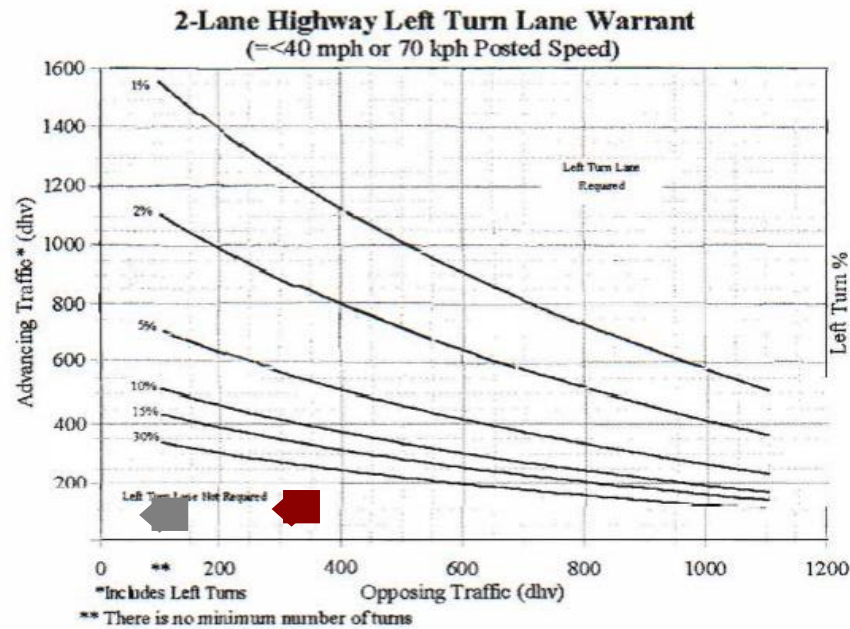
| Bainbridge Road & Proposed Drive |              |                   |             |                     |
|----------------------------------|--------------|-------------------|-------------|---------------------|
| Westbound Right Turn             |              |                   |             |                     |
|                                  |              | Advancing Traffic | Right Turns | Turn Lane Warranted |
|                                  | 2029 AM Peak | 326               | 52          | NO                  |
|                                  | 2029 PM Peak | 269               | 25          | NO                  |
|                                  | 2049 AM Peak | 357               | 55          | NO                  |
|                                  | 2049 PM Peak | 296               | 27          | NO                  |

Study Name: North Ridgeville CSD TIS

Date: 11/13/2024

Pitts Road & High School Drive

Turn Lane Warrant Analysis



| Pitts Road & High School Drive                                                      |              |                  |                   |            |              |                     |
|-------------------------------------------------------------------------------------|--------------|------------------|-------------------|------------|--------------|---------------------|
| Northbound Left Turn                                                                |              |                  |                   |            |              |                     |
|                                                                                     |              | Opposing Traffic | Advancing Traffic | Left Turns | % Left Turns | Turn Lane Warranted |
|  | 2029 AM Peak | 320              | 117               | 103        | 88%          | NO                  |
|  | 2029 PM Peak | 124              | 97                | 40         | 41%          | NO                  |
|  | 2049 AM Peak | 344              | 127               | 111        | 89%          | NO                  |
|  | 2049 PM Peak | 133              | 107               | 43         | 48%          | NO                  |





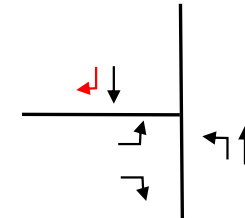
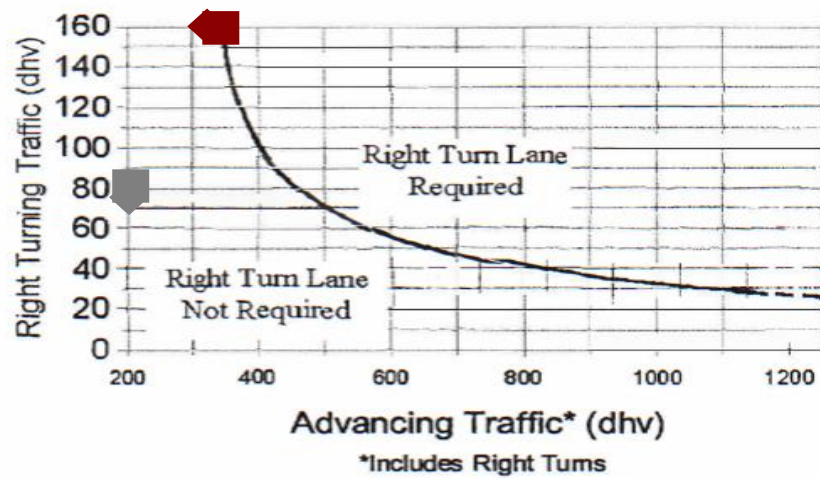
Study Name: North Ridgeville CSD TIS

Date: 11/13/2024

Pitts Road & High School Drive

Turn Lane Warrant Analysis

2-Lane Highway Right Turn Lane Warrant  
=< 40 mph or 70 kph Posted Speed



| Pitts Road & High School Drive |              |                   |             |                     |
|--------------------------------|--------------|-------------------|-------------|---------------------|
| Southbound Right Turn          |              |                   |             |                     |
|                                |              | Advancing Traffic | Right Turns | Turn Lane Warranted |
| ◆                              | 2029 AM Peak | 320               | 212         | NO                  |
| ◆                              | 2029 PM Peak | 124               | 77          | NO                  |
| ■                              | 2049 AM Peak | 344               | 227         | YES                 |
| ■                              | 2049 PM Peak | 133               | 82          | NO                  |

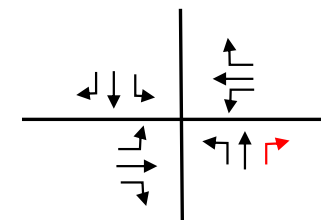
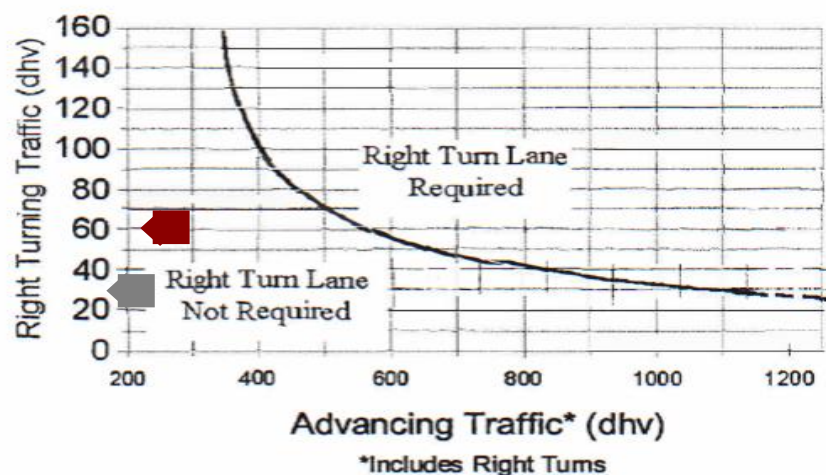


Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

### Ranger Way & NRAC

#### Turn Lane Warrant Analysis

#### 2-Lane Highway Right Turn Lane Warrant =< 40 mph or 70 kph Posted Speed



| Ranger Way & NRAC     |              |                   |             |                     |
|-----------------------|--------------|-------------------|-------------|---------------------|
| Northbound Right Turn |              |                   |             |                     |
|                       |              | Advancing Traffic | Right Turns | Turn Lane Warranted |
| ◆                     | 2029 AM Peak | 268               | 60          | NO                  |
| ◆                     | 2029 PM Peak | 194               | 32          | NO                  |
| ■                     | 2049 AM Peak | 292               | 65          | NO                  |
| ■                     | 2049 PM Peak | 211               | 35          | NO                  |



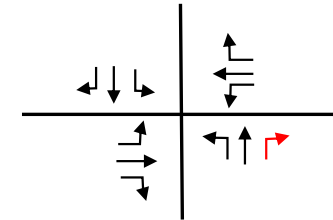


Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

### Ranger Way & Fire Station

#### Turn Lane Warrant Analysis

#### 2-Lane Highway Right Turn Lane Warrant =< 40 mph or 70 kph Posted Speed



| Ranger Way & Fire Station |              |                   |             |                     |
|---------------------------|--------------|-------------------|-------------|---------------------|
| Northbound Right Turn     |              |                   |             |                     |
|                           |              | Advancing Traffic | Right Turns | Turn Lane Warranted |
|                           | 2029 AM Peak | 332               | 107         | NO                  |
|                           | 2029 PM Peak | 341               | 50          | NO                  |
|                           | 2049 AM Peak | 363               | 117         | NO                  |
|                           | 2049 PM Peak | 373               | 56          | NO                  |

**DGL Consulting Engineers, LLC**  
**3455 Briarfield Blvd. - Suite E**      **419-535-1015**  
**Maumee, OH 43537**      **www.dgl-ltd.com**

Calculated by: tsj      Date: 8/22/2024  
 Checked by: cml      Date: 11/13/2024

Project: **North Ridgeville CSD TIS**  
 Road Name: **EB Bainbridge @ Repurposed Drive (Drive 2)**

|                             |            |                   |                              |            |
|-----------------------------|------------|-------------------|------------------------------|------------|
| Left Turn Movement:         | <b>336</b> | 56.47% Left Turns | Signalized                   |            |
| Thru Movement:              | <b>259</b> |                   | Cycle Length (if known)      |            |
| Right Turn Movement:        | <b>0</b>   | 0.00% Right Turns | Signalized Stopped Crossroad |            |
| Approach Volume:            | <b>595</b> |                   | Unsignalized Through Road    | <b>X</b>   |
| Speed Limit:                | <b>35</b>  |                   | Left Turn                    | <b>X</b>   |
| Average Vehicles per Cycle: |            |                   | 6                            | Right Turn |

Unsignalized or 2 Phase: **X**      3 Phase:      4 Phase:

| Type of Traffic Control        | Design Speed (MPH) |      |              |              |
|--------------------------------|--------------------|------|--------------|--------------|
|                                | 30-35              |      | 40-65        |              |
|                                | Turn Demand Volume |      |              |              |
|                                | High               | Low* | High         | Low*         |
| Signalized                     | A                  | A    | **<br>B or C | **<br>B or C |
| Unsignalized Stopped Crossroad | A                  | A    | A            | A            |
| Unsignalized Through Road      | A                  | A    | **<br>B or C | B            |

\* Low is considered 10% or Less of Approach Traffic Volume

\*\* Whichever is greater

|                                                                     |                                      |                                                                           |
|---------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------|
| <b>Condition A: Storage Only</b>                                    |                                      |                                                                           |
| Length = 50' (diverging taper) + Storage Length (L&D Figure 401-10) |                                      |                                                                           |
| Turn Lane Length:                                                   | <b>300</b>                           | Feet                                                                      |
| <b>Condition B: High Speed Deceleration Only</b>                    |                                      |                                                                           |
| Design Speed:                                                       | 35                                   | MPH                                                                       |
| Length:                                                             | 0                                    | Feet                                                                      |
| Turn Lane Length:                                                   | <b>0</b>                             | Feet- Including 50' Diverging Taper                                       |
| <b>Condition C: Moderate Speed Deceleration and Storage</b>         |                                      |                                                                           |
| Design Speed:                                                       |                                      | MPH                                                                       |
| Length:                                                             | <b>0</b>                             | Feet [including 50' Diverging Taper & Storage Length (L&D Figure 401-10)] |
| <b>Thru Block:</b>                                                  | Thru Movement:                       | 259                                                                       |
|                                                                     | Num. of Lanes:                       | 1                                                                         |
|                                                                     | Veh/hr/lane:                         | 259                                                                       |
|                                                                     | Average Vehicles Per Cycle Per Lane: | 4.00                                                                      |
|                                                                     | Thru Block:                          | <b>175</b> Feet                                                           |

|                                                      |
|------------------------------------------------------|
| <b>Proposed Turn Lane Length:      300      Feet</b> |
|------------------------------------------------------|



Calculated by: tsj      Date: 8/22/2024  
 Checked by: cml      Date: 11/13/2024

Project: **North Ridgeville CSD TIS**  
 Road Name: **SB Pitts Blvd at High School Drive**

|                             |            |                    |   |                              |          |
|-----------------------------|------------|--------------------|---|------------------------------|----------|
| Left Turn Movement:         | <b>0</b>   | 0.00% Left Turns   |   | Signalized                   |          |
| Thru Movement:              | <b>117</b> |                    |   | Cycle Length (if known)      |          |
| Right Turn Movement:        | <b>227</b> | 65.99% Right Turns |   | Signalized Stopped Crossroad |          |
| Approach Volume:            | <b>344</b> |                    |   | Unsignalized Through Road    | <b>X</b> |
| Speed Limit:                | <b>25</b>  |                    |   | Left Turn                    |          |
| Average Vehicles per Cycle: |            |                    | 4 | Right Turn                   | <b>X</b> |

Unsignalized or 2 Phase: **X**

3 Phase: ☐

4 Phase: ☐

| Type of Traffic Control        | Design Speed (MPH) |      |              |              |
|--------------------------------|--------------------|------|--------------|--------------|
|                                | 30-35              |      | 40-65        |              |
|                                | Turn Demand Volume |      |              |              |
|                                | High               | Low* | High         | Low*         |
| Signalized                     | A                  | A    | **<br>B or C | **<br>B or C |
| Unsignalized Stopped Crossroad | A                  | A    | A            | A            |
| Unsignalized Through Road      | A                  | A    | **<br>B or C | B            |

\* Low is considered 10% or Less of Approach Traffic Volume

\*\* Whichever is greater

**Condition A: Storage Only**

Length = 50' (diverging taper) + Storage Length (L&D Figure 401-10)

Turn Lane Length: **225** Feet

**Condition B: High Speed Deceleration Only**

Design Speed: 25 MPH

Length: 0 Feet

Turn Lane Length: **0** Feet- Including 50' Diverging Taper

**Condition C: Moderate Speed Deceleration and Storage**

Design Speed: MPH

Length: **0** Feet [including 50' Diverging Taper & Storage Length (L&D Figure 401-10)]

**Thru Block:**

|                                      |                 |
|--------------------------------------|-----------------|
| Thru Movement:                       | 117             |
| Num. of Lanes:                       | 1               |
| Veh/hr/lane:                         | 117             |
| Average Vehicles Per Cycle Per Lane: | 2.00            |
| Thru Block:                          | <b>100</b> Feet |

**Proposed Turn Lane Length:      225      Feet**

## STUDY AND ANALYSIS INFORMATION

|                            |                     |                                                   |           |
|----------------------------|---------------------|---------------------------------------------------|-----------|
| Municipality:              | North Ridgeville    | Traffic Volumes Obtained By:                      | DGL       |
| County:                    | Lorain              | Analysis Date:                                    | 8/22/2024 |
| ODOT Engineering District: | 3                   | Agency/ Company Name Performing Warrant Analysis: | DGL       |
| Google map link:           | <a href="#">Map</a> |                                                   |           |

### Analysis Information

|                       |           |
|-----------------------|-----------|
| Data Collection Date: | 4/30/2024 |
| Day of the Week:      | Tuesday   |

Is the intersection in a built-up area of an isolated community of <10,000 population? No

Existing Traffic Signal at intersection: No

Total Number of Approaches at Intersection: 4

### Major Street Information

Major Street Name and Route Number: Bainbridge Road

Major Street Approach Direction:

|         |
|---------|
| E-Bound |
| W-Bound |

Number of Thru Lanes on Each Major Street Approach: 1 LANE(S)

Speed Limit or 85th Percentile Speed on the Major Street\*: 35 MPH

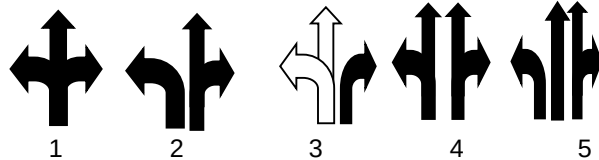
\*Unknown assumes below 45 mph

### Minor Street Information

Minor Street Name and Route Number: W Point Drive

Minor Street Approach Configuration:

|   |         |
|---|---------|
| 1 | N-Bound |
| 3 | S-Bound |



Number of Thru Lanes on Each Minor Street Approach: 1 LANE(S)

Apply Right Turn Lane Reduction\*: No

\*Right Turn Lane Reduction Shall be used for Warrants 1, 2, & 3 for New ODOT Signals. Please refer to TEM 402-3.2 for clarification and criteria under which Right Turn Reduction is not required.



## TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

|                                                                                              | Warrant     |            | Notes and Comments:                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------|-------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                              | Applicable? | Satisfied? |                                                                                                                                                                                                                                                                                                                              |
| Warrant 1, Eight-Hour Vehicular Volume                                                       | Yes         | No         |                                                                                                                                                                                                                                                                                                                              |
| Warrant 2, Four-Hour Vehicular Volume                                                        | Yes         | No         |                                                                                                                                                                                                                                                                                                                              |
| Warrant 3, Peak Hour                                                                         | Yes         | Yes        | <div>Signals installed under Warrant 3 should be traffic actuated.</div> <div> <div>Peak Hour</div> <div>7:15 AM</div> <div>8:15 AM</div> </div>                                                                                                                                                                             |
| For Warrants 1-3, new ODOT signals must be based off of 100% volume thresholds (TEM 402-3.2) |             |            |                                                                                                                                                                                                                                                                                                                              |
| Warrant 4, Pedestrian Volume                                                                 | Yes         | No         | <div>If this warrant is met, and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads complying with the provisions set forth in Chapter 4E of the OMUTCD.</div> <div> <div>Peak Hour</div> <div>7:15 AM</div> <div>8:15 AM</div> </div> |
| Warrant 5, School Crossing                                                                   | Yes         | No         | N/A                                                                                                                                                                                                                                                                                                                          |
| Warrant 6, Coordinated Signal System                                                         | No          |            | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                                                                                      |
| Warrant 7, Crash Experience                                                                  | Yes         | No         | If this is the sole warrant, signal must be semi-actuated with control devices which provide proper coordination if installed at an intersection within a coordinated system and normally should be fully traffic actuated if installed at an isolated intersection.                                                         |
| Warrant 8, Roadway Network                                                                   | Yes         | No         | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                                                                                      |
| Warrant 9, Intersection Near a Grade Crossing                                                | No          |            | Figure 4C-9                                                                                                                                                                                                                                                                                                                  |
| Multi-Way Stop Warrant                                                                       | No          |            | May be used as an interim measure if traffic signal warrants are satisfied.                                                                                                                                                                                                                                                  |

**The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.**

If no warrants are satisfied, additional options may be considered:

1. An engineering study, performed by a firm prequalified by ODOT for signal design, if approved by the ODOT district, may be used to justify a new signal installation or retention of an existing signal that otherwise does not meet the published warrants. An example of such an instance is a traffic signal in proximity to a railroad crossing that serves to reduce queuing across the tracks.
2. According to TEM 402-2, If the actual turning movement counts fail to satisfy a signal warrant, it may be acceptable to use traffic volumes projected to the second year after project completion. The **Modeling and Forecasting Section** should provide the projected traffic volumes.
3. A pedestrian hybrid beacon may be considered for installation to facilitate pedestrian crossings at a location that does not meet traffic signal warrants (see Chapter 4C of TEM) or at a location that meets traffic signal warrants under Sections 4C.05 and/or 4C.06 but a decision is made to not install a traffic control signal. **Please fill inputs on PHB Score Sheet and submit to ODOT.**

Considerations such as geometrics and lack of sight distance generally have not been accepted in lieu of satisfying signal warrants. These considerations may allow an otherwise unwarranted traffic signal to be retained at **100 percent** local cost. Please review TEM 402-4 for details.

Conclusion:

Notes:

## STUDY AND ANALYSIS INFORMATION

|                            |                     |                                                   |           |
|----------------------------|---------------------|---------------------------------------------------|-----------|
| Municipality:              | North Ridgeville    | Traffic Volumes Obtained By:                      | DGL       |
| County:                    | Lorain              | Analysis Date:                                    | 8/22/2024 |
| ODOT Engineering District: | 3                   | Agency/ Company Name Performing Warrant Analysis: | DGL       |
| Google map link:           | <a href="#">Map</a> |                                                   |           |

### Analysis Information

|                       |           |
|-----------------------|-----------|
| Data Collection Date: | 4/30/2024 |
| Day of the Week:      | Tuesday   |

Is the intersection in a built-up area of an isolated community of <10,000 population? No

Existing Traffic Signal at intersection: No

Total Number of Approaches at Intersection: 4

### Major Street Information

Major Street Name and Route Number: Bainbridge Road

Major Street Approach Direction: E-Bound  
W-Bound

Number of Thru Lanes on Each Major Street Approach: 1 LANE(S)

Speed Limit or 85th Percentile Speed on the Major Street\*: 35 MPH

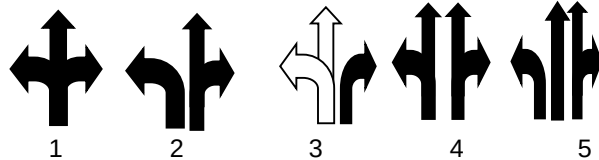
\*Unknown assumes below 45 mph

### Minor Street Information

Minor Street Name and Route Number: W Point Drive

Minor Street Approach Configuration: 

|   |         |
|---|---------|
| 1 | N-Bound |
| 3 | S-Bound |



Number of Thru Lanes on Each Minor Street Approach: 1 LANE(S)

Apply Right Turn Lane Reduction\*: No

\*Right Turn Lane Reduction Shall be used for Warrants 1, 2, & 3 for New ODOT Signals. Please refer to TEM 402-3.2 for clarification and criteria under which Right Turn Reduction is not required.



## TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

|                                                                                              | Warrant     |            | Notes and Comments:                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------|-------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                              | Applicable? | Satisfied? |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 1, Eight-Hour Vehicular Volume                                                       | Yes         | No         |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 2, Four-Hour Vehicular Volume                                                        | Yes         | No         |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 3, Peak Hour                                                                         | Yes         | Yes        | <div> <div>Signals installed under Warrant 3 should be traffic actuated.</div> <div> <div>Peak Hour</div> <div>7:15 AM</div> <div>8:15 AM</div> </div> </div>                                                                                                                                                                             |
| For Warrants 1-3, new ODOT signals must be based off of 100% volume thresholds (TEM 402-3.2) |             |            |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 4, Pedestrian Volume                                                                 | Yes         | No         | <div> <div>If this warrant is met, and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads complying with the provisions set forth in Chapter 4E of the OMUTCD.</div> <div> <div>Peak Hour</div> <div>7:15 AM</div> <div>8:15 AM</div> </div> </div> |
| Warrant 5, School Crossing                                                                   | Yes         | No         | N/A                                                                                                                                                                                                                                                                                                                                       |
| Warrant 6, Coordinated Signal System                                                         | No          |            | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                                                                                                   |
| Warrant 7, Crash Experience                                                                  | Yes         | No         | If this is the sole warrant, signal must be semi-actuated with control devices which provide proper coordination if installed at an intersection within a coordinated system and normally should be fully traffic actuated if installed at an isolated intersection.                                                                      |
| Warrant 8, Roadway Network                                                                   | Yes         | No         | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                                                                                                   |
| Warrant 9, Intersection Near a Grade Crossing                                                | No          |            | Figure 4C-9                                                                                                                                                                                                                                                                                                                               |
| Multi-Way Stop Warrant                                                                       | Yes         | No         | May be used as an interim measure if traffic signal warrants are satisfied.                                                                                                                                                                                                                                                               |

**The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.**

If no warrants are satisfied, additional options may be considered:

1. An engineering study, performed by a firm prequalified by ODOT for signal design, if approved by the ODOT district, may be used to justify a new signal installation or retention of an existing signal that otherwise does not meet the published warrants. An example of such an instance is a traffic signal in proximity to a railroad crossing that serves to reduce queuing across the tracks.
2. According to TEM 402-2, If the actual turning movement counts fail to satisfy a signal warrant, it may be acceptable to use traffic volumes projected to the second year after project completion. The **Modeling and Forecasting Section** should provide the projected traffic volumes.
3. A pedestrian hybrid beacon may be considered for installation to facilitate pedestrian crossings at a location that does not meet traffic signal warrants (see Chapter 4C of TEM) or at a location that meets traffic signal warrants under Sections 4C.05 and/or 4C.06 but a decision is made to not install a traffic control signal. **Please fill inputs on PHB Score Sheet and submit to ODOT.**

Considerations such as geometrics and lack of sight distance generally have not been accepted in lieu of satisfying signal warrants. These considerations may allow an otherwise unwarranted traffic signal to be retained at **100 percent** local cost. Please review TEM 402-4 for details.

Conclusion:

Notes:

## STUDY AND ANALYSIS INFORMATION

|                                   |                     |                                                          |           |
|-----------------------------------|---------------------|----------------------------------------------------------|-----------|
| <b>Municipality:</b>              | North Ridgeville    | <b>Traffic Volumes Obtained By:</b>                      | DGL       |
| <b>County:</b>                    | Lorain              | <b>Analysis Date:</b>                                    | 8/22/2024 |
| <b>ODOT Engineering District:</b> | 3                   | <b>Agency/ Company Name Performing Warrant Analysis:</b> | DGL       |
| <b>Google map link:</b>           | <a href="#">Map</a> |                                                          |           |

### Analysis Information

Data Collection Date: 4/30/2024  
Day of the Week: Tuesday

Is the intersection in a built-up area of an isolated community of <10,000 population? No

Existing Traffic Signal at intersection: No

Total Number of Approaches at Intersection: 4

### Major Street Information

Major Street Name and Route Number: Bainbridge Road

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W-Bound

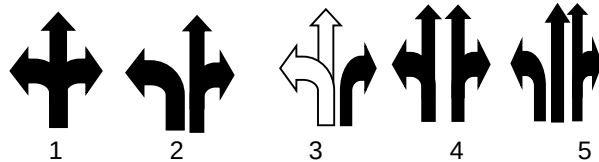
Number of Thru Lanes on Each Major Street Approach: 1 LANE(S)

Speed Limit or 85th Percentile Speed on the Major Street\*: 35 MPH  
\*Unknown assumes below 45 mph

### Minor Street Information

Minor Street Name and Route Number: W Point Drive

Minor Street Approach Configuration: 1 N-Bound  
3 S-Bound



Number of Thru Lanes on Each Minor Street Approach: 1 LANE(S)

Apply Right Turn Lane Reduction\*: No

\*Right Turn Lane Reduction Shall be used for Warrants 1, 2, & 3 for New ODOT Signals. Please refer to TEM 402-3.2 for clarification and criteria under which Right Turn Reduction is not required.



## TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

|                                                                                              |             | Warrant    |                                                                                                                                                                                                                                                                      | Notes and Comments:                                                                          |           |         |         |
|----------------------------------------------------------------------------------------------|-------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-----------|---------|---------|
|                                                                                              | Applicable? | Satisfied? |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
| Warrant 1, Eight-Hour Vehicular Volume                                                       | Yes         | No         |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
| Warrant 2, Four-Hour Vehicular Volume                                                        | Yes         | No         |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
| Warrant 3, Peak Hour                                                                         | Yes         | Yes        | Signals installed under Warrant 3 should be traffic actuated.                                                                                                                                                                                                        | <table><tr><td>Peak Hour</td></tr><tr><td>7:15 AM</td></tr><tr><td>8:15 AM</td></tr></table> | Peak Hour | 7:15 AM | 8:15 AM |
| Peak Hour                                                                                    |             |            |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
| 7:15 AM                                                                                      |             |            |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
| 8:15 AM                                                                                      |             |            |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
| For Warrants 1-3, new ODOT signals must be based off of 100% volume thresholds (TEM 402-3.2) |             |            |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
| Warrant 4, Pedestrian Volume                                                                 | Yes         | No         | If this warrant is met, and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads complying with the provisions set forth in Chapter 4E of the OMUTCD.                            | <table><tr><td>Peak Hour</td></tr><tr><td>7:15 AM</td></tr><tr><td>8:15 AM</td></tr></table> | Peak Hour | 7:15 AM | 8:15 AM |
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| 7:15 AM                                                                                      |             |            |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
| 8:15 AM                                                                                      |             |            |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
| Warrant 5, School Crossing                                                                   | Yes         | No         | N/A                                                                                                                                                                                                                                                                  |                                                                                              |           |         |         |
| Warrant 6, Coordinated Signal System                                                         | No          |            | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                              |                                                                                              |           |         |         |
| Warrant 7, Crash Experience                                                                  | Yes         | No         | If this is the sole warrant, signal must be semi-actuated with control devices which provide proper coordination if installed at an intersection within a coordinated system and normally should be fully traffic actuated if installed at an isolated intersection. |                                                                                              |           |         |         |
| Warrant 8, Roadway Network                                                                   | Yes         | No         | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                              |                                                                                              |           |         |         |
| Warrant 9, Intersection Near a Grade Crossing                                                | No          |            | Figure 4C-9                                                                                                                                                                                                                                                          |                                                                                              |           |         |         |
| Multi-Way Stop Warrant                                                                       | Yes         | No         | May be used as an interim measure if traffic signal warrants are satisfied.                                                                                                                                                                                          |                                                                                              |           |         |         |

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Conclusion:

Notes:

## STUDY AND ANALYSIS INFORMATION

|                            |                     |                                                   |           |
|----------------------------|---------------------|---------------------------------------------------|-----------|
| Municipality:              | North Ridgeville    | Traffic Volumes Obtained By:                      | DGL       |
| County:                    | Lorain              | Analysis Date:                                    | 8/22/2024 |
| ODOT Engineering District: | 3                   | Agency/ Company Name Performing Warrant Analysis: | DGL       |
| Google map link:           | <a href="#">Map</a> |                                                   |           |

### Analysis Information

|                       |           |
|-----------------------|-----------|
| Data Collection Date: | 4/30/2024 |
| Day of the Week:      | Tuesday   |

Is the intersection in a built-up area of an isolated community of <10,000 population? No

Existing Traffic Signal at intersection: No

Total Number of Approaches at Intersection: 4

### Major Street Information

Major Street Name and Route Number: Bainbridge Road

Major Street Approach Direction: E-Bound  
W-Bound

Number of Thru Lanes on Each Major Street Approach: 1 LANE(S)

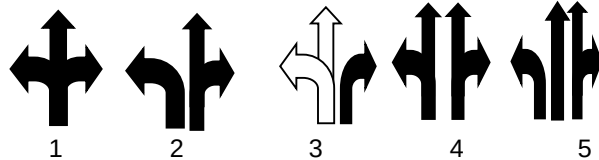
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### Minor Street Information

Minor Street Name and Route Number: W Point Drive

Minor Street Approach Configuration: 1 N-Bound  
3 S-Bound



Number of Thru Lanes on Each Minor Street Approach: 1 LANE(S)

Apply Right Turn Lane Reduction\*: No

\*Right Turn Lane Reduction Shall be used for Warrants 1, 2, & 3 for New ODOT Signals. Please refer to TEM 402-3.2 for clarification and criteria under which Right Turn Reduction is not required.



## TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

|                                                                                              | Warrant     |            | Notes and Comments:                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------|-------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                              | Applicable? | Satisfied? |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 1, Eight-Hour Vehicular Volume                                                       | Yes         | No         |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 2, Four-Hour Vehicular Volume                                                        | Yes         | No         |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 3, Peak Hour                                                                         | Yes         | Yes        | <div> <div>Signals installed under Warrant 3 should be traffic actuated.</div> <div> <div>Peak Hour</div> <div>7:15 AM</div> <div>8:15 AM</div> </div> </div>                                                                                                                                                                             |
| For Warrants 1-3, new ODOT signals must be based off of 100% volume thresholds (TEM 402-3.2) |             |            |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 4, Pedestrian Volume                                                                 | Yes         | No         | <div> <div>If this warrant is met, and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads complying with the provisions set forth in Chapter 4E of the OMUTCD.</div> <div> <div>Peak Hour</div> <div>7:15 AM</div> <div>8:15 AM</div> </div> </div> |
| Warrant 5, School Crossing                                                                   | Yes         | No         | N/A                                                                                                                                                                                                                                                                                                                                       |
| Warrant 6, Coordinated Signal System                                                         | No          |            | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                                                                                                   |
| Warrant 7, Crash Experience                                                                  | Yes         | No         | If this is the sole warrant, signal must be semi-actuated with control devices which provide proper coordination if installed at an intersection within a coordinated system and normally should be fully traffic actuated if installed at an isolated intersection.                                                                      |
| Warrant 8, Roadway Network                                                                   | Yes         | No         | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                                                                                                   |
| Warrant 9, Intersection Near a Grade Crossing                                                | No          |            | Figure 4C-9                                                                                                                                                                                                                                                                                                                               |
| Multi-Way Stop Warrant                                                                       | Yes         | No         | May be used as an interim measure if traffic signal warrants are satisfied.                                                                                                                                                                                                                                                               |

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Conclusion:

Notes:

## STUDY AND ANALYSIS INFORMATION

|                            |                     |                                                   |           |
|----------------------------|---------------------|---------------------------------------------------|-----------|
| Municipality:              | North Ridgeville    | Traffic Volumes Obtained By:                      | DGL       |
| County:                    | Lorain              | Analysis Date:                                    | 8/22/2024 |
| ODOT Engineering District: | 3                   | Agency/ Company Name Performing Warrant Analysis: | DGL       |
| Google map link:           | <a href="#">Map</a> |                                                   |           |

### Analysis Information

Data Collection Date: 4/30/2024  
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Is the intersection in a built-up area of an isolated community of <10,000 population? No

Existing Traffic Signal at intersection: No

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### Major Street Information

Major Street Name and Route Number: Bainbridge Road

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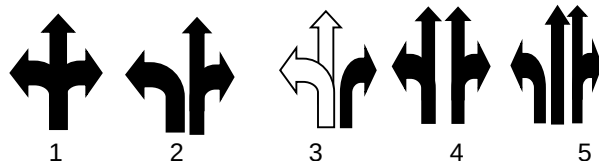
Speed Limit or 85th Percentile Speed on the Major Street\*: 35 MPH

\*Unknown assumes below 45 mph

### Minor Street Information

Minor Street Name and Route Number: W Point Drive

Minor Street Approach Configuration: 1 N-Bound  
3 S-Bound



Number of Thru Lanes on Each Minor Street Approach: 1 LANE(S)

Apply Right Turn Lane Reduction\*: No

\*Right Turn Lane Reduction Shall be used for Warrants 1, 2, & 3 for New ODOT Signals. Please refer to TEM 402-3.2 for clarification and criteria under which Right Turn Reduction is not required.



## TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

|                                                                                              |             | Warrant    |                                                                                                                                                                                                                                                                      | Notes and Comments:                                                                          |           |         |         |
|----------------------------------------------------------------------------------------------|-------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-----------|---------|---------|
|                                                                                              | Applicable? | Satisfied? |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
| Warrant 1, Eight-Hour Vehicular Volume                                                       | Yes         | No         |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
| Warrant 2, Four-Hour Vehicular Volume                                                        | Yes         | No         |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
| Warrant 3, Peak Hour                                                                         | Yes         | Yes        | Signals installed under Warrant 3 should be traffic actuated.                                                                                                                                                                                                        | <table><tr><td>Peak Hour</td></tr><tr><td>7:15 AM</td></tr><tr><td>8:15 AM</td></tr></table> | Peak Hour | 7:15 AM | 8:15 AM |
| Peak Hour                                                                                    |             |            |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
| 7:15 AM                                                                                      |             |            |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
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| Warrant 5, School Crossing                                                                   | Yes         | No         | N/A                                                                                                                                                                                                                                                                  |                                                                                              |           |         |         |
| Warrant 6, Coordinated Signal System                                                         | No          |            | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                              |                                                                                              |           |         |         |
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| Warrant 8, Roadway Network                                                                   | Yes         | No         | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                              |                                                                                              |           |         |         |
| Warrant 9, Intersection Near a Grade Crossing                                                | No          |            | Figure 4C-9                                                                                                                                                                                                                                                          |                                                                                              |           |         |         |
| Multi-Way Stop Warrant                                                                       | Yes         | No         | May be used as an interim measure if traffic signal warrants are satisfied.                                                                                                                                                                                          |                                                                                              |           |         |         |

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Considerations such as geometrics and lack of sight distance generally have not been accepted in lieu of satisfying signal warrants. These considerations may allow an otherwise unwarranted traffic signal to be retained at **100 percent** local cost. Please review TEM 402-4 for details.

Conclusion:

Notes:

## STUDY AND ANALYSIS INFORMATION

|                            |                     |                                                   |           |
|----------------------------|---------------------|---------------------------------------------------|-----------|
| Municipality:              | North Ridgeville    | Traffic Volumes Obtained By:                      | DGL       |
| County:                    | Lorain              | Analysis Date:                                    | 8/22/2024 |
| ODOT Engineering District: | 3                   | Agency/ Company Name Performing Warrant Analysis: | DGL       |
| Google map link:           | <a href="#">Map</a> |                                                   |           |

### Analysis Information

Data Collection Date: 4/30/2024  
 Day of the Week: Tuesday

Is the intersection in a built-up area of an isolated community of <10,000 population? No

Existing Traffic Signal at intersection: No

Total Number of Approaches at Intersection: 3

### Major Street Information

Major Street Name and Route Number: Bainbridge Road

Major Street Approach Direction: E-Bound  
W-Bound

Number of Thru Lanes on Each Major Street Approach: 1 LANE(S)

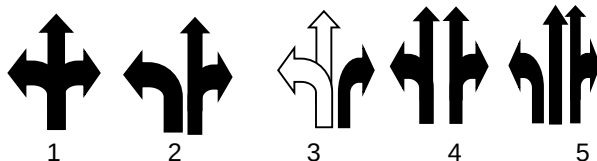
Speed Limit or 85th Percentile Speed on the Major Street\*: 35 MPH

\*Unknown assumes below 45 mph

### Minor Street Information

Minor Street Name and Route Number: Ranger Way

Minor Street Approach Configuration: N-Bound  
3 S-Bound



Number of Thru Lanes on Each Minor Street Approach: 0 LANE(S)

Apply Right Turn Lane Reduction\*: Yes

\*Right Turn Lane Reduction Shall be used for Warrants 1, 2, & 3 for New ODOT Signals. Please refer to TEM 402-3.2 for clarification and criteria under which Right Turn Reduction is not required.



## TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

|                                                                                              | Warrant     |            | Notes and Comments:                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------|-------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                              | Applicable? | Satisfied? |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 1, Eight-Hour Vehicular Volume                                                       | Yes         | No         |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 2, Four-Hour Vehicular Volume                                                        | Yes         | No         |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 3, Peak Hour                                                                         | Yes         | No         | <div> <div>Signals installed under Warrant 3 should be traffic actuated.</div> <div> <div>Peak Hour</div> <div>2:45 PM</div> <div>3:45 PM</div> </div> </div>                                                                                                                                                                             |
| For Warrants 1-3, new ODOT signals must be based off of 100% volume thresholds (TEM 402-3.2) |             |            |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 4, Pedestrian Volume                                                                 | Yes         | No         | <div> <div>If this warrant is met, and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads complying with the provisions set forth in Chapter 4E of the OMUTCD.</div> <div> <div>Peak Hour</div> <div>7:15 AM</div> <div>8:15 AM</div> </div> </div> |
| Warrant 5, School Crossing                                                                   | Yes         | No         | N/A                                                                                                                                                                                                                                                                                                                                       |
| Warrant 6, Coordinated Signal System                                                         | No          |            | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                                                                                                   |
| Warrant 7, Crash Experience                                                                  | Yes         | No         | If this is the sole warrant, signal must be semi-actuated with control devices which provide proper coordination if installed at an intersection within a coordinated system and normally should be fully traffic actuated if installed at an isolated intersection.                                                                      |
| Warrant 8, Roadway Network                                                                   | Yes         | No         | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                                                                                                   |
| Warrant 9, Intersection Near a Grade Crossing                                                | No          |            |                                                                                                                                                                                                                                                                                                                                           |
| Multi-Way Stop Warrant                                                                       | Yes         | No         | May be used as an interim measure if traffic signal warrants are satisfied.                                                                                                                                                                                                                                                               |

**The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.**

If no warrants are satisfied, additional options may be considered:

1. An engineering study, performed by a firm prequalified by ODOT for signal design, if approved by the ODOT district, may be used to justify a new signal installation or retention of an existing signal that otherwise does not meet the published warrants. An example of such an instance is a traffic signal in proximity to a railroad crossing that serves to reduce queuing across the tracks.
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Conclusion:

Notes:

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|                            |                     |                                                   |           |
|----------------------------|---------------------|---------------------------------------------------|-----------|
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| ODOT Engineering District: | 3                   | Agency/ Company Name Performing Warrant Analysis: | DGL       |
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### Analysis Information

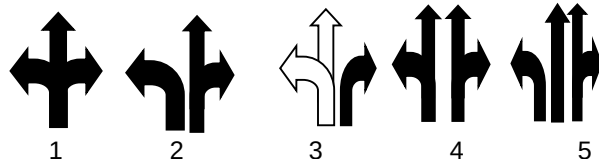
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W-BoundNumber of Thru Lanes on Each Major Street Approach: 1 LANE(S)Speed Limit or 85th Percentile Speed on the Major Street\*: 35 MPH

\*Unknown assumes below 45 mph

### Minor Street Information

Minor Street Name and Route Number: Ranger WayMinor Street Approach Configuration: 3 N-Bound  
S-BoundNumber of Thru Lanes on Each Minor Street Approach: 0 LANE(S)Apply Right Turn Lane Reduction\*: Yes

\*Right Turn Lane Reduction Shall be used for Warrants 1, 2, & 3 for New ODOT Signals. Please refer to TEM 402-3.2 for clarification and criteria under which Right Turn Reduction is not required.



## TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

|                                                                                              | Warrant     |            | Notes and Comments:                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------|-------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                              | Applicable? | Satisfied? |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 1, Eight-Hour Vehicular Volume                                                       | Yes         | No         |                                                                                                                                                                                                                                                                                                                                           |
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| Warrant 3, Peak Hour                                                                         | Yes         | No         | <div> <div>Signals installed under Warrant 3 should be traffic actuated.</div> <div> <div>Peak Hour</div> <div>2:45 PM</div> <div>3:45 PM</div> </div> </div>                                                                                                                                                                             |
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| Warrant 5, School Crossing                                                                   | Yes         | No         | N/A                                                                                                                                                                                                                                                                                                                                       |
| Warrant 6, Coordinated Signal System                                                         | No          |            | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                                                                                                   |
| Warrant 7, Crash Experience                                                                  | Yes         | No         | If this is the sole warrant, signal must be semi-actuated with control devices which provide proper coordination if installed at an intersection within a coordinated system and normally should be fully traffic actuated if installed at an isolated intersection.                                                                      |
| Warrant 8, Roadway Network                                                                   | Yes         | No         | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                                                                                                   |
| Warrant 9, Intersection Near a Grade Crossing                                                | No          |            |                                                                                                                                                                                                                                                                                                                                           |
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Conclusion:

Notes:

North Ridgeville City School District

# **North Ridgeville CSD Traffic Impact Study**

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## **Appendix D HCS 2024 Reports**



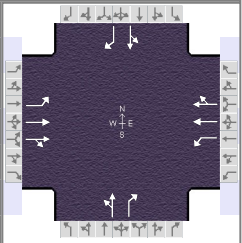
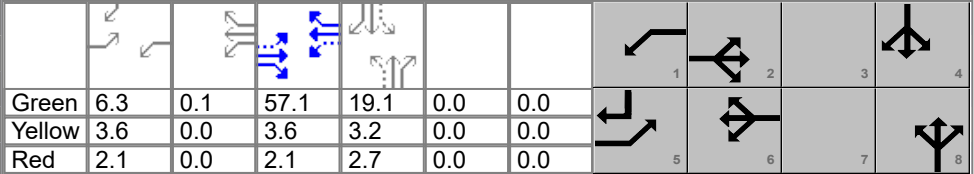
North Ridgeville City School District

# **North Ridgeville CSD Traffic Impact Study**

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## **HCS 2024 Reports – Existing Conditions**

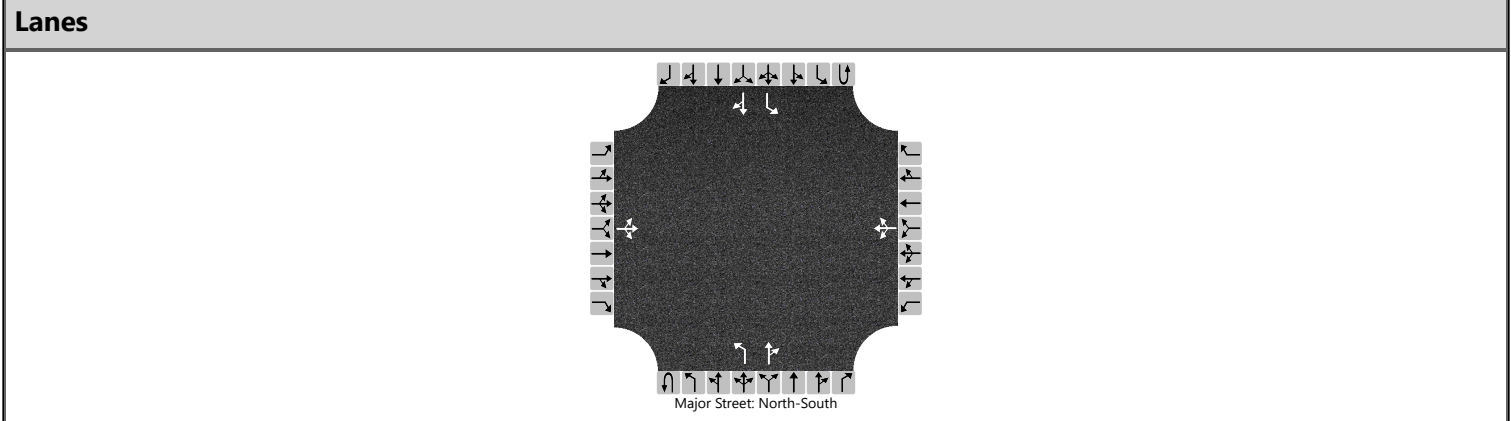
# HCS Signalized Intersection Results Summary

| General Information                             |       |                             |      |                                                                                    |       | Intersection Information                        |       |                 |       |         |       |  |     |       |       |       |  |      |  |
|-------------------------------------------------|-------|-----------------------------|------|------------------------------------------------------------------------------------|-------|-------------------------------------------------|-------|-----------------|-------|---------|-------|-------------------------------------------------------------------------------------|-----|-------|-------|-------|--|------|--|
| Agency                                          |       | DGL                         |      |                                                                                    |       | Duration, h                                     |       | 0.250           |       |         |       |                                                                                     |     |       |       |       |  |      |  |
| Analyst                                         |       | tsj                         |      | Analysis Date                                                                      |       | Jun 18, 2024                                    |       | Area Type       |       | Other   |       |                                                                                     |     |       |       |       |  |      |  |
| Jurisdiction                                    |       | City of North Ridgeville    |      | Time Period                                                                        |       | AM Peak                                         |       | PHF             |       | 0.89    |       |                                                                                     |     |       |       |       |  |      |  |
| Urban Street                                    |       | Center Ridge                |      | Analysis Year                                                                      |       | 2024                                            |       | Analysis Period |       | 1> 7:00 |       |                                                                                     |     |       |       |       |  |      |  |
| Intersection                                    |       | Center Ridge & Ranger...    |      | File Name                                                                          |       | 2024 Existing AM Peak Center Ridge & Ranger.xus |       |                 |       |         |       |                                                                                     |     |       |       |       |  |      |  |
| Project Description                             |       | AM Peak Existing Conditions |      |                                                                                    |       |                                                 |       |                 |       |         |       |                                                                                     |     |       |       |       |  |      |  |
| Demand Information                              |       |                             |      | EB                                                                                 |       |                                                 | WB    |                 |       | NB      |       |                                                                                     | SB  |       |       |       |  |      |  |
| Approach Movement                               |       |                             |      | L                                                                                  | T     | R                                               | L     | T               | R     | L       | T     | R                                                                                   | L   | T     | R     |       |  |      |  |
| Demand ( v ), veh/h                             |       |                             |      | 76                                                                                 | 532   | 128                                             | 84    | 422             | 89    | 120     | 111   | 167                                                                                 | 183 | 162   | 98    |       |  |      |  |
| Signal Information                              |       |                             |      |  |       |                                                 |       |                 |       |         |       |                                                                                     |     |       |       |       |  |      |  |
| Cycle, s                                        | 100.0 | Reference Phase             | 2    |                                                                                    |       |                                                 |       |                 |       |         |       |                                                                                     |     |       |       |       |  |      |  |
| Offset, s                                       | 0     | Reference Point             | End  |                                                                                    |       |                                                 |       |                 |       |         |       |                                                                                     |     |       |       |       |  |      |  |
| Uncoordinated                                   | No    | Simult. Gap E/W             | On   |                                                                                    |       |                                                 |       |                 |       |         |       |                                                                                     |     |       |       |       |  |      |  |
| Force Mode                                      | Fixed | Simult. Gap N/S             | On   |                                                                                    |       |                                                 |       |                 |       |         |       |                                                                                     |     |       |       |       |  |      |  |
| Green                                           | 6.3   | 0.1                         | 57.1 | 19.1                                                                               | 0.0   | 0.0                                             |       |                 |       |         |       |                                                                                     |     |       |       |       |  |      |  |
| Yellow                                          | 3.6   | 0.0                         | 3.6  | 3.2                                                                                | 0.0   | 0.0                                             |       |                 |       |         |       |                                                                                     |     |       |       |       |  |      |  |
| Red                                             | 2.1   | 0.0                         | 2.1  | 2.7                                                                                | 0.0   | 0.0                                             |       |                 |       |         |       |                                                                                     |     |       |       |       |  |      |  |
| Timer Results                                   |       |                             |      | EBL                                                                                |       | EBT                                             |       | WBL             |       | WBT     |       | NBL                                                                                 |     | NBT   |       | SBL   |  | SBT  |  |
| Assigned Phase                                  |       |                             |      | 5                                                                                  |       | 2                                               |       | 1               |       | 6       |       |                                                                                     |     | 8     |       |       |  | 4    |  |
| Case Number                                     |       |                             |      | 1.1                                                                                |       | 4.0                                             |       | 1.1             |       | 4.0     |       |                                                                                     |     | 7.0   |       |       |  | 7.0  |  |
| Phase Duration, s                               |       |                             |      | 12.0                                                                               |       | 62.8                                            |       | 12.2            |       | 63.0    |       |                                                                                     |     | 25.0  |       |       |  | 25.0 |  |
| Change Period, ( Y+R c ), s                     |       |                             |      | 5.7                                                                                |       | 5.7                                             |       | 5.7             |       | 5.7     |       |                                                                                     |     | 5.9   |       |       |  | 5.9  |  |
| Max Allow Headway ( MAH ), s                    |       |                             |      | 4.1                                                                                |       | 0.0                                             |       | 4.1             |       | 0.0     |       |                                                                                     |     | 4.3   |       |       |  | 4.3  |  |
| Queue Clearance Time ( g s ), s                 |       |                             |      | 3.9                                                                                |       |                                                 |       | 4.1             |       |         |       |                                                                                     |     | 21.1  |       |       |  | 21.1 |  |
| Green Extension Time ( g e ), s                 |       |                             |      | 0.1                                                                                |       | 0.0                                             |       | 0.1             |       | 0.0     |       |                                                                                     |     | 0.0   |       |       |  | 0.0  |  |
| Phase Call Probability                          |       |                             |      | 0.91                                                                               |       |                                                 |       | 0.93            |       |         |       |                                                                                     |     | 1.00  |       |       |  | 1.00 |  |
| Max Out Probability                             |       |                             |      | 0.26                                                                               |       |                                                 |       | 0.33            |       |         |       |                                                                                     |     | 1.00  |       |       |  | 1.00 |  |
| Movement Group Results                          |       |                             |      | EB                                                                                 |       |                                                 | WB    |                 |       | NB      |       |                                                                                     | SB  |       |       |       |  |      |  |
| Approach Movement                               |       |                             |      | L                                                                                  | T     | R                                               | L     | T               | R     | L       | T     | R                                                                                   | L   | T     | R     |       |  |      |  |
| Assigned Movement                               |       |                             |      | 5                                                                                  | 2     | 12                                              | 1     | 6               | 16    | 3       | 8     | 18                                                                                  | 7   | 4     | 14    |       |  |      |  |
| Adjusted Flow Rate ( v ), veh/h                 |       |                             |      | 85                                                                                 | 383   | 359                                             | 94    | 295             | 280   |         | 260   | 188                                                                                 |     | 388   | 110   |       |  |      |  |
| Adjusted Saturation Flow Rate ( s ), veh/h/ln   |       |                             |      | 1753                                                                               | 1841  | 1717                                            | 1767  | 1856            | 1743  |         | 1287  | 1572                                                                                |     | 1273  | 1585  |       |  |      |  |
| Queue Service Time ( g s ), s                   |       |                             |      | 1.9                                                                                | 11.3  | 11.3                                            | 2.1   | 8.1             | 8.2   |         | 0.0   | 11.0                                                                                |     | 0.0   | 5.6   |       |  |      |  |
| Cycle Queue Clearance Time ( g c ), s           |       |                             |      | 1.9                                                                                | 11.3  | 11.3                                            | 2.1   | 8.1             | 8.2   |         | 19.1  | 11.0                                                                                |     | 19.1  | 5.6   |       |  |      |  |
| Green Ratio ( g/C )                             |       |                             |      | 0.63                                                                               | 0.57  | 0.57                                            | 0.64  | 0.57            | 0.57  |         | 0.19  | 0.19                                                                                |     | 0.19  | 0.25  |       |  |      |  |
| Capacity ( c ), veh/h                           |       |                             |      | 572                                                                                | 1051  | 980                                             | 513   | 1062            | 998   |         | 300   | 300                                                                                 |     | 298   | 403   |       |  |      |  |
| Volume-to-Capacity Ratio ( X )                  |       |                             |      | 0.149                                                                              | 0.364 | 0.366                                           | 0.184 | 0.277           | 0.280 |         | 0.864 | 0.625                                                                               |     | 1.300 | 0.273 |       |  |      |  |
| Back of Queue ( Q ), ft/ln ( 95 th percentile)  |       |                             |      | 30                                                                                 | 207   | 192                                             | 33    | 150             | 140   |         | 333   | 206                                                                                 |     | 798   | 97    |       |  |      |  |
| Back of Queue ( Q ), veh/ln ( 95 th percentile) |       |                             |      | 1.2                                                                                | 8.0   | 7.7                                             | 1.3   | 5.9             | 5.6   |         | 13.0  | 8.1                                                                                 |     | 31.4  | 3.8   |       |  |      |  |
| Queue Storage Ratio ( RQ ) ( 95 th percentile)  |       |                             |      | 0.00                                                                               | 0.00  | 0.00                                            | 0.00  | 0.00            | 0.00  |         | 0.00  | 0.00                                                                                |     | 0.00  | 0.00  |       |  |      |  |
| Uniform Delay ( d 1 ), s/veh                    |       |                             |      | 7.6                                                                                | 11.6  | 11.6                                            | 7.7   | 10.9            | 10.9  |         | 41.0  | 37.2                                                                                |     | 42.2  | 29.9  |       |  |      |  |
| Incremental Delay ( d 2 ), s/veh                |       |                             |      | 0.1                                                                                | 1.0   | 1.1                                             | 0.2   | 0.6             | 0.7   |         | 22.0  | 4.0                                                                                 |     | 157.5 | 0.4   |       |  |      |  |
| Initial Queue Delay ( d 3 ), s/veh              |       |                             |      | 0.0                                                                                | 0.0   | 0.0                                             | 0.0   | 0.0             | 0.0   |         | 0.0   | 0.0                                                                                 |     | 0.0   | 0.0   |       |  |      |  |
| Control Delay ( d ), s/veh                      |       |                             |      | 7.7                                                                                | 12.6  | 12.7                                            | 7.9   | 11.5            | 11.6  |         | 63.0  | 41.2                                                                                |     | 199.7 | 30.2  |       |  |      |  |
| Level of Service (LOS)                          |       |                             |      | A                                                                                  | B     | B                                               | A     | B               | B     |         | E     | D                                                                                   |     | F     | C     |       |  |      |  |
| Approach Delay, s/veh / LOS                     |       |                             |      | 12.1                                                                               |       | B                                               |       | 11.0            |       | B       |       | 53.8                                                                                |     | D     |       | 162.2 |  | F    |  |
| Intersection Delay, s/veh / LOS                 |       |                             |      | 50.1                                                                               |       |                                                 |       |                 |       | D       |       |                                                                                     |     |       |       |       |  |      |  |
| Multimodal Results                              |       |                             |      | EB                                                                                 |       |                                                 | WB    |                 |       | NB      |       |                                                                                     | SB  |       |       |       |  |      |  |
| Pedestrian LOS Score / LOS                      |       |                             |      | 1.89                                                                               |       | B                                               |       | 1.89            |       | B       |       | 2.30                                                                                |     | B     |       | 2.30  |  | B    |  |
| Bicycle LOS Score / LOS                         |       |                             |      | 1.17                                                                               |       | A                                               |       | 1.04            |       | A       |       | 1.23                                                                                |     | A     |       | 1.31  |  | A    |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                        |
|--------------------------|--------------------------|----------------------------|----------------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Fire Station/School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville               |
| Date Performed           | 5/17/2024                | East/West Street           | Fire Station Drive                     |
| Analysis Year            | 2024                     | North/South Street         | Ranger Way                             |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.64                                   |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                   |
| Project Description      | Existing Conditions      |                            |                                        |



| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|-----|------------|---|-----|----|------------|-----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |     | Northbound |   |     |    | Southbound |     |     |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R   | U          | L | T   | R  | U          | L   | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9   | 1U         | 1 | 2   | 3  | 4U         | 4   | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0   | 0          | 1 | 1   | 0  | 0          | 1   | 1   | 0  |
| Configuration                   |           |    | LTR |    |           |    | LTR |     |            | L |     | TR |            | L   |     | TR |
| Volume (veh/h)                  |           | 0  | 0   | 3  |           | 13 | 0   | 208 |            | 3 | 190 | 95 |            | 171 | 207 | 5  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 11 | 11  | 11  |            | 8 |     |    |            | 4   |     |    |
| Proportion Time Blocked         |           |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |     |            |   |     |    |            |     |     |    |
| Right Turn Channelized          |           |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |

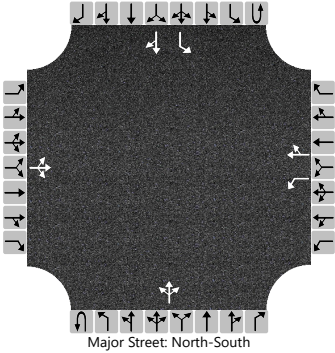
| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.21 | 6.61 | 6.31 |  | 4.18 |  |  |  | 4.14 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.60 | 4.10 | 3.40 |  | 2.27 |  |  |  | 2.24 |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |      |  |       |  |     |      |  |  |     |      |  |  |
|-------------------------------------------|------|--|------|--|------|--|-------|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                      |      |  | 5    |  |      |  | 345   |  |     | 5    |  |  |     | 267  |  |  |
| Capacity, c (veh/h)                       |      |  | 719  |  |      |  | 484   |  |     | 1195 |  |  |     | 1067 |  |  |
| v/c Ratio                                 |      |  | 0.01 |  |      |  | 0.71  |  |     | 0.00 |  |  |     | 0.25 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.0  |  |      |  | 5.6   |  |     | 0.0  |  |  |     | 1.0  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 0.0  |  |      |  | 152.3 |  |     | 0.0  |  |  |     | 25.8 |  |  |
| Control Delay (s/veh)                     |      |  | 10.0 |  |      |  | 28.8  |  |     | 8.0  |  |  |     | 9.5  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |      |  | D     |  |     | A    |  |  |     | A    |  |  |
| Approach Delay (s/veh)                    | 10.0 |  |      |  | 28.8 |  |       |  | 0.1 |      |  |  | 4.2 |      |  |  |
| Approach LOS                              | B    |  |      |  | D    |  |       |  | A   |      |  |  | A   |      |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                          |
|--------------------------|--------------------------|----------------------------|--------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & NRAC Drive  |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville |
| Date Performed           | 5/17/2024                | East/West Street           | NRAC Drive               |
| Analysis Year            | 2024                     | North/South Street         | Ranger Way               |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.75                     |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                     |
| Project Description      | Existing Conditions      |                            |                          |

Lanes



Major Street: North-South

| Vehicle Volumes and Adjustments |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
|---------------------------------|-----------|----|-----|----|-----------|----|----|-----|------------|---|-----|----|------------|-----|----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |    |     | Northbound |   |     |    | Southbound |     |    |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T  | R   | U          | L | T   | R  | U          | L   | T  | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8  | 9   | 1U         | 1 | 2   | 3  | 4U         | 4   | 5  | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 1  | 1  | 0   | 0          | 0 | 1   | 0  | 0          | 1   | 1  | 0  |
| Configuration                   |           |    | LTR |    |           | L  |    | TR  |            |   | LTR |    |            | L   |    | TR |
| Volume (veh/h)                  |           | 0  | 0   | 1  |           | 41 | 0  | 112 |            | 4 | 175 | 53 |            | 177 | 52 | 0  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 14 | 14 | 14  |            | 5 |     |    |            | 6   |    |    |
| Proportion Time Blocked         |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |    |     |            |   |     |    |            |     |    |    |
| Right Turn Channelized          |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.24 | 6.64 | 6.34 |  | 4.15 |  |  |  | 4.16 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.63 | 4.13 | 3.43 |  | 2.25 |  |  |  | 2.25 |  |  |

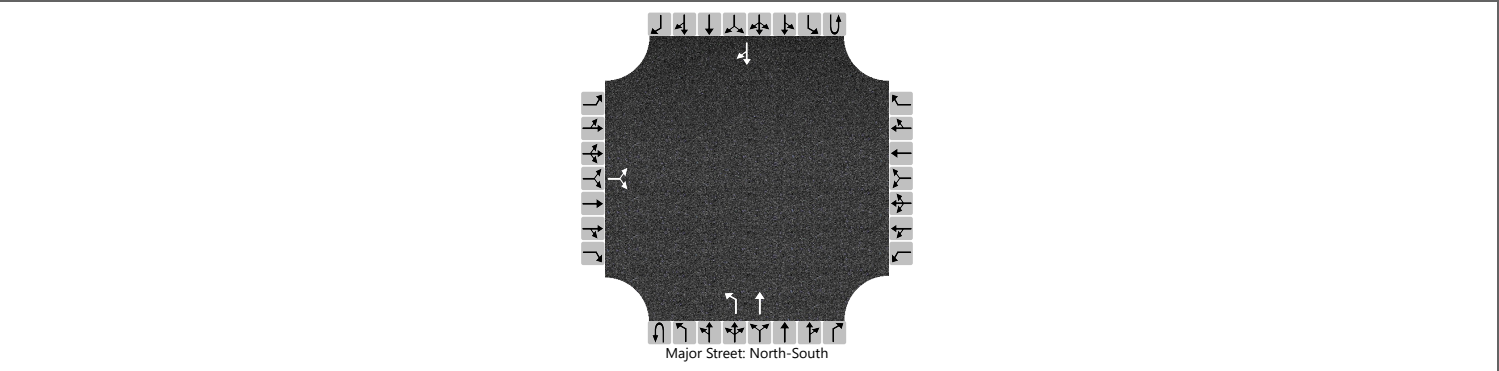
| Delay, Queue Length, and Level of Service |     |  |      |  |      |      |  |      |     |      |     |     |     |      |  |  |
|-------------------------------------------|-----|--|------|--|------|------|--|------|-----|------|-----|-----|-----|------|--|--|
| Flow Rate, v (veh/h)                      |     |  | 1    |  |      | 55   |  | 149  |     | 5    |     |     |     | 236  |  |  |
| Capacity, c (veh/h)                       |     |  | 999  |  |      | 225  |  | 742  |     | 1513 |     |     |     | 1234 |  |  |
| v/c Ratio                                 |     |  | 0.00 |  |      | 0.24 |  | 0.20 |     | 0.00 |     |     |     | 0.19 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     |  | 0.0  |  |      | 0.9  |  | 0.7  |     | 0.0  |     |     |     | 0.7  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     |  | 0.0  |  |      | 25.0 |  | 19.5 |     |      |     |     |     | 18.3 |  |  |
| Control Delay (s/veh)                     |     |  | 8.6  |  |      | 26.1 |  | 11.1 |     | 7.4  | 0.0 | 0.0 |     | 8.6  |  |  |
| Level of Service (LOS)                    |     |  | A    |  |      | D    |  | B    |     | A    | A   | A   |     | A    |  |  |
| Approach Delay (s/veh)                    | 8.6 |  |      |  | 15.1 |      |  |      | 0.2 |      |     |     | 6.7 |      |  |  |
| Approach LOS                              | A   |  |      |  | C    |      |  |      | A   |      |     |     | A   |      |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                |
|--------------------------|--------------------------|----------------------------|--------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Kenssington Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville       |
| Date Performed           | 5/17/2024                | East/West Street           | Kenssington Drive              |
| Analysis Year            | 2024                     | North/South Street         | Ranger Way                     |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.68                           |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                           |
| Project Description      | Existing Conditions      |                            |                                |

Lanes



Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |    |    | Westbound |   |   |   | Northbound |   |     |   | Southbound |   |    |    |
|----------------------------|-----------|----|----|----|-----------|---|---|---|------------|---|-----|---|------------|---|----|----|
| Movement                   | U         | L  | T  | R  | U         | L | T | R | U          | L | T   | R | U          | L | T  | R  |
| Priority                   |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1 | 2   | 3 | 4U         | 4 | 5  | 6  |
| Number of Lanes            |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 1 | 1   | 0 | 0          | 0 | 1  | 0  |
| Configuration              |           |    | LR |    |           |   |   |   |            | L | T   |   |            |   |    | TR |
| Volume (veh/h)             |           | 9  |    | 39 |           |   |   |   |            | 9 | 217 |   |            |   | 93 | 2  |
| Percent Heavy Vehicles (%) |           | 13 |    | 13 |           |   |   |   |            | 6 |     |   |            |   |    |    |
| Proportion Time Blocked    |           |    |    |    |           |   |   |   |            |   |     |   |            |   |    |    |
| Percent Grade (%)          | 0         |    |    |    |           |   |   |   |            |   |     |   |            |   |    |    |
| Right Turn Channelized     |           |    |    |    |           |   |   |   |            |   |     |   |            |   |    |    |
| Median Type   Storage      | Undivided |    |    |    |           |   |   |   |            |   |     |   |            |   |    |    |

Critical and Follow-up Headways

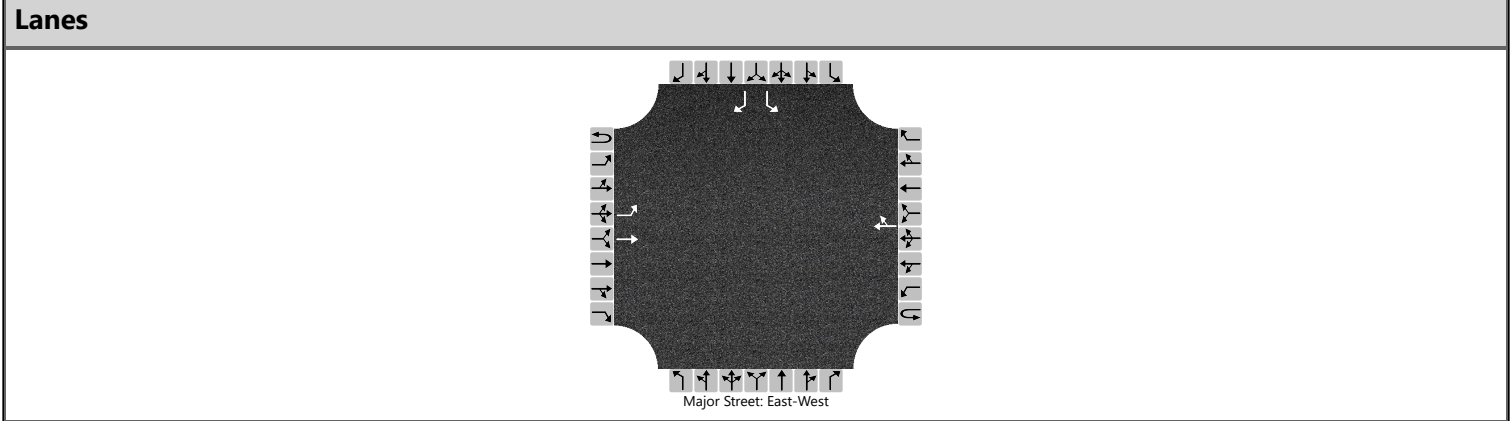
|                              |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)  |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)       |  | 6.53 |  | 6.33 |  |  |  |  |  | 4.16 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)      |  | 3.62 |  | 3.42 |  |  |  |  |  | 2.25 |  |  |  |  |  |  |

Delay, Queue Length, and Level of Service

|                                         |      |  |      |  |  |  |  |  |     |      |  |  |  |  |  |  |
|-----------------------------------------|------|--|------|--|--|--|--|--|-----|------|--|--|--|--|--|--|
| Flow Rate, v (veh/h)                    |      |  | 71   |  |  |  |  |  |     | 13   |  |  |  |  |  |  |
| Capacity, c (veh/h)                     |      |  | 773  |  |  |  |  |  |     | 1419 |  |  |  |  |  |  |
| v/c Ratio                               |      |  | 0.09 |  |  |  |  |  |     | 0.01 |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |      |  | 0.3  |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)  |      |  | 8.3  |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| Control Delay (s/veh)                   |      |  | 10.1 |  |  |  |  |  |     | 7.6  |  |  |  |  |  |  |
| Level of Service (LOS)                  |      |  | B    |  |  |  |  |  |     | A    |  |  |  |  |  |  |
| Approach Delay (s/veh)                  | 10.1 |  |      |  |  |  |  |  | 0.3 |      |  |  |  |  |  |  |
| Approach LOS                            | B    |  |      |  |  |  |  |  | A   |      |  |  |  |  |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                              |
|--------------------------|--------------------------|----------------------------|------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Ranger Way |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road              |
| Analysis Year            | 2024                     | North/South Street         | Ranger Way                   |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.79                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                         |
| Project Description      | Existing Conditions      |                            |                              |



| Vehicle Volumes and Adjustments |           |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
|---------------------------------|-----------|-----|-----|---|-----------|---|-----|-----|------------|---|---|---|------------|----|----|----|
| Approach                        | Eastbound |     |     |   | Westbound |   |     |     | Northbound |   |   |   | Southbound |    |    |    |
| Movement                        | U         | L   | T   | R | U         | L | T   | R   | U          | L | T | R | U          | L  | T  | R  |
| Priority                        | 1U        | 1   | 2   | 3 | 4U        | 4 | 5   | 6   |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Number of Lanes                 | 0         | 1   | 1   | 0 | 0         | 0 | 1   | 0   |            | 0 | 0 | 0 |            | 1  | 0  | 1  |
| Configuration                   |           | L   | T   |   |           |   |     | TR  |            |   |   |   |            | L  |    | R  |
| Volume (veh/h)                  |           | 101 | 509 |   |           |   | 312 | 125 |            |   |   |   |            | 44 |    | 67 |
| Percent Heavy Vehicles (%)      |           | 2   |     |   |           |   |     |     |            |   |   |   |            | 14 |    | 14 |
| Proportion Time Blocked         |           |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
| Percent Grade (%)               |           |     |     |   |           |   |     |     |            |   |   |   | 0          |    |    |    |
| Right Turn Channelized          |           |     |     |   |           |   |     |     |            |   |   |   | No         |    |    |    |
| Median Type   Storage           | Undivided |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |

| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  |  |  |  |  |  |  |  |  | 6.54 |  | 6.34 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  |  |  |  |  |  |  |  |  | 3.63 |  | 3.43 |

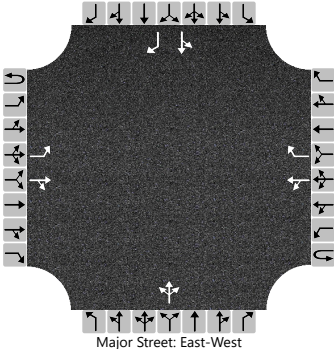
| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |     |  |  |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|-----|--|--|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 128  |  |  |  |  |  |  |     |  |  |  |      | 56   |  | 85   |
| Capacity, c (veh/h)                       |     | 1017 |  |  |  |  |  |  |     |  |  |  |      | 132  |  | 567  |
| v/c Ratio                                 |     | 0.13 |  |  |  |  |  |  |     |  |  |  |      | 0.42 |  | 0.15 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.4  |  |  |  |  |  |  |     |  |  |  |      | 1.8  |  | 0.5  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 10.2 |  |  |  |  |  |  |     |  |  |  |      | 50.0 |  | 13.9 |
| Control Delay (s/veh)                     |     | 9.0  |  |  |  |  |  |  |     |  |  |  |      | 50.8 |  | 12.5 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |     |  |  |  |      | F    |  | B    |
| Approach Delay (s/veh)                    | 1.5 |      |  |  |  |  |  |  | 1.5 |  |  |  | 27.7 |      |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |     |  |  |  | D    |      |  |      |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                              |
|--------------------------|--------------------------|----------------------------|----------------------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & High School Drive/W Poi... |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville                     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road                              |
| Analysis Year            | 2024                     | North/South Street         | High School Drive/W Point Drive              |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.75                                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                                         |
| Project Description      | Existing Conditions      |                            |                                              |

Lanes



Major Street: East-West

| Vehicle Volumes and Adjustments |           |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |
|---------------------------------|-----------|-----|-----|----|-----------|----|-----|-----|------------|---|-----|---|------------|----|----|-----|
| Approach                        | Eastbound |     |     |    | Westbound |    |     |     | Northbound |   |     |   | Southbound |    |    |     |
| Movement                        | U         | L   | T   | R  | U         | L  | T   | R   | U          | L | T   | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1   | 2   | 3  | 4U        | 4  | 5   | 6   |            | 7 | 8   | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1   | 1   | 0  | 0         | 0  | 1   | 1   |            | 0 | 1   | 0 |            | 0  | 1  | 1   |
| Configuration                   |           | L   |     | TR |           | LT |     | R   |            |   | LTR |   |            | LT |    | R   |
| Volume (veh/h)                  |           | 396 | 178 | 5  |           | 0  | 174 | 163 |            | 4 | 0   | 0 |            | 39 | 1  | 259 |
| Percent Heavy Vehicles (%)      |           | 2   |     |    |           | 3  |     |     |            | 0 | 0   | 0 |            | 0  | 0  | 0   |
| Proportion Time Blocked         |           |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |
| Percent Grade (%)               |           |     |     |    |           |    |     |     | 0          |   |     |   | 0          |    |    |     |
| Right Turn Channelized          |           |     |     |    | No        |    |     |     |            |   |     |   | No         |    |    |     |
| Median Type   Storage           | Undivided |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |

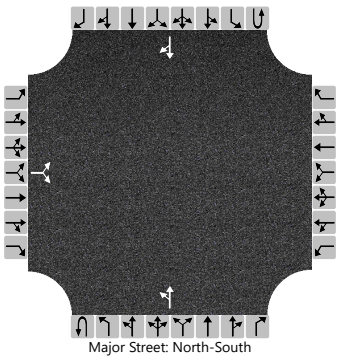
| Critical and Follow-up Headways |  |      |  |  |  |      |  |  |  |      |      |      |  |      |      |      |
|---------------------------------|--|------|--|--|--|------|--|--|--|------|------|------|--|------|------|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  | 4.1  |  |  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  | 4.13 |  |  |  | 7.10 | 6.50 | 6.20 |  | 7.10 | 6.50 | 6.20 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  | 2.2  |  |  |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  | 2.23 |  |  |  | 3.50 | 4.00 | 3.30 |  | 3.50 | 4.00 | 3.30 |

| Delay, Queue Length, and Level of Service |     |      |  |  |     |      |     |  |       |  |       |  |      |       |  |      |
|-------------------------------------------|-----|------|--|--|-----|------|-----|--|-------|--|-------|--|------|-------|--|------|
| Flow Rate, v (veh/h)                      |     | 528  |  |  |     | 0    |     |  |       |  | 5     |  |      | 53    |  | 345  |
| Capacity, c (veh/h)                       |     | 1107 |  |  |     | 1307 |     |  |       |  | 16    |  |      | 43    |  | 692  |
| v/c Ratio                                 |     | 0.48 |  |  |     | 0.00 |     |  |       |  | 0.34  |  |      | 1.25  |  | 0.50 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 2.6  |  |  |     | 0.0  |     |  |       |  | 0.9   |  |      | 5.2   |  | 2.8  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 66.0 |  |  |     |      |     |  |       |  | 22.5  |  |      | 130.0 |  | 70.0 |
| Control Delay (s/veh)                     |     | 11.2 |  |  |     | 7.8  | 0.0 |  |       |  | 326.7 |  |      | 371.1 |  | 15.3 |
| Level of Service (LOS)                    |     | B    |  |  |     | A    | A   |  |       |  | F     |  |      | F     |  | C    |
| Approach Delay (s/veh)                    | 7.6 |      |  |  | 0.0 |      |     |  | 326.7 |  |       |  | 62.9 |       |  |      |
| Approach LOS                              | A   |      |  |  | A   |      |     |  | F     |  |       |  | F    |       |  |      |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                     |
|--------------------------|--------------------------|----------------------------|-------------------------------------|
| Analyst                  | tsj                      | Intersection               | Pitts Boulevard & High School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville            |
| Date Performed           | 5/17/2024                | East/West Street           | High School Drive                   |
| Analysis Year            | 2024                     | North/South Street         | Pitts Boulevard                     |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.81                                |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                |
| Project Description      | Existing Conditions      |                            |                                     |

Lanes



Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |    |   | Southbound |   |    |     |
|----------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|----|---|------------|---|----|-----|
| Movement                   | U         | L  | T  | R  | U         | L | T | R | U          | L  | T  | R | U          | L | T  | R   |
| Priority                   |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2  | 3 | 4U         | 4 | 5  | 6   |
| Number of Lanes            |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1  | 0 | 0          | 0 | 1  | 0   |
| Configuration              |           |    | LR |    |           |   |   |   |            | LT |    |   |            |   |    | TR  |
| Volume (veh/h)             |           | 75 |    | 34 |           |   |   |   |            | 65 | 13 |   |            |   | 95 | 135 |
| Percent Heavy Vehicles (%) |           | 6  |    | 6  |           |   |   |   |            | 8  |    |   |            |   |    |     |
| Proportion Time Blocked    |           |    |    |    |           |   |   |   |            |    |    |   |            |   |    |     |
| Percent Grade (%)          | 0         |    |    |    |           |   |   |   |            |    |    |   |            |   |    |     |
| Right Turn Channelized     |           |    |    |    |           |   |   |   |            |    |    |   |            |   |    |     |
| Median Type   Storage      | Undivided |    |    |    |           |   |   |   |            |    |    |   |            |   |    |     |

Critical and Follow-up Headways

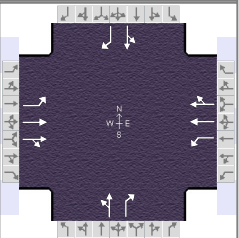
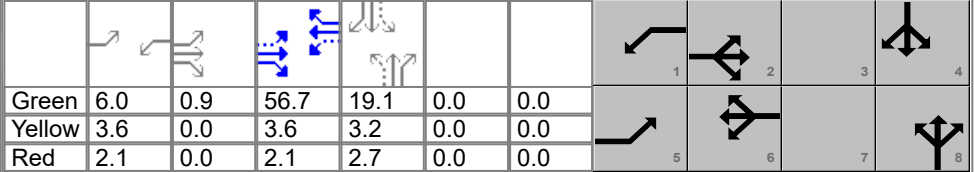
|                              |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)  |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)       |  | 6.46 |  | 6.26 |  |  |  |  |  | 4.18 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)      |  | 3.55 |  | 3.35 |  |  |  |  |  | 2.27 |  |  |  |  |  |  |

Delay, Queue Length, and Level of Service

|                                         |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-----------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                    |      |  | 135  |  |  |  |  |  |     | 80   |     |  |  |  |  |  |
| Capacity, c (veh/h)                     |      |  | 630  |  |  |  |  |  |     | 1240 |     |  |  |  |  |  |
| v/c Ratio                               |      |  | 0.21 |  |  |  |  |  |     | 0.06 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |      |  | 0.8  |  |  |  |  |  |     | 0.2  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)  |      |  | 21.0 |  |  |  |  |  |     | 5.3  |     |  |  |  |  |  |
| Control Delay (s/veh)                   |      |  | 12.3 |  |  |  |  |  |     | 8.1  | 0.5 |  |  |  |  |  |
| Level of Service (LOS)                  |      |  | B    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                  | 12.3 |  |      |  |  |  |  |  | 6.8 |      |     |  |  |  |  |  |
| Approach LOS                            | B    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |

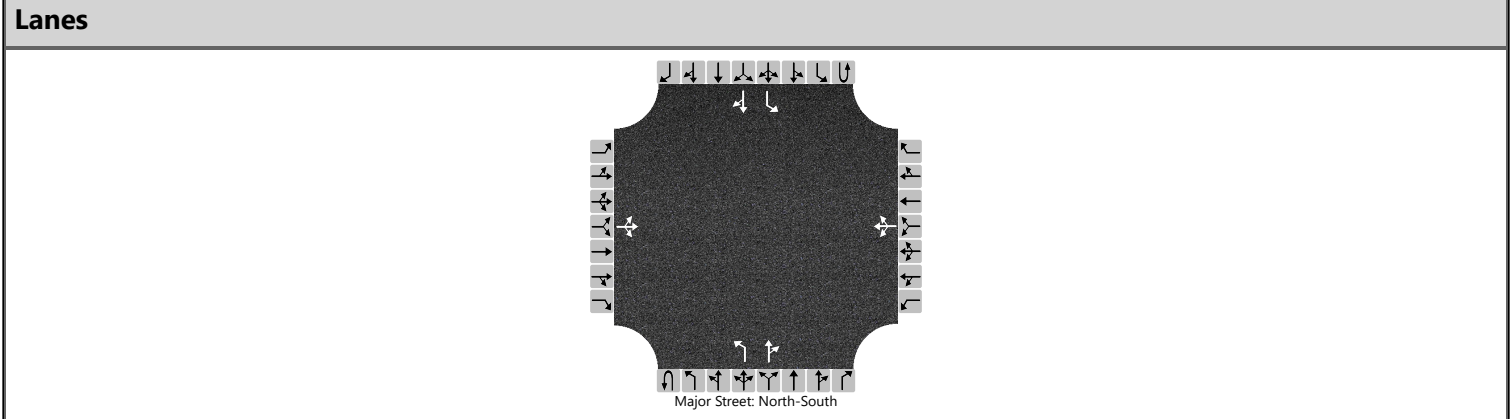


# HCS Signalized Intersection Results Summary

| General Information                             |                             |                 |               |                                                                                    |       | Intersection Information |         |       |       |      |       |  |     |       |       |      |  |      |  |
|-------------------------------------------------|-----------------------------|-----------------|---------------|------------------------------------------------------------------------------------|-------|--------------------------|---------|-------|-------|------|-------|-------------------------------------------------------------------------------------|-----|-------|-------|------|--|------|--|
| Agency                                          | DGL                         |                 |               |                                                                                    |       | Duration, h              | 0.250   |       |       |      |       |                                                                                     |     |       |       |      |  |      |  |
| Analyst                                         | tsj                         |                 | Analysis Date | Jun 18, 2024                                                                       |       | Area Type                | Other   |       |       |      |       |                                                                                     |     |       |       |      |  |      |  |
| Jurisdiction                                    | City of North Ridgeville    |                 | Time Period   | PM Peak                                                                            |       | PHF                      | 0.93    |       |       |      |       |                                                                                     |     |       |       |      |  |      |  |
| Urban Street                                    | Center Ridge                |                 | Analysis Year | 2024                                                                               |       | Analysis Period          | 1> 7:00 |       |       |      |       |                                                                                     |     |       |       |      |  |      |  |
| Intersection                                    | Center Ridge & Ranger...    |                 | File Name     | 2024 Existing PM Peak Center Ridge & Ranger.xus                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |      |  |      |  |
| Project Description                             | PM Peak Existing Conditions |                 |               |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |      |  |      |  |
| Demand Information                              |                             |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB  |       |       |      |  |      |  |
| Approach Movement                               |                             |                 |               | L                                                                                  | T     | R                        | L       | T     | R     | L    | T     | R                                                                                   | L   | T     | R     |      |  |      |  |
| Demand ( v ), veh/h                             |                             |                 |               | 129                                                                                | 633   | 51                       | 64      | 618   | 158   | 100  | 165   | 128                                                                                 | 160 | 78    | 111   |      |  |      |  |
| Signal Information                              |                             |                 |               |  |       |                          |         |       |       |      |       |                                                                                     |     |       |       |      |  |      |  |
| Cycle, s                                        | 100.0                       | Reference Phase | 2             |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |      |  |      |  |
| Offset, s                                       | 0                           | Reference Point | End           |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |      |  |      |  |
| Uncoordinated                                   | No                          | Simult. Gap E/W | On            |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |      |  |      |  |
| Force Mode                                      | Fixed                       | Simult. Gap N/S | On            |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |      |  |      |  |
|                                                 |                             |                 |               | Green                                                                              | 6.0   | 0.9                      | 56.7    | 19.1  | 0.0   | 0.0  |       |                                                                                     |     |       |       |      |  |      |  |
|                                                 |                             |                 |               | Yellow                                                                             | 3.6   | 0.0                      | 3.6     | 3.2   | 0.0   | 0.0  |       |                                                                                     |     |       |       |      |  |      |  |
|                                                 |                             |                 |               | Red                                                                                | 2.1   | 0.0                      | 2.1     | 2.7   | 0.0   | 0.0  |       |                                                                                     |     |       |       |      |  |      |  |
| Timer Results                                   |                             |                 |               | EBL                                                                                |       | EBT                      |         | WBL   |       | WBT  |       | NBL                                                                                 |     | NBT   |       | SBL  |  | SBT  |  |
| Assigned Phase                                  |                             |                 |               | 5                                                                                  |       | 2                        |         | 1     |       | 6    |       |                                                                                     |     | 8     |       |      |  | 4    |  |
| Case Number                                     |                             |                 |               | 1.1                                                                                |       | 4.0                      |         | 1.1   |       | 4.0  |       |                                                                                     |     | 7.0   |       |      |  | 7.0  |  |
| Phase Duration, s                               |                             |                 |               | 12.6                                                                               |       | 63.3                     |         | 11.7  |       | 62.4 |       |                                                                                     |     | 25.0  |       |      |  | 25.0 |  |
| Change Period, ( Y+R c ), s                     |                             |                 |               | 5.7                                                                                |       | 5.7                      |         | 5.7   |       | 5.7  |       |                                                                                     |     | 5.9   |       |      |  | 5.9  |  |
| Max Allow Headway ( MAH ), s                    |                             |                 |               | 4.1                                                                                |       | 0.0                      |         | 4.1   |       | 0.0  |       |                                                                                     |     | 4.3   |       |      |  | 4.3  |  |
| Queue Clearance Time ( g s ), s                 |                             |                 |               | 5.1                                                                                |       |                          |         | 3.5   |       |      |       |                                                                                     |     | 19.8  |       |      |  | 21.1 |  |
| Green Extension Time ( g e ), s                 |                             |                 |               | 0.1                                                                                |       | 0.0                      |         | 0.1   |       | 0.0  |       |                                                                                     |     | 0.0   |       |      |  | 0.0  |  |
| Phase Call Probability                          |                             |                 |               | 0.98                                                                               |       |                          |         | 0.85  |       |      |       |                                                                                     |     | 1.00  |       |      |  | 1.00 |  |
| Max Out Probability                             |                             |                 |               | 0.94                                                                               |       |                          |         | 0.16  |       |      |       |                                                                                     |     | 1.00  |       |      |  | 1.00 |  |
| Movement Group Results                          |                             |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB  |       |       |      |  |      |  |
| Approach Movement                               |                             |                 |               | L                                                                                  | T     | R                        | L       | T     | R     | L    | T     | R                                                                                   | L   | T     | R     |      |  |      |  |
| Assigned Movement                               |                             |                 |               | 5                                                                                  | 2     | 12                       | 1       | 6     | 16    | 3    | 8     | 18                                                                                  | 7   | 4     | 14    |      |  |      |  |
| Adjusted Flow Rate ( v ), veh/h                 |                             |                 |               | 139                                                                                | 372   | 363                      | 69      | 432   | 402   |      | 285   | 138                                                                                 |     | 256   | 119   |      |  |      |  |
| Adjusted Saturation Flow Rate ( s ), veh/h/ln   |                             |                 |               | 1767                                                                               | 1856  | 1806                     | 1781    | 1870  | 1738  |      | 1581  | 1572                                                                                |     | 1001  | 1598  |      |  |      |  |
| Queue Service Time ( g s ), s                   |                             |                 |               | 3.1                                                                                | 10.6  | 10.7                     | 1.5     | 13.0  | 13.0  |      | 0.0   | 7.8                                                                                 |     | 1.3   | 6.5   |      |  |      |  |
| Cycle Queue Clearance Time ( g c ), s           |                             |                 |               | 3.1                                                                                | 10.6  | 10.7                     | 1.5     | 13.0  | 13.0  |      | 17.8  | 7.8                                                                                 |     | 19.1  | 6.5   |      |  |      |  |
| Green Ratio ( g/C )                             |                             |                 |               | 0.64                                                                               | 0.58  | 0.58                     | 0.63    | 0.57  | 0.57  |      | 0.19  | 0.19                                                                                |     | 0.19  | 0.19  |      |  |      |  |
| Capacity ( c ), veh/h                           |                             |                 |               | 479                                                                                | 1069  | 1041                     | 503     | 1061  | 986   |      | 352   | 300                                                                                 |     | 251   | 305   |      |  |      |  |
| Volume-to-Capacity Ratio ( X )                  |                             |                 |               | 0.290                                                                              | 0.348 | 0.349                    | 0.137   | 0.407 | 0.408 |      | 0.810 | 0.458                                                                               |     | 1.018 | 0.391 |      |  |      |  |
| Back of Queue ( Q ), ft/ln ( 95 th percentile)  |                             |                 |               | 50                                                                                 | 197   | 189                      | 24      | 232   | 217   |      | 329   | 142                                                                                 |     | 402   | 3     |      |  |      |  |
| Back of Queue ( Q ), veh/ln ( 95 th percentile) |                             |                 |               | 2.0                                                                                | 7.7   | 7.6                      | 1.0     | 9.1   | 8.7   |      | 12.9  | 5.5                                                                                 |     | 15.9  | 0.1   |      |  |      |  |
| Queue Storage Ratio ( RQ ) ( 95 th percentile)  |                             |                 |               | 0.00                                                                               | 0.00  | 0.00                     | 0.00    | 0.00  | 0.00  |      | 0.00  | 0.00                                                                                |     | 0.00  | 0.00  |      |  |      |  |
| Uniform Delay ( d 1 ), s/veh                    |                             |                 |               | 8.3                                                                                | 11.2  | 11.2                     | 8.0     | 12.2  | 12.2  |      | 39.8  | 35.9                                                                                |     | 42.9  | 35.4  |      |  |      |  |
| Incremental Delay ( d 2 ), s/veh                |                             |                 |               | 0.3                                                                                | 0.9   | 0.9                      | 0.1     | 1.2   | 1.3   |      | 13.3  | 1.1                                                                                 |     | 61.5  | 0.8   |      |  |      |  |
| Initial Queue Delay ( d 3 ), s/veh              |                             |                 |               | 0.0                                                                                | 0.0   | 0.0                      | 0.0     | 0.0   | 0.0   |      | 0.0   | 0.0                                                                                 |     | 0.0   | 0.0   |      |  |      |  |
| Control Delay ( d ), s/veh                      |                             |                 |               | 8.6                                                                                | 12.1  | 12.2                     | 8.1     | 13.3  | 13.4  |      | 53.2  | 37.0                                                                                |     | 104.4 | 36.2  |      |  |      |  |
| Level of Service (LOS)                          |                             |                 |               | A                                                                                  | B     | B                        | A       | B     | B     |      | D     | D                                                                                   |     | F     | D     |      |  |      |  |
| Approach Delay, s/veh / LOS                     |                             |                 |               | 11.6                                                                               |       | B                        |         | 13.0  |       | B    |       | 47.9                                                                                |     | D     |       | 82.7 |  | F    |  |
| Intersection Delay, s/veh / LOS                 |                             |                 |               | 28.4                                                                               |       |                          |         |       |       | C    |       |                                                                                     |     |       |       |      |  |      |  |
| Multimodal Results                              |                             |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB  |       |       |      |  |      |  |
| Pedestrian LOS Score / LOS                      |                             |                 |               | 1.89                                                                               |       | B                        |         | 1.89  |       | B    |       | 2.30                                                                                |     | B     |       | 2.30 |  | B    |  |
| Bicycle LOS Score / LOS                         |                             |                 |               | 1.21                                                                               |       | A                        |         | 1.23  |       | A    |       | 1.18                                                                                |     | A     |       | 1.11 |  | A    |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                        |
|--------------------------|--------------------------|----------------------------|----------------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Fire Station/School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville               |
| Date Performed           | 5/17/2024                | East/West Street           | Fire Station Drive                     |
| Analysis Year            | 2024                     | North/South Street         | Ranger Way                             |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.79                                   |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                   |
| Project Description      | Existing Conditions      |                            |                                        |



| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|-----|------------|---|-----|----|------------|----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |     | Northbound |   |     |    | Southbound |    |     |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R   | U          | L | T   | R  | U          | L  | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9   | 1U         | 1 | 2   | 3  | 4U         | 4  | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0   | 0          | 1 | 1   | 0  | 0          | 1  | 1   | 0  |
| Configuration                   |           |    | LTR |    |           |    | LTR |     |            | L |     | TR |            | L  |     | TR |
| Volume (veh/h)                  |           | 2  | 0   | 0  |           | 22 | 0   | 144 |            | 0 | 245 | 45 |            | 82 | 117 | 1  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 0  | 0   | 0   |            | 5 |     |    |            | 2  |     |    |
| Proportion Time Blocked         |           |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |     |            |   |     |    |            |    |     |    |
| Right Turn Channelized          |           |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.10 | 6.50 | 6.20 |  | 4.15 |  |  |  | 4.12 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.50 | 4.00 | 3.30 |  | 2.25 |  |  |  | 2.22 |  |  |

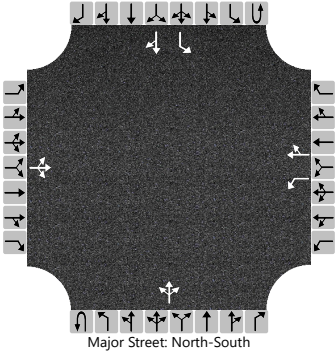
| Delay, Queue Length, and Level of Service |      |  |      |  |      |  |      |  |     |      |  |  |     |      |  |  |
|-------------------------------------------|------|--|------|--|------|--|------|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                      |      |  | 3    |  |      |  | 210  |  |     | 0    |  |  |     | 104  |  |  |
| Capacity, c (veh/h)                       |      |  | 187  |  |      |  | 486  |  |     | 1414 |  |  |     | 975  |  |  |
| v/c Ratio                                 |      |  | 0.01 |  |      |  | 0.43 |  |     | 0.00 |  |  |     | 0.11 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.0  |  |      |  | 2.2  |  |     | 0.0  |  |  |     | 0.4  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 0.0  |  |      |  | 55.0 |  |     |      |  |  |     | 10.2 |  |  |
| Control Delay (s/veh)                     |      |  | 24.5 |  |      |  | 17.9 |  |     | 7.5  |  |  |     | 9.1  |  |  |
| Level of Service (LOS)                    |      |  | C    |  |      |  | C    |  |     | A    |  |  |     | A    |  |  |
| Approach Delay (s/veh)                    | 24.5 |  |      |  | 17.9 |  |      |  | 0.0 |      |  |  | 3.7 |      |  |  |
| Approach LOS                              | C    |  |      |  | C    |  |      |  | A   |      |  |  | A   |      |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                          |
|--------------------------|--------------------------|----------------------------|--------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & NRAC Drive  |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville |
| Date Performed           | 5/17/2024                | East/West Street           | NRAC Drive               |
| Analysis Year            | 2024                     | North/South Street         | Ranger Way               |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.71                     |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                     |
| Project Description      | Existing Conditions      |                            |                          |

Lanes



Major Street: North-South

| Vehicle Volumes and Adjustments |           |    |     |    |           |    |    |     |            |   |     |    |            |    |    |    |
|---------------------------------|-----------|----|-----|----|-----------|----|----|-----|------------|---|-----|----|------------|----|----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |    |     | Northbound |   |     |    | Southbound |    |    |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T  | R   | U          | L | T   | R  | U          | L  | T  | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8  | 9   | 1U         | 1 | 2   | 3  | 4U         | 4  | 5  | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 1  | 1  | 0   | 0          | 0 | 1   | 0  | 0          | 1  | 1  | 0  |
| Configuration                   |           |    | LTR |    |           | L  |    | TR  |            |   | LTR |    |            | L  |    | TR |
| Volume (veh/h)                  |           | 0  | 0   | 5  |           | 92 | 1  | 159 |            | 3 | 127 | 28 |            | 51 | 89 | 0  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 11 | 11 | 11  |            | 1 |     |    |            | 1  |    |    |
| Proportion Time Blocked         |           |    |     |    |           |    |    |     |            |   |     |    |            |    |    |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |    |     |            |   |     |    |            |    |    |    |
| Right Turn Channelized          |           |    |     |    |           |    |    |     |            |   |     |    |            |    |    |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |    |     |            |   |     |    |            |    |    |    |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.21 | 6.61 | 6.31 |  | 4.11 |  |  |  | 4.11 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.60 | 4.10 | 3.40 |  | 2.21 |  |  |  | 2.21 |  |  |

| Delay, Queue Length, and Level of Service |     |  |      |  |      |      |  |      |     |      |     |     |     |      |  |  |
|-------------------------------------------|-----|--|------|--|------|------|--|------|-----|------|-----|-----|-----|------|--|--|
| Flow Rate, v (veh/h)                      |     |  | 7    |  |      | 130  |  | 225  |     | 4    |     |     |     | 72   |  |  |
| Capacity, c (veh/h)                       |     |  | 931  |  |      | 451  |  | 816  |     | 1467 |     |     |     | 1357 |  |  |
| v/c Ratio                                 |     |  | 0.01 |  |      | 0.29 |  | 0.28 |     | 0.00 |     |     |     | 0.05 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     |  | 0.0  |  |      | 1.2  |  | 1.1  |     | 0.0  |     |     |     | 0.2  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     |  | 0.0  |  |      | 32.6 |  | 29.9 |     |      |     |     |     | 5.0  |  |  |
| Control Delay (s/veh)                     |     |  | 8.9  |  |      | 16.2 |  | 11.1 |     | 7.5  | 0.0 | 0.0 |     | 7.8  |  |  |
| Level of Service (LOS)                    |     |  | A    |  |      | C    |  | B    |     | A    | A   | A   |     | A    |  |  |
| Approach Delay (s/veh)                    | 8.9 |  |      |  | 12.9 |      |  |      | 0.2 |      |     |     | 2.8 |      |  |  |
| Approach LOS                              | A   |  |      |  | B    |      |  |      | A   |      |     |     | A   |      |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                |
|--------------------------|--------------------------|----------------------------|--------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Kenssington Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville       |
| Date Performed           | 5/17/2024                | East/West Street           | Kenssington Drive              |
| Analysis Year            | 2024                     | North/South Street         | Ranger Way                     |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.87                           |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                           |
| Project Description      | Existing Conditions      |                            |                                |

Lanes

Major Street: North-South

| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 1  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | L  | T   |   |            |   |     | TR |
| Volume (veh/h)                  |           | 10 |    | 44 |           |   |   |   |            | 18 | 153 |   |            |   | 180 | 7  |
| Percent Heavy Vehicles (%)      |           | 4  |    | 4  |           |   |   |   |            | 2  |     |   |            |   |     |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.44 |  | 6.24 |  |  |  |  |  | 4.12 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.54 |  | 3.34 |  |  |  |  |  | 2.22 |  |  |  |  |  |  |

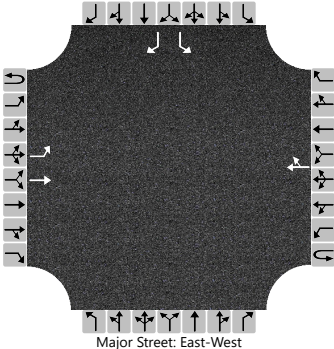
| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |  |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|--|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 62   |  |  |  |  |  |     | 21   |  |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 739  |  |  |  |  |  |     | 1355 |  |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.08 |  |  |  |  |  |     | 0.02 |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.3  |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 7.7  |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 10.3 |  |  |  |  |  |     | 7.7  |  |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    |  |  |  |  |  |  |
| Approach Delay (s/veh)                    | 10.3 |  |      |  |  |  |  |  | 0.8 |      |  |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |  |  |  |  |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                              |
|--------------------------|--------------------------|----------------------------|------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Ranger Way |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road              |
| Analysis Year            | 2024                     | North/South Street         | Ranger Way                   |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.82                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                         |
| Project Description      | Existing Conditions      |                            |                              |

Lanes



Major Street: East-West

| Vehicle Volumes and Adjustments |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|----|-----|---|-----------|---|-----|-----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |    |     |   | Westbound |   |     |     | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L  | T   | R | U         | L | T   | R   | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6   |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0   |            | 0 | 0 | 0 |            | 1  | 0  | 1   |
| Configuration                   |           | L  | T   |   |           |   |     | TR  |            |   |   |   |            | L  |    | R   |
| Volume (veh/h)                  |           | 73 | 202 |   |           |   | 379 | 101 |            |   |   |   |            | 66 |    | 139 |
| Percent Heavy Vehicles (%)      |           | 3  |     |   |           |   |     |     |            |   |   |   |            | 8  |    | 8   |
| Proportion Time Blocked         |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |    |     |   |           |   |     |     |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |    |     |   |           |   |     |     |            |   |   |   | No         |    |    |     |
| Median Type   Storage           | Undivided |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |

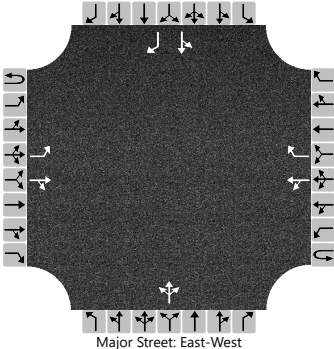
| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.48 |  | 6.28 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.57 |  | 3.37 |

| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 89   |  |  |  |  |  |  |  |  |  |  |      | 80   |  | 170  |
| Capacity, c (veh/h)                       |     | 984  |  |  |  |  |  |  |  |  |  |  |      | 257  |  | 542  |
| v/c Ratio                                 |     | 0.09 |  |  |  |  |  |  |  |  |  |  |      | 0.31 |  | 0.31 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.3  |  |  |  |  |  |  |  |  |  |  |      | 1.3  |  | 1.3  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 7.7  |  |  |  |  |  |  |  |  |  |  |      | 34.6 |  | 34.6 |
| Control Delay (s/veh)                     |     | 9.0  |  |  |  |  |  |  |  |  |  |  |      | 25.3 |  | 14.6 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |      | D    |  | B    |
| Approach Delay (s/veh)                    | 2.4 |      |  |  |  |  |  |  |  |  |  |  | 18.1 |      |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | C    |      |  |      |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                              |
|--------------------------|--------------------------|----------------------------|----------------------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & High School Drive/W Poi... |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville                     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road                              |
| Analysis Year            | 2024                     | North/South Street         | High School Drive/W Point Drive              |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.77                                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                                         |
| Project Description      | Existing Conditions      |                            |                                              |

Lanes



| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |    |            |   |     |   |            |    |    |     |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|----|------------|---|-----|---|------------|----|----|-----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |    | Northbound |   |     |   | Southbound |    |    |     |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R  | U          | L | T   | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1  | 2   | 3  | 4U        | 4  | 5   | 6  |            | 7 | 8   | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1  | 1   | 0  | 0         | 0  | 1   | 1  |            | 0 | 1   | 0 |            | 0  | 1  | 1   |
| Configuration                   |           | L  |     | TR |           | LT |     | R  |            |   | LTR |   |            | LT |    | R   |
| Volume (veh/h)                  |           | 84 | 177 | 15 |           | 0  | 292 | 32 |            | 2 | 0   | 3 |            | 54 | 1  | 185 |
| Percent Heavy Vehicles (%)      |           | 2  |     |    |           | 2  |     |    |            | 0 | 0   | 0 |            | 1  | 1  | 1   |
| Proportion Time Blocked         |           |    |     |    |           |    |     |    |            |   |     |   |            |    |    |     |
| Percent Grade (%)               |           |    |     |    |           |    |     |    | 0          |   |     |   | 0          |    |    |     |
| Right Turn Channelized          |           |    |     |    | No        |    |     |    |            |   |     |   | No         |    |    |     |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |    |            |   |     |   |            |    |    |     |

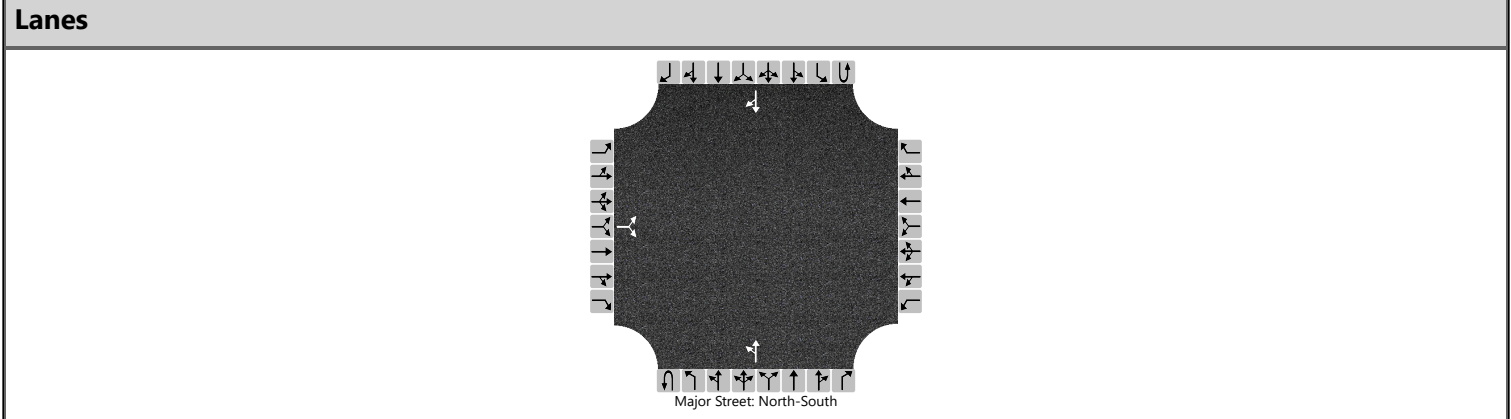
| Critical and Follow-up Headways |  |      |  |  |  |      |  |  |  |      |      |      |  |      |      |      |
|---------------------------------|--|------|--|--|--|------|--|--|--|------|------|------|--|------|------|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  | 4.1  |  |  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  | 4.12 |  |  |  | 7.10 | 6.50 | 6.20 |  | 7.11 | 6.51 | 6.21 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  | 2.2  |  |  |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  | 2.22 |  |  |  | 3.50 | 4.00 | 3.30 |  | 3.51 | 4.01 | 3.31 |

| Delay, Queue Length, and Level of Service |     |      |  |  |     |      |     |  |      |  |      |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|-----|------|-----|--|------|--|------|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 109  |  |  |     | 0    |     |  |      |  | 6    |  |      | 71   |  | 240  |
| Capacity, c (veh/h)                       |     | 1136 |  |  |     | 1290 |     |  |      |  | 241  |  |      | 249  |  | 608  |
| v/c Ratio                                 |     | 0.10 |  |  |     | 0.00 |     |  |      |  | 0.03 |  |      | 0.29 |  | 0.40 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.3  |  |  |     | 0.0  |     |  |      |  | 0.1  |  |      | 1.1  |  | 1.9  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 7.6  |  |  |     |      |     |  |      |  | 2.5  |  |      | 27.7 |  | 47.9 |
| Control Delay (s/veh)                     |     | 8.5  |  |  |     | 7.8  | 0.0 |  |      |  | 20.4 |  |      | 25.1 |  | 14.7 |
| Level of Service (LOS)                    |     | A    |  |  |     | A    | A   |  |      |  | C    |  |      | D    |  | B    |
| Approach Delay (s/veh)                    | 2.6 |      |  |  | 0.0 |      |     |  | 20.4 |  |      |  | 17.1 |      |  |      |
| Approach LOS                              | A   |      |  |  | A   |      |     |  | C    |  |      |  | C    |      |  |      |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                     |
|--------------------------|--------------------------|----------------------------|-------------------------------------|
| Analyst                  | tsj                      | Intersection               | Pitts Boulevard & High School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville            |
| Date Performed           | 5/17/2024                | East/West Street           | High School Drive                   |
| Analysis Year            | 2024                     | North/South Street         | Pitts Boulevard                     |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.57                                |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                |
| Project Description      | Existing Conditions      |                            |                                     |



| Vehicle Volumes and Adjustments |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
|---------------------------------|-----------|-----|----|----|-----------|---|---|---|------------|----|----|---|------------|---|----|----|
| Approach                        | Eastbound |     |    |    | Westbound |   |   |   | Northbound |    |    |   | Southbound |   |    |    |
| Movement                        | U         | L   | T  | R  | U         | L | T | R | U          | L  | T  | R | U          | L | T  | R  |
| Priority                        |           | 10  | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2  | 3 | 4U         | 4 | 5  | 6  |
| Number of Lanes                 |           | 0   | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1  | 0 | 0          | 0 | 1  | 0  |
| Configuration                   |           |     | LR |    |           |   |   |   |            | LT |    |   |            |   |    | TR |
| Volume (veh/h)                  |           | 114 |    | 65 |           |   |   |   |            | 28 | 51 |   |            |   | 41 | 52 |
| Percent Heavy Vehicles (%)      |           | 3   |    | 3  |           |   |   |   |            | 3  |    |   |            |   |    |    |
| Proportion Time Blocked         |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Percent Grade (%)               | 0         |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Right Turn Channelized          |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Median Type   Storage           | Undivided |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.43 |  | 6.23 |  |  |  |  |  | 4.13 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.53 |  | 3.33 |  |  |  |  |  | 2.23 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 314  |  |  |  |  |  |     | 49   |     |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 730  |  |  |  |  |  |     | 1404 |     |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.43 |  |  |  |  |  |     | 0.03 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 2.2  |  |  |  |  |  |     | 0.1  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 56.3 |  |  |  |  |  |     | 2.6  |     |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 13.6 |  |  |  |  |  |     | 7.7  | 0.3 |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                    | 13.6 |  |      |  |  |  |  |  | 2.9 |      |     |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |

North Ridgeville City School District

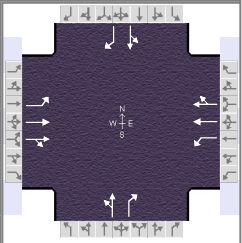
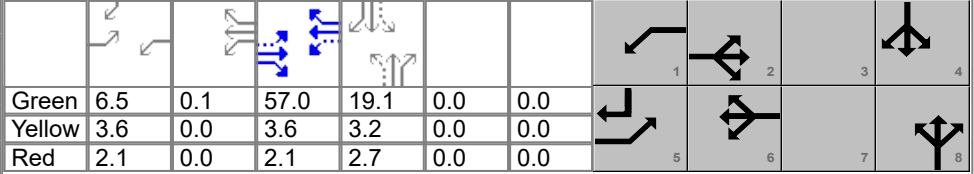
# **North Ridgeville CSD Traffic Impact Study**

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## **HCS 2024 Reports – No Build Conditions**

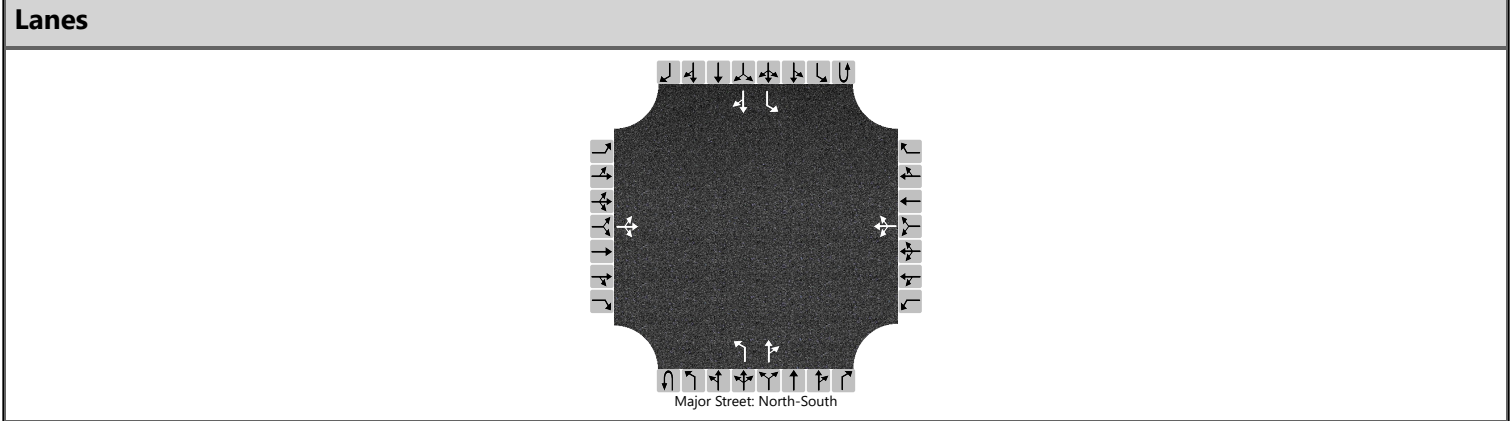


# HCS Signalized Intersection Results Summary

| General Information                             |                          |                 |               |                                                                                    |       | Intersection Information |         |       |       |      |       |  |       |       |       |
|-------------------------------------------------|--------------------------|-----------------|---------------|------------------------------------------------------------------------------------|-------|--------------------------|---------|-------|-------|------|-------|-------------------------------------------------------------------------------------|-------|-------|-------|
| Agency                                          | DGL                      |                 |               |                                                                                    |       | Duration, h              | 0.250   |       |       |      |       |                                                                                     |       |       |       |
| Analyst                                         | tsj                      |                 | Analysis Date | Jun 18, 2024                                                                       |       | Area Type                | Other   |       |       |      |       |                                                                                     |       |       |       |
| Jurisdiction                                    | City of North Ridgeville |                 | Time Period   | AM Peak                                                                            |       | PHF                      | 0.89    |       |       |      |       |                                                                                     |       |       |       |
| Urban Street                                    | Center Ridge             |                 | Analysis Year | 2029                                                                               |       | Analysis Period          | 1> 7:00 |       |       |      |       |                                                                                     |       |       |       |
| Intersection                                    | Center Ridge & Ranger... |                 | File Name     | 2029 No Build AM Peak Center Ridge & Ranger.xus                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Project Description                             | No Build                 |                 |               |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Demand Information                              |                          |                 |               |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Approach Movement                               |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |
|                                                 |                          |                 |               | L                                                                                  | T     | R                        | L       | T     | R     | L    | T     | R                                                                                   | L     | T     | R     |
| Demand ( v ), veh/h                             |                          |                 |               | 84                                                                                 | 583   | 141                      | 95      | 475   | 100   | 136  | 125   | 189                                                                                 | 206   | 182   | 111   |
| Signal Information                              |                          |                 |               |  |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Cycle, s                                        | 100.0                    | Reference Phase | 2             |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Offset, s                                       | 0                        | Reference Point | End           |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Uncoordinated                                   | No                       | Simult. Gap E/W | On            |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Force Mode                                      | Fixed                    | Simult. Gap N/S | On            |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
|                                                 |                          |                 |               | Green                                                                              | 6.5   | 0.1                      | 57.0    | 19.1  | 0.0   | 0.0  |       |                                                                                     |       |       |       |
|                                                 |                          |                 |               | Yellow                                                                             | 3.6   | 0.0                      | 3.6     | 3.2   | 0.0   | 0.0  |       |                                                                                     |       |       |       |
|                                                 |                          |                 |               | Red                                                                                | 2.1   | 0.0                      | 2.1     | 2.7   | 0.0   | 0.0  |       |                                                                                     |       |       |       |
| Timer Results                                   |                          |                 |               | EBL                                                                                | EBT   | WBL                      | WBT     | NBL   | NBT   | SBL  | SBT   |                                                                                     |       |       |       |
| Assigned Phase                                  |                          |                 |               | 5                                                                                  | 2     | 1                        | 6       |       | 8     |      | 4     |                                                                                     |       |       |       |
| Case Number                                     |                          |                 |               | 1.1                                                                                | 4.0   | 1.1                      | 4.0     |       | 7.0   |      | 7.0   |                                                                                     |       |       |       |
| Phase Duration, s                               |                          |                 |               | 12.2                                                                               | 62.7  | 12.3                     | 62.8    |       | 25.0  |      | 25.0  |                                                                                     |       |       |       |
| Change Period, ( Y+R c ), s                     |                          |                 |               | 5.7                                                                                | 5.7   | 5.7                      | 5.7     |       | 5.9   |      | 5.9   |                                                                                     |       |       |       |
| Max Allow Headway ( MAH ), s                    |                          |                 |               | 4.1                                                                                | 0.0   | 4.1                      | 0.0     |       | 4.3   |      | 4.3   |                                                                                     |       |       |       |
| Queue Clearance Time ( g s ), s                 |                          |                 |               | 4.1                                                                                |       | 4.3                      |         |       | 21.1  |      | 21.1  |                                                                                     |       |       |       |
| Green Extension Time ( g e ), s                 |                          |                 |               | 0.1                                                                                | 0.0   | 0.1                      | 0.0     |       | 0.0   |      | 0.0   |                                                                                     |       |       |       |
| Phase Call Probability                          |                          |                 |               | 0.93                                                                               |       | 0.95                     |         |       | 1.00  |      | 1.00  |                                                                                     |       |       |       |
| Max Out Probability                             |                          |                 |               | 0.34                                                                               |       | 0.46                     |         |       | 1.00  |      | 1.00  |                                                                                     |       |       |       |
| Movement Group Results                          |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |
| Approach Movement                               |                          |                 |               | L                                                                                  | T     | R                        | L       | T     | R     | L    | T     | R                                                                                   | L     | T     | R     |
| Assigned Movement                               |                          |                 |               | 5                                                                                  | 2     | 12                       | 1       | 6     | 16    | 3    | 8     | 18                                                                                  | 7     | 4     | 14    |
| Adjusted Flow Rate ( v ), veh/h                 |                          |                 |               | 94                                                                                 | 421   | 393                      | 107     | 332   | 314   |      | 293   | 212                                                                                 |       | 436   | 125   |
| Adjusted Saturation Flow Rate ( s ), veh/h/ln   |                          |                 |               | 1753                                                                               | 1841  | 1716                     | 1767    | 1856  | 1743  |      | 1286  | 1572                                                                                |       | 1274  | 1585  |
| Queue Service Time ( g s ), s                   |                          |                 |               | 2.1                                                                                | 12.7  | 12.8                     | 2.3     | 9.3   | 9.4   |      | 0.0   | 12.6                                                                                |       | 0.0   | 6.4   |
| Cycle Queue Clearance Time ( g c ), s           |                          |                 |               | 2.1                                                                                | 12.7  | 12.8                     | 2.3     | 9.3   | 9.4   |      | 19.1  | 12.6                                                                                |       | 19.1  | 6.4   |
| Green Ratio ( g/C )                             |                          |                 |               | 0.63                                                                               | 0.57  | 0.57                     | 0.64    | 0.57  | 0.57  |      | 0.19  | 0.19                                                                                |       | 0.19  | 0.26  |
| Capacity ( c ), veh/h                           |                          |                 |               | 538                                                                                | 1048  | 978                      | 484     | 1060  | 996   |      | 300   | 300                                                                                 |       | 299   | 406   |
| Volume-to-Capacity Ratio ( X )                  |                          |                 |               | 0.175                                                                              | 0.401 | 0.402                    | 0.221   | 0.313 | 0.315 |      | 0.976 | 0.707                                                                               |       | 1.460 | 0.307 |
| Back of Queue ( Q ), ft/ln ( 95 th percentile)  |                          |                 |               | 34                                                                                 | 229   | 211                      | 38      | 174   | 162   |      | 425   | 238                                                                                 |       | 1028  | 111   |
| Back of Queue ( Q ), veh/ln ( 95 th percentile) |                          |                 |               | 1.3                                                                                | 8.9   | 8.5                      | 1.5     | 6.8   | 6.5   |      | 16.6  | 9.3                                                                                 |       | 40.5  | 4.4   |
| Queue Storage Ratio ( RQ ) ( 95 th percentile)  |                          |                 |               | 0.00                                                                               | 0.00  | 0.00                     | 0.00    | 0.00  | 0.00  |      | 0.00  | 0.00                                                                                |       | 0.00  | 0.00  |
| Uniform Delay ( d 1 ), s/veh                    |                          |                 |               | 7.8                                                                                | 12.0  | 12.0                     | 8.0     | 11.2  | 11.2  |      | 42.0  | 37.8                                                                                |       | 42.2  | 30.0  |
| Incremental Delay ( d 2 ), s/veh                |                          |                 |               | 0.2                                                                                | 1.1   | 1.2                      | 0.2     | 0.8   | 0.8   |      | 45.3  | 7.4                                                                                 |       | 224.8 | 0.4   |
| Initial Queue Delay ( d 3 ), s/veh              |                          |                 |               | 0.0                                                                                | 0.0   | 0.0                      | 0.0     | 0.0   | 0.0   |      | 0.0   | 0.0                                                                                 |       | 0.0   | 0.0   |
| Control Delay ( d ), s/veh                      |                          |                 |               | 7.9                                                                                | 13.2  | 13.2                     | 8.3     | 12.0  | 12.1  |      | 87.3  | 45.2                                                                                |       | 267.0 | 30.5  |
| Level of Service (LOS)                          |                          |                 |               | A                                                                                  | B     | B                        | A       | B     | B     |      | F     | D                                                                                   |       | F     | C     |
| Approach Delay, s/veh / LOS                     |                          |                 |               | 12.6                                                                               | B     |                          | 11.5    | B     |       | 69.6 | E     |                                                                                     | 214.4 | F     |       |
| Intersection Delay, s/veh / LOS                 |                          |                 |               | 64.4                                                                               |       |                          |         |       |       | E    |       |                                                                                     |       |       |       |
| Multimodal Results                              |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |
| Pedestrian LOS Score / LOS                      |                          |                 |               | 1.89                                                                               | B     |                          | 1.89    | B     |       | 2.30 | B     |                                                                                     | 2.30  | B     |       |
| Bicycle LOS Score / LOS                         |                          |                 |               | 1.24                                                                               | A     |                          | 1.11    | A     |       | 1.32 | A     |                                                                                     | 1.41  | A     |       |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                        |
|--------------------------|--------------------------|----------------------------|----------------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Fire Station/School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville               |
| Date Performed           | 5/17/2024                | East/West Street           | Fire Station Drive                     |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                             |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.64                                   |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                   |
| Project Description      | No Build                 |                            |                                        |



| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|-----|------------|---|-----|-----|------------|-----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |     | Northbound |   |     |     | Southbound |     |     |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R   | U          | L | T   | R   | U          | L   | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9   | 1U         | 1 | 2   | 3   | 4U         | 4   | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0   | 0          | 1 | 1   | 0   | 0          | 1   | 1   | 0  |
| Configuration                   |           |    | LTR |    |           |    | LTR |     |            | L |     | TR  |            | L   |     | TR |
| Volume (veh/h)                  |           | 0  | 0   | 3  |           | 15 | 0   | 234 |            | 3 | 215 | 107 |            | 192 | 234 | 5  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 11 | 11  | 11  |            | 8 |     |     |            | 4   |     |    |
| Proportion Time Blocked         |           |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |     |            |   |     |     |            |     |     |    |
| Right Turn Channelized          |           |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |

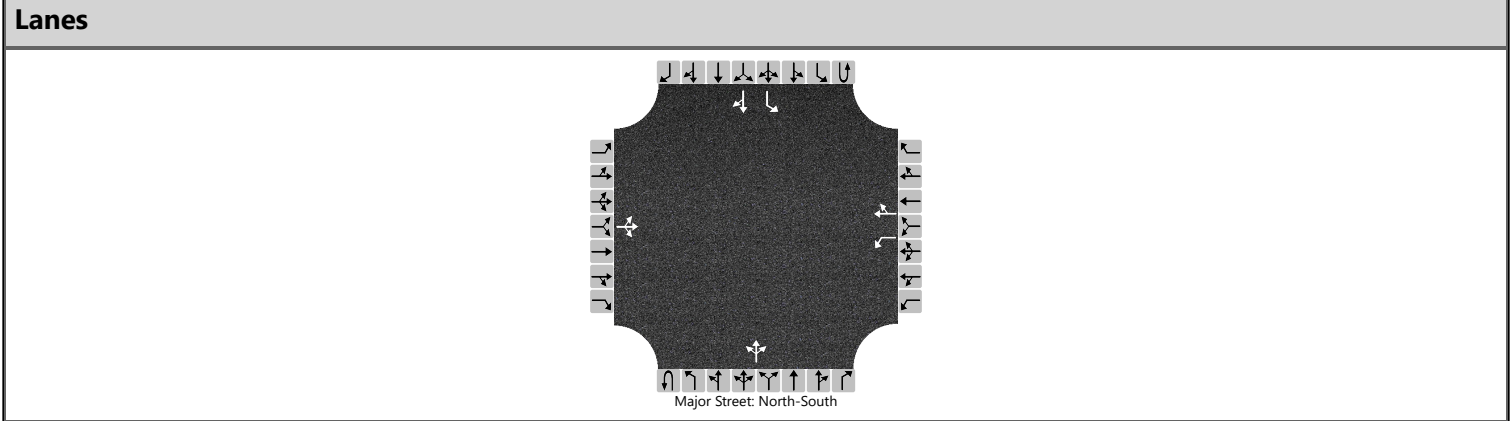
| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.21 | 6.61 | 6.31 |  | 4.18 |  |  |  | 4.14 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.60 | 4.10 | 3.40 |  | 2.27 |  |  |  | 2.24 |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |      |  |       |  |     |      |  |  |     |      |  |  |
|-------------------------------------------|------|--|------|--|------|--|-------|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                      |      |  | 5    |  |      |  | 389   |  |     | 5    |  |  |     | 300  |  |  |
| Capacity, c (veh/h)                       |      |  | 681  |  |      |  | 419   |  |     | 1153 |  |  |     | 1015 |  |  |
| v/c Ratio                                 |      |  | 0.01 |  |      |  | 0.93  |  |     | 0.00 |  |  |     | 0.30 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.0  |  |      |  | 10.4  |  |     | 0.0  |  |  |     | 1.2  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 0.0  |  |      |  | 282.9 |  |     | 0.0  |  |  |     | 31.0 |  |  |
| Control Delay (s/veh)                     |      |  | 10.3 |  |      |  | 59.7  |  |     | 8.1  |  |  |     | 10.0 |  |  |
| Level of Service (LOS)                    |      |  | B    |  |      |  | F     |  |     | A    |  |  |     | B    |  |  |
| Approach Delay (s/veh)                    | 10.3 |  |      |  | 59.7 |  |       |  | 0.1 |      |  |  | 4.5 |      |  |  |
| Approach LOS                              | B    |  |      |  | F    |  |       |  | A   |      |  |  | A   |      |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                          |
|--------------------------|--------------------------|----------------------------|--------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & NRAC Drive  |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville |
| Date Performed           | 5/17/2024                | East/West Street           | NRAC Drive               |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way               |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.75                     |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                     |
| Project Description      | No Build                 |                            |                          |



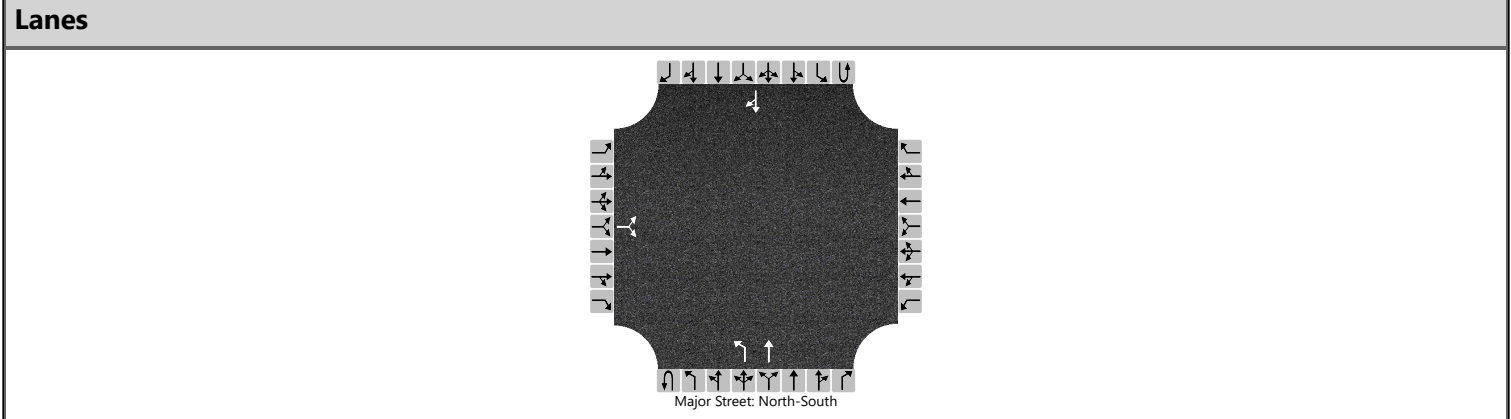
| Vehicle Volumes and Adjustments |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
|---------------------------------|-----------|----|-----|----|-----------|----|----|-----|------------|---|-----|----|------------|-----|----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |    |     | Northbound |   |     |    | Southbound |     |    |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T  | R   | U          | L | T   | R  | U          | L   | T  | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8  | 9   | 1U         | 1 | 2   | 3  | 4U         | 4   | 5  | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 1  | 1  | 0   | 0          | 0 | 1   | 0  | 0          | 1   | 1  | 0  |
| Configuration                   |           |    | LTR |    |           | L  |    | TR  |            |   | LTR |    |            | L   |    | TR |
| Volume (veh/h)                  |           | 0  | 0   | 1  |           | 47 | 0  | 127 |            | 4 | 197 | 60 |            | 200 | 58 | 0  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 14 | 14 | 14  |            | 5 |     |    |            | 6   |    |    |
| Proportion Time Blocked         |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |    |     |            |   |     |    |            |     |    |    |
| Right Turn Channelized          |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.24 | 6.64 | 6.34 |  | 4.15 |  |  |  | 4.16 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.63 | 4.13 | 3.43 |  | 2.25 |  |  |  | 2.25 |  |  |

| Delay, Queue Length, and Level of Service |     |  |      |  |      |      |  |      |     |      |     |     |     |      |  |  |
|-------------------------------------------|-----|--|------|--|------|------|--|------|-----|------|-----|-----|-----|------|--|--|
| Flow Rate, v (veh/h)                      |     |  | 1    |  |      | 63   |  | 169  |     | 5    |     |     |     | 267  |  |  |
| Capacity, c (veh/h)                       |     |  | 989  |  |      | 184  |  | 710  |     | 1502 |     |     |     | 1194 |  |  |
| v/c Ratio                                 |     |  | 0.00 |  |      | 0.34 |  | 0.24 |     | 0.00 |     |     |     | 0.22 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     |  | 0.0  |  |      | 1.4  |  | 0.9  |     | 0.0  |     |     |     | 0.9  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     |  | 0.0  |  |      | 38.9 |  | 25.0 |     |      |     |     |     | 23.6 |  |  |
| Control Delay (s/veh)                     |     |  | 8.6  |  |      | 34.5 |  | 11.7 |     | 7.4  | 0.0 | 0.0 |     | 8.9  |  |  |
| Level of Service (LOS)                    |     |  | A    |  |      | D    |  | B    |     | A    | A   | A   |     | A    |  |  |
| Approach Delay (s/veh)                    | 8.6 |  |      |  | 17.8 |      |  |      | 0.1 |      |     |     | 6.9 |      |  |  |
| Approach LOS                              | A   |  |      |  | C    |      |  |      | A   |      |     |     | A   |      |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                |
|--------------------------|--------------------------|----------------------------|--------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Kenssington Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville       |
| Date Performed           | 5/17/2024                | East/West Street           | Kenssington Drive              |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                     |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.68                           |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                           |
| Project Description      | No Build                 |                            |                                |



| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 1  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | L  | T   |   |            |   |     | TR |
| Volume (veh/h)                  |           | 10 |    | 44 |           |   |   |   |            | 10 | 245 |   |            |   | 105 | 2  |
| Percent Heavy Vehicles (%)      |           | 13 |    | 13 |           |   |   |   |            | 6  |     |   |            |   |     |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

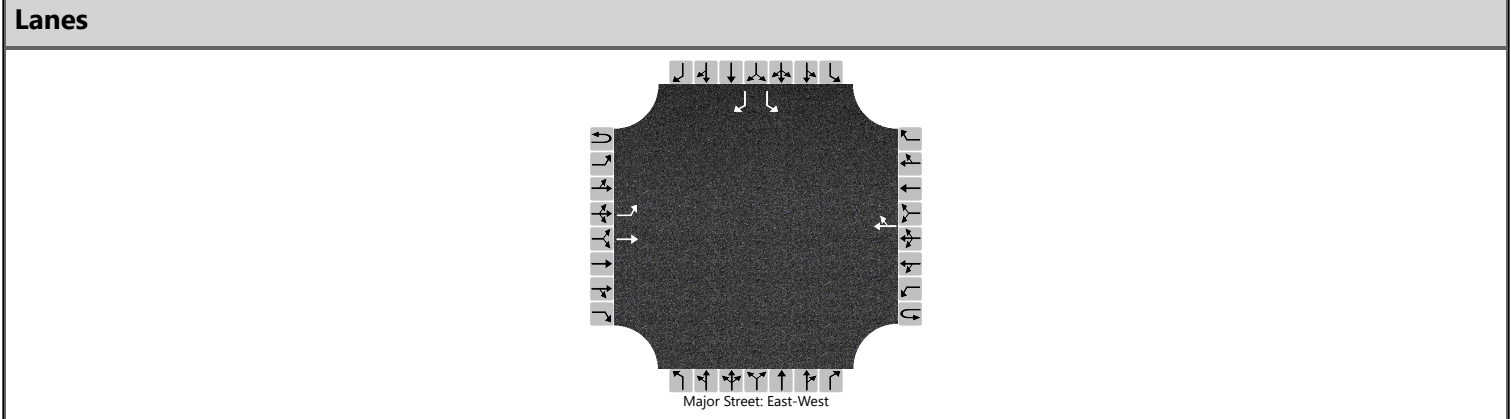
| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.53 |  | 6.33 |  |  |  |  |  | 4.16 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.62 |  | 3.42 |  |  |  |  |  | 2.25 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |  |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|--|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 79   |  |  |  |  |  |     | 15   |  |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 743  |  |  |  |  |  |     | 1398 |  |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.11 |  |  |  |  |  |     | 0.01 |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.4  |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 11.0 |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 10.4 |  |  |  |  |  |     | 7.6  |  |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    |  |  |  |  |  |  |
| Approach Delay (s/veh)                    | 10.4 |  |      |  |  |  |  |  | 0.3 |      |  |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |  |  |  |  |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                              |
|--------------------------|--------------------------|----------------------------|------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Ranger Way |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road              |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                   |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.79                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                         |
| Project Description      | No Build                 |                            |                              |



| Vehicle Volumes and Adjustments |           |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
|---------------------------------|-----------|-----|-----|---|-----------|---|-----|-----|------------|---|---|---|------------|----|----|----|
| Approach                        | Eastbound |     |     |   | Westbound |   |     |     | Northbound |   |   |   | Southbound |    |    |    |
| Movement                        | U         | L   | T   | R | U         | L | T   | R   | U          | L | T | R | U          | L  | T  | R  |
| Priority                        | 1U        | 1   | 2   | 3 | 4U        | 4 | 5   | 6   |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Number of Lanes                 | 0         | 1   | 1   | 0 | 0         | 0 | 1   | 0   |            | 0 | 0 | 0 |            | 1  | 0  | 1  |
| Configuration                   |           | L   | T   |   |           |   |     | TR  |            |   |   |   |            | L  |    | R  |
| Volume (veh/h)                  |           | 114 | 699 |   |           |   | 351 | 141 |            |   |   |   |            | 49 |    | 75 |
| Percent Heavy Vehicles (%)      |           | 2   |     |   |           |   |     |     |            |   |   |   |            | 14 |    | 14 |
| Proportion Time Blocked         |           |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
| Percent Grade (%)               |           |     |     |   |           |   |     |     |            |   |   |   | 0          |    |    |    |
| Right Turn Channelized          |           |     |     |   |           |   |     |     |            |   |   |   | No         |    |    |    |
| Median Type   Storage           | Undivided |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |

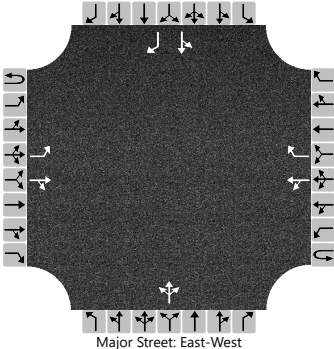
| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  |  |  |  |  |  |  |  |  | 6.54 |  | 6.34 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  |  |  |  |  |  |  |  |  | 3.63 |  | 3.43 |

| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |      |       |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|------|-------|--|------|
| Flow Rate, v (veh/h)                      |     | 144  |  |  |  |  |  |  |  |  |  |  |      | 62    |  | 95   |
| Capacity, c (veh/h)                       |     | 958  |  |  |  |  |  |  |  |  |  |  |      | 79    |  | 524  |
| v/c Ratio                                 |     | 0.15 |  |  |  |  |  |  |  |  |  |  |      | 0.78  |  | 0.18 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.5  |  |  |  |  |  |  |  |  |  |  |      | 3.9   |  | 0.7  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 12.7 |  |  |  |  |  |  |  |  |  |  |      | 108.4 |  | 19.5 |
| Control Delay (s/veh)                     |     | 9.4  |  |  |  |  |  |  |  |  |  |  |      | 136.3 |  | 13.4 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |      | F     |  | B    |
| Approach Delay (s/veh)                    | 1.3 |      |  |  |  |  |  |  |  |  |  |  | 61.9 |       |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | F    |       |  |      |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                              |
|--------------------------|--------------------------|----------------------------|----------------------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & High School Drive/W Poi... |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville                     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road                              |
| Analysis Year            | 2029                     | North/South Street         | High School Drive/W Point Drive              |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.75                                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                                         |
| Project Description      | No Build                 |                            |                                              |

Lanes



| Vehicle Volumes and Adjustments |           |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |
|---------------------------------|-----------|-----|-----|----|-----------|----|-----|-----|------------|---|-----|---|------------|----|----|-----|
| Approach                        | Eastbound |     |     |    | Westbound |    |     |     | Northbound |   |     |   | Southbound |    |    |     |
| Movement                        | U         | L   | T   | R  | U         | L  | T   | R   | U          | L | T   | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1   | 2   | 3  | 4U        | 4  | 5   | 6   |            | 7 | 8   | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1   | 1   | 0  | 0         | 0  | 1   | 1   |            | 0 | 1   | 0 |            | 0  | 1  | 1   |
| Configuration                   |           | L   |     | TR |           | LT |     | R   |            |   | LTR |   |            | LT |    | R   |
| Volume (veh/h)                  |           | 446 | 201 | 5  |           | 0  | 195 | 183 |            | 4 | 0   | 0 |            | 45 | 1  | 292 |
| Percent Heavy Vehicles (%)      |           | 2   |     |    |           | 3  |     |     |            | 0 | 0   | 0 |            | 0  | 0  | 0   |
| Proportion Time Blocked         |           |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |
| Percent Grade (%)               |           |     |     |    |           |    |     |     | 0          |   |     |   | 0          |    |    |     |
| Right Turn Channelized          |           |     |     |    | No        |    |     |     |            |   |     |   | No         |    |    |     |
| Median Type   Storage           | Undivided |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |      |  |  |  |      |      |      |  |      |      |      |
|---------------------------------|--|------|--|--|--|------|--|--|--|------|------|------|--|------|------|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  | 4.1  |  |  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  | 4.13 |  |  |  | 7.10 | 6.50 | 6.20 |  | 7.10 | 6.50 | 6.20 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  | 2.2  |  |  |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  | 2.23 |  |  |  | 3.50 | 4.00 | 3.30 |  | 3.50 | 4.00 | 3.30 |

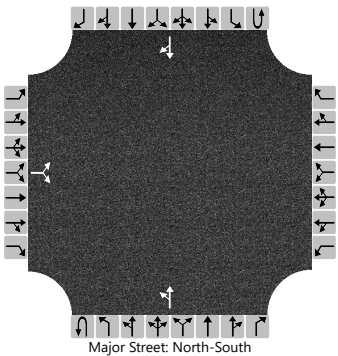
| Delay, Queue Length, and Level of Service |     |      |  |  |     |      |     |  |       |  |       |  |       |       |  |      |
|-------------------------------------------|-----|------|--|--|-----|------|-----|--|-------|--|-------|--|-------|-------|--|------|
| Flow Rate, v (veh/h)                      |     | 595  |  |  |     | 0    |     |  |       |  | 5     |  |       | 61    |  | 389  |
| Capacity, c (veh/h)                       |     | 1057 |  |  |     | 1273 |     |  |       |  | 7     |  |       | 26    |  | 656  |
| v/c Ratio                                 |     | 0.56 |  |  |     | 0.00 |     |  |       |  | 0.73  |  |       | 2.40  |  | 0.59 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 3.6  |  |  |     | 0.0  |     |  |       |  | 1.3   |  |       | 7.5   |  | 3.9  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 91.4 |  |  |     |      |     |  |       |  | 32.5  |  |       | 187.5 |  | 97.5 |
| Control Delay (s/veh)                     |     | 12.7 |  |  |     | 7.8  | 0.0 |  |       |  | 847.2 |  |       | 961.4 |  | 18.2 |
| Level of Service (LOS)                    |     | B    |  |  |     | A    | A   |  |       |  | F     |  |       | F     |  | C    |
| Approach Delay (s/veh)                    | 8.7 |      |  |  | 0.0 |      |     |  | 847.2 |  |       |  | 146.5 |       |  |      |
| Approach LOS                              | A   |      |  |  | A   |      |     |  | F     |  |       |  | F     |       |  |      |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                     |
|--------------------------|--------------------------|----------------------------|-------------------------------------|
| Analyst                  | tsj                      | Intersection               | Pitts Boulevard & High School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville            |
| Date Performed           | 5/17/2024                | East/West Street           | High School Drive                   |
| Analysis Year            | 2029                     | North/South Street         | Pitts Boulevard                     |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.81                                |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                |
| Project Description      | No Build                 |                            |                                     |

Lanes



Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |    |   | Southbound |   |     |     |
|----------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|----|---|------------|---|-----|-----|
| Movement                   | U         | L  | T  | R  | U         | L | T | R | U          | L  | T  | R | U          | L | T   | R   |
| Priority                   |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2  | 3 | 4U         | 4 | 5   | 6   |
| Number of Lanes            |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1  | 0 | 0          | 0 | 1   | 0   |
| Configuration              |           |    | LR |    |           |   |   |   |            | LT |    |   |            |   |     | TR  |
| Volume (veh/h)             |           | 85 |    | 38 |           |   |   |   |            | 73 | 14 |   |            |   | 108 | 152 |
| Percent Heavy Vehicles (%) |           | 6  |    | 6  |           |   |   |   |            | 8  |    |   |            |   |     |     |
| Proportion Time Blocked    |           |    |    |    |           |   |   |   |            |    |    |   |            |   |     |     |
| Percent Grade (%)          | 0         |    |    |    |           |   |   |   |            |    |    |   |            |   |     |     |
| Right Turn Channelized     |           |    |    |    |           |   |   |   |            |    |    |   |            |   |     |     |
| Median Type   Storage      | Undivided |    |    |    |           |   |   |   |            |    |    |   |            |   |     |     |

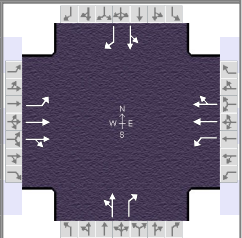
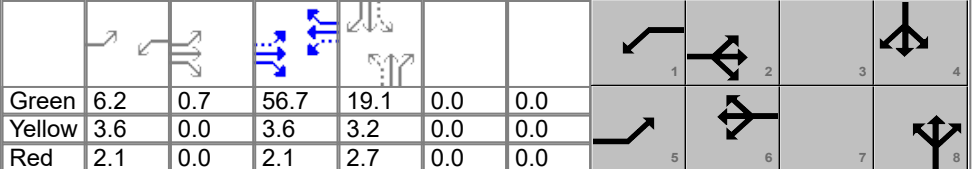
Critical and Follow-up Headways

|                              |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)  |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)       |  | 6.46 |  | 6.26 |  |  |  |  |  | 4.18 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)      |  | 3.55 |  | 3.35 |  |  |  |  |  | 2.27 |  |  |  |  |  |  |

Delay, Queue Length, and Level of Service

|                                         |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-----------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                    |      |  | 152  |  |  |  |  |  |     | 90   |     |  |  |  |  |  |
| Capacity, c (veh/h)                     |      |  | 589  |  |  |  |  |  |     | 1201 |     |  |  |  |  |  |
| v/c Ratio                               |      |  | 0.26 |  |  |  |  |  |     | 0.08 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |      |  | 1.0  |  |  |  |  |  |     | 0.2  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)  |      |  | 26.2 |  |  |  |  |  |     | 5.3  |     |  |  |  |  |  |
| Control Delay (s/veh)                   |      |  | 13.2 |  |  |  |  |  |     | 8.2  | 0.6 |  |  |  |  |  |
| Level of Service (LOS)                  |      |  | B    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                  | 13.2 |  |      |  |  |  |  |  | 7.0 |      |     |  |  |  |  |  |
| Approach LOS                            | B    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |

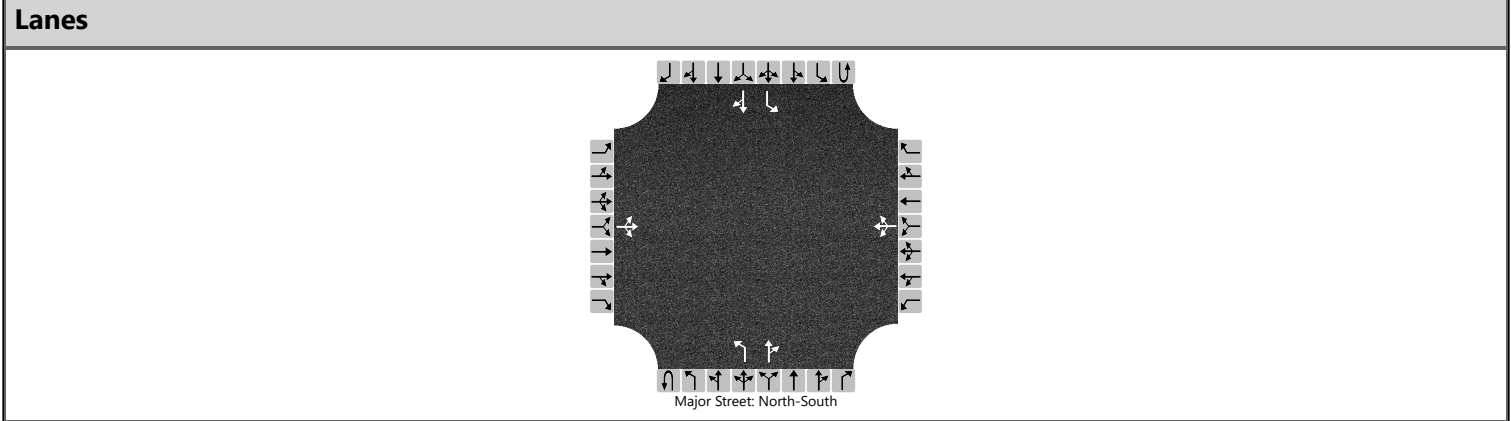
# HCS Signalized Intersection Results Summary

| General Information                             |                          |                 |               |                                                                                    |        | Intersection Information |         |       |       |      |       |  |       |       |       |     |  |      |  |
|-------------------------------------------------|--------------------------|-----------------|---------------|------------------------------------------------------------------------------------|--------|--------------------------|---------|-------|-------|------|-------|-------------------------------------------------------------------------------------|-------|-------|-------|-----|--|------|--|
| Agency                                          | DGL                      |                 |               |                                                                                    |        | Duration, h              | 0.250   |       |       |      |       |                                                                                     |       |       |       |     |  |      |  |
| Analyst                                         | tsj                      |                 | Analysis Date | Jun 18, 2024                                                                       |        | Area Type                | Other   |       |       |      |       |                                                                                     |       |       |       |     |  |      |  |
| Jurisdiction                                    | City of North Ridgeville |                 | Time Period   | PM Peak                                                                            |        | PHF                      | 0.93    |       |       |      |       |                                                                                     |       |       |       |     |  |      |  |
| Urban Street                                    | Center Ridge             |                 | Analysis Year | 2029                                                                               |        | Analysis Period          | 1> 7:00 |       |       |      |       |                                                                                     |       |       |       |     |  |      |  |
| Intersection                                    | Center Ridge & Ranger... |                 | File Name     | 2029 No Build PM Peak Center Ridge & Ranger.xus                                    |        |                          |         |       |       |      |       |                                                                                     |       |       |       |     |  |      |  |
| Project Description                             | No Build                 |                 |               |                                                                                    |        |                          |         |       |       |      |       |                                                                                     |       |       |       |     |  |      |  |
| Demand Information                              |                          |                 |               | EB                                                                                 |        |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |     |  |      |  |
| Approach Movement                               |                          |                 |               | L                                                                                  | T      | R                        | L       | T     | R     | L    | T     | R                                                                                   | L     | T     | R     |     |  |      |  |
| Demand ( v ), veh/h                             |                          |                 |               | 142                                                                                | 694    | 56                       | 72      | 696   | 178   | 112  | 186   | 145                                                                                 | 180   | 89    | 125   |     |  |      |  |
| Signal Information                              |                          |                 |               |  |        |                          |         |       |       |      |       |                                                                                     |       |       |       |     |  |      |  |
| Cycle, s                                        | 100.0                    | Reference Phase | 2             |                                                                                    |        |                          |         |       |       |      |       |                                                                                     |       |       |       |     |  |      |  |
| Offset, s                                       | 0                        | Reference Point | End           |                                                                                    |        |                          |         |       |       |      |       |                                                                                     |       |       |       |     |  |      |  |
| Uncoordinated                                   | No                       | Simult. Gap E/W | On            |                                                                                    | Green  | 6.2                      | 0.7     | 56.7  | 19.1  | 0.0  | 0.0   |                                                                                     |       |       |       |     |  |      |  |
| Force Mode                                      | Fixed                    | Simult. Gap N/S | On            |                                                                                    | Yellow | 3.6                      | 0.0     | 3.6   | 3.2   | 0.0  | 0.0   |                                                                                     |       |       |       |     |  |      |  |
|                                                 |                          |                 |               | Red                                                                                | 2.1    | 0.0                      | 2.1     | 2.7   | 0.0   | 0.0  |       |                                                                                     |       |       |       |     |  |      |  |
| Timer Results                                   |                          |                 |               | EBL                                                                                |        | EBT                      |         | WBL   |       | WBT  |       | NBL                                                                                 |       | NBT   |       | SBL |  | SBT  |  |
| Assigned Phase                                  |                          |                 |               | 5                                                                                  |        | 2                        |         | 1     |       | 6    |       |                                                                                     |       | 8     |       |     |  | 4    |  |
| Case Number                                     |                          |                 |               | 1.1                                                                                |        | 4.0                      |         | 1.1   |       | 4.0  |       |                                                                                     |       | 7.0   |       |     |  | 7.0  |  |
| Phase Duration, s                               |                          |                 |               | 12.6                                                                               |        | 63.1                     |         | 11.9  |       | 62.4 |       |                                                                                     |       | 25.0  |       |     |  | 25.0 |  |
| Change Period, ( Y+R c ), s                     |                          |                 |               | 5.7                                                                                |        | 5.7                      |         | 5.7   |       | 5.7  |       |                                                                                     |       | 5.9   |       |     |  | 5.9  |  |
| Max Allow Headway ( MAH ), s                    |                          |                 |               | 4.1                                                                                |        | 0.0                      |         | 4.1   |       | 0.0  |       |                                                                                     |       | 4.3   |       |     |  | 4.3  |  |
| Queue Clearance Time ( g s ), s                 |                          |                 |               | 5.4                                                                                |        |                          |         | 3.7   |       |      |       |                                                                                     |       | 21.1  |       |     |  | 21.1 |  |
| Green Extension Time ( g e ), s                 |                          |                 |               | 0.2                                                                                |        | 0.0                      |         | 0.1   |       | 0.0  |       |                                                                                     |       | 0.0   |       |     |  | 0.0  |  |
| Phase Call Probability                          |                          |                 |               | 0.99                                                                               |        |                          |         | 0.88  |       |      |       |                                                                                     |       | 1.00  |       |     |  | 1.00 |  |
| Max Out Probability                             |                          |                 |               | 1.00                                                                               |        |                          |         | 0.21  |       |      |       |                                                                                     |       | 1.00  |       |     |  | 1.00 |  |
| Movement Group Results                          |                          |                 |               | EB                                                                                 |        |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |     |  |      |  |
| Approach Movement                               |                          |                 |               | L                                                                                  | T      | R                        | L       | T     | R     | L    | T     | R                                                                                   | L     | T     | R     |     |  |      |  |
| Assigned Movement                               |                          |                 |               | 5                                                                                  | 2      | 12                       | 1       | 6     | 16    | 3    | 8     | 18                                                                                  | 7     | 4     | 14    |     |  |      |  |
| Adjusted Flow Rate ( v ), veh/h                 |                          |                 |               | 153                                                                                | 408    | 398                      | 77      | 487   | 453   |      | 320   | 156                                                                                 |       | 289   | 134   |     |  |      |  |
| Adjusted Saturation Flow Rate ( s ), veh/h/ln   |                          |                 |               | 1767                                                                               | 1856   | 1806                     | 1781    | 1870  | 1738  |      | 1572  | 1572                                                                                |       | 959   | 1598  |     |  |      |  |
| Queue Service Time ( g s ), s                   |                          |                 |               | 3.4                                                                                | 12.0   | 12.0                     | 1.7     | 15.2  | 15.2  |      | 0.0   | 8.9                                                                                 |       | 0.0   | 7.4   |     |  |      |  |
| Cycle Queue Clearance Time ( g c ), s           |                          |                 |               | 3.4                                                                                | 12.0   | 12.0                     | 1.7     | 15.2  | 15.2  |      | 19.1  | 8.9                                                                                 |       | 19.1  | 7.4   |     |  |      |  |
| Green Ratio ( g/C )                             |                          |                 |               | 0.64                                                                               | 0.57   | 0.57                     | 0.63    | 0.57  | 0.57  |      | 0.19  | 0.19                                                                                |       | 0.19  | 0.19  |     |  |      |  |
| Capacity ( c ), veh/h                           |                          |                 |               | 439                                                                                | 1065   | 1037                     | 475     | 1061  | 986   |      | 350   | 300                                                                                 |       | 243   | 305   |     |  |      |  |
| Volume-to-Capacity Ratio ( X )                  |                          |                 |               | 0.348                                                                              | 0.383  | 0.384                    | 0.163   | 0.459 | 0.459 |      | 0.916 | 0.519                                                                               |       | 1.189 | 0.440 |     |  |      |  |
| Back of Queue ( Q ), ft/ln ( 95 th percentile)  |                          |                 |               | 56                                                                                 | 217    | 208                      | 27      | 264   | 246   |      | 411   | 164                                                                                 |       | 551   | 133   |     |  |      |  |
| Back of Queue ( Q ), veh/ln ( 95 th percentile) |                          |                 |               | 2.2                                                                                | 8.5    | 8.3                      | 1.1     | 10.4  | 9.9   |      | 16.0  | 6.4                                                                                 |       | 21.9  | 5.3   |     |  |      |  |
| Queue Storage Ratio ( RQ ) ( 95 th percentile)  |                          |                 |               | 0.00                                                                               | 0.00   | 0.00                     | 0.00    | 0.00  | 0.00  |      | 0.00  | 0.00                                                                                |       | 0.00  | 0.00  |     |  |      |  |
| Uniform Delay ( d 1 ), s/veh                    |                          |                 |               | 8.8                                                                                | 11.6   | 11.6                     | 8.2     | 12.7  | 12.7  |      | 41.0  | 36.3                                                                                |       | 42.8  | 35.7  |     |  |      |  |
| Incremental Delay ( d 2 ), s/veh                |                          |                 |               | 0.5                                                                                | 1.0    | 1.1                      | 0.2     | 1.4   | 1.5   |      | 28.0  | 1.6                                                                                 |       | 118.4 | 1.0   |     |  |      |  |
| Initial Queue Delay ( d 3 ), s/veh              |                          |                 |               | 0.0                                                                                | 0.0    | 0.0                      | 0.0     | 0.0   | 0.0   |      | 0.0   | 0.0                                                                                 |       | 0.0   | 0.0   |     |  |      |  |
| Control Delay ( d ), s/veh                      |                          |                 |               | 9.3                                                                                | 12.7   | 12.7                     | 8.4     | 14.1  | 14.2  |      | 69.0  | 37.9                                                                                |       | 161.2 | 36.7  |     |  |      |  |
| Level of Service (LOS)                          |                          |                 |               | A                                                                                  | B      | B                        | A       | B     | B     |      | E     | D                                                                                   |       | F     | D     |     |  |      |  |
| Approach Delay, s/veh / LOS                     |                          |                 |               | 12.1                                                                               | B      |                          | 13.7    | B     |       | 58.8 | E     |                                                                                     | 121.7 | F     |       |     |  |      |  |
| Intersection Delay, s/veh / LOS                 |                          |                 |               | 36.6                                                                               |        |                          |         |       |       | D    |       |                                                                                     |       |       |       |     |  |      |  |
| Multimodal Results                              |                          |                 |               | EB                                                                                 |        |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |     |  |      |  |
| Pedestrian LOS Score / LOS                      |                          |                 |               | 1.89                                                                               | B      |                          | 1.89    | B     |       | 2.30 | B     |                                                                                     | 2.30  | B     |       |     |  |      |  |
| Bicycle LOS Score / LOS                         |                          |                 |               | 1.28                                                                               | A      |                          | 1.33    | A     |       | 1.27 | A     |                                                                                     | 1.19  | A     |       |     |  |      |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                        |
|--------------------------|--------------------------|----------------------------|----------------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Fire Station/School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville               |
| Date Performed           | 5/17/2024                | East/West Street           | Fire Station Drive                     |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                             |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.79                                   |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                   |
| Project Description      | No Build                 |                            |                                        |



| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|-----|------------|---|-----|----|------------|----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |     | Northbound |   |     |    | Southbound |    |     |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R   | U          | L | T   | R  | U          | L  | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9   | 1U         | 1 | 2   | 3  | 4U         | 4  | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0   | 0          | 1 | 1   | 0  | 0          | 1  | 1   | 0  |
| Configuration                   |           |    | LTR |    |           |    | LTR |     |            | L |     | TR |            | L  |     | TR |
| Volume (veh/h)                  |           | 2  | 0   | 0  |           | 24 | 0   | 163 |            | 0 | 277 | 50 |            | 92 | 132 | 1  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 0  | 0   | 0   |            | 5 |     |    |            | 2  |     |    |
| Proportion Time Blocked         |           |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |     |            |   |     |    |            |    |     |    |
| Right Turn Channelized          |           |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |

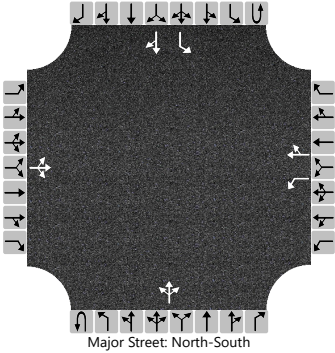
| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.10 | 6.50 | 6.20 |  | 4.15 |  |  |  | 4.12 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.50 | 4.00 | 3.30 |  | 2.25 |  |  |  | 2.22 |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |      |  |      |  |     |      |  |  |     |      |  |  |
|-------------------------------------------|------|--|------|--|------|--|------|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                      |      |  | 3    |  |      |  | 237  |  |     | 0    |  |  |     | 116  |  |  |
| Capacity, c (veh/h)                       |      |  | 142  |  |      |  | 450  |  |     | 1391 |  |  |     | 937  |  |  |
| v/c Ratio                                 |      |  | 0.02 |  |      |  | 0.53 |  |     | 0.00 |  |  |     | 0.12 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.1  |  |      |  | 3.0  |  |     | 0.0  |  |  |     | 0.4  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 2.5  |  |      |  | 75.0 |  |     |      |  |  |     | 10.2 |  |  |
| Control Delay (s/veh)                     |      |  | 30.9 |  |      |  | 21.5 |  |     | 7.6  |  |  |     | 9.4  |  |  |
| Level of Service (LOS)                    |      |  | D    |  |      |  | C    |  |     | A    |  |  |     | A    |  |  |
| Approach Delay (s/veh)                    | 30.9 |  |      |  | 21.5 |  |      |  | 0.0 |      |  |  | 3.8 |      |  |  |
| Approach LOS                              | D    |  |      |  | C    |  |      |  | A   |      |  |  | A   |      |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                          |
|--------------------------|--------------------------|----------------------------|--------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & NRAC Drive  |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville |
| Date Performed           | 5/17/2024                | East/West Street           | NRAC Drive               |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way               |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.71                     |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                     |
| Project Description      | No Build                 |                            |                          |

Lanes



Major Street: North-South

| Vehicle Volumes and Adjustments |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
|---------------------------------|-----------|----|-----|----|-----------|-----|----|-----|------------|---|-----|----|------------|----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |     |    |     | Northbound |   |     |    | Southbound |    |     |    |
| Movement                        | U         | L  | T   | R  | U         | L   | T  | R   | U          | L | T   | R  | U          | L  | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7   | 8  | 9   | 1U         | 1 | 2   | 3  | 4U         | 4  | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 1   | 1  | 0   | 0          | 0 | 1   | 0  | 0          | 1  | 1   | 0  |
| Configuration                   |           |    | LTR |    |           | L   |    | TR  |            |   | LTR |    |            | L  |     | TR |
| Volume (veh/h)                  |           | 0  | 0   | 5  |           | 104 | 1  | 180 |            | 3 | 144 | 32 |            | 57 | 101 | 0  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 11  | 11 | 11  |            | 1 |     |    |            | 1  |     |    |
| Proportion Time Blocked         |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |     |    |     |            |   |     |    |            |    |     |    |
| Right Turn Channelized          |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |

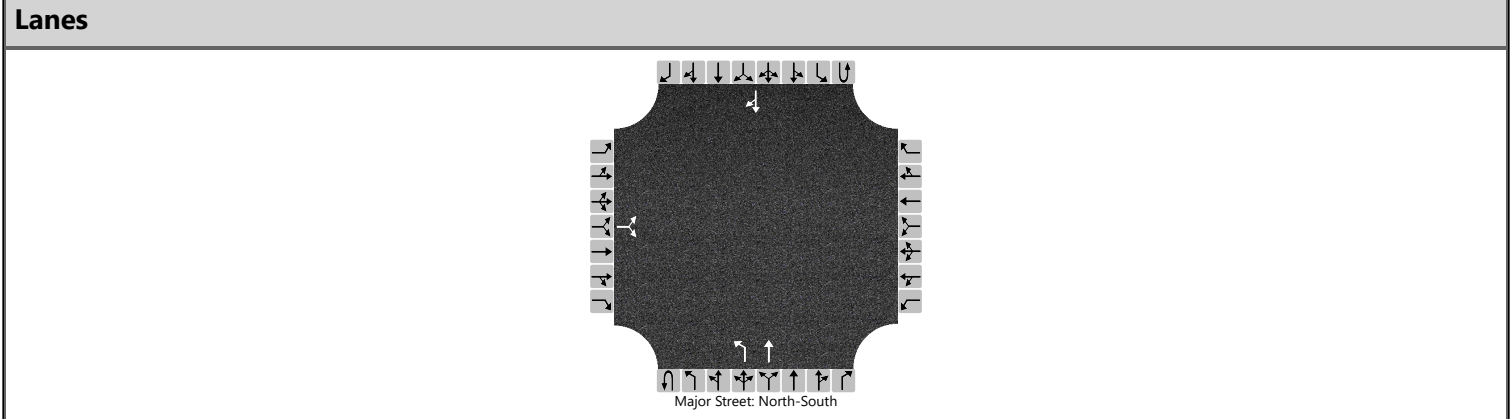
| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.21 | 6.61 | 6.31 |  | 4.11 |  |  |  | 4.11 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.60 | 4.10 | 3.40 |  | 2.21 |  |  |  | 2.21 |  |  |

| Delay, Queue Length, and Level of Service |     |  |      |  |      |      |  |      |     |      |     |     |     |      |  |  |
|-------------------------------------------|-----|--|------|--|------|------|--|------|-----|------|-----|-----|-----|------|--|--|
| Flow Rate, v (veh/h)                      |     |  | 7    |  |      | 146  |  | 255  |     | 4    |     |     |     | 80   |  |  |
| Capacity, c (veh/h)                       |     |  | 911  |  |      | 408  |  | 788  |     | 1447 |     |     |     | 1324 |  |  |
| v/c Ratio                                 |     |  | 0.01 |  |      | 0.36 |  | 0.32 |     | 0.00 |     |     |     | 0.06 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     |  | 0.0  |  |      | 1.6  |  | 1.4  |     | 0.0  |     |     |     | 0.2  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     |  | 0.0  |  |      | 43.5 |  | 38.1 |     |      |     |     |     | 5.0  |  |  |
| Control Delay (s/veh)                     |     |  | 9.0  |  |      | 18.7 |  | 11.7 |     | 7.5  | 0.0 | 0.0 |     | 7.9  |  |  |
| Level of Service (LOS)                    |     |  | A    |  |      | C    |  | B    |     | A    | A   | A   |     | A    |  |  |
| Approach Delay (s/veh)                    | 9.0 |  |      |  | 14.3 |      |  |      | 0.2 |      |     |     | 2.8 |      |  |  |
| Approach LOS                              | A   |  |      |  | B    |      |  |      | A   |      |     |     | A   |      |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                |
|--------------------------|--------------------------|----------------------------|--------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Kenssington Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville       |
| Date Performed           | 5/17/2024                | East/West Street           | Kenssington Drive              |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                     |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.87                           |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                           |
| Project Description      | No Build                 |                            |                                |



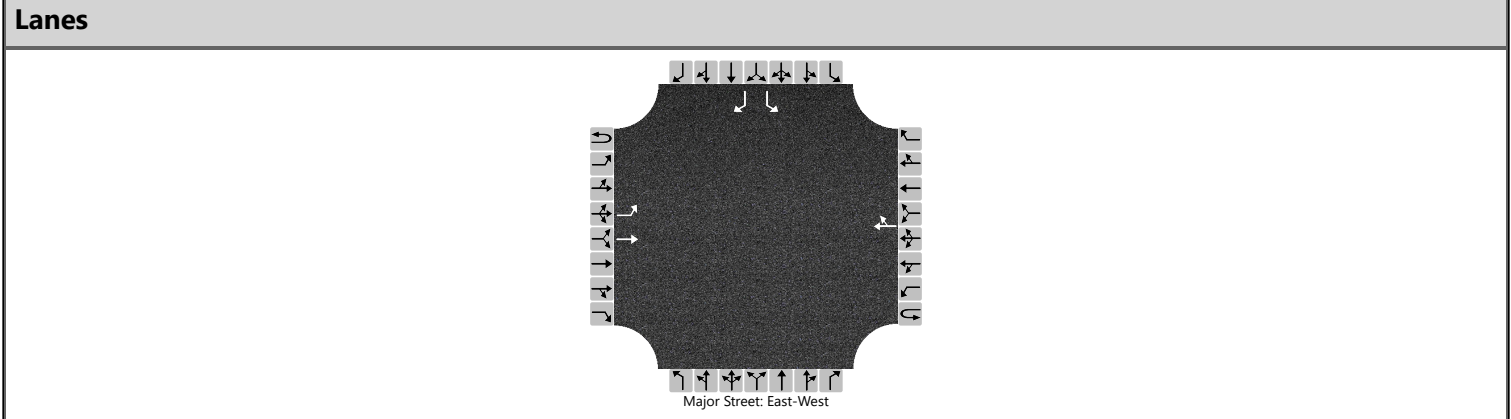
| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 1  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | L  | T   |   |            |   |     | TR |
| Volume (veh/h)                  |           | 10 |    | 50 |           |   |   |   |            | 21 | 173 |   |            |   | 203 | 7  |
| Percent Heavy Vehicles (%)      |           | 4  |    | 4  |           |   |   |   |            | 2  |     |   |            |   |     |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.44 |  | 6.24 |  |  |  |  |  | 4.12 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.54 |  | 3.34 |  |  |  |  |  | 2.22 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |  |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|--|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 69   |  |  |  |  |  |     | 24   |  |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 712  |  |  |  |  |  |     | 1325 |  |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.10 |  |  |  |  |  |     | 0.02 |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.3  |  |  |  |  |  |     | 0.1  |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 7.7  |  |  |  |  |  |     | 2.5  |  |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 10.6 |  |  |  |  |  |     | 7.8  |  |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    |  |  |  |  |  |  |
| Approach Delay (s/veh)                    | 10.6 |  |      |  |  |  |  |  | 0.8 |      |  |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |  |  |  |  |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                              |
|--------------------------|--------------------------|----------------------------|------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Ranger Way |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road              |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                   |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.82                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                         |
| Project Description      | No Build                 |                            |                              |



| Vehicle Volumes and Adjustments |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|----|-----|---|-----------|---|-----|-----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |    |     |   | Westbound |   |     |     | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L  | T   | R | U         | L | T   | R   | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6   |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0   |            | 0 | 0 | 0 |            | 1  | 0  | 1   |
| Configuration                   |           | L  | T   |   |           |   |     | TR  |            |   |   |   |            | L  |    | R   |
| Volume (veh/h)                  |           | 83 | 228 |   |           |   | 428 | 115 |            |   |   |   |            | 75 |    | 157 |
| Percent Heavy Vehicles (%)      |           | 3  |     |   |           |   |     |     |            |   |   |   |            | 8  |    | 8   |
| Proportion Time Blocked         |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |    |     |   |           |   |     |     |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |    |     |   |           |   |     |     |            |   |   |   | No         |    |    |     |
| Median Type   Storage           | Undivided |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.48 |  | 6.28 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.57 |  | 3.37 |

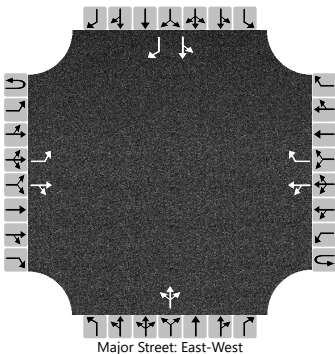
| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 101  |  |  |  |  |  |  |  |  |  |  |      | 91   |  | 191  |
| Capacity, c (veh/h)                       |     | 922  |  |  |  |  |  |  |  |  |  |  |      | 211  |  | 495  |
| v/c Ratio                                 |     | 0.11 |  |  |  |  |  |  |  |  |  |  |      | 0.43 |  | 0.39 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.4  |  |  |  |  |  |  |  |  |  |  |      | 2.0  |  | 1.8  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 10.2 |  |  |  |  |  |  |  |  |  |  |      | 53.2 |  | 47.9 |
| Control Delay (s/veh)                     |     | 9.4  |  |  |  |  |  |  |  |  |  |  |      | 34.4 |  | 16.8 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |      | D    |  | C    |
| Approach Delay (s/veh)                    | 2.5 |      |  |  |  |  |  |  |  |  |  |  | 22.5 |      |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | C    |      |  |      |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                              |
|--------------------------|--------------------------|----------------------------|----------------------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & High School Drive/W Poi... |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville                     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road                              |
| Analysis Year            | 2029                     | North/South Street         | High School Drive/W Point Drive              |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.77                                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                                         |
| Project Description      | No Build                 |                            |                                              |

Lanes



Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |    | Westbound |    |     |    | Northbound |   |     |   | Southbound |    |    |     |
|----------------------------|-----------|----|-----|----|-----------|----|-----|----|------------|---|-----|---|------------|----|----|-----|
| Movement                   | U         | L  | T   | R  | U         | L  | T   | R  | U          | L | T   | R | U          | L  | T  | R   |
| Priority                   | 1U        | 1  | 2   | 3  | 4U        | 4  | 5   | 6  |            | 7 | 8   | 9 |            | 10 | 11 | 12  |
| Number of Lanes            | 0         | 1  | 1   | 0  | 0         | 0  | 1   | 1  |            | 0 | 1   | 0 |            | 0  | 1  | 1   |
| Configuration              |           | L  |     | TR |           | LT |     | R  |            |   | LTR |   |            | LT |    | R   |
| Volume (veh/h)             |           | 94 | 199 | 16 |           | 0  | 329 | 37 |            | 2 | 0   | 3 |            | 61 | 1  | 209 |
| Percent Heavy Vehicles (%) |           | 2  |     |    |           | 2  |     |    |            | 0 | 0   | 0 |            | 1  | 1  | 1   |
| Proportion Time Blocked    |           |    |     |    |           |    |     |    |            |   |     |   |            |    |    |     |
| Percent Grade (%)          |           |    |     |    |           |    |     |    | 0          |   |     |   | 0          |    |    |     |
| Right Turn Channelized     |           |    |     |    | No        |    |     |    |            |   |     |   | No         |    |    |     |
| Median Type   Storage      | Undivided |    |     |    |           |    |     |    |            |   |     |   |            |    |    |     |

Critical and Follow-up Headways

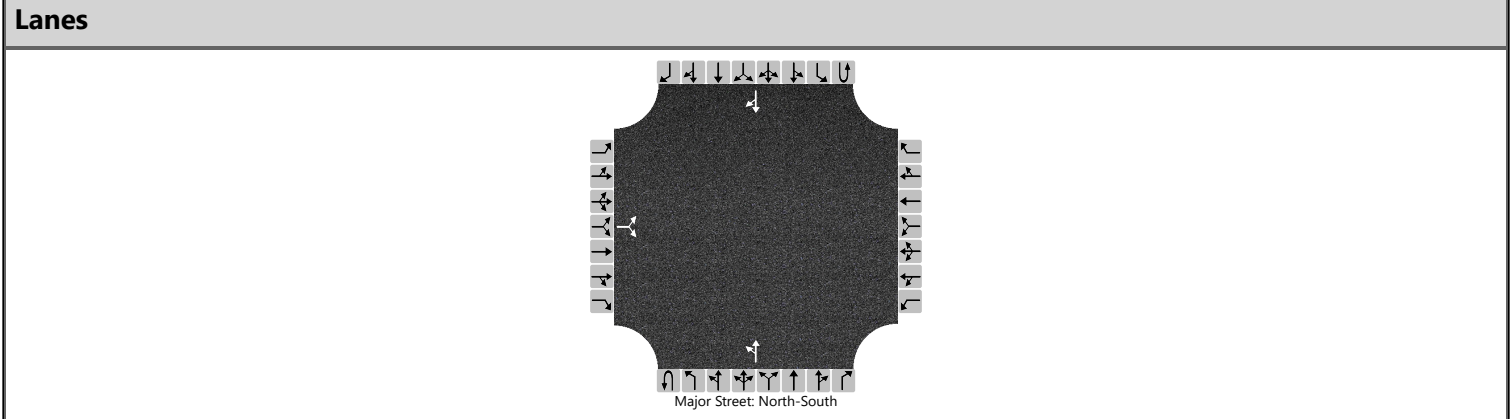
|                              |  |      |  |  |  |      |  |  |  |      |      |      |  |      |      |      |
|------------------------------|--|------|--|--|--|------|--|--|--|------|------|------|--|------|------|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  | 4.1  |  |  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |
| Critical Headway (sec)       |  | 4.12 |  |  |  | 4.12 |  |  |  | 7.10 | 6.50 | 6.20 |  | 7.11 | 6.51 | 6.21 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  | 2.2  |  |  |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.22 |  |  |  | 2.22 |  |  |  | 3.50 | 4.00 | 3.30 |  | 3.51 | 4.01 | 3.31 |

Delay, Queue Length, and Level of Service

|                                         |     |      |  |  |     |      |     |  |      |  |      |  |      |      |  |      |
|-----------------------------------------|-----|------|--|--|-----|------|-----|--|------|--|------|--|------|------|--|------|
| Flow Rate, v (veh/h)                    |     | 122  |  |  |     | 0    |     |  |      |  | 6    |  |      | 81   |  | 271  |
| Capacity, c (veh/h)                     |     | 1085 |  |  |     | 1258 |     |  |      |  | 178  |  |      | 207  |  | 569  |
| v/c Ratio                               |     | 0.11 |  |  |     | 0.00 |     |  |      |  | 0.04 |  |      | 0.39 |  | 0.48 |
| 95% Queue Length, Q <sub>95</sub> (veh) |     | 0.4  |  |  |     | 0.0  |     |  |      |  | 0.1  |  |      | 1.7  |  | 2.6  |
| 95% Queue Length, Q <sub>95</sub> (ft)  |     | 10.2 |  |  |     |      |     |  |      |  | 2.5  |  |      | 42.8 |  | 65.5 |
| Control Delay (s/veh)                   |     | 8.7  |  |  |     | 7.9  | 0.0 |  |      |  | 26.0 |  |      | 33.0 |  | 17.0 |
| Level of Service (LOS)                  |     | A    |  |  |     | A    | A   |  |      |  | D    |  |      | D    |  | C    |
| Approach Delay (s/veh)                  | 2.7 |      |  |  | 0.0 |      |     |  | 26.0 |  |      |  | 20.6 |      |  |      |
| Approach LOS                            | A   |      |  |  | A   |      |     |  | D    |  |      |  | C    |      |  |      |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                     |
|--------------------------|--------------------------|----------------------------|-------------------------------------|
| Analyst                  | tsj                      | Intersection               | Pitts Boulevard & High School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville            |
| Date Performed           | 5/17/2024                | East/West Street           | High School Drive                   |
| Analysis Year            | 2029                     | North/South Street         | Pitts Boulevard                     |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.57                                |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                |
| Project Description      | No Build                 |                            |                                     |



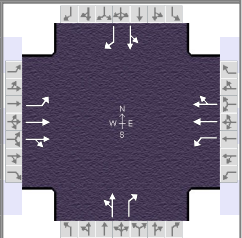
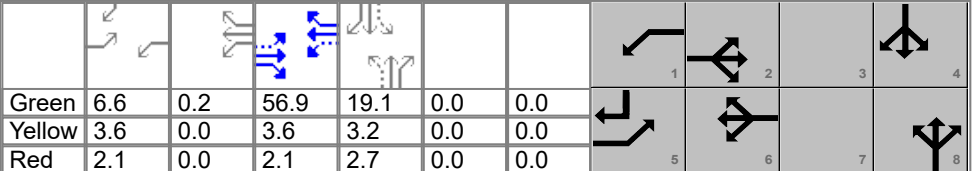
| Vehicle Volumes and Adjustments |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
|---------------------------------|-----------|-----|----|----|-----------|---|---|---|------------|----|----|---|------------|---|----|----|
| Approach                        | Eastbound |     |    |    | Westbound |   |   |   | Northbound |    |    |   | Southbound |   |    |    |
| Movement                        | U         | L   | T  | R  | U         | L | T | R | U          | L  | T  | R | U          | L | T  | R  |
| Priority                        |           | 10  | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2  | 3 | 4U         | 4 | 5  | 6  |
| Number of Lanes                 |           | 0   | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1  | 0 | 0          | 0 | 1  | 0  |
| Configuration                   |           |     | LR |    |           |   |   |   |            | LT |    |   |            |   |    | TR |
| Volume (veh/h)                  |           | 128 |    | 74 |           |   |   |   |            | 31 | 57 |   |            |   | 47 | 59 |
| Percent Heavy Vehicles (%)      |           | 3   |    | 3  |           |   |   |   |            | 3  |    |   |            |   |    |    |
| Proportion Time Blocked         |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Percent Grade (%)               | 0         |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Right Turn Channelized          |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Median Type   Storage           | Undivided |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.43 |  | 6.23 |  |  |  |  |  | 4.13 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.53 |  | 3.33 |  |  |  |  |  | 2.23 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 354  |  |  |  |  |  |     | 54   |     |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 698  |  |  |  |  |  |     | 1378 |     |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.51 |  |  |  |  |  |     | 0.04 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 2.9  |  |  |  |  |  |     | 0.1  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 74.2 |  |  |  |  |  |     | 2.6  |     |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 15.4 |  |  |  |  |  |     | 7.7  | 0.3 |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | C    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                    | 15.4 |  |      |  |  |  |  |  | 2.9 |      |     |  |  |  |  |  |
| Approach LOS                              | C    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |

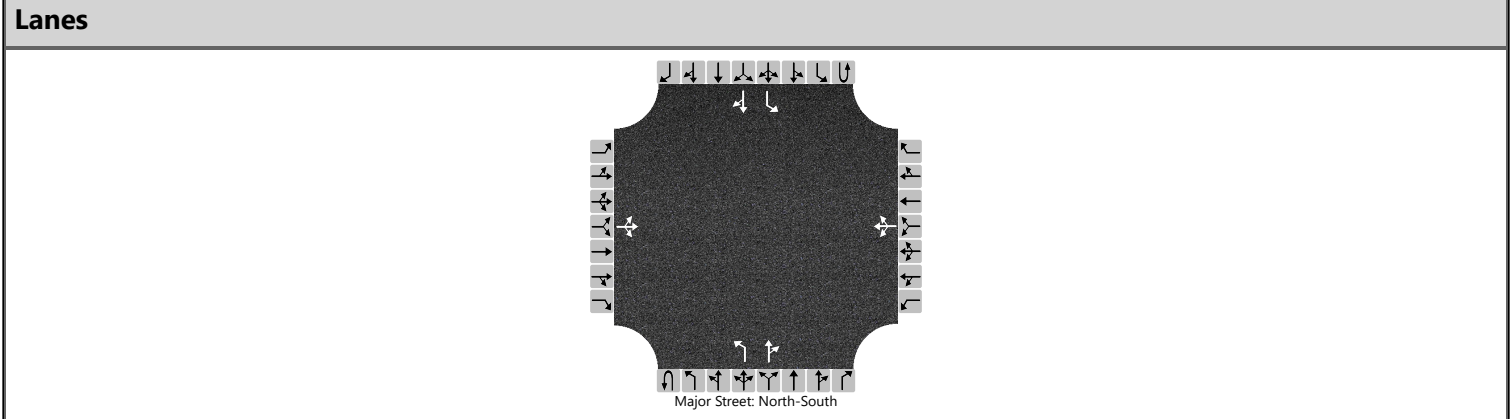


# HCS Signalized Intersection Results Summary

| General Information                             |                          |                 |               |                                                                                    |       | Intersection Information |         |       |       |      |       |  |     |       |       |       |  |      |  |
|-------------------------------------------------|--------------------------|-----------------|---------------|------------------------------------------------------------------------------------|-------|--------------------------|---------|-------|-------|------|-------|-------------------------------------------------------------------------------------|-----|-------|-------|-------|--|------|--|
| Agency                                          | DGL                      |                 |               |                                                                                    |       | Duration, h              | 0.250   |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Analyst                                         | tsj                      |                 | Analysis Date | Jun 18, 2024                                                                       |       | Area Type                | Other   |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Jurisdiction                                    | City of North Ridgeville |                 | Time Period   | AM Peak                                                                            |       | PHF                      | 0.89    |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Urban Street                                    | Center Ridge             |                 | Analysis Year | 2049                                                                               |       | Analysis Period          | 1> 7:00 |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Intersection                                    | Center Ridge & Ranger... |                 | File Name     | 2049 No Build AM Peak Center Ridge & Ranger.xus                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Project Description                             | No Build                 |                 |               |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
|                                                 |                          |                 |               |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Demand Information                              |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB  |       |       |       |  |      |  |
| Approach Movement                               |                          |                 |               | L                                                                                  | T     | R                        | L       | T     | R     | L    | T     | R                                                                                   | L   | T     | R     |       |  |      |  |
| Demand ( v ), veh/h                             |                          |                 |               | 90                                                                                 | 640   | 155                      | 105     | 522   | 111   | 149  | 137   | 207                                                                                 | 227 | 201   | 121   |       |  |      |  |
| Signal Information                              |                          |                 |               |  |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Cycle, s                                        | 100.0                    | Reference Phase | 2             |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Offset, s                                       | 0                        | Reference Point | End           |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Uncoordinated                                   | No                       | Simult. Gap E/W | On            |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Force Mode                                      | Fixed                    | Simult. Gap N/S | On            |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
|                                                 |                          |                 |               | Green                                                                              | 6.6   | 0.2                      | 56.9    | 19.1  | 0.0   | 0.0  |       |                                                                                     |     |       |       |       |  |      |  |
|                                                 |                          |                 |               | Yellow                                                                             | 3.6   | 0.0                      | 3.6     | 3.2   | 0.0   | 0.0  |       |                                                                                     |     |       |       |       |  |      |  |
|                                                 |                          |                 |               | Red                                                                                | 2.1   | 0.0                      | 2.1     | 2.7   | 0.0   | 0.0  |       |                                                                                     |     |       |       |       |  |      |  |
| Timer Results                                   |                          |                 |               | EBL                                                                                |       | EBT                      |         | WBL   |       | WBT  |       | NBL                                                                                 |     | NBT   |       | SBL   |  | SBT  |  |
| Assigned Phase                                  |                          |                 |               | 5                                                                                  |       | 2                        |         | 1     |       | 6    |       |                                                                                     |     | 8     |       |       |  | 4    |  |
| Case Number                                     |                          |                 |               | 1.1                                                                                |       | 4.0                      |         | 1.1   |       | 4.0  |       |                                                                                     |     | 7.0   |       |       |  | 7.0  |  |
| Phase Duration, s                               |                          |                 |               | 12.3                                                                               |       | 62.6                     |         | 12.4  |       | 62.7 |       |                                                                                     |     | 25.0  |       |       |  | 25.0 |  |
| Change Period, ( Y+R c ), s                     |                          |                 |               | 5.7                                                                                |       | 5.7                      |         | 5.7   |       | 5.7  |       |                                                                                     |     | 5.9   |       |       |  | 5.9  |  |
| Max Allow Headway ( MAH ), s                    |                          |                 |               | 4.1                                                                                |       | 0.0                      |         | 4.1   |       | 0.0  |       |                                                                                     |     | 4.4   |       |       |  | 4.4  |  |
| Queue Clearance Time ( g s ), s                 |                          |                 |               | 4.2                                                                                |       |                          |         | 4.6   |       |      |       |                                                                                     |     | 21.1  |       |       |  | 21.1 |  |
| Green Extension Time ( g e ), s                 |                          |                 |               | 0.1                                                                                |       | 0.0                      |         | 0.1   |       | 0.0  |       |                                                                                     |     | 0.0   |       |       |  | 0.0  |  |
| Phase Call Probability                          |                          |                 |               | 0.94                                                                               |       |                          |         | 0.96  |       |      |       |                                                                                     |     | 1.00  |       |       |  | 1.00 |  |
| Max Out Probability                             |                          |                 |               | 0.41                                                                               |       |                          |         | 0.60  |       |      |       |                                                                                     |     | 1.00  |       |       |  | 1.00 |  |
| Movement Group Results                          |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB  |       |       |       |  |      |  |
| Approach Movement                               |                          |                 |               | L                                                                                  | T     | R                        | L       | T     | R     | L    | T     | R                                                                                   | L   | T     | R     |       |  |      |  |
| Assigned Movement                               |                          |                 |               | 5                                                                                  | 2     | 12                       | 1       | 6     | 16    | 3    | 8     | 18                                                                                  | 7   | 4     | 14    |       |  |      |  |
| Adjusted Flow Rate ( v ), veh/h                 |                          |                 |               | 101                                                                                | 462   | 431                      | 118     | 366   | 345   |      | 321   | 233                                                                                 |     | 481   | 136   |       |  |      |  |
| Adjusted Saturation Flow Rate ( s ), veh/h/ln   |                          |                 |               | 1753                                                                               | 1841  | 1716                     | 1767    | 1856  | 1742  |      | 1285  | 1572                                                                                |     | 1275  | 1585  |       |  |      |  |
| Queue Service Time ( g s ), s                   |                          |                 |               | 2.2                                                                                | 14.5  | 14.5                     | 2.6     | 10.6  | 10.6  |      | 0.0   | 14.0                                                                                |     | 0.0   | 7.0   |       |  |      |  |
| Cycle Queue Clearance Time ( g c ), s           |                          |                 |               | 2.2                                                                                | 14.5  | 14.5                     | 2.6     | 10.6  | 10.6  |      | 19.1  | 14.0                                                                                |     | 19.1  | 7.0   |       |  |      |  |
| Green Ratio ( g/C )                             |                          |                 |               | 0.63                                                                               | 0.57  | 0.57                     | 0.64    | 0.57  | 0.57  |      | 0.19  | 0.19                                                                                |     | 0.19  | 0.26  |       |  |      |  |
| Capacity ( c ), veh/h                           |                          |                 |               | 510                                                                                | 1047  | 976                      | 453     | 1058  | 993   |      | 300   | 300                                                                                 |     | 299   | 407   |       |  |      |  |
| Volume-to-Capacity Ratio ( X )                  |                          |                 |               | 0.198                                                                              | 0.442 | 0.442                    | 0.260   | 0.346 | 0.347 |      | 1.070 | 0.774                                                                               |     | 1.611 | 0.334 |       |  |      |  |
| Back of Queue ( Q ), ft/ln ( 95 th percentile)  |                          |                 |               | 36                                                                                 | 254   | 234                      | 42      | 197   | 183   |      | 518   | 270                                                                                 |     | 1251  | 122   |       |  |      |  |
| Back of Queue ( Q ), veh/ln ( 95 th percentile) |                          |                 |               | 1.4                                                                                | 9.9   | 9.4                      | 1.6     | 7.7   | 7.3   |      | 20.2  | 10.5                                                                                |     | 49.2  | 4.8   |       |  |      |  |
| Queue Storage Ratio ( RQ ) ( 95 th percentile)  |                          |                 |               | 0.00                                                                               | 0.00  | 0.00                     | 0.00    | 0.00  | 0.00  |      | 0.00  | 0.00                                                                                |     | 0.00  | 0.00  |       |  |      |  |
| Uniform Delay ( d 1 ), s/veh                    |                          |                 |               | 8.0                                                                                | 12.4  | 12.4                     | 8.4     | 11.5  | 11.5  |      | 42.2  | 38.4                                                                                |     | 42.2  | 30.2  |       |  |      |  |
| Incremental Delay ( d 2 ), s/veh                |                          |                 |               | 0.2                                                                                | 1.4   | 1.5                      | 0.3     | 0.9   | 1.0   |      | 71.8  | 11.9                                                                                |     | 289.9 | 0.5   |       |  |      |  |
| Initial Queue Delay ( d 3 ), s/veh              |                          |                 |               | 0.0                                                                                | 0.0   | 0.0                      | 0.0     | 0.0   | 0.0   |      | 0.0   | 0.0                                                                                 |     | 0.0   | 0.0   |       |  |      |  |
| Control Delay ( d ), s/veh                      |                          |                 |               | 8.2                                                                                | 13.8  | 13.9                     | 8.7     | 12.4  | 12.5  |      | 114.0 | 50.3                                                                                |     | 332.1 | 30.7  |       |  |      |  |
| Level of Service (LOS)                          |                          |                 |               | A                                                                                  | B     | B                        | A       | B     | B     |      | F     | D                                                                                   |     | F     | C     |       |  |      |  |
| Approach Delay, s/veh / LOS                     |                          |                 |               | 13.3                                                                               |       | B                        |         | 11.9  |       | B    |       | 87.3                                                                                |     | F     |       | 265.7 |  | F    |  |
| Intersection Delay, s/veh / LOS                 |                          |                 |               | 78.6                                                                               |       |                          |         |       |       | E    |       |                                                                                     |     |       |       |       |  |      |  |
| Multimodal Results                              |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB  |       |       |       |  |      |  |
| Pedestrian LOS Score / LOS                      |                          |                 |               | 1.89                                                                               |       | B                        |         | 1.89  |       | B    |       | 2.30                                                                                |     | B     |       | 2.30  |  | B    |  |
| Bicycle LOS Score / LOS                         |                          |                 |               | 1.31                                                                               |       | A                        |         | 1.17  |       | A    |       | 1.40                                                                                |     | A     |       | 1.51  |  | B    |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                        |
|--------------------------|--------------------------|----------------------------|----------------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Fire Station/School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville               |
| Date Performed           | 5/17/2024                | East/West Street           | Fire Station Drive                     |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                             |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.64                                   |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                   |
| Project Description      | No Build                 |                            |                                        |



| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|-----|------------|---|-----|-----|------------|-----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |     | Northbound |   |     |     | Southbound |     |     |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R   | U          | L | T   | R   | U          | L   | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9   | 1U         | 1 | 2   | 3   | 4U         | 4   | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0   | 0          | 1 | 1   | 0   | 0          | 1   | 1   | 0  |
| Configuration                   |           |    | LTR |    |           |    | LTR |     |            | L |     | TR  |            | L   |     | TR |
| Volume (veh/h)                  |           | 0  | 0   | 4  |           | 16 | 0   | 257 |            | 3 | 236 | 117 |            | 211 | 256 | 6  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 11 | 11  | 11  |            | 8 |     |     |            | 4   |     |    |
| Proportion Time Blocked         |           |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |     |            |   |     |     |            |     |     |    |
| Right Turn Channelized          |           |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.21 | 6.61 | 6.31 |  | 4.18 |  |  |  | 4.14 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.60 | 4.10 | 3.40 |  | 2.27 |  |  |  | 2.24 |  |  |

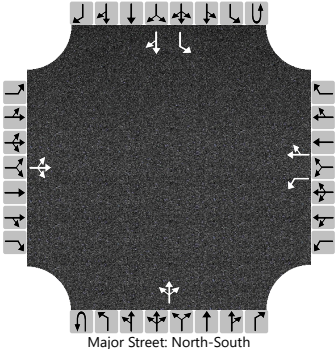
| Delay, Queue Length, and Level of Service |      |  |      |  |       |  |       |  |     |      |  |  |     |      |  |  |
|-------------------------------------------|------|--|------|--|-------|--|-------|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                      |      |  | 6    |  |       |  | 427   |  |     | 5    |  |  |     | 330  |  |  |
| Capacity, c (veh/h)                       |      |  | 650  |  |       |  | 369   |  |     | 1118 |  |  |     | 974  |  |  |
| v/c Ratio                                 |      |  | 0.01 |  |       |  | 1.16  |  |     | 0.00 |  |  |     | 0.34 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.0  |  |       |  | 16.8  |  |     | 0.0  |  |  |     | 1.5  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 0.0  |  |       |  | 457.0 |  |     | 0.0  |  |  |     | 38.7 |  |  |
| Control Delay (s/veh)                     |      |  | 10.6 |  |       |  | 129.9 |  |     | 8.2  |  |  |     | 10.6 |  |  |
| Level of Service (LOS)                    |      |  | B    |  |       |  | F     |  |     | A    |  |  |     | B    |  |  |
| Approach Delay (s/veh)                    | 10.6 |  |      |  | 129.9 |  |       |  | 0.1 |      |  |  | 4.7 |      |  |  |
| Approach LOS                              | B    |  |      |  | F     |  |       |  | A   |      |  |  | A   |      |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                          |
|--------------------------|--------------------------|----------------------------|--------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & NRAC Drive  |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville |
| Date Performed           | 5/17/2024                | East/West Street           | NRAC Drive               |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way               |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.75                     |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                     |
| Project Description      | No Build                 |                            |                          |

Lanes



Major Street: North-South

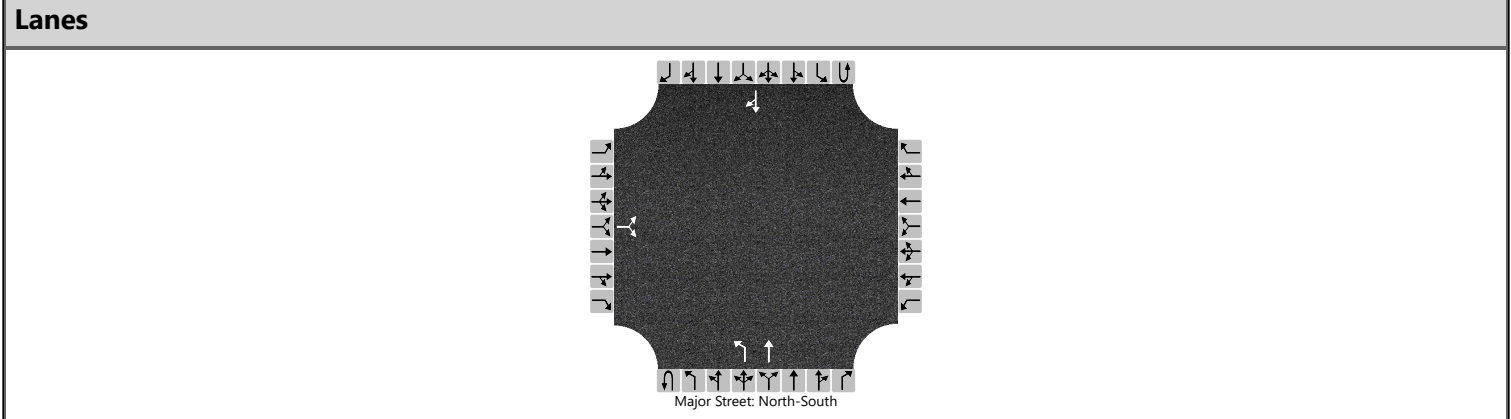
| Vehicle Volumes and Adjustments |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
|---------------------------------|-----------|----|-----|----|-----------|----|----|-----|------------|---|-----|----|------------|-----|----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |    |     | Northbound |   |     |    | Southbound |     |    |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T  | R   | U          | L | T   | R  | U          | L   | T  | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8  | 9   | 1U         | 1 | 2   | 3  | 4U         | 4   | 5  | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 1  | 1  | 0   | 0          | 0 | 1   | 0  | 0          | 1   | 1  | 0  |
| Configuration                   |           |    | LTR |    |           | L  |    | TR  |            |   | LTR |    |            | L   |    | TR |
| Volume (veh/h)                  |           | 0  | 0   | 1  |           | 50 | 0  | 138 |            | 4 | 216 | 65 |            | 219 | 63 | 0  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 14 | 14 | 14  |            | 5 |     |    |            | 6   |    |    |
| Proportion Time Blocked         |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |    |     |            |   |     |    |            |     |    |    |
| Right Turn Channelized          |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.24 | 6.64 | 6.34 |  | 4.15 |  |  |  | 4.16 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.63 | 4.13 | 3.43 |  | 2.25 |  |  |  | 2.25 |  |  |

| Delay, Queue Length, and Level of Service |     |  |      |  |      |      |  |      |     |      |     |     |     |      |  |  |
|-------------------------------------------|-----|--|------|--|------|------|--|------|-----|------|-----|-----|-----|------|--|--|
| Flow Rate, v (veh/h)                      |     |  | 1    |  |      | 67   |  | 184  |     | 5    |     |     |     | 292  |  |  |
| Capacity, c (veh/h)                       |     |  | 981  |  |      | 154  |  | 684  |     | 1494 |     |     |     | 1162 |  |  |
| v/c Ratio                                 |     |  | 0.00 |  |      | 0.43 |  | 0.27 |     | 0.00 |     |     |     | 0.25 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     |  | 0.0  |  |      | 1.9  |  | 1.1  |     | 0.0  |     |     |     | 1.0  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     |  | 0.0  |  |      | 52.8 |  | 30.6 |     |      |     |     |     | 26.2 |  |  |
| Control Delay (s/veh)                     |     |  | 8.7  |  |      | 45.0 |  | 12.2 |     | 7.4  | 0.0 | 0.0 |     | 9.1  |  |  |
| Level of Service (LOS)                    |     |  | A    |  |      | E    |  | B    |     | A    | A   | A   |     | A    |  |  |
| Approach Delay (s/veh)                    | 8.7 |  |      |  | 20.9 |      |  |      | 0.1 |      |     |     | 7.1 |      |  |  |
| Approach LOS                              | A   |  |      |  | C    |      |  |      | A   |      |     |     | A   |      |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                |
|--------------------------|--------------------------|----------------------------|--------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Kenssington Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville       |
| Date Performed           | 5/17/2024                | East/West Street           | Kenssington Drive              |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                     |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.68                           |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                           |
| Project Description      | No Build                 |                            |                                |



| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 1  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | L  | T   |   |            |   |     | TR |
| Volume (veh/h)                  |           | 11 |    | 48 |           |   |   |   |            | 11 | 269 |   |            |   | 116 | 2  |
| Percent Heavy Vehicles (%)      |           | 13 |    | 13 |           |   |   |   |            | 6  |     |   |            |   |     |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

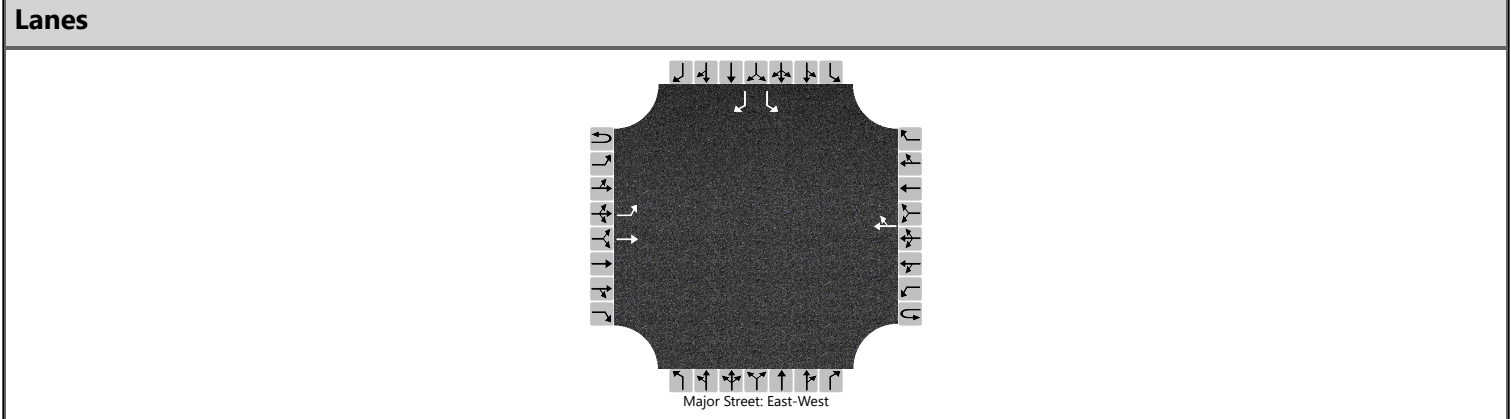
| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.53 |  | 6.33 |  |  |  |  |  | 4.16 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.62 |  | 3.42 |  |  |  |  |  | 2.25 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |  |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|--|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 87   |  |  |  |  |  |     | 16   |  |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 715  |  |  |  |  |  |     | 1379 |  |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.12 |  |  |  |  |  |     | 0.01 |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.4  |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 11.0 |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 10.7 |  |  |  |  |  |     | 7.6  |  |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    |  |  |  |  |  |  |
| Approach Delay (s/veh)                    | 10.7 |  |      |  |  |  |  |  | 0.3 |      |  |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |  |  |  |  |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                              |
|--------------------------|--------------------------|----------------------------|------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Ranger Way |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road              |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                   |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.79                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                         |
| Project Description      | No Build                 |                            |                              |



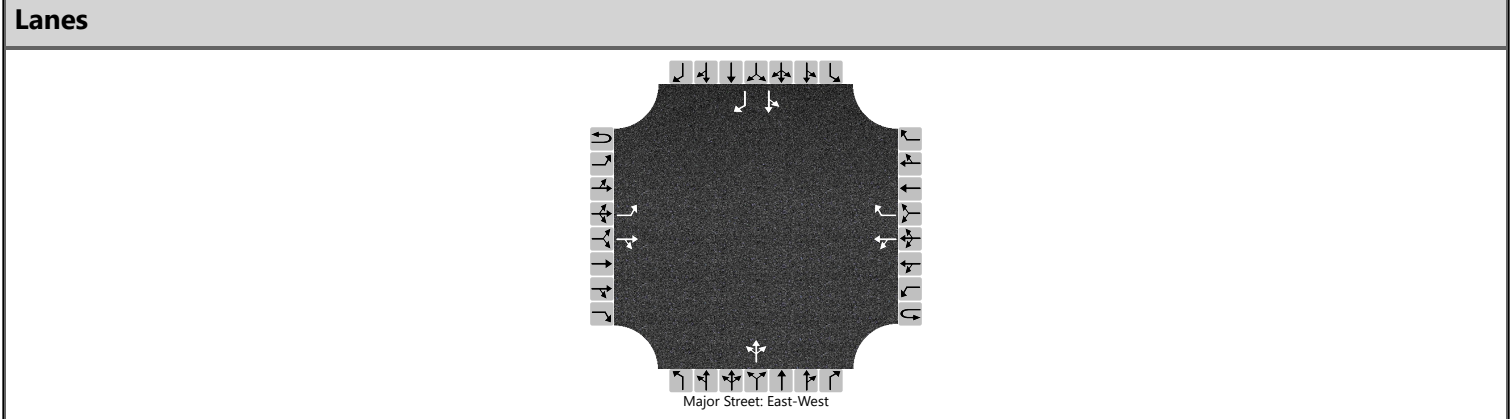
| Vehicle Volumes and Adjustments |           |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
|---------------------------------|-----------|-----|-----|---|-----------|---|-----|-----|------------|---|---|---|------------|----|----|----|
| Approach                        | Eastbound |     |     |   | Westbound |   |     |     | Northbound |   |   |   | Southbound |    |    |    |
| Movement                        | U         | L   | T   | R | U         | L | T   | R   | U          | L | T | R | U          | L  | T  | R  |
| Priority                        | 1U        | 1   | 2   | 3 | 4U        | 4 | 5   | 6   |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Number of Lanes                 | 0         | 1   | 1   | 0 | 0         | 0 | 1   | 0   |            | 0 | 0 | 0 |            | 1  | 0  | 1  |
| Configuration                   |           | L   | T   |   |           |   |     | TR  |            |   |   |   |            | L  |    | R  |
| Volume (veh/h)                  |           | 125 | 755 |   |           |   | 387 | 156 |            |   |   |   |            | 53 |    | 82 |
| Percent Heavy Vehicles (%)      |           | 2   |     |   |           |   |     |     |            |   |   |   |            | 14 |    | 14 |
| Proportion Time Blocked         |           |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
| Percent Grade (%)               |           |     |     |   |           |   |     |     |            |   |   |   | 0          |    |    |    |
| Right Turn Channelized          |           |     |     |   |           |   |     |     |            |   |   |   | No         |    |    |    |
| Median Type   Storage           | Undivided |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |

| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  |  |  |  |  |  |  |  |  | 6.54 |  | 6.34 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  |  |  |  |  |  |  |  |  | 3.63 |  | 3.43 |

| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |       |       |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|-------|-------|--|------|
| Flow Rate, v (veh/h)                      |     | 158  |  |  |  |  |  |  |  |  |  |  |       | 67    |  | 104  |
| Capacity, c (veh/h)                       |     | 907  |  |  |  |  |  |  |  |  |  |  |       | 62    |  | 487  |
| v/c Ratio                                 |     | 0.17 |  |  |  |  |  |  |  |  |  |  |       | 1.09  |  | 0.21 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.6  |  |  |  |  |  |  |  |  |  |  |       | 5.4   |  | 0.8  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 15.2 |  |  |  |  |  |  |  |  |  |  |       | 150.1 |  | 22.2 |
| Control Delay (s/veh)                     |     | 9.8  |  |  |  |  |  |  |  |  |  |  |       | 252.7 |  | 14.4 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |       | F     |  | B    |
| Approach Delay (s/veh)                    | 1.4 |      |  |  |  |  |  |  |  |  |  |  | 107.9 |       |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | F     |       |  |      |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                              |
|--------------------------|--------------------------|----------------------------|----------------------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & High School Drive/W Poi... |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville                     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road                              |
| Analysis Year            | 2049                     | North/South Street         | High School Drive/W Point Drive              |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.75                                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                                         |
| Project Description      | No Build                 |                            |                                              |



| Vehicle Volumes and Adjustments |           |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |
|---------------------------------|-----------|-----|-----|----|-----------|----|-----|-----|------------|---|-----|---|------------|----|----|-----|
| Approach                        | Eastbound |     |     |    | Westbound |    |     |     | Northbound |   |     |   | Southbound |    |    |     |
| Movement                        | U         | L   | T   | R  | U         | L  | T   | R   | U          | L | T   | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1   | 2   | 3  | 4U        | 4  | 5   | 6   |            | 7 | 8   | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1   | 1   | 0  | 0         | 0  | 1   | 1   |            | 0 | 1   | 0 |            | 0  | 1  | 1   |
| Configuration                   |           | L   |     | TR |           | LT |     | R   |            |   | LTR |   |            | LT |    | R   |
| Volume (veh/h)                  |           | 489 | 221 | 5  |           | 0  | 216 | 202 |            | 4 | 0   | 0 |            | 49 | 1  | 320 |
| Percent Heavy Vehicles (%)      |           | 2   |     |    |           | 3  |     |     |            | 0 | 0   | 0 |            | 0  | 0  | 0   |
| Proportion Time Blocked         |           |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |
| Percent Grade (%)               |           |     |     |    |           |    |     |     | 0          |   |     |   | 0          |    |    |     |
| Right Turn Channelized          |           |     |     |    | No        |    |     |     |            |   |     |   | No         |    |    |     |
| Median Type   Storage           | Undivided |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |

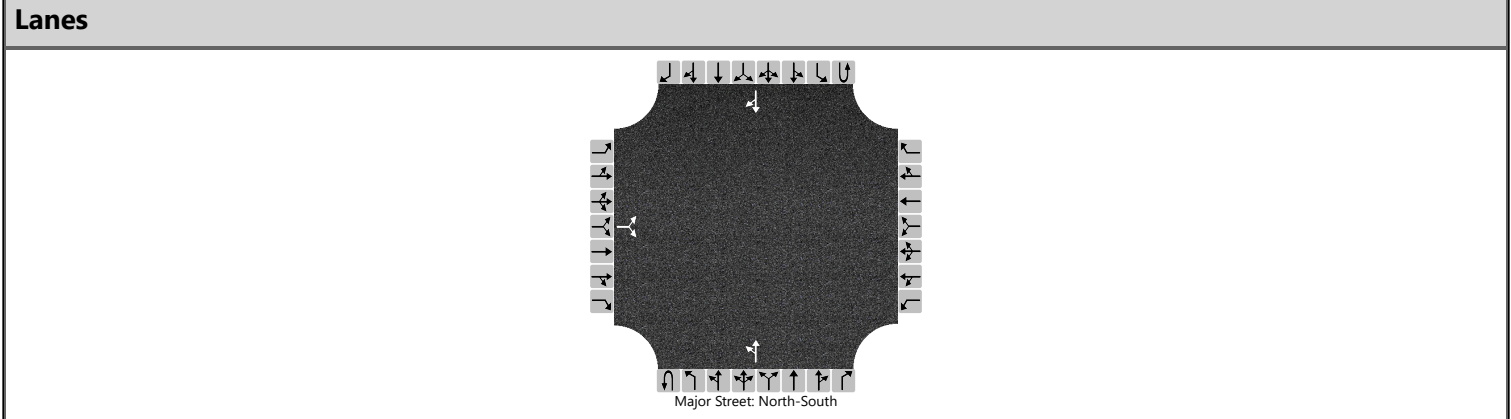
| Critical and Follow-up Headways |  |      |  |  |  |      |  |  |  |      |      |      |  |      |      |      |
|---------------------------------|--|------|--|--|--|------|--|--|--|------|------|------|--|------|------|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  | 4.1  |  |  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  | 4.13 |  |  |  | 7.10 | 6.50 | 6.20 |  | 7.10 | 6.50 | 6.20 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  | 2.2  |  |  |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  | 2.23 |  |  |  | 3.50 | 4.00 | 3.30 |  | 3.50 | 4.00 | 3.30 |

| Delay, Queue Length, and Level of Service |      |       |  |  |     |      |     |  |        |  |        |  |       |        |  |       |
|-------------------------------------------|------|-------|--|--|-----|------|-----|--|--------|--|--------|--|-------|--------|--|-------|
| Flow Rate, v (veh/h)                      |      | 652   |  |  |     | 0    |     |  |        |  | 5      |  |       | 67     |  | 427   |
| Capacity, c (veh/h)                       |      | 1010  |  |  |     | 1245 |     |  |        |  | 3      |  |       | 15     |  | 623   |
| v/c Ratio                                 |      | 0.65  |  |  |     | 0.00 |     |  |        |  | 1.63   |  |       | 4.33   |  | 0.69  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      | 4.9   |  |  |     | 0.0  |     |  |        |  | 1.5    |  |       | 9.1    |  | 5.4   |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      | 124.5 |  |  |     |      |     |  |        |  | 37.5   |  |       | 227.5  |  | 135.0 |
| Control Delay (s/veh)                     |      | 14.8  |  |  |     | 7.9  | 0.0 |  |        |  | 2162.9 |  |       | 1995.7 |  | 22.4  |
| Level of Service (LOS)                    |      | B     |  |  |     | A    | A   |  |        |  | F      |  |       | F      |  | C     |
| Approach Delay (s/veh)                    | 10.1 |       |  |  | 0.0 |      |     |  | 2162.9 |  |        |  | 289.1 |        |  |       |
| Approach LOS                              | B    |       |  |  | A   |      |     |  | F      |  |        |  | F     |        |  |       |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                     |
|--------------------------|--------------------------|----------------------------|-------------------------------------|
| Analyst                  | tsj                      | Intersection               | Pitts Boulevard & High School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville            |
| Date Performed           | 5/17/2024                | East/West Street           | High School Drive                   |
| Analysis Year            | 2049                     | North/South Street         | Pitts Boulevard                     |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.81                                |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                |
| Project Description      | No Build                 |                            |                                     |

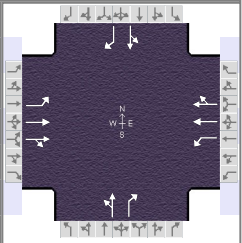
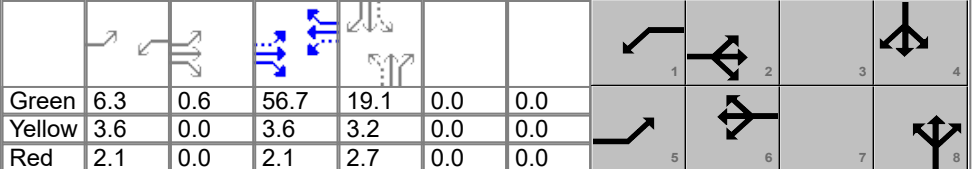


| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |    |   |            |   |     |     |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|----|---|------------|---|-----|-----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |    |   | Southbound |   |     |     |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T  | R | U          | L | T   | R   |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2  | 3 | 4U         | 4 | 5   | 6   |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1  | 0 | 0          | 0 | 1   | 0   |
| Configuration                   |           |    | LR |    |           |   |   |   |            | LT |    |   |            |   |     | TR  |
| Volume (veh/h)                  |           | 94 |    | 42 |           |   |   |   |            | 81 | 16 |   |            |   | 117 | 167 |
| Percent Heavy Vehicles (%)      |           | 6  |    | 6  |           |   |   |   |            | 8  |    |   |            |   |     |     |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |    |   |            |   |     |     |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |    |   |            |   |     |     |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |    |   |            |   |     |     |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |    |   |            |   |     |     |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.46 |  | 6.26 |  |  |  |  |  | 4.18 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.55 |  | 3.35 |  |  |  |  |  | 2.27 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 168  |  |  |  |  |  |     | 100  |     |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 556  |  |  |  |  |  |     | 1171 |     |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.30 |  |  |  |  |  |     | 0.09 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 1.3  |  |  |  |  |  |     | 0.3  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 34.1 |  |  |  |  |  |     | 8.0  |     |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 14.3 |  |  |  |  |  |     | 8.4  | 0.7 |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                    | 14.3 |  |      |  |  |  |  |  | 7.1 |      |     |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |

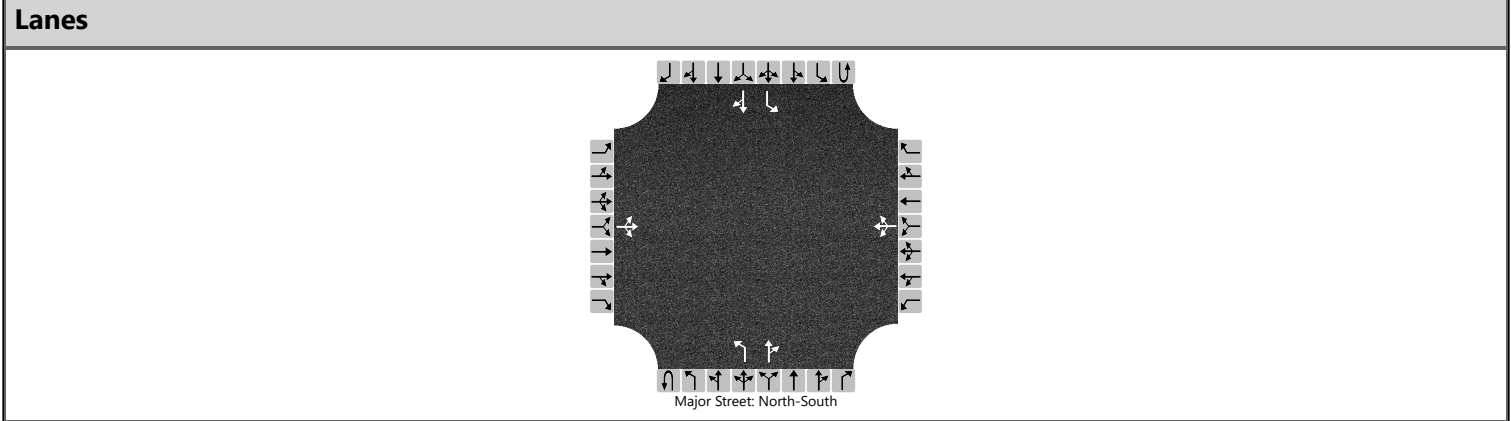
# HCS Signalized Intersection Results Summary

| General Information                             |                          |                 |               |                                                                                    |       | Intersection Information |         |       |       |      |       |  |       |       |       |
|-------------------------------------------------|--------------------------|-----------------|---------------|------------------------------------------------------------------------------------|-------|--------------------------|---------|-------|-------|------|-------|-------------------------------------------------------------------------------------|-------|-------|-------|
| Agency                                          | DGL                      |                 |               |                                                                                    |       | Duration, h              | 0.250   |       |       |      |       |                                                                                     |       |       |       |
| Analyst                                         | tsj                      |                 | Analysis Date | Jun 18, 2024                                                                       |       | Area Type                | Other   |       |       |      |       |                                                                                     |       |       |       |
| Jurisdiction                                    | City of North Ridgeville |                 | Time Period   | PM Peak                                                                            |       | PHF                      | 0.93    |       |       |      |       |                                                                                     |       |       |       |
| Urban Street                                    | Center Ridge             |                 | Analysis Year | 2049                                                                               |       | Analysis Period          | 1> 7:00 |       |       |      |       |                                                                                     |       |       |       |
| Intersection                                    | Center Ridge & Ranger... |                 | File Name     | 2049 No Build PM Peak Center Ridge & Ranger.xus                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Project Description                             | No Build                 |                 |               |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Demand Information                              |                          |                 |               |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
|                                                 |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |
| Approach Movement                               |                          |                 |               | L                                                                                  | T     | R                        | L       | T     | R     | L    | T     | R                                                                                   | L     | T     | R     |
| Demand ( v ), veh/h                             |                          |                 |               | 155                                                                                | 761   | 61                       | 79      | 765   | 196   | 124  | 204   | 158                                                                                 | 198   | 96    | 138   |
| Signal Information                              |                          |                 |               |  |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Cycle, s                                        | 100.0                    | Reference Phase | 2             |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Offset, s                                       | 0                        | Reference Point | End           |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Uncoordinated                                   | No                       | Simult. Gap E/W | On            |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Force Mode                                      | Fixed                    | Simult. Gap N/S | On            |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
|                                                 |                          |                 |               | Green                                                                              | 6.3   | 0.6                      | 56.7    | 19.1  | 0.0   | 0.0  |       |                                                                                     |       |       |       |
|                                                 |                          |                 |               | Yellow                                                                             | 3.6   | 0.0                      | 3.6     | 3.2   | 0.0   | 0.0  |       |                                                                                     |       |       |       |
|                                                 |                          |                 |               | Red                                                                                | 2.1   | 0.0                      | 2.1     | 2.7   | 0.0   | 0.0  |       |                                                                                     |       |       |       |
| Timer Results                                   |                          |                 |               | EBL                                                                                | EBT   | WBL                      | WBT     | NBL   | NBT   | SBL  | SBT   |                                                                                     |       |       |       |
| Assigned Phase                                  |                          |                 |               | 5                                                                                  | 2     | 1                        | 6       |       | 8     |      | 4     |                                                                                     |       |       |       |
| Case Number                                     |                          |                 |               | 1.1                                                                                | 4.0   | 1.1                      | 4.0     |       | 7.0   |      | 7.0   |                                                                                     |       |       |       |
| Phase Duration, s                               |                          |                 |               | 12.6                                                                               | 63.0  | 12.0                     | 62.4    |       | 25.0  |      | 25.0  |                                                                                     |       |       |       |
| Change Period, ( Y+R c ), s                     |                          |                 |               | 5.7                                                                                | 5.7   | 5.7                      | 5.7     |       | 5.9   |      | 5.9   |                                                                                     |       |       |       |
| Max Allow Headway ( MAH ), s                    |                          |                 |               | 4.1                                                                                | 0.0   | 4.1                      | 0.0     |       | 4.4   |      | 4.4   |                                                                                     |       |       |       |
| Queue Clearance Time ( g s ), s                 |                          |                 |               | 5.8                                                                                |       | 3.9                      |         |       | 21.1  |      | 21.1  |                                                                                     |       |       |       |
| Green Extension Time ( g e ), s                 |                          |                 |               | 0.2                                                                                | 0.0   | 0.1                      | 0.0     |       | 0.0   |      | 0.0   |                                                                                     |       |       |       |
| Phase Call Probability                          |                          |                 |               | 0.99                                                                               |       | 0.91                     |         |       | 1.00  |      | 1.00  |                                                                                     |       |       |       |
| Max Out Probability                             |                          |                 |               | 1.00                                                                               |       | 0.26                     |         |       | 1.00  |      | 1.00  |                                                                                     |       |       |       |
| Movement Group Results                          |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |
| Approach Movement                               |                          |                 |               | L                                                                                  | T     | R                        | L       | T     | R     | L    | T     | R                                                                                   | L     | T     | R     |
| Assigned Movement                               |                          |                 |               | 5                                                                                  | 2     | 12                       | 1       | 6     | 16    | 3    | 8     | 18                                                                                  | 7     | 4     | 14    |
| Adjusted Flow Rate ( v ), veh/h                 |                          |                 |               | 167                                                                                | 448   | 436                      | 85      | 536   | 498   |      | 353   | 170                                                                                 |       | 316   | 148   |
| Adjusted Saturation Flow Rate ( s ), veh/h/ln   |                          |                 |               | 1767                                                                               | 1856  | 1807                     | 1781    | 1870  | 1738  |      | 1570  | 1572                                                                                |       | 959   | 1598  |
| Queue Service Time ( g s ), s                   |                          |                 |               | 3.8                                                                                | 13.6  | 13.6                     | 1.9     | 17.4  | 17.4  |      | 0.0   | 9.8                                                                                 |       | 0.0   | 8.3   |
| Cycle Queue Clearance Time ( g c ), s           |                          |                 |               | 3.8                                                                                | 13.6  | 13.6                     | 1.9     | 17.4  | 17.4  |      | 19.1  | 9.8                                                                                 |       | 19.1  | 8.3   |
| Green Ratio ( g/C )                             |                          |                 |               | 0.64                                                                               | 0.57  | 0.57                     | 0.63    | 0.57  | 0.57  |      | 0.19  | 0.19                                                                                |       | 0.19  | 0.19  |
| Capacity ( c ), veh/h                           |                          |                 |               | 407                                                                                | 1063  | 1035                     | 447     | 1060  | 985   |      | 350   | 300                                                                                 |       | 244   | 305   |
| Volume-to-Capacity Ratio ( X )                  |                          |                 |               | 0.409                                                                              | 0.421 | 0.422                    | 0.190   | 0.505 | 0.505 |      | 1.009 | 0.566                                                                               |       | 1.298 | 0.486 |
| Back of Queue ( Q ), ft/ln ( 95 th percentile)  |                          |                 |               | 62                                                                                 | 240   | 230                      | 30      | 295   | 275   |      | 508   | 183                                                                                 |       | 670   | 148   |
| Back of Queue ( Q ), veh/ln ( 95 th percentile) |                          |                 |               | 2.4                                                                                | 9.4   | 9.2                      | 1.2     | 11.6  | 11.0  |      | 19.8  | 7.2                                                                                 |       | 26.6  | 5.9   |
| Queue Storage Ratio ( RQ ) ( 95 th percentile)  |                          |                 |               | 0.00                                                                               | 0.00  | 0.00                     | 0.00    | 0.00  | 0.00  |      | 0.00  | 0.00                                                                                |       | 0.00  | 0.00  |
| Uniform Delay ( d 1 ), s/veh                    |                          |                 |               | 9.5                                                                                | 12.0  | 12.0                     | 8.5     | 13.2  | 13.2  |      | 41.8  | 36.7                                                                                |       | 42.8  | 36.1  |
| Incremental Delay ( d 2 ), s/veh                |                          |                 |               | 0.7                                                                                | 1.2   | 1.3                      | 0.2     | 1.7   | 1.9   |      | 50.5  | 2.5                                                                                 |       | 161.0 | 1.2   |
| Initial Queue Delay ( d 3 ), s/veh              |                          |                 |               | 0.0                                                                                | 0.0   | 0.0                      | 0.0     | 0.0   | 0.0   |      | 0.0   | 0.0                                                                                 |       | 0.0   | 0.0   |
| Control Delay ( d ), s/veh                      |                          |                 |               | 10.2                                                                               | 13.3  | 13.3                     | 8.7     | 14.9  | 15.0  |      | 92.3  | 39.1                                                                                |       | 203.9 | 37.3  |
| Level of Service (LOS)                          |                          |                 |               | B                                                                                  | B     | B                        | A       | B     | B     |      | F     | D                                                                                   |       | F     | D     |
| Approach Delay, s/veh / LOS                     |                          |                 |               | 12.8                                                                               | B     |                          | 14.5    | B     |       | 75.0 | E     |                                                                                     | 150.6 | F     |       |
| Intersection Delay, s/veh / LOS                 |                          |                 |               | 44.0                                                                               |       |                          |         |       |       | D    |       |                                                                                     |       |       |       |
| Multimodal Results                              |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |
| Pedestrian LOS Score / LOS                      |                          |                 |               | 1.89                                                                               | B     |                          | 1.89    | B     |       | 2.30 | B     |                                                                                     | 2.30  | B     |       |
| Bicycle LOS Score / LOS                         |                          |                 |               | 1.35                                                                               | A     |                          | 1.41    | A     |       | 1.35 | A     |                                                                                     | 1.25  | A     |       |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                        |
|--------------------------|--------------------------|----------------------------|----------------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Fire Station/School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville               |
| Date Performed           | 5/17/2024                | East/West Street           | Fire Station Drive                     |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                             |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.79                                   |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                   |
| Project Description      | No Build                 |                            |                                        |



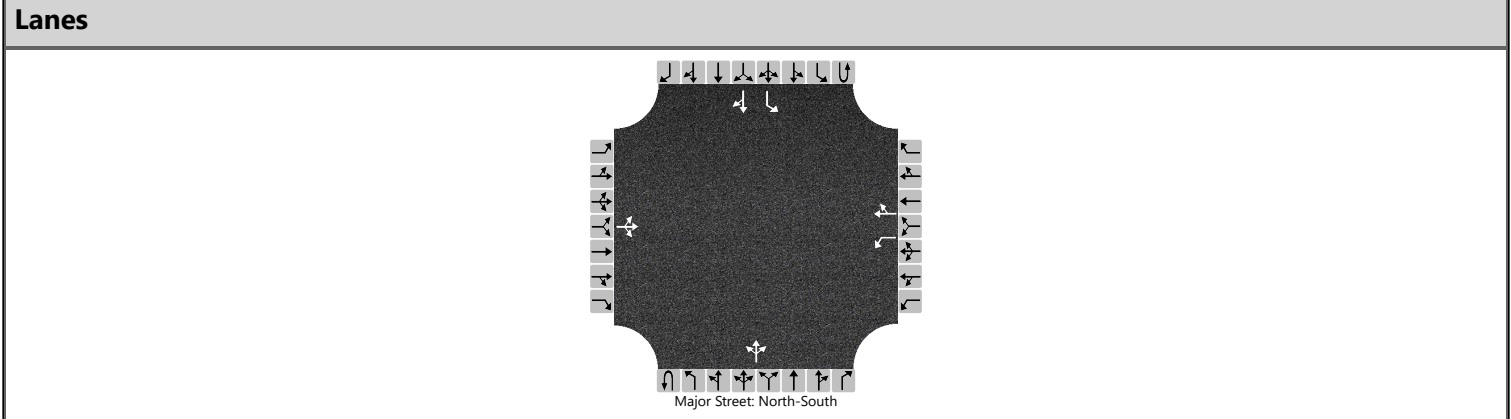
| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|-----|------------|---|-----|----|------------|-----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |     | Northbound |   |     |    | Southbound |     |     |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R   | U          | L | T   | R  | U          | L   | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9   | 1U         | 1 | 2   | 3  | 4U         | 4   | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0   | 0          | 1 | 1   | 0  | 0          | 1   | 1   | 0  |
| Configuration                   |           |    | LTR |    |           |    | LTR |     |            | L |     | TR |            | L   |     | TR |
| Volume (veh/h)                  |           | 2  | 0   | 0  |           | 27 | 0   | 177 |            | 0 | 303 | 56 |            | 102 | 145 | 1  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 0  | 0   | 0   |            | 5 |     |    |            | 2   |     |    |
| Proportion Time Blocked         |           |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |     |            |   |     |    |            |     |     |    |
| Right Turn Channelized          |           |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.10 | 6.50 | 6.20 |  | 4.15 |  |  |  | 4.12 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.50 | 4.00 | 3.30 |  | 2.25 |  |  |  | 2.22 |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |      |  |       |  |     |      |  |  |     |      |  |  |
|-------------------------------------------|------|--|------|--|------|--|-------|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                      |      |  | 3    |  |      |  | 258   |  |     | 0    |  |  |     | 129  |  |  |
| Capacity, c (veh/h)                       |      |  | 110  |  |      |  | 416   |  |     | 1372 |  |  |     | 905  |  |  |
| v/c Ratio                                 |      |  | 0.02 |  |      |  | 0.62  |  |     | 0.00 |  |  |     | 0.14 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.1  |  |      |  | 4.1   |  |     | 0.0  |  |  |     | 0.5  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 2.5  |  |      |  | 102.5 |  |     |      |  |  |     | 12.7 |  |  |
| Control Delay (s/veh)                     |      |  | 38.5 |  |      |  | 26.7  |  |     | 7.6  |  |  |     | 9.6  |  |  |
| Level of Service (LOS)                    |      |  | E    |  |      |  | D     |  |     | A    |  |  |     | A    |  |  |
| Approach Delay (s/veh)                    | 38.5 |  |      |  | 26.7 |  |       |  | 0.0 |      |  |  | 4.0 |      |  |  |
| Approach LOS                              | E    |  |      |  | D    |  |       |  | A   |      |  |  | A   |      |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                          |
|--------------------------|--------------------------|----------------------------|--------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & NRAC Drive  |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville |
| Date Performed           | 5/17/2024                | East/West Street           | NRAC Drive               |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way               |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.71                     |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                     |
| Project Description      | No Build                 |                            |                          |



| Vehicle Volumes and Adjustments |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
|---------------------------------|-----------|----|-----|----|-----------|-----|----|-----|------------|---|-----|----|------------|----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |     |    |     | Northbound |   |     |    | Southbound |    |     |    |
| Movement                        | U         | L  | T   | R  | U         | L   | T  | R   | U          | L | T   | R  | U          | L  | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7   | 8  | 9   | 1U         | 1 | 2   | 3  | 4U         | 4  | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 1   | 1  | 0   | 0          | 0 | 1   | 0  | 0          | 1  | 1   | 0  |
| Configuration                   |           |    | LTR |    |           | L   |    | TR  |            |   | LTR |    |            | L  |     | TR |
| Volume (veh/h)                  |           | 0  | 0   | 5  |           | 114 | 1  | 197 |            | 3 | 158 | 35 |            | 63 | 111 | 0  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 11  | 11 | 11  |            | 1 |     |    |            | 1  |     |    |
| Proportion Time Blocked         |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |     |    |     |            |   |     |    |            |    |     |    |
| Right Turn Channelized          |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |

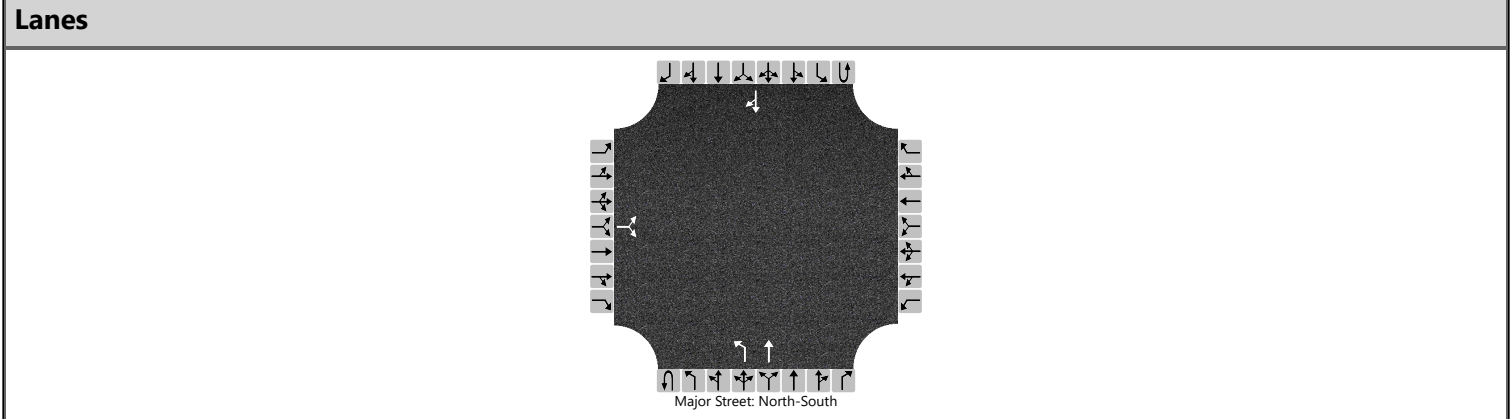
| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.21 | 6.61 | 6.31 |  | 4.11 |  |  |  | 4.11 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.60 | 4.10 | 3.40 |  | 2.21 |  |  |  | 2.21 |  |  |

| Delay, Queue Length, and Level of Service |     |  |      |  |      |      |  |      |     |      |     |     |     |      |  |  |
|-------------------------------------------|-----|--|------|--|------|------|--|------|-----|------|-----|-----|-----|------|--|--|
| Flow Rate, v (veh/h)                      |     |  | 7    |  |      | 161  |  | 279  |     | 4    |     |     |     | 89   |  |  |
| Capacity, c (veh/h)                       |     |  | 895  |  |      | 372  |  | 766  |     | 1430 |     |     |     | 1297 |  |  |
| v/c Ratio                                 |     |  | 0.01 |  |      | 0.43 |  | 0.36 |     | 0.00 |     |     |     | 0.07 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     |  | 0.0  |  |      | 2.1  |  | 1.7  |     | 0.0  |     |     |     | 0.2  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     |  | 0.0  |  |      | 57.1 |  | 46.2 |     |      |     |     |     | 5.0  |  |  |
| Control Delay (s/veh)                     |     |  | 9.1  |  |      | 21.8 |  | 12.4 |     | 7.5  | 0.0 | 0.0 |     | 8.0  |  |  |
| Level of Service (LOS)                    |     |  | A    |  |      | C    |  | B    |     | A    | A   | A   |     | A    |  |  |
| Approach Delay (s/veh)                    | 9.1 |  |      |  | 15.8 |      |  |      | 0.1 |      |     |     | 2.9 |      |  |  |
| Approach LOS                              | A   |  |      |  | C    |      |  |      | A   |      |     |     | A   |      |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                |
|--------------------------|--------------------------|----------------------------|--------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Kenssington Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville       |
| Date Performed           | 5/17/2024                | East/West Street           | Kenssington Drive              |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                     |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.87                           |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                           |
| Project Description      | No Build                 |                            |                                |



| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 1  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | L  | T   |   |            |   |     | TR |
| Volume (veh/h)                  |           | 12 |    | 54 |           |   |   |   |            | 22 | 190 |   |            |   | 223 | 8  |
| Percent Heavy Vehicles (%)      |           | 4  |    | 4  |           |   |   |   |            | 2  |     |   |            |   |     |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

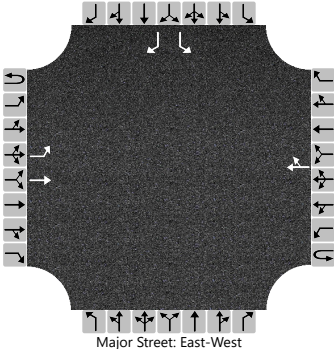
| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.44 |  | 6.24 |  |  |  |  |  | 4.12 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.54 |  | 3.34 |  |  |  |  |  | 2.22 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |  |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|--|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 76   |  |  |  |  |  |     | 25   |  |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 681  |  |  |  |  |  |     | 1298 |  |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.11 |  |  |  |  |  |     | 0.02 |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.4  |  |  |  |  |  |     | 0.1  |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 10.3 |  |  |  |  |  |     | 2.5  |  |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 10.9 |  |  |  |  |  |     | 7.8  |  |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    |  |  |  |  |  |  |
| Approach Delay (s/veh)                    | 10.9 |  |      |  |  |  |  |  | 0.8 |      |  |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |  |  |  |  |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                              |
|--------------------------|--------------------------|----------------------------|------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Ranger Way |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road              |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                   |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.82                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                         |
| Project Description      | No Build                 |                            |                              |

Lanes



Major Street: East-West

| Vehicle Volumes and Adjustments |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|----|-----|---|-----------|---|-----|-----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |    |     |   | Westbound |   |     |     | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L  | T   | R | U         | L | T   | R   | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6   |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0   |            | 0 | 0 | 0 |            | 1  | 0  | 1   |
| Configuration                   |           | L  | T   |   |           |   |     | TR  |            |   |   |   |            | L  |    | R   |
| Volume (veh/h)                  |           | 91 | 251 |   |           |   | 469 | 125 |            |   |   |   |            | 82 |    | 173 |
| Percent Heavy Vehicles (%)      |           | 3  |     |   |           |   |     |     |            |   |   |   |            | 8  |    | 8   |
| Proportion Time Blocked         |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |    |     |   |           |   |     |     |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |    |     |   |           |   |     |     |            |   |   |   | No         |    |    |     |
| Median Type   Storage           | Undivided |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |

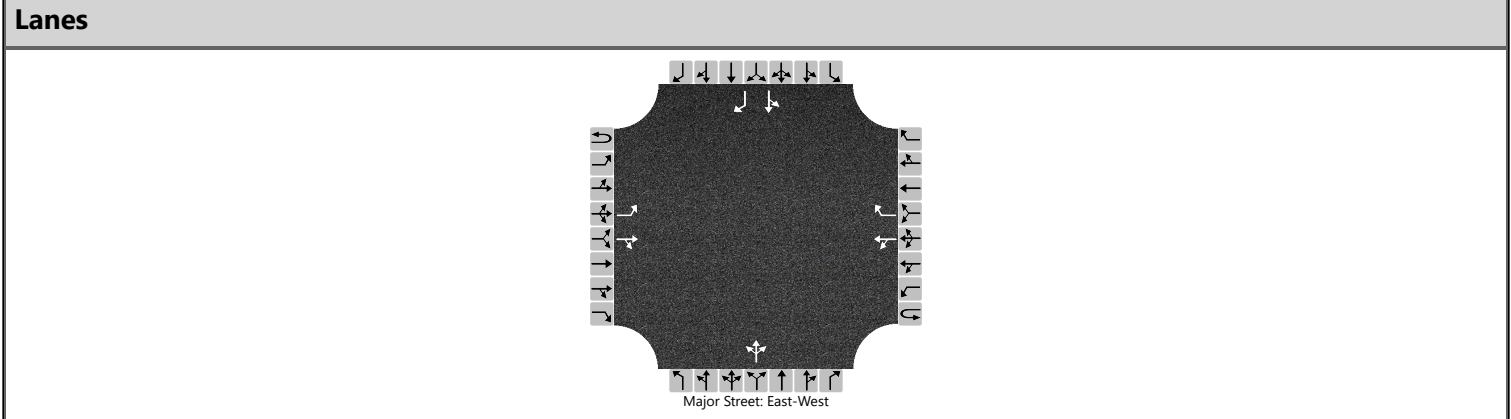
| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.48 |  | 6.28 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.57 |  | 3.37 |

| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 111  |  |  |  |  |  |  |  |  |  |  |      | 100  |  | 211  |
| Capacity, c (veh/h)                       |     | 874  |  |  |  |  |  |  |  |  |  |  |      | 179  |  | 460  |
| v/c Ratio                                 |     | 0.13 |  |  |  |  |  |  |  |  |  |  |      | 0.56 |  | 0.46 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.4  |  |  |  |  |  |  |  |  |  |  |      | 2.9  |  | 2.4  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 10.2 |  |  |  |  |  |  |  |  |  |  |      | 77.1 |  | 63.8 |
| Control Delay (s/veh)                     |     | 9.7  |  |  |  |  |  |  |  |  |  |  |      | 47.7 |  | 19.3 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |      | E    |  | C    |
| Approach Delay (s/veh)                    | 2.6 |      |  |  |  |  |  |  |  |  |  |  | 28.4 |      |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | D    |      |  |      |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                              |
|--------------------------|--------------------------|----------------------------|----------------------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & High School Drive/W Poi... |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville                     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road                              |
| Analysis Year            | 2049                     | North/South Street         | High School Drive/W Point Drive              |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.77                                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                                         |
| Project Description      | No Build                 |                            |                                              |



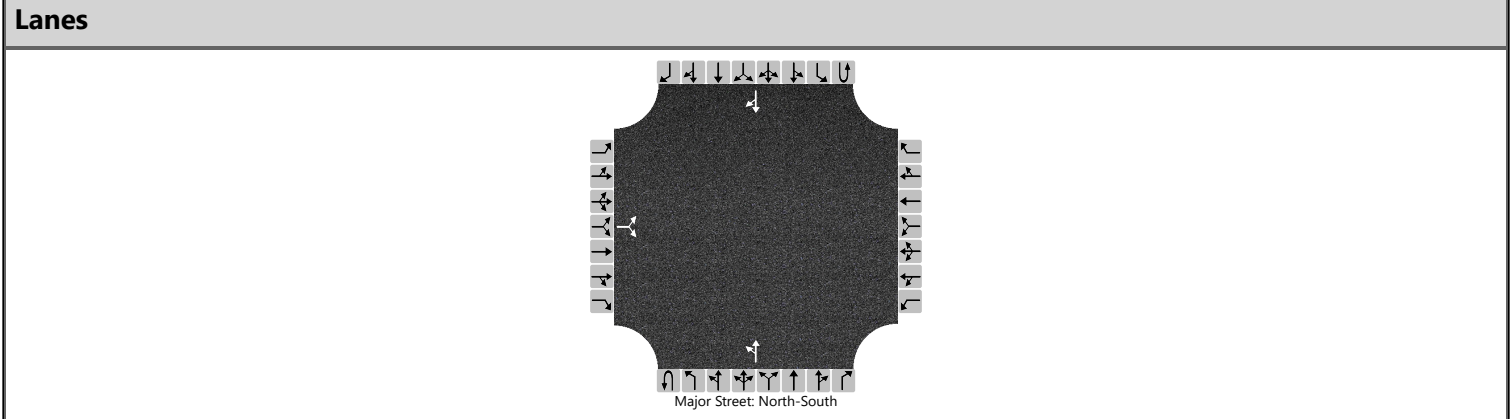
| Vehicle Volumes and Adjustments |           |     |     |    |           |    |     |    |            |   |     |   |            |    |    |     |
|---------------------------------|-----------|-----|-----|----|-----------|----|-----|----|------------|---|-----|---|------------|----|----|-----|
| Approach                        | Eastbound |     |     |    | Westbound |    |     |    | Northbound |   |     |   | Southbound |    |    |     |
| Movement                        | U         | L   | T   | R  | U         | L  | T   | R  | U          | L | T   | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1   | 2   | 3  | 4U        | 4  | 5   | 6  |            | 7 | 8   | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1   | 1   | 0  | 0         | 0  | 1   | 1  |            | 0 | 1   | 0 |            | 0  | 1  | 1   |
| Configuration                   |           | L   |     | TR |           | LT |     | R  |            |   | LTR |   |            | LT |    | R   |
| Volume (veh/h)                  |           | 104 | 219 | 19 |           | 0  | 361 | 39 |            | 2 | 0   | 3 |            | 66 | 1  | 230 |
| Percent Heavy Vehicles (%)      |           | 2   |     |    |           | 2  |     |    |            | 0 | 0   | 0 |            | 1  | 1  | 1   |
| Proportion Time Blocked         |           |     |     |    |           |    |     |    |            |   |     |   |            |    |    |     |
| Percent Grade (%)               |           |     |     |    |           |    |     |    | 0          |   |     |   | 0          |    |    |     |
| Right Turn Channelized          |           |     |     |    | No        |    |     |    |            |   |     |   | No         |    |    |     |
| Median Type   Storage           | Undivided |     |     |    |           |    |     |    |            |   |     |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |      |  |  |  |      |      |      |  |      |      |      |
|---------------------------------|--|------|--|--|--|------|--|--|--|------|------|------|--|------|------|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  | 4.1  |  |  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  | 4.12 |  |  |  | 7.10 | 6.50 | 6.20 |  | 7.11 | 6.51 | 6.21 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  | 2.2  |  |  |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  | 2.22 |  |  |  | 3.50 | 4.00 | 3.30 |  | 3.51 | 4.01 | 3.31 |

| Delay, Queue Length, and Level of Service |     |      |  |  |     |      |     |  |      |  |      |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|-----|------|-----|--|------|--|------|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 135  |  |  |     | 0    |     |  |      |  | 6    |  |      | 87   |  | 299  |
| Capacity, c (veh/h)                       |     | 1045 |  |  |     | 1227 |     |  |      |  | 129  |  |      | 175  |  | 538  |
| v/c Ratio                                 |     | 0.13 |  |  |     | 0.00 |     |  |      |  | 0.05 |  |      | 0.50 |  | 0.56 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.4  |  |  |     | 0.0  |     |  |      |  | 0.2  |  |      | 2.4  |  | 3.4  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 10.2 |  |  |     |      |     |  |      |  | 5.0  |  |      | 60.5 |  | 85.7 |
| Control Delay (s/veh)                     |     | 9.0  |  |  |     | 7.9  | 0.0 |  |      |  | 34.3 |  |      | 44.5 |  | 19.7 |
| Level of Service (LOS)                    |     | A    |  |  |     | A    | A   |  |      |  | D    |  |      | E    |  | C    |
| Approach Delay (s/veh)                    | 2.7 |      |  |  | 0.0 |      |     |  | 34.3 |  |      |  | 25.3 |      |  |      |
| Approach LOS                              | A   |      |  |  | A   |      |     |  | D    |  |      |  | D    |      |  |      |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                     |
|--------------------------|--------------------------|----------------------------|-------------------------------------|
| Analyst                  | tsj                      | Intersection               | Pitts Boulevard & High School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville            |
| Date Performed           | 5/17/2024                | East/West Street           | High School Drive                   |
| Analysis Year            | 2049                     | North/South Street         | Pitts Boulevard                     |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.57                                |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                |
| Project Description      | No Build                 |                            |                                     |



| Vehicle Volumes and Adjustments |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
|---------------------------------|-----------|-----|----|----|-----------|---|---|---|------------|----|----|---|------------|---|----|----|
| Approach                        | Eastbound |     |    |    | Westbound |   |   |   | Northbound |    |    |   | Southbound |   |    |    |
| Movement                        | U         | L   | T  | R  | U         | L | T | R | U          | L  | T  | R | U          | L | T  | R  |
| Priority                        |           | 10  | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2  | 3 | 4U         | 4 | 5  | 6  |
| Number of Lanes                 |           | 0   | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1  | 0 | 0          | 0 | 1  | 0  |
| Configuration                   |           |     | LR |    |           |   |   |   |            | LT |    |   |            |   |    | TR |
| Volume (veh/h)                  |           | 140 |    | 80 |           |   |   |   |            | 34 | 64 |   |            |   | 51 | 64 |
| Percent Heavy Vehicles (%)      |           | 3   |    | 3  |           |   |   |   |            | 3  |    |   |            |   |    |    |
| Proportion Time Blocked         |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Percent Grade (%)               | 0         |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Right Turn Channelized          |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Median Type   Storage           | Undivided |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.43 |  | 6.23 |  |  |  |  |  | 4.13 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.53 |  | 3.33 |  |  |  |  |  | 2.23 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 386  |  |  |  |  |  |     | 60   |     |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 669  |  |  |  |  |  |     | 1359 |     |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.58 |  |  |  |  |  |     | 0.04 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 3.7  |  |  |  |  |  |     | 0.1  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 94.7 |  |  |  |  |  |     | 2.6  |     |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 17.4 |  |  |  |  |  |     | 7.8  | 0.4 |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | C    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                    | 17.4 |  |      |  |  |  |  |  | 2.9 |      |     |  |  |  |  |  |
| Approach LOS                              | C    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |



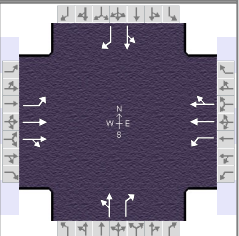
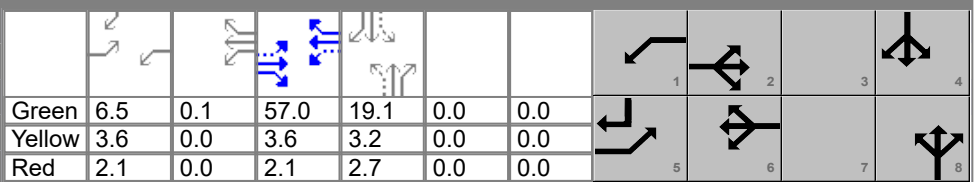
North Ridgeville City School District

# **North Ridgeville CSD Traffic Impact Study**

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## **HCS 2024 Reports – Build Conditions**

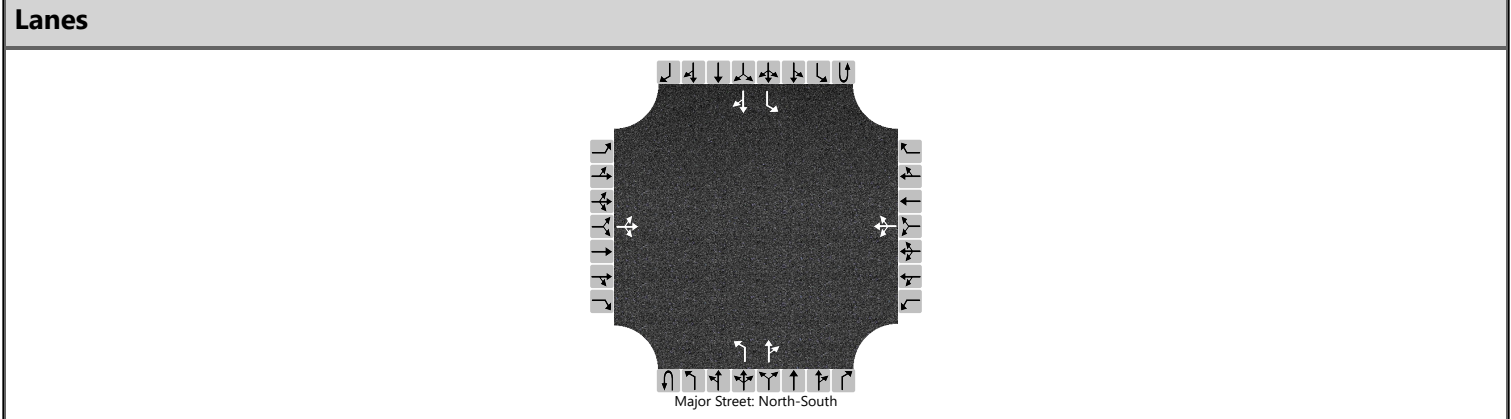
# HCS Signalized Intersection Results Summary

| General Information                             |                          |                 |               |                                                                                    |       | Intersection Information |         |       |       |      |       |  |       |       |       |     |  |      |  |
|-------------------------------------------------|--------------------------|-----------------|---------------|------------------------------------------------------------------------------------|-------|--------------------------|---------|-------|-------|------|-------|-------------------------------------------------------------------------------------|-------|-------|-------|-----|--|------|--|
| Agency                                          | DGL                      |                 |               |                                                                                    |       | Duration, h              | 0.250   |       |       |      |       |                                                                                     |       |       |       |     |  |      |  |
| Analyst                                         | tsj                      |                 | Analysis Date | Jun 18, 2024                                                                       |       | Area Type                | Other   |       |       |      |       |                                                                                     |       |       |       |     |  |      |  |
| Jurisdiction                                    | City of North Ridgeville |                 | Time Period   | AM Peak                                                                            |       | PHF                      | 0.89    |       |       |      |       |                                                                                     |       |       |       |     |  |      |  |
| Urban Street                                    | Center Ridge             |                 | Analysis Year | 2029                                                                               |       | Analysis Period          | 1> 7:00 |       |       |      |       |                                                                                     |       |       |       |     |  |      |  |
| Intersection                                    | Center Ridge & Ranger... |                 | File Name     | 2029 Build AM Peak Center Ridge & Ranger.xus                                       |       |                          |         |       |       |      |       |                                                                                     |       |       |       |     |  |      |  |
| Project Description                             | Build                    |                 |               |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |     |  |      |  |
| Demand Information                              |                          |                 |               |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |     |  |      |  |
| Approach Movement                               |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |     |  |      |  |
|                                                 |                          |                 |               | L                                                                                  | T     | R                        | L       | T     | R     | L    | T     | R                                                                                   | L     | T     | R     |     |  |      |  |
| Demand ( v ), veh/h                             |                          |                 |               | 84                                                                                 | 583   | 148                      | 95      | 475   | 100   | 139  | 125   | 193                                                                                 | 206   | 190   | 111   |     |  |      |  |
| Signal Information                              |                          |                 |               |  |       |                          |         |       |       |      |       |                                                                                     |       |       |       |     |  |      |  |
| Cycle, s                                        | 100.0                    | Reference Phase | 2             |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |     |  |      |  |
| Offset, s                                       | 0                        | Reference Point | End           |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |     |  |      |  |
| Uncoordinated                                   | No                       | Simult. Gap E/W | On            |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |     |  |      |  |
| Force Mode                                      | Fixed                    | Simult. Gap N/S | On            |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |     |  |      |  |
|                                                 |                          |                 |               | Green                                                                              | 6.5   | 0.1                      | 57.0    | 19.1  | 0.0   | 0.0  |       |                                                                                     |       |       |       |     |  |      |  |
|                                                 |                          |                 |               | Yellow                                                                             | 3.6   | 0.0                      | 3.6     | 3.2   | 0.0   | 0.0  |       |                                                                                     |       |       |       |     |  |      |  |
|                                                 |                          |                 |               | Red                                                                                | 2.1   | 0.0                      | 2.1     | 2.7   | 0.0   | 0.0  |       |                                                                                     |       |       |       |     |  |      |  |
| Timer Results                                   |                          |                 |               | EBL                                                                                |       | EBT                      |         | WBL   |       | WBT  |       | NBL                                                                                 |       | NBT   |       | SBL |  | SBT  |  |
| Assigned Phase                                  |                          |                 |               | 5                                                                                  |       | 2                        |         | 1     |       | 6    |       |                                                                                     |       | 8     |       |     |  | 4    |  |
| Case Number                                     |                          |                 |               | 1.1                                                                                |       | 4.0                      |         | 1.1   |       | 4.0  |       |                                                                                     |       | 7.0   |       |     |  | 7.0  |  |
| Phase Duration, s                               |                          |                 |               | 12.2                                                                               |       | 62.7                     |         | 12.3  |       | 62.8 |       |                                                                                     |       | 25.0  |       |     |  | 25.0 |  |
| Change Period, ( Y+R c ), s                     |                          |                 |               | 5.7                                                                                |       | 5.7                      |         | 5.7   |       | 5.7  |       |                                                                                     |       | 5.9   |       |     |  | 5.9  |  |
| Max Allow Headway ( MAH ), s                    |                          |                 |               | 4.1                                                                                |       | 0.0                      |         | 4.1   |       | 0.0  |       |                                                                                     |       | 4.3   |       |     |  | 4.3  |  |
| Queue Clearance Time ( g s ), s                 |                          |                 |               | 4.1                                                                                |       |                          |         | 4.3   |       |      |       |                                                                                     |       | 21.1  |       |     |  | 21.1 |  |
| Green Extension Time ( g e ), s                 |                          |                 |               | 0.1                                                                                |       | 0.0                      |         | 0.1   |       | 0.0  |       |                                                                                     |       | 0.0   |       |     |  | 0.0  |  |
| Phase Call Probability                          |                          |                 |               | 0.93                                                                               |       |                          |         | 0.95  |       |      |       |                                                                                     |       | 1.00  |       |     |  | 1.00 |  |
| Max Out Probability                             |                          |                 |               | 0.34                                                                               |       |                          |         | 0.46  |       |      |       |                                                                                     |       | 1.00  |       |     |  | 1.00 |  |
| Movement Group Results                          |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |     |  |      |  |
| Approach Movement                               |                          |                 |               | L                                                                                  | T     | R                        | L       | T     | R     | L    | T     | R                                                                                   | L     | T     | R     |     |  |      |  |
| Assigned Movement                               |                          |                 |               | 5                                                                                  | 2     | 12                       | 1       | 6     | 16    | 3    | 8     | 18                                                                                  | 7     | 4     | 14    |     |  |      |  |
| Adjusted Flow Rate ( v ), veh/h                 |                          |                 |               | 94                                                                                 | 425   | 396                      | 107     | 332   | 314   |      | 297   | 217                                                                                 |       | 445   | 125   |     |  |      |  |
| Adjusted Saturation Flow Rate ( s ), veh/h/ln   |                          |                 |               | 1753                                                                               | 1841  | 1711                     | 1767    | 1856  | 1743  |      | 1266  | 1572                                                                                |       | 1291  | 1585  |     |  |      |  |
| Queue Service Time ( g s ), s                   |                          |                 |               | 2.1                                                                                | 12.9  | 13.0                     | 2.3     | 9.3   | 9.4   |      | 0.0   | 12.9                                                                                |       | 0.0   | 6.4   |     |  |      |  |
| Cycle Queue Clearance Time ( g c ), s           |                          |                 |               | 2.1                                                                                | 12.9  | 13.0                     | 2.3     | 9.3   | 9.4   |      | 19.1  | 12.9                                                                                |       | 19.1  | 6.4   |     |  |      |  |
| Green Ratio ( g/C )                             |                          |                 |               | 0.63                                                                               | 0.57  | 0.57                     | 0.64    | 0.57  | 0.57  |      | 0.19  | 0.19                                                                                |       | 0.19  | 0.26  |     |  |      |  |
| Capacity ( c ), veh/h                           |                          |                 |               | 538                                                                                | 1048  | 975                      | 480     | 1060  | 996   |      | 297   | 300                                                                                 |       | 301   | 406   |     |  |      |  |
| Volume-to-Capacity Ratio ( X )                  |                          |                 |               | 0.175                                                                              | 0.406 | 0.406                    | 0.222   | 0.313 | 0.315 |      | 0.999 | 0.722                                                                               |       | 1.477 | 0.307 |     |  |      |  |
| Back of Queue ( Q ), ft/ln ( 95 th percentile)  |                          |                 |               | 34                                                                                 | 232   | 214                      | 38      | 174   | 162   |      | 444   | 245                                                                                 |       | 1061  | 111   |     |  |      |  |
| Back of Queue ( Q ), veh/ln ( 95 th percentile) |                          |                 |               | 1.3                                                                                | 9.0   | 8.5                      | 1.5     | 6.8   | 6.5   |      | 17.3  | 9.6                                                                                 |       | 41.8  | 4.4   |     |  |      |  |
| Queue Storage Ratio ( RQ ) ( 95 th percentile)  |                          |                 |               | 0.00                                                                               | 0.00  | 0.00                     | 0.00    | 0.00  | 0.00  |      | 0.00  | 0.00                                                                                |       | 0.00  | 0.00  |     |  |      |  |
| Uniform Delay ( d 1 ), s/veh                    |                          |                 |               | 7.8                                                                                | 12.0  | 12.1                     | 8.1     | 11.2  | 11.2  |      | 42.2  | 38.0                                                                                |       | 42.2  | 30.0  |     |  |      |  |
| Incremental Delay ( d 2 ), s/veh                |                          |                 |               | 0.2                                                                                | 1.2   | 1.3                      | 0.2     | 0.8   | 0.8   |      | 52.0  | 8.2                                                                                 |       | 231.8 | 0.4   |     |  |      |  |
| Initial Queue Delay ( d 3 ), s/veh              |                          |                 |               | 0.0                                                                                | 0.0   | 0.0                      | 0.0     | 0.0   | 0.0   |      | 0.0   | 0.0                                                                                 |       | 0.0   | 0.0   |     |  |      |  |
| Control Delay ( d ), s/veh                      |                          |                 |               | 7.9                                                                                | 13.2  | 13.3                     | 8.3     | 12.0  | 12.1  |      | 94.2  | 46.2                                                                                |       | 274.0 | 30.5  |     |  |      |  |
| Level of Service (LOS)                          |                          |                 |               | A                                                                                  | B     | B                        | A       | B     | B     |      | F     | D                                                                                   |       | F     | C     |     |  |      |  |
| Approach Delay, s/veh / LOS                     |                          |                 |               | 12.7                                                                               | B     |                          | 11.5    | B     |       | 73.9 | E     |                                                                                     | 220.7 | F     |       |     |  |      |  |
| Intersection Delay, s/veh / LOS                 |                          |                 |               | 66.9                                                                               |       |                          |         |       |       | E    |       |                                                                                     |       |       |       |     |  |      |  |
| Multimodal Results                              |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |     |  |      |  |
| Pedestrian LOS Score / LOS                      |                          |                 |               | 1.89                                                                               | B     |                          | 1.89    | B     |       | 2.30 | B     |                                                                                     | 2.30  | B     |       |     |  |      |  |
| Bicycle LOS Score / LOS                         |                          |                 |               | 1.24                                                                               | A     |                          | 1.11    | A     |       | 1.33 | A     |                                                                                     | 1.43  | A     |       |     |  |      |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                        |
|--------------------------|--------------------------|----------------------------|----------------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Fire Station/School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville               |
| Date Performed           | 5/17/2024                | East/West Street           | Fire Station Drive                     |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                             |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.64                                   |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                   |
| Project Description      | Build                    |                            |                                        |



| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|-----|------------|---|-----|-----|------------|-----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |     | Northbound |   |     |     | Southbound |     |     |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R   | U          | L | T   | R   | U          | L   | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9   | 1U         | 1 | 2   | 3   | 4U         | 4   | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0   | 0          | 1 | 1   | 0   | 0          | 1   | 1   | 0  |
| Configuration                   |           |    | LTR |    |           |    | LTR |     |            | L |     | TR  |            | L   |     | TR |
| Volume (veh/h)                  |           | 0  | 0   | 3  |           | 15 | 0   | 234 |            | 3 | 222 | 107 |            | 192 | 249 | 5  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 11 | 11  | 11  |            | 8 |     |     |            | 4   |     |    |
| Proportion Time Blocked         |           |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |     |            |   |     |     |            |     |     |    |
| Right Turn Channelized          |           |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |

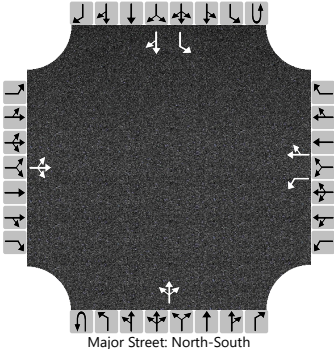
| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.21 | 6.61 | 6.31 |  | 4.18 |  |  |  | 4.14 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.60 | 4.10 | 3.40 |  | 2.27 |  |  |  | 2.24 |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |      |  |       |  |     |  |      |  |     |  |      |  |
|-------------------------------------------|------|--|------|--|------|--|-------|--|-----|--|------|--|-----|--|------|--|
| Flow Rate, v (veh/h)                      |      |  | 5    |  |      |  | 389   |  |     |  | 5    |  |     |  | 300  |  |
| Capacity, c (veh/h)                       |      |  | 660  |  |      |  | 406   |  |     |  | 1130 |  |     |  | 1006 |  |
| v/c Ratio                                 |      |  | 0.01 |  |      |  | 0.96  |  |     |  | 0.00 |  |     |  | 0.30 |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.0  |  |      |  | 11.0  |  |     |  | 0.0  |  |     |  | 1.3  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 0.0  |  |      |  | 299.2 |  |     |  | 0.0  |  |     |  | 33.5 |  |
| Control Delay (s/veh)                     |      |  | 10.5 |  |      |  | 66.8  |  |     |  | 8.2  |  |     |  | 10.1 |  |
| Level of Service (LOS)                    |      |  | B    |  |      |  | F     |  |     |  | A    |  |     |  | B    |  |
| Approach Delay (s/veh)                    | 10.5 |  |      |  | 66.8 |  |       |  | 0.1 |  |      |  | 4.3 |  |      |  |
| Approach LOS                              | B    |  |      |  | F    |  |       |  | A   |  |      |  | A   |  |      |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                          |
|--------------------------|--------------------------|----------------------------|--------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & NRAC Drive  |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville |
| Date Performed           | 5/17/2024                | East/West Street           | NRAC Drive               |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way               |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.75                     |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                     |
| Project Description      | Build                    |                            |                          |

Lanes



Major Street: North-South

| Vehicle Volumes and Adjustments |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
|---------------------------------|-----------|----|-----|----|-----------|----|----|-----|------------|---|-----|----|------------|-----|----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |    |     | Northbound |   |     |    | Southbound |     |    |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T  | R   | U          | L | T   | R  | U          | L   | T  | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8  | 9   | 1U         | 1 | 2   | 3  | 4U         | 4   | 5  | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 1  | 1  | 0   | 0          | 0 | 1   | 0  | 0          | 1   | 1  | 0  |
| Configuration                   |           |    | LTR |    |           | L  |    | TR  |            |   | LTR |    |            | L   |    | TR |
| Volume (veh/h)                  |           | 0  | 0   | 1  |           | 47 | 0  | 127 |            | 4 | 204 | 60 |            | 200 | 73 | 0  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 14 | 14 | 14  |            | 5 |     |    |            | 6   |    |    |
| Proportion Time Blocked         |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |    |     |            |   |     |    |            |     |    |    |
| Right Turn Channelized          |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |

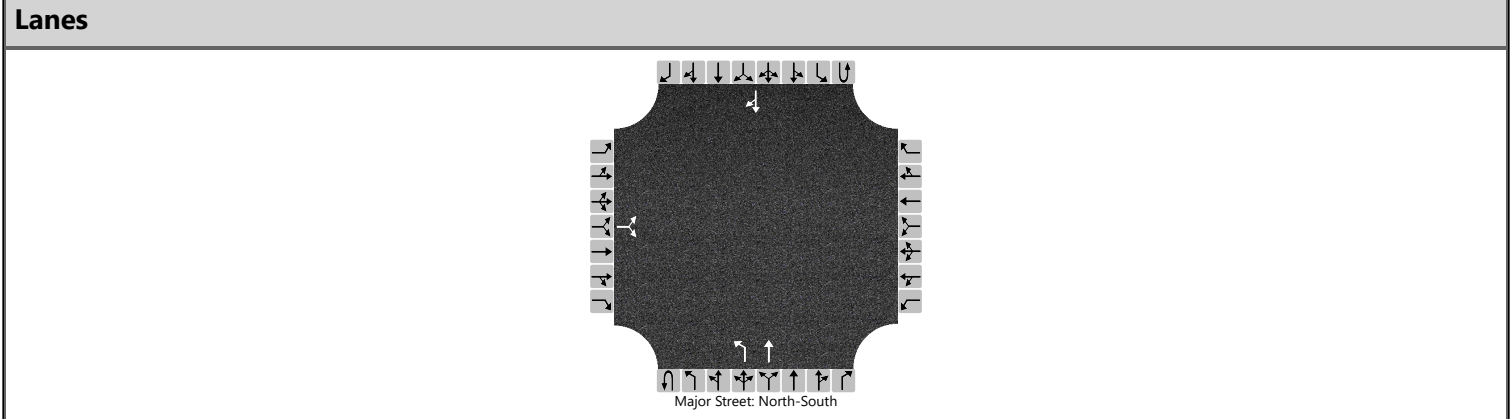
| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.24 | 6.64 | 6.34 |  | 4.15 |  |  |  | 4.16 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.63 | 4.13 | 3.43 |  | 2.25 |  |  |  | 2.25 |  |  |

| Delay, Queue Length, and Level of Service |     |  |      |  |      |      |  |      |     |      |     |     |     |      |  |  |
|-------------------------------------------|-----|--|------|--|------|------|--|------|-----|------|-----|-----|-----|------|--|--|
| Flow Rate, v (veh/h)                      |     |  | 1    |  |      | 63   |  | 169  |     | 5    |     |     |     | 267  |  |  |
| Capacity, c (veh/h)                       |     |  | 964  |  |      | 175  |  | 701  |     | 1477 |     |     |     | 1185 |  |  |
| v/c Ratio                                 |     |  | 0.00 |  |      | 0.36 |  | 0.24 |     | 0.00 |     |     |     | 0.23 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     |  | 0.0  |  |      | 1.5  |  | 0.9  |     | 0.0  |     |     |     | 0.9  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     |  | 0.0  |  |      | 41.7 |  | 25.0 |     |      |     |     |     | 23.6 |  |  |
| Control Delay (s/veh)                     |     |  | 8.7  |  |      | 36.7 |  | 11.8 |     | 7.4  | 0.0 | 0.0 |     | 8.9  |  |  |
| Level of Service (LOS)                    |     |  | A    |  |      | E    |  | B    |     | A    | A   | A   |     | A    |  |  |
| Approach Delay (s/veh)                    | 8.7 |  |      |  | 18.5 |      |  |      | 0.1 |      |     |     | 6.5 |      |  |  |
| Approach LOS                              | A   |  |      |  | C    |      |  |      | A   |      |     |     | A   |      |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                |
|--------------------------|--------------------------|----------------------------|--------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Kenssington Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville       |
| Date Performed           | 5/17/2024                | East/West Street           | Kenssington Drive              |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                     |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.68                           |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                           |
| Project Description      | Build                    |                            |                                |



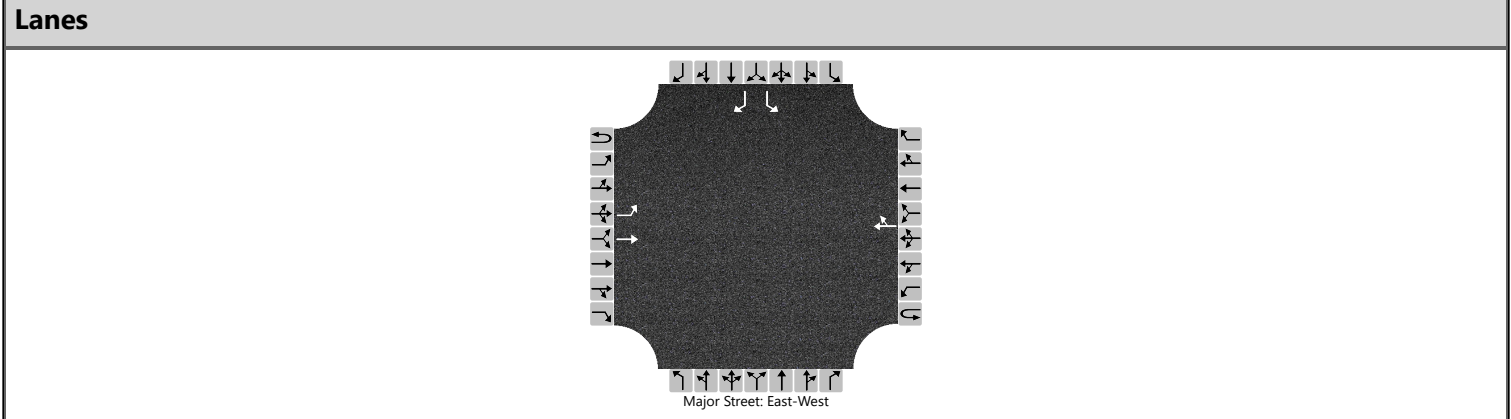
| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 1  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | L  | T   |   |            |   |     | TR |
| Volume (veh/h)                  |           | 10 |    | 44 |           |   |   |   |            | 10 | 252 |   |            |   | 120 | 2  |
| Percent Heavy Vehicles (%)      |           | 13 |    | 13 |           |   |   |   |            | 6  |     |   |            |   |     |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.53 |  | 6.33 |  |  |  |  |  | 4.16 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.62 |  | 3.42 |  |  |  |  |  | 2.25 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |  |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|--|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 79   |  |  |  |  |  |     | 15   |  |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 719  |  |  |  |  |  |     | 1372 |  |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.11 |  |  |  |  |  |     | 0.01 |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.4  |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 11.0 |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 10.6 |  |  |  |  |  |     | 7.7  |  |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    |  |  |  |  |  |  |
| Approach Delay (s/veh)                    | 10.6 |  |      |  |  |  |  |  | 0.3 |      |  |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |  |  |  |  |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                              |
|--------------------------|--------------------------|----------------------------|------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Ranger Way |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road              |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                   |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.79                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                         |
| Project Description      | Build                    |                            |                              |



| Vehicle Volumes and Adjustments |           |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
|---------------------------------|-----------|-----|-----|---|-----------|---|-----|-----|------------|---|---|---|------------|----|----|----|
| Approach                        | Eastbound |     |     |   | Westbound |   |     |     | Northbound |   |   |   | Southbound |    |    |    |
| Movement                        | U         | L   | T   | R | U         | L | T   | R   | U          | L | T | R | U          | L  | T  | R  |
| Priority                        | 1U        | 1   | 2   | 3 | 4U        | 4 | 5   | 6   |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Number of Lanes                 | 0         | 1   | 1   | 0 | 0         | 0 | 1   | 0   |            | 0 | 0 | 0 |            | 1  | 0  | 1  |
| Configuration                   |           | L   | T   |   |           |   |     | TR  |            |   |   |   |            | L  |    | R  |
| Volume (veh/h)                  |           | 114 | 729 |   |           |   | 365 | 148 |            |   |   |   |            | 64 |    | 75 |
| Percent Heavy Vehicles (%)      |           | 2   |     |   |           |   |     |     |            |   |   |   |            | 14 |    | 14 |
| Proportion Time Blocked         |           |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
| Percent Grade (%)               |           |     |     |   |           |   |     |     |            |   |   |   | 0          |    |    |    |
| Right Turn Channelized          |           |     |     |   |           |   |     |     |            |   |   |   | No         |    |    |    |
| Median Type   Storage           | Undivided |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |

| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  |  |  |  |  |  |  |  |  | 6.54 |  | 6.34 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  |  |  |  |  |  |  |  |  | 3.63 |  | 3.43 |

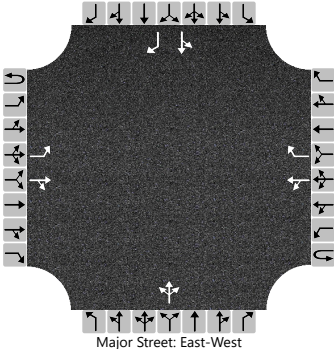
| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |       |       |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|-------|-------|--|------|
| Flow Rate, v (veh/h)                      |     | 144  |  |  |  |  |  |  |  |  |  |  |       | 81    |  | 95   |
| Capacity, c (veh/h)                       |     | 937  |  |  |  |  |  |  |  |  |  |  |       | 73    |  | 508  |
| v/c Ratio                                 |     | 0.15 |  |  |  |  |  |  |  |  |  |  |       | 1.12  |  | 0.19 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.5  |  |  |  |  |  |  |  |  |  |  |       | 6.1   |  | 0.7  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 12.7 |  |  |  |  |  |  |  |  |  |  |       | 169.6 |  | 19.5 |
| Control Delay (s/veh)                     |     | 9.5  |  |  |  |  |  |  |  |  |  |  |       | 240.9 |  | 13.7 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |       | F     |  | B    |
| Approach Delay (s/veh)                    | 1.3 |      |  |  |  |  |  |  |  |  |  |  | 118.3 |       |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | F     |       |  |      |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                              |
|--------------------------|--------------------------|----------------------------|----------------------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & High School Drive/W Poi... |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville                     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road                              |
| Analysis Year            | 2029                     | North/South Street         | High School Drive/W Point Drive              |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.75                                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                                         |
| Project Description      | Build                    |                            |                                              |

Lanes



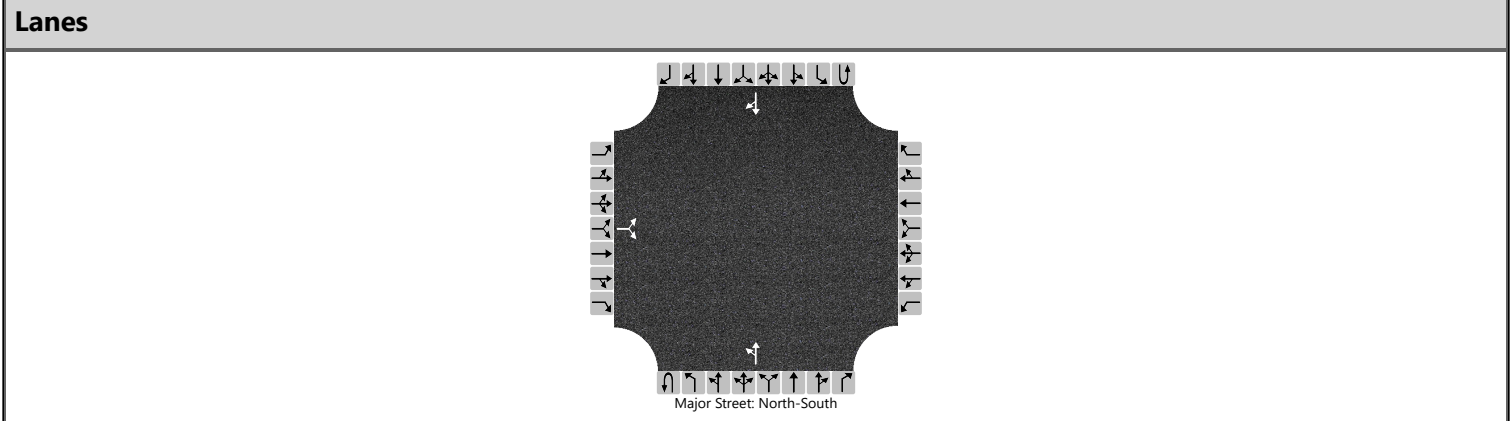
| Vehicle Volumes and Adjustments |           |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |
|---------------------------------|-----------|-----|-----|----|-----------|----|-----|-----|------------|---|-----|---|------------|----|----|-----|
| Approach                        | Eastbound |     |     |    | Westbound |    |     |     | Northbound |   |     |   | Southbound |    |    |     |
| Movement                        | U         | L   | T   | R  | U         | L  | T   | R   | U          | L | T   | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1   | 2   | 3  | 4U        | 4  | 5   | 6   |            | 7 | 8   | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1   | 1   | 0  | 0         | 0  | 1   | 1   |            | 0 | 1   | 0 |            | 0  | 1  | 1   |
| Configuration                   |           | L   |     | TR |           | LT |     | R   |            |   | LTR |   |            | LT |    | R   |
| Volume (veh/h)                  |           | 328 | 489 | 5  |           | 0  | 216 | 183 |            | 4 | 0   | 0 |            | 45 | 1  | 292 |
| Percent Heavy Vehicles (%)      |           | 2   |     |    |           | 3  |     |     |            | 0 | 0   | 0 |            | 0  | 0  | 0   |
| Proportion Time Blocked         |           |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |
| Percent Grade (%)               |           |     |     |    |           |    |     |     | 0          |   |     |   | 0          |    |    |     |
| Right Turn Channelized          |           |     |     |    | No        |    |     |     |            |   |     |   | No         |    |    |     |
| Median Type   Storage           | Undivided |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |      |  |  |  |      |      |      |  |      |      |      |
|---------------------------------|--|------|--|--|--|------|--|--|--|------|------|------|--|------|------|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  | 4.1  |  |  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  | 4.13 |  |  |  | 7.10 | 6.50 | 6.20 |  | 7.10 | 6.50 | 6.20 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  | 2.2  |  |  |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  | 2.23 |  |  |  | 3.50 | 4.00 | 3.30 |  | 3.50 | 4.00 | 3.30 |

| Delay, Queue Length, and Level of Service |     |      |  |  |     |      |     |  |       |  |       |  |       |       |  |       |
|-------------------------------------------|-----|------|--|--|-----|------|-----|--|-------|--|-------|--|-------|-------|--|-------|
| Flow Rate, v (veh/h)                      |     | 437  |  |  |     | 0    |     |  |       |  | 5     |  |       | 61    |  | 389   |
| Capacity, c (veh/h)                       |     | 1032 |  |  |     | 918  |     |  |       |  | 8     |  |       | 29    |  | 633   |
| v/c Ratio                                 |     | 0.42 |  |  |     | 0.00 |     |  |       |  | 0.69  |  |       | 2.13  |  | 0.62  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 2.1  |  |  |     | 0.0  |     |  |       |  | 1.3   |  |       | 7.2   |  | 4.2   |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 53.3 |  |  |     |      |     |  |       |  | 32.5  |  |       | 180.0 |  | 105.0 |
| Control Delay (s/veh)                     |     | 11.0 |  |  |     | 8.9  | 0.0 |  |       |  | 788.9 |  |       | 814.9 |  | 19.3  |
| Level of Service (LOS)                    |     | B    |  |  |     | A    | A   |  |       |  | F     |  |       | F     |  | C     |
| Approach Delay (s/veh)                    | 4.4 |      |  |  | 0.0 |      |     |  | 788.9 |  |       |  | 127.6 |       |  |       |
| Approach LOS                              | A   |      |  |  | A   |      |     |  | F     |  |       |  | F     |       |  |       |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                     |
|--------------------------|--------------------------|----------------------------|-------------------------------------|
| Analyst                  | tsj                      | Intersection               | Pitts Boulevard & High School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville            |
| Date Performed           | 5/17/2024                | East/West Street           | High School Drive                   |
| Analysis Year            | 2029                     | North/South Street         | Pitts Boulevard                     |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.81                                |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                |
| Project Description      | Build                    |                            |                                     |



| Vehicle Volumes and Adjustments |           |     |    |    |           |   |   |   |            |     |    |   |            |   |     |     |
|---------------------------------|-----------|-----|----|----|-----------|---|---|---|------------|-----|----|---|------------|---|-----|-----|
| Approach                        | Eastbound |     |    |    | Westbound |   |   |   | Northbound |     |    |   | Southbound |   |     |     |
| Movement                        | U         | L   | T  | R  | U         | L | T | R | U          | L   | T  | R | U          | L | T   | R   |
| Priority                        |           | 10  | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1   | 2  | 3 | 4U         | 4 | 5   | 6   |
| Number of Lanes                 |           | 0   | 1  | 0  |           | 0 | 0 | 0 | 0          | 0   | 1  | 0 | 0          | 0 | 1   | 0   |
| Configuration                   |           |     | LR |    |           |   |   |   |            | LT  |    |   |            |   |     | TR  |
| Volume (veh/h)                  |           | 121 |    | 45 |           |   |   |   |            | 103 | 14 |   |            |   | 108 | 212 |
| Percent Heavy Vehicles (%)      |           | 6   |    | 6  |           |   |   |   |            | 8   |    |   |            |   |     |     |
| Proportion Time Blocked         |           |     |    |    |           |   |   |   |            |     |    |   |            |   |     |     |
| Percent Grade (%)               | 0         |     |    |    |           |   |   |   |            |     |    |   |            |   |     |     |
| Right Turn Channelized          |           |     |    |    |           |   |   |   |            |     |    |   |            |   |     |     |
| Median Type   Storage           | Undivided |     |    |    |           |   |   |   |            |     |    |   |            |   |     |     |

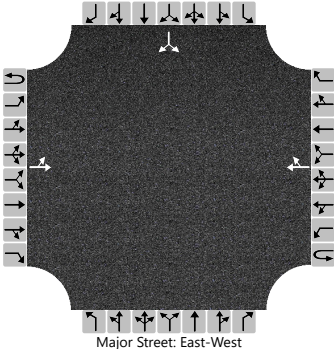
| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.46 |  | 6.26 |  |  |  |  |  | 4.18 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.55 |  | 3.35 |  |  |  |  |  | 2.27 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 205  |  |  |  |  |  |     | 127  |     |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 493  |  |  |  |  |  |     | 1128 |     |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.42 |  |  |  |  |  |     | 0.11 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 2.0  |  |  |  |  |  |     | 0.4  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 52.4 |  |  |  |  |  |     | 10.6 |     |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 17.4 |  |  |  |  |  |     | 8.6  | 1.0 |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | C    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                    | 17.4 |  |      |  |  |  |  |  | 7.7 |      |     |  |  |  |  |  |
| Approach LOS                              | C    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                               |
|--------------------------|--------------------------|----------------------------|-------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Prop. Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville      |
| Date Performed           | 8/21/2024                | East/West Street           | Bainbridge Road               |
| Analysis Year            | 2029                     | North/South Street         | Repurposed Drive              |
| Time Analyzed            | AM Peak                  | Peak Hour Factor           | 0.77                          |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                          |
| Project Description      | Build                    |                            |                               |

Lanes



Major Street: East-West

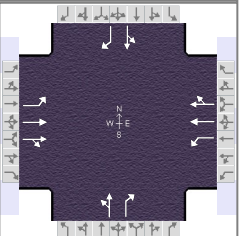
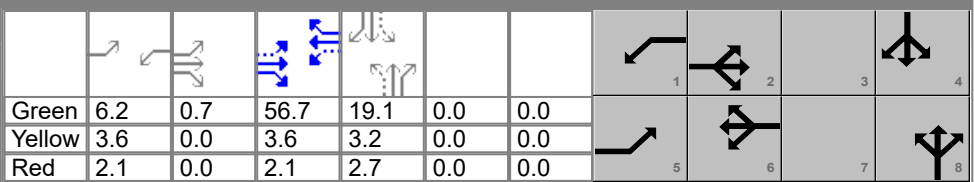
| Vehicle Volumes and Adjustments |           |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|-----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |     |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L   | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1   | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 0   | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0   |
| Configuration                   |           | LT  |     |   |           |   |     | TR |            |   |   |   |            |    | LR |     |
| Volume (veh/h)                  |           | 310 | 248 |   |           |   | 274 | 52 |            |   |   |   |            | 34 |    | 125 |
| Percent Heavy Vehicles (%)      |           | 3   |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked         |           |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |     |     |   |           |   |     |    |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Median Type   Storage           | Undivided |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.43 |  | 6.23 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

| Delay, Queue Length, and Level of Service |     |      |     |  |  |  |  |  |  |  |  |  |      |  |       |  |
|-------------------------------------------|-----|------|-----|--|--|--|--|--|--|--|--|--|------|--|-------|--|
| Flow Rate, v (veh/h)                      |     | 403  |     |  |  |  |  |  |  |  |  |  |      |  | 206   |  |
| Capacity, c (veh/h)                       |     | 1131 |     |  |  |  |  |  |  |  |  |  |      |  | 244   |  |
| v/c Ratio                                 |     | 0.36 |     |  |  |  |  |  |  |  |  |  |      |  | 0.84  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 1.6  |     |  |  |  |  |  |  |  |  |  |      |  | 6.7   |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 41.0 |     |  |  |  |  |  |  |  |  |  |      |  | 171.5 |  |
| Control Delay (s/veh)                     |     | 9.9  | 4.3 |  |  |  |  |  |  |  |  |  |      |  | 67.3  |  |
| Level of Service (LOS)                    |     | A    | A   |  |  |  |  |  |  |  |  |  |      |  | F     |  |
| Approach Delay (s/veh)                    | 7.4 |      |     |  |  |  |  |  |  |  |  |  | 67.3 |  |       |  |
| Approach LOS                              | A   |      |     |  |  |  |  |  |  |  |  |  | F    |  |       |  |

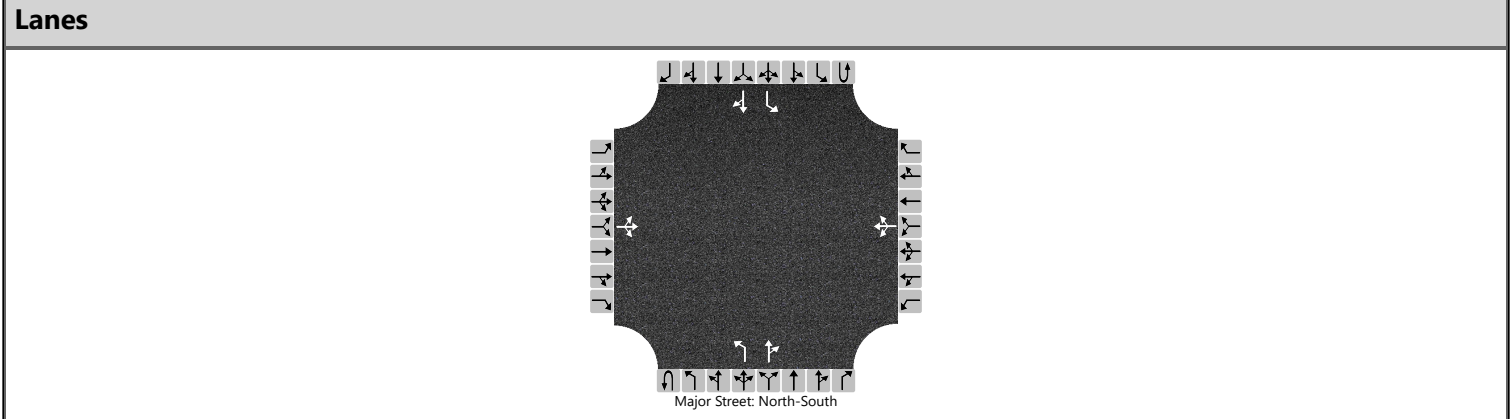


# HCS Signalized Intersection Results Summary

| General Information                             |                          |                 |               |                                                                                    |        | Intersection Information |         |       |       |      |       |  |       |       |       |
|-------------------------------------------------|--------------------------|-----------------|---------------|------------------------------------------------------------------------------------|--------|--------------------------|---------|-------|-------|------|-------|-------------------------------------------------------------------------------------|-------|-------|-------|
| Agency                                          | DGL                      |                 |               |                                                                                    |        | Duration, h              | 0.250   |       |       |      |       |                                                                                     |       |       |       |
| Analyst                                         | tsj                      |                 | Analysis Date | Jun 18, 2024                                                                       |        | Area Type                | Other   |       |       |      |       |                                                                                     |       |       |       |
| Jurisdiction                                    | City of North Ridgeville |                 | Time Period   | PM Peak                                                                            |        | PHF                      | 0.93    |       |       |      |       |                                                                                     |       |       |       |
| Urban Street                                    | Center Ridge             |                 | Analysis Year | 2029                                                                               |        | Analysis Period          | 1> 7:00 |       |       |      |       |                                                                                     |       |       |       |
| Intersection                                    | Center Ridge & Ranger... |                 | File Name     | 2029 Build PM Peak Center Ridge & Ranger.xus                                       |        |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Project Description                             | Build                    |                 |               |                                                                                    |        |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Demand Information                              |                          |                 |               |                                                                                    |        |                          |         |       |       |      |       |                                                                                     |       |       |       |
|                                                 |                          |                 |               | EB                                                                                 |        |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |
| Approach Movement                               |                          |                 |               | L                                                                                  | T      | R                        | L       | T     | R     | L    | T     | R                                                                                   | L     | T     | R     |
| Demand ( v ), veh/h                             |                          |                 |               | 142                                                                                | 694    | 58                       | 72      | 696   | 178   | 116  | 191   | 150                                                                                 | 180   | 91    | 125   |
| Signal Information                              |                          |                 |               |  |        |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Cycle, s                                        | 100.0                    | Reference Phase | 2             |                                                                                    |        |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Offset, s                                       | 0                        | Reference Point | End           |                                                                                    |        |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Uncoordinated                                   | No                       | Simult. Gap E/W | On            |                                                                                    | Green  | 6.2                      | 0.7     | 56.7  | 19.1  | 0.0  | 0.0   |                                                                                     |       |       |       |
| Force Mode                                      | Fixed                    | Simult. Gap N/S | On            |                                                                                    | Yellow | 3.6                      | 0.0     | 3.6   | 3.2   | 0.0  | 0.0   |                                                                                     |       |       |       |
|                                                 |                          |                 |               | Red                                                                                | 2.1    | 0.0                      | 2.1     | 2.7   | 0.0   | 0.0  |       |                                                                                     |       |       |       |
| Timer Results                                   |                          |                 |               | EBL                                                                                | EBT    | WBL                      | WBT     | NBL   | NBT   | SBL  | SBT   |                                                                                     |       |       |       |
| Assigned Phase                                  |                          |                 |               | 5                                                                                  | 2      | 1                        | 6       |       | 8     |      | 4     |                                                                                     |       |       |       |
| Case Number                                     |                          |                 |               | 1.1                                                                                | 4.0    | 1.1                      | 4.0     |       | 7.0   |      | 7.0   |                                                                                     |       |       |       |
| Phase Duration, s                               |                          |                 |               | 12.6                                                                               | 63.1   | 11.9                     | 62.4    |       | 25.0  |      | 25.0  |                                                                                     |       |       |       |
| Change Period, ( Y+R c ), s                     |                          |                 |               | 5.7                                                                                | 5.7    | 5.7                      | 5.7     |       | 5.9   |      | 5.9   |                                                                                     |       |       |       |
| Max Allow Headway ( MAH ), s                    |                          |                 |               | 4.1                                                                                | 0.0    | 4.1                      | 0.0     |       | 4.3   |      | 4.3   |                                                                                     |       |       |       |
| Queue Clearance Time ( g s ), s                 |                          |                 |               | 5.4                                                                                |        | 3.7                      |         |       | 21.1  |      | 21.1  |                                                                                     |       |       |       |
| Green Extension Time ( g e ), s                 |                          |                 |               | 0.2                                                                                | 0.0    | 0.1                      | 0.0     |       | 0.0   |      | 0.0   |                                                                                     |       |       |       |
| Phase Call Probability                          |                          |                 |               | 0.99                                                                               |        | 0.88                     |         |       | 1.00  |      | 1.00  |                                                                                     |       |       |       |
| Max Out Probability                             |                          |                 |               | 1.00                                                                               |        | 0.21                     |         |       | 1.00  |      | 1.00  |                                                                                     |       |       |       |
| Movement Group Results                          |                          |                 |               | EB                                                                                 |        |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |
| Approach Movement                               |                          |                 |               | L                                                                                  | T      | R                        | L       | T     | R     | L    | T     | R                                                                                   | L     | T     | R     |
| Assigned Movement                               |                          |                 |               | 5                                                                                  | 2      | 12                       | 1       | 6     | 16    | 3    | 8     | 18                                                                                  | 7     | 4     | 14    |
| Adjusted Flow Rate ( v ), veh/h                 |                          |                 |               | 153                                                                                | 410    | 399                      | 77      | 487   | 453   |      | 330   | 161                                                                                 |       | 291   | 134   |
| Adjusted Saturation Flow Rate ( s ), veh/h/ln   |                          |                 |               | 1767                                                                               | 1856   | 1805                     | 1781    | 1870  | 1738  |      | 1564  | 1572                                                                                |       | 966   | 1598  |
| Queue Service Time ( g s ), s                   |                          |                 |               | 3.4                                                                                | 12.1   | 12.1                     | 1.7     | 15.2  | 15.2  |      | 0.0   | 9.2                                                                                 |       | 0.0   | 7.4   |
| Cycle Queue Clearance Time ( g c ), s           |                          |                 |               | 3.4                                                                                | 12.1   | 12.1                     | 1.7     | 15.2  | 15.2  |      | 19.1  | 9.2                                                                                 |       | 19.1  | 7.4   |
| Green Ratio ( g/C )                             |                          |                 |               | 0.64                                                                               | 0.57   | 0.57                     | 0.63    | 0.57  | 0.57  |      | 0.19  | 0.19                                                                                |       | 0.19  | 0.19  |
| Capacity ( c ), veh/h                           |                          |                 |               | 439                                                                                | 1065   | 1036                     | 474     | 1061  | 986   |      | 348   | 300                                                                                 |       | 244   | 305   |
| Volume-to-Capacity Ratio ( X )                  |                          |                 |               | 0.348                                                                              | 0.385  | 0.385                    | 0.163   | 0.459 | 0.459 |      | 0.948 | 0.537                                                                               |       | 1.193 | 0.440 |
| Back of Queue ( Q ), ft/ln ( 95 th percentile)  |                          |                 |               | 56                                                                                 | 218    | 209                      | 27      | 264   | 246   |      | 441   | 171                                                                                 |       | 556   | 133   |
| Back of Queue ( Q ), veh/ln ( 95 th percentile) |                          |                 |               | 2.2                                                                                | 8.5    | 8.4                      | 1.1     | 10.4  | 9.9   |      | 17.2  | 6.7                                                                                 |       | 22.1  | 5.3   |
| Queue Storage Ratio ( RQ ) ( 95 th percentile)  |                          |                 |               | 0.00                                                                               | 0.00   | 0.00                     | 0.00    | 0.00  | 0.00  |      | 0.00  | 0.00                                                                                |       | 0.00  | 0.00  |
| Uniform Delay ( d 1 ), s/veh                    |                          |                 |               | 8.8                                                                                | 11.6   | 11.6                     | 8.2     | 12.7  | 12.7  |      | 41.3  | 36.5                                                                                |       | 42.8  | 35.7  |
| Incremental Delay ( d 2 ), s/veh                |                          |                 |               | 0.5                                                                                | 1.1    | 1.1                      | 0.2     | 1.4   | 1.5   |      | 34.7  | 1.9                                                                                 |       | 119.7 | 1.0   |
| Initial Queue Delay ( d 3 ), s/veh              |                          |                 |               | 0.0                                                                                | 0.0    | 0.0                      | 0.0     | 0.0   | 0.0   |      | 0.0   | 0.0                                                                                 |       | 0.0   | 0.0   |
| Control Delay ( d ), s/veh                      |                          |                 |               | 9.3                                                                                | 12.7   | 12.7                     | 8.4     | 14.1  | 14.2  |      | 76.1  | 38.4                                                                                |       | 162.5 | 36.7  |
| Level of Service (LOS)                          |                          |                 |               | A                                                                                  | B      | B                        | A       | B     | B     |      | E     | D                                                                                   |       | F     | D     |
| Approach Delay, s/veh / LOS                     |                          |                 |               | 12.2                                                                               | B      |                          | 13.7    | B     |       | 63.7 | E     |                                                                                     | 122.8 | F     |       |
| Intersection Delay, s/veh / LOS                 |                          |                 |               | 37.7                                                                               |        |                          |         |       |       | D    |       |                                                                                     |       |       |       |
| Multimodal Results                              |                          |                 |               | EB                                                                                 |        |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |
| Pedestrian LOS Score / LOS                      |                          |                 |               | 1.89                                                                               | B      |                          | 1.89    | B     |       | 2.30 | B     |                                                                                     | 2.30  | B     |       |
| Bicycle LOS Score / LOS                         |                          |                 |               | 1.28                                                                               | A      |                          | 1.33    | A     |       | 1.30 | A     |                                                                                     | 1.19  | A     |       |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                        |
|--------------------------|--------------------------|----------------------------|----------------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Fire Station/School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville               |
| Date Performed           | 5/17/2024                | East/West Street           | Fire Station Drive                     |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                             |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.79                                   |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                   |
| Project Description      | Build                    |                            |                                        |



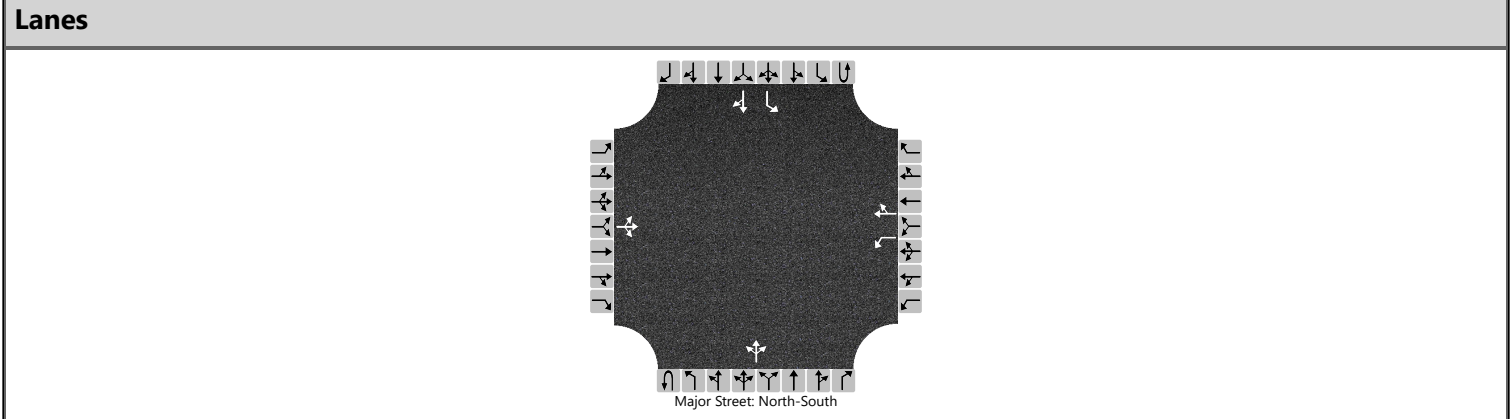
| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|-----|------------|---|-----|----|------------|----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |     | Northbound |   |     |    | Southbound |    |     |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R   | U          | L | T   | R  | U          | L  | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9   | 1U         | 1 | 2   | 3  | 4U         | 4  | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0   | 0          | 1 | 1   | 0  | 0          | 1  | 1   | 0  |
| Configuration                   |           |    | LTR |    |           |    | LTR |     |            | L |     | TR |            | L  |     | TR |
| Volume (veh/h)                  |           | 2  | 0   | 0  |           | 24 | 0   | 163 |            | 0 | 291 | 50 |            | 92 | 136 | 1  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 0  | 0   | 0   |            | 5 |     |    |            | 2  |     |    |
| Proportion Time Blocked         |           |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |     |            |   |     |    |            |    |     |    |
| Right Turn Channelized          |           |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.10 | 6.50 | 6.20 |  | 4.15 |  |  |  | 4.12 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.50 | 4.00 | 3.30 |  | 2.25 |  |  |  | 2.22 |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |      |  |      |  |     |      |  |  |     |      |  |  |
|-------------------------------------------|------|--|------|--|------|--|------|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                      |      |  | 3    |  |      |  | 237  |  |     | 0    |  |  |     | 116  |  |  |
| Capacity, c (veh/h)                       |      |  | 134  |  |      |  | 438  |  |     | 1385 |  |  |     | 923  |  |  |
| v/c Ratio                                 |      |  | 0.02 |  |      |  | 0.54 |  |     | 0.00 |  |  |     | 0.13 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.1  |  |      |  | 3.1  |  |     | 0.0  |  |  |     | 0.4  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 2.5  |  |      |  | 77.5 |  |     |      |  |  |     | 10.2 |  |  |
| Control Delay (s/veh)                     |      |  | 32.3 |  |      |  | 22.5 |  |     | 7.6  |  |  |     | 9.5  |  |  |
| Level of Service (LOS)                    |      |  | D    |  |      |  | C    |  |     | A    |  |  |     | A    |  |  |
| Approach Delay (s/veh)                    | 32.3 |  |      |  | 22.5 |  |      |  | 0.0 |      |  |  | 3.8 |      |  |  |
| Approach LOS                              | D    |  |      |  | C    |  |      |  | A   |      |  |  | A   |      |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                          |
|--------------------------|--------------------------|----------------------------|--------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & NRAC Drive  |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville |
| Date Performed           | 5/17/2024                | East/West Street           | NRAC Drive               |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way               |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.71                     |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                     |
| Project Description      | Build                    |                            |                          |



| Vehicle Volumes and Adjustments |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
|---------------------------------|-----------|----|-----|----|-----------|-----|----|-----|------------|---|-----|----|------------|----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |     |    |     | Northbound |   |     |    | Southbound |    |     |    |
| Movement                        | U         | L  | T   | R  | U         | L   | T  | R   | U          | L | T   | R  | U          | L  | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7   | 8  | 9   | 1U         | 1 | 2   | 3  | 4U         | 4  | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 1   | 1  | 0   | 0          | 0 | 1   | 0  | 0          | 1  | 1   | 0  |
| Configuration                   |           |    | LTR |    |           | L   |    | TR  |            |   | LTR |    |            | L  |     | TR |
| Volume (veh/h)                  |           | 0  | 0   | 5  |           | 104 | 1  | 180 |            | 3 | 158 | 32 |            | 57 | 105 | 0  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 11  | 11 | 11  |            | 1 |     |    |            | 1  |     |    |
| Proportion Time Blocked         |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |     |    |     |            |   |     |    |            |    |     |    |
| Right Turn Channelized          |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |

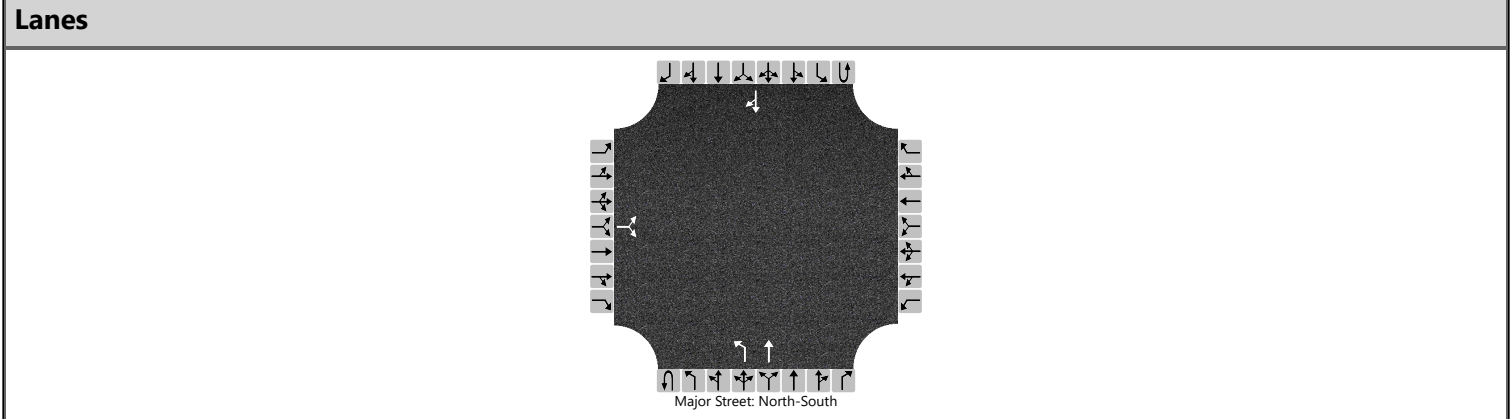
| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.21 | 6.61 | 6.31 |  | 4.11 |  |  |  | 4.11 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.60 | 4.10 | 3.40 |  | 2.21 |  |  |  | 2.21 |  |  |

| Delay, Queue Length, and Level of Service |     |  |      |  |      |      |  |      |     |      |     |     |     |      |  |  |
|-------------------------------------------|-----|--|------|--|------|------|--|------|-----|------|-----|-----|-----|------|--|--|
| Flow Rate, v (veh/h)                      |     |  | 7    |  |      | 146  |  | 255  |     | 4    |     |     |     | 80   |  |  |
| Capacity, c (veh/h)                       |     |  | 904  |  |      | 391  |  | 768  |     | 1440 |     |     |     | 1302 |  |  |
| v/c Ratio                                 |     |  | 0.01 |  |      | 0.37 |  | 0.33 |     | 0.00 |     |     |     | 0.06 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     |  | 0.0  |  |      | 1.7  |  | 1.5  |     | 0.0  |     |     |     | 0.2  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     |  | 0.0  |  |      | 46.2 |  | 40.8 |     |      |     |     |     | 5.0  |  |  |
| Control Delay (s/veh)                     |     |  | 9.0  |  |      | 19.6 |  | 12.0 |     | 7.5  | 0.0 | 0.0 |     | 7.9  |  |  |
| Level of Service (LOS)                    |     |  | A    |  |      | C    |  | B    |     | A    | A   | A   |     | A    |  |  |
| Approach Delay (s/veh)                    | 9.0 |  |      |  | 14.8 |      |  |      | 0.1 |      |     |     | 2.8 |      |  |  |
| Approach LOS                              | A   |  |      |  | B    |      |  |      | A   |      |     |     | A   |      |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                |
|--------------------------|--------------------------|----------------------------|--------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Kenssington Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville       |
| Date Performed           | 5/17/2024                | East/West Street           | Kenssington Drive              |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                     |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.87                           |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                           |
| Project Description      | Build                    |                            |                                |



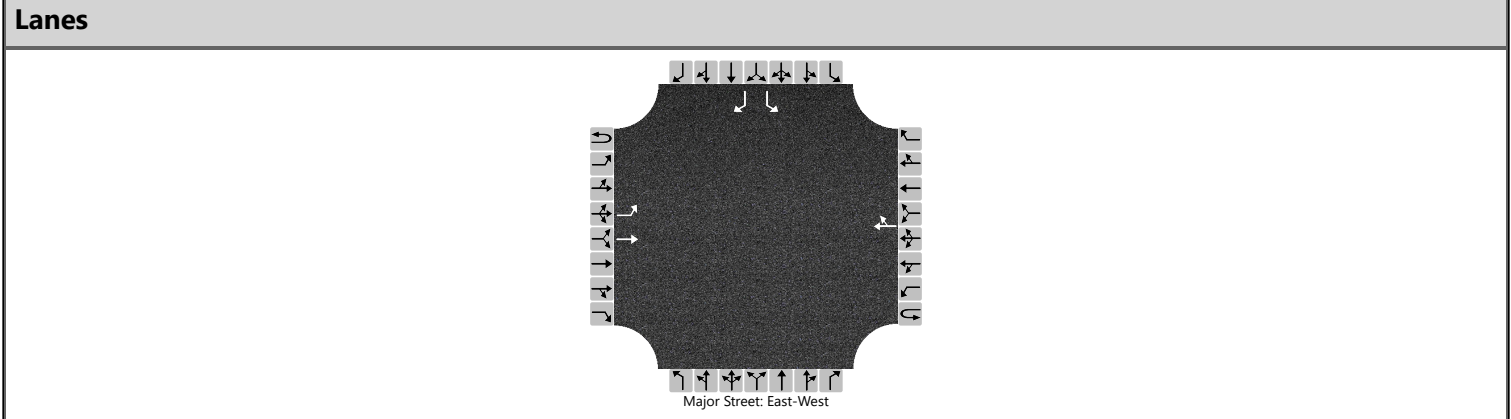
| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 1  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | L  | T   |   |            |   |     | TR |
| Volume (veh/h)                  |           | 10 |    | 50 |           |   |   |   |            | 21 | 187 |   |            |   | 207 | 7  |
| Percent Heavy Vehicles (%)      |           | 4  |    | 4  |           |   |   |   |            | 2  |     |   |            |   |     |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.44 |  | 6.24 |  |  |  |  |  | 4.12 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.54 |  | 3.34 |  |  |  |  |  | 2.22 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |  |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|--|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 69   |  |  |  |  |  |     | 24   |  |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 705  |  |  |  |  |  |     | 1320 |  |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.10 |  |  |  |  |  |     | 0.02 |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.3  |  |  |  |  |  |     | 0.1  |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 7.7  |  |  |  |  |  |     | 2.5  |  |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 10.7 |  |  |  |  |  |     | 7.8  |  |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    |  |  |  |  |  |  |
| Approach Delay (s/veh)                    | 10.7 |  |      |  |  |  |  |  | 0.8 |      |  |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |  |  |  |  |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                              |
|--------------------------|--------------------------|----------------------------|------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Ranger Way |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road              |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                   |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.82                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                         |
| Project Description      | Build                    |                            |                              |



| Vehicle Volumes and Adjustments |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|----|-----|---|-----------|---|-----|-----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |    |     |   | Westbound |   |     |     | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L  | T   | R | U         | L | T   | R   | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6   |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0   |            | 0 | 0 | 0 |            | 1  | 0  | 1   |
| Configuration                   |           | L  | T   |   |           |   |     | TR  |            |   |   |   |            | L  |    | R   |
| Volume (veh/h)                  |           | 83 | 242 |   |           |   | 451 | 129 |            |   |   |   |            | 79 |    | 157 |
| Percent Heavy Vehicles (%)      |           | 3  |     |   |           |   |     |     |            |   |   |   |            | 8  |    | 8   |
| Proportion Time Blocked         |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |    |     |   |           |   |     |     |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |    |     |   |           |   |     |     |            |   |   |   | No         |    |    |     |
| Median Type   Storage           | Undivided |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |

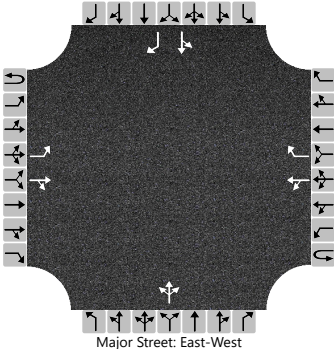
| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.48 |  | 6.28 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.57 |  | 3.37 |

| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 101  |  |  |  |  |  |  |  |  |  |  |      | 96   |  | 191  |
| Capacity, c (veh/h)                       |     | 887  |  |  |  |  |  |  |  |  |  |  |      | 195  |  | 472  |
| v/c Ratio                                 |     | 0.11 |  |  |  |  |  |  |  |  |  |  |      | 0.49 |  | 0.41 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.4  |  |  |  |  |  |  |  |  |  |  |      | 2.4  |  | 1.9  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 10.2 |  |  |  |  |  |  |  |  |  |  |      | 63.8 |  | 50.5 |
| Control Delay (s/veh)                     |     | 9.6  |  |  |  |  |  |  |  |  |  |  |      | 40.2 |  | 17.7 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |      | E    |  | C    |
| Approach Delay (s/veh)                    | 2.4 |      |  |  |  |  |  |  |  |  |  |  | 25.2 |      |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | D    |      |  |      |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                              |
|--------------------------|--------------------------|----------------------------|----------------------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & High School Drive/W Poi... |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville                     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road                              |
| Analysis Year            | 2029                     | North/South Street         | High School Drive/W Point Drive              |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.77                                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                                         |
| Project Description      | Build                    |                            |                                              |

Lanes



| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |    |            |   |     |   |            |    |    |     |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|----|------------|---|-----|---|------------|----|----|-----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |    | Northbound |   |     |   | Southbound |    |    |     |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R  | U          | L | T   | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1  | 2   | 3  | 4U        | 4  | 5   | 6  |            | 7 | 8   | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1  | 1   | 0  | 0         | 0  | 1   | 1  |            | 0 | 1   | 0 |            | 0  | 1  | 1   |
| Configuration                   |           | L  |     | TR |           | LT |     | R  |            |   | LTR |   |            | LT |    | R   |
| Volume (veh/h)                  |           | 94 | 217 | 16 |           | 0  | 366 | 37 |            | 2 | 0   | 3 |            | 61 | 1  | 209 |
| Percent Heavy Vehicles (%)      |           | 2  |     |    |           | 2  |     |    |            | 0 | 0   | 0 |            | 1  | 1  | 1   |
| Proportion Time Blocked         |           |    |     |    |           |    |     |    |            |   |     |   |            |    |    |     |
| Percent Grade (%)               |           |    |     |    |           |    |     |    | 0          |   |     |   | 0          |    |    |     |
| Right Turn Channelized          |           |    |     |    | No        |    |     |    |            |   |     |   | No         |    |    |     |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |    |            |   |     |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |      |  |  |  |      |      |      |  |      |      |      |
|---------------------------------|--|------|--|--|--|------|--|--|--|------|------|------|--|------|------|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  | 4.1  |  |  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  | 4.12 |  |  |  | 7.10 | 6.50 | 6.20 |  | 7.11 | 6.51 | 6.21 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  | 2.2  |  |  |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  | 2.22 |  |  |  | 3.50 | 4.00 | 3.30 |  | 3.51 | 4.01 | 3.31 |

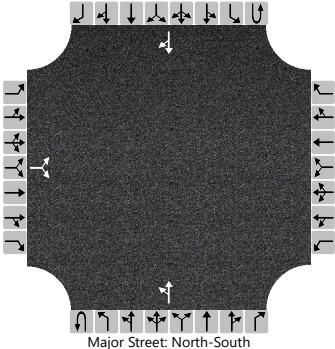
| Delay, Queue Length, and Level of Service |     |      |  |  |     |      |     |  |      |  |      |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|-----|------|-----|--|------|--|------|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 122  |  |  |     | 0    |     |  |      |  | 6    |  |      | 81   |  | 271  |
| Capacity, c (veh/h)                       |     | 1041 |  |  |     | 1234 |     |  |      |  | 151  |  |      | 184  |  | 534  |
| v/c Ratio                                 |     | 0.12 |  |  |     | 0.00 |     |  |      |  | 0.04 |  |      | 0.44 |  | 0.51 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.4  |  |  |     | 0.0  |     |  |      |  | 0.1  |  |      | 2.0  |  | 2.8  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 10.2 |  |  |     |      |     |  |      |  | 2.5  |  |      | 50.4 |  | 70.6 |
| Control Delay (s/veh)                     |     | 8.9  |  |  |     | 7.9  | 0.0 |  |      |  | 29.8 |  |      | 38.9 |  | 18.5 |
| Level of Service (LOS)                    |     | A    |  |  |     | A    | A   |  |      |  | D    |  |      | E    |  | C    |
| Approach Delay (s/veh)                    | 2.6 |      |  |  | 0.0 |      |     |  | 29.8 |  |      |  | 23.1 |      |  |      |
| Approach LOS                              | A   |      |  |  | A   |      |     |  | D    |  |      |  | C    |      |  |      |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                     |
|--------------------------|--------------------------|----------------------------|-------------------------------------|
| Analyst                  | tsj                      | Intersection               | Pitts Boulevard & High School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville            |
| Date Performed           | 5/17/2024                | East/West Street           | High School Drive                   |
| Analysis Year            | 2029                     | North/South Street         | Pitts Boulevard                     |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.57                                |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                |
| Project Description      | Build                    |                            |                                     |

Lanes



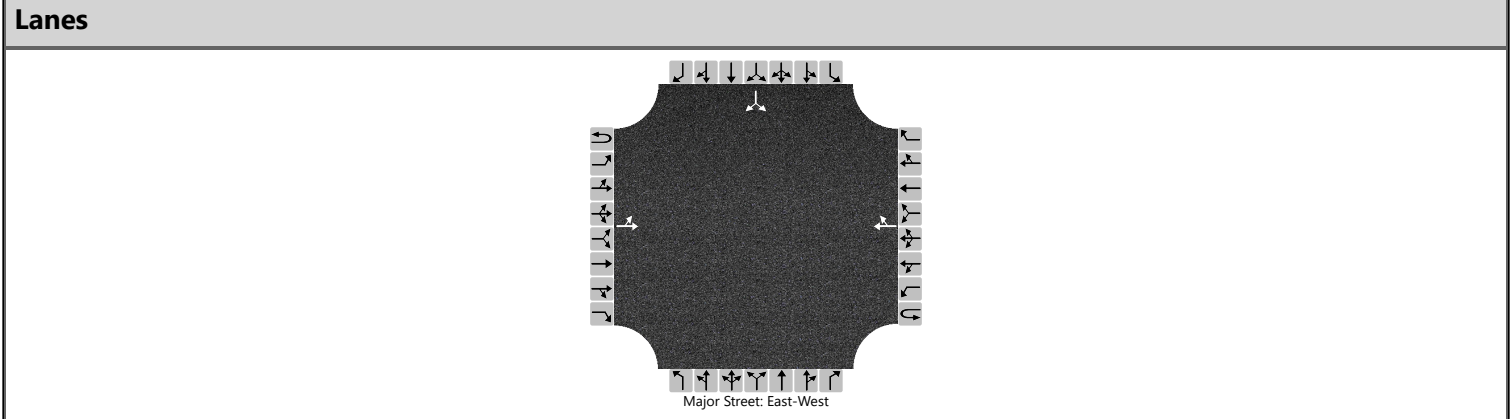
| Vehicle Volumes and Adjustments |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
|---------------------------------|-----------|-----|----|----|-----------|---|---|---|------------|----|----|---|------------|---|----|----|
| Approach                        | Eastbound |     |    |    | Westbound |   |   |   | Northbound |    |    |   | Southbound |   |    |    |
| Movement                        | U         | L   | T  | R  | U         | L | T | R | U          | L  | T  | R | U          | L | T  | R  |
| Priority                        |           | 10  | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2  | 3 | 4U         | 4 | 5  | 6  |
| Number of Lanes                 |           | 0   | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1  | 0 | 0          | 0 | 1  | 0  |
| Configuration                   |           |     | LR |    |           |   |   |   |            | LT |    |   |            |   |    | TR |
| Volume (veh/h)                  |           | 165 |    | 83 |           |   |   |   |            | 40 | 57 |   |            |   | 47 | 77 |
| Percent Heavy Vehicles (%)      |           | 3   |    | 3  |           |   |   |   |            | 3  |    |   |            |   |    |    |
| Proportion Time Blocked         |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Percent Grade (%)               | 0         |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Right Turn Channelized          |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Median Type   Storage           | Undivided |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.43 |  | 6.23 |  |  |  |  |  | 4.13 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.53 |  | 3.33 |  |  |  |  |  | 2.23 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |       |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-------------------------------------------|------|--|-------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 435   |  |  |  |  |  |     | 70   |     |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 648   |  |  |  |  |  |     | 1341 |     |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.67  |  |  |  |  |  |     | 0.05 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 5.1   |  |  |  |  |  |     | 0.2  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 130.6 |  |  |  |  |  |     | 5.1  |     |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 21.2  |  |  |  |  |  |     | 7.8  | 0.4 |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | C     |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                    | 21.2 |  |       |  |  |  |  |  | 3.5 |      |     |  |  |  |  |  |
| Approach LOS                              | C    |  |       |  |  |  |  |  | A   |      |     |  |  |  |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                               |
|--------------------------|--------------------------|----------------------------|-------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Prop. Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville      |
| Date Performed           | 8/21/2024                | East/West Street           | Bainbridge Road               |
| Analysis Year            | 2029                     | North/South Street         | Repurposed Drive              |
| Time Analyzed            | PM Peak                  | Peak Hour Factor           | 0.73                          |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                          |
| Project Description      | Build                    |                            |                               |

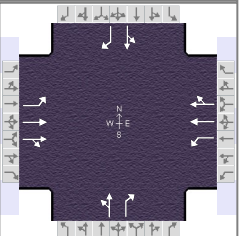
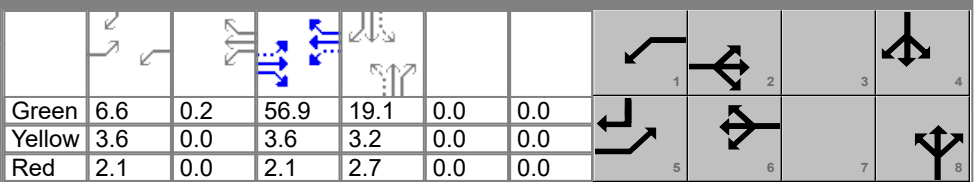


| Vehicle Volumes and Adjustments |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 0  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0   |
| Configuration                   |           | LT |     |   |           |   |     | TR |            |   |   |   |            |    | LR |     |
| Volume (veh/h)                  |           | 55 | 263 |   |           |   | 244 | 25 |            |   |   |   |            | 88 |    | 159 |
| Percent Heavy Vehicles (%)      |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked         |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |    |     |   |           |   |     |    |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Median Type   Storage           | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.43 |  | 6.23 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

| Delay, Queue Length, and Level of Service |     |      |     |  |  |  |  |  |  |  |  |  |      |  |       |  |
|-------------------------------------------|-----|------|-----|--|--|--|--|--|--|--|--|--|------|--|-------|--|
| Flow Rate, v (veh/h)                      |     | 75   |     |  |  |  |  |  |  |  |  |  |      |  | 338   |  |
| Capacity, c (veh/h)                       |     | 1185 |     |  |  |  |  |  |  |  |  |  |      |  | 470   |  |
| v/c Ratio                                 |     | 0.06 |     |  |  |  |  |  |  |  |  |  |      |  | 0.72  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.2  |     |  |  |  |  |  |  |  |  |  |      |  | 5.7   |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 5.1  |     |  |  |  |  |  |  |  |  |  |      |  | 145.9 |  |
| Control Delay (s/veh)                     |     | 8.2  | 0.7 |  |  |  |  |  |  |  |  |  |      |  | 30.0  |  |
| Level of Service (LOS)                    |     | A    | A   |  |  |  |  |  |  |  |  |  |      |  | D     |  |
| Approach Delay (s/veh)                    | 2.0 |      |     |  |  |  |  |  |  |  |  |  | 30.0 |  |       |  |
| Approach LOS                              | A   |      |     |  |  |  |  |  |  |  |  |  | D    |  |       |  |

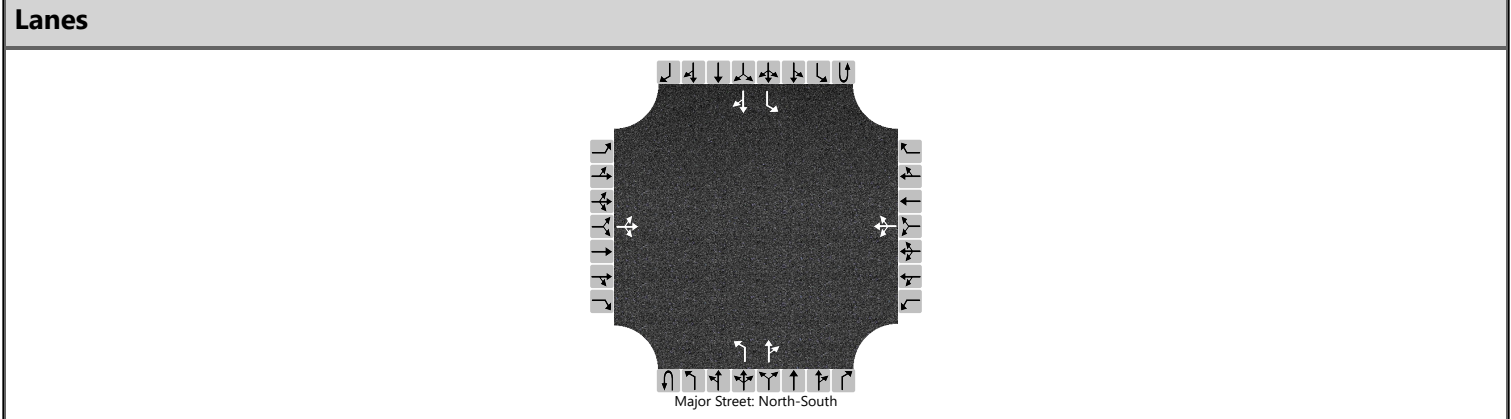
# HCS Signalized Intersection Results Summary

| General Information                             |                          |                 |               |                                                                                    |       | Intersection Information |         |       |       |      |       |  |     |       |       |       |  |      |  |
|-------------------------------------------------|--------------------------|-----------------|---------------|------------------------------------------------------------------------------------|-------|--------------------------|---------|-------|-------|------|-------|-------------------------------------------------------------------------------------|-----|-------|-------|-------|--|------|--|
| Agency                                          | DGL                      |                 |               |                                                                                    |       | Duration, h              | 0.250   |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Analyst                                         | tsj                      |                 | Analysis Date | Jun 18, 2024                                                                       |       | Area Type                | Other   |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Jurisdiction                                    | City of North Ridgeville |                 | Time Period   | AM Peak                                                                            |       | PHF                      | 0.89    |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Urban Street                                    | Center Ridge             |                 | Analysis Year | 2049                                                                               |       | Analysis Period          | 1> 7:00 |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Intersection                                    | Center Ridge & Ranger... |                 | File Name     | 2049 Build AM Peak Center Ridge & Ranger.xus                                       |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Project Description                             | Build                    |                 |               |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Demand Information                              |                          |                 |               |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Approach Movement                               |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB  |       |       |       |  |      |  |
|                                                 |                          |                 |               | L                                                                                  | T     | R                        | L       | T     | R     | L    | T     | R                                                                                   | L   | T     | R     |       |  |      |  |
| Demand ( v ), veh/h                             |                          |                 |               | 90                                                                                 | 640   | 162                      | 105     | 522   | 111   | 152  | 137   | 211                                                                                 | 227 | 209   | 121   |       |  |      |  |
| Signal Information                              |                          |                 |               |  |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Cycle, s                                        | 100.0                    | Reference Phase | 2             |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Offset, s                                       | 0                        | Reference Point | End           |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Uncoordinated                                   | No                       | Simult. Gap E/W | On            |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Force Mode                                      | Fixed                    | Simult. Gap N/S | On            |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
|                                                 |                          |                 |               | Green                                                                              | 6.6   | 0.2                      | 56.9    | 19.1  | 0.0   | 0.0  |       |                                                                                     |     |       |       |       |  |      |  |
|                                                 |                          |                 |               | Yellow                                                                             | 3.6   | 0.0                      | 3.6     | 3.2   | 0.0   | 0.0  |       |                                                                                     |     |       |       |       |  |      |  |
|                                                 |                          |                 |               | Red                                                                                | 2.1   | 0.0                      | 2.1     | 2.7   | 0.0   | 0.0  |       |                                                                                     |     |       |       |       |  |      |  |
| Timer Results                                   |                          |                 |               | EBL                                                                                |       | EBT                      |         | WBL   |       | WBT  |       | NBL                                                                                 |     | NBT   |       | SBL   |  | SBT  |  |
| Assigned Phase                                  |                          |                 |               | 5                                                                                  |       | 2                        |         | 1     |       | 6    |       |                                                                                     |     | 8     |       |       |  | 4    |  |
| Case Number                                     |                          |                 |               | 1.1                                                                                |       | 4.0                      |         | 1.1   |       | 4.0  |       |                                                                                     |     | 7.0   |       |       |  | 7.0  |  |
| Phase Duration, s                               |                          |                 |               | 12.3                                                                               |       | 62.6                     |         | 12.4  |       | 62.7 |       |                                                                                     |     | 25.0  |       |       |  | 25.0 |  |
| Change Period, ( Y+R c ), s                     |                          |                 |               | 5.7                                                                                |       | 5.7                      |         | 5.7   |       | 5.7  |       |                                                                                     |     | 5.9   |       |       |  | 5.9  |  |
| Max Allow Headway ( MAH ), s                    |                          |                 |               | 4.1                                                                                |       | 0.0                      |         | 4.1   |       | 0.0  |       |                                                                                     |     | 4.4   |       |       |  | 4.4  |  |
| Queue Clearance Time ( g s ), s                 |                          |                 |               | 4.2                                                                                |       |                          |         | 4.6   |       |      |       |                                                                                     |     | 21.1  |       |       |  | 21.1 |  |
| Green Extension Time ( g e ), s                 |                          |                 |               | 0.1                                                                                |       | 0.0                      |         | 0.1   |       | 0.0  |       |                                                                                     |     | 0.0   |       |       |  | 0.0  |  |
| Phase Call Probability                          |                          |                 |               | 0.94                                                                               |       |                          |         | 0.96  |       |      |       |                                                                                     |     | 1.00  |       |       |  | 1.00 |  |
| Max Out Probability                             |                          |                 |               | 0.41                                                                               |       |                          |         | 0.60  |       |      |       |                                                                                     |     | 1.00  |       |       |  | 1.00 |  |
| Movement Group Results                          |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB  |       |       |       |  |      |  |
| Approach Movement                               |                          |                 |               | L                                                                                  | T     | R                        | L       | T     | R     | L    | T     | R                                                                                   | L   | T     | R     |       |  |      |  |
| Assigned Movement                               |                          |                 |               | 5                                                                                  | 2     | 12                       | 1       | 6     | 16    | 3    | 8     | 18                                                                                  | 7   | 4     | 14    |       |  |      |  |
| Adjusted Flow Rate ( v ), veh/h                 |                          |                 |               | 101                                                                                | 467   | 434                      | 118     | 366   | 345   |      | 325   | 237                                                                                 |     | 490   | 136   |       |  |      |  |
| Adjusted Saturation Flow Rate ( s ), veh/h/ln   |                          |                 |               | 1753                                                                               | 1841  | 1712                     | 1767    | 1856  | 1742  |      | 1268  | 1572                                                                                |     | 1289  | 1585  |       |  |      |  |
| Queue Service Time ( g s ), s                   |                          |                 |               | 2.2                                                                                | 14.7  | 14.7                     | 2.6     | 10.6  | 10.6  |      | 0.0   | 14.4                                                                                |     | 0.0   | 7.0   |       |  |      |  |
| Cycle Queue Clearance Time ( g c ), s           |                          |                 |               | 2.2                                                                                | 14.7  | 14.7                     | 2.6     | 10.6  | 10.6  |      | 19.1  | 14.4                                                                                |     | 19.1  | 7.0   |       |  |      |  |
| Green Ratio ( g/C )                             |                          |                 |               | 0.63                                                                               | 0.57  | 0.57                     | 0.64    | 0.57  | 0.57  |      | 0.19  | 0.19                                                                                |     | 0.19  | 0.26  |       |  |      |  |
| Capacity ( c ), veh/h                           |                          |                 |               | 510                                                                                | 1047  | 973                      | 450     | 1058  | 993   |      | 297   | 300                                                                                 |     | 301   | 407   |       |  |      |  |
| Volume-to-Capacity Ratio ( X )                  |                          |                 |               | 0.198                                                                              | 0.446 | 0.446                    | 0.262   | 0.346 | 0.347 |      | 1.093 | 0.789                                                                               |     | 1.627 | 0.334 |       |  |      |  |
| Back of Queue ( Q ), ft/ln ( 95 th percentile)  |                          |                 |               | 36                                                                                 | 257   | 236                      | 42      | 197   | 183   |      | 540   | 278                                                                                 |     | 1285  | 122   |       |  |      |  |
| Back of Queue ( Q ), veh/ln ( 95 th percentile) |                          |                 |               | 1.4                                                                                | 10.0  | 9.4                      | 1.6     | 7.7   | 7.3   |      | 21.1  | 10.8                                                                                |     | 50.6  | 4.8   |       |  |      |  |
| Queue Storage Ratio ( RQ ) ( 95 th percentile)  |                          |                 |               | 0.00                                                                               | 0.00  | 0.00                     | 0.00    | 0.00  | 0.00  |      | 0.00  | 0.00                                                                                |     | 0.00  | 0.00  |       |  |      |  |
| Uniform Delay ( d 1 ), s/veh                    |                          |                 |               | 8.0                                                                                | 12.5  | 12.5                     | 8.4     | 11.5  | 11.5  |      | 42.2  | 38.5                                                                                |     | 42.2  | 30.2  |       |  |      |  |
| Incremental Delay ( d 2 ), s/veh                |                          |                 |               | 0.2                                                                                | 1.4   | 1.5                      | 0.3     | 0.9   | 1.0   |      | 79.5  | 13.2                                                                                |     | 297.0 | 0.5   |       |  |      |  |
| Initial Queue Delay ( d 3 ), s/veh              |                          |                 |               | 0.0                                                                                | 0.0   | 0.0                      | 0.0     | 0.0   | 0.0   |      | 0.0   | 0.0                                                                                 |     | 0.0   | 0.0   |       |  |      |  |
| Control Delay ( d ), s/veh                      |                          |                 |               | 8.2                                                                                | 13.8  | 13.9                     | 8.7     | 12.4  | 12.5  |      | 121.7 | 51.7                                                                                |     | 339.2 | 30.7  |       |  |      |  |
| Level of Service (LOS)                          |                          |                 |               | A                                                                                  | B     | B                        | A       | B     | B     |      | F     | D                                                                                   |     | F     | C     |       |  |      |  |
| Approach Delay, s/veh / LOS                     |                          |                 |               | 13.3                                                                               |       | B                        |         | 11.9  |       | B    |       | 92.2                                                                                |     | F     |       | 272.2 |  | F    |  |
| Intersection Delay, s/veh / LOS                 |                          |                 |               | 81.3                                                                               |       |                          |         |       |       | F    |       |                                                                                     |     |       |       |       |  |      |  |
| Multimodal Results                              |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB  |       |       |       |  |      |  |
| Pedestrian LOS Score / LOS                      |                          |                 |               | 1.89                                                                               |       | B                        |         | 1.89  |       | B    |       | 2.30                                                                                |     | B     |       | 2.30  |  | B    |  |
| Bicycle LOS Score / LOS                         |                          |                 |               | 1.31                                                                               |       | A                        |         | 1.17  |       | A    |       | 1.41                                                                                |     | A     |       | 1.52  |  | B    |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                        |
|--------------------------|--------------------------|----------------------------|----------------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Fire Station/School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville               |
| Date Performed           | 5/17/2024                | East/West Street           | Fire Station Drive                     |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                             |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.64                                   |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                   |
| Project Description      | Build                    |                            |                                        |



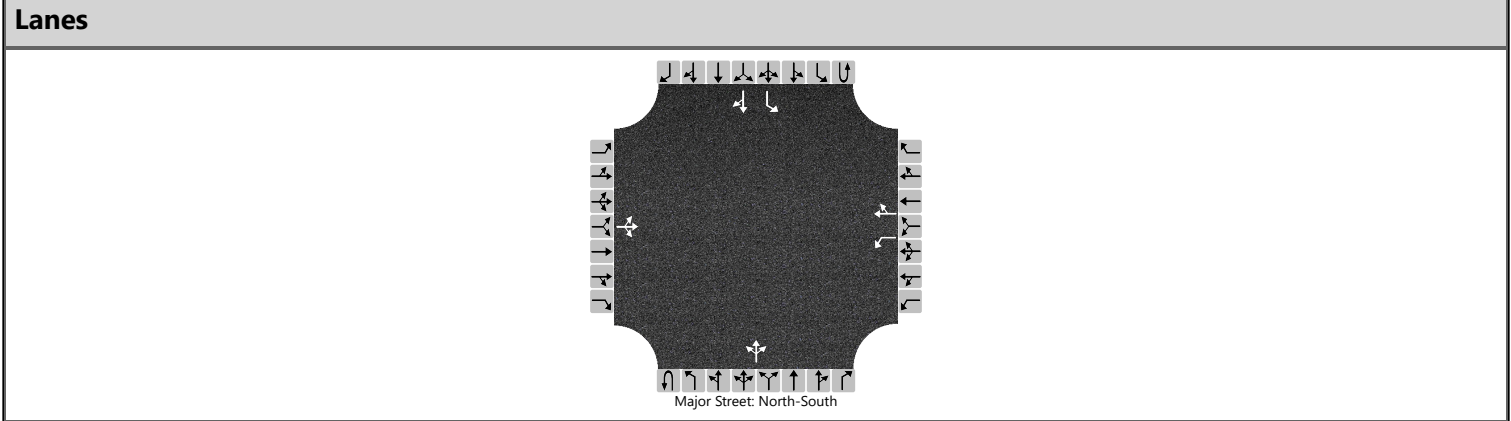
| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|-----|------------|---|-----|-----|------------|-----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |     | Northbound |   |     |     | Southbound |     |     |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R   | U          | L | T   | R   | U          | L   | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9   | 1U         | 1 | 2   | 3   | 4U         | 4   | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0   | 0          | 1 | 1   | 0   | 0          | 1   | 1   | 0  |
| Configuration                   |           |    | LTR |    |           |    | LTR |     |            | L |     | TR  |            | L   |     | TR |
| Volume (veh/h)                  |           | 0  | 0   | 4  |           | 16 | 0   | 257 |            | 3 | 243 | 117 |            | 211 | 271 | 6  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 11 | 11  | 11  |            | 8 |     |     |            | 4   |     |    |
| Proportion Time Blocked         |           |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |     |            |   |     |     |            |     |     |    |
| Right Turn Channelized          |           |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.21 | 6.61 | 6.31 |  | 4.18 |  |  |  | 4.14 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.60 | 4.10 | 3.40 |  | 2.27 |  |  |  | 2.24 |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |       |       |  |  |     |      |  |  |     |      |  |  |
|-------------------------------------------|------|--|------|--|-------|-------|--|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                      |      |  | 6    |  |       | 427   |  |  |     | 5    |  |  |     | 330  |  |  |
| Capacity, c (veh/h)                       |      |  | 631  |  |       | 357   |  |  |     | 1095 |  |  |     | 965  |  |  |
| v/c Ratio                                 |      |  | 0.01 |  |       | 1.20  |  |  |     | 0.00 |  |  |     | 0.34 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.0  |  |       | 17.7  |  |  |     | 0.0  |  |  |     | 1.5  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 0.0  |  |       | 481.4 |  |  |     | 0.0  |  |  |     | 38.7 |  |  |
| Control Delay (s/veh)                     |      |  | 10.8 |  |       | 144.9 |  |  |     | 8.3  |  |  |     | 10.7 |  |  |
| Level of Service (LOS)                    |      |  | B    |  |       | F     |  |  |     | A    |  |  |     | B    |  |  |
| Approach Delay (s/veh)                    | 10.8 |  |      |  | 144.9 |       |  |  | 0.1 |      |  |  | 4.6 |      |  |  |
| Approach LOS                              | B    |  |      |  | F     |       |  |  | A   |      |  |  | A   |      |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                          |
|--------------------------|--------------------------|----------------------------|--------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & NRAC Drive  |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville |
| Date Performed           | 5/17/2024                | East/West Street           | NRAC Drive               |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way               |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.75                     |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                     |
| Project Description      | Build                    |                            |                          |



| Vehicle Volumes and Adjustments |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
|---------------------------------|-----------|----|-----|----|-----------|----|----|-----|------------|---|-----|----|------------|-----|----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |    |     | Northbound |   |     |    | Southbound |     |    |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T  | R   | U          | L | T   | R  | U          | L   | T  | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8  | 9   | 1U         | 1 | 2   | 3  | 4U         | 4   | 5  | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 1  | 1  | 0   | 0          | 0 | 1   | 0  | 0          | 1   | 1  | 0  |
| Configuration                   |           |    | LTR |    |           | L  |    | TR  |            |   | LTR |    |            | L   |    | TR |
| Volume (veh/h)                  |           | 0  | 0   | 1  |           | 50 | 0  | 138 |            | 4 | 223 | 65 |            | 219 | 78 | 0  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 14 | 14 | 14  |            | 5 |     |    |            | 6   |    |    |
| Proportion Time Blocked         |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |    |     |            |   |     |    |            |     |    |    |
| Right Turn Channelized          |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |

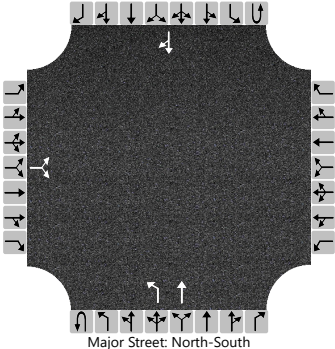
| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.24 | 6.64 | 6.34 |  | 4.15 |  |  |  | 4.16 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.63 | 4.13 | 3.43 |  | 2.25 |  |  |  | 2.25 |  |  |

| Delay, Queue Length, and Level of Service |     |  |      |  |      |      |  |      |     |      |     |     |     |      |  |  |
|-------------------------------------------|-----|--|------|--|------|------|--|------|-----|------|-----|-----|-----|------|--|--|
| Flow Rate, v (veh/h)                      |     |  | 1    |  |      | 67   |  | 184  |     | 5    |     |     |     | 292  |  |  |
| Capacity, c (veh/h)                       |     |  | 956  |  |      | 147  |  | 675  |     | 1469 |     |     |     | 1153 |  |  |
| v/c Ratio                                 |     |  | 0.00 |  |      | 0.45 |  | 0.27 |     | 0.00 |     |     |     | 0.25 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     |  | 0.0  |  |      | 2.1  |  | 1.1  |     | 0.0  |     |     |     | 1.0  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     |  | 0.0  |  |      | 58.4 |  | 30.6 |     |      |     |     |     | 26.2 |  |  |
| Control Delay (s/veh)                     |     |  | 8.8  |  |      | 48.4 |  | 12.3 |     | 7.5  | 0.0 | 0.0 |     | 9.2  |  |  |
| Level of Service (LOS)                    |     |  | A    |  |      | E    |  | B    |     | A    | A   | A   |     | A    |  |  |
| Approach Delay (s/veh)                    | 8.8 |  |      |  | 21.9 |      |  |      | 0.1 |      |     |     | 6.8 |      |  |  |
| Approach LOS                              | A   |  |      |  | C    |      |  |      | A   |      |     |     | A   |      |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                |
|--------------------------|--------------------------|----------------------------|--------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Kenssington Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville       |
| Date Performed           | 5/17/2024                | East/West Street           | Kenssington Drive              |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                     |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.68                           |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                           |
| Project Description      | Build                    |                            |                                |

Lanes



| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 1  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | L  | T   |   |            |   |     | TR |
| Volume (veh/h)                  |           | 11 |    | 48 |           |   |   |   |            | 11 | 276 |   |            |   | 131 | 2  |
| Percent Heavy Vehicles (%)      |           | 13 |    | 13 |           |   |   |   |            | 6  |     |   |            |   |     |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

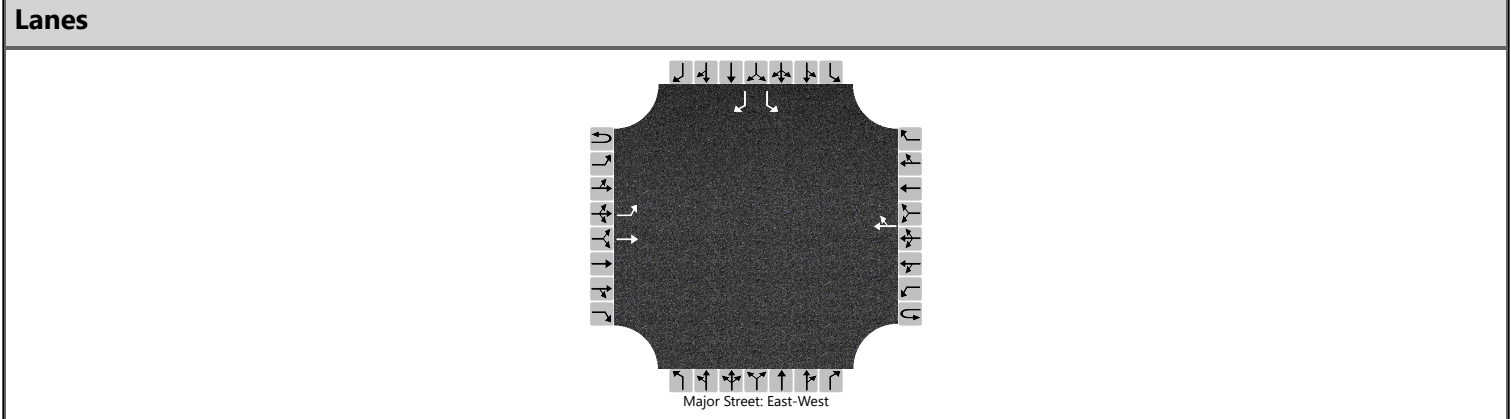
| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.53 |  | 6.33 |  |  |  |  |  | 4.16 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.62 |  | 3.42 |  |  |  |  |  | 2.25 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |  |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|--|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 87   |  |  |  |  |  |     | 16   |  |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 692  |  |  |  |  |  |     | 1354 |  |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.13 |  |  |  |  |  |     | 0.01 |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.4  |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 11.0 |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 10.9 |  |  |  |  |  |     | 7.7  |  |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    |  |  |  |  |  |  |
| Approach Delay (s/veh)                    | 10.9 |  |      |  |  |  |  |  | 0.3 |      |  |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |  |  |  |  |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                              |
|--------------------------|--------------------------|----------------------------|------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Ranger Way |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road              |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                   |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.79                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                         |
| Project Description      | Build                    |                            |                              |



| Vehicle Volumes and Adjustments |           |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
|---------------------------------|-----------|-----|-----|---|-----------|---|-----|-----|------------|---|---|---|------------|----|----|----|
| Approach                        | Eastbound |     |     |   | Westbound |   |     |     | Northbound |   |   |   | Southbound |    |    |    |
| Movement                        | U         | L   | T   | R | U         | L | T   | R   | U          | L | T | R | U          | L  | T  | R  |
| Priority                        | 1U        | 1   | 2   | 3 | 4U        | 4 | 5   | 6   |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Number of Lanes                 | 0         | 1   | 1   | 0 | 0         | 0 | 1   | 0   |            | 0 | 0 | 0 |            | 1  | 0  | 1  |
| Configuration                   |           | L   | T   |   |           |   |     | TR  |            |   |   |   |            | L  |    | R  |
| Volume (veh/h)                  |           | 125 | 785 |   |           |   | 401 | 163 |            |   |   |   |            | 68 |    | 82 |
| Percent Heavy Vehicles (%)      |           | 2   |     |   |           |   |     |     |            |   |   |   |            | 14 |    | 14 |
| Proportion Time Blocked         |           |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
| Percent Grade (%)               |           |     |     |   |           |   |     |     |            |   |   |   | 0          |    |    |    |
| Right Turn Channelized          |           |     |     |   |           |   |     |     |            |   |   |   | No         |    |    |    |
| Median Type   Storage           | Undivided |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |

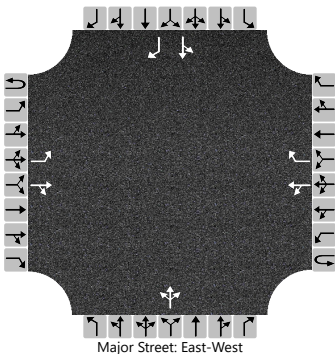
| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  |  |  |  |  |  |  |  |  | 6.54 |  | 6.34 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  |  |  |  |  |  |  |  |  | 3.63 |  | 3.43 |

| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |       |       |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|-------|-------|--|------|
| Flow Rate, v (veh/h)                      |     | 158  |  |  |  |  |  |  |  |  |  |  |       | 86    |  | 104  |
| Capacity, c (veh/h)                       |     | 886  |  |  |  |  |  |  |  |  |  |  |       | 56    |  | 473  |
| v/c Ratio                                 |     | 0.18 |  |  |  |  |  |  |  |  |  |  |       | 1.53  |  | 0.22 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.6  |  |  |  |  |  |  |  |  |  |  |       | 7.8   |  | 0.8  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 15.2 |  |  |  |  |  |  |  |  |  |  |       | 216.8 |  | 22.2 |
| Control Delay (s/veh)                     |     | 9.9  |  |  |  |  |  |  |  |  |  |  |       | 429.4 |  | 14.7 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |       | F     |  | B    |
| Approach Delay (s/veh)                    | 1.4 |      |  |  |  |  |  |  |  |  |  |  | 202.7 |       |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | F     |       |  |      |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                              |
|--------------------------|--------------------------|----------------------------|----------------------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & High School Drive/W Poi... |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville                     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road                              |
| Analysis Year            | 2049                     | North/South Street         | High School Drive/W Point Drive              |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.75                                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                                         |
| Project Description      | Build                    |                            |                                              |

Lanes



Vehicle Volumes and Adjustments

| Approach                   | Eastbound |     |     |    | Westbound |    |     |     | Northbound |   |     |   | Southbound |    |    |     |
|----------------------------|-----------|-----|-----|----|-----------|----|-----|-----|------------|---|-----|---|------------|----|----|-----|
| Movement                   | U         | L   | T   | R  | U         | L  | T   | R   | U          | L | T   | R | U          | L  | T  | R   |
| Priority                   | 1U        | 1   | 2   | 3  | 4U        | 4  | 5   | 6   |            | 7 | 8   | 9 |            | 10 | 11 | 12  |
| Number of Lanes            | 0         | 1   | 1   | 0  | 0         | 0  | 1   | 1   |            | 0 | 1   | 0 |            | 0  | 1  | 1   |
| Configuration              |           | L   |     | TR |           | LT |     | R   |            |   | LTR |   |            | LT |    | R   |
| Volume (veh/h)             |           | 360 | 520 | 5  |           | 0  | 237 | 202 |            | 4 | 0   | 0 |            | 49 | 1  | 320 |
| Percent Heavy Vehicles (%) |           | 2   |     |    |           | 3  |     |     |            | 0 | 0   | 0 |            | 0  | 0  | 0   |
| Proportion Time Blocked    |           |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |
| Percent Grade (%)          |           |     |     |    |           |    |     |     | 0          |   |     |   | 0          |    |    |     |
| Right Turn Channelized     |           |     |     |    | No        |    |     |     |            |   |     |   | No         |    |    |     |
| Median Type   Storage      | Undivided |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |

Critical and Follow-up Headways

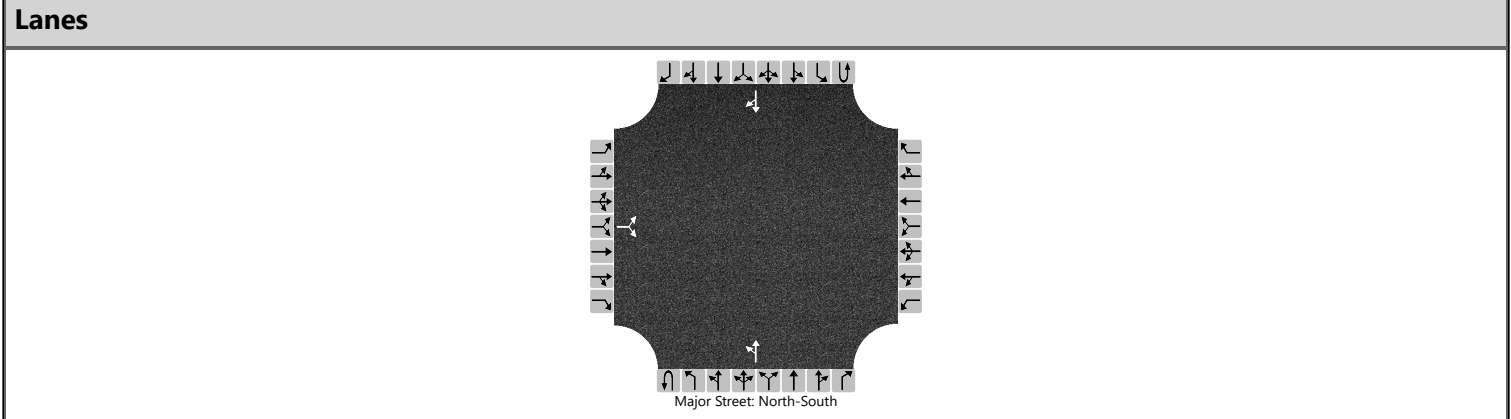
|                              |  |      |  |  |  |      |  |  |  |      |      |      |  |      |      |      |
|------------------------------|--|------|--|--|--|------|--|--|--|------|------|------|--|------|------|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  | 4.1  |  |  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |
| Critical Headway (sec)       |  | 4.12 |  |  |  | 4.13 |  |  |  | 7.10 | 6.50 | 6.20 |  | 7.10 | 6.50 | 6.20 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  | 2.2  |  |  |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.22 |  |  |  | 2.23 |  |  |  | 3.50 | 4.00 | 3.30 |  | 3.50 | 4.00 | 3.30 |

Delay, Queue Length, and Level of Service

|                                         |     |      |  |  |     |      |     |  |        |  |        |  |       |        |  |       |
|-----------------------------------------|-----|------|--|--|-----|------|-----|--|--------|--|--------|--|-------|--------|--|-------|
| Flow Rate, v (veh/h)                    |     | 480  |  |  |     | 0    |     |  |        |  | 5      |  |       | 67     |  | 427   |
| Capacity, c (veh/h)                     |     | 986  |  |  |     | 886  |     |  |        |  | 4      |  |       | 19     |  | 601   |
| v/c Ratio                               |     | 0.49 |  |  |     | 0.00 |     |  |        |  | 1.41   |  |       | 3.42   |  | 0.71  |
| 95% Queue Length, Q <sub>95</sub> (veh) |     | 2.7  |  |  |     | 0.0  |     |  |        |  | 1.5    |  |       | 8.8    |  | 5.8   |
| 95% Queue Length, Q <sub>95</sub> (ft)  |     | 68.6 |  |  |     |      |     |  |        |  | 37.5   |  |       | 220.0  |  | 145.0 |
| Control Delay (s/veh)                   |     | 12.1 |  |  |     | 9.1  | 0.0 |  |        |  | 1832.3 |  |       | 1497.0 |  | 24.3  |
| Level of Service (LOS)                  |     | B    |  |  |     | A    | A   |  |        |  | F      |  |       | F      |  | C     |
| Approach Delay (s/veh)                  | 4.9 |      |  |  | 0.0 |      |     |  | 1832.3 |  |        |  | 223.3 |        |  |       |
| Approach LOS                            | A   |      |  |  | A   |      |     |  | F      |  |        |  | F     |        |  |       |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                     |
|--------------------------|--------------------------|----------------------------|-------------------------------------|
| Analyst                  | tsj                      | Intersection               | Pitts Boulevard & High School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville            |
| Date Performed           | 5/17/2024                | East/West Street           | High School Drive                   |
| Analysis Year            | 2049                     | North/South Street         | Pitts Boulevard                     |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.81                                |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                |
| Project Description      | Build                    |                            |                                     |



| Vehicle Volumes and Adjustments |           |     |    |    |           |   |   |   |            |     |    |   |            |   |     |     |
|---------------------------------|-----------|-----|----|----|-----------|---|---|---|------------|-----|----|---|------------|---|-----|-----|
| Approach                        | Eastbound |     |    |    | Westbound |   |   |   | Northbound |     |    |   | Southbound |   |     |     |
| Movement                        | U         | L   | T  | R  | U         | L | T | R | U          | L   | T  | R | U          | L | T   | R   |
| Priority                        |           | 10  | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1   | 2  | 3 | 4U         | 4 | 5   | 6   |
| Number of Lanes                 |           | 0   | 1  | 0  |           | 0 | 0 | 0 | 0          | 0   | 1  | 0 | 0          | 0 | 1   | 0   |
| Configuration                   |           |     | LR |    |           |   |   |   |            | LT  |    |   |            |   |     | TR  |
| Volume (veh/h)                  |           | 130 |    | 49 |           |   |   |   |            | 111 | 16 |   |            |   | 117 | 227 |
| Percent Heavy Vehicles (%)      |           | 6   |    | 6  |           |   |   |   |            | 8   |    |   |            |   |     |     |
| Proportion Time Blocked         |           |     |    |    |           |   |   |   |            |     |    |   |            |   |     |     |
| Percent Grade (%)               | 0         |     |    |    |           |   |   |   |            |     |    |   |            |   |     |     |
| Right Turn Channelized          |           |     |    |    |           |   |   |   |            |     |    |   |            |   |     |     |
| Median Type   Storage           | Undivided |     |    |    |           |   |   |   |            |     |    |   |            |   |     |     |

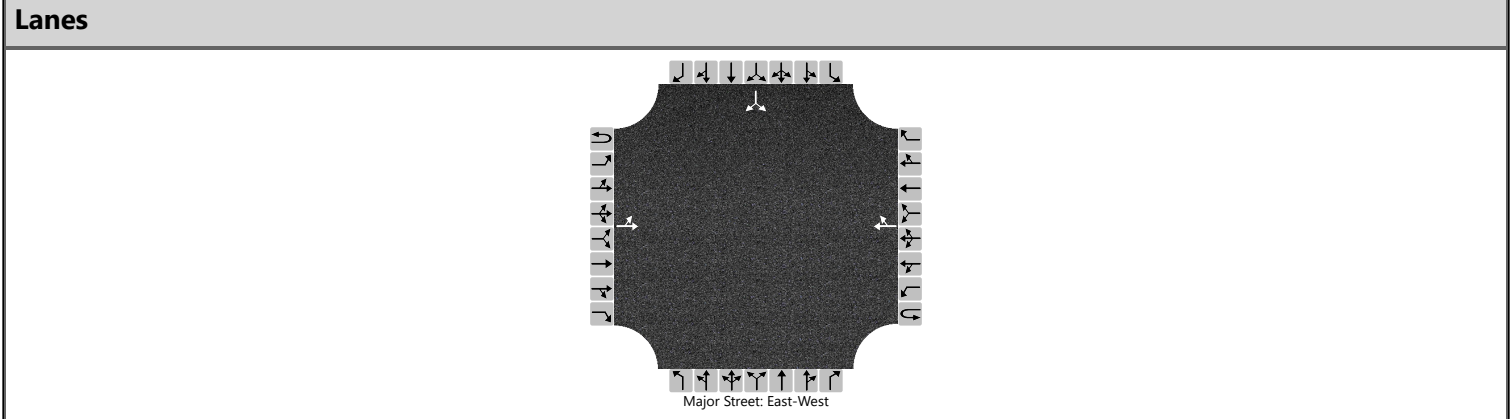
| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.46 |  | 6.26 |  |  |  |  |  | 4.18 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.55 |  | 3.35 |  |  |  |  |  | 2.27 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 221  |  |  |  |  |  |     | 137  |     |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 463  |  |  |  |  |  |     | 1099 |     |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.48 |  |  |  |  |  |     | 0.12 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 2.5  |  |  |  |  |  |     | 0.4  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 65.5 |  |  |  |  |  |     | 10.6 |     |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 19.7 |  |  |  |  |  |     | 8.7  | 1.1 |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | C    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                    | 19.7 |  |      |  |  |  |  |  | 7.8 |      |     |  |  |  |  |  |
| Approach LOS                              | C    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                               |
|--------------------------|--------------------------|----------------------------|-------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Prop. Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville      |
| Date Performed           | 8/21/2024                | East/West Street           | Bainbridge Road               |
| Analysis Year            | 2049                     | North/South Street         | Repurposed Drive              |
| Time Analyzed            | AM Peak                  | Peak Hour Factor           | 0.77                          |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                          |
| Project Description      | Build                    |                            |                               |



| Vehicle Volumes and Adjustments |           |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|-----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |     |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L   | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1   | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 0   | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0   |
| Configuration                   |           | LT  |     |   |           |   |     | TR |            |   |   |   |            |    | LR |     |
| Volume (veh/h)                  |           | 336 | 259 |   |           |   | 302 | 55 |            |   |   |   |            | 35 |    | 137 |
| Percent Heavy Vehicles (%)      |           | 3   |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked         |           |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |     |     |   |           |   |     |    |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Median Type   Storage           | Undivided |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.43 |  | 6.23 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

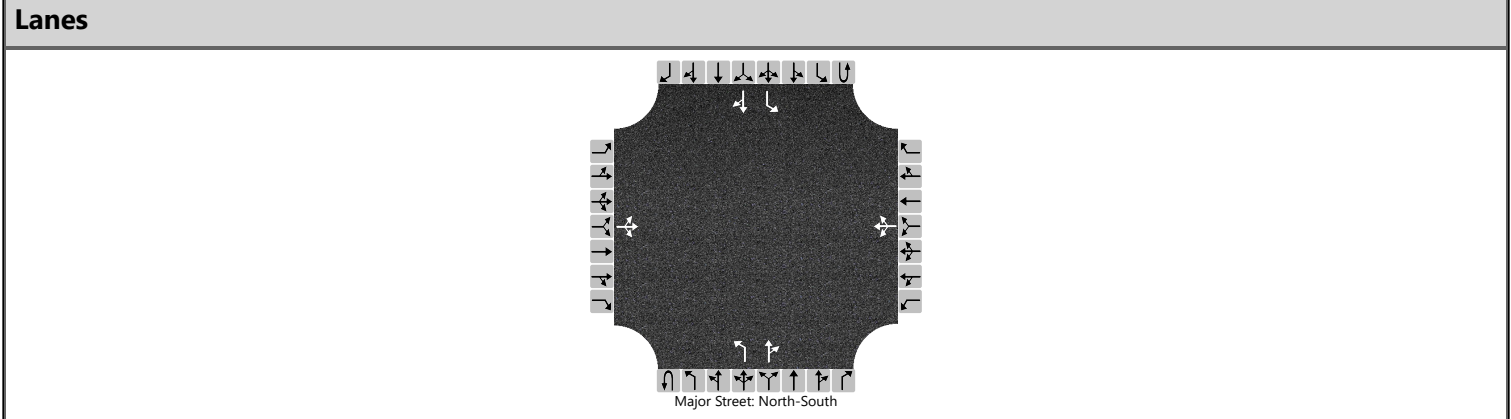
| Delay, Queue Length, and Level of Service |     |      |     |  |  |  |  |  |  |  |  |  |       |  |       |  |
|-------------------------------------------|-----|------|-----|--|--|--|--|--|--|--|--|--|-------|--|-------|--|
| Flow Rate, v (veh/h)                      |     | 436  |     |  |  |  |  |  |  |  |  |  |       |  | 223   |  |
| Capacity, c (veh/h)                       |     | 1092 |     |  |  |  |  |  |  |  |  |  |       |  | 204   |  |
| v/c Ratio                                 |     | 0.40 |     |  |  |  |  |  |  |  |  |  |       |  | 1.10  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 1.9  |     |  |  |  |  |  |  |  |  |  |       |  | 10.5  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 48.6 |     |  |  |  |  |  |  |  |  |  |       |  | 268.8 |  |
| Control Delay (s/veh)                     |     | 10.5 | 5.1 |  |  |  |  |  |  |  |  |  |       |  | 140.2 |  |
| Level of Service (LOS)                    |     | B    | A   |  |  |  |  |  |  |  |  |  |       |  | F     |  |
| Approach Delay (s/veh)                    | 8.2 |      |     |  |  |  |  |  |  |  |  |  | 140.2 |  |       |  |
| Approach LOS                              | A   |      |     |  |  |  |  |  |  |  |  |  | F     |  |       |  |

# HCS Signalized Intersection Results Summary

| General Information                               |                          |                 |               |                                              |       | Intersection Information |         |       |       |      |       |       |       |       |       |     |  |      |  |
|---------------------------------------------------|--------------------------|-----------------|---------------|----------------------------------------------|-------|--------------------------|---------|-------|-------|------|-------|-------|-------|-------|-------|-----|--|------|--|
| Agency                                            | DGL                      |                 |               |                                              |       | Duration, h              | 0.250   |       |       |      |       |       |       |       |       |     |  |      |  |
| Analyst                                           | tsj                      |                 | Analysis Date | Jun 18, 2024                                 |       | Area Type                | Other   |       |       |      |       |       |       |       |       |     |  |      |  |
| Jurisdiction                                      | City of North Ridgeville |                 | Time Period   | PM Peak                                      |       | PHF                      | 0.93    |       |       |      |       |       |       |       |       |     |  |      |  |
| Urban Street                                      | Center Ridge             |                 | Analysis Year | 2049                                         |       | Analysis Period          | 1> 7:00 |       |       |      |       |       |       |       |       |     |  |      |  |
| Intersection                                      | Center Ridge & Ranger... |                 | File Name     | 2049 Build PM Peak Center Ridge & Ranger.xus |       |                          |         |       |       |      |       |       |       |       |       |     |  |      |  |
| Project Description                               | Build                    |                 |               |                                              |       |                          |         |       |       |      |       |       |       |       |       |     |  |      |  |
| Demand Information                                |                          |                 |               | EB                                           |       |                          | WB      |       |       | NB   |       |       | SB    |       |       |     |  |      |  |
| Approach Movement                                 |                          |                 |               | L                                            | T     | R                        | L       | T     | R     | L    | T     | R     | L     | T     | R     |     |  |      |  |
| Demand ( $v$ ), veh/h                             |                          |                 |               | 155                                          | 761   | 63                       | 79      | 765   | 196   | 128  | 209   | 163   | 198   | 98    | 138   |     |  |      |  |
| Signal Information                                |                          |                 |               |                                              |       |                          |         |       |       |      |       |       |       |       |       |     |  |      |  |
| Cycle, s                                          | 100.0                    | Reference Phase | 2             |                                              |       |                          |         |       |       |      |       |       |       |       |       |     |  |      |  |
| Offset, s                                         | 0                        | Reference Point | End           |                                              |       |                          |         |       |       |      |       |       |       |       |       |     |  |      |  |
| Uncoordinated                                     | No                       | Simult. Gap E/W | On            |                                              |       |                          |         |       |       |      |       |       |       |       |       |     |  |      |  |
| Force Mode                                        | Fixed                    | Simult. Gap N/S | On            |                                              |       |                          |         |       |       |      |       |       |       |       |       |     |  |      |  |
|                                                   |                          |                 |               | Green                                        | 6.3   | 0.6                      | 56.7    | 19.1  | 0.0   | 0.0  |       |       |       |       |       |     |  |      |  |
|                                                   |                          |                 |               | Yellow                                       | 3.6   | 0.0                      | 3.6     | 3.2   | 0.0   | 0.0  |       |       |       |       |       |     |  |      |  |
|                                                   |                          |                 |               | Red                                          | 2.1   | 0.0                      | 2.1     | 2.7   | 0.0   | 0.0  |       |       |       |       |       |     |  |      |  |
| Timer Results                                     |                          |                 |               | EBL                                          |       | EBT                      |         | WBL   |       | WBT  |       | NBL   |       | NBT   |       | SBL |  | SBT  |  |
| Assigned Phase                                    |                          |                 |               | 5                                            |       | 2                        |         | 1     |       | 6    |       |       |       | 8     |       |     |  | 4    |  |
| Case Number                                       |                          |                 |               | 1.1                                          |       | 4.0                      |         | 1.1   |       | 4.0  |       |       |       | 7.0   |       |     |  | 7.0  |  |
| Phase Duration, s                                 |                          |                 |               | 12.6                                         |       | 63.0                     |         | 12.0  |       | 62.4 |       |       |       | 25.0  |       |     |  | 25.0 |  |
| Change Period, ( $Y+R_c$ ), s                     |                          |                 |               | 5.7                                          |       | 5.7                      |         | 5.7   |       | 5.7  |       |       |       | 5.9   |       |     |  | 5.9  |  |
| Max Allow Headway ( $MAH$ ), s                    |                          |                 |               | 4.1                                          |       | 0.0                      |         | 4.1   |       | 0.0  |       |       |       | 4.4   |       |     |  | 4.4  |  |
| Queue Clearance Time ( $g_s$ ), s                 |                          |                 |               | 5.8                                          |       |                          |         | 3.9   |       |      |       |       |       | 21.1  |       |     |  | 21.1 |  |
| Green Extension Time ( $g_e$ ), s                 |                          |                 |               | 0.2                                          |       | 0.0                      |         | 0.1   |       | 0.0  |       |       |       | 0.0   |       |     |  | 0.0  |  |
| Phase Call Probability                            |                          |                 |               | 0.99                                         |       |                          |         | 0.91  |       |      |       |       |       | 1.00  |       |     |  | 1.00 |  |
| Max Out Probability                               |                          |                 |               | 1.00                                         |       |                          |         | 0.26  |       |      |       |       |       | 1.00  |       |     |  | 1.00 |  |
| Movement Group Results                            |                          |                 |               | EB                                           |       |                          | WB      |       |       | NB   |       |       | SB    |       |       |     |  |      |  |
| Approach Movement                                 |                          |                 |               | L                                            | T     | R                        | L       | T     | R     | L    | T     | R     | L     | T     | R     |     |  |      |  |
| Assigned Movement                                 |                          |                 |               | 5                                            | 2     | 12                       | 1       | 6     | 16    | 3    | 8     | 18    | 7     | 4     | 14    |     |  |      |  |
| Adjusted Flow Rate ( $v$ ), veh/h                 |                          |                 |               | 167                                          | 449   | 437                      | 85      | 536   | 498   |      | 362   | 175   |       | 318   | 148   |     |  |      |  |
| Adjusted Saturation Flow Rate ( $s$ ), veh/h/ln   |                          |                 |               | 1767                                         | 1856  | 1805                     | 1781    | 1870  | 1738  |      | 1564  | 1572  |       | 965   | 1598  |     |  |      |  |
| Queue Service Time ( $g_s$ ), s                   |                          |                 |               | 3.8                                          | 13.6  | 13.6                     | 1.9     | 17.4  | 17.4  |      | 0.0   | 10.1  |       | 0.0   | 8.3   |     |  |      |  |
| Cycle Queue Clearance Time ( $g_c$ ), s           |                          |                 |               | 3.8                                          | 13.6  | 13.6                     | 1.9     | 17.4  | 17.4  |      | 19.1  | 10.1  |       | 19.1  | 8.3   |     |  |      |  |
| Green Ratio ( $g/C$ )                             |                          |                 |               | 0.64                                         | 0.57  | 0.57                     | 0.63    | 0.57  | 0.57  |      | 0.19  | 0.19  |       | 0.19  | 0.19  |     |  |      |  |
| Capacity ( $c$ ), veh/h                           |                          |                 |               | 407                                          | 1063  | 1034                     | 446     | 1060  | 985   |      | 348   | 300   |       | 244   | 305   |     |  |      |  |
| Volume-to-Capacity Ratio ( $X$ )                  |                          |                 |               | 0.409                                        | 0.423 | 0.423                    | 0.191   | 0.505 | 0.505 |      | 1.040 | 0.584 |       | 1.302 | 0.486 |     |  |      |  |
| Back of Queue ( $Q$ ), ft/ln ( 95 th percentile)  |                          |                 |               | 62                                           | 241   | 231                      | 30      | 295   | 275   |      | 541   | 191   |       | 677   | 148   |     |  |      |  |
| Back of Queue ( $Q$ ), veh/ln ( 95 th percentile) |                          |                 |               | 2.4                                          | 9.4   | 9.2                      | 1.2     | 11.6  | 11.0  |      | 21.1  | 7.5   |       | 26.9  | 5.9   |     |  |      |  |
| Queue Storage Ratio ( $RQ$ ) ( 95 th percentile)  |                          |                 |               | 0.00                                         | 0.00  | 0.00                     | 0.00    | 0.00  | 0.00  |      | 0.00  | 0.00  |       | 0.00  | 0.00  |     |  |      |  |
| Uniform Delay ( $d_1$ ), s/veh                    |                          |                 |               | 9.5                                          | 12.0  | 12.0                     | 8.5     | 13.2  | 13.2  |      | 41.8  | 36.8  |       | 42.8  | 36.1  |     |  |      |  |
| Incremental Delay ( $d_2$ ), s/veh                |                          |                 |               | 0.7                                          | 1.2   | 1.3                      | 0.2     | 1.7   | 1.9   |      | 59.0  | 2.9   |       | 162.4 | 1.2   |     |  |      |  |
| Initial Queue Delay ( $d_3$ ), s/veh              |                          |                 |               | 0.0                                          | 0.0   | 0.0                      | 0.0     | 0.0   | 0.0   |      | 0.0   | 0.0   |       | 0.0   | 0.0   |     |  |      |  |
| Control Delay ( $d$ ), s/veh                      |                          |                 |               | 10.2                                         | 13.3  | 13.3                     | 8.7     | 14.9  | 15.0  |      | 100.8 | 39.7  |       | 205.2 | 37.3  |     |  |      |  |
| Level of Service (LOS)                            |                          |                 |               | B                                            | B     | B                        | A       | B     | B     |      | F     | D     |       | F     | D     |     |  |      |  |
| Approach Delay, s/veh / LOS                       |                          |                 |               | 12.8                                         | B     |                          | 14.5    | B     |       | 80.9 | F     |       | 151.8 | F     |       |     |  |      |  |
| Intersection Delay, s/veh / LOS                   |                          |                 |               | 45.4                                         |       |                          |         |       |       | D    |       |       |       |       |       |     |  |      |  |
| Multimodal Results                                |                          |                 |               | EB                                           |       |                          | WB      |       |       | NB   |       |       | SB    |       |       |     |  |      |  |
| Pedestrian LOS Score / LOS                        |                          |                 |               | 1.89                                         | B     |                          | 1.89    | B     |       | 2.30 | B     |       | 2.30  | B     |       |     |  |      |  |
| Bicycle LOS Score / LOS                           |                          |                 |               | 1.36                                         | A     |                          | 1.41    | A     |       | 1.37 | A     |       | 1.26  | A     |       |     |  |      |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                        |
|--------------------------|--------------------------|----------------------------|----------------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Fire Station/School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville               |
| Date Performed           | 5/17/2024                | East/West Street           | Fire Station Drive                     |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                             |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.79                                   |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                   |
| Project Description      | Build                    |                            |                                        |



| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|-----|------------|---|-----|----|------------|-----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |     | Northbound |   |     |    | Southbound |     |     |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R   | U          | L | T   | R  | U          | L   | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9   | 1U         | 1 | 2   | 3  | 4U         | 4   | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0   | 0          | 1 | 1   | 0  | 0          | 1   | 1   | 0  |
| Configuration                   |           |    | LTR |    |           |    | LTR |     |            | L |     | TR |            | L   |     | TR |
| Volume (veh/h)                  |           | 2  | 0   | 0  |           | 27 | 0   | 177 |            | 0 | 317 | 56 |            | 102 | 149 | 1  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 0  | 0   | 0   |            | 5 |     |    |            | 2   |     |    |
| Proportion Time Blocked         |           |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |     |            |   |     |    |            |     |     |    |
| Right Turn Channelized          |           |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.10 | 6.50 | 6.20 |  | 4.15 |  |  |  | 4.12 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.50 | 4.00 | 3.30 |  | 2.25 |  |  |  | 2.22 |  |  |

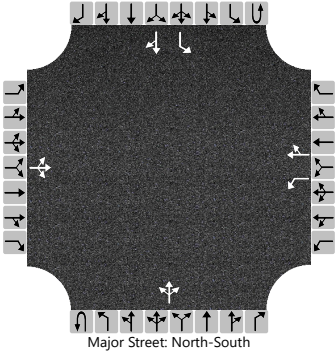
| Delay, Queue Length, and Level of Service |      |  |      |  |      |  |       |  |     |      |  |  |     |      |  |  |
|-------------------------------------------|------|--|------|--|------|--|-------|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                      |      |  | 3    |  |      |  | 258   |  |     | 0    |  |  |     | 129  |  |  |
| Capacity, c (veh/h)                       |      |  | 104  |  |      |  | 405   |  |     | 1366 |  |  |     | 892  |  |  |
| v/c Ratio                                 |      |  | 0.02 |  |      |  | 0.64  |  |     | 0.00 |  |  |     | 0.14 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.1  |  |      |  | 4.3   |  |     | 0.0  |  |  |     | 0.5  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 2.5  |  |      |  | 107.5 |  |     |      |  |  |     | 12.7 |  |  |
| Control Delay (s/veh)                     |      |  | 40.5 |  |      |  | 28.2  |  |     | 7.6  |  |  |     | 9.7  |  |  |
| Level of Service (LOS)                    |      |  | E    |  |      |  | D     |  |     | A    |  |  |     | A    |  |  |
| Approach Delay (s/veh)                    | 40.5 |  |      |  | 28.2 |  |       |  | 0.0 |      |  |  | 3.9 |      |  |  |
| Approach LOS                              | E    |  |      |  | D    |  |       |  | A   |      |  |  | A   |      |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                          |
|--------------------------|--------------------------|----------------------------|--------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & NRAC Drive  |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville |
| Date Performed           | 5/17/2024                | East/West Street           | NRAC Drive               |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way               |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.71                     |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                     |
| Project Description      | Build                    |                            |                          |

Lanes



Major Street: North-South

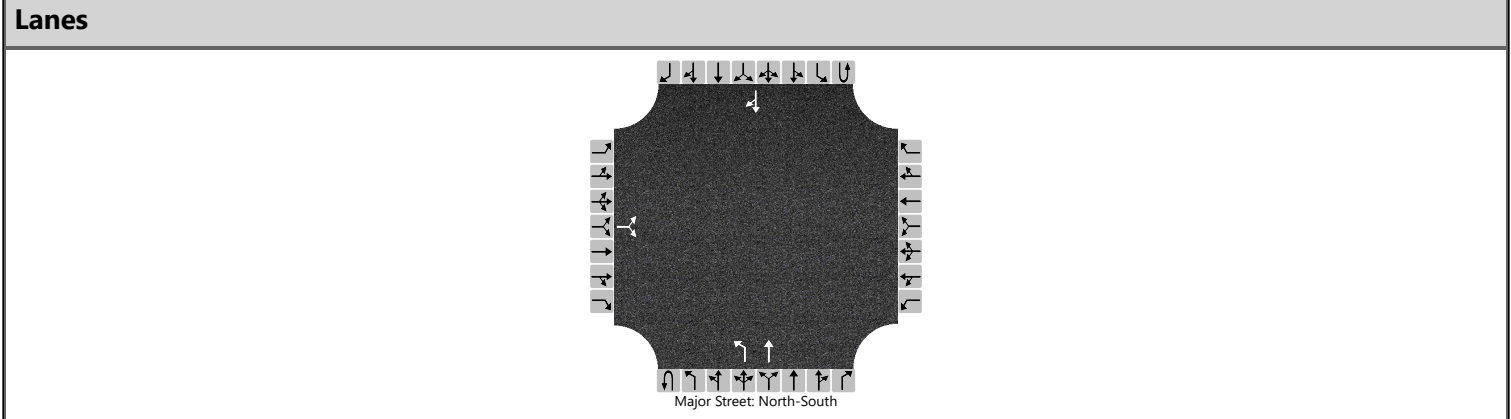
| Vehicle Volumes and Adjustments |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
|---------------------------------|-----------|----|-----|----|-----------|-----|----|-----|------------|---|-----|----|------------|----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |     |    |     | Northbound |   |     |    | Southbound |    |     |    |
| Movement                        | U         | L  | T   | R  | U         | L   | T  | R   | U          | L | T   | R  | U          | L  | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7   | 8  | 9   | 1U         | 1 | 2   | 3  | 4U         | 4  | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 1   | 1  | 0   | 0          | 0 | 1   | 0  | 0          | 1  | 1   | 0  |
| Configuration                   |           |    | LTR |    |           | L   |    | TR  |            |   | LTR |    |            | L  |     | TR |
| Volume (veh/h)                  |           | 0  | 0   | 5  |           | 114 | 1  | 197 |            | 3 | 172 | 35 |            | 63 | 115 | 0  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 11  | 11 | 11  |            | 1 |     |    |            | 1  |     |    |
| Proportion Time Blocked         |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |     |    |     |            |   |     |    |            |    |     |    |
| Right Turn Channelized          |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.21 | 6.61 | 6.31 |  | 4.11 |  |  |  | 4.11 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.60 | 4.10 | 3.40 |  | 2.21 |  |  |  | 2.21 |  |  |

| Delay, Queue Length, and Level of Service |     |  |      |  |      |      |  |      |     |      |     |     |     |      |  |  |
|-------------------------------------------|-----|--|------|--|------|------|--|------|-----|------|-----|-----|-----|------|--|--|
| Flow Rate, v (veh/h)                      |     |  | 7    |  |      | 161  |  | 279  |     | 4    |     |     |     | 89   |  |  |
| Capacity, c (veh/h)                       |     |  | 888  |  |      | 358  |  | 747  |     | 1423 |     |     |     | 1276 |  |  |
| v/c Ratio                                 |     |  | 0.01 |  |      | 0.45 |  | 0.37 |     | 0.00 |     |     |     | 0.07 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     |  | 0.0  |  |      | 2.2  |  | 1.7  |     | 0.0  |     |     |     | 0.2  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     |  | 0.0  |  |      | 59.8 |  | 46.2 |     |      |     |     |     | 5.0  |  |  |
| Control Delay (s/veh)                     |     |  | 9.1  |  |      | 23.0 |  | 12.7 |     | 7.5  | 0.0 | 0.0 |     | 8.0  |  |  |
| Level of Service (LOS)                    |     |  | A    |  |      | C    |  | B    |     | A    | A   | A   |     | A    |  |  |
| Approach Delay (s/veh)                    | 9.1 |  |      |  | 16.5 |      |  |      | 0.1 |      |     |     | 2.8 |      |  |  |
| Approach LOS                              | A   |  |      |  | C    |      |  |      | A   |      |     |     | A   |      |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                |
|--------------------------|--------------------------|----------------------------|--------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Kenssington Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville       |
| Date Performed           | 5/17/2024                | East/West Street           | Kenssington Drive              |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                     |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.87                           |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                           |
| Project Description      | Build                    |                            |                                |



| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 1  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | L  | T   |   |            |   |     | TR |
| Volume (veh/h)                  |           | 12 |    | 54 |           |   |   |   |            | 22 | 204 |   |            |   | 227 | 8  |
| Percent Heavy Vehicles (%)      |           | 4  |    | 4  |           |   |   |   |            | 2  |     |   |            |   |     |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

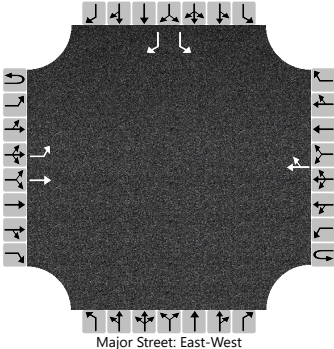
| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.44 |  | 6.24 |  |  |  |  |  | 4.12 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.54 |  | 3.34 |  |  |  |  |  | 2.22 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |  |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|--|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 76   |  |  |  |  |  |     | 25   |  |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 673  |  |  |  |  |  |     | 1293 |  |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.11 |  |  |  |  |  |     | 0.02 |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.4  |  |  |  |  |  |     | 0.1  |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 10.3 |  |  |  |  |  |     | 2.5  |  |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 11.0 |  |  |  |  |  |     | 7.8  |  |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    |  |  |  |  |  |  |
| Approach Delay (s/veh)                    | 11.0 |  |      |  |  |  |  |  | 0.8 |      |  |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |  |  |  |  |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                              |
|--------------------------|--------------------------|----------------------------|------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Ranger Way |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road              |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                   |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.82                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                         |
| Project Description      | Build                    |                            |                              |

Lanes



Major Street: East-West

| Vehicle Volumes and Adjustments |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|----|-----|---|-----------|---|-----|-----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |    |     |   | Westbound |   |     |     | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L  | T   | R | U         | L | T   | R   | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6   |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0   |            | 0 | 0 | 0 |            | 1  | 0  | 1   |
| Configuration                   |           | L  | T   |   |           |   |     | TR  |            |   |   |   |            | L  |    | R   |
| Volume (veh/h)                  |           | 91 | 265 |   |           |   | 492 | 139 |            |   |   |   |            | 86 |    | 173 |
| Percent Heavy Vehicles (%)      |           | 3  |     |   |           |   |     |     |            |   |   |   |            | 8  |    | 8   |
| Proportion Time Blocked         |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |    |     |   |           |   |     |     |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |    |     |   |           |   |     |     |            |   |   |   | No         |    |    |     |
| Median Type   Storage           | Undivided |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.48 |  | 6.28 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.57 |  | 3.37 |

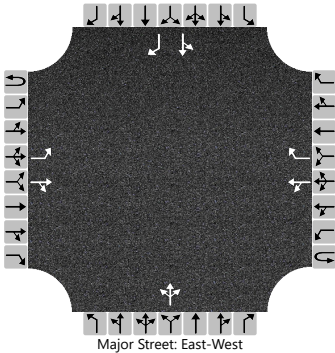
| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 111  |  |  |  |  |  |  |  |  |  |  |      | 105  |  | 211  |
| Capacity, c (veh/h)                       |     | 840  |  |  |  |  |  |  |  |  |  |  |      | 166  |  | 438  |
| v/c Ratio                                 |     | 0.13 |  |  |  |  |  |  |  |  |  |  |      | 0.63 |  | 0.48 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.5  |  |  |  |  |  |  |  |  |  |  |      | 3.5  |  | 2.6  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 12.8 |  |  |  |  |  |  |  |  |  |  |      | 93.1 |  | 69.2 |
| Control Delay (s/veh)                     |     | 9.9  |  |  |  |  |  |  |  |  |  |  |      | 58.3 |  | 20.6 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |      | F    |  | C    |
| Approach Delay (s/veh)                    | 2.5 |      |  |  |  |  |  |  |  |  |  |  | 33.1 |      |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | D    |      |  |      |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                              |
|--------------------------|--------------------------|----------------------------|----------------------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & High School Drive/W Poi... |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville                     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road                              |
| Analysis Year            | 2049                     | North/South Street         | High School Drive/W Point Drive              |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.77                                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                                         |
| Project Description      | Build                    |                            |                                              |

Lanes



Vehicle Volumes and Adjustments

| Approach                   | Eastbound |     |     |    | Westbound |    |     |    | Northbound |   |     |   | Southbound |    |    |     |
|----------------------------|-----------|-----|-----|----|-----------|----|-----|----|------------|---|-----|---|------------|----|----|-----|
| Movement                   | U         | L   | T   | R  | U         | L  | T   | R  | U          | L | T   | R | U          | L  | T  | R   |
| Priority                   | 1U        | 1   | 2   | 3  | 4U        | 4  | 5   | 6  |            | 7 | 8   | 9 |            | 10 | 11 | 12  |
| Number of Lanes            | 0         | 1   | 1   | 0  | 0         | 0  | 1   | 1  |            | 0 | 1   | 0 |            | 0  | 1  | 1   |
| Configuration              |           | L   |     | TR |           | LT |     | R  |            |   | LTR |   |            | LT |    | R   |
| Volume (veh/h)             |           | 104 | 237 | 19 |           | 0  | 398 | 39 |            | 2 | 0   | 3 |            | 66 | 1  | 230 |
| Percent Heavy Vehicles (%) |           | 2   |     |    |           | 2  |     |    |            | 0 | 0   | 0 |            | 1  | 1  | 1   |
| Proportion Time Blocked    |           |     |     |    |           |    |     |    |            |   |     |   |            |    |    |     |
| Percent Grade (%)          |           |     |     |    |           |    |     |    | 0          |   |     |   | 0          |    |    |     |
| Right Turn Channelized     |           |     |     |    | No        |    |     |    |            |   |     |   | No         |    |    |     |
| Median Type   Storage      | Undivided |     |     |    |           |    |     |    |            |   |     |   |            |    |    |     |

Critical and Follow-up Headways

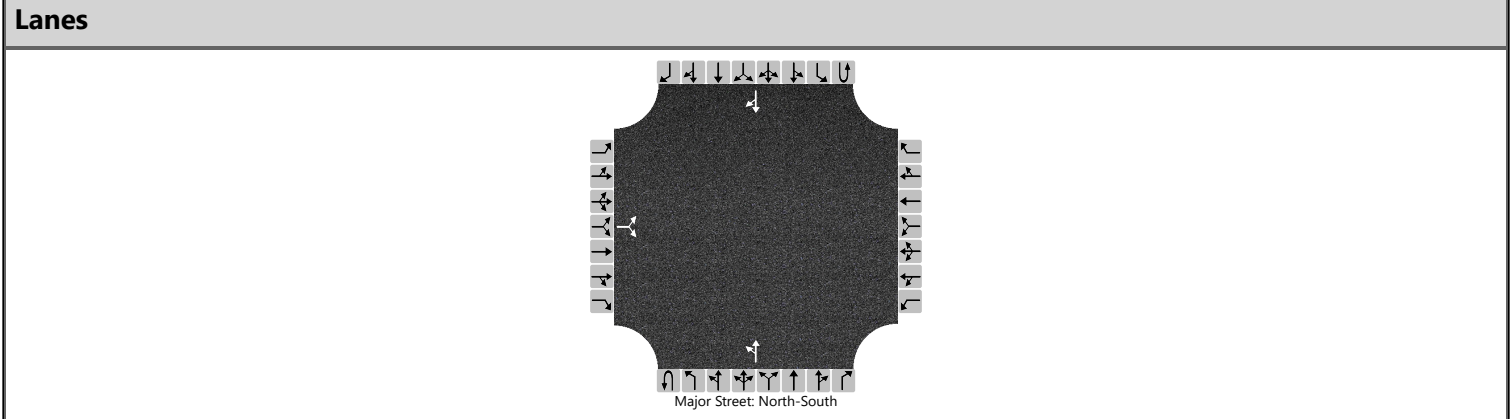
|                              |  |      |  |  |  |      |  |  |  |      |      |      |  |      |      |      |
|------------------------------|--|------|--|--|--|------|--|--|--|------|------|------|--|------|------|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  | 4.1  |  |  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |
| Critical Headway (sec)       |  | 4.12 |  |  |  | 4.12 |  |  |  | 7.10 | 6.50 | 6.20 |  | 7.11 | 6.51 | 6.21 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  | 2.2  |  |  |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.22 |  |  |  | 2.22 |  |  |  | 3.50 | 4.00 | 3.30 |  | 3.51 | 4.01 | 3.31 |

Delay, Queue Length, and Level of Service

|                                         |     |      |  |  |     |      |     |  |      |  |      |  |      |      |  |      |
|-----------------------------------------|-----|------|--|--|-----|------|-----|--|------|--|------|--|------|------|--|------|
| Flow Rate, v (veh/h)                    |     | 135  |  |  |     | 0    |     |  |      |  | 6    |  |      | 87   |  | 299  |
| Capacity, c (veh/h)                     |     | 1003 |  |  |     | 1203 |     |  |      |  | 107  |  |      | 155  |  | 505  |
| v/c Ratio                               |     | 0.13 |  |  |     | 0.00 |     |  |      |  | 0.06 |  |      | 0.56 |  | 0.59 |
| 95% Queue Length, Q <sub>95</sub> (veh) |     | 0.5  |  |  |     | 0.0  |     |  |      |  | 0.2  |  |      | 2.9  |  | 3.8  |
| 95% Queue Length, Q <sub>95</sub> (ft)  |     | 12.7 |  |  |     |      |     |  |      |  | 5.0  |  |      | 73.1 |  | 95.8 |
| Control Delay (s/veh)                   |     | 9.1  |  |  |     | 8.0  | 0.0 |  |      |  | 40.7 |  |      | 54.3 |  | 21.9 |
| Level of Service (LOS)                  |     | A    |  |  |     | A    | A   |  |      |  | E    |  |      | F    |  | C    |
| Approach Delay (s/veh)                  | 2.6 |      |  |  | 0.0 |      |     |  | 40.7 |  |      |  | 29.2 |      |  |      |
| Approach LOS                            | A   |      |  |  | A   |      |     |  | E    |  |      |  | D    |      |  |      |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                     |
|--------------------------|--------------------------|----------------------------|-------------------------------------|
| Analyst                  | tsj                      | Intersection               | Pitts Boulevard & High School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville            |
| Date Performed           | 5/17/2024                | East/West Street           | High School Drive                   |
| Analysis Year            | 2049                     | North/South Street         | Pitts Boulevard                     |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.57                                |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                |
| Project Description      | Build                    |                            |                                     |



| Vehicle Volumes and Adjustments |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
|---------------------------------|-----------|-----|----|----|-----------|---|---|---|------------|----|----|---|------------|---|----|----|
| Approach                        | Eastbound |     |    |    | Westbound |   |   |   | Northbound |    |    |   | Southbound |   |    |    |
| Movement                        | U         | L   | T  | R  | U         | L | T | R | U          | L  | T  | R | U          | L | T  | R  |
| Priority                        |           | 10  | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2  | 3 | 4U         | 4 | 5  | 6  |
| Number of Lanes                 |           | 0   | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1  | 0 | 0          | 0 | 1  | 0  |
| Configuration                   |           |     | LR |    |           |   |   |   |            | LT |    |   |            |   |    | TR |
| Volume (veh/h)                  |           | 177 |    | 89 |           |   |   |   |            | 43 | 64 |   |            |   | 51 | 82 |
| Percent Heavy Vehicles (%)      |           | 3   |    | 3  |           |   |   |   |            | 3  |    |   |            |   |    |    |
| Proportion Time Blocked         |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Percent Grade (%)               | 0         |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Right Turn Channelized          |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Median Type   Storage           | Undivided |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.43 |  | 6.23 |  |  |  |  |  | 4.13 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.53 |  | 3.33 |  |  |  |  |  | 2.23 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |       |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-------------------------------------------|------|--|-------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 467   |  |  |  |  |  |     | 75   |     |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 621   |  |  |  |  |  |     | 1324 |     |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.75  |  |  |  |  |  |     | 0.06 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 6.7   |  |  |  |  |  |     | 0.2  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 171.5 |  |  |  |  |  |     | 5.1  |     |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 26.2  |  |  |  |  |  |     | 7.9  | 0.5 |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | D     |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                    | 26.2 |  |       |  |  |  |  |  | 3.5 |      |     |  |  |  |  |  |
| Approach LOS                              | D    |  |       |  |  |  |  |  | A   |      |     |  |  |  |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                               |
|--------------------------|--------------------------|----------------------------|-------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Prop. Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville      |
| Date Performed           | 8/21/2024                | East/West Street           | Bainbridge Road               |
| Analysis Year            | 2049                     | North/South Street         | Repurposed Drive              |
| Time Analyzed            | PM Peak                  | Peak Hour Factor           | 0.73                          |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                          |
| Project Description      | Build                    |                            |                               |

Lanes

| Vehicle Volumes and Adjustments |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 0  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0   |
| Configuration                   |           | LT |     |   |           |   |     | TR |            |   |   |   |            |    | LR |     |
| Volume (veh/h)                  |           | 60 | 288 |   |           |   | 269 | 27 |            |   |   |   |            | 97 |    | 168 |
| Percent Heavy Vehicles (%)      |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked         |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |    |     |   |           |   |     |    |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Median Type   Storage           | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.43 |  | 6.23 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

| Delay, Queue Length, and Level of Service |     |      |     |  |  |  |  |  |  |  |  |  |      |  |       |  |
|-------------------------------------------|-----|------|-----|--|--|--|--|--|--|--|--|--|------|--|-------|--|
| Flow Rate, v (veh/h)                      |     | 82   |     |  |  |  |  |  |  |  |  |  |      |  | 363   |  |
| Capacity, c (veh/h)                       |     | 1148 |     |  |  |  |  |  |  |  |  |  |      |  | 424   |  |
| v/c Ratio                                 |     | 0.07 |     |  |  |  |  |  |  |  |  |  |      |  | 0.86  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.2  |     |  |  |  |  |  |  |  |  |  |      |  | 8.4   |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 5.1  |     |  |  |  |  |  |  |  |  |  |      |  | 215.0 |  |
| Control Delay (s/veh)                     |     | 8.4  | 0.8 |  |  |  |  |  |  |  |  |  |      |  | 46.7  |  |
| Level of Service (LOS)                    |     | A    | A   |  |  |  |  |  |  |  |  |  |      |  | E     |  |
| Approach Delay (s/veh)                    | 2.1 |      |     |  |  |  |  |  |  |  |  |  | 46.7 |  |       |  |
| Approach LOS                              | A   |      |     |  |  |  |  |  |  |  |  |  | E    |  |       |  |

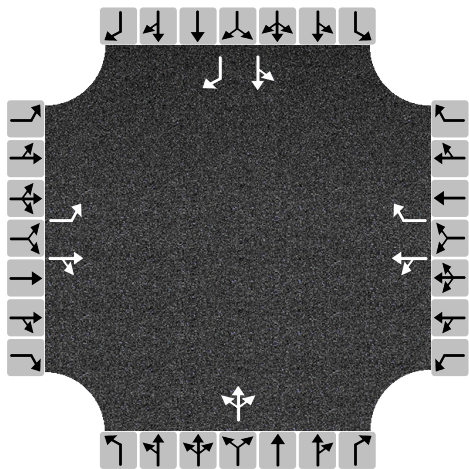


# HCS All-Way Stop Control Report

## General and Site Information

|                            |                                        |
|----------------------------|----------------------------------------|
| Analyst                    | tsj                                    |
| Agency/Co.                 | DGL Consulting Engineers               |
| Date Performed             | 8/29/2024                              |
| Analysis Year              | 2029                                   |
| Analysis Time Period (hrs) | 0.25                                   |
| Time Analyzed              | AM Peak Hour                           |
| Project Description        | Build + AWSC                           |
| Intersection               | Bainbridge Road & High School Drive... |
| Jurisdiction               | City of North Ridgeville               |
| East/West Street           | Bainbridge Road                        |
| North/South Street         | High School Drive/W Point Drive        |
| Peak Hour Factor           | 0.75                                   |

## Lanes



## Turning Movement Demand Volumes

| Approach               | Eastbound |     |   | Westbound |     |     | Northbound |   |   | Southbound |   |     |
|------------------------|-----------|-----|---|-----------|-----|-----|------------|---|---|------------|---|-----|
| Movement               | L         | T   | R | L         | T   | R   | L          | T | R | L          | T | R   |
| Volume (veh/h)         | 328       | 489 | 5 | 0         | 216 | 183 | 4          | 0 | 0 | 45         | 1 | 292 |
| % Thrus in Shared Lane |           |     |   |           |     |     |            |   |   |            |   |     |

## Lane Flow Rate and Adjustments

| Approach                                      | Eastbound |       |    | Westbound |       |    | Northbound |    |    | Southbound |       |    |
|-----------------------------------------------|-----------|-------|----|-----------|-------|----|------------|----|----|------------|-------|----|
| Lane                                          | L1        | L2    | L3 | L1        | L2    | L3 | L1         | L2 | L3 | L1         | L2    | L3 |
| Configuration                                 | L         | TR    |    | LT        | R     |    | LTR        |    |    | LT         | R     |    |
| Flow Rate, v (veh/h)                          | 437       | 659   |    | 288       | 244   |    | 5          |    |    | 61         | 389   |    |
| Percent Heavy Vehicles                        | 2         | 2     |    | 3         | 3     |    | 0          |    |    | 0          | 0     |    |
| Initial Departure Headway, h <sub>d</sub> (s) | 3.20      | 3.20  |    | 3.20      | 3.20  |    | 3.20       |    |    | 3.20       | 3.20  |    |
| Initial Degree of Utilization, x              | 0.389     | 0.585 |    | 0.256     | 0.217 |    | 0.005      |    |    | 0.055      | 0.346 |    |
| Final Departure Headway, h <sub>d</sub> (s)   | 7.62      | 7.10  |    | 7.58      | 6.89  |    | 8.94       |    |    | 8.35       | 7.17  |    |
| Final Degree of Utilization, x                | 0.926     | 1.300 |    | 0.607     | 0.467 |    | 0.013      |    |    | 0.142      | 0.776 |    |
| Move-Up Time, m (s)                           | 2.3       | 2.3   |    | 2.3       | 2.3   |    | 2.0        |    |    | 2.3        | 2.3   |    |
| Service Time, t <sub>s</sub> (s)              | 5.32      | 4.80  |    | 5.28      | 4.59  |    | 6.94       |    |    | 6.05       | 4.87  |    |

## Capacity, Delay and Level of Service

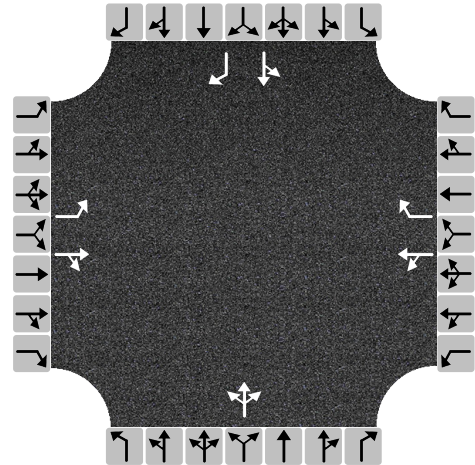
| Approach                                | Eastbound |       |    | Westbound |      |    | Northbound |    |    | Southbound |       |    |
|-----------------------------------------|-----------|-------|----|-----------|------|----|------------|----|----|------------|-------|----|
| Lane                                    | L1        | L2    | L3 | L1        | L2   | L3 | L1         | L2 | L3 | L1         | L2    | L3 |
| Configuration                           | L         | TR    |    | LT        | R    |    | LTR        |    |    | LT         | R     |    |
| Flow Rate, v (veh/h)                    | 437       | 659   |    | 288       | 244  |    | 5          |    |    | 61         | 389   |    |
| Capacity (veh/h)                        | 472       | 507   |    | 475       | 523  |    | 403        |    |    | 431        | 502   |    |
| 95% Queue Length, Q <sub>95</sub> (veh) | 10.8      | 27.9  |    | 4.0       | 2.5  |    | 0.0        |    |    | 0.5        | 7.0   |    |
| 95% Queue Length, Q <sub>95</sub> (ft)  | 274.3     | 708.7 |    | 102.4     | 64.0 |    | 0.0        |    |    | 12.5       | 175.0 |    |
| Control Delay (s/veh)                   | 52.4      | 170.6 |    | 21.3      | 15.5 |    | 12.1       |    |    | 12.4       | 30.5  |    |
| Level of Service, LOS                   | F         | F     |    | C         | C    |    | B          |    |    | B          | D     |    |
| Approach Delay (s/veh)   LOS            | 123.4     | F     |    | 18.6      | C    |    | 12.1       | B  |    | 28.0       | D     |    |
| Intersection Delay (s/veh)   LOS        | 75.8      |       |    |           |      |    | F          |    |    |            |       |    |

# HCS All-Way Stop Control Report

## General and Site Information

|                            |                                        |
|----------------------------|----------------------------------------|
| Analyst                    | tsj                                    |
| Agency/Co.                 | DGL Consulting Engineers               |
| Date Performed             | 8/29/2024                              |
| Analysis Year              | 2029                                   |
| Analysis Time Period (hrs) | 0.25                                   |
| Time Analyzed              | PM Peak Hour                           |
| Project Description        | Build + AWSC                           |
| Intersection               | Bainbridge Road & High School Drive... |
| Jurisdiction               | City of North Ridgeville               |
| East/West Street           | Bainbridge Road                        |
| North/South Street         | High School Drive/W Point Drive        |
| Peak Hour Factor           | 0.77                                   |

## Lanes



## Turning Movement Demand Volumes

| Approach               | Eastbound |     |    | Westbound |     |    | Northbound |   |   | Southbound |   |     |
|------------------------|-----------|-----|----|-----------|-----|----|------------|---|---|------------|---|-----|
| Movement               | L         | T   | R  | L         | T   | R  | L          | T | R | L          | T | R   |
| Volume (veh/h)         | 94        | 217 | 16 | 0         | 366 | 37 | 2          | 0 | 3 | 61         | 1 | 209 |
| % Thrus in Shared Lane |           |     |    |           |     |    |            |   |   |            |   |     |

## Lane Flow Rate and Adjustments

| Approach                             | Eastbound |       |    | Westbound |       |    | Northbound |    |    | Southbound |       |    |
|--------------------------------------|-----------|-------|----|-----------|-------|----|------------|----|----|------------|-------|----|
| Lane                                 | L1        | L2    | L3 | L1        | L2    | L3 | L1         | L2 | L3 | L1         | L2    | L3 |
| Configuration                        | L         | TR    |    | LT        | R     |    | LTR        |    |    | LT         | R     |    |
| Flow Rate, $v$ (veh/h)               | 122       | 303   |    | 475       | 48    |    | 6          |    |    | 81         | 271   |    |
| Percent Heavy Vehicles               | 2         | 2     |    | 2         | 2     |    | 0          |    |    | 1          | 1     |    |
| Initial Departure Headway, $h_d$ (s) | 3.20      | 3.20  |    | 3.20      | 3.20  |    | 3.20       |    |    | 3.20       | 3.20  |    |
| Initial Degree of Utilization, $x$   | 0.109     | 0.269 |    | 0.423     | 0.043 |    | 0.006      |    |    | 0.072      | 0.241 |    |
| Final Departure Headway, $h_d$ (s)   | 6.95      | 6.40  |    | 6.32      | 5.61  |    | 7.51       |    |    | 7.49       | 6.29  |    |
| Final Degree of Utilization, $x$     | 0.236     | 0.538 |    | 0.835     | 0.075 |    | 0.014      |    |    | 0.168      | 0.474 |    |
| Move-Up Time, $m$ (s)                | 2.3       | 2.3   |    | 2.3       | 2.3   |    | 2.0        |    |    | 2.3        | 2.3   |    |
| Service Time, $t_s$ (s)              | 4.65      | 4.10  |    | 4.02      | 3.31  |    | 5.51       |    |    | 5.19       | 3.99  |    |

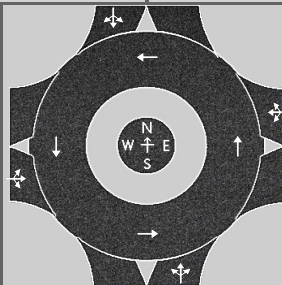
## Capacity, Delay and Level of Service

| Approach                                | Eastbound |      |    | Westbound |     |    | Northbound |    |    | Southbound |      |    |
|-----------------------------------------|-----------|------|----|-----------|-----|----|------------|----|----|------------|------|----|
| Lane                                    | L1        | L2   | L3 | L1        | L2  | L3 | L1         | L2 | L3 | L1         | L2   | L3 |
| Configuration                           | L         | TR   |    | LT        | R   |    | LTR        |    |    | LT         | R    |    |
| Flow Rate, v (veh/h)                    | 122       | 303  |    | 475       | 48  |    | 6          |    |    | 81         | 271  |    |
| Capacity (veh/h)                        | 518       | 563  |    | 569       | 641 |    | 479        |    |    | 481        | 572  |    |
| 95% Queue Length, Q <sub>95</sub> (veh) | 0.9       | 3.2  |    | 8.7       | 0.2 |    | 0.0        |    |    | 0.6        | 2.5  |    |
| 95% Queue Length, Q <sub>95</sub> (ft)  | 22.9      | 81.3 |    | 221.0     | 5.1 |    | 0.0        |    |    | 15.1       | 63.0 |    |
| Control Delay (s/veh)                   | 11.8      | 16.3 |    | 33.1      | 8.8 |    | 10.6       |    |    | 11.7       | 14.5 |    |
| Level of Service, LOS                   | B         | C    |    | D         | A   |    | B          |    |    | B          | B    |    |
| Approach Delay (s/veh)   LOS            | 15.0      |      | C  | 30.9      |     | D  | 10.6       |    | B  | 13.9       |      | B  |
| Intersection Delay (s/veh)   LOS        | 21.0      |      |    |           |     |    | C          |    |    |            |      |    |

# HCS Roundabouts Report

## General Information

|                     |                          |
|---------------------|--------------------------|
| Analyst             | tsj                      |
| Agency or Co.       | DGL Consulting Engineers |
| Date Performed      | 8/29/2024                |
| Analysis Year       | 2029                     |
| Time Analyzed       | AM Peak                  |
| Project Description | Build + Roundabout       |



## Site Information

|                           |                               |
|---------------------------|-------------------------------|
| Intersection              | Bainbridge Road & School D... |
| E/W Street Name           | Bainbridge Road               |
| N/S Street Name           | School Drive/W Point Drive    |
| Analysis Time Period, hrs | 0.25                          |
| Peak Hour Factor          | 0.75                          |
| Jurisdiction              | City of North Ridgeville      |

## Volume Adjustments and Site Characteristics

| Approach                            | EB   |     |     |   | WB   |   |     |     | NB   |   |     |   | SB   |    |     |     |
|-------------------------------------|------|-----|-----|---|------|---|-----|-----|------|---|-----|---|------|----|-----|-----|
| Movement                            | U    | L   | T   | R | U    | L | T   | R   | U    | L | T   | R | U    | L  | T   | R   |
| Number of Lanes (N)                 | 0    | 0   | 1   | 0 | 0    | 0 | 1   | 0   | 0    | 0 | 1   | 0 | 0    | 0  | 1   | 0   |
| Lane Assignment                     |      |     | LTR |   |      |   | LTR |     |      |   | LTR |   |      |    | LTR |     |
| Volume (V), veh/h                   | 0    | 328 | 489 | 5 | 0    | 0 | 216 | 183 | 0    | 4 | 0   | 0 | 0    | 45 | 1   | 292 |
| Percent Heavy Vehicles, %           | 2    | 2   | 2   | 2 | 3    | 3 | 3   | 3   | 0    | 0 | 0   | 0 | 0    | 0  | 0   | 0   |
| Flow Rate (V <sub>PCE</sub> ), pc/h | 0    | 446 | 665 | 7 | 0    | 0 | 297 | 251 | 0    | 5 | 0   | 0 | 0    | 60 | 1   | 389 |
| Right-Turn Bypass                   | None |     |     |   | None |   |     |     | None |   |     |   | None |    |     |     |
| Conflicting Lanes                   | 1    |     |     |   | 1    |   |     |     | 1    |   |     |   | 1    |    |     |     |
| Pedestrians Crossing, p/h           | 0    |     |     |   | 0    |   |     |     | 0    |   |     |   | 0    |    |     |     |
| Proportion of CAVs, %               | 0    |     |     |   |      |   |     |     |      |   |     |   |      |    |     |     |

## Critical and Follow-Up Headway Adjustment

| Approach             | EB   |        |        | WB   |        |        | NB   |        |        | SB   |        |        |
|----------------------|------|--------|--------|------|--------|--------|------|--------|--------|------|--------|--------|
| Lane                 | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right  | Bypass |
| Critical Headway, s  |      | 4.9763 |        |      | 4.9763 |        |      | 4.9763 |        |      | 4.9763 |        |
| Follow-Up Headway, s |      | 2.6087 |        |      | 2.6087 |        |      | 2.6087 |        |      | 2.6087 |        |

## Flow Computations, Capacity and v/c Ratios

| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Entry Flow ( $v_e$ ), pc/h       |      | 1118  |        |      | 548   |        |      | 5     |        |      | 450   |        |
| Entry Volume, veh/h              |      | 1096  |        |      | 532   |        |      | 5     |        |      | 450   |        |
| Circulating Flow ( $v_c$ ), pc/h | 61   |       |        | 451  |       |        | 1171 |       |        | 302  |       |        |
| Exiting Flow ( $v_{ex}$ ), pc/h  | 725  |       |        | 691  |       |        | 697  |       |        | 8    |       |        |
| Capacity ( $C_{pce}$ ), pc/h     |      | 1297  |        |      | 871   |        |      | 418   |        |      | 1014  |        |
| Capacity (c), veh/h              |      | 1271  |        |      | 846   |        |      | 418   |        |      | 1014  |        |
| v/c Ratio (x)                    |      | 0.86  |        |      | 0.63  |        |      | 0.01  |        |      | 0.44  |        |

## Delay and Level of Service

| Approach                                | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |     |  |   |  |
|-----------------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|-----|--|---|--|
| Lane                                    | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |     |  |   |  |
| Lane Control Delay (d), s/veh           |      | 21.5  |        |      | 14.3  |        |      | 8.8   |        |      | 8.6   |        |     |  |   |  |
| Lane LOS                                |      | C     |        |      | B     |        |      | A     |        |      | A     |        |     |  |   |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |      | 12.1  |        |      | 4.6   |        |      | 0.0   |        |      | 2.3   |        |     |  |   |  |
| 95% Queue Length, Q <sub>95</sub> (ft)  |      | 307.3 |        |      | 117.8 |        |      | 0.0   |        |      | 57.5  |        |     |  |   |  |
| Approach Delay, s/veh   LOS             | 21.5 |       | C      |      | 14.3  |        | B    |       | 8.8    |      | A     |        | 8.6 |  | A |  |
| Intersection Delay, s/veh   LOS         | 16.9 |       |        |      |       |        | C    |       |        |      |       |        |     |  |   |  |

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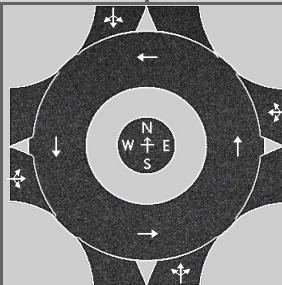




# HCS Roundabouts Report

## General Information

|                     |                          |
|---------------------|--------------------------|
| Analyst             | tsj                      |
| Agency or Co.       | DGL Consulting Engineers |
| Date Performed      | 8/29/2024                |
| Analysis Year       | 2029                     |
| Time Analyzed       | PM Peak                  |
| Project Description | Build + Roundabout       |



## Site Information

|                           |                               |
|---------------------------|-------------------------------|
| Intersection              | Bainbridge Road & School D... |
| E/W Street Name           | Bainbridge Road               |
| N/S Street Name           | School Drive/W Point Drive    |
| Analysis Time Period, hrs | 0.25                          |
| Peak Hour Factor          | 0.77                          |
| Jurisdiction              | City of North Ridgeville      |

## Volume Adjustments and Site Characteristics

| Approach                            | EB   |     |     |    | WB   |   |     |    | NB   |   |     |   | SB   |    |     |     |
|-------------------------------------|------|-----|-----|----|------|---|-----|----|------|---|-----|---|------|----|-----|-----|
| Movement                            | U    | L   | T   | R  | U    | L | T   | R  | U    | L | T   | R | U    | L  | T   | R   |
| Number of Lanes (N)                 | 0    | 0   | 1   | 0  | 0    | 0 | 1   | 0  | 0    | 0 | 1   | 0 | 0    | 0  | 1   | 0   |
| Lane Assignment                     |      |     | LTR |    |      |   | LTR |    |      |   | LTR |   |      |    | LTR |     |
| Volume (V), veh/h                   | 0    | 94  | 217 | 16 | 0    | 0 | 366 | 37 | 0    | 2 | 0   | 3 | 0    | 61 | 1   | 209 |
| Percent Heavy Vehicles, %           | 2    | 2   | 2   | 2  | 3    | 3 | 3   | 3  | 0    | 0 | 0   | 0 | 1    | 1  | 1   | 1   |
| Flow Rate (V <sub>PCE</sub> ), pc/h | 0    | 125 | 287 | 21 | 0    | 0 | 490 | 49 | 0    | 3 | 0   | 4 | 0    | 80 | 1   | 274 |
| Right-Turn Bypass                   | None |     |     |    | None |   |     |    | None |   |     |   | None |    |     |     |
| Conflicting Lanes                   | 1    |     |     |    | 1    |   |     |    | 1    |   |     |   | 1    |    |     |     |
| Pedestrians Crossing, p/h           | 0    |     |     |    | 0    |   |     |    | 0    |   |     |   | 0    |    |     |     |
| Proportion of CAVs, %               | 0    |     |     |    |      |   |     |    |      |   |     |   |      |    |     |     |

## Critical and Follow-Up Headway Adjustment

| Approach             | EB   |        |        | WB   |        |        | NB   |        |        | SB   |        |        |
|----------------------|------|--------|--------|------|--------|--------|------|--------|--------|------|--------|--------|
| Lane                 | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right  | Bypass |
| Critical Headway, s  |      | 4.9763 |        |      | 4.9763 |        |      | 4.9763 |        |      | 4.9763 |        |
| Follow-Up Headway, s |      | 2.6087 |        |      | 2.6087 |        |      | 2.6087 |        |      | 2.6087 |        |

## Flow Computations, Capacity and v/c Ratios

| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Entry Flow ( $v_e$ ), pc/h       |      | 433   |        |      | 539   |        |      | 7     |        |      | 355   |        |
| Entry Volume, veh/h              |      | 425   |        |      | 523   |        |      | 7     |        |      | 351   |        |
| Circulating Flow ( $v_c$ ), pc/h | 81   |       |        | 128  |       |        | 492  |       |        | 493  |       |        |
| Exiting Flow ( $v_{ex}$ ), pc/h  | 371  |       |        | 767  |       |        | 174  |       |        | 22   |       |        |
| Capacity ( $C_{pce}$ ), pc/h     |      | 1271  |        |      | 1211  |        |      | 835   |        |      | 835   |        |
| Capacity (c), veh/h              |      | 1246  |        |      | 1176  |        |      | 835   |        |      | 826   |        |
| v/c Ratio (x)                    |      | 0.34  |        |      | 0.45  |        |      | 0.01  |        |      | 0.43  |        |

## Delay and Level of Service

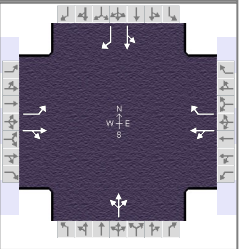
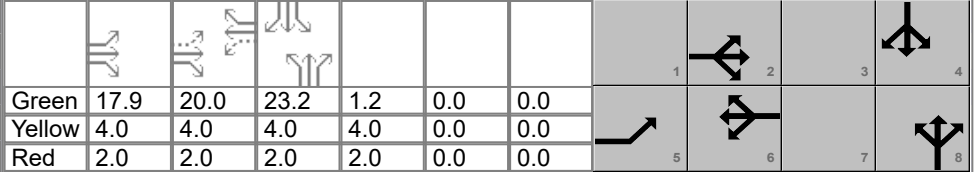
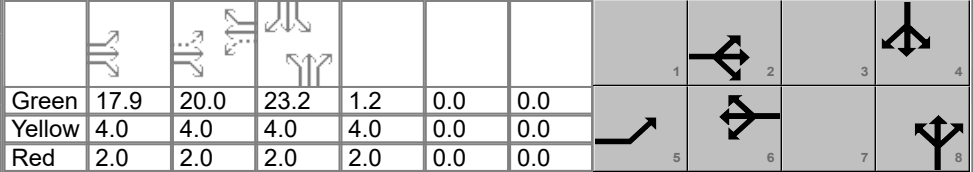
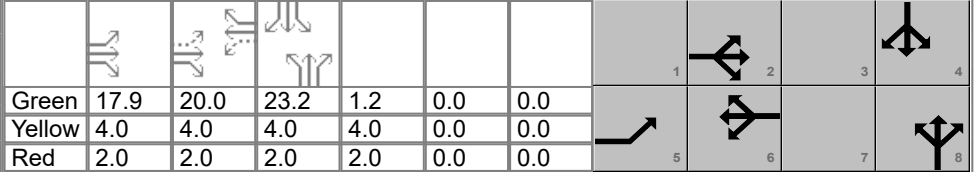
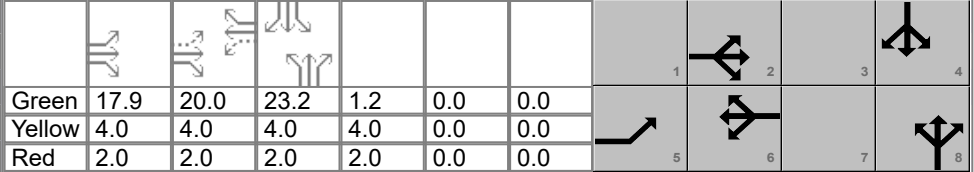
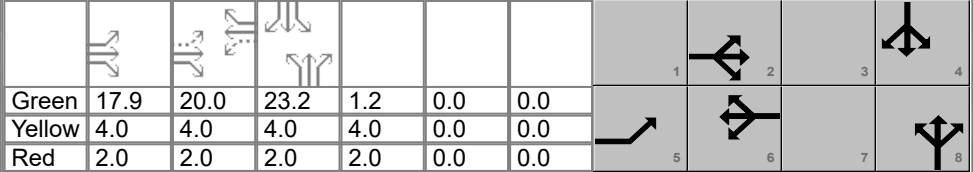
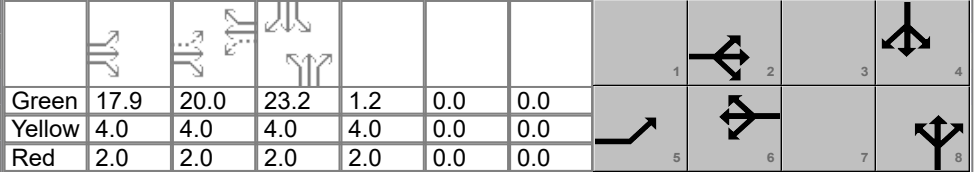
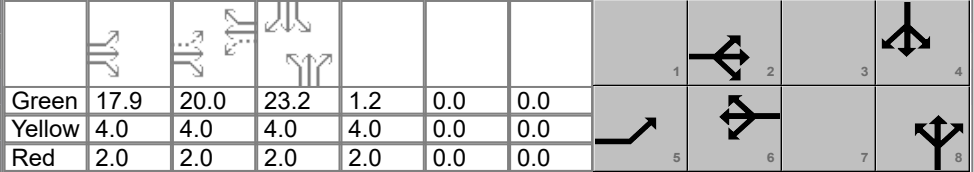
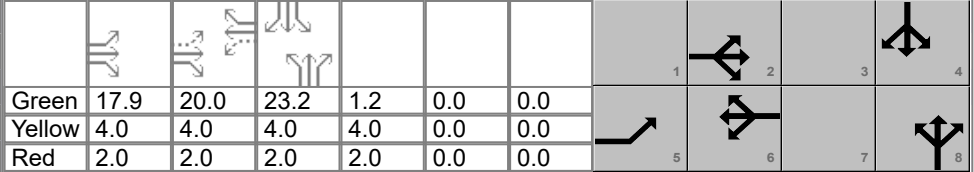
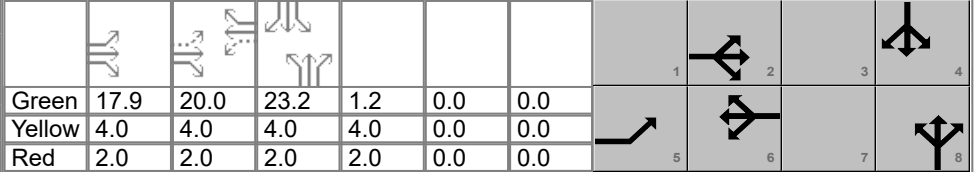
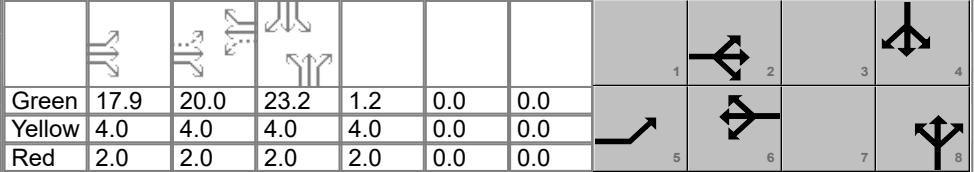
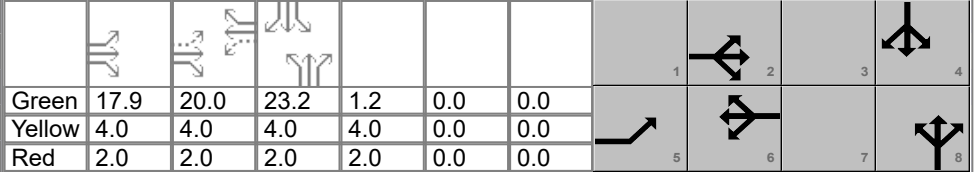
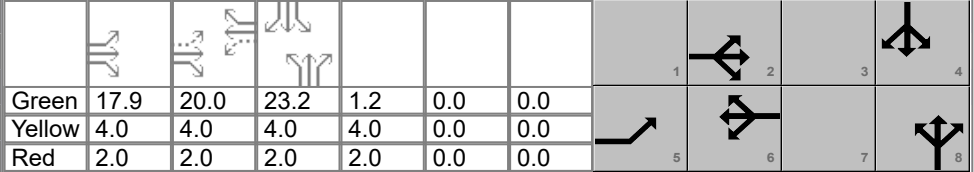
| Approach                                | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|-----------------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                                    | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Lane Control Delay (d), s/veh           |      | 6.1   |        |      | 7.7   |        |      | 4.4   |        |      | 9.7   |        |
| Lane LOS                                |      | A     |        |      | A     |        |      | A     |        |      | A     |        |
| 95% Queue Length, Q <sub>95</sub> (veh) |      | 1.5   |        |      | 2.3   |        |      | 0.0   |        |      | 2.1   |        |
| 95% Queue Length, Q <sub>95</sub> (ft)  |      | 38.1  |        |      | 58.9  |        |      | 0.0   |        |      | 52.9  |        |
| Approach Delay, s/veh   LOS             | 6.1  |       | A      |      | 7.7   |        | A    |       | 4.4    |      | A     |        |
| Intersection Delay, s/veh   LOS         | 7.7  |       |        |      |       |        | A    |       |        |      |       |        |

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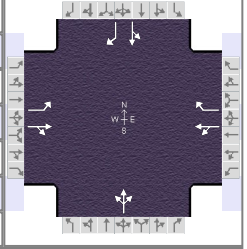


# HCS Signalized Intersection Results Summary

| General Information                             |                          |                 |               |                                                                                    |                                                                                    | Intersection Information                                                           |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |  |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
|-------------------------------------------------|--------------------------|-----------------|---------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------|--|------|--|
| Agency                                          | DGL                      |                 |               |                                                                                    |                                                                                    | Duration, h                                                                        | 0.250                                                                              |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
| Analyst                                         | tsj                      |                 | Analysis Date | Aug 29, 2024                                                                       |                                                                                    | Area Type                                                                          | Other                                                                              |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
| Jurisdiction                                    | City of North Ridgeville |                 | Time Period   | AM Peak                                                                            |                                                                                    | PHF                                                                                | 0.75                                                                               |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
| Urban Street                                    | Bainbridge Road          |                 | Analysis Year | 2029                                                                               |                                                                                    | Analysis Period                                                                    | 1> 7:00                                                                            |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
| Intersection                                    | Bainbridge Road & Sch... |                 | File Name     | 2029 Build Signal AM Peak Bainbridge and W Poi...                                  |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
| Project Description                             | Build + Improvement      |                 |               |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
| Demand Information                              |                          |                 |               | EB                                                                                 |                                                                                    |                                                                                    | WB                                                                                 |                                                                                    |                                                                                    | NB                                                                                 |                                                                                    |                                                                                     | SB                                                                                 |                                                                                    |                                                                                    |      |  |      |  |
| Approach Movement                               |                          |                 |               | L                                                                                  | T                                                                                  | R                                                                                  | L                                                                                  | T                                                                                  | R                                                                                  | L                                                                                  | T                                                                                  | R                                                                                   | L                                                                                  | T                                                                                  | R                                                                                  |      |  |      |  |
| Demand ( v ), veh/h                             |                          |                 |               | 328                                                                                | 489                                                                                | 5                                                                                  | 0                                                                                  | 216                                                                                | 183                                                                                | 4                                                                                  | 0                                                                                  | 0                                                                                   | 45                                                                                 | 1                                                                                  | 292                                                                                |      |  |      |  |
| Signal Information                              |                          |                 |               |  |  |  |  |  |  |  |  |   |  |  |  |      |  |      |  |
| Cycle, s                                        | 86.3                     | Reference Phase | 2             |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
| Offset, s                                       | 0                        | Reference Point | End           |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
| Uncoordinated                                   | Yes                      | Simult. Gap E/W | On            |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
| Force Mode                                      | Fixed                    | Simult. Gap N/S | On            |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
|                                                 |                          |                 |               | Green                                                                              | 17.9                                                                               | 20.0                                                                               | 23.2                                                                               | 1.2                                                                                | 0.0                                                                                | 0.0                                                                                |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
|                                                 |                          |                 |               | Yellow                                                                             | 4.0                                                                                | 4.0                                                                                | 4.0                                                                                | 4.0                                                                                | 0.0                                                                                | 0.0                                                                                |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
|                                                 |                          |                 |               | Red                                                                                | 2.0                                                                                | 2.0                                                                                | 2.0                                                                                | 2.0                                                                                | 0.0                                                                                | 0.0                                                                                |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
| Timer Results                                   |                          |                 |               | EBL                                                                                |                                                                                    | EBT                                                                                |                                                                                    | WBL                                                                                |                                                                                    | WBT                                                                                |                                                                                    | NBL                                                                                 |                                                                                    | NBT                                                                                |                                                                                    | SBL  |  | SBT  |  |
| Assigned Phase                                  |                          |                 |               | 5                                                                                  |                                                                                    | 2                                                                                  |                                                                                    |                                                                                    |                                                                                    | 6                                                                                  |                                                                                    |                                                                                     |                                                                                    | 8                                                                                  |                                                                                    |      |  | 4    |  |
| Case Number                                     |                          |                 |               | 1.0                                                                                |                                                                                    | 4.0                                                                                |                                                                                    |                                                                                    |                                                                                    | 7.3                                                                                |                                                                                    |                                                                                     |                                                                                    | 12.0                                                                               |                                                                                    |      |  | 11.0 |  |
| Phase Duration, s                               |                          |                 |               | 23.9                                                                               |                                                                                    | 49.9                                                                               |                                                                                    |                                                                                    |                                                                                    | 26.0                                                                               |                                                                                    |                                                                                     |                                                                                    | 7.2                                                                                |                                                                                    |      |  | 29.2 |  |
| Change Period, ( Y+R c ), s                     |                          |                 |               | 6.0                                                                                |                                                                                    | 6.0                                                                                |                                                                                    |                                                                                    |                                                                                    | 6.0                                                                                |                                                                                    |                                                                                     |                                                                                    | 6.0                                                                                |                                                                                    |      |  | 6.0  |  |
| Max Allow Headway ( MAH ), s                    |                          |                 |               | 3.1                                                                                |                                                                                    | 3.1                                                                                |                                                                                    |                                                                                    |                                                                                    | 3.1                                                                                |                                                                                    |                                                                                     |                                                                                    | 3.1                                                                                |                                                                                    |      |  | 3.3  |  |
| Queue Clearance Time ( g s ), s                 |                          |                 |               | 17.1                                                                               |                                                                                    | 25.1                                                                               |                                                                                    |                                                                                    |                                                                                    | 14.2                                                                               |                                                                                    |                                                                                     |                                                                                    | 2.3                                                                                |                                                                                    |      |  | 22.1 |  |
| Green Extension Time ( g e ), s                 |                          |                 |               | 0.8                                                                                |                                                                                    | 2.5                                                                                |                                                                                    |                                                                                    |                                                                                    | 2.2                                                                                |                                                                                    |                                                                                     |                                                                                    | 0.0                                                                                |                                                                                    |      |  | 1.0  |  |
| Phase Call Probability                          |                          |                 |               | 1.00                                                                               |                                                                                    | 1.00                                                                               |                                                                                    |                                                                                    |                                                                                    | 1.00                                                                               |                                                                                    |                                                                                     |                                                                                    | 0.12                                                                               |                                                                                    |      |  | 1.00 |  |
| Max Out Probability                             |                          |                 |               | 0.00                                                                               |                                                                                    | 0.00                                                                               |                                                                                    |                                                                                    |                                                                                    | 0.09                                                                               |                                                                                    |                                                                                     |                                                                                    | 0.00                                                                               |                                                                                    |      |  | 0.00 |  |
| Movement Group Results                          |                          |                 |               | EB                                                                                 |                                                                                    |                                                                                    | WB                                                                                 |                                                                                    |                                                                                    | NB                                                                                 |                                                                                    |                                                                                     | SB                                                                                 |                                                                                    |                                                                                    |      |  |      |  |
| Approach Movement                               |                          |                 |               | L                                                                                  | T                                                                                  | R                                                                                  | L                                                                                  | T                                                                                  | R                                                                                  | L                                                                                  | T                                                                                  | R                                                                                   | L                                                                                  | T                                                                                  | R                                                                                  |      |  |      |  |
| Assigned Movement                               |                          |                 |               | 5                                                                                  | 2                                                                                  | 12                                                                                 | 1                                                                                  | 6                                                                                  | 16                                                                                 | 3                                                                                  | 8                                                                                  | 18                                                                                  | 7                                                                                  | 4                                                                                  | 14                                                                                 |      |  |      |  |
| Adjusted Flow Rate ( v ), veh/h                 |                          |                 |               | 437                                                                                | 659                                                                                |                                                                                    |                                                                                    | 0                                                                                  | 244                                                                                |                                                                                    | 5                                                                                  |                                                                                     |                                                                                    | 61                                                                                 | 389                                                                                |      |  |      |  |
| Adjusted Saturation Flow Rate ( s ), veh/h/ln   |                          |                 |               | 1781                                                                               | 1867                                                                               |                                                                                    |                                                                                    | 0                                                                                  | 1572                                                                               |                                                                                    | 1810                                                                               |                                                                                     |                                                                                    | 1811                                                                               | 1610                                                                               |      |  |      |  |
| Queue Service Time ( g s ), s                   |                          |                 |               | 15.1                                                                               | 23.1                                                                               |                                                                                    |                                                                                    | 0.0                                                                                | 12.2                                                                               |                                                                                    | 0.3                                                                                |                                                                                     |                                                                                    | 2.2                                                                                | 20.1                                                                               |      |  |      |  |
| Cycle Queue Clearance Time ( g c ), s           |                          |                 |               | 15.1                                                                               | 23.1                                                                               |                                                                                    |                                                                                    | 0.0                                                                                | 12.2                                                                               |                                                                                    | 0.3                                                                                |                                                                                     |                                                                                    | 2.2                                                                                | 20.1                                                                               |      |  |      |  |
| Green Ratio ( g/C )                             |                          |                 |               | 0.46                                                                               | 0.51                                                                               |                                                                                    |                                                                                    |                                                                                    | 0.23                                                                               |                                                                                    | 0.01                                                                               |                                                                                     |                                                                                    | 0.27                                                                               | 0.27                                                                               |      |  |      |  |
| Capacity ( c ), veh/h                           |                          |                 |               | 552                                                                                | 950                                                                                |                                                                                    |                                                                                    |                                                                                    | 364                                                                                |                                                                                    | 25                                                                                 |                                                                                     |                                                                                    | 487                                                                                | 432                                                                                |      |  |      |  |
| Volume-to-Capacity Ratio ( X )                  |                          |                 |               | 0.793                                                                              | 0.693                                                                              |                                                                                    |                                                                                    | 0.000                                                                              | 0.670                                                                              |                                                                                    | 0.211                                                                              |                                                                                     |                                                                                    | 0.126                                                                              | 0.900                                                                              |      |  |      |  |
| Back of Queue ( Q ), ft/ln ( 95 th percentile)  |                          |                 |               | 249                                                                                | 352                                                                                |                                                                                    |                                                                                    | 0                                                                                  | 206                                                                                |                                                                                    | 5                                                                                  |                                                                                     |                                                                                    | 42                                                                                 | 308                                                                                |      |  |      |  |
| Back of Queue ( Q ), veh/ln ( 95 th percentile) |                          |                 |               | 9.8                                                                                | 13.9                                                                               |                                                                                    |                                                                                    | 0.0                                                                                | 8.0                                                                                |                                                                                    | 0.2                                                                                |                                                                                     |                                                                                    | 1.7                                                                                | 12.3                                                                               |      |  |      |  |
| Queue Storage Ratio ( RQ ) ( 95 th percentile)  |                          |                 |               | 1.08                                                                               | 0.00                                                                               |                                                                                    |                                                                                    | 0.00                                                                               | 1.03                                                                               |                                                                                    | 0.00                                                                               |                                                                                     |                                                                                    | 0.00                                                                               | 2.20                                                                               |      |  |      |  |
| Uniform Delay ( d 1 ), s/veh                    |                          |                 |               | 18.5                                                                               | 16.1                                                                               |                                                                                    |                                                                                    |                                                                                    | 30.2                                                                               |                                                                                    | 42.1                                                                               |                                                                                     |                                                                                    | 23.9                                                                               | 30.5                                                                               |      |  |      |  |
| Incremental Delay ( d 2 ), s/veh                |                          |                 |               | 1.2                                                                                | 0.5                                                                                |                                                                                    |                                                                                    | 0.0                                                                                | 1.1                                                                                |                                                                                    | 1.5                                                                                |                                                                                     |                                                                                    | 0.0                                                                                | 2.8                                                                                |      |  |      |  |
| Initial Queue Delay ( d 3 ), s/veh              |                          |                 |               | 0.0                                                                                | 0.0                                                                                |                                                                                    |                                                                                    | 0.0                                                                                | 0.0                                                                                |                                                                                    | 0.0                                                                                |                                                                                     |                                                                                    | 0.0                                                                                | 0.0                                                                                |      |  |      |  |
| Control Delay ( d ), s/veh                      |                          |                 |               | 19.6                                                                               | 16.6                                                                               |                                                                                    |                                                                                    |                                                                                    | 31.3                                                                               |                                                                                    | 43.6                                                                               |                                                                                     |                                                                                    | 24.0                                                                               | 33.3                                                                               |      |  |      |  |
| Level of Service (LOS)                          |                          |                 |               | B                                                                                  | B                                                                                  |                                                                                    |                                                                                    |                                                                                    | C                                                                                  |                                                                                    | D                                                                                  |                                                                                     |                                                                                    | C                                                                                  | C                                                                                  |      |  |      |  |
| Approach Delay, s/veh / LOS                     |                          |                 |               | 17.8                                                                               |                                                                                    | B                                                                                  |                                                                                    | 31.2                                                                               |                                                                                    | C                                                                                  |                                                                                    | 43.6                                                                                |                                                                                    | D                                                                                  |                                                                                    | 32.0 |  | C    |  |
| Intersection Delay, s/veh / LOS                 |                          |                 |               | 24.4                                                                               |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    | C                                                                                  |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
| Multimodal Results                              |                          |                 |               | EB                                                                                 |                                                                                    |                                                                                    | WB                                                                                 |                                                                                    |                                                                                    | NB                                                                                 |                                                                                    |                                                                                     | SB                                                                                 |                                                                                    |                                                                                    |      |  |      |  |
| Pedestrian LOS Score / LOS                      |                          |                 |               | 1.67                                                                               |                                                                                    | B                                                                                  |                                                                                    | 1.93                                                                               |                                                                                    | B                                                                                  |                                                                                    | 1.95                                                                                |                                                                                    | B                                                                                  |                                                                                    | 1.95 |  | B    |  |
| Bicycle LOS Score / LOS                         |                          |                 |               | 2.30                                                                               |                                                                                    | B                                                                                  |                                                                                    | 1.37                                                                               |                                                                                    | A                                                                                  |                                                                                    | 0.50                                                                                |                                                                                    | A                                                                                  |                                                                                    | 1.23 |  | A    |  |

# HCS Signalized Intersection Results Summary

| General Information |                          |               |                                                   | Intersection Information |         |
|---------------------|--------------------------|---------------|---------------------------------------------------|--------------------------|---------|
| Agency              | DGL                      |               |                                                   | Duration, h              | 0.250   |
| Analyst             | tsj                      | Analysis Date | Aug 29, 2024                                      | Area Type                | Other   |
| Jurisdiction        | City of North Ridgeville | Time Period   | PM Peak                                           | PHF                      | 0.77    |
| Urban Street        | Bainbridge Road          | Analysis Year | 2029                                              | Analysis Period          | 1> 7:00 |
| Intersection        | Bainbridge Road & Sch... | File Name     | 2029 Build Signal PM Peak Bainbridge and W Poi... |                          |         |
| Project Description | Build + Improvement      |               |                                                   |                          |         |



| Demand Information    | EB |     |    | WB |     |    | NB |   |   | SB |   |     |
|-----------------------|----|-----|----|----|-----|----|----|---|---|----|---|-----|
| Approach Movement     | L  | T   | R  | L  | T   | R  | L  | T | R | L  | T | R   |
| Demand ( $v$ ), veh/h | 94 | 217 | 16 | 0  | 366 | 37 | 2  | 0 | 3 | 61 | 1 | 209 |

| Signal Information |       |                 |     |  |  |  |  |  |  |  |  |
|--------------------|-------|-----------------|-----|--|--|--|--|--|--|--|--|
| Cycle, s           | 63.7  | Reference Phase | 2   |  |  |  |  |  |  |  |  |
| Offset, s          | 0     | Reference Point | End |  |  |  |  |  |  |  |  |
| Uncoordinated      | Yes   | Simult. Gap E/W | On  |  |  |  |  |  |  |  |  |
| Force Mode         | Fixed | Simult. Gap N/S | On  |  |  |  |  |  |  |  |  |

| Timer Results                     | EBL  | EBT  | WBL | WBT  | NBL | NBT  | SBL | SBT  |
|-----------------------------------|------|------|-----|------|-----|------|-----|------|
| Assigned Phase                    | 5    | 2    |     | 6    |     | 8    |     | 4    |
| Case Number                       | 1.0  | 4.0  |     | 7.3  |     | 12.0 |     | 11.0 |
| Phase Duration, s                 | 12.2 | 37.7 |     | 25.5 |     | 7.1  |     | 19.0 |
| Change Period, ( $Y+R_c$ ), s     | 6.0  | 6.0  |     | 6.0  |     | 6.0  |     | 6.0  |
| Max Allow Headway ( $MAH$ ), s    | 3.1  | 3.1  |     | 3.1  |     | 3.3  |     | 3.3  |
| Queue Clearance Time ( $g_s$ ), s | 4.7  | 8.3  |     | 17.1 |     | 2.2  |     | 12.4 |
| Green Extension Time ( $g_e$ ), s | 0.0  | 1.4  |     | 0.9  |     | 0.0  |     | 0.6  |
| Phase Call Probability            | 0.88 | 1.00 |     | 1.00 |     | 0.11 |     | 1.00 |
| Max Out Probability               | 1.00 | 0.03 |     | 0.01 |     | 0.00 |     | 0.01 |

| Movement Group Results                            | EB    |       |    | WB   |       |       | NB   |       |    | SB   |       |       |
|---------------------------------------------------|-------|-------|----|------|-------|-------|------|-------|----|------|-------|-------|
| Approach Movement                                 | L     | T     | R  | L    | T     | R     | L    | T     | R  | L    | T     | R     |
| Assigned Movement                                 | 5     | 2     | 12 | 1    | 6     | 16    | 3    | 8     | 18 | 7    | 4     | 14    |
| Adjusted Flow Rate ( $v$ ), veh/h                 | 122   | 303   |    |      | 0     | 48    |      | 6     |    |      | 81    | 271   |
| Adjusted Saturation Flow Rate ( $s$ ), veh/h/ln   | 1781  | 1848  |    |      | 0     | 1585  |      | 1684  |    |      | 1797  | 1598  |
| Queue Service Time ( $g_s$ ), s                   | 2.7   | 6.3   |    |      | 0.0   | 1.4   |      | 0.2   |    |      | 2.4   | 10.4  |
| Cycle Queue Clearance Time ( $g_c$ ), s           | 2.7   | 6.3   |    |      | 0.0   | 1.4   |      | 0.2   |    |      | 2.4   | 10.4  |
| Green Ratio ( $g/C$ )                             | 0.43  | 0.50  |    |      |       | 0.31  |      | 0.02  |    |      | 0.20  | 0.20  |
| Capacity ( $c$ ), veh/h                           | 349   | 918   |    |      |       | 484   |      | 29    |    |      | 366   | 325   |
| Volume-to-Capacity Ratio ( $X$ )                  | 0.350 | 0.330 |    |      | 0.000 | 0.099 |      | 0.226 |    |      | 0.220 | 0.835 |
| Back of Queue ( $Q$ ), ft/ln ( 95 th percentile)  | 42    | 97    |    |      | 0     | 21    |      | 5     |    |      | 42    | 172   |
| Back of Queue ( $Q$ ), veh/ln ( 95 th percentile) | 1.7   | 3.8   |    |      | 0.0   | 0.8   |      | 0.2   |    |      | 1.7   | 6.8   |
| Queue Storage Ratio ( $RQ$ ) ( 95 th percentile)  | 0.18  | 0.00  |    |      | 0.00  | 0.11  |      | 0.00  |    |      | 0.00  | 1.23  |
| Uniform Delay ( $d_1$ ), s/veh                    | 13.6  | 9.6   |    |      |       | 15.8  |      | 30.9  |    |      | 21.2  | 24.4  |
| Incremental Delay ( $d_2$ ), s/veh                | 0.2   | 0.1   |    |      | 0.0   | 0.0   |      | 1.5   |    |      | 0.1   | 2.2   |
| Initial Queue Delay ( $d_3$ ), s/veh              | 0.0   | 0.0   |    |      | 0.0   | 0.0   |      | 0.0   |    |      | 0.0   | 0.0   |
| Control Delay ( $d$ ), s/veh                      | 13.8  | 9.7   |    |      |       | 15.9  |      | 32.4  |    |      | 21.3  | 26.5  |
| Level of Service (LOS)                            | B     | A     |    |      |       | B     |      | C     |    |      | C     | C     |
| Approach Delay, s/veh / LOS                       | 10.9  | B     |    | 21.4 | C     |       | 32.4 | C     |    | 25.3 | C     |       |
| Intersection Delay, s/veh / LOS                   | 19.1  |       |    |      |       |       | B    |       |    |      |       |       |

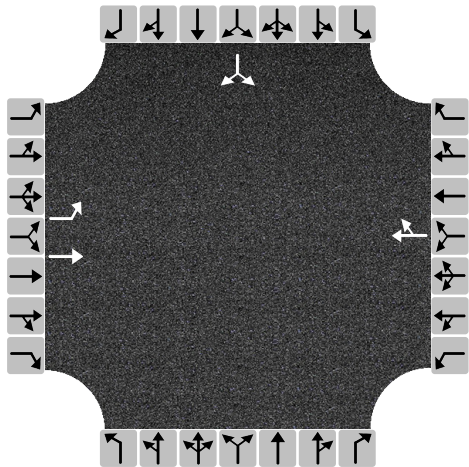
| Multimodal Results         | EB   |   |  | WB   |   |  | NB   |   |  | SB   |   |  |
|----------------------------|------|---|--|------|---|--|------|---|--|------|---|--|
| Pedestrian LOS Score / LOS | 1.66 | B |  | 1.91 | B |  | 1.94 | B |  | 1.93 | B |  |
| Bicycle LOS Score / LOS    | 1.19 | A |  | 1.35 | A |  | 0.50 | A |  | 1.07 | A |  |

HCS All-Way Stop Control Report

General and Site Information

|                            |                               |
|----------------------------|-------------------------------|
| Analyst                    | tsj                           |
| Agency/Co.                 | DGL Consulting Engineers      |
| Date Performed             | 11/7/2024                     |
| Analysis Year              | 2029                          |
| Analysis Time Period (hrs) | 0.25                          |
| Time Analyzed              | AM Peak                       |
| Project Description        | Build                         |
| Intersection               | Bainbridge Road & Prop. Drive |
| Jurisdiction               | City of North Ridgeville      |
| East/West Street           | Bainbridge Road               |
| North/South Street         | Repurposed Drive              |
| Peak Hour Factor           | 0.77                          |

Lanes



Turning Movement Demand Volumes

| Approach               | Eastbound |     |   | Westbound |     |    | Northbound |   |   | Southbound |   |     |
|------------------------|-----------|-----|---|-----------|-----|----|------------|---|---|------------|---|-----|
| Movement               | L         | T   | R | L         | T   | R  | L          | T | R | L          | T | R   |
| Volume (veh/h)         | 310       | 248 |   |           | 274 | 52 |            |   |   | 34         |   | 125 |
| % Thrus in Shared Lane |           |     |   |           |     |    |            |   |   |            |   |     |

Lane Flow Rate and Adjustments

| Approach                             | Eastbound |       |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|--------------------------------------|-----------|-------|----|-----------|----|----|------------|----|----|------------|----|----|
| Lane                                 | L1        | L2    | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration                        | L         | T     |    | TR        |    |    |            |    |    | LR         |    |    |
| Flow Rate, $v$ (veh/h)               | 403       | 322   |    | 423       |    |    |            |    |    | 206        |    |    |
| Percent Heavy Vehicles               | 2         | 2     |    | 3         |    |    |            |    |    | 3          |    |    |
| Initial Departure Headway, $h_d$ (s) | 3.20      | 3.20  |    | 3.20      |    |    |            |    |    | 3.20       |    |    |
| Initial Degree of Utilization, $x$   | 0.358     | 0.286 |    | 0.376     |    |    |            |    |    | 0.184      |    |    |
| Final Departure Headway, $h_d$ (s)   | 6.22      | 5.71  |    | 5.45      |    |    |            |    |    | 6.00       |    |    |
| Final Degree of Utilization, $x$     | 0.695     | 0.511 |    | 0.641     |    |    |            |    |    | 0.344      |    |    |
| Move-Up Time, $m$ (s)                | 2.3       | 2.3   |    | 2.0       |    |    |            |    |    | 2.0        |    |    |
| Service Time, $t_s$ (s)              | 3.92      | 3.41  |    | 3.45      |    |    |            |    |    | 4.00       |    |    |

Capacity, Delay and Level of Service

| Approach                                | Eastbound |      |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|-----------------------------------------|-----------|------|----|-----------|----|----|------------|----|----|------------|----|----|
| Lane                                    | L1        | L2   | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration                           | L         | T    |    | TR        |    |    |            |    |    | LR         |    |    |
| Flow Rate, v (veh/h)                    | 403       | 322  |    | 423       |    |    |            |    |    | 206        |    |    |
| Capacity (veh/h)                        | 579       | 630  |    | 660       |    |    |            |    |    | 600        |    |    |
| 95% Queue Length, Q <sub>95</sub> (veh) | 5.5       | 2.9  |    | 4.6       |    |    |            |    |    | 1.5        |    |    |
| 95% Queue Length, Q <sub>95</sub> (ft)  | 139.7     | 73.7 |    | 117.8     |    |    |            |    |    | 38.4       |    |    |
| Control Delay (s/veh)                   | 21.9      | 14.2 |    | 17.7      |    |    |            |    |    | 12.1       |    |    |
| Level of Service, LOS                   | C         | B    |    | C         |    |    |            |    |    | B          |    |    |
| Approach Delay (s/veh)   LOS            | 18.5      |      | C  | 17.7      |    | C  |            |    |    | 12.1       |    | B  |
| Intersection Delay (s/veh)   LOS        | 17.3      |      |    |           |    |    | C          |    |    |            |    |    |

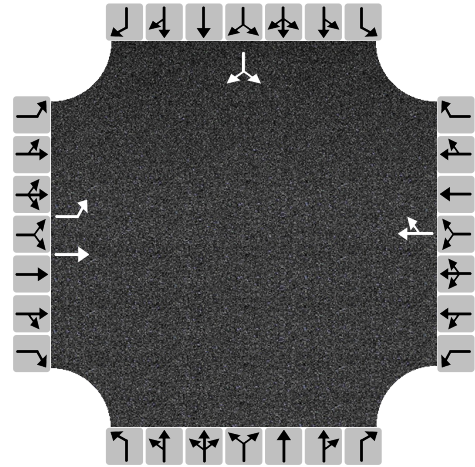


# HCS All-Way Stop Control Report

## General and Site Information

|                            |                               |
|----------------------------|-------------------------------|
| Analyst                    | tsj                           |
| Agency/Co.                 | DGL Consulting Engineers      |
| Date Performed             | 11/7/2024                     |
| Analysis Year              | 2029                          |
| Analysis Time Period (hrs) | 0.25                          |
| Time Analyzed              | PM Peak                       |
| Project Description        | Build                         |
| Intersection               | Bainbridge Road & Prop. Drive |
| Jurisdiction               | City of North Ridgeville      |
| East/West Street           | Bainbridge Road               |
| North/South Street         | Repurposed Drive              |
| Peak Hour Factor           | 0.73                          |

## Lanes



## Turning Movement Demand Volumes

| Approach               | Eastbound |     |   | Westbound |     |    | Northbound |   |   | Southbound |   |     |
|------------------------|-----------|-----|---|-----------|-----|----|------------|---|---|------------|---|-----|
| Movement               | L         | T   | R | L         | T   | R  | L          | T | R | L          | T | R   |
| Volume (veh/h)         | 55        | 263 |   |           | 244 | 25 |            |   |   | 88         |   | 159 |
| % Thrus in Shared Lane |           |     |   |           |     |    |            |   |   |            |   |     |

## Lane Flow Rate and Adjustments

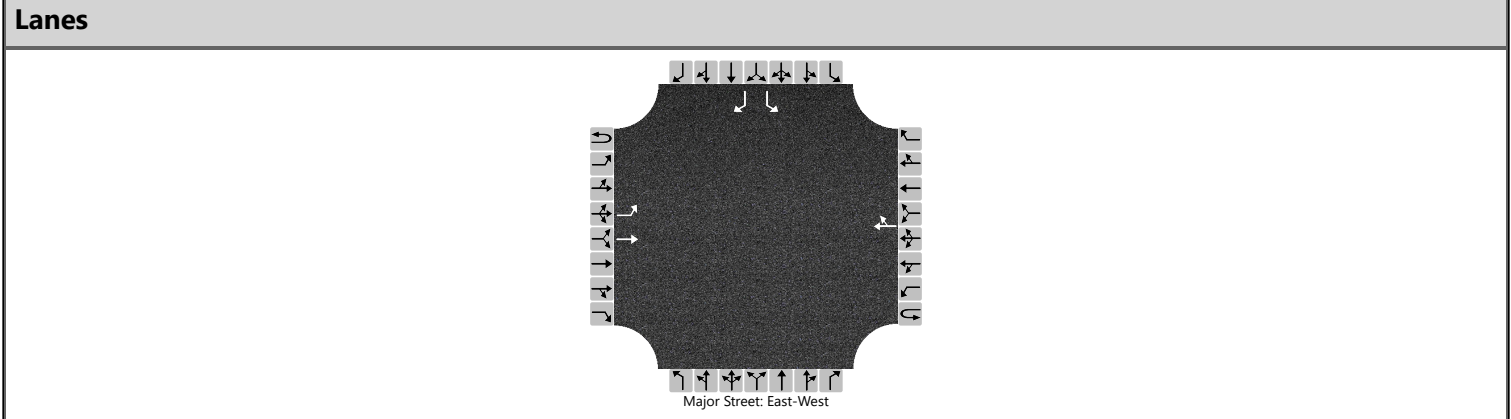
| Approach                             | Eastbound |       |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|--------------------------------------|-----------|-------|----|-----------|----|----|------------|----|----|------------|----|----|
| Lane                                 | L1        | L2    | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration                        | L         | T     |    | TR        |    |    |            |    |    | LR         |    |    |
| Flow Rate, $v$ (veh/h)               | 75        | 360   |    | 368       |    |    |            |    |    | 338        |    |    |
| Percent Heavy Vehicles               | 3         | 3     |    | 3         |    |    |            |    |    | 3          |    |    |
| Initial Departure Headway, $h_d$ (s) | 3.20      | 3.20  |    | 3.20      |    |    |            |    |    | 3.20       |    |    |
| Initial Degree of Utilization, $x$   | 0.067     | 0.320 |    | 0.328     |    |    |            |    |    | 0.301      |    |    |
| Final Departure Headway, $h_d$ (s)   | 6.66      | 6.16  |    | 5.77      |    |    |            |    |    | 5.76       |    |    |
| Final Degree of Utilization, $x$     | 0.139     | 0.616 |    | 0.590     |    |    |            |    |    | 0.541      |    |    |
| Move-Up Time, $m$ (s)                | 2.3       | 2.3   |    | 2.0       |    |    |            |    |    | 2.0        |    |    |
| Service Time, $t_s$ (s)              | 4.36      | 3.86  |    | 3.77      |    |    |            |    |    | 3.76       |    |    |

## Capacity, Delay and Level of Service

| Approach                                | Eastbound |       |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|-----------------------------------------|-----------|-------|----|-----------|----|----|------------|----|----|------------|----|----|
| Lane                                    | L1        | L2    | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration                           | L         | T     |    | TR        |    |    |            |    |    | LR         |    |    |
| Flow Rate, v (veh/h)                    | 75        | 360   |    | 368       |    |    |            |    |    | 338        |    |    |
| Capacity (veh/h)                        | 540       | 585   |    | 624       |    |    |            |    |    | 625        |    |    |
| 95% Queue Length, Q <sub>95</sub> (veh) | 0.5       | 4.2   |    | 3.9       |    |    |            |    |    | 3.2        |    |    |
| 95% Queue Length, Q <sub>95</sub> (ft)  | 12.8      | 107.5 |    | 99.8      |    |    |            |    |    | 81.9       |    |    |
| Control Delay (s/veh)                   | 10.4      | 18.2  |    | 16.7      |    |    |            |    |    | 15.3       |    |    |
| Level of Service, LOS                   | B         | C     |    | C         |    |    |            |    |    | C          |    |    |
| Approach Delay (s/veh)   LOS            | 16.9      |       | C  | 16.7      |    | C  |            |    |    | 15.3       |    | C  |
| Intersection Delay (s/veh)   LOS        | 16.4      |       |    |           |    |    | C          |    |    |            |    |    |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                               |
|--------------------------|--------------------------|----------------------------|-------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Prop. Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville      |
| Date Performed           | 8/21/2024                | East/West Street           | Bainbridge Road               |
| Analysis Year            | 2029                     | North/South Street         | Repurposed Drive              |
| Time Analyzed            | AM Peak                  | Peak Hour Factor           | 0.77                          |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                          |
| Project Description      | Build                    |                            |                               |



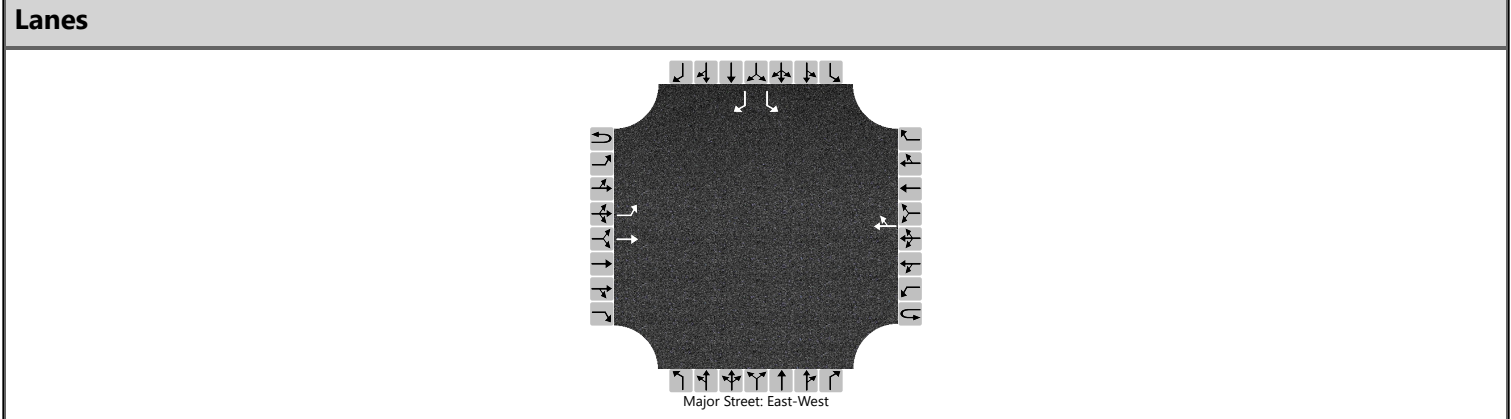
| Vehicle Volumes and Adjustments |           |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|-----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |     |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L   | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1   | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1   | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 1  | 0  | 1   |
| Configuration                   |           | L   | T   |   |           |   |     | TR |            |   |   |   |            | L  |    | R   |
| Volume (veh/h)                  |           | 310 | 248 |   |           |   | 274 | 52 |            |   |   |   |            | 34 |    | 125 |
| Percent Heavy Vehicles (%)      |           | 3   |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked         |           |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |     |     |   |           |   |     |    |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |     |     |   |           |   |     |    |            |   |   |   | No         |    |    |     |
| Median Type   Storage           | Undivided |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.43 |  | 6.23 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 403  |  |  |  |  |  |  |  |  |  |  |      | 44   |  | 162  |
| Capacity, c (veh/h)                       |     | 1131 |  |  |  |  |  |  |  |  |  |  |      | 84   |  | 657  |
| v/c Ratio                                 |     | 0.36 |  |  |  |  |  |  |  |  |  |  |      | 0.53 |  | 0.25 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 1.6  |  |  |  |  |  |  |  |  |  |  |      | 2.3  |  | 1.0  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 41.0 |  |  |  |  |  |  |  |  |  |  |      | 58.9 |  | 25.6 |
| Control Delay (s/veh)                     |     | 9.9  |  |  |  |  |  |  |  |  |  |  |      | 87.8 |  | 12.3 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |      | F    |  | B    |
| Approach Delay (s/veh)                    | 5.5 |      |  |  |  |  |  |  |  |  |  |  | 28.4 |      |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | D    |      |  |      |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                               |
|--------------------------|--------------------------|----------------------------|-------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Prop. Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville      |
| Date Performed           | 8/21/2024                | East/West Street           | Bainbridge Road               |
| Analysis Year            | 2029                     | North/South Street         | Repurposed Drive              |
| Time Analyzed            | PM Peak                  | Peak Hour Factor           | 0.73                          |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                          |
| Project Description      | Build                    |                            |                               |



| Vehicle Volumes and Adjustments |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 1  | 0  | 1   |
| Configuration                   |           | L  | T   |   |           |   |     | TR |            |   |   |   |            | L  |    | R   |
| Volume (veh/h)                  |           | 55 | 263 |   |           |   | 244 | 25 |            |   |   |   |            | 88 |    | 159 |
| Percent Heavy Vehicles (%)      |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked         |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |    |     |   |           |   |     |    |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |    |     |   |           |   |     |    |            |   |   |   | No         |    |    |     |
| Median Type   Storage           | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.43 |  | 6.23 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

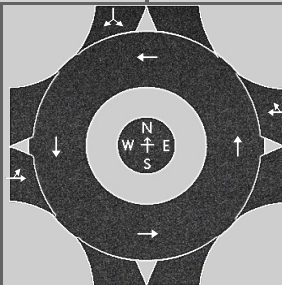
| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 75   |  |  |  |  |  |  |  |  |  |  |      | 121  |  | 218  |
| Capacity, c (veh/h)                       |     | 1185 |  |  |  |  |  |  |  |  |  |  |      | 303  |  | 690  |
| v/c Ratio                                 |     | 0.06 |  |  |  |  |  |  |  |  |  |  |      | 0.40 |  | 0.32 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.2  |  |  |  |  |  |  |  |  |  |  |      | 1.8  |  | 1.4  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 5.1  |  |  |  |  |  |  |  |  |  |  |      | 46.1 |  | 35.8 |
| Control Delay (s/veh)                     |     | 8.2  |  |  |  |  |  |  |  |  |  |  |      | 24.5 |  | 12.6 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |      | C    |  | B    |
| Approach Delay (s/veh)                    | 1.4 |      |  |  |  |  |  |  |  |  |  |  | 16.8 |      |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | C    |      |  |      |



# HCS Roundabouts Report

## General Information

|                     |                          |
|---------------------|--------------------------|
| Analyst             | tsj                      |
| Agency or Co.       | DGL Consulting Engineers |
| Date Performed      | 11/7/2024                |
| Analysis Year       | 2029                     |
| Time Analyzed       | AM Peak Hour             |
| Project Description | Build                    |



## Site Information

|                           |                                |
|---------------------------|--------------------------------|
| Intersection              | Bainbridge Road & Prop. Dri... |
| E/W Street Name           | Bainbridge Road                |
| N/S Street Name           | Repurposed Drive               |
| Analysis Time Period, hrs | 0.25                           |
| Peak Hour Factor          | 0.77                           |
| Jurisdiction              | City of North Ridgeville       |

## Volume Adjustments and Site Characteristics

| Approach                            | EB   |     |     |   | WB   |   |     |    | NB   |   |   |   | SB   |    |    |     |
|-------------------------------------|------|-----|-----|---|------|---|-----|----|------|---|---|---|------|----|----|-----|
| Movement                            | U    | L   | T   | R | U    | L | T   | R  | U    | L | T | R | U    | L  | T  | R   |
| Number of Lanes (N)                 | 0    | 0   | 1   | 0 | 0    | 0 | 1   | 0  | 0    | 0 | 0 | 0 | 0    | 0  | 1  | 0   |
| Lane Assignment                     |      |     | LT  |   |      |   | TR  |    |      |   |   |   |      |    | LR |     |
| Volume (V), veh/h                   | 0    | 310 | 248 |   | 0    |   | 274 | 52 |      |   |   |   | 0    | 34 |    | 125 |
| Percent Heavy Vehicles, %           | 3    | 2   | 2   |   | 3    |   | 3   | 3  |      |   |   |   | 3    | 3  |    | 3   |
| Flow Rate (V <sub>PCE</sub> ), pc/h | 0    | 411 | 329 |   | 0    |   | 367 | 70 |      |   |   |   | 0    | 45 |    | 167 |
| Right-Turn Bypass                   | None |     |     |   | None |   |     |    | None |   |   |   | None |    |    |     |
| Conflicting Lanes                   | 1    |     |     |   | 1    |   |     |    |      |   |   |   | 1    |    |    |     |
| Pedestrians Crossing, p/h           | 0    |     |     |   | 0    |   |     |    |      |   |   |   | 0    |    |    |     |
| Proportion of CAVs, %               | 0    |     |     |   |      |   |     |    |      |   |   |   |      |    |    |     |

## Critical and Follow-Up Headway Adjustment

| Approach             | EB   |        |        | WB   |        |        | NB   |       |        | SB   |        |        |
|----------------------|------|--------|--------|------|--------|--------|------|-------|--------|------|--------|--------|
| Lane                 | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right | Bypass | Left | Right  | Bypass |
| Critical Headway, s  |      | 4.9763 |        |      | 4.9763 |        |      |       |        |      | 4.9763 |        |
| Follow-Up Headway, s |      | 2.6087 |        |      | 2.6087 |        |      |       |        |      | 2.6087 |        |

## Flow Computations, Capacity and v/c Ratios

| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Entry Flow ( $v_e$ ), pc/h       |      | 740   |        |      | 437   |        |      |       |        |      | 212   |        |
| Entry Volume, veh/h              |      | 725   |        |      | 424   |        |      |       |        |      | 206   |        |
| Circulating Flow ( $v_c$ ), pc/h | 45   |       |        | 411  |       |        | 785  |       |        | 367  |       |        |
| Exiting Flow ( $v_{ex}$ ), pc/h  | 374  |       |        | 534  |       |        | 481  |       |        | 0    |       |        |
| Capacity ( $C_{pce}$ ), pc/h     |      | 1318  |        |      | 907   |        |      |       |        |      | 949   |        |
| Capacity (c), veh/h              |      | 1292  |        |      | 881   |        |      |       |        |      | 921   |        |
| v/c Ratio (x)                    |      | 0.56  |        |      | 0.48  |        |      |       |        |      | 0.22  |        |

## Delay and Level of Service

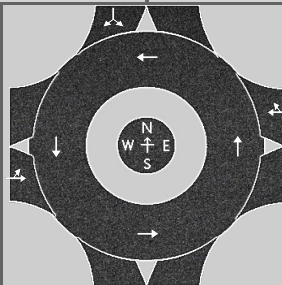
| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Lane Control Delay (d), s/veh    |      | 9.1   |        |      | 10.2  |        |      |       |        |      | 6.1   |        |
| Lane LOS                         |      | A     |        |      | B     |        |      |       |        |      | A     |        |
| 95% Queue Length, $Q_{95}$ (veh) |      | 3.7   |        |      | 2.7   |        |      |       |        |      | 0.9   |        |
| 95% Queue Length, $Q_{95}$ (ft)  |      | 92.5  |        |      | 69.1  |        |      |       |        |      | 23.0  |        |
| Approach Delay, s/veh   LOS      | 9.1  | A     |        | 10.2 | B     |        |      |       |        | 6.1  | A     |        |
| Intersection Delay, s/veh   LOS  | 9.0  |       |        |      |       |        | A    |       |        |      |       |        |



# HCS Roundabouts Report

## General Information

|                     |                          |
|---------------------|--------------------------|
| Analyst             | tsj                      |
| Agency or Co.       | DGL Consulting Engineers |
| Date Performed      | 11/7/2024                |
| Analysis Year       | 2029                     |
| Time Analyzed       | PM Peak Hour             |
| Project Description | Build                    |



## Site Information

|                           |                                |
|---------------------------|--------------------------------|
| Intersection              | Bainbridge Road & Prop. Dri... |
| E/W Street Name           | Bainbridge Road                |
| N/S Street Name           | Repurposed Drive               |
| Analysis Time Period, hrs | 0.25                           |
| Peak Hour Factor          | 0.73                           |
| Jurisdiction              | City of North Ridgeville       |

## Volume Adjustments and Site Characteristics

| Approach                            | EB   |    |     |   | WB   |   |     |    | NB   |   |   |   | SB   |     |    |     |
|-------------------------------------|------|----|-----|---|------|---|-----|----|------|---|---|---|------|-----|----|-----|
| Movement                            | U    | L  | T   | R | U    | L | T   | R  | U    | L | T | R | U    | L   | T  | R   |
| Number of Lanes (N)                 | 0    | 0  | 1   | 0 | 0    | 0 | 1   | 0  | 0    | 0 | 0 | 0 | 0    | 0   | 1  | 0   |
| Lane Assignment                     |      |    | LT  |   |      |   | TR  |    |      |   |   |   |      |     | LR |     |
| Volume (V), veh/h                   | 0    | 55 | 263 |   | 0    |   | 244 | 25 |      |   |   |   | 0    | 88  |    | 159 |
| Percent Heavy Vehicles, %           | 3    | 3  | 3   |   | 3    |   | 3   | 3  |      |   |   |   | 3    | 3   |    | 3   |
| Flow Rate (V <sub>PCE</sub> ), pc/h | 0    | 78 | 371 |   | 0    |   | 344 | 35 |      |   |   |   | 0    | 124 |    | 224 |
| Right-Turn Bypass                   | None |    |     |   | None |   |     |    | None |   |   |   | None |     |    |     |
| Conflicting Lanes                   | 1    |    |     |   | 1    |   |     |    |      |   |   |   | 1    |     |    |     |
| Pedestrians Crossing, p/h           | 0    |    |     |   | 0    |   |     |    |      |   |   |   | 0    |     |    |     |
| Proportion of CAVs, %               | 0    |    |     |   |      |   |     |    |      |   |   |   |      |     |    |     |

## Critical and Follow-Up Headway Adjustment

| Approach             | EB   |        |        | WB   |        |        | NB   |       |        | SB   |        |        |
|----------------------|------|--------|--------|------|--------|--------|------|-------|--------|------|--------|--------|
| Lane                 | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right | Bypass | Left | Right  | Bypass |
| Critical Headway, s  |      | 4.9763 |        |      | 4.9763 |        |      |       |        |      | 4.9763 |        |
| Follow-Up Headway, s |      | 2.6087 |        |      | 2.6087 |        |      |       |        |      | 2.6087 |        |

## Flow Computations, Capacity and v/c Ratios

| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Entry Flow ( $v_e$ ), pc/h       |      | 449   |        |      | 379   |        |      |       |        |      | 348   |        |
| Entry Volume, veh/h              |      | 436   |        |      | 368   |        |      |       |        |      | 338   |        |
| Circulating Flow ( $v_c$ ), pc/h | 124  |       |        | 78   |       |        | 573  |       |        | 344  |       |        |
| Exiting Flow ( $v_{ex}$ ), pc/h  | 495  |       |        | 568  |       |        | 113  |       |        | 0    |       |        |
| Capacity ( $c_{pce}$ ), pc/h     |      | 1216  |        |      | 1274  |        |      |       |        |      | 972   |        |
| Capacity (c), veh/h              |      | 1181  |        |      | 1237  |        |      |       |        |      | 943   |        |
| v/c Ratio (x)                    |      | 0.37  |        |      | 0.30  |        |      |       |        |      | 0.36  |        |

## Delay and Level of Service

| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Lane Control Delay (d), s/veh    |      | 6.7   |        |      | 5.6   |        |      |       |        |      | 7.7   |        |
| Lane LOS                         |      | A     |        |      | A     |        |      |       |        |      | A     |        |
| 95% Queue Length, $Q_{95}$ (veh) |      | 1.7   |        |      | 1.3   |        |      |       |        |      | 1.6   |        |
| 95% Queue Length, $Q_{95}$ (ft)  |      | 42.5  |        |      | 33.3  |        |      |       |        |      | 41.0  |        |
| Approach Delay, s/veh   LOS      | 6.7  | A     |        | 5.6  | A     |        |      |       |        | 7.7  | A     |        |
| Intersection Delay, s/veh   LOS  | 6.6  |       |        |      |       |        | A    |       |        |      |       |        |



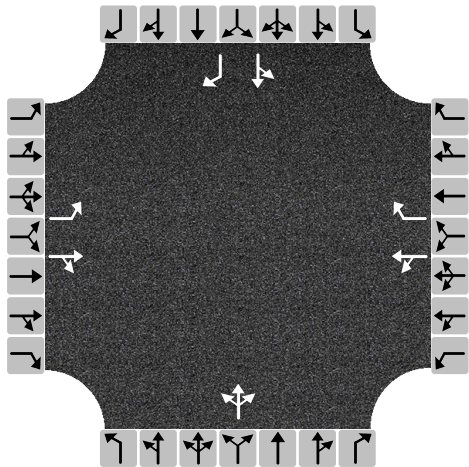


HCS All-Way Stop Control Report

General and Site Information

|                            |                                        |
|----------------------------|----------------------------------------|
| Analyst                    | tsj                                    |
| Agency/Co.                 | DGL Consulting Engineers               |
| Date Performed             | 8/29/2024                              |
| Analysis Year              | 2049                                   |
| Analysis Time Period (hrs) | 0.25                                   |
| Time Analyzed              | AM Peak Hour                           |
| Project Description        | Build + AWSC                           |
| Intersection               | Bainbridge Road & High School Drive... |
| Jurisdiction               | City of North Ridgeville               |
| East/West Street           | Bainbridge Road                        |
| North/South Street         | High School Drive/W Point Drive        |
| Peak Hour Factor           | 0.75                                   |

Lanes



Turning Movement Demand Volumes

| Approach               | Eastbound |     |   | Westbound |     |     | Northbound |   |   | Southbound |   |     |
|------------------------|-----------|-----|---|-----------|-----|-----|------------|---|---|------------|---|-----|
| Movement               | L         | T   | R | L         | T   | R   | L          | T | R | L          | T | R   |
| Volume (veh/h)         | 360       | 520 | 5 | 0         | 237 | 202 | 4          | 0 | 0 | 49         | 1 | 320 |
| % Thrus in Shared Lane |           |     |   |           |     |     |            |   |   |            |   |     |

Lane Flow Rate and Adjustments

| Approach                                      | Eastbound |       |    | Westbound |       |    | Northbound |    |    | Southbound |       |    |
|-----------------------------------------------|-----------|-------|----|-----------|-------|----|------------|----|----|------------|-------|----|
| Lane                                          | L1        | L2    | L3 | L1        | L2    | L3 | L1         | L2 | L3 | L1         | L2    | L3 |
| Configuration                                 | L         | TR    |    | LT        | R     |    | LTR        |    |    | LT         | R     |    |
| Flow Rate, v (veh/h)                          | 480       | 700   |    | 316       | 269   |    | 5          |    |    | 67         | 427   |    |
| Percent Heavy Vehicles                        | 2         | 2     |    | 3         | 3     |    | 0          |    |    | 0          | 0     |    |
| Initial Departure Headway, h <sub>d</sub> (s) | 3.20      | 3.20  |    | 3.20      | 3.20  |    | 3.20       |    |    | 3.20       | 3.20  |    |
| Initial Degree of Utilization, x              | 0.427     | 0.622 |    | 0.281     | 0.239 |    | 0.005      |    |    | 0.059      | 0.379 |    |
| Final Departure Headway, h <sub>d</sub> (s)   | 7.93      | 7.41  |    | 7.83      | 7.13  |    | 9.48       |    |    | 8.59       | 7.41  |    |
| Final Degree of Utilization, x                | 1.057     | 1.441 |    | 0.687     | 0.533 |    | 0.014      |    |    | 0.159      | 0.878 |    |
| Move-Up Time, m (s)                           | 2.3       | 2.3   |    | 2.3       | 2.3   |    | 2.0        |    |    | 2.3        | 2.3   |    |
| Service Time, t <sub>s</sub> (s)              | 5.63      | 5.11  |    | 5.53      | 4.83  |    | 7.48       |    |    | 6.29       | 5.11  |    |

Capacity, Delay and Level of Service

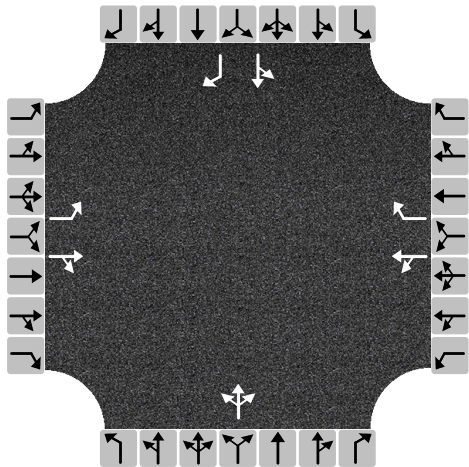
| Approach                                | Eastbound |       |    | Westbound |      |    | Northbound |    |    | Southbound |       |    |
|-----------------------------------------|-----------|-------|----|-----------|------|----|------------|----|----|------------|-------|----|
| Lane                                    | L1        | L2    | L3 | L1        | L2   | L3 | L1         | L2 | L3 | L1         | L2    | L3 |
| Configuration                           | L         | TR    |    | LT        | R    |    | LTR        |    |    | LT         | R     |    |
| Flow Rate, v (veh/h)                    | 480       | 700   |    | 316       | 269  |    | 5          |    |    | 67         | 427   |    |
| Capacity (veh/h)                        | 454       | 486   |    | 460       | 505  |    | 380        |    |    | 419        | 486   |    |
| 95% Queue Length, Q <sub>95</sub> (veh) | 15.1      | 34.4  |    | 5.1       | 3.1  |    | 0.0        |    |    | 0.6        | 9.5   |    |
| 95% Queue Length, Q <sub>95</sub> (ft)  | 383.5     | 873.8 |    | 130.6     | 79.4 |    | 0.0        |    |    | 15.0       | 237.5 |    |
| Control Delay (s/veh)                   | 86.2      | 230.5 |    | 26.0      | 17.7 |    | 12.6       |    |    | 12.9       | 43.3  |    |
| Level of Service, LOS                   | F         | F     |    | D         | C    |    | B          |    |    | B          | E     |    |
| Approach Delay (s/veh)   LOS            | 171.8     | F     |    | 22.2      | C    |    | 12.6       | B  |    | 39.2       | E     |    |
| Intersection Delay (s/veh)   LOS        | 103.8     |       |    |           |      |    | F          |    |    |            |       |    |

HCS All-Way Stop Control Report

General and Site Information

|                            |                                        |
|----------------------------|----------------------------------------|
| Analyst                    | tsj                                    |
| Agency/Co.                 | DGL Consulting Engineers               |
| Date Performed             | 8/29/2024                              |
| Analysis Year              | 2049                                   |
| Analysis Time Period (hrs) | 0.25                                   |
| Time Analyzed              | PM Peak Hour                           |
| Project Description        | Build + AWSC                           |
| Intersection               | Bainbridge Road & High School Drive... |
| Jurisdiction               | City of North Ridgeville               |
| East/West Street           | Bainbridge Road                        |
| North/South Street         | High School Drive/W Point Drive        |
| Peak Hour Factor           | 0.77                                   |

Lanes



Turning Movement Demand Volumes

| Approach               | Eastbound |     |    | Westbound |     |    | Northbound |   |   | Southbound |   |     |
|------------------------|-----------|-----|----|-----------|-----|----|------------|---|---|------------|---|-----|
| Movement               | L         | T   | R  | L         | T   | R  | L          | T | R | L          | T | R   |
| Volume (veh/h)         | 104       | 237 | 19 | 0         | 398 | 39 | 2          | 0 | 3 | 66         | 1 | 230 |
| % Thrus in Shared Lane |           |     |    |           |     |    |            |   |   |            |   |     |

Lane Flow Rate and Adjustments

| Approach                                      | Eastbound |       |    | Westbound |       |    | Northbound |    |    | Southbound |       |    |
|-----------------------------------------------|-----------|-------|----|-----------|-------|----|------------|----|----|------------|-------|----|
| Lane                                          | L1        | L2    | L3 | L1        | L2    | L3 | L1         | L2 | L3 | L1         | L2    | L3 |
| Configuration                                 | L         | TR    |    | LT        | R     |    | LTR        |    |    | LT         | R     |    |
| Flow Rate, v (veh/h)                          | 135       | 332   |    | 517       | 51    |    | 6          |    |    | 87         | 299   |    |
| Percent Heavy Vehicles                        | 2         | 2     |    | 2         | 2     |    | 0          |    |    | 1          | 1     |    |
| Initial Departure Headway, h <sub>d</sub> (s) | 3.20      | 3.20  |    | 3.20      | 3.20  |    | 3.20       |    |    | 3.20       | 3.20  |    |
| Initial Degree of Utilization, x              | 0.120     | 0.296 |    | 0.459     | 0.045 |    | 0.006      |    |    | 0.077      | 0.266 |    |
| Final Departure Headway, h <sub>d</sub> (s)   | 7.22      | 6.66  |    | 6.57      | 5.86  |    | 7.93       |    |    | 7.74       | 6.54  |    |
| Final Degree of Utilization, x                | 0.271     | 0.615 |    | 0.943     | 0.082 |    | 0.014      |    |    | 0.187      | 0.542 |    |
| Move-Up Time, m (s)                           | 2.3       | 2.3   |    | 2.3       | 2.3   |    | 2.0        |    |    | 2.3        | 2.3   |    |
| Service Time, t <sub>s</sub> (s)              | 4.92      | 4.36  |    | 4.27      | 3.56  |    | 5.93       |    |    | 5.44       | 4.24  |    |

Capacity, Delay and Level of Service

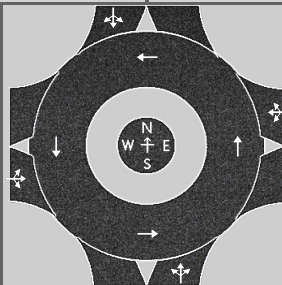
| Approach                                | Eastbound |       |    | Westbound |     |    | Northbound |    |    | Southbound |      |    |
|-----------------------------------------|-----------|-------|----|-----------|-----|----|------------|----|----|------------|------|----|
| Lane                                    | L1        | L2    | L3 | L1        | L2  | L3 | L1         | L2 | L3 | L1         | L2   | L3 |
| Configuration                           | L         | TR    |    | LT        | R   |    | LTR        |    |    | LT         | R    |    |
| Flow Rate, v (veh/h)                    | 135       | 332   |    | 517       | 51  |    | 6          |    |    | 87         | 299  |    |
| Capacity (veh/h)                        | 499       | 541   |    | 548       | 614 |    | 454        |    |    | 465        | 551  |    |
| 95% Queue Length, Q <sub>95</sub> (veh) | 1.1       | 4.1   |    | 12.1      | 0.3 |    | 0.0        |    |    | 0.7        | 3.2  |    |
| 95% Queue Length, Q <sub>95</sub> (ft)  | 27.9      | 104.1 |    | 307.3     | 7.6 |    | 0.0        |    |    | 17.6       | 80.6 |    |
| Control Delay (s/veh)                   | 12.6      | 19.4  |    | 50.8      | 9.1 |    | 11.1       |    |    | 12.2       | 16.7 |    |
| Level of Service, LOS                   | B         | C     |    | F         | A   |    | B          |    |    | B          | C    |    |
| Approach Delay (s/veh)   LOS            | 17.4      |       | C  | 47.0      |     | E  | 11.1       |    | B  | 15.7       |      | C  |
| Intersection Delay (s/veh)   LOS        | 28.7      |       |    |           |     |    | D          |    |    |            |      |    |



# HCS Roundabouts Report

## General Information

|                     |                          |
|---------------------|--------------------------|
| Analyst             | tsj                      |
| Agency or Co.       | DGL Consulting Engineers |
| Date Performed      | 8/29/2024                |
| Analysis Year       | 2049                     |
| Time Analyzed       | AM Peak                  |
| Project Description | Build + Roundabout       |



## Site Information

|                           |                               |
|---------------------------|-------------------------------|
| Intersection              | Bainbridge Road & School D... |
| E/W Street Name           | Bainbridge Road               |
| N/S Street Name           | School Drive/W Point Drive    |
| Analysis Time Period, hrs | 0.25                          |
| Peak Hour Factor          | 0.75                          |
| Jurisdiction              | City of North Ridgeville      |

## Volume Adjustments and Site Characteristics

| Approach                            | EB   |     |     |   | WB   |   |     |     | NB   |   |     |   | SB   |    |     |     |
|-------------------------------------|------|-----|-----|---|------|---|-----|-----|------|---|-----|---|------|----|-----|-----|
| Movement                            | U    | L   | T   | R | U    | L | T   | R   | U    | L | T   | R | U    | L  | T   | R   |
| Number of Lanes (N)                 | 0    | 0   | 1   | 0 | 0    | 0 | 1   | 0   | 0    | 0 | 1   | 0 | 0    | 0  | 1   | 0   |
| Lane Assignment                     |      |     | LTR |   |      |   | LTR |     |      |   | LTR |   |      |    | LTR |     |
| Volume (V), veh/h                   | 0    | 360 | 520 | 5 | 0    | 0 | 237 | 202 | 0    | 4 | 0   | 0 | 0    | 49 | 1   | 320 |
| Percent Heavy Vehicles, %           | 2    | 2   | 2   | 2 | 3    | 3 | 3   | 3   | 0    | 0 | 0   | 0 | 0    | 0  | 0   | 0   |
| Flow Rate (V <sub>PCE</sub> ), pc/h | 0    | 490 | 707 | 7 | 0    | 0 | 325 | 277 | 0    | 5 | 0   | 0 | 0    | 65 | 1   | 427 |
| Right-Turn Bypass                   | None |     |     |   | None |   |     |     | None |   |     |   | None |    |     |     |
| Conflicting Lanes                   | 1    |     |     |   | 1    |   |     |     | 1    |   |     |   | 1    |    |     |     |
| Pedestrians Crossing, p/h           | 0    |     |     |   | 0    |   |     |     | 0    |   |     |   | 0    |    |     |     |
| Proportion of CAVs, %               | 0    |     |     |   |      |   |     |     |      |   |     |   |      |    |     |     |

## Critical and Follow-Up Headway Adjustment

| Approach             | EB   |        |        | WB   |        |        | NB   |        |        | SB   |        |        |
|----------------------|------|--------|--------|------|--------|--------|------|--------|--------|------|--------|--------|
| Lane                 | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right  | Bypass |
| Critical Headway, s  |      | 4.9763 |        |      | 4.9763 |        |      | 4.9763 |        |      | 4.9763 |        |
| Follow-Up Headway, s |      | 2.6087 |        |      | 2.6087 |        |      | 2.6087 |        |      | 2.6087 |        |

## Flow Computations, Capacity and v/c Ratios

| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Entry Flow ( $v_e$ ), pc/h       |      | 1204  |        |      | 602   |        |      | 5     |        |      | 493   |        |
| Entry Volume, veh/h              |      | 1180  |        |      | 584   |        |      | 5     |        |      | 493   |        |
| Circulating Flow ( $v_c$ ), pc/h | 66   |       |        | 495  |       |        | 1262 |       |        | 330  |       |        |
| Exiting Flow ( $v_{ex}$ ), pc/h  | 772  |       |        | 757  |       |        | 767  |       |        | 8    |       |        |
| Capacity ( $C_{pce}$ ), pc/h     |      | 1290  |        |      | 833   |        |      | 381   |        |      | 986   |        |
| Capacity (c), veh/h              |      | 1265  |        |      | 809   |        |      | 381   |        |      | 986   |        |
| v/c Ratio (x)                    |      | 0.93  |        |      | 0.72  |        |      | 0.01  |        |      | 0.50  |        |

## Delay and Level of Service

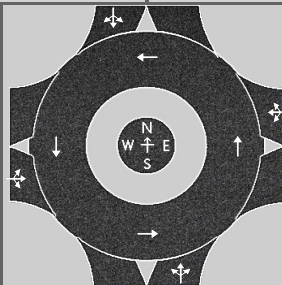
| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Lane Control Delay (d), s/veh    |      | 30.2  |        |      | 18.8  |        |      | 9.6   |        |      | 9.8   |        |
| Lane LOS                         |      | D     |        |      | C     |        |      | A     |        |      | A     |        |
| 95% Queue Length, $Q_{95}$ (veh) |      | 16.4  |        |      | 6.4   |        |      | 0.0   |        |      | 2.9   |        |
| 95% Queue Length, $Q_{95}$ (ft)  |      | 416.6 |        |      | 163.8 |        |      | 0.0   |        |      | 72.5  |        |
| Approach Delay, s/veh   LOS      | 30.2 |       | D      | 18.8 |       | C      | 9.6  |       | A      | 9.8  |       | A      |
| Intersection Delay, s/veh   LOS  | 22.7 |       |        |      |       |        | C    |       |        |      |       |        |



# HCS Roundabouts Report

## General Information

|                     |                          |
|---------------------|--------------------------|
| Analyst             | tsj                      |
| Agency or Co.       | DGL Consulting Engineers |
| Date Performed      | 8/29/2024                |
| Analysis Year       | 2049                     |
| Time Analyzed       | PM Peak                  |
| Project Description | Build + Roundabout       |



## Site Information

|                           |                               |
|---------------------------|-------------------------------|
| Intersection              | Bainbridge Road & School D... |
| E/W Street Name           | Bainbridge Road               |
| N/S Street Name           | School Drive/W Point Drive    |
| Analysis Time Period, hrs | 0.25                          |
| Peak Hour Factor          | 0.77                          |
| Jurisdiction              | City of North Ridgeville      |

## Volume Adjustments and Site Characteristics

| Approach                            | EB   |     |     |    | WB   |   |     |    | NB   |   |     |   | SB   |    |     |     |
|-------------------------------------|------|-----|-----|----|------|---|-----|----|------|---|-----|---|------|----|-----|-----|
| Movement                            | U    | L   | T   | R  | U    | L | T   | R  | U    | L | T   | R | U    | L  | T   | R   |
| Number of Lanes (N)                 | 0    | 0   | 1   | 0  | 0    | 0 | 1   | 0  | 0    | 0 | 1   | 0 | 0    | 0  | 1   | 0   |
| Lane Assignment                     |      |     | LTR |    |      |   | LTR |    |      |   | LTR |   |      |    | LTR |     |
| Volume (V), veh/h                   | 0    | 104 | 237 | 19 | 0    | 0 | 398 | 39 | 0    | 2 | 0   | 3 | 0    | 66 | 1   | 230 |
| Percent Heavy Vehicles, %           | 2    | 2   | 2   | 2  | 3    | 3 | 3   | 3  | 0    | 0 | 0   | 0 | 1    | 1  | 1   | 1   |
| Flow Rate (V <sub>PCE</sub> ), pc/h | 0    | 138 | 314 | 25 | 0    | 0 | 532 | 52 | 0    | 3 | 0   | 4 | 0    | 87 | 1   | 302 |
| Right-Turn Bypass                   | None |     |     |    | None |   |     |    | None |   |     |   | None |    |     |     |
| Conflicting Lanes                   | 1    |     |     |    | 1    |   |     |    | 1    |   |     |   | 1    |    |     |     |
| Pedestrians Crossing, p/h           | 0    |     |     |    | 0    |   |     |    | 0    |   |     |   | 0    |    |     |     |
| Proportion of CAVs, %               | 0    |     |     |    |      |   |     |    |      |   |     |   |      |    |     |     |

## Critical and Follow-Up Headway Adjustment

| Approach             | EB   |        |        | WB   |        |        | NB   |        |        | SB   |        |        |
|----------------------|------|--------|--------|------|--------|--------|------|--------|--------|------|--------|--------|
| Lane                 | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right  | Bypass |
| Critical Headway, s  |      | 4.9763 |        |      | 4.9763 |        |      | 4.9763 |        |      | 4.9763 |        |
| Follow-Up Headway, s |      | 2.6087 |        |      | 2.6087 |        |      | 2.6087 |        |      | 2.6087 |        |

## Flow Computations, Capacity and v/c Ratios

| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Entry Flow ( $v_e$ ), pc/h       |      | 477   |        |      | 584   |        |      | 7     |        |      | 390   |        |
| Entry Volume, veh/h              |      | 468   |        |      | 567   |        |      | 7     |        |      | 386   |        |
| Circulating Flow ( $v_c$ ), pc/h | 88   |       |        | 141  |       |        | 539  |       |        | 535  |       |        |
| Exiting Flow ( $v_{ex}$ ), pc/h  | 405  |       |        | 837  |       |        | 190  |       |        | 26   |       |        |
| Capacity ( $C_{pce}$ ), pc/h     |      | 1262  |        |      | 1195  |        |      | 796   |        |      | 800   |        |
| Capacity (c), veh/h              |      | 1237  |        |      | 1160  |        |      | 796   |        |      | 792   |        |
| v/c Ratio (x)                    |      | 0.38  |        |      | 0.49  |        |      | 0.01  |        |      | 0.49  |        |

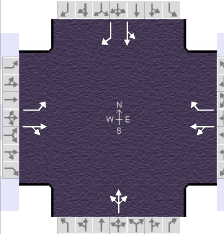
## Delay and Level of Service

| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Lane Control Delay (d), s/veh    |      | 6.6   |        |      | 8.5   |        |      | 4.6   |        |      | 11.2  |        |
| Lane LOS                         |      | A     |        |      | A     |        |      | A     |        |      | B     |        |
| 95% Queue Length, $Q_{95}$ (veh) |      | 1.8   |        |      | 2.8   |        |      | 0.0   |        |      | 2.7   |        |
| 95% Queue Length, $Q_{95}$ (ft)  |      | 45.7  |        |      | 71.7  |        |      | 0.0   |        |      | 68.0  |        |
| Approach Delay, s/veh   LOS      | 6.6  | A     |        | 8.5  | A     |        | 4.6  | A     |        | 11.2 | B     |        |
| Intersection Delay, s/veh   LOS  | 8.6  |       |        |      |       |        | A    |       |        |      |       |        |

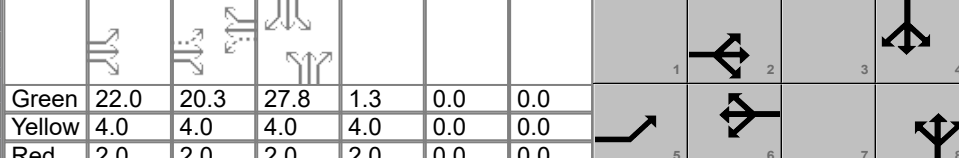




# HCS Signalized Intersection Results Summary

| General Information |                          |               |                                                   | Intersection Information |         |  |
|---------------------|--------------------------|---------------|---------------------------------------------------|--------------------------|---------|-------------------------------------------------------------------------------------|
| Agency              | DGL                      |               |                                                   | Duration, h              | 0.250   |                                                                                     |
| Analyst             | tsj                      | Analysis Date | Aug 29, 2024                                      | Area Type                | Other   |                                                                                     |
| Jurisdiction        | City of North Ridgeville | Time Period   | AM Peak                                           | PHF                      | 0.75    |                                                                                     |
| Urban Street        | Bainbridge Road          | Analysis Year | 2049                                              | Analysis Period          | 1> 7:00 |                                                                                     |
| Intersection        | Bainbridge Road & Sch... | File Name     | 2049 Build Signal AM Peak Bainbridge and W Poi... |                          |         |                                                                                     |
| Project Description | Build + Improvement      |               |                                                   |                          |         |                                                                                     |

| Demand Information    | EB  |     |   | WB |     |     | NB |   |   | SB |   |     |
|-----------------------|-----|-----|---|----|-----|-----|----|---|---|----|---|-----|
| Approach Movement     | L   | T   | R | L  | T   | R   | L  | T | R | L  | T | R   |
| Demand ( $v$ ), veh/h | 360 | 520 | 5 | 0  | 237 | 202 | 4  | 0 | 0 | 49 | 1 | 320 |

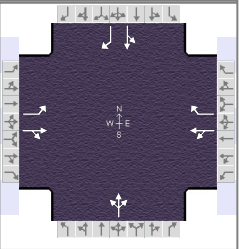
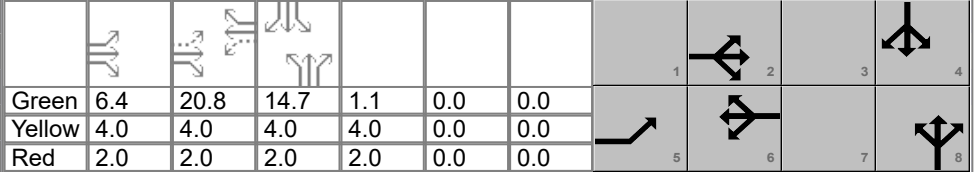
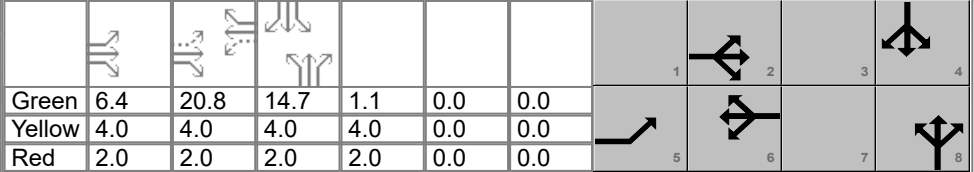
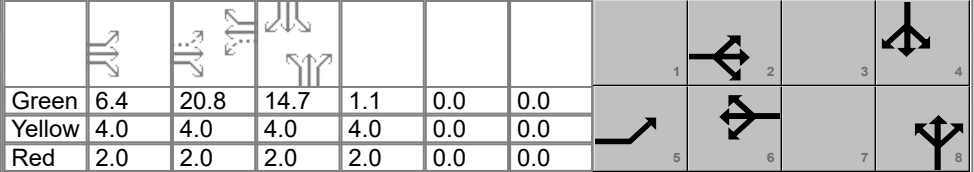
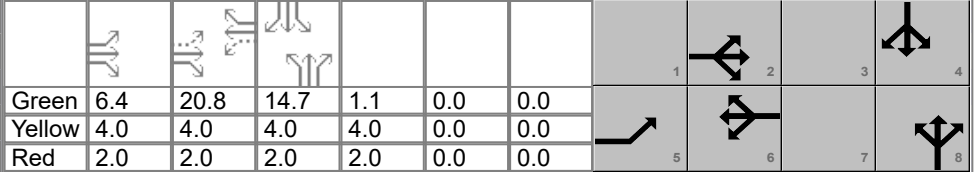
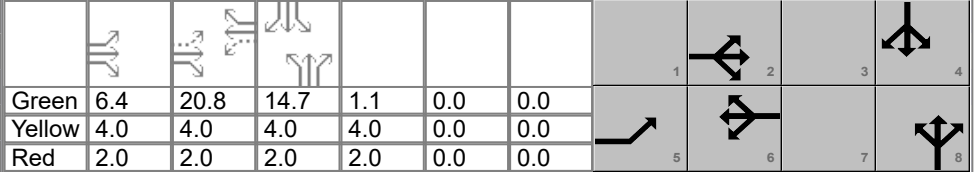
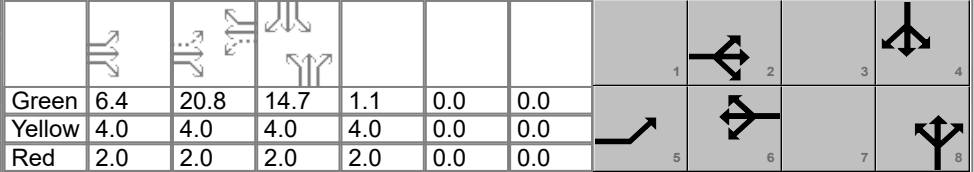
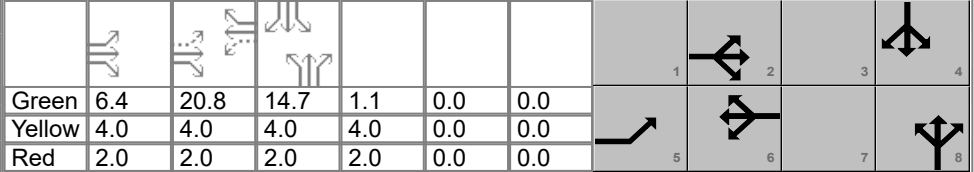
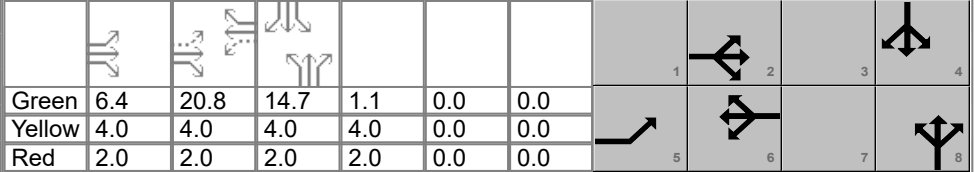
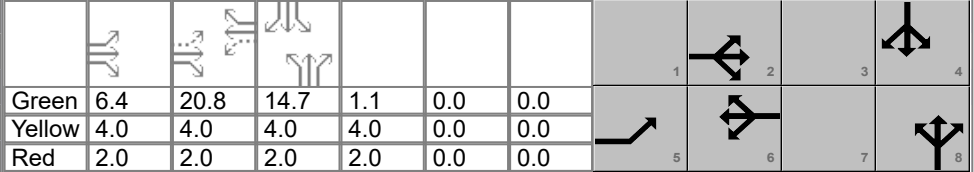
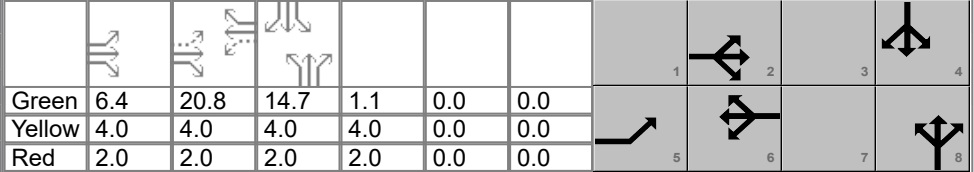
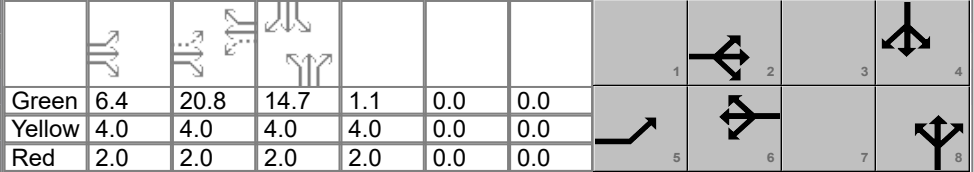
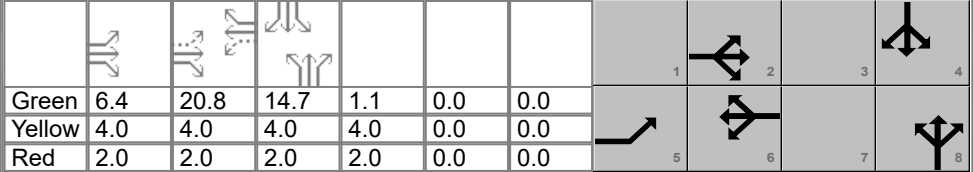
| Signal Information |       |                 |     |  |      |      |      |     |     |     |  |  |  |
|--------------------|-------|-----------------|-----|------------------------------------------------------------------------------------|------|------|------|-----|-----|-----|--|--|--|
| Cycle, s           | 95.4  | Reference Phase | 2   |                                                                                    |      |      |      |     |     |     |  |  |  |
| Offset, s          | 0     | Reference Point | End |                                                                                    |      |      |      |     |     |     |  |  |  |
| Uncoordinated      | Yes   | Simult. Gap E/W | On  |                                                                                    |      |      |      |     |     |     |  |  |  |
| Force Mode         | Fixed | Simult. Gap N/S | On  |                                                                                    |      |      |      |     |     |     |  |  |  |
|                    |       |                 |     | Green                                                                              | 22.0 | 20.3 | 27.8 | 1.3 | 0.0 | 0.0 |  |  |  |
|                    |       |                 |     | Yellow                                                                             | 4.0  | 4.0  | 4.0  | 4.0 | 0.0 | 0.0 |  |  |  |
|                    |       |                 |     | Red                                                                                | 2.0  | 2.0  | 2.0  | 2.0 | 0.0 | 0.0 |  |  |  |

| Timer Results                     | EBL  | EBT  | WBL | WBT  | NBL | NBT  | SBL | SBT  |
|-----------------------------------|------|------|-----|------|-----|------|-----|------|
| Assigned Phase                    | 5    | 2    |     | 6    |     | 8    |     | 4    |
| Case Number                       | 1.0  | 4.0  |     | 7.3  |     | 12.0 |     | 11.0 |
| Phase Duration, s                 | 28.0 | 54.3 |     | 26.3 |     | 7.3  |     | 33.8 |
| Change Period, ( $Y+R_c$ ), s     | 6.0  | 6.0  |     | 6.0  |     | 6.0  |     | 6.0  |
| Max Allow Headway ( $MAH$ ), s    | 3.1  | 3.1  |     | 3.1  |     | 3.1  |     | 3.3  |
| Queue Clearance Time ( $g_s$ ), s | 20.9 | 30.4 |     | 17.6 |     | 2.3  |     | 26.5 |
| Green Extension Time ( $g_e$ ), s | 1.0  | 2.8  |     | 2.6  |     | 0.0  |     | 1.1  |
| Phase Call Probability            | 1.00 | 1.00 |     | 1.00 |     | 0.13 |     | 1.00 |
| Max Out Probability               | 0.00 | 0.00 |     | 0.04 |     | 0.00 |     | 0.00 |

| Movement Group Results                            | EB    |       |    | WB   |       |       | NB   |       |    | SB   |       |       |
|---------------------------------------------------|-------|-------|----|------|-------|-------|------|-------|----|------|-------|-------|
| Approach Movement                                 | L     | T     | R  | L    | T     | R     | L    | T     | R  | L    | T     | R     |
| Assigned Movement                                 | 5     | 2     | 12 | 1    | 6     | 16    | 3    | 8     | 18 | 7    | 4     | 14    |
| Adjusted Flow Rate ( $v$ ), veh/h                 | 480   | 700   |    |      | 0     | 269   |      | 5     |    |      | 67    | 427   |
| Adjusted Saturation Flow Rate ( $s$ ), veh/h/ln   | 1781  | 1867  |    |      | 0     | 1572  |      | 1810  |    |      | 1811  | 1610  |
| Queue Service Time ( $g_s$ ), s                   | 18.9  | 28.4  |    |      | 0.0   | 15.6  |      | 0.3   |    |      | 2.6   | 24.5  |
| Cycle Queue Clearance Time ( $g_c$ ), s           | 18.9  | 28.4  |    |      | 0.0   | 15.6  |      | 0.3   |    |      | 2.6   | 24.5  |
| Green Ratio ( $g/C$ )                             | 0.47  | 0.51  |    |      | 0.21  |       |      | 0.01  |    |      | 0.29  | 0.29  |
| Capacity ( $c$ ), veh/h                           | 541   | 946   |    |      |       | 335   |      | 25    |    |      | 528   | 470   |
| Volume-to-Capacity Ratio ( $X$ )                  | 0.887 | 0.740 |    |      | 0.000 | 0.804 |      | 0.210 |    |      | 0.126 | 0.909 |
| Back of Queue ( $Q$ ), ft/ln ( 95 th percentile)  | 311   | 428   |    |      | 0     | 255   |      | 6     |    |      | 49    | 364   |
| Back of Queue ( $Q$ ), veh/ln ( 95 th percentile) | 12.3  | 16.9  |    |      | 0.0   | 10.0  |      | 0.2   |    |      | 2.0   | 14.6  |
| Queue Storage Ratio ( $RQ$ ) ( 95 th percentile)  | 1.35  | 0.00  |    |      | 0.00  | 1.28  |      | 0.00  |    |      | 0.00  | 2.60  |
| Uniform Delay ( $d_1$ ), s/veh                    | 21.1  | 18.7  |    |      |       | 35.8  |      | 46.7  |    |      | 25.0  | 32.7  |
| Incremental Delay ( $d_2$ ), s/veh                | 2.8   | 0.4   |    |      | 0.0   | 1.7   |      | 1.5   |    |      | 0.0   | 2.9   |
| Initial Queue Delay ( $d_3$ ), s/veh              | 0.0   | 0.0   |    |      | 0.0   | 0.0   |      | 0.0   |    |      | 0.0   | 0.0   |
| Control Delay ( $d$ ), s/veh                      | 23.9  | 19.1  |    |      |       | 37.5  |      | 48.2  |    |      | 25.0  | 35.6  |
| Level of Service (LOS)                            | C     | B     |    |      |       | D     |      | D     |    |      | C     | D     |
| Approach Delay, s/veh / LOS                       | 21.0  | C     |    | 37.4 | D     |       | 48.2 | D     |    | 34.1 | C     |       |
| Intersection Delay, s/veh / LOS                   | 28.2  |       |    |      |       |       | C    |       |    |      |       |       |

| Multimodal Results         | EB   |   | WB   |   | NB   |   | SB   |   |
|----------------------------|------|---|------|---|------|---|------|---|
| Pedestrian LOS Score / LOS | 1.67 | B | 1.93 | B | 1.95 | B | 1.95 | B |
| Bicycle LOS Score / LOS    | 2.43 | B | 1.45 | A | 0.50 | A | 1.30 | A |

# HCS Signalized Intersection Results Summary

| General Information                             |       |                          |     |                                                                                    |                                                                                    | Intersection Information                                                           |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |  |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
|-------------------------------------------------|-------|--------------------------|-----|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------|--|------|--|
| Agency                                          |       | DGL                      |     |                                                                                    |                                                                                    | Duration, h                                                                        |                                                                                    | 0.250                                                                              |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
| Analyst                                         |       | tsj                      |     | Analysis Date                                                                      |                                                                                    | Aug 29, 2024                                                                       |                                                                                    | Area Type                                                                          |                                                                                    | Other                                                                              |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
| Jurisdiction                                    |       | City of North Ridgeville |     | Time Period                                                                        |                                                                                    | PM Peak                                                                            |                                                                                    | PHF                                                                                |                                                                                    | 0.77                                                                               |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
| Urban Street                                    |       | Bainbridge Road          |     | Analysis Year                                                                      |                                                                                    | 2049                                                                               |                                                                                    | Analysis Period                                                                    |                                                                                    | 1> 7:00                                                                            |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
| Intersection                                    |       | Bainbridge Road & Sch... |     | File Name                                                                          |                                                                                    | 2049 Build Signal PM Peak Bainbridge and W Poi...                                  |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
| Project Description                             |       | Build + Improvement      |     |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
| Demand Information                              |       |                          |     | EB                                                                                 |                                                                                    |                                                                                    | WB                                                                                 |                                                                                    |                                                                                    | NB                                                                                 |                                                                                    |                                                                                     | SB                                                                                 |                                                                                    |                                                                                    |      |  |      |  |
| Approach Movement                               |       |                          |     | L                                                                                  | T                                                                                  | R                                                                                  | L                                                                                  | T                                                                                  | R                                                                                  | L                                                                                  | T                                                                                  | R                                                                                   | L                                                                                  | T                                                                                  | R                                                                                  |      |  |      |  |
| Demand ( v ), veh/h                             |       |                          |     | 104                                                                                | 237                                                                                | 19                                                                                 | 0                                                                                  | 398                                                                                | 39                                                                                 | 2                                                                                  | 0                                                                                  | 3                                                                                   | 66                                                                                 | 1                                                                                  | 230                                                                                |      |  |      |  |
| Signal Information                              |       |                          |     |  |  |  |  |  |  |  |  |   |  |  |  |      |  |      |  |
| Cycle, s                                        | 67.1  | Reference Phase          | 2   |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
| Offset, s                                       | 0     | Reference Point          | End |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
| Uncoordinated                                   | Yes   | Simult. Gap E/W          | On  |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
| Force Mode                                      | Fixed | Simult. Gap N/S          | On  |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
|                                                 |       |                          |     | Green                                                                              | 6.4                                                                                | 20.8                                                                               | 14.7                                                                               | 1.1                                                                                | 0.0                                                                                | 0.0                                                                                |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
|                                                 |       |                          |     | Yellow                                                                             | 4.0                                                                                | 4.0                                                                                | 4.0                                                                                | 4.0                                                                                | 0.0                                                                                | 0.0                                                                                |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
|                                                 |       |                          |     | Red                                                                                | 2.0                                                                                | 2.0                                                                                | 2.0                                                                                | 2.0                                                                                | 0.0                                                                                | 0.0                                                                                |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |      |  |      |  |
| Timer Results                                   |       |                          |     | EBL                                                                                |                                                                                    | EBT                                                                                |                                                                                    | WBL                                                                                |                                                                                    | WBT                                                                                |                                                                                    | NBL                                                                                 |                                                                                    | NBT                                                                                |                                                                                    | SBL  |  | SBT  |  |
| Assigned Phase                                  |       |                          |     | 5                                                                                  |                                                                                    | 2                                                                                  |                                                                                    |                                                                                    |                                                                                    | 6                                                                                  |                                                                                    |                                                                                     |                                                                                    | 8                                                                                  |                                                                                    |      |  | 4    |  |
| Case Number                                     |       |                          |     | 1.0                                                                                |                                                                                    | 4.0                                                                                |                                                                                    |                                                                                    |                                                                                    | 7.3                                                                                |                                                                                    |                                                                                     |                                                                                    | 12.0                                                                               |                                                                                    |      |  | 11.0 |  |
| Phase Duration, s                               |       |                          |     | 12.4                                                                               |                                                                                    | 39.2                                                                               |                                                                                    |                                                                                    |                                                                                    | 26.8                                                                               |                                                                                    |                                                                                     |                                                                                    | 7.1                                                                                |                                                                                    |      |  | 20.7 |  |
| Change Period, ( Y+R c ), s                     |       |                          |     | 6.0                                                                                |                                                                                    | 6.0                                                                                |                                                                                    |                                                                                    |                                                                                    | 6.0                                                                                |                                                                                    |                                                                                     |                                                                                    | 6.0                                                                                |                                                                                    |      |  | 6.0  |  |
| Max Allow Headway ( MAH ), s                    |       |                          |     | 3.1                                                                                |                                                                                    | 3.1                                                                                |                                                                                    |                                                                                    |                                                                                    | 3.1                                                                                |                                                                                    |                                                                                     |                                                                                    | 3.3                                                                                |                                                                                    |      |  | 3.3  |  |
| Queue Clearance Time ( g s ), s                 |       |                          |     | 5.1                                                                                |                                                                                    | 9.5                                                                                |                                                                                    |                                                                                    |                                                                                    | 19.7                                                                               |                                                                                    |                                                                                     |                                                                                    | 2.3                                                                                |                                                                                    |      |  | 14.1 |  |
| Green Extension Time ( g e ), s                 |       |                          |     | 0.0                                                                                |                                                                                    | 1.5                                                                                |                                                                                    |                                                                                    |                                                                                    | 1.1                                                                                |                                                                                    |                                                                                     |                                                                                    | 0.0                                                                                |                                                                                    |      |  | 0.7  |  |
| Phase Call Probability                          |       |                          |     | 0.92                                                                               |                                                                                    | 1.00                                                                               |                                                                                    |                                                                                    |                                                                                    | 1.00                                                                               |                                                                                    |                                                                                     |                                                                                    | 0.11                                                                               |                                                                                    |      |  | 1.00 |  |
| Max Out Probability                             |       |                          |     | 1.00                                                                               |                                                                                    | 0.06                                                                               |                                                                                    |                                                                                    |                                                                                    | 0.00                                                                               |                                                                                    |                                                                                     |                                                                                    | 0.00                                                                               |                                                                                    |      |  | 0.01 |  |
| Movement Group Results                          |       |                          |     | EB                                                                                 |                                                                                    |                                                                                    | WB                                                                                 |                                                                                    |                                                                                    | NB                                                                                 |                                                                                    |                                                                                     | SB                                                                                 |                                                                                    |                                                                                    |      |  |      |  |
| Approach Movement                               |       |                          |     | L                                                                                  | T                                                                                  | R                                                                                  | L                                                                                  | T                                                                                  | R                                                                                  | L                                                                                  | T                                                                                  | R                                                                                   | L                                                                                  | T                                                                                  | R                                                                                  |      |  |      |  |
| Assigned Movement                               |       |                          |     | 5                                                                                  | 2                                                                                  | 12                                                                                 | 1                                                                                  | 6                                                                                  | 16                                                                                 | 3                                                                                  | 8                                                                                  | 18                                                                                  | 7                                                                                  | 4                                                                                  | 14                                                                                 |      |  |      |  |
| Adjusted Flow Rate ( v ), veh/h                 |       |                          |     | 135                                                                                | 332                                                                                |                                                                                    |                                                                                    | 0                                                                                  | 51                                                                                 |                                                                                    | 6                                                                                  |                                                                                     |                                                                                    | 87                                                                                 | 299                                                                                |      |  |      |  |
| Adjusted Saturation Flow Rate ( s ), veh/h/ln   |       |                          |     | 1781                                                                               | 1846                                                                               |                                                                                    |                                                                                    | 0                                                                                  | 1585                                                                               |                                                                                    | 1684                                                                               |                                                                                     |                                                                                    | 1797                                                                               | 1598                                                                               |      |  |      |  |
| Queue Service Time ( g s ), s                   |       |                          |     | 3.1                                                                                | 7.5                                                                                |                                                                                    |                                                                                    | 0.0                                                                                | 1.5                                                                                |                                                                                    | 0.3                                                                                |                                                                                     |                                                                                    | 2.7                                                                                | 12.1                                                                               |      |  |      |  |
| Cycle Queue Clearance Time ( g c ), s           |       |                          |     | 3.1                                                                                | 7.5                                                                                |                                                                                    |                                                                                    | 0.0                                                                                | 1.5                                                                                |                                                                                    | 0.3                                                                                |                                                                                     |                                                                                    | 2.7                                                                                | 12.1                                                                               |      |  |      |  |
| Green Ratio ( g/C )                             |       |                          |     | 0.44                                                                               | 0.50                                                                               |                                                                                    |                                                                                    |                                                                                    | 0.31                                                                               |                                                                                    | 0.02                                                                               |                                                                                     |                                                                                    | 0.22                                                                               | 0.22                                                                               |      |  |      |  |
| Capacity ( c ), veh/h                           |       |                          |     | 319                                                                                | 914                                                                                |                                                                                    |                                                                                    |                                                                                    | 491                                                                                |                                                                                    | 29                                                                                 |                                                                                     |                                                                                    | 395                                                                                | 351                                                                                |      |  |      |  |
| Volume-to-Capacity Ratio ( X )                  |       |                          |     | 0.423                                                                              | 0.364                                                                              |                                                                                    |                                                                                    | 0.000                                                                              | 0.103                                                                              |                                                                                    | 0.226                                                                              |                                                                                     |                                                                                    | 0.220                                                                              | 0.851                                                                              |      |  |      |  |
| Back of Queue ( Q ), ft/ln ( 95 th percentile)  |       |                          |     | 51                                                                                 | 118                                                                                |                                                                                    |                                                                                    | 0                                                                                  | 24                                                                                 |                                                                                    | 5                                                                                  |                                                                                     |                                                                                    | 48                                                                                 | 199                                                                                |      |  |      |  |
| Back of Queue ( Q ), veh/ln ( 95 th percentile) |       |                          |     | 2.0                                                                                | 4.7                                                                                |                                                                                    |                                                                                    | 0.0                                                                                | 0.9                                                                                |                                                                                    | 0.2                                                                                |                                                                                     |                                                                                    | 1.9                                                                                | 7.9                                                                                |      |  |      |  |
| Queue Storage Ratio ( RQ ) ( 95 th percentile)  |       |                          |     | 0.22                                                                               | 0.00                                                                               |                                                                                    |                                                                                    | 0.00                                                                               | 0.12                                                                               |                                                                                    | 0.00                                                                               |                                                                                     |                                                                                    | 0.00                                                                               | 1.42                                                                               |      |  |      |  |
| Uniform Delay ( d 1 ), s/veh                    |       |                          |     | 15.0                                                                               | 10.4                                                                               |                                                                                    |                                                                                    |                                                                                    | 16.5                                                                               |                                                                                    | 32.6                                                                               |                                                                                     |                                                                                    | 21.5                                                                               | 25.1                                                                               |      |  |      |  |
| Incremental Delay ( d 2 ), s/veh                |       |                          |     | 0.3                                                                                | 0.1                                                                                |                                                                                    |                                                                                    | 0.0                                                                                | 0.0                                                                                |                                                                                    | 1.5                                                                                |                                                                                     |                                                                                    | 0.1                                                                                | 2.4                                                                                |      |  |      |  |
| Initial Queue Delay ( d 3 ), s/veh              |       |                          |     | 0.0                                                                                | 0.0                                                                                |                                                                                    |                                                                                    | 0.0                                                                                | 0.0                                                                                |                                                                                    | 0.0                                                                                |                                                                                     |                                                                                    | 0.0                                                                                | 0.0                                                                                |      |  |      |  |
| Control Delay ( d ), s/veh                      |       |                          |     | 15.3                                                                               | 10.5                                                                               |                                                                                    |                                                                                    |                                                                                    | 16.6                                                                               |                                                                                    | 34.0                                                                               |                                                                                     |                                                                                    | 21.6                                                                               | 27.5                                                                               |      |  |      |  |
| Level of Service (LOS)                          |       |                          |     | B                                                                                  | B                                                                                  |                                                                                    |                                                                                    |                                                                                    | B                                                                                  |                                                                                    | C                                                                                  |                                                                                     |                                                                                    | C                                                                                  | C                                                                                  |      |  |      |  |
| Approach Delay, s/veh / LOS                     |       |                          |     | 11.9                                                                               |                                                                                    | B                                                                                  |                                                                                    | 23.5                                                                               |                                                                                    | C                                                                                  |                                                                                    | 34.0                                                                                |                                                                                    | C                                                                                  |                                                                                    | 26.2 |  | C    |  |
| Intersection Delay, s/veh / LOS                 |       |                          |     | 20.5                                                                               |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     | C                                                                                  |                                                                                    |                                                                                    |      |  |      |  |
| Multimodal Results                              |       |                          |     | EB                                                                                 |                                                                                    |                                                                                    | WB                                                                                 |                                                                                    |                                                                                    | NB                                                                                 |                                                                                    |                                                                                     | SB                                                                                 |                                                                                    |                                                                                    |      |  |      |  |
| Pedestrian LOS Score / LOS                      |       |                          |     | 1.66                                                                               |                                                                                    | B                                                                                  |                                                                                    | 1.91                                                                               |                                                                                    | B                                                                                  |                                                                                    | 1.94                                                                                |                                                                                    | B                                                                                  |                                                                                    | 1.94 |  | B    |  |
| Bicycle LOS Score / LOS                         |       |                          |     | 1.26                                                                               |                                                                                    | A                                                                                  |                                                                                    | 1.42                                                                               |                                                                                    | A                                                                                  |                                                                                    | 0.50                                                                                |                                                                                    | A                                                                                  |                                                                                    | 1.12 |  | A    |  |

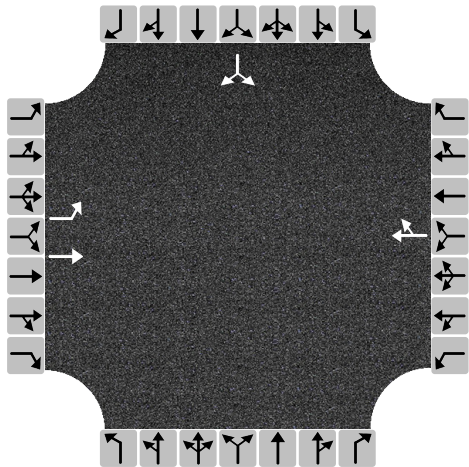


HCS All-Way Stop Control Report

General and Site Information

|                            |                               |
|----------------------------|-------------------------------|
| Analyst                    | tsj                           |
| Agency/Co.                 | DGL Consulting Engineers      |
| Date Performed             | 11/7/2024                     |
| Analysis Year              | 2049                          |
| Analysis Time Period (hrs) | 0.25                          |
| Time Analyzed              | AM Peak                       |
| Project Description        | Build                         |
| Intersection               | Bainbridge Road & Prop. Drive |
| Jurisdiction               | City of North Ridgeville      |
| East/West Street           | Bainbridge Road               |
| North/South Street         | Repurposed Drive              |
| Peak Hour Factor           | 0.77                          |

Lanes



Turning Movement Demand Volumes

| Approach               | Eastbound |     |   | Westbound |     |    | Northbound |   |   | Southbound |   |     |
|------------------------|-----------|-----|---|-----------|-----|----|------------|---|---|------------|---|-----|
| Movement               | L         | T   | R | L         | T   | R  | L          | T | R | L          | T | R   |
| Volume (veh/h)         | 336       | 259 |   |           | 302 | 55 |            |   |   | 35         |   | 137 |
| % Thrus in Shared Lane |           |     |   |           |     |    |            |   |   |            |   |     |

Lane Flow Rate and Adjustments

| Approach                                      | Eastbound |       |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|-----------------------------------------------|-----------|-------|----|-----------|----|----|------------|----|----|------------|----|----|
| Lane                                          | L1        | L2    | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration                                 | L         | T     |    | TR        |    |    |            |    |    | LR         |    |    |
| Flow Rate, v (veh/h)                          | 436       | 336   |    | 464       |    |    |            |    |    | 223        |    |    |
| Percent Heavy Vehicles                        | 2         | 2     |    | 3         |    |    |            |    |    | 3          |    |    |
| Initial Departure Headway, h <sub>d</sub> (s) | 3.20      | 3.20  |    | 3.20      |    |    |            |    |    | 3.20       |    |    |
| Initial Degree of Utilization, x              | 0.388     | 0.299 |    | 0.412     |    |    |            |    |    | 0.199      |    |    |
| Final Departure Headway, h <sub>d</sub> (s)   | 6.38      | 5.87  |    | 5.59      |    |    |            |    |    | 6.17       |    |    |
| Final Degree of Utilization, x                | 0.773     | 0.548 |    | 0.720     |    |    |            |    |    | 0.383      |    |    |
| Move-Up Time, m (s)                           | 2.3       | 2.3   |    | 2.0       |    |    |            |    |    | 2.0        |    |    |
| Service Time, t <sub>s</sub> (s)              | 4.08      | 3.57  |    | 3.59      |    |    |            |    |    | 4.17       |    |    |

Capacity, Delay and Level of Service

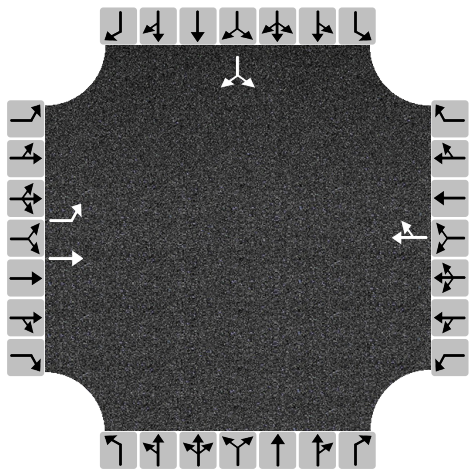
| Approach                                | Eastbound |      |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|-----------------------------------------|-----------|------|----|-----------|----|----|------------|----|----|------------|----|----|
| Lane                                    | L1        | L2   | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration                           | L         | T    |    | TR        |    |    |            |    |    | LR         |    |    |
| Flow Rate, v (veh/h)                    | 436       | 336  |    | 464       |    |    |            |    |    | 223        |    |    |
| Capacity (veh/h)                        | 565       | 613  |    | 644       |    |    |            |    |    | 583        |    |    |
| 95% Queue Length, Q <sub>95</sub> (veh) | 7.1       | 3.3  |    | 6.1       |    |    |            |    |    | 1.8        |    |    |
| 95% Queue Length, Q <sub>95</sub> (ft)  | 180.3     | 83.8 |    | 156.2     |    |    |            |    |    | 46.1       |    |    |
| Control Delay (s/veh)                   | 27.5      | 15.5 |    | 21.6      |    |    |            |    |    | 13.0       |    |    |
| Level of Service, LOS                   | D         | C    |    | C         |    |    |            |    |    | B          |    |    |
| Approach Delay (s/veh)   LOS            | 22.2      |      | C  | 21.6      |    | C  |            |    |    | 13.0       |    | B  |
| Intersection Delay (s/veh)   LOS        | 20.6      |      |    |           |    |    | C          |    |    |            |    |    |

# HCS All-Way Stop Control Report

## General and Site Information

|                            |                               |
|----------------------------|-------------------------------|
| Analyst                    | tsj                           |
| Agency/Co.                 | DGL Consulting Engineers      |
| Date Performed             | 11/7/2024                     |
| Analysis Year              | 2049                          |
| Analysis Time Period (hrs) | 0.25                          |
| Time Analyzed              | PM Peak                       |
| Project Description        | Build                         |
| Intersection               | Bainbridge Road & Prop. Drive |
| Jurisdiction               | City of North Ridgeville      |
| East/West Street           | Bainbridge Road               |
| North/South Street         | Repurposed Drive              |
| Peak Hour Factor           | 0.73                          |

## Lanes



## Turning Movement Demand Volumes

| Approach               | Eastbound |     |   | Westbound |     |    | Northbound |   |   | Southbound |   |     |
|------------------------|-----------|-----|---|-----------|-----|----|------------|---|---|------------|---|-----|
| Movement               | L         | T   | R | L         | T   | R  | L          | T | R | L          | T | R   |
| Volume (veh/h)         | 60        | 288 |   |           | 269 | 27 |            |   |   | 97         |   | 168 |
| % Thrus in Shared Lane |           |     |   |           |     |    |            |   |   |            |   |     |

## Lane Flow Rate and Adjustments

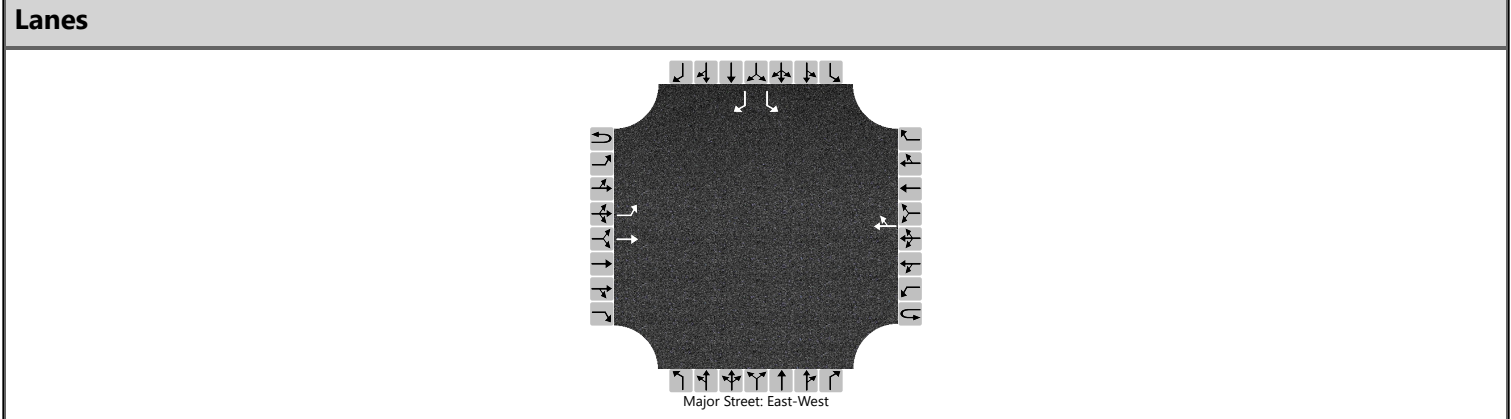
| Approach                             | Eastbound |       |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|--------------------------------------|-----------|-------|----|-----------|----|----|------------|----|----|------------|----|----|
| Lane                                 | L1        | L2    | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration                        | L         | T     |    | TR        |    |    |            |    |    | LR         |    |    |
| Flow Rate, $v$ (veh/h)               | 82        | 395   |    | 405       |    |    |            |    |    | 363        |    |    |
| Percent Heavy Vehicles               | 3         | 3     |    | 3         |    |    |            |    |    | 3          |    |    |
| Initial Departure Headway, $h_d$ (s) | 3.20      | 3.20  |    | 3.20      |    |    |            |    |    | 3.20       |    |    |
| Initial Degree of Utilization, $x$   | 0.073     | 0.351 |    | 0.360     |    |    |            |    |    | 0.323      |    |    |
| Final Departure Headway, $h_d$ (s)   | 6.90      | 6.39  |    | 5.99      |    |    |            |    |    | 6.00       |    |    |
| Final Degree of Utilization, $x$     | 0.157     | 0.700 |    | 0.675     |    |    |            |    |    | 0.605      |    |    |
| Move-Up Time, $m$ (s)                | 2.3       | 2.3   |    | 2.0       |    |    |            |    |    | 2.0        |    |    |
| Service Time, $t_s$ (s)              | 4.60      | 4.09  |    | 3.99      |    |    |            |    |    | 4.00       |    |    |

## Capacity, Delay and Level of Service

| Approach                                | Eastbound |       |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|-----------------------------------------|-----------|-------|----|-----------|----|----|------------|----|----|------------|----|----|
| Lane                                    | L1        | L2    | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration                           | L         | T     |    | TR        |    |    |            |    |    | LR         |    |    |
| Flow Rate, v (veh/h)                    | 82        | 395   |    | 405       |    |    |            |    |    | 363        |    |    |
| Capacity (veh/h)                        | 522       | 564   |    | 601       |    |    |            |    |    | 600        |    |    |
| 95% Queue Length, Q <sub>95</sub> (veh) | 0.6       | 5.5   |    | 5.1       |    |    |            |    |    | 4.0        |    |    |
| 95% Queue Length, Q <sub>95</sub> (ft)  | 15.4      | 140.8 |    | 130.6     |    |    |            |    |    | 102.4      |    |    |
| Control Delay (s/veh)                   | 10.9      | 22.6  |    | 20.5      |    |    |            |    |    | 17.8       |    |    |
| Level of Service, LOS                   | B         | C     |    | C         |    |    |            |    |    | C          |    |    |
| Approach Delay (s/veh)   LOS            | 20.6      |       | C  | 20.5      |    | C  |            |    |    | 17.8       |    | C  |
| Intersection Delay (s/veh)   LOS        | 19.8      |       |    |           |    |    | C          |    |    |            |    |    |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                               |
|--------------------------|--------------------------|----------------------------|-------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Prop. Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville      |
| Date Performed           | 8/21/2024                | East/West Street           | Bainbridge Road               |
| Analysis Year            | 2049                     | North/South Street         | Repurposed Drive              |
| Time Analyzed            | AM Peak                  | Peak Hour Factor           | 0.77                          |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                          |
| Project Description      | Build                    |                            |                               |



| Vehicle Volumes and Adjustments |           |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|-----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |     |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L   | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1   | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1   | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 1  | 0  | 1   |
| Configuration                   |           | L   | T   |   |           |   |     | TR |            |   |   |   |            | L  |    | R   |
| Volume (veh/h)                  |           | 336 | 259 |   |           |   | 302 | 55 |            |   |   |   |            | 35 |    | 137 |
| Percent Heavy Vehicles (%)      |           | 3   |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked         |           |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |     |     |   |           |   |     |    |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |     |     |   |           |   |     |    |            |   |   |   | No         |    |    |     |
| Median Type   Storage           | Undivided |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

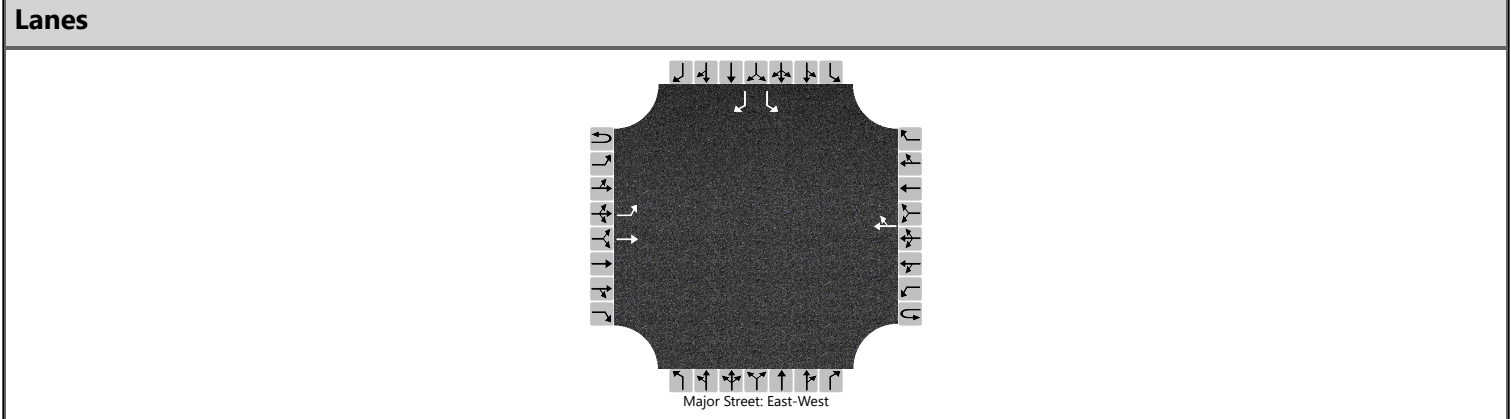
| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.43 |  | 6.23 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |      |       |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|------|-------|--|------|
| Flow Rate, v (veh/h)                      |     | 436  |  |  |  |  |  |  |  |  |  |  |      | 45    |  | 178  |
| Capacity, c (veh/h)                       |     | 1092 |  |  |  |  |  |  |  |  |  |  |      | 66    |  | 625  |
| v/c Ratio                                 |     | 0.40 |  |  |  |  |  |  |  |  |  |  |      | 0.69  |  | 0.28 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 1.9  |  |  |  |  |  |  |  |  |  |  |      | 3.0   |  | 1.2  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 48.6 |  |  |  |  |  |  |  |  |  |  |      | 76.8  |  | 30.7 |
| Control Delay (s/veh)                     |     | 10.5 |  |  |  |  |  |  |  |  |  |  |      | 136.8 |  | 13.0 |
| Level of Service (LOS)                    |     | B    |  |  |  |  |  |  |  |  |  |  |      | F     |  | B    |
| Approach Delay (s/veh)                    | 5.9 |      |  |  |  |  |  |  |  |  |  |  | 38.2 |       |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | E    |       |  |      |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                               |
|--------------------------|--------------------------|----------------------------|-------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Prop. Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville      |
| Date Performed           | 8/21/2024                | East/West Street           | Bainbridge Road               |
| Analysis Year            | 2049                     | North/South Street         | Repurposed Drive              |
| Time Analyzed            | PM Peak                  | Peak Hour Factor           | 0.73                          |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                          |
| Project Description      | Build                    |                            |                               |



| Vehicle Volumes and Adjustments |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 1  | 0  | 1   |
| Configuration                   |           | L  | T   |   |           |   |     | TR |            |   |   |   |            | L  |    | R   |
| Volume (veh/h)                  |           | 60 | 288 |   |           |   | 269 | 27 |            |   |   |   |            | 97 |    | 168 |
| Percent Heavy Vehicles (%)      |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked         |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |    |     |   |           |   |     |    |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |    |     |   |           |   |     |    |            |   |   |   | No         |    |    |     |
| Median Type   Storage           | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

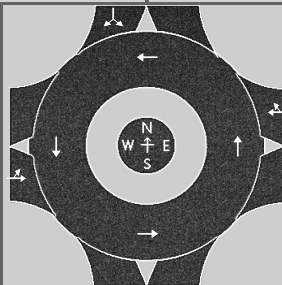
| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.43 |  | 6.23 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 82   |  |  |  |  |  |  |  |  |  |  |      | 133  |  | 230  |
| Capacity, c (veh/h)                       |     | 1148 |  |  |  |  |  |  |  |  |  |  |      | 268  |  | 659  |
| v/c Ratio                                 |     | 0.07 |  |  |  |  |  |  |  |  |  |  |      | 0.50 |  | 0.35 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.2  |  |  |  |  |  |  |  |  |  |  |      | 2.6  |  | 1.6  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 5.1  |  |  |  |  |  |  |  |  |  |  |      | 66.6 |  | 41.0 |
| Control Delay (s/veh)                     |     | 8.4  |  |  |  |  |  |  |  |  |  |  |      | 30.9 |  | 13.4 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |      | D    |  | B    |
| Approach Delay (s/veh)                    | 1.4 |      |  |  |  |  |  |  |  |  |  |  | 19.8 |      |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | C    |      |  |      |

# HCS Roundabouts Report

## General Information

|                     |                          |
|---------------------|--------------------------|
| Analyst             | tsj                      |
| Agency or Co.       | DGL Consulting Engineers |
| Date Performed      | 11/7/2024                |
| Analysis Year       | 2049                     |
| Time Analyzed       | AM Peak Hour             |
| Project Description | Build                    |



## Site Information

|                           |                                |
|---------------------------|--------------------------------|
| Intersection              | Bainbridge Road & Prop. Dri... |
| E/W Street Name           | Bainbridge Road                |
| N/S Street Name           | Repurposed Drive               |
| Analysis Time Period, hrs | 0.25                           |
| Peak Hour Factor          | 0.77                           |
| Jurisdiction              | City of North Ridgeville       |

## Volume Adjustments and Site Characteristics

| Approach                            | EB   |     |     |   | WB   |   |     |    | NB   |   |   |   | SB   |    |    |     |
|-------------------------------------|------|-----|-----|---|------|---|-----|----|------|---|---|---|------|----|----|-----|
| Movement                            | U    | L   | T   | R | U    | L | T   | R  | U    | L | T | R | U    | L  | T  | R   |
| Number of Lanes (N)                 | 0    | 0   | 1   | 0 | 0    | 0 | 1   | 0  | 0    | 0 | 0 | 0 | 0    | 0  | 1  | 0   |
| Lane Assignment                     |      |     | LT  |   |      |   | TR  |    |      |   |   |   |      |    | LR |     |
| Volume (V), veh/h                   | 0    | 336 | 259 |   | 0    |   | 302 | 55 |      |   |   |   | 0    | 35 |    | 137 |
| Percent Heavy Vehicles, %           | 3    | 2   | 2   |   | 3    |   | 3   | 3  |      |   |   |   | 3    | 3  |    | 3   |
| Flow Rate (V <sub>PCE</sub> ), pc/h | 0    | 445 | 343 |   | 0    |   | 404 | 74 |      |   |   |   | 0    | 47 |    | 183 |
| Right-Turn Bypass                   | None |     |     |   | None |   |     |    | None |   |   |   | None |    |    |     |
| Conflicting Lanes                   | 1    |     |     |   | 1    |   |     |    |      |   |   |   | 1    |    |    |     |
| Pedestrians Crossing, p/h           | 0    |     |     |   | 0    |   |     |    |      |   |   |   | 0    |    |    |     |
| Proportion of CAVs, %               | 0    |     |     |   |      |   |     |    |      |   |   |   |      |    |    |     |

## Critical and Follow-Up Headway Adjustment

| Approach             | EB   |        |        | WB   |        |        | NB   |       |        | SB   |        |        |
|----------------------|------|--------|--------|------|--------|--------|------|-------|--------|------|--------|--------|
| Lane                 | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right | Bypass | Left | Right  | Bypass |
| Critical Headway, s  |      | 4.9763 |        |      | 4.9763 |        |      |       |        |      | 4.9763 |        |
| Follow-Up Headway, s |      | 2.6087 |        |      | 2.6087 |        |      |       |        |      | 2.6087 |        |

## Flow Computations, Capacity and v/c Ratios

| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Entry Flow ( $v_e$ ), pc/h       |      | 788   |        |      | 478   |        |      |       |        |      | 230   |        |
| Entry Volume, veh/h              |      | 773   |        |      | 464   |        |      |       |        |      | 223   |        |
| Circulating Flow ( $v_c$ ), pc/h | 47   |       |        | 445  |       |        | 835  |       |        | 404  |       |        |
| Exiting Flow ( $v_{ex}$ ), pc/h  | 390  |       |        | 587  |       |        | 519  |       |        | 0    |       |        |
| Capacity ( $C_{pce}$ ), pc/h     |      | 1315  |        |      | 877   |        |      |       |        |      | 914   |        |
| Capacity (c), veh/h              |      | 1290  |        |      | 851   |        |      |       |        |      | 887   |        |
| v/c Ratio (x)                    |      | 0.60  |        |      | 0.55  |        |      |       |        |      | 0.25  |        |

## Delay and Level of Service

| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Lane Control Delay (d), s/veh    |      | 9.9   |        |      | 11.9  |        |      |       |        |      | 6.7   |        |
| Lane LOS                         |      | A     |        |      | B     |        |      |       |        |      | A     |        |
| 95% Queue Length, $Q_{95}$ (veh) |      | 4.2   |        |      | 3.4   |        |      |       |        |      | 1.0   |        |
| 95% Queue Length, $Q_{95}$ (ft)  |      | 105.0 |        |      | 87.0  |        |      |       |        |      | 25.6  |        |
| Approach Delay, s/veh   LOS      | 9.9  | A     |        | 11.9 | B     |        |      |       |        | 6.7  | A     |        |
| Intersection Delay, s/veh   LOS  | 10.0 |       |        |      |       |        | B    |       |        |      |       |        |





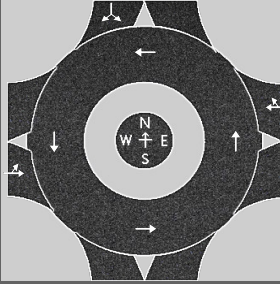
# HCS Roundabouts Report

## General Information

|                     |                          |
|---------------------|--------------------------|
| Analyst             | tsj                      |
| Agency or Co.       | DGL Consulting Engineers |
| Date Performed      | 11/7/2024                |
| Analysis Year       | 2049                     |
| Time Analyzed       | PM Peak Hour             |
| Project Description | Build                    |

## Site Information

|                           |                                |
|---------------------------|--------------------------------|
| Intersection              | Bainbridge Road & Prop. Dri... |
| E/W Street Name           | Bainbridge Road                |
| N/S Street Name           | Repurposed Drive               |
| Analysis Time Period, hrs | 0.25                           |
| Peak Hour Factor          | 0.73                           |
| Jurisdiction              | City of North Ridgeville       |



## Volume Adjustments and Site Characteristics

| Approach                            | EB   |    |     |   | WB   |   |     |    | NB   |   |   |   | SB   |     |    |     |
|-------------------------------------|------|----|-----|---|------|---|-----|----|------|---|---|---|------|-----|----|-----|
| Movement                            | U    | L  | T   | R | U    | L | T   | R  | U    | L | T | R | U    | L   | T  | R   |
| Number of Lanes (N)                 | 0    | 0  | 1   | 0 | 0    | 0 | 1   | 0  | 0    | 0 | 0 | 0 | 0    | 0   | 1  | 0   |
| Lane Assignment                     |      |    | LT  |   |      |   | TR  |    |      |   |   |   |      |     | LR |     |
| Volume (V), veh/h                   | 0    | 60 | 288 |   | 0    |   | 269 | 27 |      |   |   |   | 0    | 97  |    | 168 |
| Percent Heavy Vehicles, %           | 3    | 3  | 3   |   | 3    |   | 3   | 3  |      |   |   |   | 3    | 3   |    | 3   |
| Flow Rate (V <sub>PCE</sub> ), pc/h | 0    | 85 | 406 |   | 0    |   | 380 | 38 |      |   |   |   | 0    | 137 |    | 237 |
| Right-Turn Bypass                   | None |    |     |   | None |   |     |    | None |   |   |   | None |     |    |     |
| Conflicting Lanes                   | 1    |    |     |   | 1    |   |     |    |      |   |   |   | 1    |     |    |     |
| Pedestrians Crossing, p/h           | 0    |    |     |   | 0    |   |     |    |      |   |   |   | 0    |     |    |     |
| Proportion of CAVs, %               | 0    |    |     |   |      |   |     |    |      |   |   |   |      |     |    |     |

## Critical and Follow-Up Headway Adjustment

| Approach             | EB   |        |        | WB   |        |        | NB   |       |        | SB   |        |        |
|----------------------|------|--------|--------|------|--------|--------|------|-------|--------|------|--------|--------|
| Lane                 | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right | Bypass | Left | Right  | Bypass |
| Critical Headway, s  |      | 4.9763 |        |      | 4.9763 |        |      |       |        |      | 4.9763 |        |
| Follow-Up Headway, s |      | 2.6087 |        |      | 2.6087 |        |      |       |        |      | 2.6087 |        |

## Flow Computations, Capacity and v/c Ratios

| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Entry Flow ( $v_e$ ), pc/h       |      | 491   |        |      | 418   |        |      |       |        |      | 374   |        |
| Entry Volume, veh/h              |      | 477   |        |      | 406   |        |      |       |        |      | 363   |        |
| Circulating Flow ( $v_c$ ), pc/h | 137  |       |        | 85   |       |        | 628  |       |        | 380  |       |        |
| Exiting Flow ( $v_{ex}$ ), pc/h  | 543  |       |        | 617  |       |        | 123  |       |        | 0    |       |        |
| Capacity ( $c_{pce}$ ), pc/h     |      | 1200  |        |      | 1265  |        |      |       |        |      | 937   |        |
| Capacity (c), veh/h              |      | 1165  |        |      | 1229  |        |      |       |        |      | 909   |        |
| v/c Ratio (x)                    |      | 0.41  |        |      | 0.33  |        |      |       |        |      | 0.40  |        |

## Delay and Level of Service

| Approach                                | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |   |  |
|-----------------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|---|--|
| Lane                                    | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |   |  |
| Lane Control Delay (d), s/veh           |      | 7.3   |        |      | 6.0   |        |      |       |        |      | 8.6   |        |   |  |
| Lane LOS                                |      | A     |        |      | A     |        |      |       |        |      | A     |        |   |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |      | 2.0   |        |      | 1.5   |        |      |       |        |      | 1.9   |        |   |  |
| 95% Queue Length, Q <sub>95</sub> (ft)  |      | 50.0  |        |      | 38.4  |        |      |       |        |      | 48.6  |        |   |  |
| Approach Delay, s/veh   LOS             | 7.3  |       | A      |      | 6.0   |        | A    |       |        |      | 8.6   |        | A |  |
| Intersection Delay, s/veh   LOS         | 7.2  |       |        |      |       |        | A    |       |        |      |       |        |   |  |





# **NORTH RIDGEVILLE CITY SCHOOLS**

New High School + Transportation and Maintenance Facility

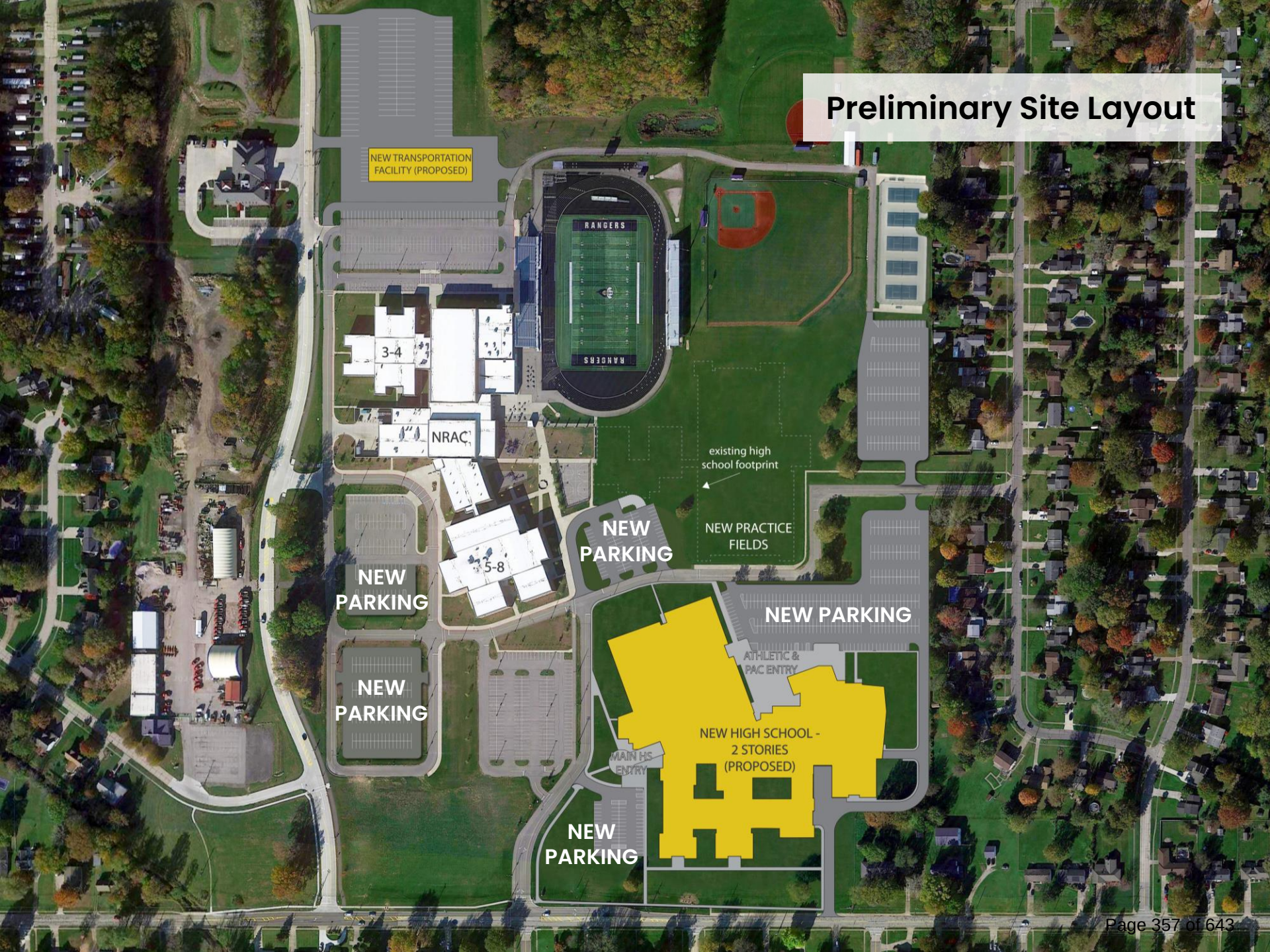
## **Planning Commission Submission**

November 15, 2024





# Preliminary Site Layout



NEW TRANSPORTATION  
FACILITY (PROPOSED)

3-4

NRAC

5-8

NEW  
PARKING

existing high  
school footprint

NEW PRACTICE  
FIELDS

NEW  
PARKING

NEW  
PARKING

NEW PARKING

ATHLETIC &  
PAC ENTRY

NEW HIGH SCHOOL -  
2 STORIES  
(PROPOSED)

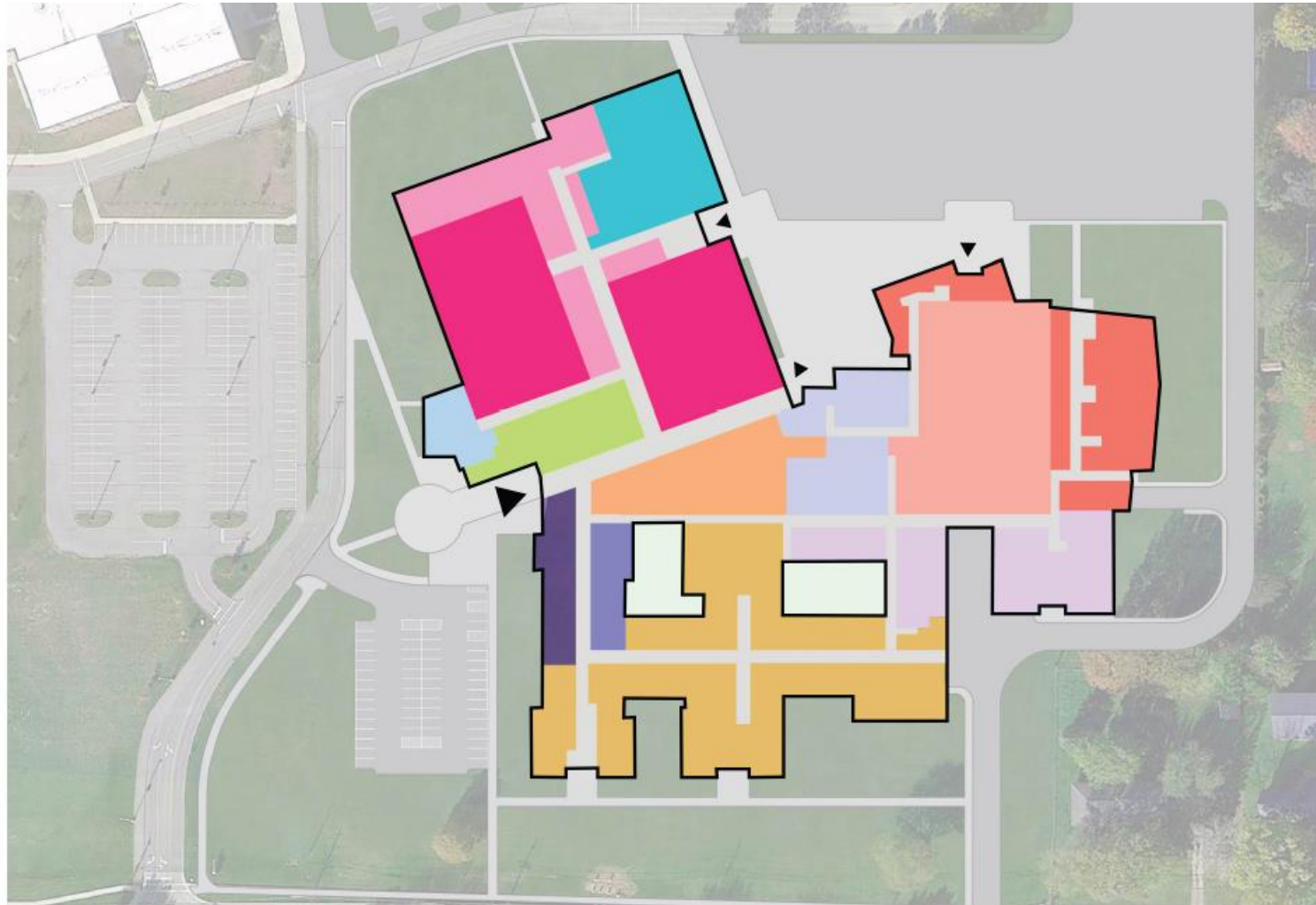
MAIN HS  
ENTRY

NEW  
PARKING



# First Floor Diagram

North Ridgeville High School

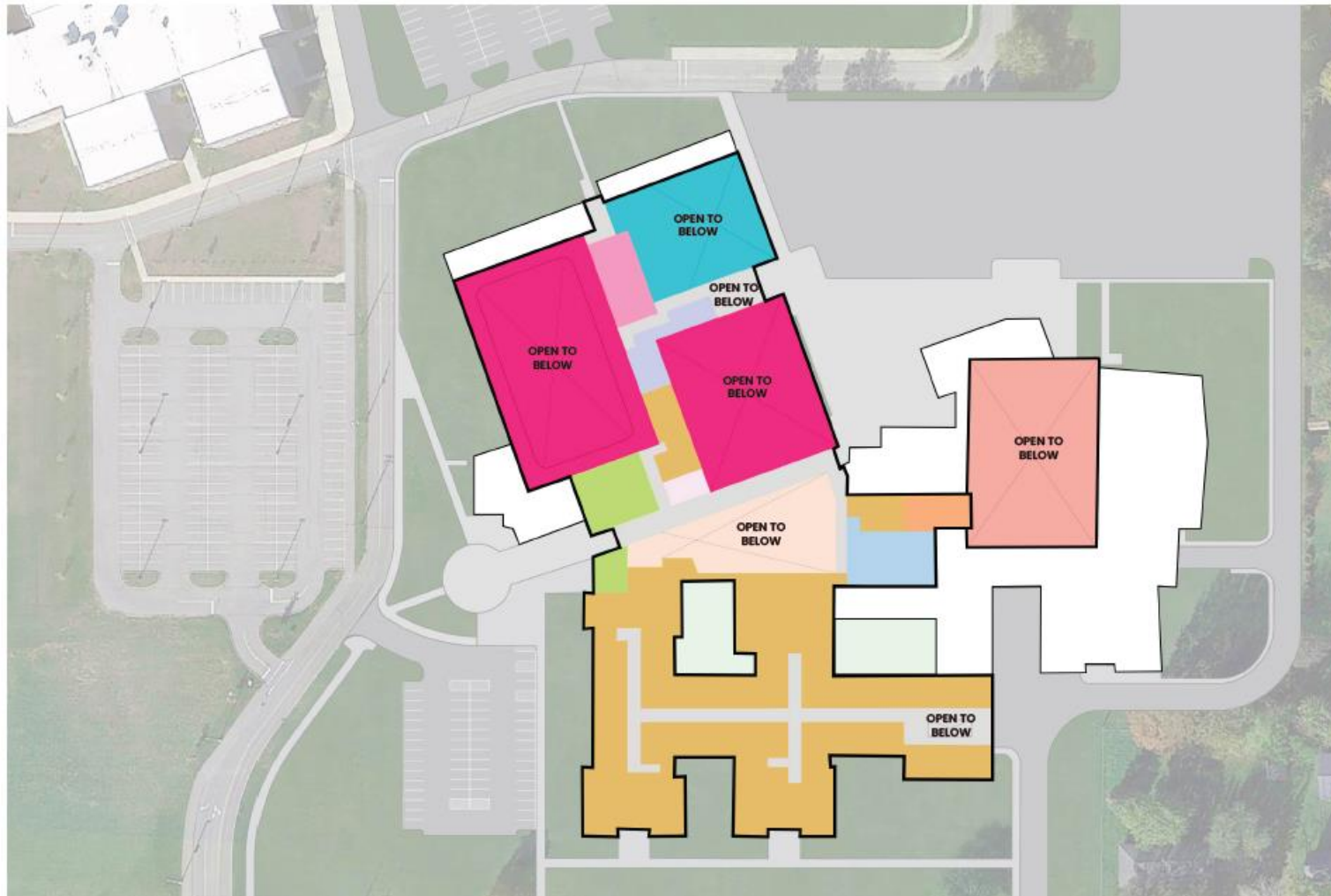


## Legend

- Gymnasium
- Athletics
- Natatorium
- Meeting Space
- Administration
- Student Dining
- Kitchen + Mechanical
- Family Consumer Science
- School Store + Business
- Academic Space
- Auditorium
- Music
- Art + Career Tech
- Courtyard

# Second Floor Diagram

North Ridgeville High School



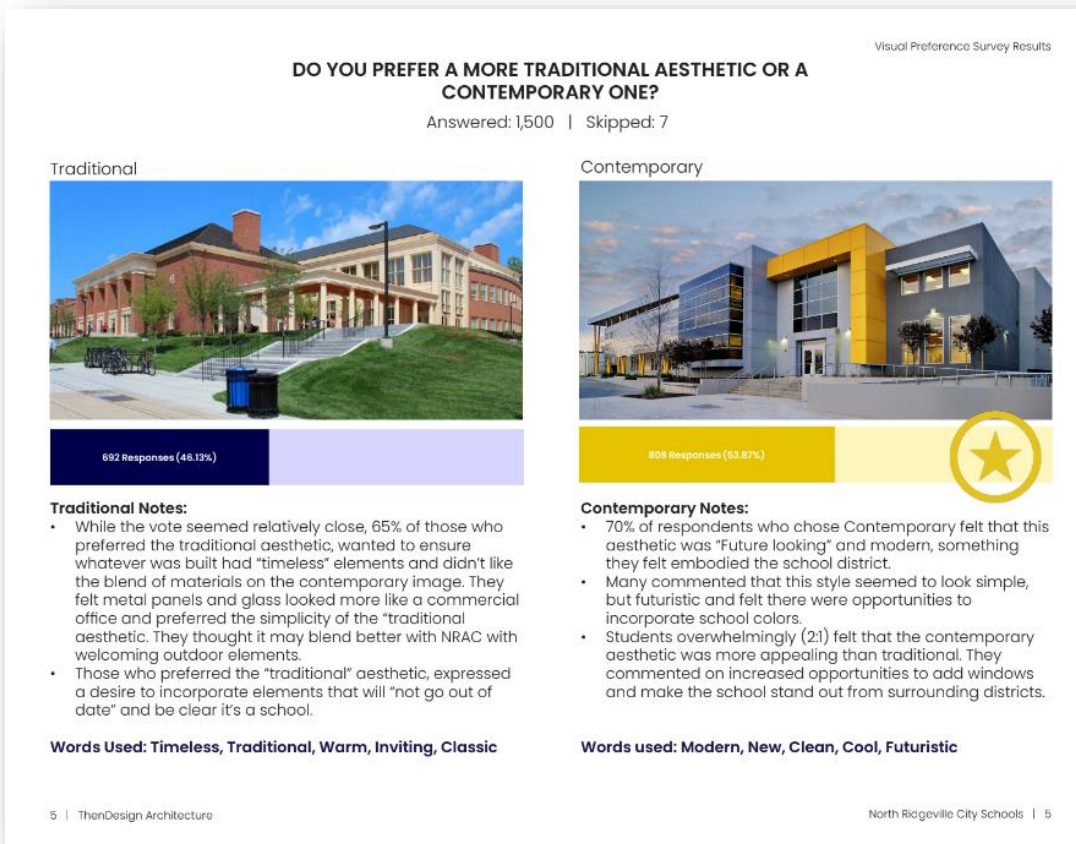
## Legend

- Gymnasium
- Athletics
- Natatorium
- Administration
- Staff Dining
- Academic Space
- Auditorium
- Courtyard
- Mechanical
- Media Center



# Visual Preference

## Community Providing Feedback on Exterior Design



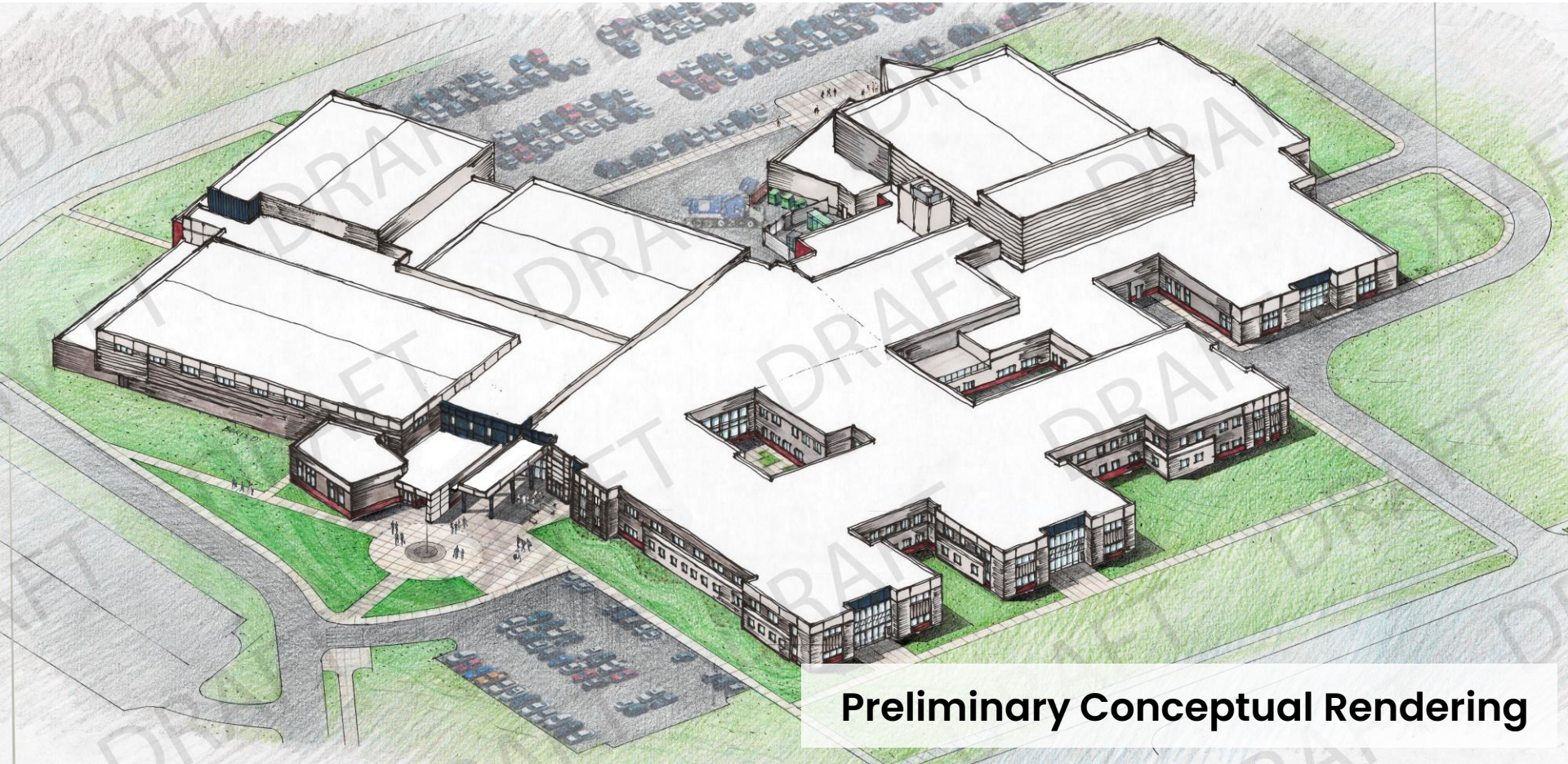
The feedback from this survey will be incorporated into the design process to help guide the exterior aesthetic of the new high school.



- A **transition** from a middle school to a high school environment
- Aspects of a "Timeless Design"
- A **Statement Entry**
- An **overhang/covering** for the Student Entry
- Exterior **Textures**

# Southwest Exterior Axonometric

North Ridgeville High School

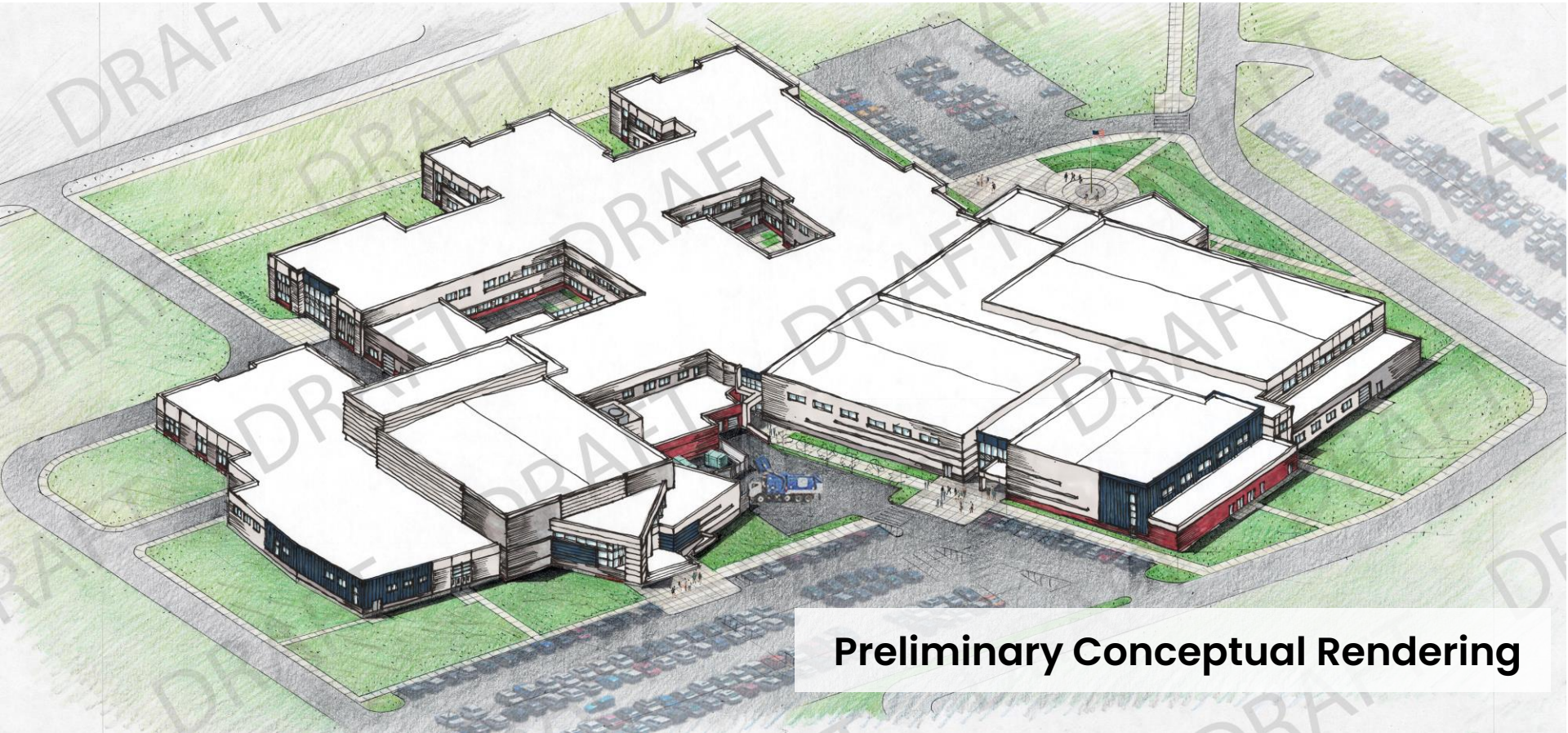


Preliminary Conceptual Rendering



# Northeast Exterior Axonometric

North Ridgeville High School



Preliminary Conceptual Rendering



# Primary Entrance

North Ridgeville High School

Preliminary Conceptual Rendering





# Performing Arts Center Entrance

North Ridgeville High School

Preliminary Conceptual Rendering





# Natatorium and Student Athlete Entrance

North Ridgeville High School

Preliminary Conceptual Rendering





# TIMELINE: BUILDING PROGRAM



2025

2026

2027

2028

EARLY SITE

HS BUILDING CONSTRUCTION

DEMO HS

TRANSPORTATION



Transportation Opens  
January 2026



High School Opens  
2028-29 SY



# TIMELINE: FALL 2024



ACADEMIC  
CENTER

NRHS

T/M

RANGER WAY

BAINBRIDGE RD

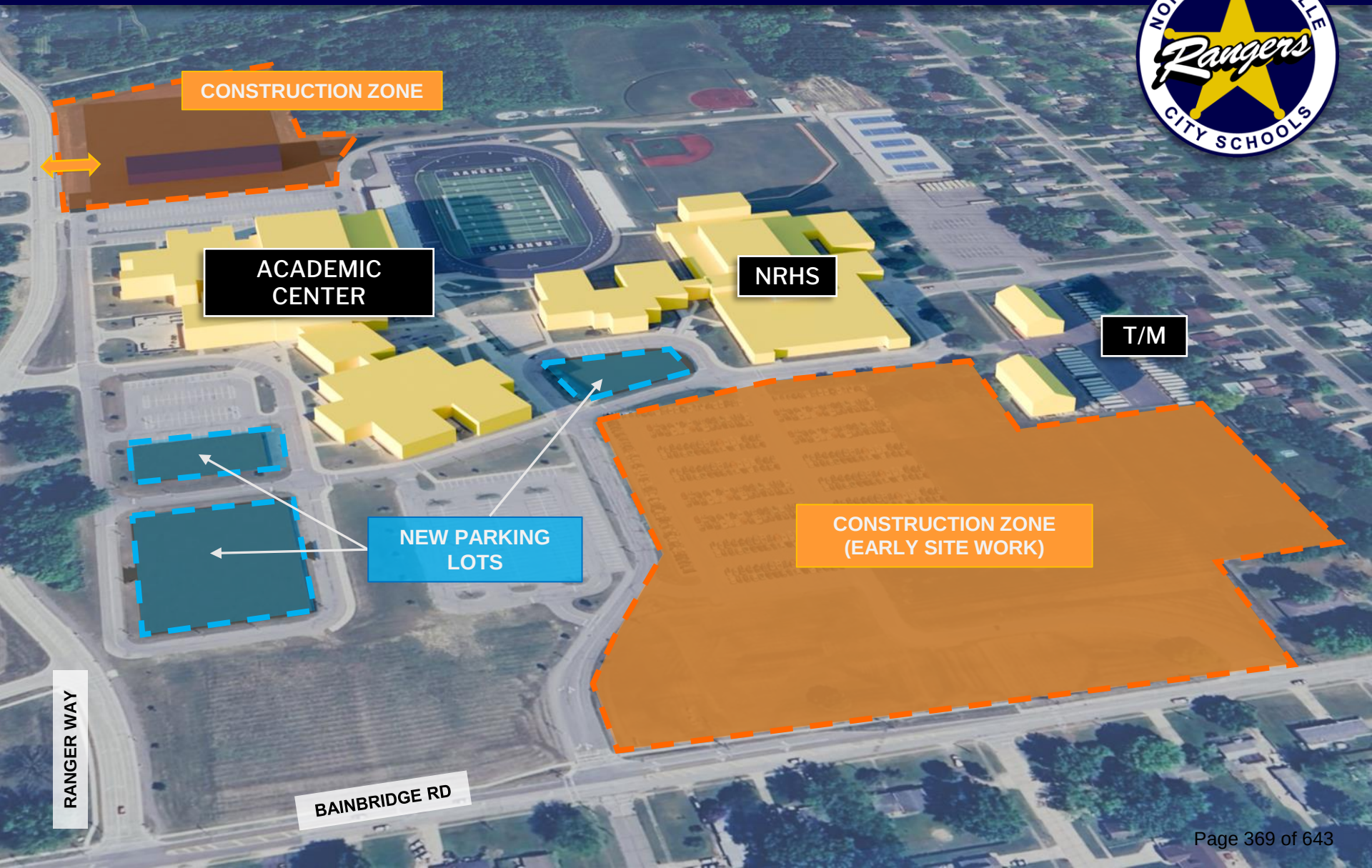


# TIMELINE: MARCH 2025





# TIMELINE: SUMMER 2025





# TIMELINE: FALL 2025



CONSTRUCTION ZONE

ACADEMIC  
CENTER

NRHS

T/M

NEW PARKING  
LOTS

CONSTRUCTION ZONE  
(EARLY SITE WORK)

RANGER WAY

BAINBRIDGE RD



# TIMELINE: WINTER 2025-2026



★  
TRANSPORTATION  
CENTER OPENS

ACADEMIC  
CENTER

NRHS

DEMO

CONSTRUCTION ZONE

RANGER WAY

BAINBRIDGE RD



# TIMELINE: SPRING 2026 – SPRING 2028





# TIMELINE: START OF 2028-29 SY



ACADEMIC  
CENTER

DEMO

NRHS

FIRST DAY OF SCHOOL

RANGER WAY

BAINBRIDGE RD



# TIMELINE: FALL 2028



ACADEMIC  
CENTER

FIELDS SEEDED

NRHS

RANGER WAY

BAINBRIDGE RD



# Planning Commission Application

RECEIVED

NOV 15 2024



## SUBMITTAL INSTRUCTIONS AND PROCEDURES

Plan reviews will be carried out according to the processes described in the City's Zoning Code.

- **Pre-Application.** Prior to making application, applicants are recommended to contact the city to discuss their development project. City staff will outline the review process and provide a checklist of required submittals.
- **Application Submittal.** Following the pre-application meeting, the applicant shall submit this completed application, fee and ten (10) sets of all required exhibits. All submissions shall be made in hard copy to the Building Division. Plans shall be collated, folded and easily legible.
- **Staff Review.** The applicant shall attend a staff review meeting and may be required to submit additional information and/or revised plans based on staff input.
- **Variances.** Where zoning variances are sought by the applicant, review by the Board of Zoning and Building Appeals will be necessary prior to consideration by the Planning Commission, requiring a separate application.
- **Decision or Referral.** Following staff review, complete submittals for Administrative Review projects may be considered for approval. For Council Review projects, complete submittals shall be referred to the next available Planning Commission meeting, which are held the second Tuesday of each month.

## PROJECT INFORMATION

34600 Bainbridge Rd., North Ridgeville, OH 44039

0700016104233

Location address

Parcel number(s)

Project type: ☒ Commercial/Industrial/Multi-Fam ☐ Prelim Major Subdivision ☐ Final Major Subdivision ☐ Lot Split

Project elements: ☒ New Construction ☐ Building Addition/Alteration ☐ Site Improvements ☐ Plat

A new 340,000 SF High School for North Ridgeville City Schools. Existing HS will be demolished.

Project description

## APPLICANT/AGENT INFORMATION

Claire Bank / ThenDesign Architecture (TDA)

Name/Company

4230 River Street, Willoughby, OH 44094

Applicant address

(440)269-2266

cbank@thendesign.com

Applicant phone

Applicant email

## PROPERTY OWNER INFORMATION

Roxann Ramsey-Caserio / North Ridgeville City Schools

Name/Company

34620 Bainbridge Rd., North Ridgeville, OH 44039

Property owner address

(440)353-1108

roxanncaserio@nracs.net

Property owner phone

Property owner email

## AUTHORIZATION AND ACKNOWLEDGEMENT

Claire Bank

Applicant signature

Digitally signed by Claire Bank  
DN: cn=US, E=cbank@thendesign.com, cn=Claire Bank  
Reason: I have reviewed this document  
Date: 2024.11.14 19:18:21-0500

*[Handwritten Signature]*

Property owner signature

I hereby authorize the City of North Ridgeville, including Planning Commission members, to view the premises and consent to their entry onto the property for the purpose of observing site conditions related to review of my application.

|        |              |                   |        |
|--------|--------------|-------------------|--------|
| OFFICE | PPZ No.      | Planning Fee Paid | ACTION |
|        | PP22024-0322 | N/C PER Mayor     |        |

## Planning Review

November 25, 2024

*Preliminary Review*

Project: North Ridgeville City Schools High School  
Location: 34600 Bainbridge Road  
PPNs: 07-00-016-104-233  
District: R-1 Residence District

### Project Summary:

This proposal consists of a new high school complex with parking lots, athletic fields and other accessory site improvements. The entire property is zoned R-1 Residence District. Schools are permitted uses in the R-1 District. The North Ridgeville City Schools are seeking phased approval for this project.

Phase 1: Early sitework

Phase 2: Building construction

Phase 3: Demo existing high school and final sitework

Phase 1 construction is scheduled to begin in summer 2025. Building construction is intended to begin in spring 2026. The old high school will be demolished and final site work commenced in summer 2028. The new high school will open for the 2028-2029 school year.

In Phase 1, the Planning Commission will review the overall site plan for the new high school and campus improvements. Plans show facilities to be demolished, the proposed layout of new buildings, parking areas, athletic fields and stormwater management facilities.

The new high school will be located south of the existing building so that it can remain in use until such time as the new high school is operational.

Due to the loss of parking in the construction zone for the high school, Phase 1 approval includes construction of additional parking areas. Two of the parking areas will be in the greenspace area closest to NRAC near Ranger Way. A third parking lot will be in the green space area to the south of the current high school main entrance.

The project abuts residential properties along Pitts Boulevard. Today, those properties a combination of parking lots for bus and vehicle parking, tennis courts and open space. North of the entrance drive from Pitts, the only change along this boundary will be the restriping of the existing parking lot. South of the entry from Pitts, parking and driveways will be expanded and the new building will be located within this southeast quadrant of the site. Pavement will be set back 10 feet from property lines. Notes indicate a future fence along the boundary.

A traffic impact study (TIS) was submitted by the schools with their Phase 1 application. That TIS is under review by city staff and the city's traffic engineering consultant.

Preliminary Comments:

- Chapter 1210.05: The traffic study is under review by the city's traffic engineering consultant. A final TIS incorporating city comments, once issued, shall be provided. The project shall be responsible for any and all recommended improvements located within the public right-of-way.
- Chapter 1285: Parking/Lighting
  - Clarify/confirm extent of new parking and existing parking improvements intended to be included in Phase 1 and ensure that details are provided for each area.
    - South of NRAC – expansion
    - South of NRAC – new parking
    - South of Ex. HS – new parking, detail?
    - North of Pitts entry – restripe existing
    - South of Pitts entry – partial construction?
  - If lighting is being installed in the new parking lots as part of Phase 1 construction, a photometric plan and light fixture details are required for review.
  - Given the close proximity of the new drive and parking lot on the east side of the building closest to the Pitts Boulevard residences, the design team should think about location of parking lot lights to ensure future proposed lighting locations do not result in light trespass over residential property lines.
- Chapter 1288: Buffer strip recommended. Any R-1 property abutting a higher density residential district or commercial district is provided screening through a required buffer strip, at a minimum depth of 10 feet. While not strictly required by the Zoning Code when R-1 abuts R-1, the school use is of a commercial nature and intensity, and adjacent residents should be afforded screening. Planning Commission can require buffer strips for any building not covered under the chapter “upon substantial exterior alterations and/or additions.”



## Planning Commission Comment Sheet



### PROJECT INFORMATION

High School

Proposed project

34600 Bainbridge Rd

Location

December 10, 2024

Meeting date

07-00-016-104-233

Parcel number

December 1, 2024

Comments due

### RECOMMENDATIONS

Please contact Asst. Chief Mike Uhnak with the North Ridgeville Fire Department. To discuss the following code requirements:

1: OFC Rule5 Fire Service Feature-

Section 506: Fire Department Lock Box

Section 503: Fire Access Roads

Section 507: Fire Protection Water Supply

2: OFC Rule 33 Fire Safety During Construction.

3: NFPA 241 Standard for Safeguarding Construction Operations.

4: Chapter 16 Fire Prevention North Ridgeville City Ordinance.

1640.01: Fire Hydrants: All portions of the building must be within 300ft of a hydrant. Plans do not show hydrant locations compliant to above code requirements.

5: The Fire Department Connection preferred location is on the wall of the building. Also, a fire hydrant within 50ft.

6: Please have a licensed fire protection company conduct the water flow test.

7: Please decide the Minimum Fire Flow Requirements as tabled in the International Fire Code. Table B105.1

Respectfully:

Asst. Chief Mike Uhnak  
North Ridgeville Fire Department  
[Muhnak@nridgeville.org](mailto:Muhnak@nridgeville.org)  
(440)653-6362

### SUBMITTED BY

Mike Uhnak

Administrative officer signature

Asst. Chief

Title

Planning Commission Bylaws Article V Section 2 – Administrative Review. All applications including those plans and maps submitted to the Commission shall be referred to Administrative Officers. Comments and recommendations by Administrative

## Planning Commission Comment Sheet



### PROJECT INFORMATION

High School

Proposed project

34600 Bainbridge Rd

Location

December 10, 2024

Meeting date

07-00-016-104-233

Parcel number

December 1, 2024

Comments due

### RECOMMENDATIONS

Type comments here. Attach additional sheets as necessary.

No comment at this time.

### SUBMITTED BY

Guy M. Fursdon

Administrative officer signature

Chief Building Official

Title

**Planning Commission Bylaws Article V Section 2 – Administrative Review.** All applications including those plans and maps submitted to the Commission shall be referred to Administrative Officers. Comments and recommendations by Administrative Officers, if any, shall be forwarded to the Secretary not later than ten (10) calendar days after receipt. Administrative Officers who have not acted within the allotted time shall be deemed to have concurred with plans as submitted.

## Planning Commission Comment Sheet



Officers, if any, shall be forwarded to the Secretary not later than ten (10) calendar days after receipt. Administrative Officers who have not acted within the allotted time shall be deemed to have concurred with plans as submitted.



## Staff Meeting Bulletin

**Meeting Date:** November 26, 2024

**Project:** North Ridgeville City Schools Transportation Center, 7001 Ranger Way, North Ridgeville, OH 44039

**Applicant:** Claire Bank/ThenDesign Architecture, 4230 River St, Willoughby, OH 44094

**Zoning:** R-1 Residence District

**In Attendance:** Kevin Corcoran, Mayor  
Kim Lieber, Planning & Development Director  
Christina Eavenson, City Engineer  
Mike Freeman, Police Chief  
John Reese, Fire Chief  
Mike Uhnak, Assistant Fire Chief  
Roxann Ramsey-Caserio, North Ridgeville City Schools  
David Pritt, North Ridgeville City Schools  
Claire Bank, ThenDesign Architecture  
Bill Schurman, Hammond Construction

### Project Introduction

- Claire stated that they were seeking approval from the Planning Commission for the early site work to begin and most of that meant establishing the building pad and starting that site preparation. She mentioned that the only utility piece that would need to happen was electrical, refeeding the high school and there had been some communication with First Energy as far as the route that would go through because currently it was fed with overhead wires through where the new high school would be going.
- Bill stated that the early site would be mass earth work, possibly some aggregate piers which would support the future foundations, and they were working through those details with the Geotech engineer right now. He mentioned that all the SWPP, all the temporary erosion sedimentation controls would be part of that. He stated that there would be some utility work as Claire mentioned there was an overhead electric line that they were working with First Energy to look at options to get that relocated. He added that they would couple that work with the new parking lots along Ranger, not tied to Ranger Way, but as part of the early site work.

### Staff Comments

- Kim commented that they we're not reviewing the building at that point but were reviewing the building placement. She asked if they would add some like dimensions generally to the property line and setback and stated that she understood that might change in the fine tuning but wanted to at least show Planning Commission generally the spatial orientation in relation to the property line, so they see they were building a foundation for the new school to know where it was going to be.
- Chief Reese asked if there was anything below elevation, any basements or crawl spaces. Bill stated there wouldn't be any basements. Claire stated that the deepest excavation would be the pool.
- Chief Freeman asked if it was two stories. Claire stated that the main academic wing was two stories throughout and in the athletic area, there would be elevated seating for the pool, elevated walking track around the auxiliary gym. She stated that regarding the auditorium, the seating would be on one level, but there were some elevated things like the catwalk and the stage was the highest piece.

- Christina commented that she believed the intent for the new high school was to tap into the sanitary sewer on Bainbridge and was cautious because they just had a hydraulic model for that area due to another development that wanted to connect to that line on Bainbridge and there was concern with capacity on it. She mentioned that if they had flow data, she could potentially take that and see if there would be a cause for concern. She asked if there could be potentially an opportunity to take the sanitary to Ranger Way because there was a trunk line just to the north of that campus that didn't have capacity issues, and she believed they were tied into that currently. She stated that she believed there was an 8-inch line that ran along Ranger Way on their side that they were currently tapped into for the academic center and her preference would be to go that direction, but if they had the data, she could run the numbers to see if that was going to pose a problem or not.
- Bill stated that the intent was that all the construction traffic would come in and out from Bainbridge. Kim asked if that was in that added driveway to the east or in the main drive. Bill stated it would be in the added, so not commingled with the school traffic, but then they would keep all the construction traffic away from for the high school, the construction traffic away from Ranger Way and away from Pitts and have it all come in and out on Bainbridge.
- Claire mentioned that in regards to the proposed fence along the east property line, one of the residents requested a pretty high fence, so they were torn between six and eight feet. She stated that they were sensitive to that in placing of the fence and treating it as a screen but they weren't sure regarding the buffer, if they meant landscaped buffer or a fence that was visually more impermeable. Kim stated that she thought it helped with also sound and light to have some vegetation, not maybe the solid screen. She added that they weren't going to make a two-story building disappear, but some of the trees that could at least diffuse some of the sounds because when everything's hard surface, there's nothing to soften or absorb it. She mentioned that in looking at adjacent to the residential property line, you kind of see where there might be more or less existing vegetation that they could fill in or complement and if they looked at it strategically rather than just row of Arborvitae, that would be a better way to go.
- Claire stated that the plans show a later phase where they intended to fill out parking more, so the parking that was going to the north of the school, a lot of that is intended to be student parking once everything was done and that in the evenings, it would serve more the auditorium because there was a dedicated entry for the auditorium back there and the auditorium also had an entry off of that lot. She stated that the parking more to the west was geared more towards staff and would serve the competition gym and stadium but the whole site served the stadium. She stated that it would be more geared towards the athletic functions of the site and the small lot right by the main entry was meant to be visitors during the day so that they know exactly where to go on the site.
- Christina asked if all of the all the parking going was going to be curbed now because some of the existing parking wasn't. Claire stated that she believed the intent was so, but she would check.
- Christina mentioned that while they were talking about the project globally, in some of the communication she had seen with the engineer, they were using the word redevelopment for stormwater. She stated that she didn't consider the high school site to be redevelopment and that it was new development. She indicated that she just wanted to ensure that when he moved forward with the storm water calculations that he's treating it as a new site.
- Claire stated that the piece that he was looking for some clarification on was the treatment of the existing high school, once that went away and that all became impervious, how that tied into the calculation for the treatment here because there was some swapping just as far as the site make up between impervious and impervious surface.
- Christina asked if they could look at a pre-existing condition from the original campus, before the academic center if they looked at as opposed to what it's going to be in the total buildout conditions. Claire stated that with the academic center, she thought that high school was accounted for in some capacity with the overall approach to the storm water. Claire mentioned that the basin in the back was substantial. Christina stated that she believed that it was 100% accounted for stormwater management. But she thought the water quality basin in the back did not include any of the original

existing conditions on the east side like the bus parking over there now and some of that impervious surface was not routed to that water quality basin, so some of that wasn't being treated at all for water quality. Claire stated that Joe at Riverstone was digging into what was treated as far as going back to that basin and making sure that they were accounting for those pieces accurately. She stated that they had those reports and thought that if they needed to have more, he would be more qualified to answer that. Christina thought it would be helpful to have a conversation with him.

- Kim stated that for the first phase, she wanted to understand specifically the extent of the parking improvements that they were proposing and in looking at the presentation that was submitted, it showed parking in the drop off area at the high school, but she didn't see it in their set of plans. Claire stated that there had been some debate on how much parking that would really add or if that caused a wrench in the flow of the drop off. She stated that she felt better about the ones that were in front of NRAC, as far as feasibility and impact of bringing quite a bit of parking than that smaller one. Bill stated that he agreed with her. Kim stated that she thought it would be hard to maximize use of that area because they wouldn't get as many spaces because of its shape.
- Kim wanted to confirm that on the Pitts side, anything north of that entrance drive, all that would be happening there was restriping the existing parking lot. Claire stated that was correct. Kim asked south of that drive, where the current maintenance facility was, when that was demolished, if that piece would be part of phase one parking lot construction. Claire stated that that was their thinking. Kim asked if that would be resurfacing existing or would that be fully constructed as new. Bill stated that he envisioned it new.
- Kim discussed that if they were planning any new lighting, they would need lighting details for that. Regarding lighting, she knew that schools wanted to ensure that their parking lots were well lit and drives and entrances into the facility but that was also pretty close to those residents back yard and she just wanted to make sure that as they were thinking about lighting placement in the future, that they weren't now lighting up their backyard, so they might have to think of some creative lighting strategies for that area just because of how close it was.
- Chief Freeman asked if while that was being built, would there be access for fire and police off of Bainbridge or if it would come off of Ranger Way. Bill asked if he was talking about the campus. Chief Freeman said to the old high school. Bill said absolutely.
- Mike asked that they maintain fire department access during the construction phase in case they had to help one of their people or if somebody got hurt. He asked regarding the fire line, if it was coming off of Bainbridge or Ranger Way. Claire stated that currently they had it coming off Bainbridge.

### Next Steps

- The applicant will provide updated plans for the December 10 meeting.



### **COMMISSION AUTHORITY**

The Planning Commission is a five-member board with the responsibility to hear applications for land use, zoning classifications or districts; to review and recommend legislation and regulations on all matters of municipal planning, land use and zoning; and to review and recommend to Council ordinances creating regulations governing all development and redevelopment, both public and private. The Commission has control over platting and subdividing of lands. The Commission evaluates the plan, design, location, removal, relocation and alteration of buildings and structures located on public lands and along public streets. All plans and recommendations of the Planning Commission must be approved by Council.

### **APPLICATIONS**

Commission meetings are held in Council Chambers at City Hall on the second Tuesday of each month starting at 7:00 p.m. Complete applications must be received at least 25 days prior to a regular meeting to appear on the agenda. To be considered complete, an application must be signed by the property owner, include the required fee and be accompanied by the required plans, exhibits and materials of the type and number listed in the application. All materials submitted become the property of the Commission.

### **FEES**

See the Planning and Zoning Fee Schedule for a complete list of applicable fees for your project.

### **SUBMITTAL REQUIREMENTS**

For residential subdivisions and other platting of property, applicant shall refer to the City's Subdivision Regulations for submittal requirements. For all other projects, Section 1243.05 of the Zoning Code contains the complete list of development plan requirements. Applicants shall submit information responsive to these requirements, as applicable and directed by city staff.

Note that a traffic impact study is required for all developments involving a new use, change of use and/or expansion of use based on trip generation rates and in accordance with the requirements of Chapter 1210.

All drawings for subdivision of property must have the seal of a licensed professional engineer or registered surveyor. Development plans should be stamped by a registered architect or licensed professional engineer. Plats shall be 24 by 36 inches in size. Site improvement plans shall be 22 by 34 inches in size.

### **NOTICE AND APPEARANCE**

The Commission is required to give public notice ten days in advance of a meeting, as well as notice to all parties in interest, including owners of adjoining properties. Applicants and owners are required to attend the meeting where their application is considered.

### **APPLICANT PRESENTATION**

Applicants are expected to submit any documents or information relevant to their request with their application. At the meeting, the applicant, owner or authorized agent (design professional, contractor, attorney, etc.) should be prepared to make a presentation of their project or request and answer questions of the Commission. Adjoining property owners or other interested parties may also make comment or ask questions. Any public comment or questions regarding a project are directed to the Commission chair.

# Memorandum

|                 |                                                                              |              |       |
|-----------------|------------------------------------------------------------------------------|--------------|-------|
| <b>Date:</b>    | 12/06/24                                                                     |              |       |
| <b>To:</b>      | Kim Lieber, AICP – Director of Planning and Development                      |              |       |
| <b>From:</b>    | Claire Markwardt Bank – ThenDesign Architecture                              |              |       |
| <b>Project:</b> | NRCSD – New High School<br>34620 Bainbridge Road                             | <b>Job#:</b> | 19114 |
| <b>Subject:</b> | Planning Commission Preliminary Review Responses for comments dated 11/25/24 |              |       |

## Planning Commission Preliminary Review Comment Responses:

- 1) **Chapter 1210.05:** The traffic study is under review by the city's traffic engineering consultant. A final TIS incorporating city comments, once issued, shall be provided. The project shall be responsible for any and all recommended improvements located within the public right-of-way.  
[Response: The school district's traffic engineering consultant would like to discuss final recommendations with the city's traffic engineering consultant, once ready for a discussion.](#)
- 2) **Chapter 1285 – Parking/Lighting:**
  - Clarify/confirm extent of new parking and existing parking improvements intended to be included in Phase 1 and ensure that details are provided for each area.
    - South of NRAC – expansion – [Yes. No new lighting.](#)
    - South of NRAC – new parking – [Yes. No new lighting.](#)
    - ~~South of Ex. HS – new parking, detail?~~ – [This will be part of the late site phase. It partially conflicts with the existing high school.](#)
    - North of Pitts entry – restripe existing – [Yes. New lighting is not currently planned here.](#)
    - South of Pitts entry – partial construction? [Yes. Future lighting is planned, but it is planned to be installed when the other lighting for the new High School is installed.](#)
  - If lighting is being installed in the new parking lots as part of Phase 1 construction, a photometric plan and light fixture details are required for review. [See comments above. We believe all lighting will be installed in the later phase.](#)
  - Given the close proximity of the new drive and parking lot on the east side of the building closest to the Pitts Boulevard residences, the design team should think about location of parking lot lights to ensure future proposed lighting locations do not result in light trespass over residential property lines. [Understood. We will keep this in mind during design.](#)  
[Response: The parking lots identified above are those intended to be installed as part of Phase 1, except for "South of Ex. HS". Other responses are noted in blue to specific items above.](#)
- 3) **Chapter 1288:** Buffer strip recommended. Any R-1 property abutting a higher density residential district or commercial district is provided screening through a required buffer strip, at a minimum depth of 10 feet. While not strictly required by the Zoning Code when R-1 abuts R-1, the school use is of a commercial nature and intensity, and adjacent residents should be afforded screening. Planning Commission can require buffer strips for any building not covered under the chapter "upon substantial exterior alterations and/or additions."  
[Response: The design team will provide a buffer strip. That edge is a little bit complicated, with mature vegetation that we want to avoid disturbing, and some fencing that is in good shape. See image on next page:](#)

## Memorandum, continued



Please reference the attached sketch with narrative from the Landscape Architect. Where exactly the different components of the buffer should exist needs to be determined on site.  
Reference File "2024-1206\_NRHS-Landscape Buffer Narrative.pdf"

- 4) **Comment:** A request was made for adding some dimensions onto the site plan for review of building placement.

Response: Please see attached plan with dimensions added.

Reference file "2024-1206\_NRHS-Site Plan w Dimensions.pdf"

### Attachments:

#### Drawings:

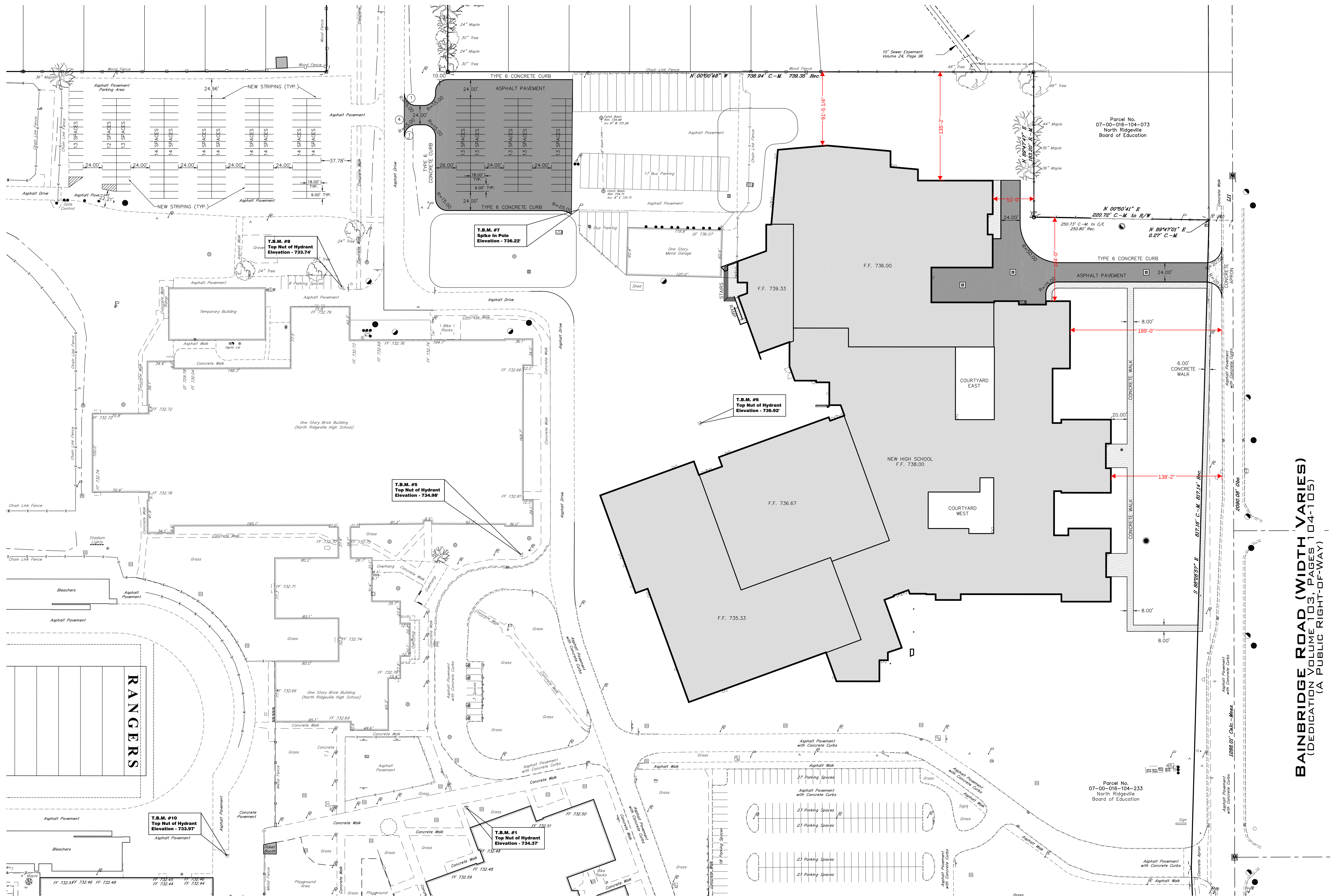
- 2024-1206\_NRHS-Landscape Buffer Narrative.pdf
- 2024-1206\_NRHS-Site Plan w Dimensions.pdf

Respectfully Submitted,

**Claire Markwardt Bank, AIA, NCARB**  
**ThenDesign Architecture**

**cc:** File  
Roxann Ramsey-Caserio  
David Pritt  
William Schurman





**LEGEND**

Monument Box Found

Iron Pin or Pipe Found

5/8" Iron Pin Set and Copied Riverstone Company Datasheet P35747

P.K. Nail

Gas Meter

Gas Valve

Utility Pole

Light Pole

Guy Anchor & Line

Telephone Box

Electric Box

Cable Box

Boiler

Spot Elevation Tag

Hydrant

Water Service Valve

Water Valve

Water Meter

Reducer

Storm Manhole

Sanitary Manhole

Curb Inlet

Catch Basin

Round Curb Inlet

Cleanout/Test Tee

Ex. Parcel Line

Original Sublot Line

Original Lot Line

Centerline

Property Line

Right-of-Way Line

Easement Line

Railroad Tracks

Electric Line

Gas Line

Sanitary Manhole

Sanitary Connection

D.I.W.M. Ductile Iron Water Main

Electric

Storm

Encroachment

Ex. Fence Line (Chain-Link)

Guardrail

Ac. Acres

Adj. Adjacent

Asp. Asphalt

Bas. Basement Floor

Cals./C. Calculated

CB Catch Basin

C.C.M.R. Cuyahoga County Map Records

CLF Chain-Link Fence

Clr. Clear

Conc. Concrete

Conn. Connection

D.I.W.M. Ductile Iron Water Main

Ele. Electric

Encr. Encroachment

Ex. Existing

F.F. Finished Floor

L.C.A. Limited Common Area

Mass./M. Measured

Mht. Manhole

Obs. Observed

Pg. Page

P.P.N. Permanent Parcel Number

R. Right-of-Way

R/W Right-of-Way

Rec. Record

S.F. Square Feet

Sq. Foot

Stn. Station

Temp. Temporary Bench Mark

TBR To Be Removed

Tele. Telephone

T.F. Top Factor

Vol. Volume

Wat. Water

- NOTES:
- END CURB PER END CURB TAPER DETAIL, SEE DETAIL SHEET C6.01.
  - DETECTABLE WARNING, TRUNCATED DOMES, SEE DETAIL SHEET C6.02.
  - ADA PARKING STALL AND SIGN, SEE DETAIL SHEET C6.01.
  - SEAL JOINT BETWEEN EXISTING PAVEMENT AND PROPOSED ASPHALT PAVEMENT PER DOT ITEM 705.04.
  - CONCRETE COLLAR, SEE DETAIL SHEET C6.01.

**PAVEMENT LEGEND:**

ASPHALT PAVEMENT

REINFORCED CONCRETE PAVEMENT

CONCRETE WALKS

GRAPHIC SCALE

( IN FEET )

1 inch = 40 ft.

**RIVERSTONE**

LAND SURVEYING - ENGINEERING - DESIGN

3800 LAKESIDE AVENUE - SUITE 100

CLEVELAND - OHIO - 44114

PHONE: (216) 491-2000 FAX: (216) 491-9640

WWW.RIVERSTONE.SURVEY.COM

2024-197

Project Issues

| no. | description         | date     |
|-----|---------------------|----------|
| 01  | Planning Commission | 11/15/24 |
| 02  | City Council        | 09/03/24 |
| 03  | description         | date     |

Project Issues

checked by:

sheet number:

**C3.01**

job number:

**23099**

overall site plan

NORTH RIDGEVILLE HIGH SCHOOL PHASE 1

NORTH RIDGEVILLE CITY SCHOOL DISTRICT

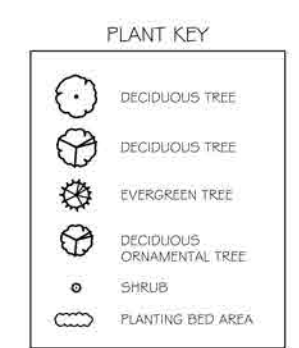
3402 BANBRIDGE RD. NORTH RIDGEVILLE, OH 44099

tda

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Preliminary  
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construction



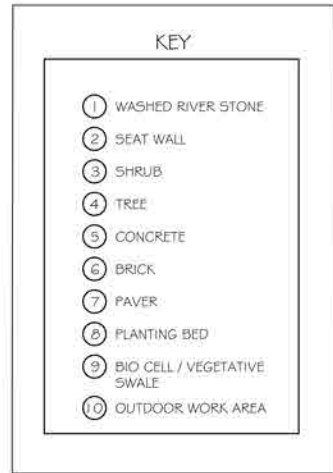


NORTH 



**M c C u e** Design Group, LLC  
LANDSCAPE ARCHITECTS  
P.O. BOX 234  
WILLOUGHBY, OHIO 44090  
216.870.7942 tel





**Design Group, LLC**  
**LANDSCAPE ARCHITECTS**  
P.O. BOX 234  
WILLOUGHBY, OHIO 44090  
216.870.7842 [www.dgllc.com](http://www.dgllc.com)

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checked by:

sheet number:

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Thendesign architecture ltd. given in confidence and remain the property of thendesign design and construction documents as instruments of service are documents for purposes other than the specific project named architecture ltd. the use of this design and these construction herein is strictly prohibited without expressed written consent of

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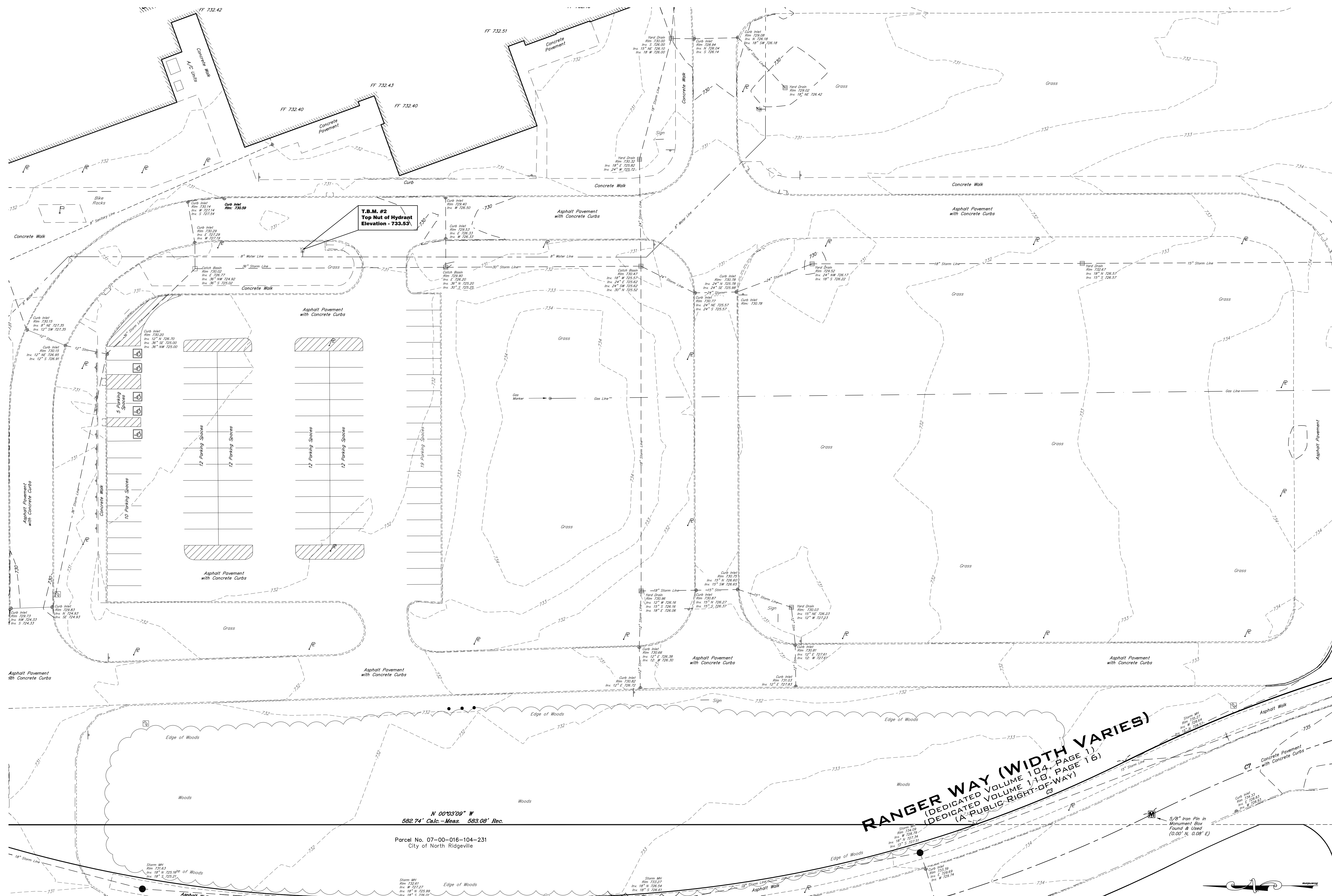
## EXISTING CONDITIONS

drawn by:  
JD

checked by:  
DAP

sheet number:  
**C2.01**

job number:  
23099



Edge of Woods

Woods

733'

69'

15' Storm Line

Storm Line

**RANGER WAY (WIDTH VARIES)**  
 (DEDICATED VOLUME 104, PAGE 1)  
 (DEDICATED VOLUME 110, PAGE 16)  
 (A PUBLIC RIGHT-OF-WAY)

*N 00°03'09" W*  
582.74' Calc.—Meas. 583.08' Rec.

Parcel No. 07-00-016-104-231  
City of North Ridgeville

*LEGEND*

[illegible]

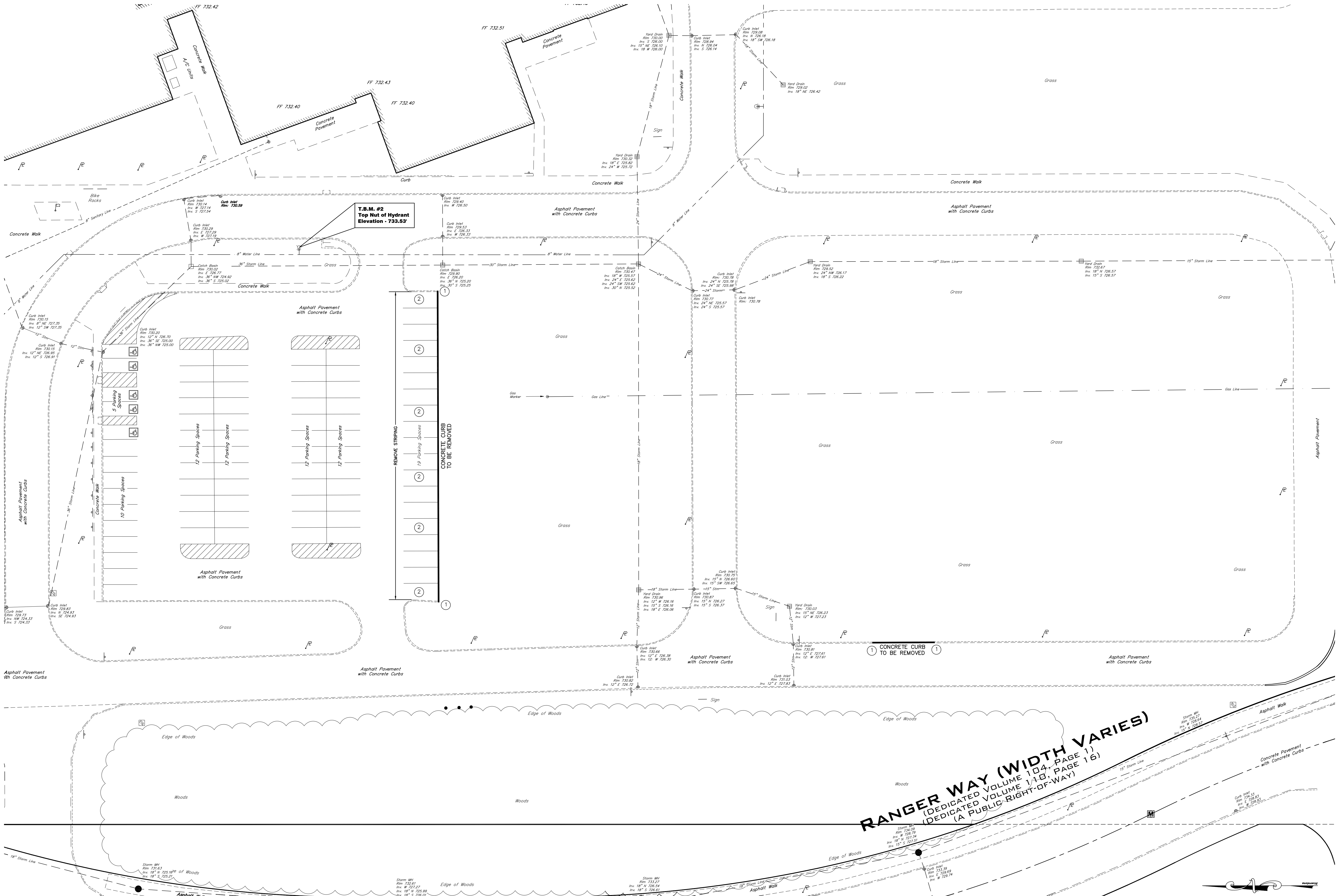
GRAPHIC SCALE

( IN FEET )  
1 inch = 20 ft.

**RIVERSTONE**

LAND SURVEYING - ENGINEERING - DESIGN  
3800 LAKESIDE AVENUE - SUITE 100  
CLEVELAND - OHIO - 44114  
PHONE: (216) 491-2000 FAX: (216) 491-9641  
WWW.RIVERSTONESURVEY.COM  
**2024-102**





| LEGEND |                            |
|--------|----------------------------|
|        | Monument Box Found         |
|        | Iron Pin or Pipe Found     |
|        | Riverstone Company         |
|        | Gas Meter                  |
|        | Gas Valve                  |
|        | Utility Pole               |
|        | Light Pole                 |
|        | Pay Anchor & Line          |
|        | Telephone Box              |
|        | Cable Box                  |
|        | Ballast                    |
|        | Cleanout / Test Tee        |
|        | Spot Elevation Tag         |
|        | Hydrant                    |
|        | Water Service Valve        |
|        | Water Valve                |
|        | Water Meter                |
|        | Reducer                    |
|        | Storm Manhole              |
|        | Sanitary Manhole           |
|        | Catch Basin                |
|        | Property Line              |
|        | Centerline                 |
|        | Ex Parcel Line             |
|        | Original Sublot Line       |
|        | Original Lot Line          |
|        | Centerline                 |
|        | Right-of-Way Line          |
|        | Easement Line              |
|        | Electric Line              |
|        | Gas Line                   |
|        | Sanitary/Combination Sewer |
|        | Waterline                  |
|        | Fence Line (Wooden)        |
|        | Fence Line (Chain-Link)    |
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|        | Adj. Z.L.                  |

GENERAL SITE DEMOLITION NOTES:

CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL PERMITS NECESSARY FOR SITE DEMOLITION AND SHALL BE RESPONSIBLE FOR ALL FEES.

CONTRACTOR SHALL CALL THE OHIO UTILITIES PROTECTION SERVICE (OUPS) A MINIMUM OF 48 HOURS BEFORE ANY DEMOLITION WORK.

CONTRACTOR IS RESPONSIBLE TO COORDINATE ALL UTILITY DEMOLITION WORK WITH THE APPROPRIATE UTILITIES PRIOR TO DEMOLITION. ALL UTILITY CONNECTIONS SHALL BE REMOVED ACCORDING TO UTILITY COMPANY REQUIREMENTS.

SANITARY AND WATER CONNECTIONS TO REMAIN FOR REUSE SHALL BE LOCATED, INSPECTED AND MARKED IN THE FIELD. CONTRACTOR SHALL NOTIFY ENGINEER OF EXACT LOCATIONS AND ELEVATIONS. ALL OTHER CONNECTIONS NOT PROPOSED TO BE REUSED SHALL BE PLUGGED AND ABANDON PER UTILITY REQUIREMENTS.

- SITE DEMOLITION PLAN KEYNOTES:
- 1 SAWCUT AND REMOVE CURB. CONTRACTOR SHALL SAWCUT AND REMOVE CURB PROVIDING A CLEAN SMOOTH EDGE AND ENSURE THE INTEGRITY OF THE PAVEMENT TO REMAIN.
  - 2 STRIPING TO BE REMOVED.

GRAPHIC SCALE

( IN FEET )

1 inch = 20 ft.

**RIVERSTONE**

LAND SURVEYING - ENGINEERING - DESIGN

3800 LAKEVIEW AVENUE, SUITE 100

CLEVELAND, OHIO 44114

PHONE: (216) 491-2000 FAX: (216) 491-9640

WWW.RIVERSTONEENGINEERING.COM

2024-102

Preliminary  
Not for  
Construction

NEW PARKING LOT  
NORTH RIDGEVILLE CITY SCHOOL DISTRICT

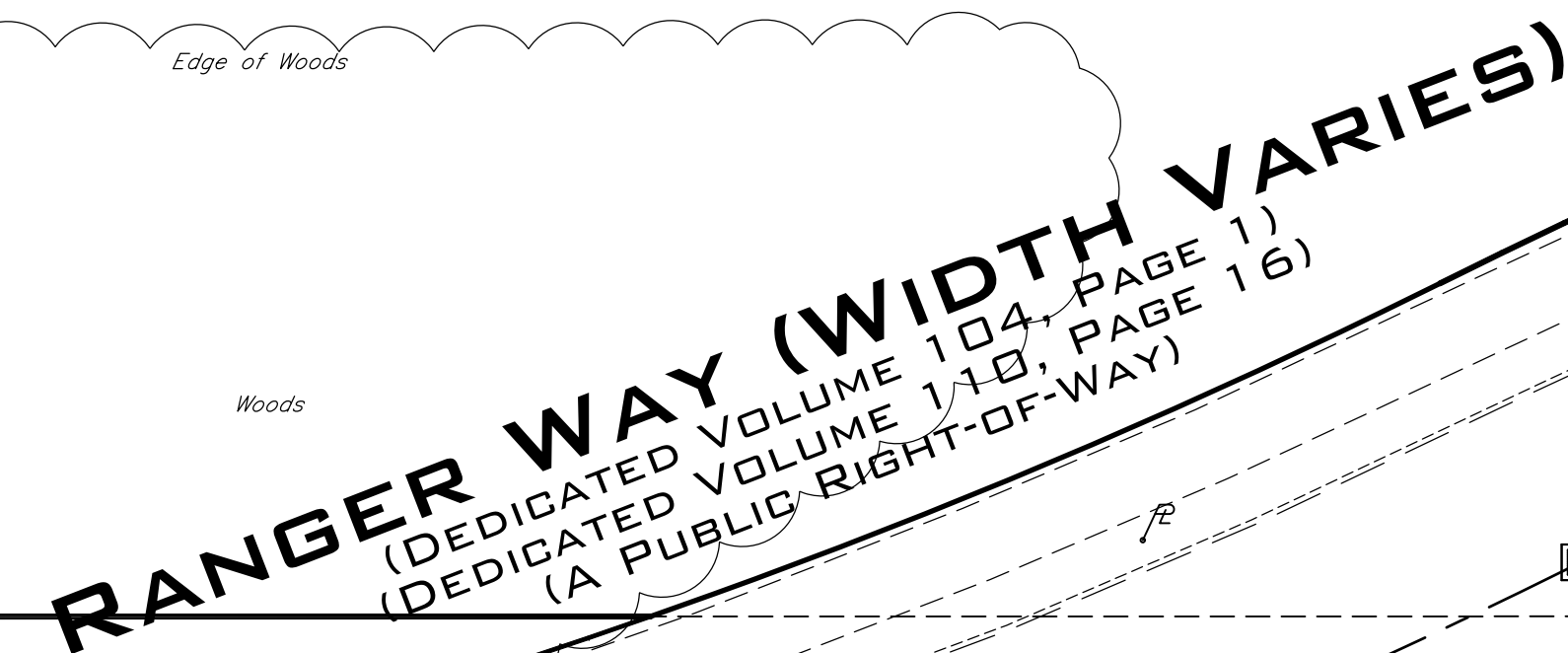
34620 BAINBRIDGE RD.  
NORTH RIDGEVILLE, OH 44039

| no. | description         | date       |
|-----|---------------------|------------|
| 1   | Planning Commission | 11/15/2024 |

Project Issues

drawn by:  
checked by:  
sheet number:  
job number:  
23099





|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
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| drawn by:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | JD     |
| checked by:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | DAP    |
| sheet number:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | C3.01  |
| job number:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 230999 |
| sheet name:<br>SITE PLAN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |

drawn by:  
JD

checked by:  
DAP

sheet number:  
C3.01

job number:  
23099

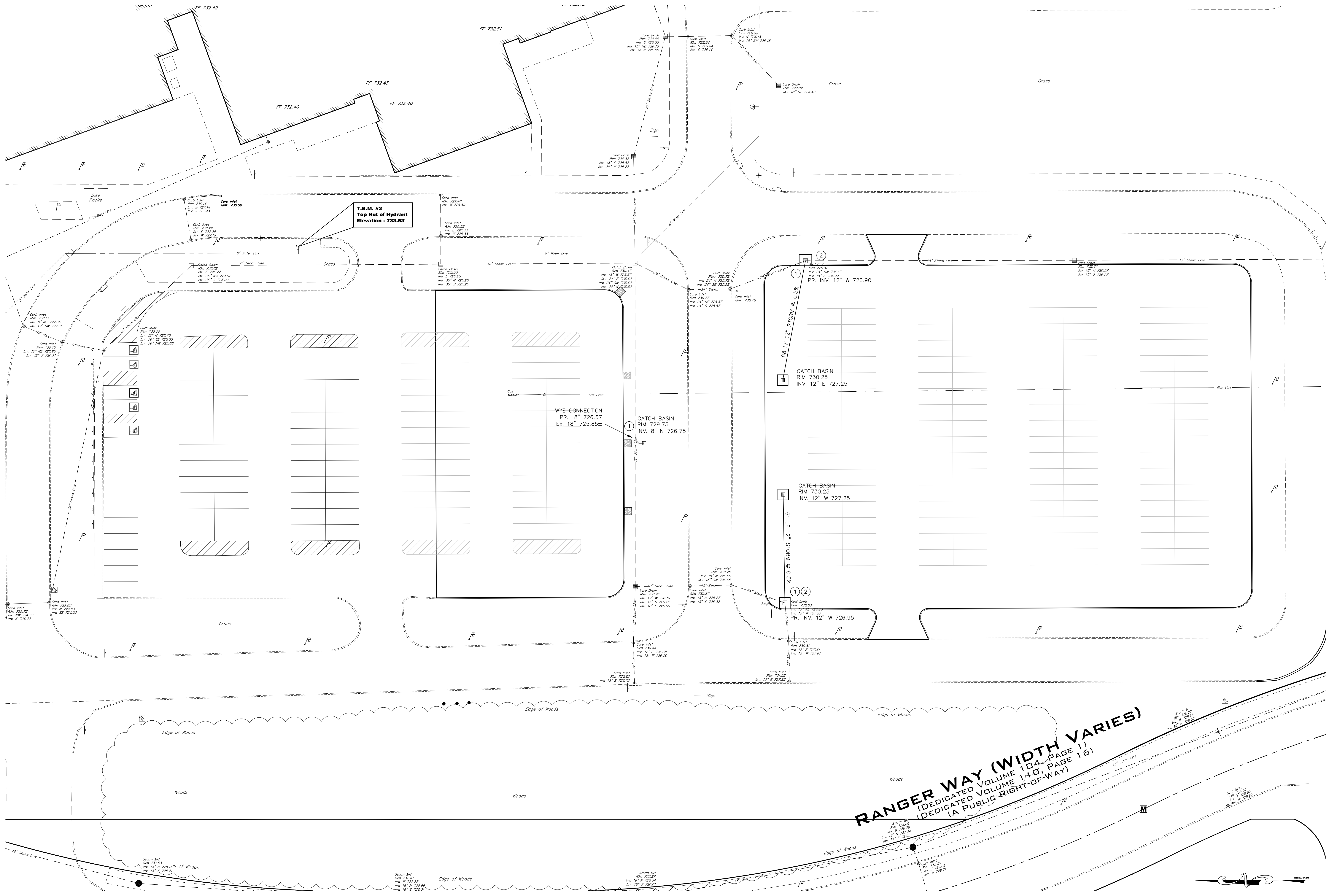
drawn by:  
JD

checked by:  
DAP

sheet number:  
C3.01

job number:  
23099





T.B.M. #2  
Top Nut of Hydrant  
Elevation - 733.53

WYE CONNECTION  
PR. 8" 726.67  
Ex. 18" 725.85

CATCH BASIN  
RIM 729.75  
INV. 8" N 726.75

CATCH BASIN  
RIM 730.25  
INV. 12" E 727.25

CATCH BASIN  
RIM 730.25  
INV. 12" W 727.25

CATCH BASIN  
RIM 730.25  
INV. 12" W 727.25

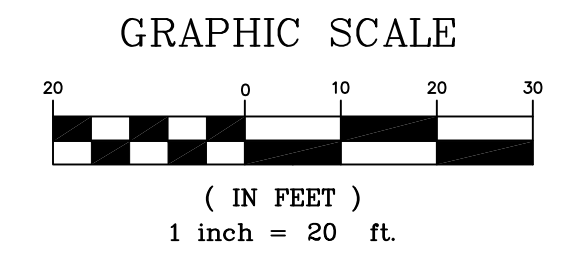
**RANGER WAY (WIDTH VARIES)**  
(DEDICATED VOLUME 104, PAGE 1)  
(DEDICATED VOLUME 110, PAGE 16)  
(A PUBLIC RIGHT-OF-WAY)

LEGEND

|                                                                                                                                                                                                 |                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Monument Box Found<br>Iron Pin or Pipe Found<br>5/8" from Pin Set and<br>S&P#40-PS#740<br>Gas Meter<br>N.P.<br>Utility Pole<br>Gas Anchor & Line<br>Electric Box<br>Cable<br>Oilwell / Test Tee | Spot Elevation Tag<br>Hydrant<br>Water Service Valve<br>P.A.<br>Water Meter<br>Reducer<br>Storm Manhole<br>Sanitary Manhole<br>Sanitary Catch Basin<br>Waterline<br>Electric Line (Whodun)<br>Fence Line (Chain-Link)<br>Guardrail | Ex. Parcel Line<br>Original Sublot Line<br>Centerline<br>Right-of-way Line<br>Easement Line<br>Electric Line<br>Sanitary/Combination Sewer<br>Storm Manhole<br>Waterline<br>Electric Line (Whodun)<br>Fence Line (Chain-Link)<br>Guardrail | Adj. Adjacent<br>Auditor's File Number<br>Asphalt<br>Bottom of Wall<br>Chain-Link<br>Catch Basin<br>Chain-Link County Map<br>Records<br>Chain-Link Fence<br>Clean Out<br>Concrete<br>Connection<br>Core<br>D.H.I. Hole<br>Electric<br>Existing<br>Final<br>Gutter | Inv. Invert<br>Level<br>Unred Feet<br>Measured<br>Obs.<br>Observed<br>Permanent Parcel<br>Proposed<br>R/W<br>Right-of-way<br>Proposed<br>R/W<br>Right-of-way<br>Square Feet<br>S.F.<br>T.B.M.<br>Temporary Bench Mark<br>Test<br>Test Tee<br>T.W.<br>T.W. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

NOTES:

- THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY INVERT OF EXISTING SEWER AT CONNECTION POINT PRIOR TO CONSTRUCTION AND SHALL NOTIFY ENGINEER OF ALL FINDINGS.
- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL INSPECT EXISTING CATCH BASIN AND NOTIFY ENGINEER OF CONDITION. IF STRUCTURE IS NOT TRAFFIC RATED, STRUCTURE SHALL BE REPLACED WITH TRAFFIC BEARING STRUCTURE AS NECESSARY.



**RIVERSTONE**  
LAND SURVEYING - ENGINEERING - DESIGN  
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CLEVELAND, OHIO 44114  
PHONE: (216) 491-2000 FAX: (216) 491-9640  
WWW.RIVERSTONEENGINEERING.COM  
2024-102

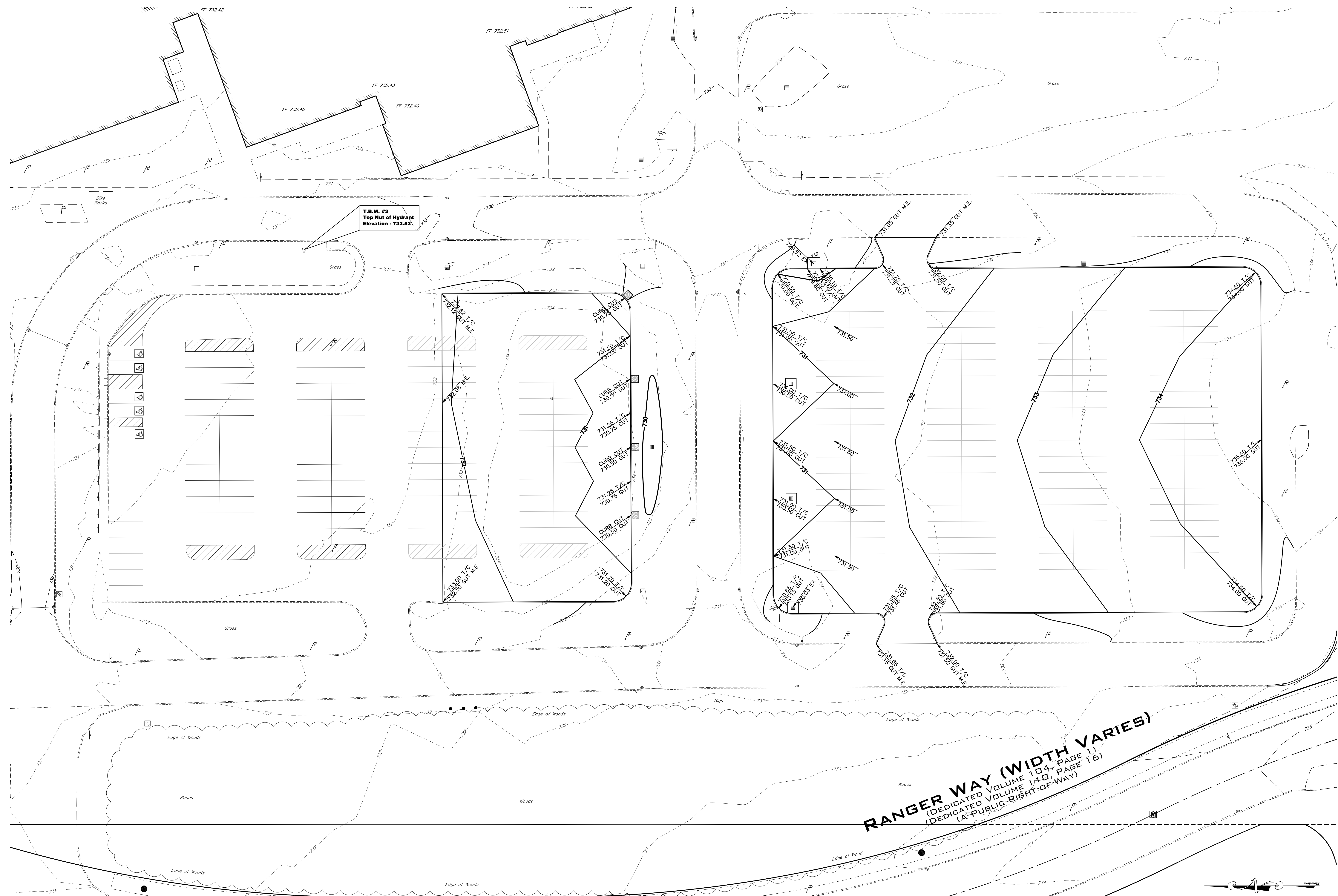
NEW PARKING LOT  
NORTH RIDGEVILLE CITY SCHOOL DISTRICT  
34620 BAINBRIDGE RD.  
NORTH RIDGEVILLE, OH 44039

Preliminary  
Not for  
Construction

| no.            | description         | date       |
|----------------|---------------------|------------|
| 1              | Planning Commission | 11/15/2024 |
| no.            | description         | date       |
| Project Issues |                     |            |

Drawn by:   
Checked by:   
Sheet number:   
C4.01  
Job number:   
23099





NEW PARKING LOT  
NORTH RIDGEVILLE CITY SCHOOL DISTRICT

34620 BAINBRIDGE RD.  
NORTH RIDGEVILLE OH 44039

[illegible]

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sheet name: **GRADING PLAN**

drawn by:  
JD

checked by:  
DAP

sheet number:  
**C5.01**

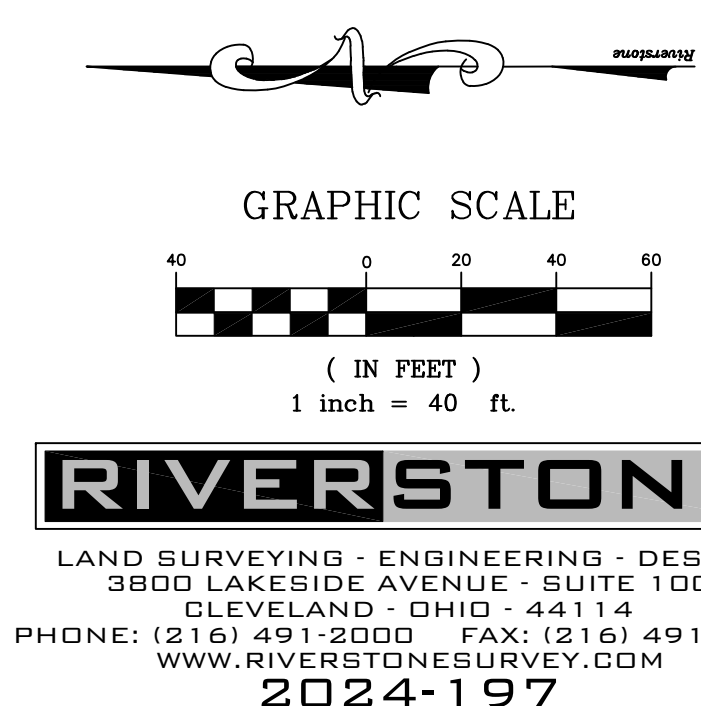
job number:  
23099

Page 394 of 643



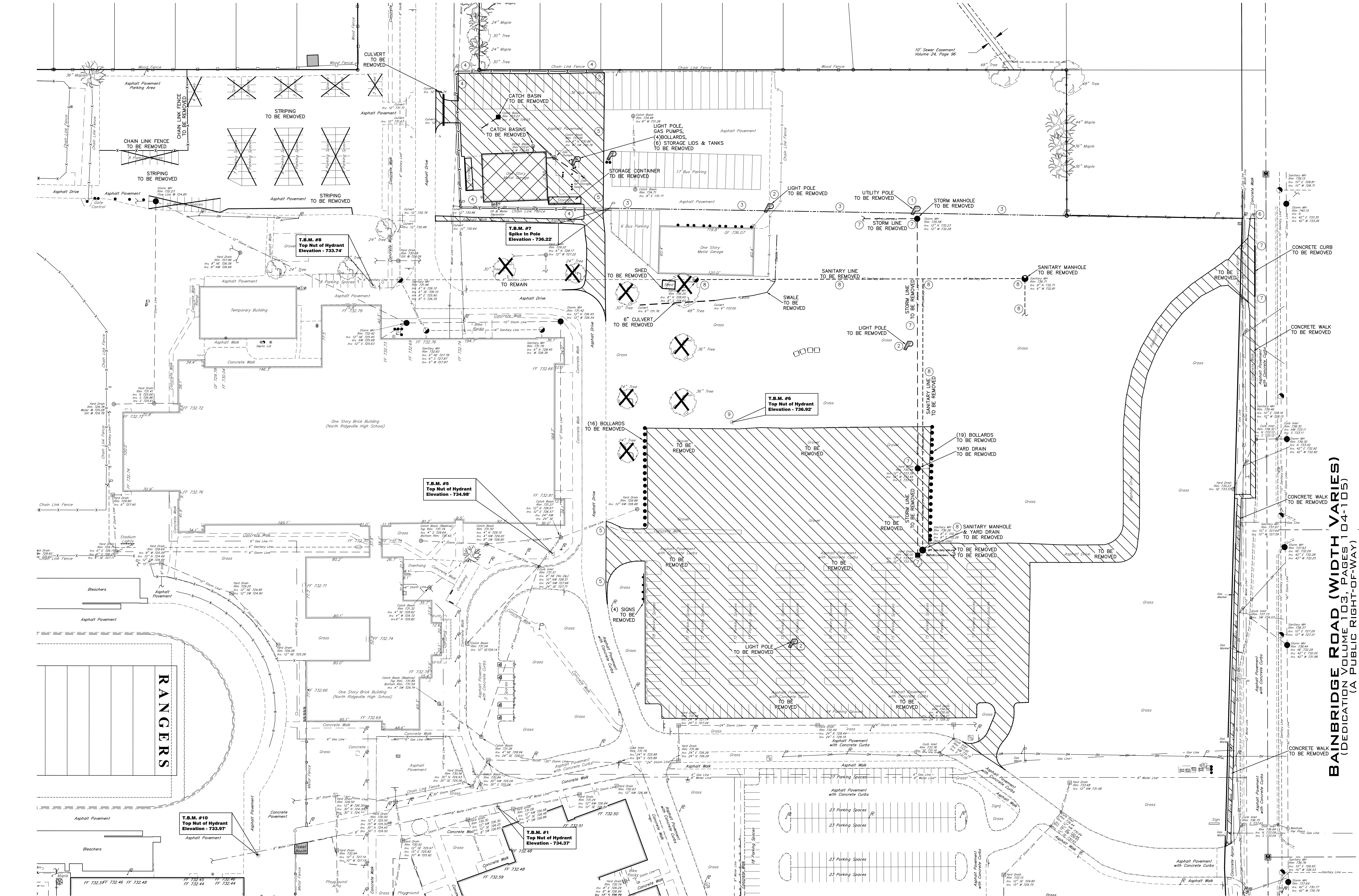


|                    |  |                              |  |
|--------------------|--|------------------------------|--|
| Monument Box Found |  | Spot Elevation Tag           |  |
|                    |  | Original Sublot Line         |  |
| P.K. Nail          |  | Centerline                   |  |
| Water Meter        |  | Right-of-way Line            |  |
| Water Valve        |  | Easement Line                |  |
| Water Meter        |  | Railroad Tracks              |  |
| Reducer            |  | Electric Line                |  |
| Storm Manhole      |  | Sanitary/Combination Sewer   |  |
| Sanitary Manhole   |  | Watering                     |  |
| Curb Inlet         |  | Fence Line (Wooden)          |  |
| Catch Basin        |  | Fence Line (Chain-Link)      |  |
| Round Curb Inlet   |  | Guardrail                    |  |
| Cleanout/Test Tee  |  |                              |  |
|                    |  | Ac. Acres                    |  |
|                    |  | Adj. Adjacent                |  |
|                    |  | Asp. Asphalt                 |  |
|                    |  | Bas. Basement Floor          |  |
|                    |  | Calc./C. Calculated          |  |
|                    |  | C.B. Catch Basin             |  |
|                    |  | C.C.M.R. Cuyahoga County     |  |
|                    |  | Map Records                  |  |
|                    |  | Cen. Centerline              |  |
|                    |  | Chain-Link Fence             |  |
|                    |  | Clears                       |  |
|                    |  | Conn. Connection             |  |
|                    |  | D.H. Ductile Iron Water Main |  |
|                    |  | Elec. Electric               |  |
|                    |  | Enc. Encroachment            |  |
|                    |  | Ex. Existing                 |  |
|                    |  | F.F. Finished Floor          |  |
|                    |  | L.C.A. Limited Common Area   |  |
|                    |  | M.M. Measured                |  |
|                    |  | Manhole                      |  |
|                    |  | Obs. Observed                |  |
|                    |  | Pg. Permanent Parcel Number  |  |
|                    |  | Prop. Property Line          |  |
|                    |  | R. Right-of-way              |  |
|                    |  | R/W. Right-of-way            |  |
|                    |  | S. Sanitary                  |  |
|                    |  | Sq. Feet                     |  |
|                    |  | Sublot                       |  |
|                    |  | Stm. Storm                   |  |
|                    |  | Temporary Bench Mark         |  |
|                    |  | T.B.M. To Be Removed         |  |
|                    |  | T.M. Telephone               |  |
|                    |  | T.F. Top Factor              |  |
|                    |  | Vol. Volume                  |  |
|                    |  | W. Water                     |  |



| no. | description         | date     |
|-----|---------------------|----------|
| 01  | Planning Commission | 11/15/24 |
| 02  | City Council        | 12/03/24 |
| 03  | City Council        | 12/03/24 |
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| 99  | City Council        | 12/03/24 |
| 100 | City Council        | 12/03/24 |





**LEGEND**

|                              |                     |                                |                            |
|------------------------------|---------------------|--------------------------------|----------------------------|
| Monument Box Found           | Spot Elevation Tag  | Ac. Adj. Measured              | L.C.A. Limited Common Area |
| Iron Pin or Pipe Found       | Hydrant             | Asph. Asphalt                  | Md. Measured               |
| 5/8" Iron Pin Set and Capped | Water Service Valve | B.F. Basement Floor            | Mn. Monitored              |
| Sudley P58747                | Water Valve         | Calc./C. Calculated            | On. Overhead               |
| P.K. Nail                    | Water Meter         | C.C.M.R. Cuyahoga County       | Pg. Page                   |
| Gas Meter                    | Reducer             | P.P.N. Permanent Parcel Number | Pr. Property Line          |
| Gas Valve                    | Sanitary Manhole    | Rec./R. Record                 | R/W Right-of-way           |
| Light Pole                   | Storm Manhole       | S.F. Square Feet               | Sd. Sidelined              |
| Day Anchor & Line            | Curb Inlet          | Sin. Storm                     | Sq. Square                 |
| Telephone Box                | Catch Basin         | S/L. Sanitary Line             | Sq. Square                 |
| Electric Box                 | Round Curb Inlet    | S/W. Sanitary Walk             | Sq. Square                 |
| Bollard                      | Cleanout/Test Tee   | T.B.M. Temporary Bench Mark    | T.B. To Be Removed         |
|                              |                     | T.F. Top Footing               | T.F. Top Footing           |
|                              |                     | Vol. Volume                    | Vol. Volume                |
|                              |                     | Wat. Water                     | Wat. Water                 |

**GENERAL SITE DEMOLITION NOTES:**

CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL PERMITS NECESSARY FOR SITE DEMOLITION AND SHALL BE RESPONSIBLE FOR ALL FEES.

CONTRACTOR SHALL CALL THE OHIO UTILITIES PROTECTION SERVICE (OUPS) A MINIMUM OF 48 HOURS BEFORE ANY DEMOLITION WORK.

CONTRACTOR IS RESPONSIBLE TO COORDINATE ALL UTILITY DEMOLITION WORK WITH THE APPROPRIATE UTILITIES PRIOR TO DEMOLITION. ALL UTILITY CONNECTIONS SHALL BE REMOVED ACCORDING TO UTILITY COMPANY REQUIREMENTS.

SANITARY AND WATER CONNECTIONS TO REMAIN FOR REUSE SHALL BE LOCATED, INSPECTED AND MARKED IN THE FIELD. CONTRACTOR SHALL NOTIFY ENGINEER OF EXACT LOCATIONS AND ELEVATIONS. ALL OTHER CONNECTIONS NOT PROPOSED TO BE REUSED SHALL BE PLUGGED AND ABANDON PER UTILITY REQUIREMENTS.

**SITE DEMOLITION PLAN KEYNOTES:**

- UTILITY POLE TO BE REMOVED. CONTRACTOR SHALL COORDINATE REMOVAL OF POLE WITH UTILITY COMPANY PRIOR TO CONSTRUCTION.
- LIGHT POLE TO BE REMOVED. CONTRACTOR SHALL COORDINATE REMOVAL OF POLE WITH UTILITY COMPANY PRIOR TO CONSTRUCTION.
- OVERHEAD LINE TO BE REMOVED. CONTRACTOR SHALL COORDINATE REMOVAL OF OVERHEAD LINE WITH UTILITY COMPANY PRIOR TO CONSTRUCTION.
- FENCE TO BE REMOVED. CONTRACTOR TO REMOVE FENCE, FENCE POST AND POST FOUNDATIONS.
- ASPHALT PAVEMENT TO BE REMOVED. CONTRACTOR SHALL SAWCUT AND REMOVE ASPHALT PAVEMENT. CONTRACTOR SHALL PROVIDE A CLEAN SMOOTH EDGE OF PAVEMENT AND ENSURE THE INTEGRITY OF THE PAVEMENT TO REMAIN.
- SAWCUT AND REMOVE CONCRETE WALK. CONTRACTOR SHALL SAWCUT WALK AT NEAREST JOINT AND PROVIDE A CLEAN SMOOTH EDGE OF WALK TO REMAIN.
- EXISTING STORM MANHOLE, CATCH BASIN, YARD DRAIN, STORM LINES TO BE REMOVED. CONTRACTOR SHALL ENSURE THAT NO ACTIVE UPSTREAM CONNECTIONS ARE TO REMAIN.
- EXISTING SANITARY SEWER MANHOLE, SANITARY LINES TO BE REMOVED. CONTRACTOR SHALL ENSURE THAT NO ACTIVE UPSTREAM CONNECTIONS ARE TO REMAIN.
- EXISTING FIRE HYDRANT. CONTRACTOR SHALL FIELD VERIFY SIZE AND LOCATION OF WATER SERVICE CONNECTION PRIOR TO CONSTRUCTION AND SHALL NOTIFY ENGINEER OF ALL FINDINGS.

**DEMOLITION PLAN KEYNOTES:**

- STRUCTURE TO BE REMOVED
- PAVEMENT (CONCRETE, ASPHALT OR GRAVEL) TO BE REMOVED - SAWCUT ALL PAVEMENTS & SIDEWALKS AT NEAREST CONTROL JOINT WHERE EXISTING PAVEMENT & SIDEWALKS SHALL REMAIN.
- TREES TO BE REMOVED.

**GRAPHIC SCALE**

1 inch = 40 feet

**RIVERSTONE**

LAND SURVEYING - ENGINEERING - DESIGN  
3800 LAKESIDE AVENUE - SUITE 100  
CLEVELAND - OHIO - 44114  
PHONE: (216) 491-2000 FAX: (216) 491-9640  
WWW.RIVERSTONEDESIGN.COM

2024-197

**REVISIONS**

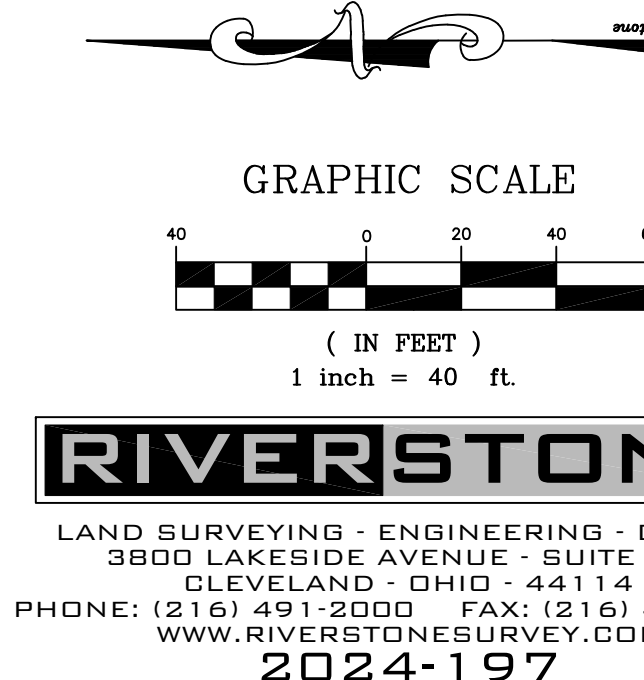
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| 2   | ISSUED FOR PERMIT | 11/15/24 |
| 3   | ISSUED FOR PERMIT | 11/15/24 |
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| 99  | ISSUED FOR PERMIT | 11/15/24 |
| 100 | ISSUED FOR PERMIT | 11/15/24 |

checked by: **C.2.02**

sheet number: **23099**



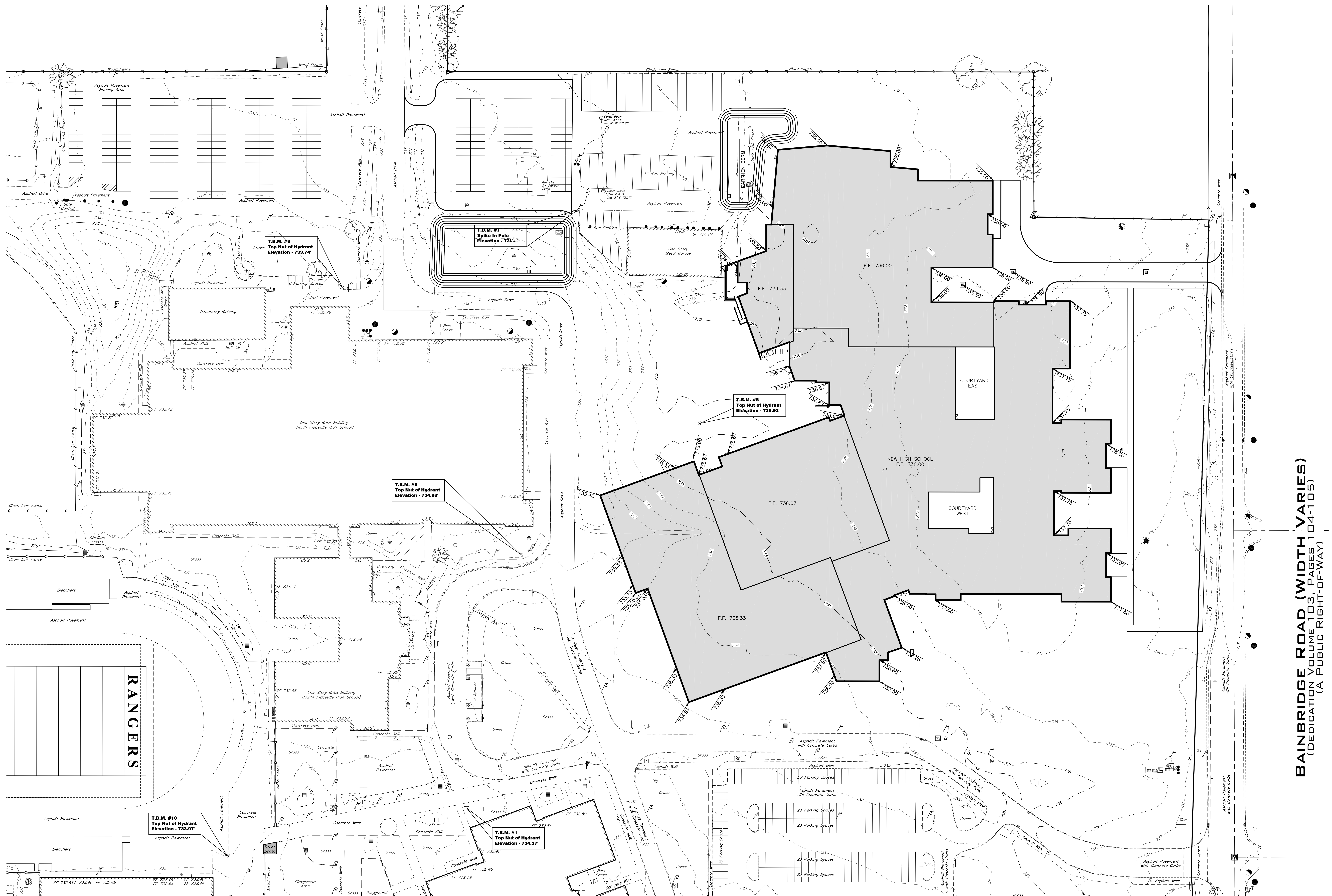
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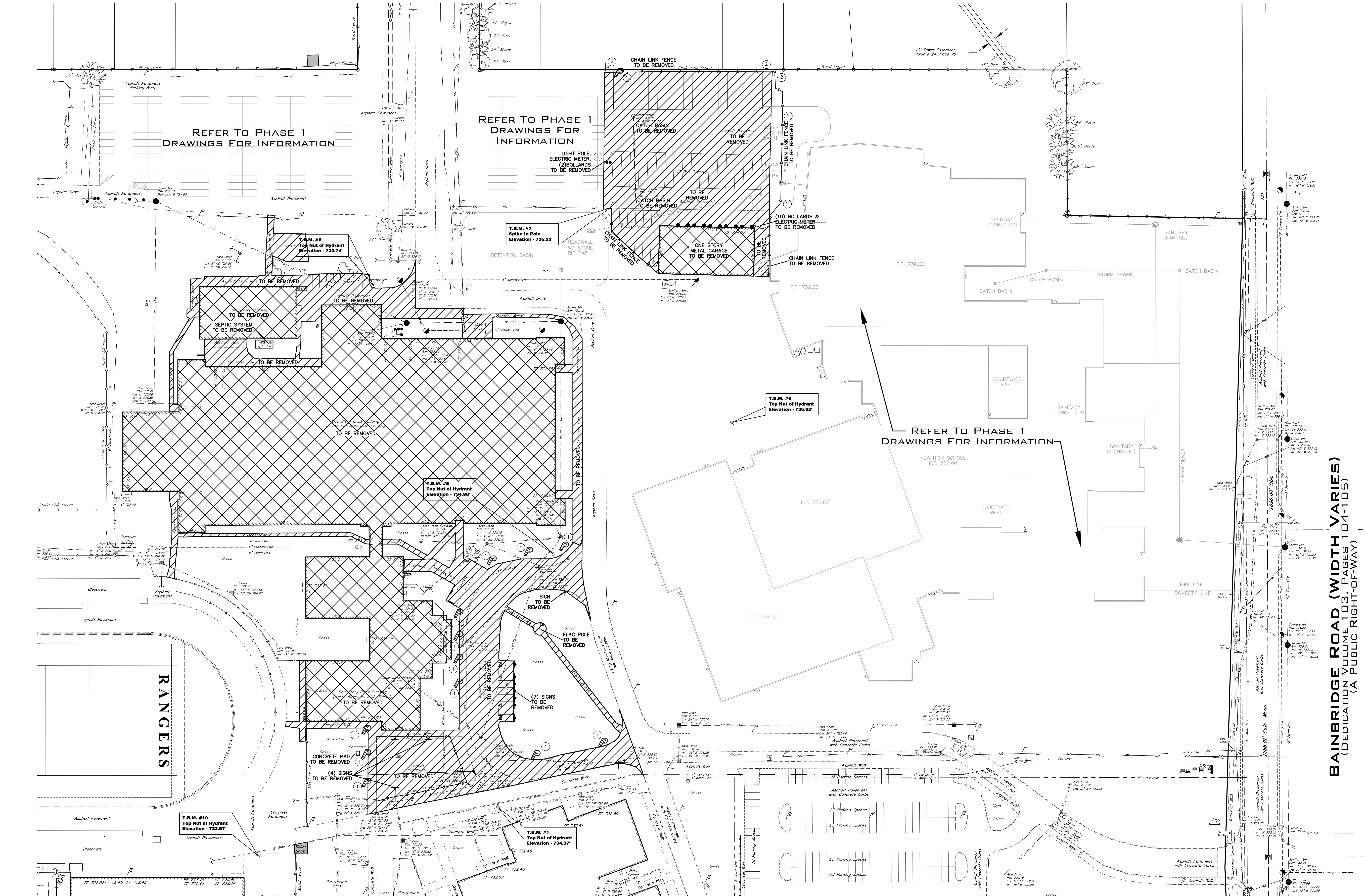
**BAINBRIDGE ROAD (WIDTH VARIES)**  
(DEDICATION VOLUME 103, PAGES 104-105)  
(A PUBLIC RIGHT-OF-WAY)

|               |                                                                        |  |                            |
|---------------|------------------------------------------------------------------------|--|----------------------------|
| <b>LEGEND</b> |                                                                        |  |                            |
|               | Monument Box Found                                                     |  | Spot Elevation Tag         |
|               | 5/8" Iron Pin or Plant Found                                           |  | Hydrant                    |
|               | P.K. Nail in Pin Set and Copied Elevation (see Utility Drawing P36747) |  | Water Service Valve        |
|               | Gas Meter                                                              |  | Water Valve                |
|               | Gas Valve                                                              |  | Water Meter                |
|               | Light Pole                                                             |  | Reducer                    |
|               | Guy Anchor & Line                                                      |  | Storm Manhole              |
|               | Telephone Box                                                          |  | Sanitary Manhole           |
|               | Cable Box                                                              |  | Curb Inlet                 |
|               | Bollard                                                                |  | Catch Basin (Wooden)       |
|               |                                                                        |  | Round Curb Inlet           |
|               |                                                                        |  | Cleanout/Test Tee          |
|               | Ex. Parcel Line                                                        |  | Sanitary/Combination Sewer |
|               | Original Sublot Line                                                   |  | Watering                   |
|               | Original Lot Line                                                      |  | Fence Line (Chain-Link)    |
|               | Centerline                                                             |  | Guardrail                  |
|               | Right-of-Way Line                                                      |  |                            |
|               | Easement Line                                                          |  |                            |
|               | Railroad Tracks                                                        |  |                            |
|               | Electric Line                                                          |  |                            |
|               | Gas Line                                                               |  |                            |
|               | Chain-Link Fence                                                       |  |                            |
|               | Clears                                                                 |  |                            |
|               | Conc.                                                                  |  |                            |
|               | D.W. Hole                                                              |  |                            |
|               | D.I.W.M.                                                               |  |                            |
|               | Elec.                                                                  |  |                            |
|               | Brkr.                                                                  |  |                            |
|               | Encroaches                                                             |  |                            |
|               | Ex.                                                                    |  |                            |
|               | Guardrail                                                              |  |                            |
|               | Ac.                                                                    |  |                            |
|               | Adj.                                                                   |  |                            |
|               | Asp.                                                                   |  |                            |
|               | B.F.                                                                   |  |                            |
|               | Calc./C.                                                               |  |                            |
|               | CB                                                                     |  |                            |
|               | C.C.M.R.                                                               |  |                            |
|               | Map Records                                                            |  |                            |
|               | Centerline                                                             |  |                            |
|               | Chain-Link Fence                                                       |  |                            |
|               | Clears                                                                 |  |                            |
|               | Conc.                                                                  |  |                            |
|               | D.W. Hole                                                              |  |                            |
|               | D.I.W.M.                                                               |  |                            |
|               | Elec.                                                                  |  |                            |
|               | Brkr.                                                                  |  |                            |
|               | Encroaches                                                             |  |                            |
|               | Ex.                                                                    |  |                            |
|               | Guardrail                                                              |  |                            |
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|               | Adj.                                                                   |  |                            |
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|               | B.F.                                                                   |  |                            |
|               | Calc./C.                                                               |  |                            |
|               | CB                                                                     |  |                            |
|               | C.C.M.R.                                                               |  |                            |
|               | Map Records                                                            |  |                            |
|               | Centerline                                                             |  |                            |
|               | Chain-Link Fence                                                       |  |                            |
|               | Clears                                                                 |  |                            |
|               | Conc.                                                                  |  |                            |
|               | D.W. Hole                                                              |  |                            |
|               | D.I.W.M.                                                               |  |                            |
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|               | Encroaches                                                             |  |                            |
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|               | Guardrail                                                              |  |                            |
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|               | Adj.                                                                   |  |                            |
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|               | B.F.                                                                   |  |                            |
|               | Calc./C.                                                               |  |                            |
|               | CB                                                                     |  |                            |
|               | C.C.M.R.                                                               |  |                            |
|               | Map Records                                                            |  |                            |
|               | Centerline                                                             |  |                            |
|               | Chain-Link Fence                                                       |  |                            |
|               | Clears                                                                 |  |                            |
|               | Conc.                                                                  |  |                            |
|               | D.W. Hole                                                              |  |                            |
|               | D.I.W.M.                                                               |  |                            |
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|               | Guardrail                                                              |  |                            |
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|               | Adj.                                                                   |  |                            |
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|               | B.F.                                                                   |  |                            |
|               | Calc./C.                                                               |  |                            |
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|               | C.C.M.R.                                                               |  |                            |
|               | Map Records                                                            |  |                            |
|               | Centerline                                                             |  |                            |
|               | Chain-Link Fence                                                       |  |                            |
|               | Clears                                                                 |  |                            |
|               | Conc.                                                                  |  |                            |
|               | D.W. Hole                                                              |  |                            |
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|               | Calc./C.                                                               |  |                            |
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|               | C.C.M.R.                                                               |  |                            |
|               | Map Records                                                            |  |                            |
|               | Centerline                                                             |  |                            |
|               | Chain-Link Fence                                                       |  |                            |
|               | Clears                                                                 |  |                            |
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|               | Map Records                                                            |  |                            |
|               | Centerline                                                             |  |                            |
|               | Chain-Link Fence                                                       |  |                            |
|               | Clears                                                                 |  |                            |
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|               | C.C.M.R.                                                               |  |                            |
|               | Map Records                                                            |  |                            |
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|               | C.C.M.R.                                                               |  |                            |
|               | Map Records                                                            |  |                            |
|               | Centerline                                                             |  |                            |
|               | Chain-Link Fence                                                       |  |                            |
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|               | D.W. Hole                                                              |  |                            |
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|               | Chain-Link Fence                                                       |  |                            |
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|               | D.W. Hole                                                              |  |                            |
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|               | Chain-Link Fence                                                       |  |                            |
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|               | D.W. Hole                                                              |  |                            |
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|               | Map Records                                                            |  |                            |
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|               | Chain-Link Fence                                                       |  |                            |
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|               | C.C.M.R.                                                               |  |                            |
|               | Map Records                                                            |  |                            |
|               | Centerline                                                             |  |                            |
|               | Chain-Link Fence                                                       |  |                            |
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|               | D.W. Hole                                                              |  |                            |
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|               | Map Records                                                            |  |                            |
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|               | D.W. Hole                                                              |  |                            |
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**GENERAL SITE DEMOLITION NOTES:**

CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL PERMITS NECESSARY FOR SITE DEMOLITION AND SHALL BE RESPONSIBLE FOR ALL FEES.

CONTRACTOR SHALL CALL THE OHIO UTILITIES PROTECTION SERVICE (OUPS) A MINIMUM OF 48 HOURS BEFORE ANY DEMOLITION WORK.

CONTRACTOR IS RESPONSIBLE TO COORDINATE ALL UTILITY DEMOLITION WORK WITH THE APPROPRIATE UTILITIES PRIOR TO DEMOLITION. ALL UTILITY CONNECTIONS SHALL BE REMOVED ACCORDING TO UTILITY COMPANY REQUIREMENTS.

SANITARY AND WATER CONNECTIONS TO REMAIN FOR REUSE SHALL BE LOCATED, INSPECTED AND MARKED IN THE FIELD. CONTRACTOR SHALL NOTIFY ENGINEER OF EXACT LOCATIONS AND ELEVATIONS. ALL OTHER CONNECTIONS NOT PROPOSED TO BE REUSED SHALL BE PLUGGED AND ABANDON PER UTILITY REQUIREMENTS.

**SITE DEMOLITION PLAN KEYNOTES:**

1 LIGHT POLE TO BE REMOVED. CONTRACTOR SHALL COORDINATE REMOVAL OF POLE WITH UTILITY COMPANY PRIOR TO CONSTRUCTION.

2 FENCE TO BE REMOVED. CONTRACTOR TO REMOVE FENCE, FENCE POST AND POST FOUNDATIONS.

**LEGEND**

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**GRAPHIC SCALE**

1 inch = 40 feet

**RIVERSTONE**

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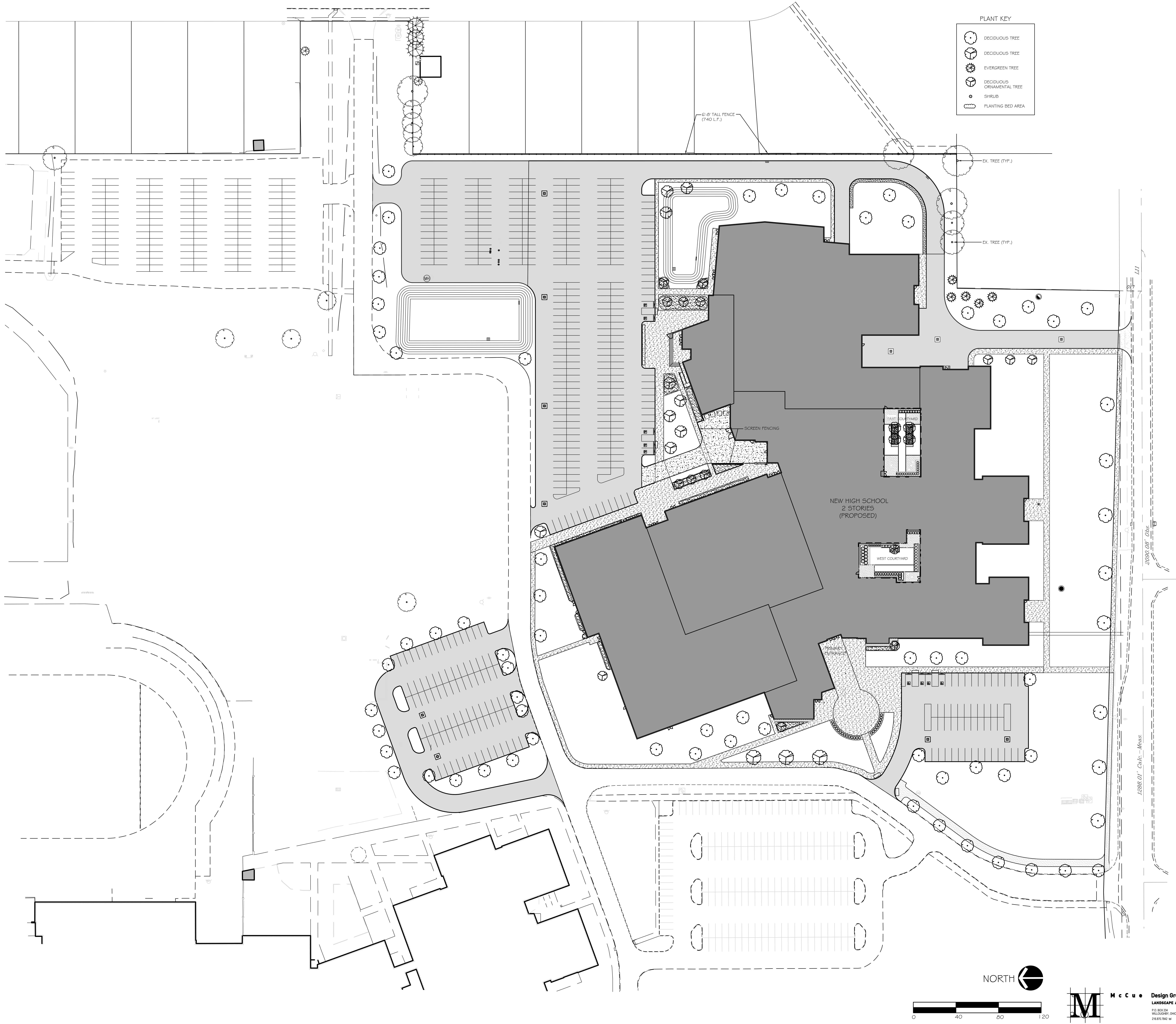












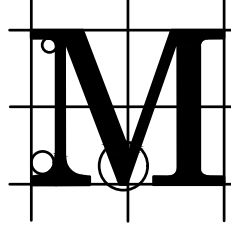
PLANT KEY

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|--|---------------------------|
|  | DECIDUOUS TREE            |
|  | DECIDUOUS TREE            |
|  | EVERGREEN TREE            |
|  | DECIDUOUS ORNAMENTAL TREE |
|  | SHRUB                     |
|  | PLANTING BED AREA         |

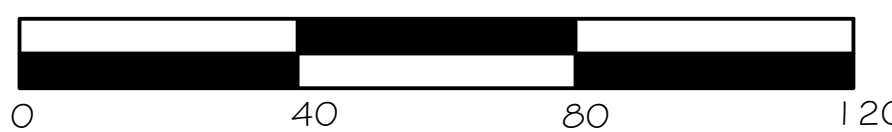
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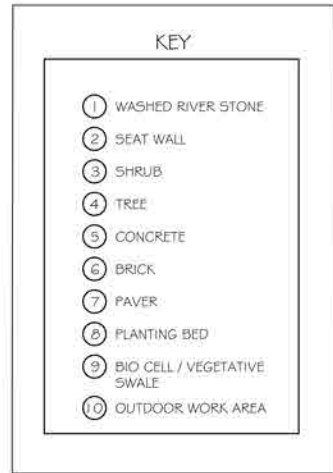
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NORTH RIDGEVILLE HIGH SCHOOL  
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**tda**  
thendesign architecture



# **North Ridgeville CSD Traffic Impact Study**

**North Ridgeville, Ohio**

November 13, 2024

Prepared for:

**North Ridgeville City School District**

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North Ridgeville City School District

# North Ridgeville CSD Traffic Impact Study

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# North Ridgeville City School District

## North Ridgeville CSD Traffic Impact Study

### EXECUTIVE SUMMARY

DGL was commissioned by ThenDesign Architecture to analyze the impacts of a new high school and transportation facility on the North Ridgeville City School District (NRCSD) Campus in North Ridgeville, Ohio. The proposed high school is projected to be approximately 340,000 square feet to serve 1,692 students from grades 9 through 12. The project also includes the construction of a new 22,000 square foot Maintenance/Transportation Facility on the campus which includes the demolition of the existing facility on the eastern side of the site.

The North Ridgeville City School District Campus is located in the eastern half of the North Ridgeville City limits and north of the Ohio Turnpike and south of US-20/SR-113 (Center Ridge Road). **The school district's campus currently has four points of access and is projected to retain the same number of access points. However, the use of one drive will be changed and the traffic circulation around the new high school will also be adjusted.**

Based on the analysis within this study, the following recommendations are presented to mitigate the effects of the school traffic on the surrounding roadway network:

- Center Ridge Rd & Ranger Way/Jaycox Rd: Corridor signal timing adjustments should be reviewed. The intersection is currently being studied by others in the 2024 City of North Ridgeville SR 83 & Bainbridge Traffic Study.
- Ranger Way & Fire Station/School Drive: While the intersection will experience delays for the westbound approach (exiting the campus), Ranger Way will not be affected and should remain a Two-Way-Stop-Controlled intersection.
- Ranger Way & Bainbridge Road: will function at acceptable levels but the delay on the southbound approach is projected to increase. It is recommended that the intersection remain a Two-Way-Stop-Controlled intersection.
- Bainbridge Rd & Repurposed Drive (Drive 2): will function at acceptable levels but the southbound approach is projected to experience delays. The addition of the warranted eastbound left turn on Bainbridge Road decreases the delay experienced by drivers on Bainbridge Road by less than 10 seconds, it is not recommended at this time.
- Bainbridge Road & W Point School/Drive: It is anticipated that a significant delay will occur on the approaches entering and exiting the campus by almost double. No change in delay is anticipated on Bainbridge Road. **If North Ridgeville City Schools would like to minimize the delay, the following improvements, located within the public right of way, would help mitigate these delays:**
  - All Way Stop Control: convert the existing Two-Way-Stop-Controlled intersection to an All-Way-Stop-Controlled
  - Install a Traffic Signal: a signal is warranted based on the peak hour volumes
  - Install a mini-roundabout: a mini roundabout would alleviate traffic delays and increase traffic calming along Bainbridge

# North Ridgeville City School District

## North Ridgeville CSD Traffic Impact Study

### 1. INTRODUCTION

This report summarizes the methodologies, results, and findings of a traffic impact study conducted by DGL Consulting Engineers, LLC in connection with the proposed project in the City of North Ridgeville, Ohio.

The school campus site is located on the north side of Bainbridge Road, in between Ranger Way and Pitts Boulevard. The campus covers a total area of approximately 92 acres. Figure 1 illustrates the location of the site along Bainbridge Road.

The purpose of this study is to examine the existing traffic conditions and evaluate the roadway network's ability to facilitate an increase in traffic volumes generated by the project. This traffic impact study follows the guidelines presented in the Ohio Department of Transportation (ODOT) *State Highway Access Management Manual* (SHAMM). The sections of this report present the following:

- Existing roadway conditions
- Directional Distribution of the existing traffic generated by current facilities
- Vehicle trip generation for the proposed development
- Projected traffic conditions with the proposed development
- Traffic analyses for peak school hours in the morning and afternoon

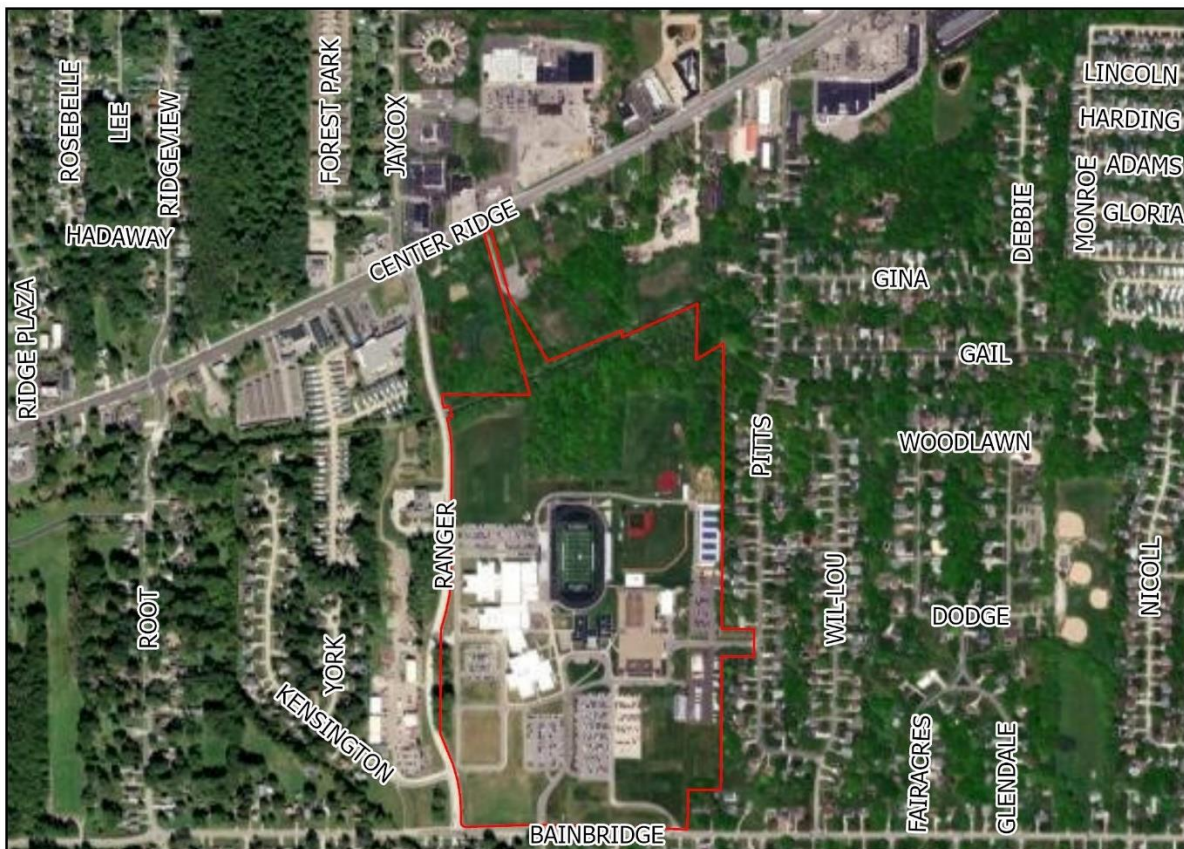


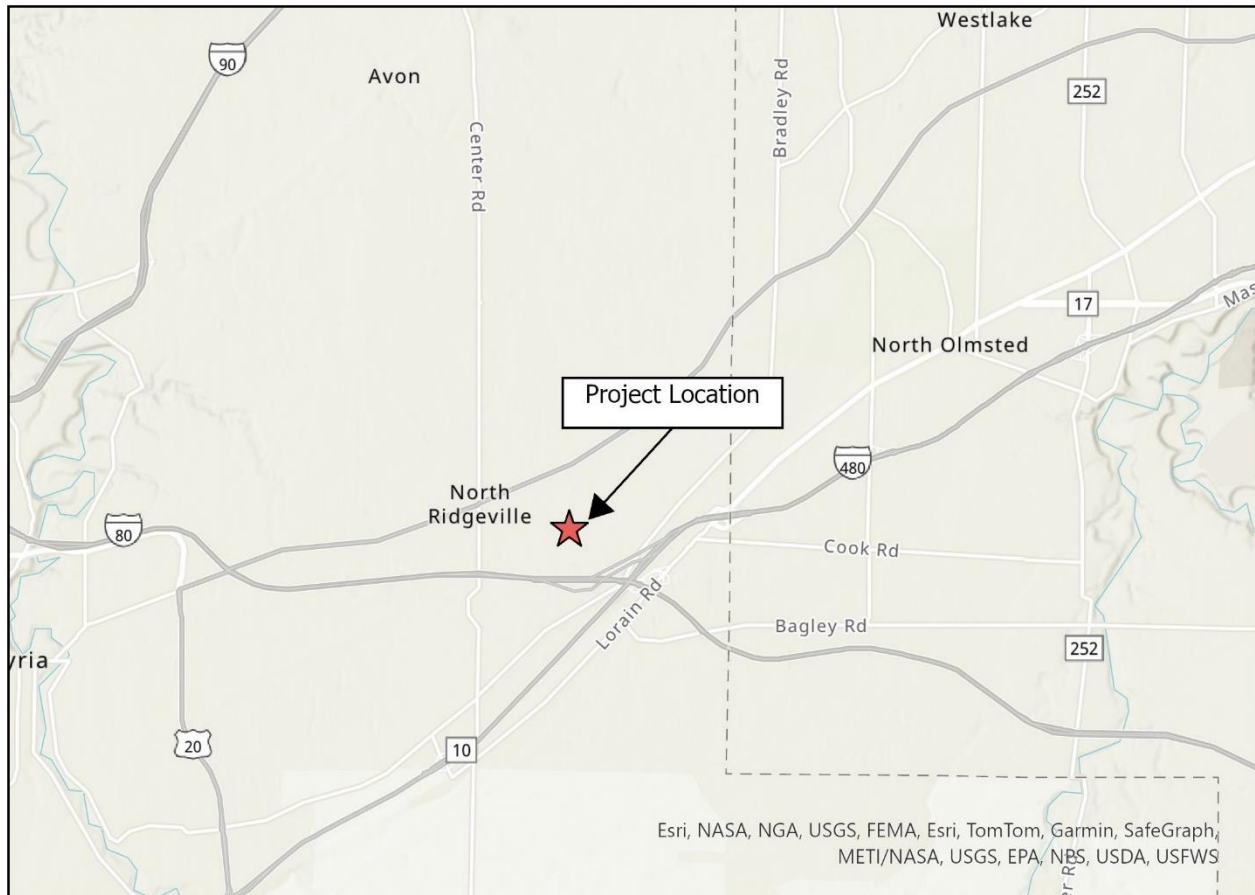
Figure 1 - Proposed Location



# North Ridgeville City School District

## North Ridgeville CSD Traffic Impact Study

### 2. STUDY LOCATION



**Figure 2 - Study Location**

As shown in Figure 2, the site is located north of the Ohio Turnpike and in close proximity to interchanges for I-80, SR-10, and I-480. SR-10 and I-480 are major east-west routes for the region as SR-20 connects North Ridgeville to the Downtown area of Cleveland while I-480 connects North Ridgeville to the suburbs east of Cleveland. The Ohio Turnpike is one of the major east-west routes for the state and connects the western and eastern sides of Ohio.

### 3. EXISTING CONDITIONS

Existing traffic and roadway conditions were documented based on field visits, data provided by ODOT, and traffic counts conducted by DGL. The following provides a detailed description of the physical characteristics including traffic control and adjacent land uses.

North Ridgeville City School District

# North Ridgeville CSD Traffic Impact Study

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### 3a. Existing Roadway System Characteristics

A list of the roadways involved is shown below:

#### **Bainbridge Road**

Functional Class: Major Collector  
Speed Limit: 35 MPH  
AADT: 7,776 (2022)  
Maintenance Responsibility: City  
Number of Lanes: 2 lanes

#### **Pitts Boulevard**

Functional Class: Local  
Speed Limit: 25 MPH  
AADT: Not Available  
Maintenance Responsibility: City  
Number of Lanes: 2 lanes

#### **US-20/SR-113 (Center Ridge Road)**

Functional Class: Principal Arterial  
Speed Limit: 35 MPH  
AADT: 16,338 (2022)  
Maintenance Responsibility: City/ODOT  
Number of Lanes: 4 lanes

#### **Kensington Drive**

Functional Class: Major Collector  
Speed Limit: 35 MPH  
AADT: Not Available  
Maintenance Responsibility: City  
Number of Lanes: 2 lanes

#### **Ranger Way**

Functional Class: Local  
Speed Limit: 25 MPH  
AADT: Not Available  
Maintenance Responsibility: City  
Number of Lanes: 2 lanes

## 4. TRAFFIC DATA COLLECTION

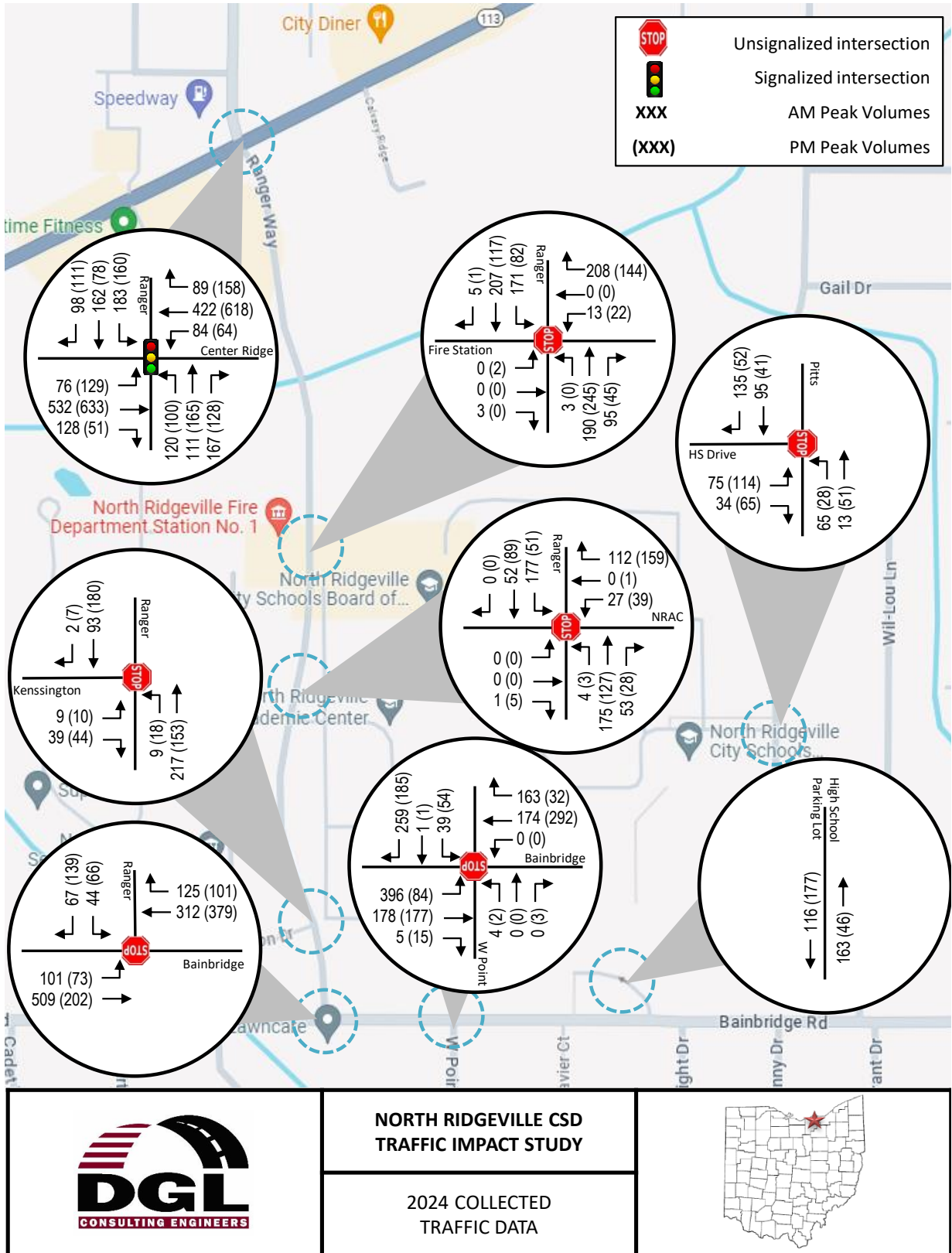
Traffic data was collected for 4 hours by DGL in 2024 via video counts over two days at the end of April/beginning of May for the following locations:

- US-20/SR-113 (Center Ridge Road) & Ranger Way
- Ranger Way & Fire Station/School Parking Lot
- Ranger Way & NRAC Drive
- Ranger Way & Kensington Drive
- Ranger Way & Bainbridge Road
- Bainbridge Road & W Point Drive/School Drive
- Bainbridge Road & High School Drive (ATR)
- Pitts Boulevard & High School Drive

The peak hours of traffic varied depending on the intersection with AM Peak Hours ranged from starting at 7:00 to 7:15 and the PM Peak Hours ranged from starting at 14:30 to 15:00. Traffic volumes for each intersection were compared to determine the Peak Hours with the most amount of traffic. Based on the traffic volume comparison, the peak hours were determined to be 7:15-8:15 and 14:45-15:45.



# North Ridgeville City School District



**Figure 3 - 2024 Collected Traffic Data**

North Ridgeville City School District

# North Ridgeville CSD Traffic Impact Study

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## 5. PROPOSED CONDITIONS

### 5a. Access Locations and Proposed Site Circulation

As shown in Figure 4, the proposed high school will alter the existing circulation of the site by altering the use of one access point on Bainbridge Road as well as creating a four-leg intersection at Kensington Drive. All other existing access points entering and exiting the site will be maintained. The figure also shows two additional drives that are proposed to be constructed north of the fire station to be used exclusively for school buses at the new Transportation/Maintenance Facility.

**The main difference between the existing circulation and the proposed circulation is the change in use for the easternmost access point on Bainbridge Road from being used as parking only to only serving high school students drop-off/pick-up loop and parking.**

With the circulation adjustments made to the proposed site, all access points to the campus are being used in some capacity for student pick-up/drop-off. The uses of some of the access points were adjusted to facilitate efficient traffic movement in and around the campus. The changes in use are listed below:

- Grades 5-8 pick-up/drop-off loop enter exit Bainbridge Road (Drive 1); no longer serves grades 9-12
- Grades 9-12 pick-up/drop-off loop enter exit Bainbridge Road (Drive 2)
- Grades 9-12 pick-up/drop-off loop enter exit Pitts Boulevard

While Drive 2 on Bainbridge Road is being analyzed as a full access drive for the high school, the spacing of Ranger Way, Drive 1, and Drive 2 along Bainbridge Road will create three access points within 1,200 feet of each other. For reference, ODOT's SHAMM states a minimum distance of ¼ mile between intersections. But because of the nature of the driveways, school circulation, and the residential nature of Bainbridge Road the three access points within 1,200 feet is acceptable. It should be noted that the district utilizes offset schedules for start/end times of different grades to reduce the potential for traffic congestion around campus. The start/end times are listed below:

- NRAC (Grades 3-8): 07:40-14:50
- High School (Grades 9-12): 08:20-15:12



# North Ridgeville City School District

## North Ridgeville CSD Traffic Impact Study

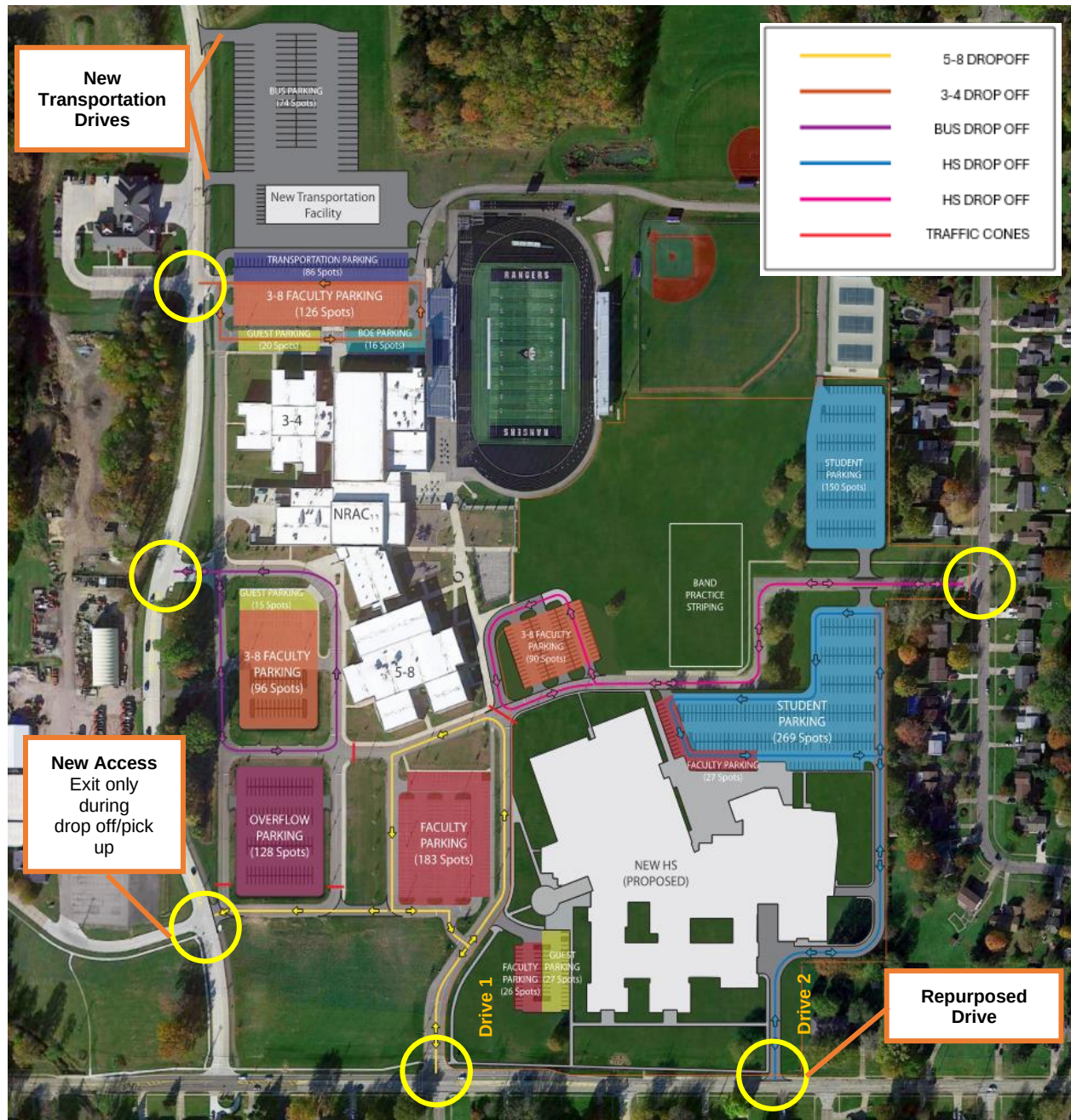


Figure 4 - Proposed Site Plan

# North Ridgeville City School District

## North Ridgeville CSD Traffic Impact Study

### 6. ANALYSIS

#### 6a. Trip Generation

The Institute of Transportation Engineers (ITE), Trip Generation, 11th Edition was used to calculate the peak hour trips for the site. Land Use represents the average site usage for the proposed project. Because the existing high school is already located on the campus, the difference in trips based on the students served will be used as New Trips generated by the new high school. Information regarding the number of students for the new high school was given by ThenDesign Architecture and the number of students at the existing high school were gathered using the Ohio Department of Education's School Report Card system.

The Peak Hour trips for the project were calculated as follows:

| Table 1: Overall Trip Generation Calculations |                                       |          |         |          |         |
|-----------------------------------------------|---------------------------------------|----------|---------|----------|---------|
| Land Use                                      |                                       | AM Enter | AM Exit | PM Enter | PM Exit |
| 525                                           | Proposed High School (1,692 students) | 587      | 276     | 273      | 368     |
| 525                                           | Existing High School (1,257 students) | 436      | 205     | 129      | 275     |
| Total New Trips                               |                                       | 151      | 71      | 44       | 93      |

In addition to the total new trips generated by the new high school, a portion of existing trips were moved from the intersection of Bainbridge Road and W Point Drive to the second access point on Bainbridge Road further east. These trips were moved due to the removal of the existing high school parking lot as well as a spike in traffic at 08:00 that can be attributed to the high school since the NRAC school day begins at 07:40 and the high school begins at 8:20. Approximately 70% of the traffic that occurred during the 15-minute period from 08:00 to 08:15 was moved to the access point for the new high school parking lot.

#### 6b. No Build Conditions

Collected traffic volumes was grown by 0.5% per year to estimate the 2029 and 2049 traffic volumes. Turning movements for the Repurposed Drive (Drive 2) were calculated based on the collected drive volume and the distribution of Bainbridge Road. Figure 5 - and Figure 6 - show the No Build traffic conditions.

#### 6c. Trip Distribution

The new trips to the proposed school location were distributed based on the existing traffic patterns as well as projected circulation patterns. Figure 7 - and Figure 8 - shows the proposed trip distributions.

#### 6d. Build Conditions

Like the No-Build Conditions, traffic volumes were grown by 0.5% to estimate the 2029 and 2049 traffic volumes at the State Road and Valley Ridge Parkway intersection. Trips from the trip generation calculations were then added to the grown volumes to obtain the projected traffic at the intersection and along the roadways. Figure 9 - and Figure 10 - illustrate Build traffic conditions



# North Ridgeville City School District

## North Ridgeville CSD Traffic Impact Study

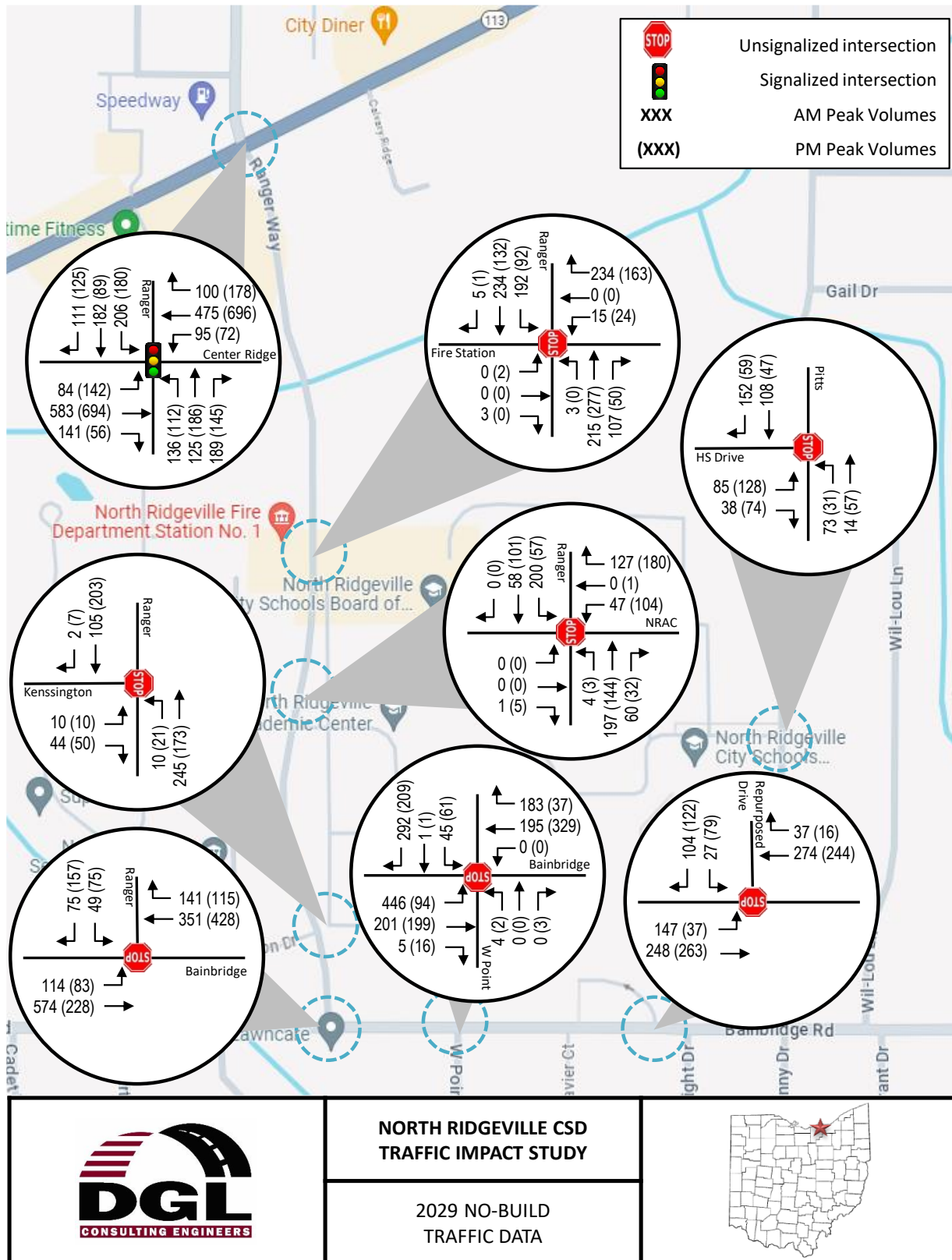


Figure 5 - 2029 No-Build Traffic Volumes

# North Ridgeville City School District

## North Ridgeville CSD Traffic Impact Study

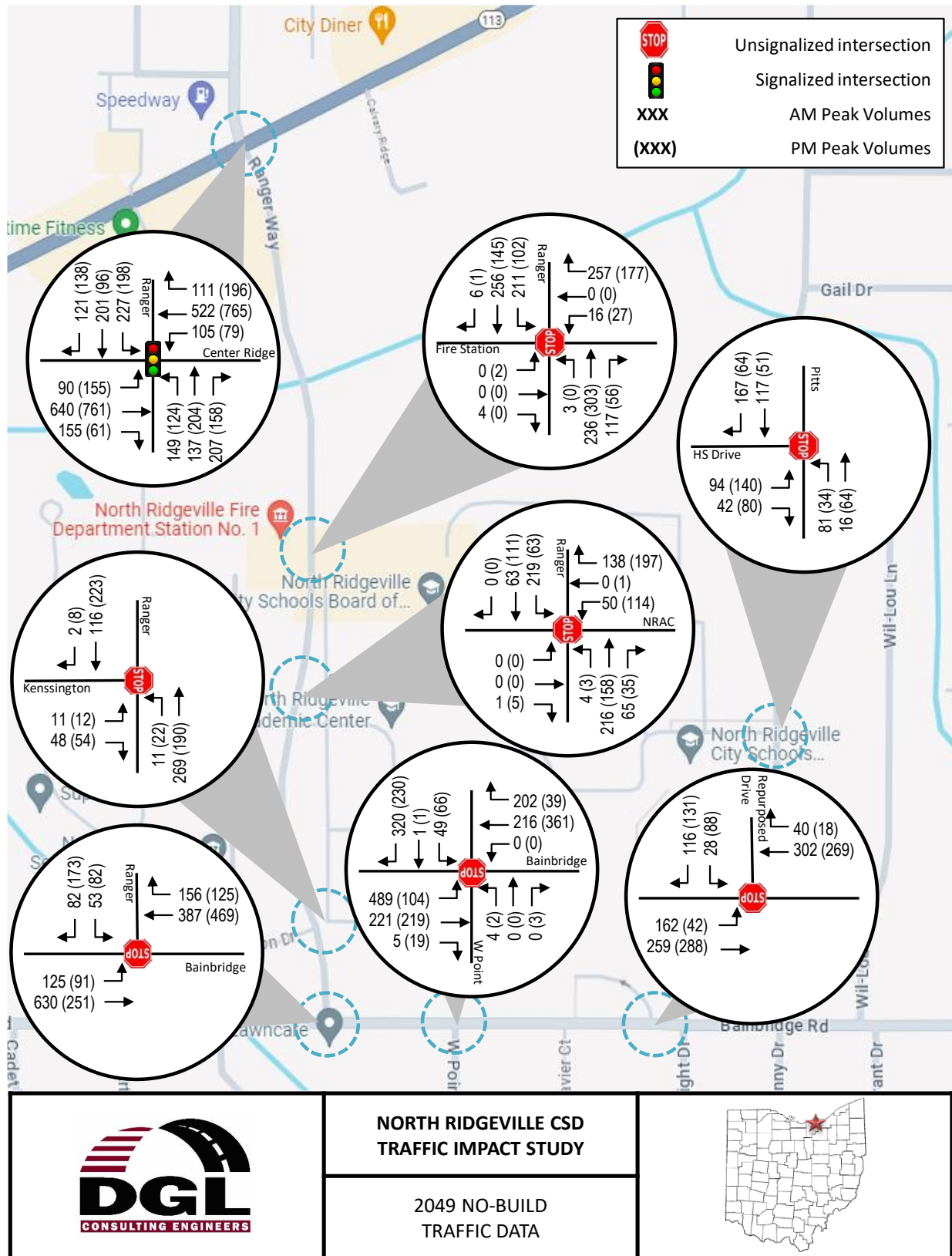


Figure 6 - 2049 No-Build Traffic Volumes



# North Ridgeville City School District

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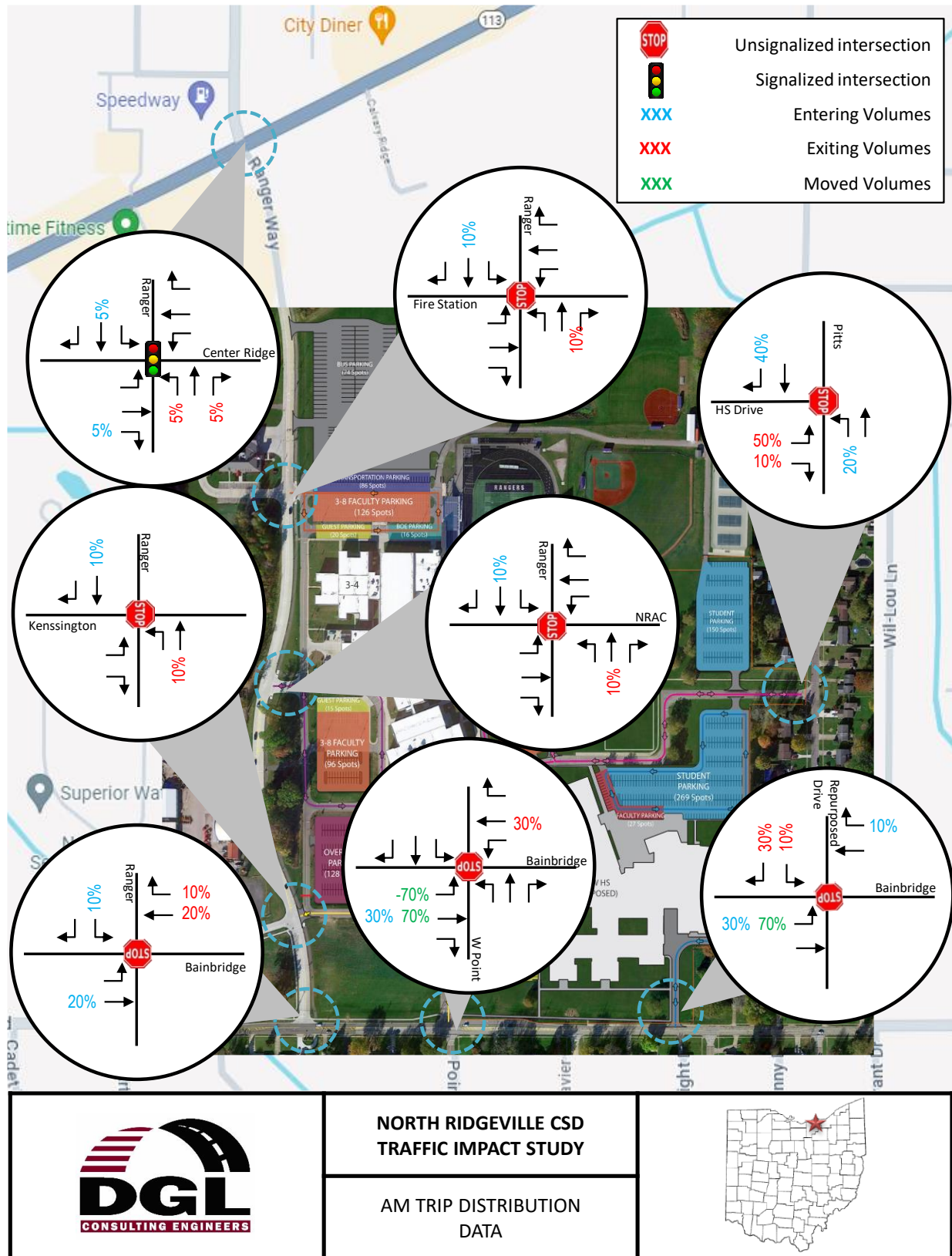


Figure 7 - Proposed AM Trip Distribution

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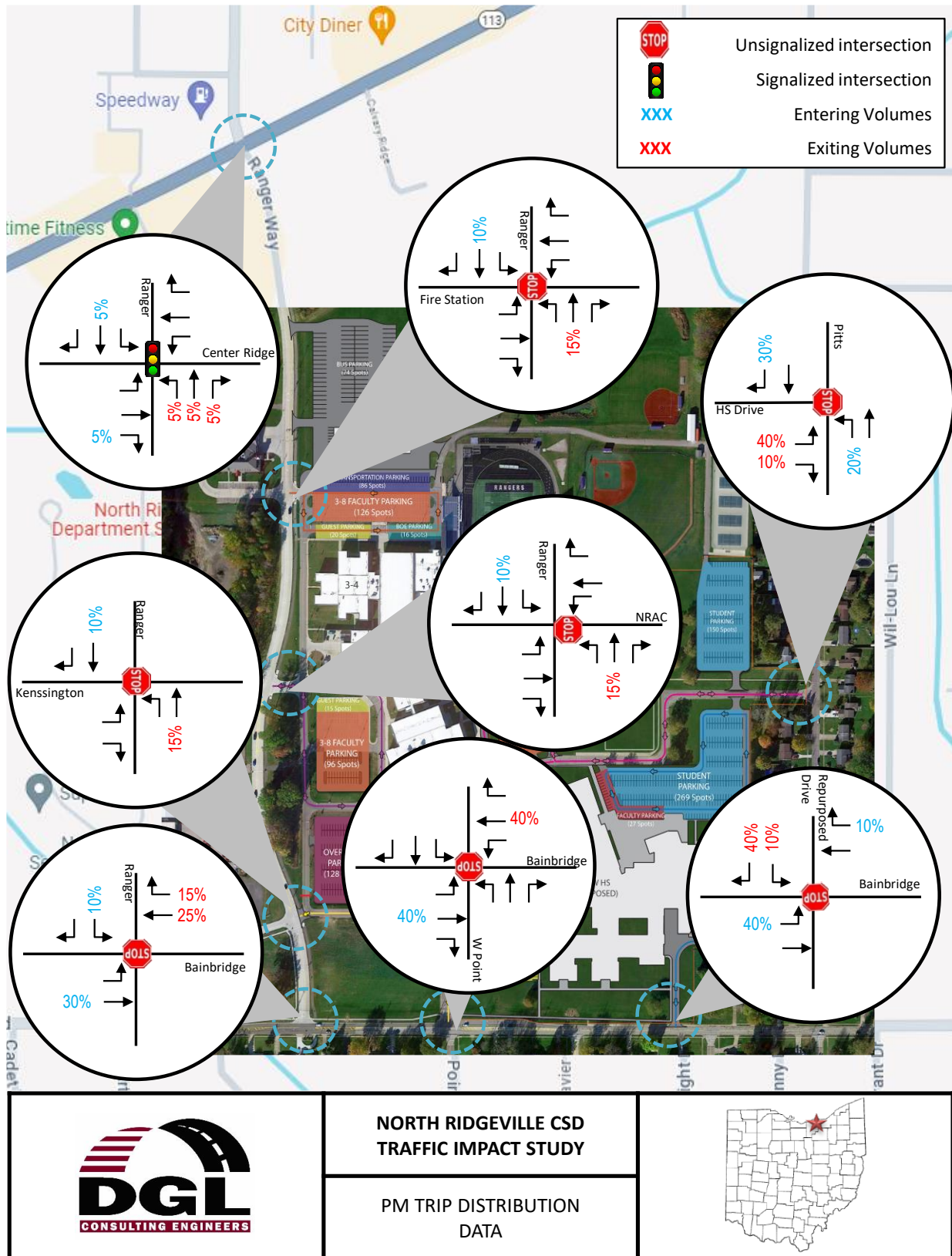
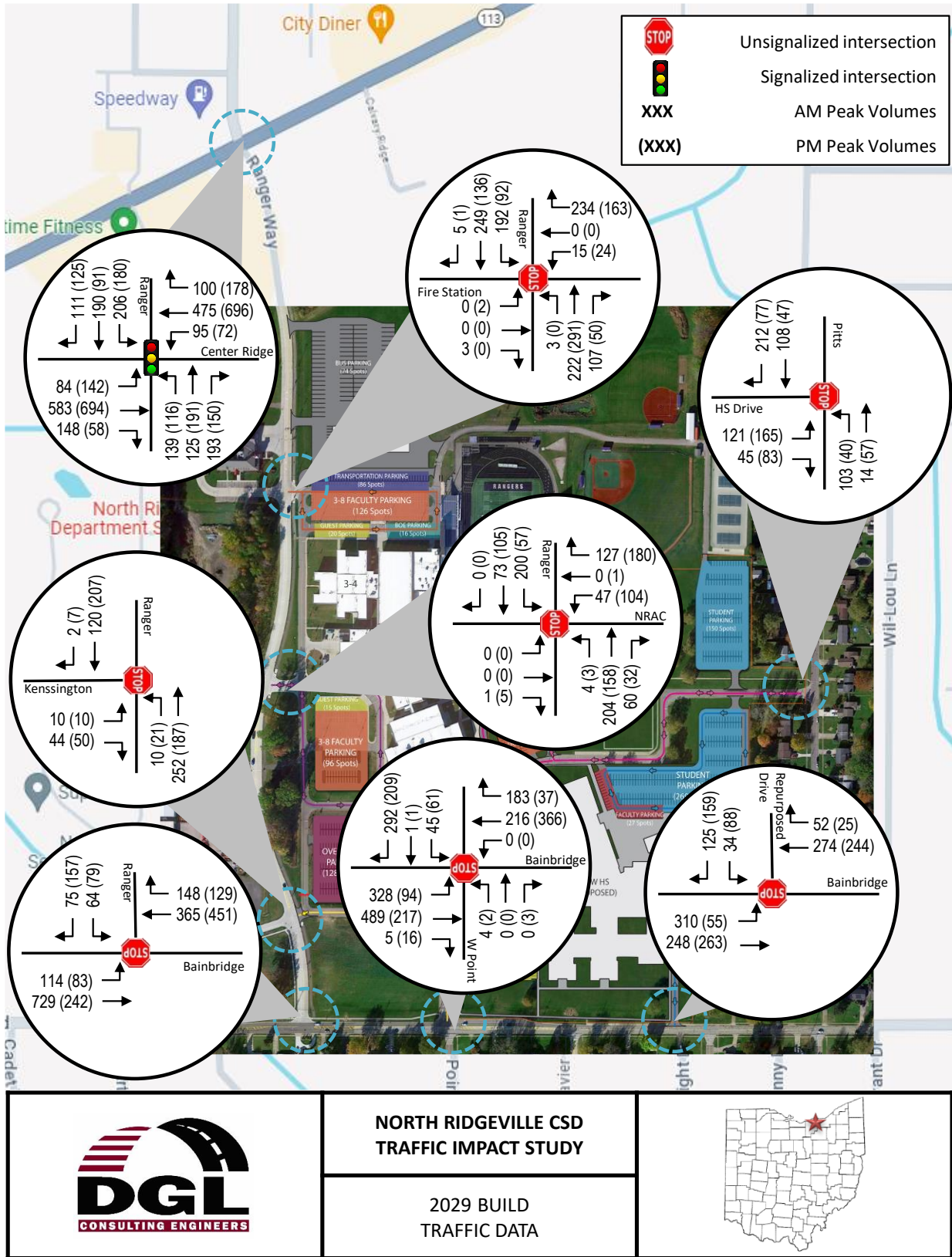


Figure 8 - Proposed PM Trip Distribution



# North Ridgeville City School District



**Figure 9 - 2029 Build Traffic Volumes**

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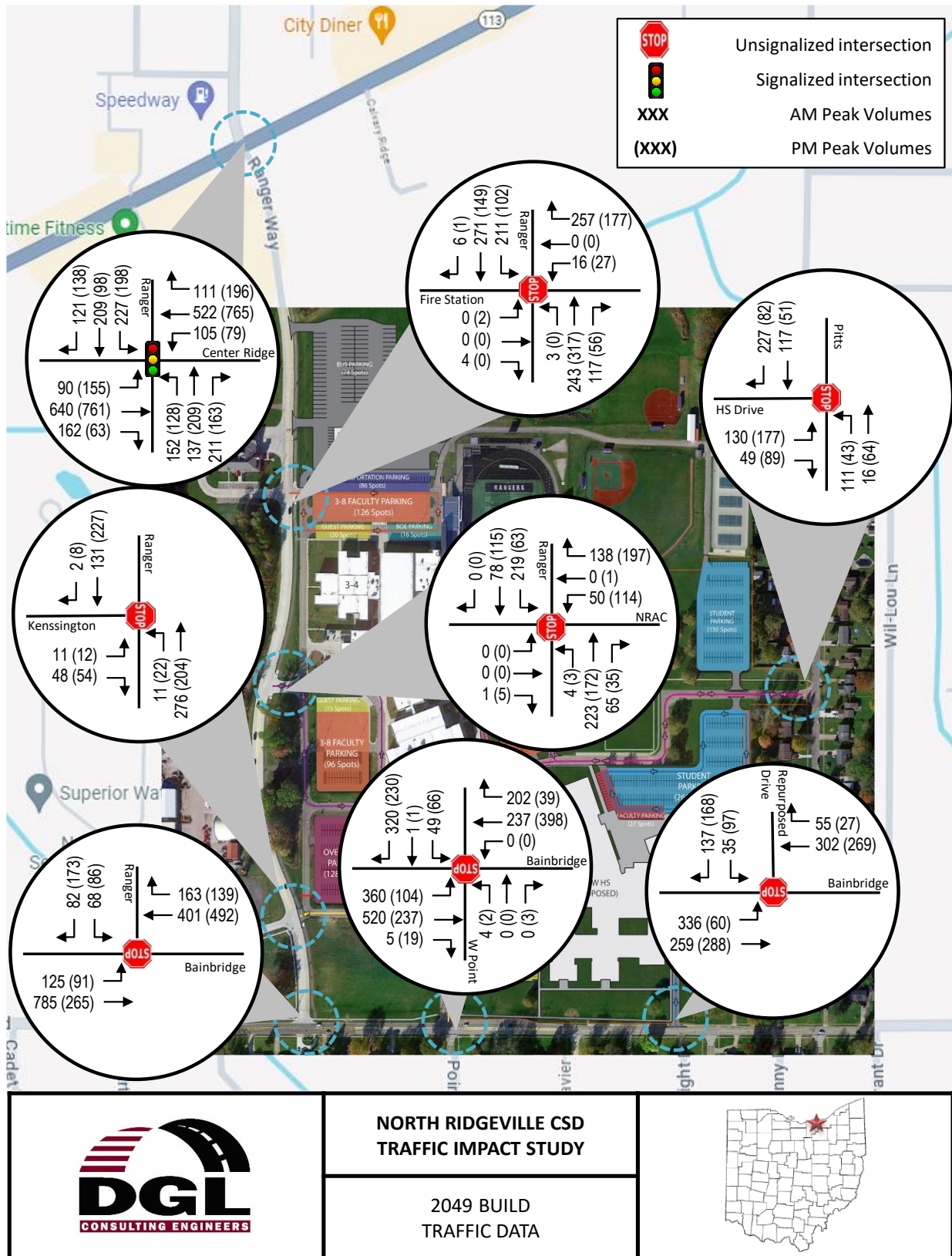


Figure 10 - 2049 Build Traffic Volumes



# North Ridgeville City School District

## North Ridgeville CSD Traffic Impact Study

### 6e. Turn Lane Warrant Analysis

Turn lane warrant analysis was conducted for the school access points. Turn lanes will reduce congestion while making the corridor safer by moving turning vehicles out of the through traveling traffic. It should be noted that the access points to campus along Ranger Way currently have left turn lanes.

The analyses were conducted using the Ohio Department of Transportation Location and Design Manual (L&D) Volume 1 using 2029 and 2049 AM and PM Peaks Build Scenario volumes.

The results of the analyses reveal the following:

- Bainbridge Road & Repurposed Drive (Drive 2) – warrant requirements were met for a left turn for EB Bainbridge Road.
- Pitts Boulevard & High School Drive – warrant requirements were met for a right turn for SB Pitts Road.
- Ranger Way & Kensington Drive – warrant requirements were *not met* for any additional turn lanes on any of the three approaches.
- Ranger Way & NRAC Drive – warrant requirements were *not met* for additional turn lanes on any of the four approaches.
- Ranger Way & Fire Station/School Drive – warrant requirements were *not met* for additional turn lanes on any of the four approaches.

Turn lane lengths were also developed based on the 2049 AM and PM Peak Volumes in accordance with the ODOT L&D Manual and can be found in Table 2: below.

| Table 2: Turn Lane Length Recommendations    |                       |                        |                   |                              |
|----------------------------------------------|-----------------------|------------------------|-------------------|------------------------------|
| Location                                     | Left Turn Lane Length | Right Turn Lane Length | Thru Block Length | Recommended Turn Lane Length |
| Bainbridge Road @ Repurposed Drive (Drive 2) | 300 feet              | -                      | -                 | 300 feet                     |
| Pitts Boulevard @ High School Drive          | -                     | 225 feet               | -                 | 225 feet                     |

### 6f. Signal Warrant Analysis

Signal Warrant Analysis was conducted using ODOT's Signal Warrant Spreadsheet which is based on ODOT's Ohio Manual of Uniform Traffic Control Devices. Traffic was counted for a four-hour period in early May 2024. **Currently, the intersection of Bainbridge Road and W Point Drive/School Drive does meet signal warrants based on the Peak Hour Volume.** The traffic was expanded to 2029, and the high school traffic was added to the intersection volumes. For 2029, signal warrants were met for the Peak Hour Volume with no right turn reduction since the signal is completely within city limits. Table 3: below shows the warrant information.

| Table 3: Signal Warrant Analysis – Bainbridge & W Point Drive/School Drive |                               |                                  |                                   |                                  |
|----------------------------------------------------------------------------|-------------------------------|----------------------------------|-----------------------------------|----------------------------------|
| Analysis Year                                                              | Warrant 1<br>8 Hour<br>Volume | Warrant 2<br>Four Hour<br>Volume | Warrant 3<br>Peak Hour<br>Volume* | Warrant 7<br>Crash<br>Experience |
| 2024 Existing                                                              | 2 of 8<br>Hours Met           | 2 of 4<br>Hours Met              | 1 of 1<br>Hours Met               | 1 of 5<br>Crashes Met            |
| 2029 No Build                                                              | 3 of 8<br>Hours Met           | 2 of 4<br>Hours Met              | 1 of 1<br>Hours Met               | 1 of 5<br>Crashes Met            |
| 2029 Build                                                                 | 3 of 8<br>Hours Met           | 3 of 4<br>Hours Met              | 1 of 1<br>Hours Met               | 1 of 5<br>Crashes Met            |

# North Ridgeville CSD Traffic Impact Study

Signal warrant analysis was also conducted for the intersection of Bainbridge Road & Ranger Way. Based on the analysis, the intersection does not currently meet signal warrants. Traffic was expanded to 2029 and 2049, and the trips generated by the new high school were added to the intersection volumes. Using the Build volumes, the intersection did not meet signal warrants for 2029 and 2049. Table 4 summarizes the results below.

| Table 4: Signal Warrant Analysis – Bainbridge & Ranger Way |                               |                                  |                                   |                                  |
|------------------------------------------------------------|-------------------------------|----------------------------------|-----------------------------------|----------------------------------|
| Analysis Year                                              | Warrant 1<br>8 Hour<br>Volume | Warrant 2<br>Four Hour<br>Volume | Warrant 3<br>Peak Hour<br>Volume* | Warrant 7<br>Crash<br>Experience |
| 2029 Build                                                 | 0 of 8<br>Hours Met           | 0 of 4<br>Hours Met              | 0 of 1<br>Hours Met               | 2 of 5<br>Crashes Met            |
| 2049 Build                                                 | 0 of 8<br>Hours Met           | 0 of 4<br>Hours Met              | 0 of 1<br>Hours Met               | 2 of 5<br>Crashes Met            |

## 6g. Intersection Capacity

The level of service (LOS) is a way to classify the intersection on a scale of A to F, from a functional standpoint. Intersections and approaches are assigned an overall grade based on traffic volumes, capacity, and overall delay experienced by drivers.

Capacity Analysis was conducted for various geometric and traffic control alternatives for the intersections being studied. HCS 2024 Software was used to determine the LOS for signalized scenarios and stop-controlled intersections. LOS is generally identified for each movement or approach. LOS C is considered acceptable in all conditions, while LOS D is considered acceptable in congested urban areas, such as interchanges and commuter corridors. For Two-Way Stop controlled intersections, the LOS is undefined for the overall intersection.

| Table 5: Intersection Level Of Service And Delay<br>(in seconds) |    |        |                           |    |        |                         |    |        |
|------------------------------------------------------------------|----|--------|---------------------------|----|--------|-------------------------|----|--------|
| Signalized Intersection                                          |    |        | Unsignalized Intersection |    |        | Roundabout Intersection |    |        |
| A                                                                | <= | 10s    | A                         | <= | 10s    | A                       | <= | 10s    |
| B                                                                | >  | 10-20s | B                         | >  | 10-15s | B                       | >  | 10-15s |
| C                                                                | >  | 20-35s | C                         | >  | 15-25s | C                       | >  | 15-25s |
| D                                                                | >  | 35-55s | D                         | >  | 25-35s | D                       | >  | 25-35s |
| E                                                                | >  | 55-80s | E                         | >  | 35-50s | E                       | >  | 35-50s |
| F                                                                | >  | 80s    | F                         | >  | 50s    | F                       | >  | 50s    |

For the analysis, traffic is analyzed for the overall peak hours of the roadway were determined to be 7:15-8:15 and 14:45-15:45. *Therefore, the analysis is for the “worst case” scenario on the roadway network. The district utilizes offset schedules for start/end times of the different schools on the campus to reduce the potential for traffic congestion around campus with a 40-minute difference between start times.*

### Existing Conditions

The 2024 counted traffic was analyzed to review how the intersections being studied are currently functioning. The AM Peak for the intersection and the PM Peak were analyzed. Based on the results of the analysis, the AM Peak seems to be the most congested period during the school day with the access points of Ranger Way & Fire Station/School Drive, Ranger Way & Bainbridge Road, and Bainbridge Road & W Point Drive/High School Drive all having intersection legs operating at unacceptable levels.



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| Table 6: Existing Conditions                         |           |       |          |       |
|------------------------------------------------------|-----------|-------|----------|-------|
|                                                      | AM Peak   |       | PM Peak  |       |
|                                                      | LOS       | Delay | LOS      | Delay |
| <b>Center Ridge Rd &amp; Ranger Way/Jaycox Rd</b>    |           |       |          |       |
| Eastbound                                            | B (12.1)  |       | B (11.6) |       |
| Westbound                                            | B (11.0)  |       | B (13.0) |       |
| Northbound                                           | D (53.8)  |       | D (47.9) |       |
| Southbound                                           | F (162.2) |       | F (82.7) |       |
| Overall                                              | D (50.1)  |       | C (28.4) |       |
| <b>Ranger Way &amp; Fire Station/School Drive</b>    |           |       |          |       |
| Eastbound                                            | B (10.0)  |       | C (24.5) |       |
| Westbound                                            | D (28.8)  |       | C (17.9) |       |
| Northbound                                           | A (0.1)   |       | A (0.0)  |       |
| Southbound                                           | A (4.2)   |       | A (3.7)  |       |
| Overall                                              | -         |       | -        |       |
| <b>Ranger Way &amp; NRAC Drive</b>                   |           |       |          |       |
| Eastbound                                            | A (8.6)   |       | A (8.9)  |       |
| Westbound                                            | C (15.1)  |       | B (12.9) |       |
| Northbound                                           | A (0.2)   |       | A (0.2)  |       |
| Southbound                                           | A (6.7)   |       | A (2.8)  |       |
| Overall                                              | -         |       | -        |       |
| <b>Ranger Way &amp; Kenssington Drive</b>            |           |       |          |       |
| Eastbound                                            | B (10.1)  |       | B (10.3) |       |
| Northbound                                           | A (0.3)   |       | A (0.8)  |       |
| Southbound                                           | -         |       | -        |       |
| Overall                                              | -         |       | -        |       |
| <b>Ranger Way &amp; Bainbridge Road</b>              |           |       |          |       |
| Eastbound                                            | A (1.5)   |       | A (2.4)  |       |
| Westbound                                            | -         |       | -        |       |
| Southbound                                           | D (27.7)  |       | C (18.1) |       |
| Overall                                              | -         |       | -        |       |
| <b>Bainbridge Rd &amp; High School Dr/W Point Dr</b> |           |       |          |       |
| Eastbound                                            | A (7.6)   |       | A (2.6)  |       |
| Westbound                                            | A (0.0)   |       | A (0.0)  |       |
| Northbound                                           | F (326.7) |       | C (20.4) |       |
| Southbound                                           | F (62.9)  |       | C (17.1) |       |
| Overall                                              | -         |       | -        |       |
| <b>Pitts Blvd &amp; High School Drive</b>            |           |       |          |       |
| Eastbound                                            | B (12.3)  |       | B (13.6) |       |
| Northbound                                           | A (6.8)   |       | A (2.9)  |       |
| Southbound                                           | -         |       | -        |       |
| Overall                                              | -         |       | -        |       |

## No-Build & Build Conditions

**Bainbridge Road & W Point School/Drive:** The No-Build condition shows the minor street approaches are expected to continue to fail in 2029 and 2049. The Build condition shows delays decreasing due to moving a portion of high school traffic to the new parking lot. *There is no adverse impact on Bainbridge Road in either condition and is it anticipated to function at acceptable levels.*

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**Center Ridge Road/SR-83 & Ranger Way/Jaycox Street:** The intersection currently functions at an acceptable level, but the intersection is projected to fail in 2029 and 2049 during the AM Peak Hour. This was confirmed in the 2024 City of North Ridgeville SR 83 & Bainbridge Traffic Study. *With the additional trips generated by the new high school in the Build condition, the delay at the intersection is projected increase by less than 10 seconds.*

**Ranger Way & Fire Station/School Drive:** The intersection is projected to operate at acceptable levels in the No-Build conditions, however, the delay for the westbound approach (exiting the campus) is expected to increase in the Build condition opening year and design year during the AM Peak Hour due to the traffic growth on Ranger Way.

**Ranger Way & Bainbridge Road:** is expected to function at acceptable levels during the PM Peak Hour but the delay on the southbound approach is projected to increase during the AM Peak Hour. It should be noted that the 0.5% annual traffic growth contributed to a 46s increase between the years 2029 and 2049 in the No Build condition. The Build condition is expected to impact the intersection by increasing delays on the southbound approach by 50 to 100 seconds when compared to the No-Build condition of the same year. *There is no adverse impact on Bainbridge Road in either condition and it is anticipated to function at acceptable levels.*

The Repurposed Drive (Drive 2) to access the new high school parking lot is anticipated to function at acceptable levels, however, the southbound approach is expected to experience delays for exiting traffic.

The remaining intersections are projected to function at acceptable levels during both peak hours for each condition. Table 6 below summarizes the results of the capacity analysis.

| Table 7: No-Build & Build Condition Comparison |            |                  |       |               |       |                  |       |               |       |
|------------------------------------------------|------------|------------------|-------|---------------|-------|------------------|-------|---------------|-------|
|                                                |            | 2029<br>No-Build |       | 2029<br>Build |       | 2049<br>No-Build |       | 2049<br>Build |       |
|                                                |            | LOS              | Delay | LOS           | Delay | LOS              | Delay | LOS           | Delay |
| Center Ridge Rd & Ranger Way/Jaycox Rd         |            |                  |       |               |       |                  |       |               |       |
| AM Peak                                        | Eastbound  | B (12.6)         |       | B (12.7)      |       | B (13.3)         |       | B (13.3)      |       |
|                                                | Westbound  | B (11.5)         |       | B (11.5)      |       | B (11.9)         |       | B (11.9)      |       |
|                                                | Northbound | E (69.6)         |       | E (73.9)      |       | F (87.3)         |       | F (92.2)      |       |
|                                                | Southbound | F (214.4)        |       | F (220.7)     |       | F (265.7)        |       | F (272.2)     |       |
|                                                | Overall    | E (64.4)         |       | E (66.9)      |       | E (78.6)         |       | F (81.3)      |       |
| PM Peak                                        | Eastbound  | B (12.1)         |       | B (12.2)      |       | B (12.8)         |       | B (12.8)      |       |
|                                                | Westbound  | B (13.7)         |       | B (13.7)      |       | B (14.5)         |       | B (14.5)      |       |
|                                                | Northbound | E (58.8)         |       | E (63.7)      |       | E (75.0)         |       | F (80.9)      |       |
|                                                | Southbound | F (121.7)        |       | F (122.8)     |       | F (150.6)        |       | F (151.8)     |       |
|                                                | Overall    | D (36.6)         |       | D (37.7)      |       | D (44.0)         |       | D (45.4)      |       |
| Ranger Way & Fire Station/School Drive         |            |                  |       |               |       |                  |       |               |       |
| AM Peak                                        | Eastbound  | B (10.3)         |       | B (10.5)      |       | B (10.6)         |       | B (10.8)      |       |
|                                                | Westbound  | F (59.7)         |       | F (66.8)      |       | F (129.9)        |       | F (144.9)     |       |
|                                                | Northbound | A (0.1)          |       | A (0.1)       |       | A (0.1)          |       | A (0.1)       |       |
|                                                | Southbound | A (4.5)          |       | A (4.3)       |       | A (4.7)          |       | A (4.6)       |       |
| PM Peak                                        | Eastbound  | D (30.9)         |       | D (32.3)      |       | E (38.5)         |       | E (40.5)      |       |
|                                                | Westbound  | C (21.5)         |       | C (22.5)      |       | D (26.7)         |       | D (28.2)      |       |
|                                                | Northbound | A (0.0)          |       | A (0.0)       |       | A (0.0)          |       | A (0.0)       |       |
|                                                | Southbound | A (3.8)          |       | A (3.8)       |       | A (4.0)          |       | A (3.9)       |       |



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| No-Build & Build Condition Comparison - Continued |            |                  |       |               |       |                  |       |               |       |
|---------------------------------------------------|------------|------------------|-------|---------------|-------|------------------|-------|---------------|-------|
|                                                   |            | 2029<br>No-Build |       | 2029<br>Build |       | 2049<br>No-Build |       | 2049<br>Build |       |
|                                                   |            | LOS              | Delay | LOS           | Delay | LOS              | Delay | LOS           | Delay |
| Ranger Way & NRAC Drive                           |            |                  |       |               |       |                  |       |               |       |
| AM Peak                                           | Eastbound  | A (8.6)          |       | A (8.7)       |       | A (8.7)          |       | A (8.8)       |       |
|                                                   | Westbound  | C (17.8)         |       | C (18.5)      |       | C (20.9)         |       | C (21.9)      |       |
|                                                   | Northbound | A (0.1)          |       | A (0.1)       |       | A (0.1)          |       | A (0.1)       |       |
|                                                   | Southbound | A (6.9)          |       | A (6.5)       |       | A (7.1)          |       | A (6.8)       |       |
|                                                   | Overall    | -                |       | -             |       | -                |       | -             |       |
| PM Peak                                           | Eastbound  | A (9.0)          |       | A (9.0)       |       | A (9.1)          |       | A (9.1)       |       |
|                                                   | Westbound  | B (14.3)         |       | B (14.8)      |       | C (15.8)         |       | C (16.5)      |       |
|                                                   | Northbound | A (0.2)          |       | A (0.1)       |       | A (0.1)          |       | A (0.1)       |       |
|                                                   | Southbound | A (2.8)          |       | A (2.8)       |       | A (2.9)          |       | A (2.8)       |       |
|                                                   | Overall    | -                |       | -             |       | -                |       | -             |       |
| Ranger Way & Kenssington Drive                    |            |                  |       |               |       |                  |       |               |       |
| AM Peak                                           | Eastbound  | B (10.4)         |       | B (10.6)      |       | B (10.7)         |       | B (10.9)      |       |
|                                                   | Northbound | A (0.3)          |       | A (0.3)       |       | A (0.3)          |       | A (0.3)       |       |
|                                                   | Southbound | -                |       | -             |       | -                |       | -             |       |
| PM Peak                                           | Eastbound  | B (10.6)         |       | B (10.7)      |       | B (10.9)         |       | B (11.0)      |       |
|                                                   | Northbound | A (0.8)          |       | A (0.8)       |       | A (0.8)          |       | A (0.8)       |       |
|                                                   | Southbound | -                |       | -             |       | -                |       | -             |       |
| Ranger Way & Bainbridge Road                      |            |                  |       |               |       |                  |       |               |       |
| AM Peak                                           | Eastbound  | A (1.3)          |       | A (1.3)       |       | A (1.4)          |       | A (1.4)       |       |
|                                                   | Westbound  | -                |       | -             |       | -                |       | -             |       |
|                                                   | Southbound | F (61.9)         |       | F (118.3)     |       | F (107.9)        |       | F (202.7)     |       |
|                                                   | Overall    | -                |       | -             |       | -                |       | -             |       |
| PM Peak                                           | Eastbound  | A (2.5)          |       | A (2.4)       |       | A (2.6)          |       | A (2.5)       |       |
|                                                   | Westbound  | -                |       | -             |       | -                |       | -             |       |
|                                                   | Southbound | C (22.5)         |       | D (25.2)      |       | D (28.4)         |       | D (33.1)      |       |
|                                                   | Overall    | -                |       | -             |       | -                |       | -             |       |
| Bainbridge Rd & W Point Drive/School Drive        |            |                  |       |               |       |                  |       |               |       |
| AM Peak                                           | Eastbound  | A (8.7)          |       | A (4.4)       |       | B (10.1)         |       | A (4.9)       |       |
|                                                   | Westbound  | A (0.0)          |       | A (0.0)       |       | A (0.0)          |       | A (0.0)       |       |
|                                                   | Northbound | F (847.2)        |       | F (788.9)     |       | F (2162.9)       |       | F (1832.3)    |       |
|                                                   | Southbound | F (146.5)        |       | F (127.6)     |       | F (289.1)        |       | F (223.3)     |       |
|                                                   | Overall    | -                |       | -             |       | -                |       | -             |       |
| PM Peak                                           | Eastbound  | A (2.7)          |       | A (2.6)       |       | A (2.7)          |       | A (2.6)       |       |
|                                                   | Westbound  | A (0.0)          |       | A (0.0)       |       | A (0.0)          |       | A (0.0)       |       |
|                                                   | Northbound | D (26.0)         |       | D (29.8)      |       | D (34.3)         |       | E (40.7)      |       |
|                                                   | Southbound | C (20.6)         |       | C (23.1)      |       | D (25.3)         |       | D (29.2)      |       |
|                                                   | Overall    | -                |       | -             |       | -                |       | -             |       |
| Pitts Blvd & High School Drive                    |            |                  |       |               |       |                  |       |               |       |
| AM Peak                                           | Eastbound  | B (13.2)         |       | C (17.4)      |       | B (14.3)         |       | C (19.7)      |       |
|                                                   | Northbound | A (7.0)          |       | A (7.7)       |       | A (7.1)          |       | A (7.8)       |       |
|                                                   | Southbound | -                |       | -             |       | -                |       | -             |       |
|                                                   | Overall    | -                |       | -             |       | -                |       | -             |       |
| PM Peak                                           | Eastbound  | C (15.4)         |       | C (21.2)      |       | C (17.4)         |       | D (26.2)      |       |
|                                                   | Northbound | A (2.9)          |       | A (3.5)       |       | A (2.9)          |       | A (3.5)       |       |
|                                                   | Southbound | -                |       | -             |       | -                |       | -             |       |
|                                                   | Overall    | -                |       | -             |       | -                |       | -             |       |

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| No-Build & Build Condition Comparison - Continued |            |                   |          |               |                   |                  |       |               |       |
|---------------------------------------------------|------------|-------------------|----------|---------------|-------------------|------------------|-------|---------------|-------|
|                                                   |            | 2029<br>No-Build  |          | 2029<br>Build |                   | 2049<br>No-Build |       | 2049<br>Build |       |
|                                                   |            | LOS               | Delay    | LOS           | Delay             | LOS              | Delay | LOS           | Delay |
| Bainbridge Rd & Repurposed Drive (Drive 2)        |            |                   |          |               |                   |                  |       |               |       |
| AM Peak                                           | Eastbound  | Not<br>Applicable | A (7.4)  |               | Not<br>Applicable | A (8.2)          |       |               |       |
|                                                   | Westbound  |                   | -        |               |                   | -                |       |               |       |
|                                                   | Southbound |                   | F (67.3) |               |                   | F (140.2)        |       |               |       |
|                                                   | Overall    |                   | -        |               |                   | -                |       |               |       |
| PM Peak                                           | Eastbound  | Not<br>Applicable | A (2.0)  |               | Not<br>Applicable | A (2.1)          |       |               |       |
|                                                   | Westbound  |                   | -        |               |                   | -                |       |               |       |
|                                                   | Southbound |                   | D (30.0) |               |                   | E (46.7)         |       |               |       |
|                                                   | Overall    |                   | -        |               |                   | -                |       |               |       |

### NRAC & High School Traffic Analysis

The intersection analysis presented to this point is based on worst case scenarios where additional traffic from the proposed high school is added to the peak hour for the entire campus. The AM Peak Hour for the roadway (07:15) aligns more with the traffic for the start time of the NRAC (07:40-2:50) rather than the High School (08:20-3:12), though an overlap exists between the hour for the start times for both buildings. To determine the impacts of both buildings on traffic operations at Bainbridge Road & W Point Drive/School Drive as well as the Repurposed Drive (Drive 2) on Bainbridge Road, the peak hours for each building were shifted to be more representative of the traffic they generate. The following time periods were analyzed to review a more accurate road network during the school day:

- NRAC Peak Hours 7:15-8:15 & 2:30-3:30
  - This is the AM peak hour analyzed in the “worst case” scenario
- High School Peak Hours 7:45-8:45 & 3:00-4:00

Even though the intersection of Bainbridge Road & W Point Drive/School Drive is used primarily for traffic circulation of the NRAC, a portion of the current high school traffic also uses the intersection to access the parking lot on the west side of the School Drive. Because of the proposed changes to the site, 70% of the traffic that entered the School Drive after the start time of the NRAC was moved to the repurposed drive that is to be utilized by high school traffic for both circulation and parking. A summary of the two analysis hours results, which included trips generated by the proposed high school, and moved traffic, is shown in Table 7.



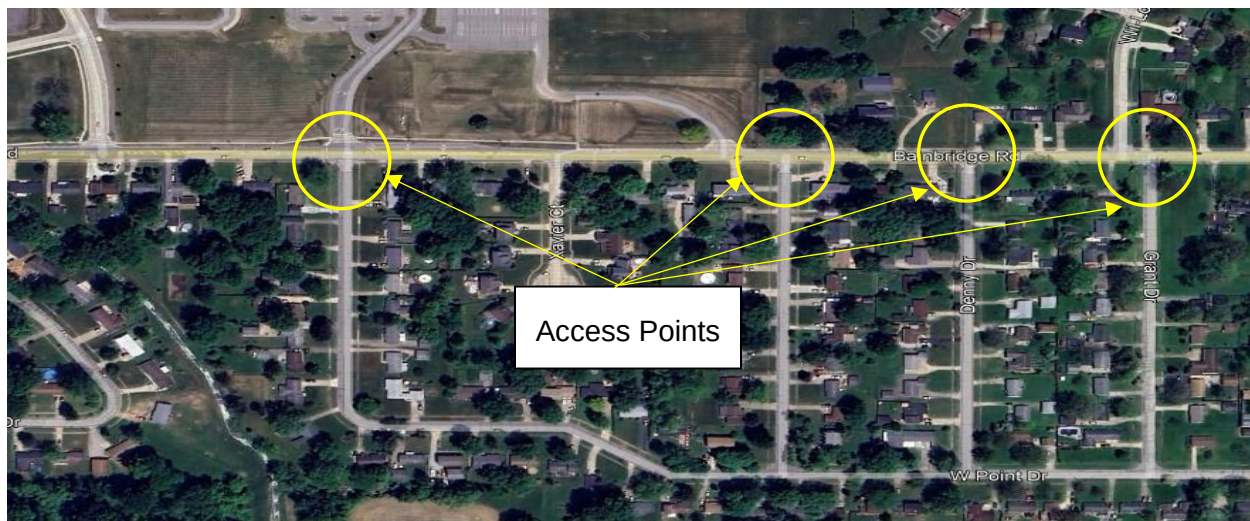
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| Table 8: High School/NRAC Peak Hour Comparison          |            |              |       |                |       |              |       |                |       |
|---------------------------------------------------------|------------|--------------|-------|----------------|-------|--------------|-------|----------------|-------|
|                                                         |            | 2029 HS Peak |       | 2029 NRAC Peak |       | 2049 HS Peak |       | 2049 NRAC Peak |       |
|                                                         |            | LOS          | Delay | LOS            | Delay | LOS          | Delay | LOS            | Delay |
| <b>Bainbridge Road &amp; W Point Drive/School Drive</b> |            |              |       |                |       |              |       |                |       |
| AM Peak                                                 | Eastbound  | A (2.7)      |       | A (5.2)        |       | A (2.8)      |       | A (5.5)        |       |
|                                                         | Westbound  | A (0.1)      |       | A (0.0)        |       | A (0.0)      |       | A (0.0)        |       |
|                                                         | Northbound | E (45.8)     |       | F (526.7)      |       | F (60.4)     |       | F (1033.4)     |       |
|                                                         | Southbound | E (35.6)     |       | F (89.9)       |       | F (60.1)     |       | F (148.0)      |       |
|                                                         | Overall    | -            |       | -              |       | -            |       | -              |       |
| PM Peak                                                 | Eastbound  | A (2.1)      |       | A (3.7)        |       | A (2.2)      |       | A (3.8)        |       |
|                                                         | Westbound  | A (0.0)      |       | A (0.1)        |       | A (0.0)      |       | A (0.1)        |       |
|                                                         | Northbound | E (35.1)     |       | C (23.5)       |       | E (47.4)     |       | D (30.3)       |       |
|                                                         | Southbound | C (21.1)     |       | C (24.4)       |       | D (25.7)     |       | D (32.8)       |       |
|                                                         | Overall    | -            |       | -              |       | -            |       | -              |       |
| <b>Bainbridge Road &amp; Repurposed Drive (Drive 2)</b> |            |              |       |                |       |              |       |                |       |
| AM Peak                                                 | Eastbound  | A (7.0)      |       | A (8.7)        |       | A (7.3)      |       | A (9.4)        |       |
|                                                         | Westbound  | -            |       | -              |       | -            |       | -              |       |
|                                                         | Southbound | C (17.4)     |       | E (43.4)       |       | C (19.7)     |       | F (81.2)       |       |
|                                                         | Overall    | -            |       | -              |       | -            |       | -              |       |
| PM Peak                                                 | Eastbound  | A (1.9)      |       | A (2.7)        |       | A (1.9)      |       | A (2.8)        |       |
|                                                         | Westbound  | -            |       | -              |       | -            |       | -              |       |
|                                                         | Southbound | D (28.1)     |       | D (34.5)       |       | E (45.2)     |       | F (57.5)       |       |
|                                                         | Overall    | -            |       | -              |       | -            |       | -              |       |

The analysis results show that traffic associated with the NRAC negatively impacts the intersections more than the traffic associated with the proposed high school. However, the analysis also shows that the intersection of Bainbridge Road & W Point Drive/School Drive is not projected to operate with acceptable levels of delay during the campus peak hour, the NRAC peak hour, or the High School peak hour in 2049.

It should be noted that the excessive delay at W Point Drive is for *less than ten vehicles in either peak hour*. W Point Drive connects to several other streets that also have access to Bainbridge Road.



**Figure 11 - Neighborhood Access to Bainbridge Road**

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It is highly likely that any vehicles trying to access Bainbridge Road during school hours will take an alternate route to avoid sitting at the Bainbridge Road and W Point Drive intersection, there are several other adjacent streets that access Bainbridge Road as shown in Figure 11. Therefore, if the school district would like to improve the level of service and delay on their site the following analysis of intersection improvements are presented in the following section.

## Build Conditions with Intersection Improvements

Due to the projected delays at Bainbridge Road & W Point Drive/School Drive and the Bainbridge Road & Repurposed Drive/Drive 2 intersections, traffic control alternatives were evaluated to improve intersection operations. All-Way-Stop-Control (AWSC), a traffic signal, and a single-lane roundabout were evaluated to determine which traffic control would allow the intersection to operate at an acceptable level.

### **Bainbridge Road & W Point Drive/School Drive**

- All-Way-Stop-Control (AWSC) Improvement – slightly improves overall delay for the intersection, but it would still operate at an unacceptable level during the AM Peak hour in 2029 and 2049 while also increasing the delay on Bainbridge Road by over 100 seconds. AWSC at this intersection is not recommended.
- Signalized Improvement – improves the delay for the northbound and southbound approaches but increases the delay on Bainbridge Road.
- Roundabout Improvement – improves the delay for the northbound and southbound approaches and increases the delay on Bainbridge Road during the AM Peak. The roundabout is projected to provide the least amount of delay for each approach as well as the intersection overall while also providing traffic calming for Bainbridge Road.

### **Bainbridge Road & Repurposed Drive (Drive 2)**

- Two-Way-Stop-Control + Turn Lanes Improvement – the addition of the warranted eastbound left turn on Bainbridge Road decreases the delay experienced by drivers on Bainbridge Road by less than 10 seconds, it is not recommended at this time.
- All-Way-Stop-Control (AWSC) Improvement – improves the southbound delay but increases the delay for Bainbridge Road by 10-20 seconds including the addition of an eastbound left and southbound right turn lane.
- Signalized Improvement – a signal was not warranted and was not analyzed.
- Roundabout Improvement – improves the delay for the northbound and approaches and increase the delay on Bainbridge Road. The roundabout is projected to provide the least amount of delay for each approach as well as the intersection overall while also providing traffic calming for Bainbridge Road.

Table 8 outlines the analysis of the proposed improvements.



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**Table 9: Build Condition & Build Condition + Improvement Comparison**

|                                              |            | 2029<br>Build +<br>AWSC      |       | 2029<br>Build +<br>Signal    |       | 2029<br>Build + RAB |       | 2049<br>Build +<br>AWSC |       | 2049<br>Build +<br>Signal    |       | 2049<br>Build + RAB |       |
|----------------------------------------------|------------|------------------------------|-------|------------------------------|-------|---------------------|-------|-------------------------|-------|------------------------------|-------|---------------------|-------|
|                                              |            | LOS                          | Delay | LOS                          | Delay | LOS                 | Delay | LOS                     | Delay | LOS                          | Delay | LOS                 | Delay |
| Bainbridge Road & W Point Drive/School Drive |            |                              |       |                              |       |                     |       |                         |       |                              |       |                     |       |
| AM<br>Peak                                   | Eastbound  | F (123.4)                    |       | B (17.8)                     |       | C (21.5)            |       | F (171.8)               |       | C (21.0)                     |       | D (30.2)            |       |
|                                              | Westbound  | C (18.6)                     |       | C (31.2)                     |       | B (14.3)            |       | C (22.2)                |       | D (37.4)                     |       | C (18.8)            |       |
|                                              | Northbound | B (12.1)                     |       | D (43.6)                     |       | A (8.8)             |       | B (12.6)                |       | D (48.2)                     |       | A (9.6)             |       |
|                                              | Southbound | D (28.0)                     |       | C (32.0)                     |       | A (8.6)             |       | E (39.2)                |       | C (34.1)                     |       | A (9.8)             |       |
|                                              | Overall    | F (75.8)                     |       | C (24.4)                     |       | C (16.9)            |       | F (103.8)               |       | C (28.2)                     |       | C (22.7)            |       |
| PM<br>Peak                                   | Eastbound  | C (15.0)                     |       | B (10.9)                     |       | A (6.1)             |       | C (17.4)                |       | B (11.9)                     |       | A (6.6)             |       |
|                                              | Westbound  | D (30.9)                     |       | C (21.4)                     |       | A (7.7)             |       | E (47.0)                |       | C (23.5)                     |       | A (8.5)             |       |
|                                              | Northbound | B (10.6)                     |       | C (32.4)                     |       | A (4.4)             |       | B (11.1)                |       | C (34.0)                     |       | A (4.6)             |       |
|                                              | Southbound | B (13.9)                     |       | C (25.3)                     |       | A (9.7)             |       | C (15.7)                |       | C (26.2)                     |       | B (11.2)            |       |
|                                              | Overall    | C (21.0)                     |       | B (19.1)                     |       | A (7.7)             |       | D (28.7)                |       | C (20.5)                     |       | A (8.6)             |       |
|                                              |            | 2029<br>Build +<br>AWSC + TL |       | 2029<br>Build + Turn<br>Lane |       | 2029<br>Build + RAB |       | 2049<br>Build +<br>AWSC |       | 2049<br>Build + Turn<br>Lane |       | 2049<br>Build + RAB |       |
| Bainbridge Road & Repurposed Drive (Drive 2) |            |                              |       |                              |       |                     |       |                         |       |                              |       |                     |       |
| AM<br>Peak                                   | Eastbound  | C (18.5)                     |       | A (5.5)                      |       | A (9.1)             |       | C (22.2)                |       | A (5.9)                      |       | A (9.9)             |       |
|                                              | Westbound  | C (17.7)                     |       | -                            |       | B (10.2)            |       | C (21.6)                |       | -                            |       | B (11.9)            |       |
|                                              | Southbound | B (12.1)                     |       | D (28.4)                     |       | A (6.1)             |       | B (13.0)                |       | E (38.2)                     |       | A (6.7)             |       |
|                                              | Overall    | C (17.3)                     |       | -                            |       | A (9.0)             |       | C (20.6)                |       | -                            |       | B (10.0)            |       |
| PM<br>Peak                                   | Eastbound  | C (16.9)                     |       | A (1.4)                      |       | A (6.7)             |       | C (20.6)                |       | A (1.4)                      |       | A (7.3)             |       |
|                                              | Westbound  | C (16.7)                     |       | -                            |       | A (5.6)             |       | C (20.5)                |       | -                            |       | A (6.0)             |       |
|                                              | Southbound | C (15.3)                     |       | C (16.8)                     |       | A (7.7)             |       | C (17.8)                |       | C (19.8)                     |       | A (8.6)             |       |
|                                              | Overall    | C (16.4)                     |       | -                            |       | A (6.6)             |       | C (19.8)                |       | -                            |       | A (7.2)             |       |

## 7. CONCLUSIONS

The construction of the new proposed high school is projected to be approximately 340,000 square feet to serve 1,692 students from grades 9 to 12. The project also includes the construction of a new, 22,000 square foot Maintenance/Transportation Facility on campus that includes the demolition of the existing facility on the eastern side of the site. This new project will affect the surrounding roadway network during school drop-off/pick-up times. It is anticipated that the three drives along Bainbridge Road will experience delays on the drives themselves but will not impact Bainbridge Road operations.

The study analyzed a "worse case" scenario with both the NRAC and the High School trips entering and exiting the campus at the same time. Currently there is a 40-minute difference between start times, therefore DGL also analyzed the individual peak hours. It is anticipated that there will be a steady influx of traffic throughout the beginning and end of the day for over an hour and not an extremely large volume of traffic heading to/from campus at the same time.

The evaluation of the separated peak hours for the NRAC and the High School along Bainbridge Road shows the intersection at W Point Drive/School Drive is projected to operate at unacceptable levels for the different peak hours analyzed. **The high delays for W Point Drive are experienced by less than ten vehicles in both peak hours.** *There is also access to*

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Road through different routes other than W Point Drive. The delay experienced by those leaving the school site could be mitigated by improvements at the intersection or an alternative of the circulation of traffic around campus.

### 8. RECOMMENDATIONS

The following recommendations are presented to mitigate the effects of the school traffic on the surrounding roadway network:

- Center Ridge Rd & Ranger Way/Jaycox Rd: Corridor signal timing adjustments should be reviewed. The intersection is currently being studied in the 2024 City of North Ridgeville SR 83 & Bainbridge Traffic Study. Consideration should be given to implementing specific timing plans for school traffic exiting Ranger Way.
- Ranger Way & Fire Station/School Drive: While the intersection will experience delay for the westbound approach (exiting the campus) Ranger Way will not be affected and should remain a Two-Way-Stop-Controlled intersection.
- Ranger Way & Bainbridge Road: will function at acceptable levels but the delays on the southbound approach are projected to increase. It is recommended that the intersection remain a Two-Way-Stop-Controlled intersection
- Bainbridge Rd & Repurposed Drive (Drive 2): will function at acceptable levels but the southbound approach is projected to experience delays. The addition of the warranted eastbound left turn on Bainbridge Road decreases the delay experienced by drivers on Bainbridge Road by less than 10 seconds, it is not recommended at this time.
- Bainbridge Road & W Point/School Drive: It is anticipated that a significant delay will occur on minor street approaches. If North Ridgeville City Schools would like to minimize the delay on the school drives, the following improvements, located within the public right of way, would help mitigate these excessive delays:
  - All Way Stop Control: convert the existing Two-Way-Stop-Controlled intersection to an All-Way-Stop-Controlled
  - Install a Traffic Signal: a signal is warranted based on the peak hour volumes
  - Install a mini-roundabout: a mini roundabout would alleviate traffic delays and increase traffic calming along Bainbridge



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## **Appendix A Turn Movement Counts**

| Leg                     | Center Ridge Rd |       |       |       |         |          | Center Ridge Rd |       |       |       |         |          | Ranger Way |       |       |       |         |          | Jaycox Rd  |       |       |       |         |          |           |
|-------------------------|-----------------|-------|-------|-------|---------|----------|-----------------|-------|-------|-------|---------|----------|------------|-------|-------|-------|---------|----------|------------|-------|-------|-------|---------|----------|-----------|
| Direction               | Eastbound       |       |       |       |         |          | Westbound       |       |       |       |         |          | Northbound |       |       |       |         |          | Southbound |       |       |       |         |          |           |
| Start Time              | Left            | Thru  | Right | Total | Peds CW | Peds CCW | Left            | Thru  | Right | Total | Peds CW | Peds CCW | Left       | Thru  | Right | Total | Peds CW | Peds CCW | Left       | Thru  | Right | Total | Peds CW | Peds CCW | Int Total |
| 2024-05-02 07:00:00     | 10              | 123   | 17    | 150   | 0       | 0        | 15              | 45    | 14    | 74    | 7       | 2        | 7          | 7     | 7     | 21    | 0       | 3        | 41         | 32    | 26    | 99    | 2       | 0        | 344       |
| 2024-05-02 07:15:00     | 16              | 100   | 67    | 183   | 0       | 0        | 33              | 89    | 11    | 133   | 12      | 0        | 34         | 30    | 44    | 108   | 0       | 2        | 40         | 51    | 21    | 112   | 4       | 0        | 536       |
| 2024-05-02 07:30:00     | 22              | 155   | 28    | 205   | 0       | 0        | 28              | 90    | 29    | 147   | 7       | 0        | 38         | 30    | 74    | 142   | 0       | 2        | 48         | 35    | 31    | 114   | 3       | 0        | 608       |
| 2024-05-02 07:45:00     | 16              | 138   | 6     | 160   | 0       | 0        | 7               | 138   | 33    | 178   | 3       | 0        | 28         | 34    | 37    | 99    | 0       | 2        | 54         | 19    | 21    | 94    | 1       | 0        | 531       |
| 2024-05-02 08:00:00     | 22              | 139   | 27    | 188   | 0       | 0        | 16              | 105   | 16    | 137   | 4       | 0        | 20         | 17    | 12    | 49    | 0       | 0        | 41         | 57    | 25    | 123   | 3       | 0        | 497       |
| AM Peak Hour Totals     | 76              | 532   | 128   | 736   | 0       | 0        | 84              | 422   | 89    | 595   | 26      | 0        | 120        | 111   | 167   | 398   | 0       | 6        | 183        | 162   | 98    | 443   | 11      | 0        | 2172      |
| AM PHF                  | 0.86            | 0.86  | 0.48  | 0.90  |         |          | 0.64            | 0.76  | 0.67  | 0.84  |         |          | 0.79       | 0.82  | 0.56  | 0.70  |         |          | 0.85       | 0.71  | 0.79  | 0.90  |         |          | 0.89      |
| 2024-05-02 08:15:00     | 32              | 147   | 9     | 188   | 0       | 0        | 5               | 98    | 33    | 136   | 2       | 0        | 18         | 22    | 12    | 52    | 2       | 0        | 38         | 22    | 27    | 87    | 0       | 0        | 463       |
| 2024-05-02 08:30:00     | 19              | 140   | 6     | 165   | 0       | 0        | 8               | 78    | 33    | 119   | 0       | 0        | 4          | 7     | 11    | 22    | 0       | 1        | 42         | 11    | 16    | 69    | 0       | 0        | 375       |
| 2024-05-02 08:45:00     | 23              | 112   | 7     | 142   | 0       | 0        | 9               | 108   | 22    | 139   | 0       | 0        | 4          | 5     | 5     | 14    | 2       | 0        | 57         | 19    | 26    | 102   | 0       | 0        | 397       |
| 2024-05-02 14:30:00     | 27              | 126   | 12    | 165   | 1       | 0        | 29              | 144   | 35    | 208   | 0       | 0        | 6          | 12    | 8     | 26    | 1       | 0        | 26         | 26    | 33    | 85    | 1       | 0        | 484       |
| 2024-05-02 14:45:00     | 32              | 139   | 12    | 183   | 0       | 0        | 10              | 121   | 28    | 159   | 0       | 18       | 18         | 26    | 30    | 74    | 4       | 1        | 48         | 21    | 19    | 88    | 0       | 4        | 504       |
| 2024-05-02 15:00:00     | 31              | 187   | 17    | 235   | 0       | 0        | 24              | 155   | 42    | 221   | 0       | 82       | 32         | 44    | 29    | 105   | 9       | 0        | 34         | 20    | 23    | 77    | 1       | 25       | 638       |
| 2024-05-02 15:15:00     | 26              | 123   | 8     | 157   | 0       | 0        | 13              | 144   | 39    | 196   | 0       | 16       | 32         | 63    | 48    | 143   | 5       | 0        | 42         | 23    | 49    | 114   | 1       | 4        | 610       |
| 2024-05-02 15:30:00     | 40              | 184   | 14    | 238   | 0       | 4        | 17              | 198   | 49    | 264   | 0       | 3        | 18         | 32    | 21    | 71    | 2       | 0        | 36         | 14    | 20    | 70    | 1       | 0        | 643       |
| PM Peak Hour Totals     | 129             | 633   | 51    | 813   | 0       | 0        | 64              | 618   | 158   | 840   | 0       | 119      | 100        | 165   | 128   | 393   | 20      | 1        | 160        | 78    | 111   | 349   | 3       | 33       | 2395      |
| PM PHF                  | 0.81            | 0.85  | 0.75  | 0.85  |         |          | 0.67            | 0.78  | 0.81  | 0.80  |         |          | 0.78       | 0.65  | 0.67  | 0.69  |         |          | 0.83       | 0.85  | 0.57  | 0.77  |         |          | 0.93      |
| 2024-05-02 15:45:00     | 35              | 155   | 12    | 202   | 3       | 0        | 20              | 159   | 46    | 225   | 0       | 2        | 25         | 31    | 9     | 65    | 3       | 0        | 45         | 19    | 48    | 112   | 3       | 2        | 604       |
| 2024-05-02 16:00:00     | 25              | 128   | 6     | 159   | 1       | 0        | 17              | 189   | 59    | 265   | 3       | 5        | 12         | 16    | 14    | 42    | 1       | 0        | 55         | 23    | 33    | 111   | 3       | 3        | 577       |
| 2024-05-02 16:15:00     | 35              | 149   | 7     | 191   | 0       | 3        | 20              | 173   | 51    | 244   | 1       | 1        | 11         | 17    | 14    | 42    | 0       | 0        | 39         | 20    | 43    | 102   | 1       | 2        | 579       |
| Grand Total             | 411             | 2245  | 255   | 2911  | 5       | 7        | 271             | 2034  | 540   | 2845  | 39      | 129      | 307        | 393   | 375   | 1075  | 29      | 11       | 686        | 412   | 461   | 1559  | 24      | 40       | 8390      |
| % Approach              | 14.1%           | 77.1% | 8.8%  |       |         |          | 9.5%            | 71.5% | 19.0% |       |         |          | 28.6%      | 36.6% | 34.9% |       |         |          | 44.0%      | 26.4% | 29.6% |       |         |          |           |
| % Total                 | 4.9%            | 26.8% | 3.0%  | 34.7% |         |          | 3.2%            | 24.2% | 6.4%  | 33.9% |         |          | 3.7%       | 4.7%  | 4.5%  | 12.8% |         |          | 8.2%       | 4.9%  | 5.5%  | 18.6% |         |          |           |
| Lights                  | 400             | 2166  | 242   | 2808  |         |          | 258             | 1981  | 527   | 2766  |         |          | 292        | 386   | 369   | 1047  |         |          | 660        | 396   | 457   | 1513  |         |          | 8134      |
| % Lights                | 97.3%           | 96.5% | 94.9% | 96.5% |         |          | 95.2%           | 97.4% | 97.6% | 97.2% |         |          | 95.1%      | 98.2% | 98.4% | 97.4% |         |          | 96.2%      | 96.1% | 99.1% | 97.0% |         |          | 96.9%     |
| Heavys                  | 11              | 79    | 13    | 103   |         |          | 13              | 53    | 13    | 79    |         |          | 15         | 7     | 6     | 28    |         |          | 26         | 16    | 4     | 46    |         |          | 256       |
| % Heavys                | 2.7%            | 3.5%  | 5.1%  | 3.5%  |         |          | 4.8%            | 2.6%  | 2.4%  | 2.8%  |         |          | 4.9%       | 1.8%  | 1.6%  | 2.6%  |         |          | 3.8%       | 3.9%  | 0.9%  | 3.0%  |         |          | 3.1%      |
| Pedestrians             |                 |       |       |       | 2       | 7        |                 |       |       |       | 37      | 122      |            |       |       |       | 26      | 10       |            |       |       |       | 22      | 38       |           |
| % Pedestrians           |                 |       |       |       | 40.0%   | 100.0%   |                 |       |       |       | 94.9%   | 94.6%    |            |       |       |       | 89.7%   | 90.9%    |            |       |       |       | 91.7%   | 95.0%    |           |
| Bicycles on Crosswalk   |                 |       |       |       | 3       | 0        |                 |       |       |       | 2       | 7        |            |       |       |       | 3       | 1        |            |       |       |       | 2       | 2        |           |
| % Bicycles on Crosswalk |                 |       |       |       | 60.0%   | 0.0%     |                 |       |       |       | 5.1%    | 5.4%     |            |       |       |       | 10.3%   | 9.1%     |            |       |       |       | 8.3%    | 5.0%     |           |





| Leg                     | Fire Station |         |         |       |         |          | School Parking Lot |         |       |       |         |          | Ranger Way |       |        |       |         |          | Ranger Way |       |       |       |         |          |           |
|-------------------------|--------------|---------|---------|-------|---------|----------|--------------------|---------|-------|-------|---------|----------|------------|-------|--------|-------|---------|----------|------------|-------|-------|-------|---------|----------|-----------|
| Direction               | Eastbound    |         |         |       |         |          | Westbound          |         |       |       |         |          | Northbound |       |        |       |         |          | Southbound |       |       |       |         |          |           |
| Start Time              | Left         | Thru    | Right   | Total | Peds CW | Peds CCW | Left               | Thru    | Right | Total | Peds CW | Peds CCW | Left       | Thru  | Right  | Total | Peds CW | Peds CCW | Left       | Thru  | Right | Total | Peds CW | Peds CCW | Int Total |
| 2024-04-30 07:00:00     | 0            | 0       | 0       | 0     | 0       | 0        | 0                  | 0       | 0     | 0     | 5       | 0        | 0          | 19    | 11     | 30    | 0       | 0        | 17         | 33    | 0     | 50    | 0       | 0        | 80        |
| 2024-04-30 07:15:00     | 0            | 0       | 0       | 0     | 0       | 0        | 0                  | 0       | 72    | 72    | 9       | 0        | 0          | 32    | 46     | 78    | 0       | 0        | 82         | 51    | 0     | 133   | 0       | 0        | 283       |
| 2024-04-30 07:30:00     | 0            | 0       | 0       | 0     | 0       | 0        | 0                  | 0       | 103   | 103   | 6       | 0        | 1          | 76    | 43     | 120   | 0       | 0        | 73         | 54    | 1     | 128   | 0       | 0        | 351       |
| 2024-04-30 07:45:00     | 0            | 0       | 0       | 0     | 0       | 0        | 13                 | 0       | 30    | 43    | 4       | 0        | 1          | 36    | 0      | 37    | 0       | 0        | 8          | 30    | 3     | 41    | 0       | 0        | 121       |
| 2024-04-30 08:00:00     | 0            | 0       | 3       | 3     | 0       | 0        | 0                  | 0       | 3     | 3     | 0       | 0        | 1          | 46    | 6      | 53    | 0       | 0        | 8          | 72    | 1     | 81    | 0       | 0        | 140       |
| AM Peak Hour Totals     | 0            | 0       | 3       | 3     | 0       | 0        | 13                 | 0       | 208   | 221   | 19      | 0        | 3          | 190   | 95     | 288   | 0       | 0        | 171        | 207   | 5     | 383   | 0       | 0        | 895       |
| AM PHF                  | #DIV/0!      | #DIV/0! | 0.25    | 0.25  |         |          | 0.25               | #DIV/0! | 0.50  | 0.54  |         |          | 0.75       | 0.63  | 0.52   | 0.60  |         |          | 0.52       | 0.72  | 0.42  | 0.72  |         |          | 0.64      |
| 2024-04-30 08:15:00     | 1            | 0       | 2       | 3     | 0       | 0        | 0                  | 0       | 5     | 5     | 1       | 0        | 1          | 52    | 2      | 55    | 0       | 0        | 2          | 43    | 0     | 45    | 0       | 0        | 108       |
| 2024-04-30 08:30:00     | 2            | 0       | 3       | 5     | 0       | 0        | 0                  | 0       | 0     | 0     | 0       | 0        | 3          | 26    | 0      | 29    | 0       | 0        | 1          | 19    | 1     | 21    | 0       | 0        | 55        |
| 2024-04-30 08:45:00     | 1            | 0       | 3       | 4     | 0       | 0        | 0                  | 0       | 4     | 4     | 1       | 0        | 4          | 8     | 2      | 14    | 0       | 0        | 4          | 19    | 0     | 23    | 0       | 0        | 45        |
| 2024-04-30 14:30:00     | 0            | 0       | 0       | 0     | 0       | 0        | 0                  | 0       | 3     | 3     | 0       | 0        | 0          | 29    | 9      | 38    | 0       | 0        | 21         | 28    | 0     | 49    | 0       | 0        | 90        |
| 2024-04-30 14:45:00     | 0            | 0       | 0       | 0     | 0       | 0        | 6                  | 0       | 44    | 50    | 0       | 90       | 0          | 29    | 15     | 44    | 0       | 1        | 25         | 32    | 0     | 57    | 0       | 0        | 151       |
| 2024-04-30 15:00:00     | 2            | 0       | 0       | 2     | 0       | 0        | 11                 | 0       | 69    | 80    | 0       | 10       | 0          | 56    | 3      | 59    | 0       | 0        | 27         | 38    | 1     | 66    | 0       | 0        | 207       |
| 2024-04-30 15:15:00     | 0            | 0       | 0       | 0     | 0       | 0        | 3                  | 0       | 21    | 24    | 0       | 6        | 0          | 122   | 18     | 140   | 0       | 0        | 15         | 21    | 0     | 36    | 0       | 0        | 200       |
| 2024-04-30 15:30:00     | 0            | 0       | 0       | 0     | 0       | 0        | 2                  | 0       | 10    | 12    | 1       | 1        | 0          | 38    | 9      | 47    | 0       | 0        | 15         | 26    | 0     | 41    | 0       | 0        | 100       |
| PM Peak Hour Totals     | 2            | 0       | 0       | 2     | 0       | 0        | 22                 | 0       | 144   | 166   | 1       | 107      | 0          | 245   | 45     | 290   | 0       | 1        | 82         | 117   | 1     | 200   | 0       | 0        | 658       |
| PM PHF                  | 0.25         | #DIV/0! | #DIV/0! | 0.25  |         |          | 0.50               | #DIV/0! | 0.52  | 0.52  |         |          | #DIV/0!    | 0.50  | 0.63   | 0.52  |         |          | 0.76       | 0.77  | 0.25  | 0.76  |         |          | 0.79      |
| 2024-04-30 15:45:00     | 0            | 0       | 0       | 0     | 0       | 0        | 4                  | 0       | 7     | 11    | 0       | 2        | 0          | 40    | 23     | 63    | 0       | 0        | 22         | 29    | 0     | 51    | 0       | 0        | 125       |
| 2024-04-30 16:00:00     | 1            | 0       | 1       | 2     | 0       | 0        | 1                  | 0       | 10    | 11    | 0       | 2        | 0          | 48    | 18     | 66    | 0       | 0        | 37         | 37    | 0     | 74    | 0       | 0        | 153       |
| 2024-04-30 16:15:00     | 0            | 0       | 0       | 0     | 0       | 0        | 11                 | 0       | 34    | 45    | 0       | 0        | 0          | 28    | 18     | 46    | 0       | 0        | 35         | 43    | 0     | 78    | 0       | 0        | 169       |
| Grand Total             | 7            | 0       | 12      | 19    | 0       | 0        | 51                 | 0       | 415   | 466   | 27      | 111      | 11         | 685   | 223    | 919   | 0       | 1        | 392        | 575   | 7     | 974   | 0       | 0        | 2378      |
| % Approach              | 36.8%        | 0.0%    | 63.2%   |       |         |          | 10.9%              | 0.0%    | 89.1% |       |         |          | 1.2%       | 74.5% | 24.3%  |       |         |          | 40.2%      | 59.0% | 0.7%  |       |         |          |           |
| % Total                 | 0.3%         | 0.0%    | 0.5%    | 0.8%  |         |          | 2.1%               | 0.0%    | 17.5% | 19.6% |         |          | 0.5%       | 28.8% | 9.4%   | 38.6% |         |          | 16.5%      | 24.2% | 0.3%  | 41.0% |         |          |           |
| Lights                  | 6            | 0       | 9       | 15    |         |          | 51                 | 0       | 413   | 464   |         |          | 8          | 645   | 223    | 876   |         |          | 382        | 551   | 6     | 939   |         |          | 2294      |
| % Lights                | 85.7%        | 0.0%    | 75.0%   | 78.9% |         |          | 100.0%             | 0.0%    | 99.5% | 99.6% |         |          | 72.7%      | 94.2% | 100.0% | 95.3% |         |          | 97.4%      | 95.8% | 85.7% | 96.4% |         |          | 96.5%     |
| Heavys                  | 1            | 0       | 3       | 4     | 0       | 0        | 0                  | 0       | 2     | 2     | 0       | 0        | 3          | 40    | 0      | 43    | 0       | 0        | 10         | 24    | 1     | 35    | 0       | 0        | 84        |
| % Heavys                | 14.3%        | #DIV/0! | 25.0%   | 21.1% |         |          | 0.0%               | #DIV/0! | 0.5%  | 0.4%  |         |          | 27.3%      | 5.8%  | 0.0%   | 4.7%  |         |          | 2.6%       | 4.2%  | 14.3% | 3.6%  |         |          | 3.5%      |
| Pedestrians             |              |         |         |       | 0       | 0        |                    |         |       |       | 25      | 108      |            |       |        |       | 0       | 1        |            |       |       |       | 0       | 0        |           |
| % Pedestrians           |              |         |         |       | 0.0%    | 0.0%     |                    |         |       |       | 92.6%   | 97.3%    |            |       |        |       | 0.0%    | 100.0%   |            |       |       |       | 0.0%    | 0.0%     |           |
| Bicycles on Crosswalk   |              |         |         |       | 0       | 0        |                    |         |       |       | 2       | 3        |            |       |        |       | 0       | 0        |            |       |       |       | 0       | 0        |           |
| % Bicycles on Crosswalk |              |         |         |       | 0.0%    | 0.0%     |                    |         |       |       | 7.4%    | 2.7%     |            |       |        |       | 0.0%    | 0.0%     |            |       |       |       | 0.0%    | 0.0%     |           |



| Leg                     | NRAC Dr   |         |        |        |         |          | NRAC Dr   |         |       |       |         |          | Ranger Way |       |       |       |         |          | Ranger Way |       |         |       |         |          |           |
|-------------------------|-----------|---------|--------|--------|---------|----------|-----------|---------|-------|-------|---------|----------|------------|-------|-------|-------|---------|----------|------------|-------|---------|-------|---------|----------|-----------|
| Direction               | Eastbound |         |        |        |         |          | Westbound |         |       |       |         |          | Northbound |       |       |       |         |          | Southbound |       |         |       |         |          |           |
| Start Time              | Left      | Thru    | Right  | Total  | Peds CW | Peds CCW | Left      | Thru    | Right | Total | Peds CW | Peds CCW | Left       | Thru  | Right | Total | Peds CW | Peds CCW | Left       | Thru  | Right   | Total | Peds CW | Peds CCW | Int Total |
| 2024-04-30 07:00:00     | 0         | 0       | 1      | 1      | 0       | 0        | 0         | 0       | 11    | 11    | 0       | 0        | 0          | 17    | 12    | 29    | 0       | 0        | 16         | 17    | 0       | 33    | 0       | 0        | 74        |
| 2024-04-30 07:15:00     | 0         | 0       | 1      | 1      | 0       | 0        | 6         | 0       | 14    | 20    | 0       | 0        | 0          | 72    | 32    | 104   | 0       | 0        | 41         | 10    | 0       | 51    | 0       | 0        | 176       |
| 2024-04-30 07:30:00     | 0         | 0       | 0      | 0      | 0       | 0        | 22        | 0       | 38    | 60    | 0       | 0        | 2          | 77    | 9     | 88    | 0       | 0        | 46         | 10    | 0       | 56    | 0       | 0        | 204       |
| 2024-04-30 07:45:00     | 0         | 0       | 0      | 0      | 0       | 0        | 8         | 0       | 21    | 29    | 0       | 0        | 1          | 10    | 6     | 17    | 0       | 0        | 23         | 22    | 0       | 45    | 0       | 0        | 91        |
| 2024-04-30 08:00:00     | 0         | 0       | 0      | 0      | 0       | 0        | 5         | 0       | 39    | 44    | 0       | 0        | 1          | 16    | 6     | 23    | 0       | 0        | 67         | 10    | 0       | 77    | 0       | 0        | 144       |
| AM Peak Hour Totals     | 0         | 0       | 1      | 1      | 0       | 0        | 41        | 0       | 112   | 153   | 0       | 0        | 4          | 175   | 53    | 232   | 0       | 0        | 177        | 52    | 0       | 229   | 0       | 0        | 615       |
| AM PHF                  | #DIV/0!   | #DIV/0! | 0.25   | 0.25   |         |          | 0.47      | #DIV/0! | 0.72  | 0.64  |         |          | 0.50       | 0.57  | 0.41  | 0.56  |         |          | 0.66       | 0.59  | #DIV/0! | 0.74  |         |          | 0.75      |
| 2024-04-30 08:15:00     | 0         | 0       | 1      | 1      | 0       | 0        | 4         | 0       | 32    | 36    | 0       | 0        | 0          | 23    | 5     | 28    | 0       | 0        | 34         | 8     | 0       | 42    | 0       | 0        | 107       |
| 2024-04-30 08:30:00     | 0         | 0       | 1      | 1      | 0       | 0        | 2         | 0       | 9     | 11    | 0       | 0        | 0          | 17    | 1     | 18    | 0       | 0        | 9          | 12    | 0       | 21    | 0       | 0        | 51        |
| 2024-04-30 08:45:00     | 0         | 0       | 0      | 0      | 0       | 0        | 0         | 0       | 5     | 5     | 0       | 0        | 0          | 16    | 4     | 20    | 0       | 0        | 13         | 10    | 1       | 24    | 0       | 0        | 49        |
| 2024-04-30 14:30:00     | 0         | 0       | 1      | 1      | 0       | 0        | 9         | 0       | 14    | 23    | 0       | 0        | 1          | 20    | 9     | 30    | 0       | 0        | 10         | 18    | 0       | 28    | 0       | 0        | 82        |
| 2024-04-30 14:45:00     | 0         | 0       | 2      | 2      | 0       | 0        | 34        | 0       | 20    | 54    | 3       | 0        | 2          | 28    | 6     | 37    | 0       | 0        | 10         | 29    | 0       | 39    | 0       | 0        | 132       |
| 2024-04-30 15:00:00     | 0         | 0       | 0      | 0      | 0       | 0        | 21        | 0       | 27    | 48    | 1       | 0        | 1          | 25    | 11    | 37    | 0       | 0        | 24         | 28    | 0       | 52    | 0       | 0        | 137       |
| 2024-04-30 15:15:00     | 0         | 0       | 1      | 1      | 0       | 0        | 30        | 0       | 92    | 122   | 0       | 0        | 0          | 45    | 7     | 52    | 0       | 0        | 9          | 13    | 0       | 22    | 0       | 0        | 197       |
| 2024-04-30 15:30:00     | 0         | 0       | 2      | 2      | 0       | 0        | 7         | 1       | 20    | 28    | 0       | 2        | 0          | 29    | 4     | 33    | 0       | 0        | 8          | 19    | 0       | 27    | 0       | 0        | 90        |
| PM Peak Hour Totals     | 0         | 0       | 5      | 5      | 0       | 0        | 92        | 1       | 159   | 252   | 4       | 2        | 3          | 127   | 28    | 159   | 0       | 0        | 51         | 89    | 0       | 140   | 0       | 0        | 556       |
| PM PHF                  | #DIV/0!   | #DIV/0! | 0.63   | 0.63   |         |          | 0.68      | 0.25    | 0.43  | 0.52  | 0.63    |          | 0.38       | 0.71  | 0.64  | 0.76  |         |          | 0.53       | 0.77  | #DIV/0! | 0.67  |         |          | 0.71      |
| 2024-04-30 15:45:00     | 0         | 0       | 0      | 0      | 0       | 0        | 9         | 0       | 15    | 24    | 1       | 0        | 0          | 49    | 8     | 57    | 0       | 0        | 10         | 23    | 0       | 33    | 0       | 0        | 114       |
| 2024-04-30 16:00:00     | 0         | 0       | 1      | 1      | 0       | 0        | 3         | 0       | 15    | 18    | 0       | 0        | 1          | 46    | 6     | 53    | 0       | 0        | 7          | 30    | 1       | 38    | 0       | 0        | 110       |
| 2024-04-30 16:15:00     | 0         | 0       | 2      | 2      | 0       | 0        | 5         | 0       | 9     | 14    | 0       | 0        | 0          | 41    | 5     | 46    | 0       | 0        | 15         | 38    | 1       | 54    | 0       | 0        | 116       |
| Grand Total             | 0         | 0       | 13     | 13     | 0       | 0        | 165       | 1       | 381   | 547   | 5       | 2        | 9          | 531   | 131   | 672   | 0       | 0        | 342        | 297   | 3       | 642   | 0       | 0        | 1874      |
| % Approach              | 0.0%      | 0.0%    | 100.0% |        |         |          | 30.2%     | 0.2%    | 69.7% |       |         |          | 1.3%       | 79.0% | 19.5% |       |         | 53.3%    | 46.3%      | 0.5%  |         |       |         |          |           |
| % Total                 | 0.0%      | 0.0%    | 0.7%   | 0.7%   |         |          | 8.8%      | 0.1%    | 20.3% | 29.2% |         |          | 0.5%       | 28.3% | 7.0%  | 35.9% |         |          | 18.2%      | 15.8% | 0.2%    | 34.3% |         |          |           |
| Lights                  | 0         | 0       | 13     | 13     |         |          | 138       | 1       | 351   | 490   |         |          | 8          | 522   | 118   | 649   |         |          | 322        | 290   | 1       | 613   |         |          | 1765      |
| % Lights                | 0.0%      | 0.0%    | 100.0% | 100.0% |         |          | 83.6%     | 100.0%  | 92.1% | 89.6% |         |          | 88.9%      | 98.3% | 90.1% | 96.6% |         |          | 94.2%      | 97.6% | 33.3%   | 95.5% |         |          | 94.2%     |
| Heavys                  | 0         | 0       | 0      | 0      | 0       | 0        | 27        | 0       | 30    | 57    | 0       | 0        | 1          | 9     | 13    | 23    | 0       | 0        | 20         | 7     | 2       | 29    | 0       | 0        | 109       |
| % Heavys                | #DIV/0!   | #DIV/0! | 0.0%   | 0.0%   |         |          | 16.4%     | 0.0%    | 7.9%  | 10.4% |         |          | 11.1%      | 1.7%  | 9.9%  | 3.4%  |         |          | 5.8%       | 2.4%  | 66.7%   | 4.5%  |         |          | 5.8%      |
| Pedestrians             |           |         |        |        | 0       | 0        |           |         |       |       | 5       | 2        |            |       |       |       | 0       | 0        |            |       |         |       | 0       | 0        |           |
| % Pedestrians           |           |         |        |        | 0.0%    | 0.0%     |           |         |       |       | 100.0%  | 100.0%   |            |       |       |       | 0.0%    | 0.0%     |            |       |         |       | 0.0%    | 0.0%     |           |
| Bicycles on Crosswalk   |           |         |        |        | 0       | 0        |           |         |       |       | 0       | 0        |            |       |       |       | 0       | 0        |            |       |         |       | 0       | 0        |           |
| % Bicycles on Crosswalk |           |         |        |        | 0.0%    | 0.0%     |           |         |       |       | 0.0%    | 0.0%     |            |       |       |       | 0.0%    | 0.0%     |            |       |         |       | 0.0%    | 0.0%     |           |





| Leg                     | Kensington Dr |       |       |         |          | Ranger Way |       |       |         |          | Ranger Way |       |       |         |          |           |
|-------------------------|---------------|-------|-------|---------|----------|------------|-------|-------|---------|----------|------------|-------|-------|---------|----------|-----------|
| Direction               | Eastbound     |       |       |         |          | Northbound |       |       |         |          | Southbound |       |       |         |          |           |
| Start Time              | Left          | Right | Total | Peds CW | Peds CCW | Left       | Thru  | Total | Peds CW | Peds CCW | Thru       | Right | Total | Peds CW | Peds CCW | Int Total |
| 2024-04-30 07:00:00     | 0             | 5     | 5     | 0       | 0        | 2          | 28    | 30    | 0       | 0        | 17         | 0     | 17    | 0       | 0        | 52        |
| 2024-04-30 07:15:00     | 1             | 9     | 10    | 0       | 0        | 4          | 105   | 109   | 0       | 2        | 16         | 1     | 17    | 0       | 0        | 136       |
| 2024-04-30 07:30:00     | 3             | 8     | 11    | 0       | 0        | 0          | 77    | 77    | 0       | 1        | 33         | 1     | 34    | 0       | 0        | 122       |
| 2024-04-30 07:45:00     | 1             | 13    | 14    | 0       | 0        | 3          | 15    | 18    | 0       | 2        | 28         | 0     | 28    | 0       | 0        | 60        |
| 2024-04-30 08:00:00     | 4             | 9     | 13    | 0       | 0        | 2          | 20    | 22    | 0       | 1        | 16         | 0     | 16    | 0       | 0        | 51        |
| AM Peak Hour Totals     | 9             | 39    | 48    | 0       | 0        | 9          | 217   | 226   | 0       | 6        | 93         | 2     | 95    | 0       | 0        | 369       |
| AM PHF                  | 0.56          | 0.75  | 0.86  |         |          | 0.56       | 0.52  | 0.52  |         |          | 0.70       | 0.50  | 0.70  |         |          | 0.68      |
| 2024-04-30 08:15:00     | 3             | 4     | 7     | 0       | 0        | 4          | 26    | 30    | 0       | 0        | 12         | 0     | 12    | 0       | 0        | 49        |
| 2024-04-30 08:30:00     | 2             | 1     | 3     | 0       | 0        | 2          | 15    | 17    | 0       | 0        | 14         | 1     | 15    | 0       | 0        | 35        |
| 2024-04-30 08:45:00     | 2             | 7     | 9     | 0       | 0        | 2          | 15    | 17    | 0       | 0        | 8          | 2     | 10    | 0       | 0        | 36        |
| 2024-04-30 14:30:00     | 0             | 1     | 1     | 0       | 0        | 6          | 30    | 36    | 0       | 81       | 27         | 2     | 29    | 0       | 0        | 66        |
| 2024-04-30 14:45:00     | 3             | 5     | 8     | 0       | 0        | 6          | 32    | 38    | 8       | 1        | 62         | 3     | 65    | 0       | 2        | 111       |
| 2024-04-30 15:00:00     | 3             | 34    | 37    | 0       | 0        | 1          | 32    | 33    | 0       | 0        | 47         | 1     | 48    | 0       | 0        | 118       |
| 2024-04-30 15:15:00     | 2             | 0     | 2     | 0       | 0        | 4          | 51    | 55    | 7       | 1        | 43         | 2     | 45    | 0       | 0        | 102       |
| 2024-04-30 15:30:00     | 2             | 5     | 7     | 0       | 0        | 7          | 38    | 45    | 0       | 0        | 28         | 1     | 29    | 0       | 0        | 81        |
| PM Peak Hour Totals     | 10            | 44    | 54    | 0       | 0        | 18         | 153   | 171   | 15      | 2        | 180        | 7     | 187   | 0       | 2        | 412       |
| PM PHF                  | 0.83          | 0.32  | 0.36  |         |          | 0.64       | 0.75  | 0.78  |         |          | 0.73       | 0.58  | 0.72  |         |          | 0.87      |
| 2024-04-30 15:45:00     | 2             | 4     | 6     | 0       | 0        | 4          | 50    | 54    | 1       | 0        | 27         | 3     | 30    | 0       | 0        | 90        |
| 2024-04-30 16:00:00     | 1             | 6     | 7     | 0       | 0        | 1          | 50    | 51    | 0       | 0        | 34         | 2     | 36    | 0       | 0        | 94        |
| 2024-04-30 16:15:00     | 0             | 0     | 0     | 0       | 0        | 1          | 47    | 48    | 0       | 0        | 42         | 1     | 43    | 0       | 0        | 91        |
| Grand Total             | 29            | 111   | 140   | 0       | 0        | 49         | 631   | 680   | 16      | 89       | 454        | 20    | 474   | 0       | 2        | 1294      |
| % Approach              | 20.7%         | 79.3% |       |         |          | 7.2%       | 92.8% |       |         |          | 95.8%      | 4.2%  |       |         |          |           |
| % Total                 | 2.2%          | 8.6%  | 10.8% |         |          | 3.8%       | 48.8% | 52.6% |         |          | 35.1%      | 1.5%  | 36.6% |         |          |           |
| Lights                  | 26            | 103   | 129   |         |          | 43         | 611   | 654   |         |          | 425        | 15    | 440   |         |          | 1223      |
| % Lights                | 89.7%         | 92.8% | 92.1% |         |          | 87.8%      | 96.8% | 96.2% |         |          | 93.6%      | 75.0% | 92.8% |         |          | 94.5%     |
| Heavys                  | 3             | 8     | 11    | 0       | 0        | 6          | 20    | 26    | 0       | 0        | 29         | 5     | 34    | 0       | 0        | 71        |
| % Heavys                | 10.3%         | 7.2%  | 7.9%  | #DIV/0! | #DIV/0!  | 12.2%      | 3.2%  | 3.8%  | 0.0%    | 0.0%     | 6.4%       | 25.0% | 7.2%  | #DIV/0! | 0.0%     | 5.5%      |
| Pedestrians             |               |       |       | 0       | 0        |            |       |       | 13      | 86       |            |       |       | 0       | 2        |           |
| % Pedestrians           |               |       |       | 0.0%    | 0.0%     |            |       |       | 81.3%   | 96.6%    |            |       |       | 0.0%    | 100.0%   |           |
| Bicycles on Crosswalk   |               |       |       | 0       | 0        |            |       |       | 3       | 3        |            |       |       | 0       | 0        |           |
| % Bicycles on Crosswalk |               |       |       | 0.0%    | 0.0%     |            |       |       | 18.8%   | 3.4%     |            |       |       | 0.0%    | 0.0%     |           |



| Leg                     | Bainbridge Rd |       |       |         |          | Bainbridge Rd |       |       |         |          | Ranger Way |       |       |         |          |           |
|-------------------------|---------------|-------|-------|---------|----------|---------------|-------|-------|---------|----------|------------|-------|-------|---------|----------|-----------|
| Direction               | Eastbound     |       |       |         |          | Westbound     |       |       |         |          | Southbound |       |       |         |          |           |
| Start Time              | Left          | Thru  | Total | Peds CW | Peds CCW | Thru          | Right | Total | Peds CW | Peds CCW | Left       | Right | Total | Peds CW | Peds CCW | Int Total |
| 2024-04-30 07:00:00     | 17            | 49    | 66    | 0       | 0        | 34            | 13    | 47    | 0       | 0        | 14         | 5     | 19    | 0       | 0        | 132       |
| 2024-04-30 07:15:00     | 57            | 112   | 169   | 0       | 0        | 66            | 53    | 119   | 0       | 0        | 10         | 10    | 20    | 0       | 0        | 308       |
| 2024-04-30 07:30:00     | 28            | 132   | 160   | 0       | 0        | 121           | 49    | 170   | 0       | 0        | 10         | 25    | 35    | 0       | 0        | 365       |
| 2024-04-30 07:45:00     | 6             | 88    | 94    | 0       | 0        | 68            | 11    | 79    | 0       | 0        | 14         | 23    | 37    | 0       | 0        | 210       |
| 2024-04-30 08:00:00     | 10            | 177   | 187   | 0       | 0        | 57            | 12    | 69    | 0       | 0        | 10         | 9     | 19    | 0       | 0        | 275       |
| AM Peak Hour Totals     | 101           | 509   | 610   | 0       | 0        | 312           | 125   | 437   | 0       | 0        | 44         | 67    | 111   | 0       | 0        | 1158      |
| AM PHF                  | 0.44          | 0.72  | 0.82  |         |          | 0.64          | 0.59  | 0.64  |         |          | 0.79       | 0.67  | 0.75  |         |          | 0.79      |
| 2024-04-30 08:15:00     | 12            | 70    | 82    | 0       | 0        | 48            | 19    | 67    | 0       | 0        | 9          | 6     | 15    | 0       | 0        | 164       |
| 2024-04-30 08:30:00     | 11            | 31    | 42    | 0       | 0        | 27            | 6     | 33    | 0       | 0        | 9          | 5     | 14    | 0       | 0        | 89        |
| 2024-04-30 08:45:00     | 8             | 50    | 58    | 0       | 0        | 30            | 9     | 39    | 0       | 0        | 2          | 11    | 13    | 0       | 1        | 110       |
| 2024-04-30 14:30:00     | 17            | 61    | 78    | 0       | 0        | 35            | 19    | 54    | 0       | 0        | 16         | 7     | 23    | 25      | 0        | 155       |
| 2024-04-30 14:45:00     | 20            | 53    | 73    | 0       | 0        | 74            | 20    | 94    | 0       | 0        | 20         | 40    | 60    | 1       | 2        | 227       |
| 2024-04-30 15:00:00     | 13            | 58    | 71    | 0       | 2        | 84            | 21    | 105   | 0       | 0        | 21         | 55    | 76    | 0       | 3        | 252       |
| 2024-04-30 15:15:00     | 16            | 38    | 54    | 0       | 0        | 161           | 39    | 200   | 0       | 0        | 10         | 28    | 38    | 0       | 3        | 292       |
| 2024-04-30 15:30:00     | 24            | 53    | 77    | 0       | 0        | 60            | 21    | 81    | 0       | 0        | 15         | 16    | 31    | 0       | 0        | 189       |
| PM Peak Hour Totals     | 73            | 202   | 275   | 0       | 2        | 379           | 101   | 480   | 0       | 0        | 66         | 139   | 205   | 1       | 8        | 960       |
| PM PHF                  | 0.76          | 0.87  | 0.89  |         |          | 0.59          | 0.65  | 0.60  |         |          | 0.79       | 0.63  | 0.67  |         |          | 0.82      |
| 2024-04-30 15:45:00     | 27            | 50    | 77    | 0       | 0        | 59            | 26    | 85    | 0       | 0        | 12         | 17    | 29    | 0       | 0        | 191       |
| 2024-04-30 16:00:00     | 27            | 51    | 78    | 0       | 0        | 57            | 25    | 82    | 0       | 0        | 19         | 16    | 35    | 0       | 0        | 195       |
| 2024-04-30 16:15:00     | 27            | 52    | 79    | 0       | 0        | 50            | 21    | 71    | 0       | 0        | 14         | 29    | 43    | 0       | 1        | 193       |
| Grand Total             | 320           | 1125  | 1445  | 0       | 2        | 1031          | 364   | 1395  | 0       | 0        | 205        | 302   | 507   | 26      | 10       | 3347      |
| % Approach              | 22.1%         | 77.9% |       |         |          | 73.9%         | 26.1% |       |         |          | 40.4%      | 59.6% |       |         |          |           |
| % Total                 | 9.6%          | 33.6% | 43.2% |         |          | 30.8%         | 10.9% | 41.7% |         |          | 6.1%       | 9.0%  | 15.1% |         |          |           |
| Lights                  | 296           | 1105  | 1401  |         |          | 1012          | 360   | 1372  |         |          | 199        | 271   | 470   |         |          | 3243      |
| % Lights                | 92.5%         | 98.2% | 97.0% |         |          | 98.2%         | 98.9% | 98.4% |         |          | 97.1%      | 89.7% | 92.7% |         |          | 96.9%     |
| Heavys                  | 24            | 20    | 44    | 0       | 0        | 19            | 4     | 23    | 0       | 0        | 6          | 31    | 37    | 0       | 0        | 104       |
| % Heavys                | 7.5%          | 1.8%  | 3.0%  | #DIV/0! | 0.0%     | 1.8%          | 1.1%  | 1.6%  | #DIV/0! | #DIV/0!  | 2.9%       | 10.3% | 7.3%  | 0.0%    | 0.0%     | 3.1%      |
| Pedestrians             |               |       |       | 0       | 2        |               |       |       | 0       | 0        |            |       |       | 25      | 9        |           |
| % Pedestrians           |               |       |       | 0.0%    | 100.0%   |               |       |       | 0.0%    | 0.0%     |            |       |       | 96.2%   | 90.0%    |           |
| Bicycles on Crosswalk   |               |       |       | 0       | 0        |               |       |       | 0       | 0        |            |       |       | 1       | 1        |           |
| % Bicycles on Crosswalk |               |       |       | 0.0%    | 0.0%     |               |       |       | 0.0%    | 0.0%     |            |       |       | 3.8%    | 10.0%    |           |





| Leg                     | Bainbridge Rd |       |       |       |         |          | Bainbridge Rd |       |       |       |         |          | W Point Dr |         |         |       |         |          | School Drive |        |       |       |         |          |           |
|-------------------------|---------------|-------|-------|-------|---------|----------|---------------|-------|-------|-------|---------|----------|------------|---------|---------|-------|---------|----------|--------------|--------|-------|-------|---------|----------|-----------|
| Direction               | Eastbound     |       |       |       |         |          | Westbound     |       |       |       |         |          | Northbound |         |         |       |         |          | Southbound   |        |       |       |         |          |           |
| Start Time              | Left          | Thru  | Right | Total | Peds CW | Peds CCW | Left          | Thru  | Right | Total | Peds CW | Peds CCW | Left       | Thru    | Right   | Total | Peds CW | Peds CCW | Left         | Thru   | Right | Total | Peds CW | Peds CCW | Int Total |
| 2024-04-30 07:00:00     | 19            | 48    | 1     | 68    | 1       | 0        | 0             | 35    | 8     | 43    | 0       | 0        | 3          | 0       | 0       | 3     | 1       | 0        | 5            | 0      | 7     | 12    | 0       | 1        | 126       |
| 2024-04-30 07:15:00     | 90            | 40    | 0     | 130   | 3       | 0        | 0             | 50    | 56    | 106   | 0       | 0        | 2          | 0       | 0       | 2     | 2       | 0        | 4            | 0      | 72    | 76    | 0       | 0        | 314       |
| 2024-04-30 07:30:00     | 97            | 46    | 2     | 145   | 1       | 0        | 0             | 58    | 74    | 132   | 0       | 0        | 0          | 0       | 0       | 0     | 0       | 0        | 15           | 1      | 111   | 127   | 0       | 2        | 404       |
| 2024-04-30 07:45:00     | 60            | 46    | 1     | 107   | 1       | 0        | 0             | 34    | 11    | 45    | 0       | 0        | 2          | 0       | 0       | 2     | 0       | 0        | 16           | 0      | 38    | 54    | 0       | 0        | 208       |
| 2024-04-30 08:00:00     | 149           | 46    | 2     | 197   | 2       | 0        | 0             | 32    | 22    | 54    | 0       | 0        | 0          | 0       | 0       | 0     | 2       | 0        | 4            | 0      | 38    | 42    | 0       | 0        | 293       |
| AM Peak Hour Totals     | 396           | 178   | 5     | 579   | 7       | 0        | 0             | 174   | 163   | 337   | 0       | 0        | 4          | 0       | 0       | 4     | 4       | 0        | 39           | 1      | 259   | 299   | 0       | 2        | 1219      |
| AM PHF                  | 0.66          | 0.97  | 0.63  | 0.73  |         |          | #DIV/0!       | 0.75  | 0.55  | 0.64  |         |          | 0.50       | #DIV/0! | #DIV/0! | 0.50  |         |          | 0.61         | 0.25   | 0.58  | 0.59  |         |          | 0.75      |
| 2024-04-30 08:15:00     | 36            | 42    | 1     | 79    | 0       | 0        | 1             | 32    | 4     | 37    | 0       | 0        | 1          | 0       | 0       | 1     | 0       | 0        | 19           | 0      | 32    | 51    | 0       | 0        | 168       |
| 2024-04-30 08:30:00     | 4             | 37    | 2     | 43    | 0       | 0        | 0             | 35    | 0     | 35    | 0       | 0        | 0          | 0       | 2       | 2     | 0       | 0        | 0            | 0      | 2     | 2     | 0       | 0        | 82        |
| 2024-04-30 08:45:00     | 14            | 37    | 3     | 54    | 0       | 0        | 0             | 31    | 2     | 33    | 0       | 0        | 2          | 0       | 0       | 2     | 0       | 0        | 0            | 0      | 2     | 2     | 0       | 1        | 91        |
| 2024-04-30 14:30:00     | 48            | 35    | 3     | 86    | 0       | 0        | 3             | 48    | 11    | 62    | 0       | 0        | 1          | 0       | 2       | 3     | 0       | 0        | 1            | 0      | 4     | 5     | 0       | 0        | 156       |
| 2024-04-30 14:45:00     | 35            | 40    | 2     | 77    | 0       | 19       | 0             | 58    | 12    | 70    | 0       | 0        | 0          | 0       | 1       | 1     | 0       | 9        | 18           | 0      | 45    | 63    | 1       | 0        | 211       |
| 2024-04-30 15:00:00     | 32            | 44    | 7     | 83    | 0       | 6        | 0             | 48    | 9     | 57    | 0       | 0        | 1          | 0       | 1       | 2     | 0       | 1        | 14           | 0      | 50    | 64    | 0       | 0        | 206       |
| 2024-04-30 15:15:00     | 10            | 35    | 3     | 48    | 2       | 3        | 0             | 122   | 5     | 127   | 0       | 0        | 0          | 0       | 1       | 1     | 0       | 1        | 21           | 1      | 75    | 97    | 0       | 0        | 273       |
| 2024-04-30 15:30:00     | 7             | 58    | 3     | 68    | 0       | 0        | 0             | 64    | 6     | 70    | 0       | 0        | 1          | 0       | 0       | 1     | 0       | 0        | 1            | 0      | 15    | 16    | 0       | 3        | 155       |
| PM Peak Hour Totals     | 84            | 177   | 15    | 276   | 2       | 28       | 0             | 292   | 32    | 324   | 0       | 0        | 2          | 0       | 3       | 5     | 0       | 11       | 54           | 1      | 185   | 240   | 1       | 3        | 845       |
| PM PHF                  | 0.60          | 0.76  | 0.54  | 0.83  |         |          | #DIV/0!       | 0.60  | 0.67  | 0.64  |         |          | 0.50       | #DIV/0! | 0.75    | 0.63  |         |          | 0.64         | 0.25   | 0.62  | 0.62  |         |          | 0.77      |
| 2024-04-30 15:45:00     | 16            | 47    | 0     | 63    | 0       | 0        | 1             | 73    | 8     | 82    | 0       | 0        | 1          | 0       | 0       | 1     | 0       | 0        | 3            | 0      | 10    | 13    | 0       | 0        | 159       |
| 2024-04-30 16:00:00     | 13            | 56    | 3     | 72    | 0       | 0        | 0             | 73    | 6     | 79    | 0       | 0        | 1          | 0       | 0       | 1     | 1       | 0        | 4            | 0      | 5     | 9     | 0       | 0        | 161       |
| 2024-04-30 16:15:00     | 20            | 45    | 2     | 67    | 0       | 1        | 0             | 63    | 7     | 70    | 0       | 0        | 0          | 0       | 0       | 0     | 0       | 0        | 2            | 0      | 8     | 10    | 0       | 0        | 147       |
| Grand Total             | 650           | 702   | 35    | 1387  | 10      | 29       | 5             | 856   | 241   | 1102  | 0       | 0        | 15         | 0       | 7       | 22    | 6       | 11       | 127          | 2      | 514   | 643   | 1       | 7        | 3154      |
| % Approach              | 46.9%         | 50.6% | 2.5%  |       |         |          | 0.5%          | 77.7% | 21.9% |       |         |          | 68.2%      | 0.0%    | 31.8%   |       |         |          | 19.8%        | 0.3%   | 79.9% |       |         |          |           |
| % Total                 | 20.6%         | 22.3% | 1.1%  | ##### |         |          | 0.2%          | 27.1% | 7.6%  | ##### |         |          | 0.5%       | 0.0%    | 0.2%    | 0.7%  |         |          | 4.0%         | 0.1%   | 16.3% | ##### |         |          |           |
| Lights                  | 645           | 680   | 32    | 1357  |         |          | 5             | 834   | 240   | 1079  |         |          | 14         | 0       | 7       | 21    |         |          | 127          | 2      | 509   | 638   |         |          | 3095      |
| % Lights                | 99.2%         | 96.9% | 91.4% | ##### |         |          | 100.0%        | 97.4% | 99.6% | ##### |         |          | 93.3%      | 0.0%    | 100.0%  | ##### |         |          | 100.0%       | 100.0% | 99.0% | ##### |         |          | 98.1%     |
| Heavys                  | 5             | 22    | 3     | 30    |         |          | 0             | 22    | 1     | 23    |         |          | 1          | 0       | 0       | 1     |         |          | 0            | 0      | 5     | 5     |         |          | 59        |
| %Heavys                 | 0.8%          | 3.1%  | 8.6%  | 2.2%  |         |          | 0.0%          | 2.6%  | 0.4%  | 2.1%  |         |          | 6.7%       | #DIV/0! | 0.0%    | 4.5%  |         |          | 0.0%         | 0.0%   | 1.0%  | 0.8%  |         |          | 1.9%      |
| Pedestrians             |               |       |       |       | 8       | 28       |               |       |       |       | 0       | 0        |            |         |         |       | 5       | 10       |              |        |       |       | 0       | 5        |           |
| % Pedestrians           |               |       |       |       | 80.0%   | 96.6%    |               |       |       |       | 0.0%    | 0.0%     |            |         |         |       | 83.3%   | 90.9%    |              |        |       |       | 0.0%    | 71.4%    |           |
| Bicycles on Crosswalk   |               |       |       |       | 2       | 1        |               |       |       |       | 0       | 0        |            |         |         |       | 1       | 1        |              |        |       |       | 1       | 2        |           |
| % Bicycles on Crosswalk |               |       |       |       | 20.0%   | 3.4%     |               |       |       |       | 0.0%    | 0.0%     |            |         |         |       | 16.7%   | 9.1%     |              |        |       |       | 100.0%  | 28.6%    |           |



| Leg                     | High School Drive |       |       |         |          | Pitts Rd   |       |       |         |          | Pitts Rd   |       |       |         |          |           |
|-------------------------|-------------------|-------|-------|---------|----------|------------|-------|-------|---------|----------|------------|-------|-------|---------|----------|-----------|
| Direction               | Eastbound         |       |       |         |          | Northbound |       |       |         |          | Southbound |       |       |         |          |           |
| Start Time              | Left              | Right | Total | Peds CW | Peds CCW | Left       | Thru  | Total | Peds CW | Peds CCW | Thru       | Right | Total | Peds CW | Peds CCW | Int Total |
| 2024-04-30 07:00:00     | 5                 | 0     | 5     | 0       | 0        | 1          | 0     | 1     | 0       | 0        | 8          | 14    | 22    | 0       | 0        | 28        |
| 2024-04-30 07:15:00     | 12                | 3     | 15    | 0       | 0        | 11         | 3     | 14    | 0       | 0        | 23         | 42    | 65    | 0       | 1        | 94        |
| 2024-04-30 07:30:00     | 11                | 6     | 17    | 0       | 0        | 31         | 7     | 38    | 0       | 0        | 31         | 24    | 55    | 0       | 2        | 110       |
| 2024-04-30 07:45:00     | 16                | 9     | 25    | 1       | 0        | 7          | 1     | 8     | 0       | 0        | 20         | 31    | 51    | 0       | 0        | 84        |
| 2024-04-30 08:00:00     | 36                | 16    | 52    | 1       | 0        | 16         | 2     | 18    | 0       | 0        | 21         | 38    | 59    | 0       | 1        | 129       |
| AM Peak Hour Totals     | 75                | 34    | 109   | 2       | 0        | 65         | 13    | 78    | 0       | 0        | 95         | 135   | 230   | 0       | 4        | 417       |
| AM PHF                  | 0.52              | 0.53  | 0.52  |         |          | 0.52       | 0.46  | 0.51  |         |          | 0.77       | 0.80  | 0.88  |         |          | 0.81      |
| 2024-04-30 08:15:00     | 20                | 10    | 30    | 1       | 0        | 5          | 7     | 12    | 0       | 0        | 11         | 19    | 30    | 0       | 3        | 72        |
| 2024-04-30 08:30:00     | 1                 | 0     | 1     | 0       | 0        | 0          | 3     | 3     | 0       | 0        | 5          | 0     | 5     | 0       | 0        | 9         |
| 2024-04-30 08:45:00     | 3                 | 0     | 3     | 0       | 1        | 1          | 3     | 4     | 0       | 0        | 4          | 38    | 42    | 0       | 0        | 49        |
| 2024-04-30 14:30:00     | 2                 | 1     | 3     | 0       | 0        | 3          | 4     | 7     | 0       | 0        | 9          | 18    | 27    | 0       | 0        | 37        |
| 2024-04-30 14:45:00     | 26                | 5     | 31    | 0       | 1        | 10         | 11    | 21    | 0       | 0        | 12         | 22    | 34    | 5       | 0        | 86        |
| 2024-04-30 15:00:00     | 18                | 9     | 27    | 0       | 0        | 8          | 8     | 16    | 0       | 0        | 13         | 16    | 29    | 15      | 0        | 72        |
| 2024-04-30 15:15:00     | 60                | 45    | 105   | 0       | 3        | 8          | 24    | 32    | 0       | 1        | 7          | 9     | 16    | 27      | 2        | 153       |
| 2024-04-30 15:30:00     | 10                | 6     | 16    | 0       | 1        | 2          | 8     | 10    | 0       | 0        | 9          | 5     | 14    | 0       | 0        | 40        |
| PM Peak Hour Totals     | 114               | 65    | 179   | 0       | 5        | 28         | 51    | 79    | 0       | 1        | 41         | 52    | 93    | 47      | 2        | 351       |
| PM PHF                  | 0.48              | 0.36  | 0.43  |         |          | 0.70       | 0.53  | 0.62  |         |          | 0.79       | 0.59  | 0.68  |         |          | 0.57      |
| 2024-04-30 15:45:00     | 7                 | 5     | 12    | 0       | 0        | 2          | 11    | 13    | 0       | 0        | 11         | 5     | 16    | 0       | 0        | 41        |
| 2024-04-30 16:00:00     | 5                 | 0     | 5     | 0       | 0        | 1          | 7     | 8     | 0       | 0        | 7          | 10    | 17    | 0       | 0        | 30        |
| 2024-04-30 16:15:00     | 4                 | 1     | 5     | 0       | 0        | 5          | 6     | 11    | 0       | 0        | 4          | 13    | 17    | 0       | 0        | 33        |
| Grand Total             | 236               | 116   | 352   | 3       | 6        | 111        | 105   | 216   | 0       | 1        | 195        | 304   | 499   | 47      | 9        | 1067      |
| % Approach              | 67.0%             | 33.0% |       |         |          | 51.4%      | 48.6% |       |         |          | 39.1%      | 60.9% |       |         |          |           |
| % Total                 | 22.1%             | 10.9% | 33.0% |         |          | 10.4%      | 9.8%  | 20.2% |         |          | 18.3%      | 28.5% | 46.8% |         |          |           |
| Lights                  | 225               | 112   | 337   |         |          | 102        | 100   | 202   |         |          | 190        | 248   | 438   |         |          | 977       |
| % Lights                | 95.3%             | 96.6% | 95.7% |         |          | 91.9%      | 95.2% | 93.5% |         |          | 97.4%      | 81.6% | 87.8% |         |          | 91.6%     |
| Heavys                  | 11                | 4     | 15    | 0       | 0        | 9          | 5     | 14    | 0       | 0        | 5          | 56    | 61    | 0       | 0        | 90        |
| % Heavys                | 4.7%              | 3.4%  | 4.3%  |         |          | 8.1%       | 4.8%  | 6.5%  |         |          | 2.6%       | 18.4% | 12.2% |         |          | 8.4%      |
| Pedestrians             |                   |       |       | 3       | 6        |            |       |       | 0       | 1        |            |       |       | 47      | 9        |           |
| % Pedestrians           |                   |       |       | 100.0%  | 100.0%   |            |       |       | 0.0%    | 100.0%   |            |       |       | 100.0%  | 100.0%   |           |
| Bicycles on Crosswalk   |                   |       |       | 0       | 0        |            |       |       | 0       | 0        |            |       |       | 0       | 0        |           |
| % Bicycles on Crosswalk |                   |       |       | 0.0%    | 0.0%     |            |       |       | 0.0%    | 0.0%     |            |       |       | 0.0%    | 0.0%     |           |





North Ridgeville CSD TIS  
High School Drive (South)

5/17/2024

| Leg                 | High School Parking |           | High School Parking |           |           |
|---------------------|---------------------|-----------|---------------------|-----------|-----------|
| Direction           | Northbound          |           | Southbound          |           |           |
| Start Time          | Direction           | App Total | Direction           | App Total | Int Total |
| 2024-04-30 07:00:00 | 2                   | 2         | 2                   | 2         | 4         |
| 2024-04-30 07:15:00 | 16                  | 16        | 21                  | 21        | 37        |
| 2024-04-30 07:30:00 | 38                  | 38        | 58                  | 58        | 96        |
| 2024-04-30 07:45:00 | 33                  | 33        | 12                  | 12        | 45        |
| 2024-04-30 08:00:00 | 76                  | 76        | 25                  | 25        | 101       |
| AM Peak Hour Totals | 163                 | 163       | 116                 | 116       | 279       |
| AM PHF              | 0.54                | 0.54      | 0.50                | 0.50      | 0.69      |
| 2024-04-30 08:15:00 | 23                  | 23        | 6                   | 6         | 29        |
| 2024-04-30 08:30:00 | 4                   | 4         | 0                   | 0         | 4         |
| 2024-04-30 08:45:00 | 5                   | 5         | 2                   | 2         | 7         |
| 2024-04-30 14:30:00 | 13                  | 13        | 7                   | 7         | 20        |
| 2024-04-30 14:45:00 | 19                  | 19        | 36                  | 36        | 55        |
| 2024-04-30 15:00:00 | 20                  | 20        | 20                  | 20        | 40        |
| 2024-04-30 15:15:00 | 4                   | 4         | 107                 | 107       | 111       |
| 2024-04-30 15:30:00 | 3                   | 3         | 14                  | 14        | 17        |
| PM Peak Hour Totals | 46                  | 46        | 177                 | 177       | 223       |
| PM PHF              | 0.58                | 0.58      | 0.41                | 0.41      | 0.50      |
| 2024-04-30 15:45:00 | 7                   | 7         | 4                   | 4         | 11        |
| 2024-04-30 16:00:00 | 3                   | 3         | 5                   | 5         | 8         |
| 2024-04-30 16:15:00 | 9                   | 9         | 1                   | 1         | 10        |
| Grand Total         | 275                 | 275       | 320                 | 320       | 595       |
| % Approach          | 100.0%              |           | 100.0%              |           |           |
| % Total             | 46.2%               | 46.2%     | 53.8%               | 53.8%     |           |
| Lights              | 275                 | 275       | 313                 | 313       | 588       |
| % Lights            | 100.0%              | 100.0%    | 97.8%               | 97.8%     | 98.8%     |
| Heavys              | 0                   | 0         | 7                   | 7         | 7         |
| % Heavy             | 0.0%                | 0.0%      | 2.2%                | 2.2%      | 1.2%      |

North Ridgeville City School District

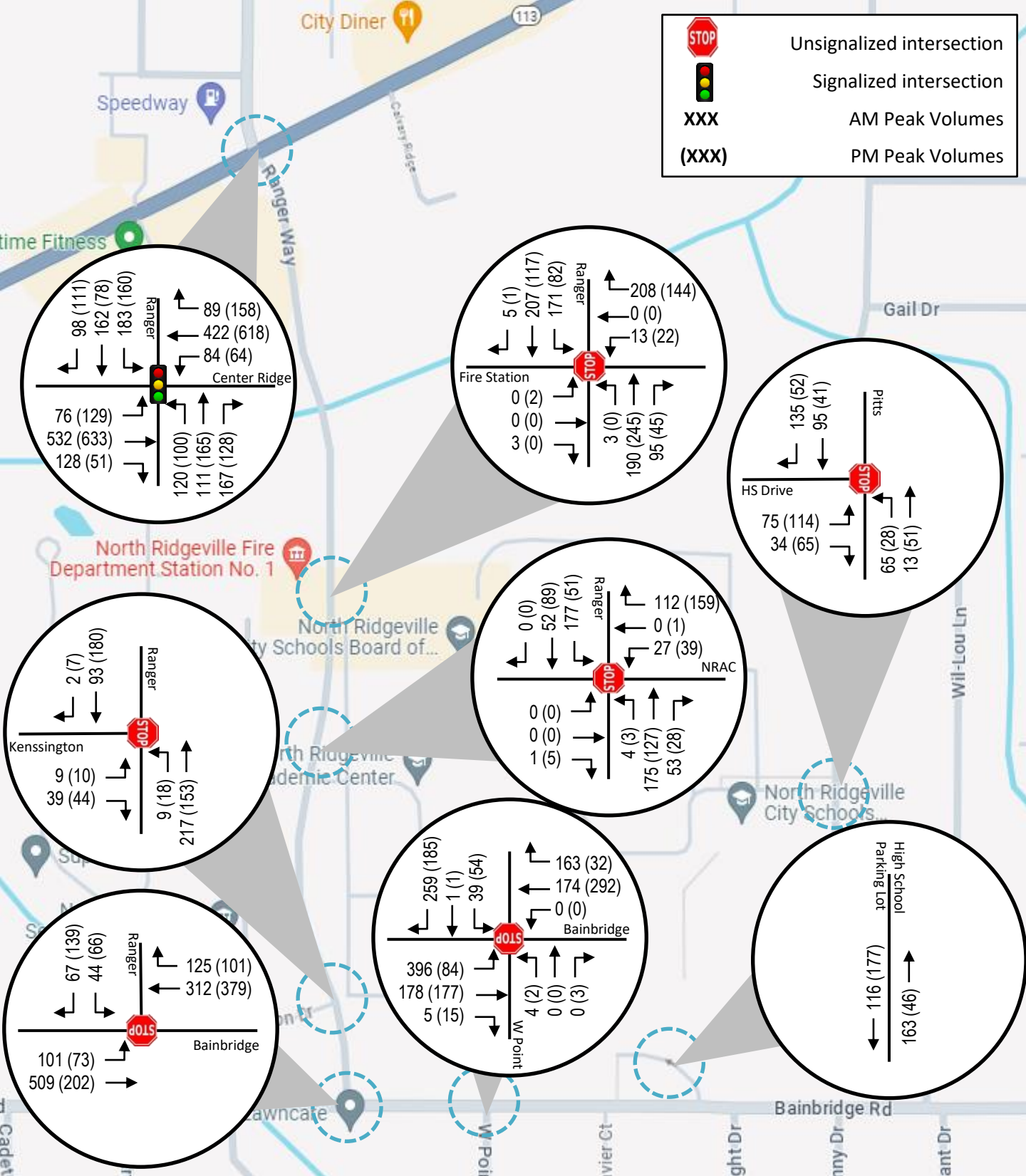
# **North Ridgeville CSD Traffic Impact Study**

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## **Appendix B**

### **Traffic Figures**

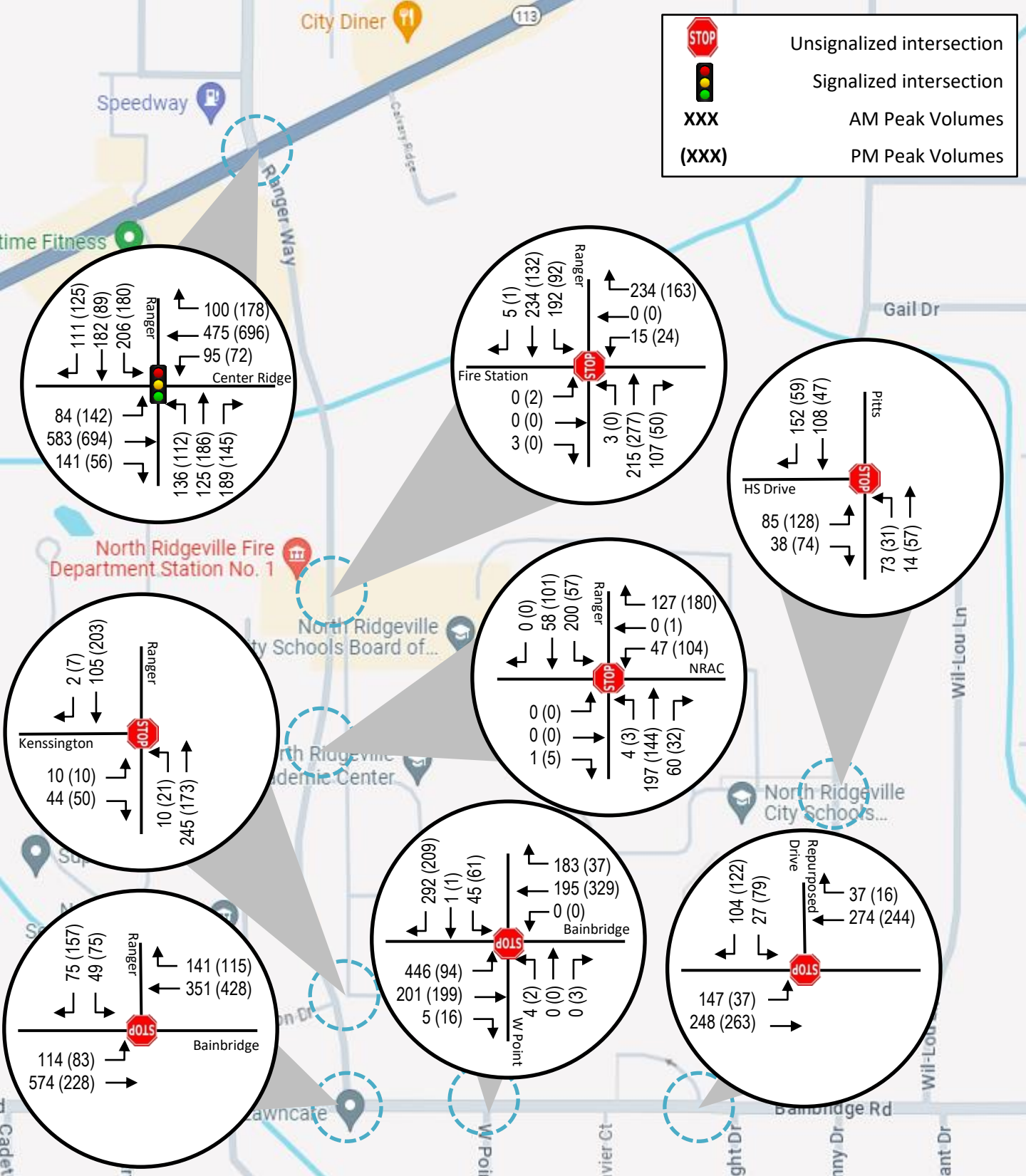




## NORTH RIDGEVILLE CSD TRAFFIC IMPACT STUDY

2024 COLLECTED  
TRAFFIC DATA



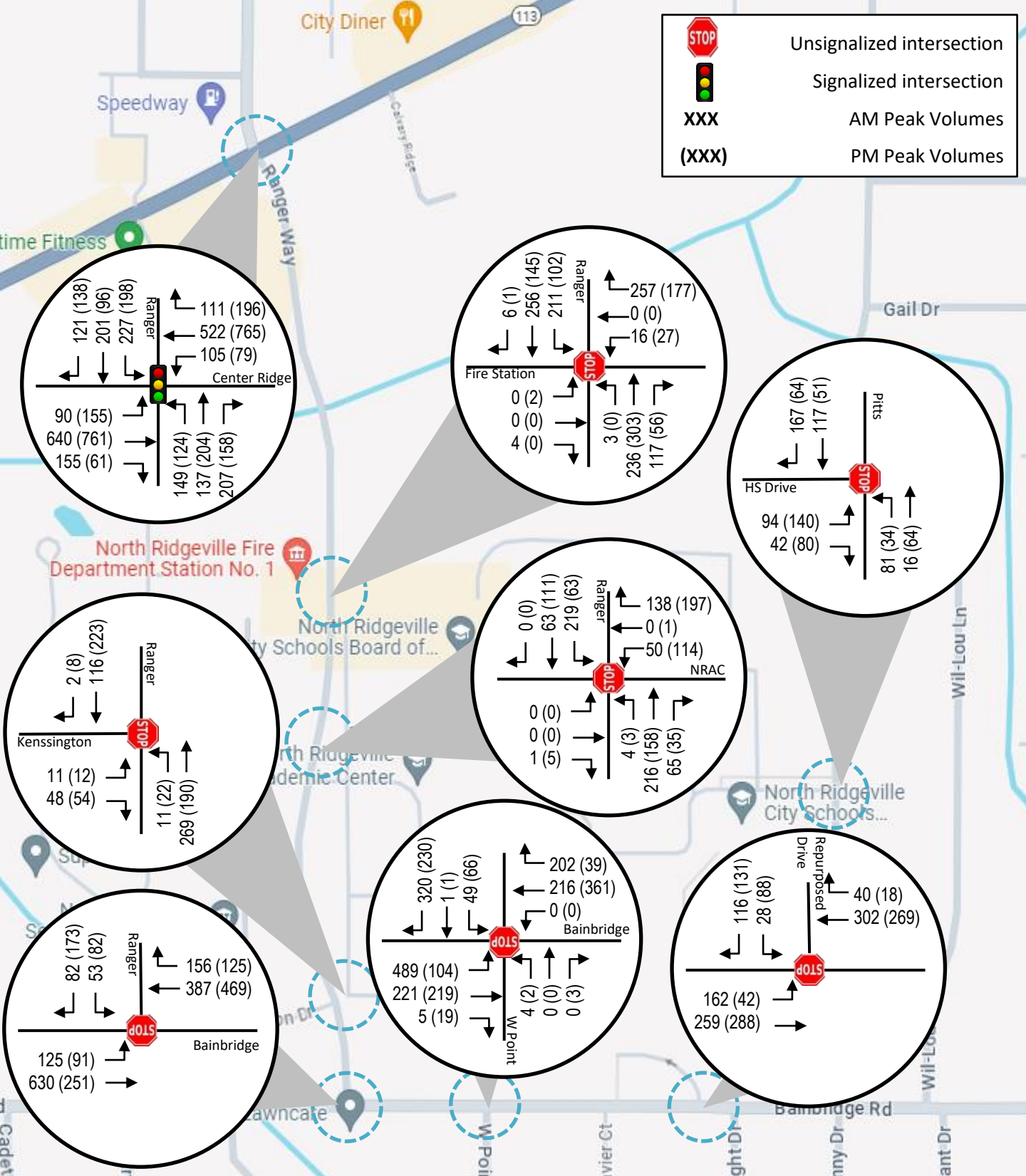


## NORTH RIDGEVILLE CSD TRAFFIC IMPACT STUDY

2029 NO-BUILD  
TRAFFIC DATA



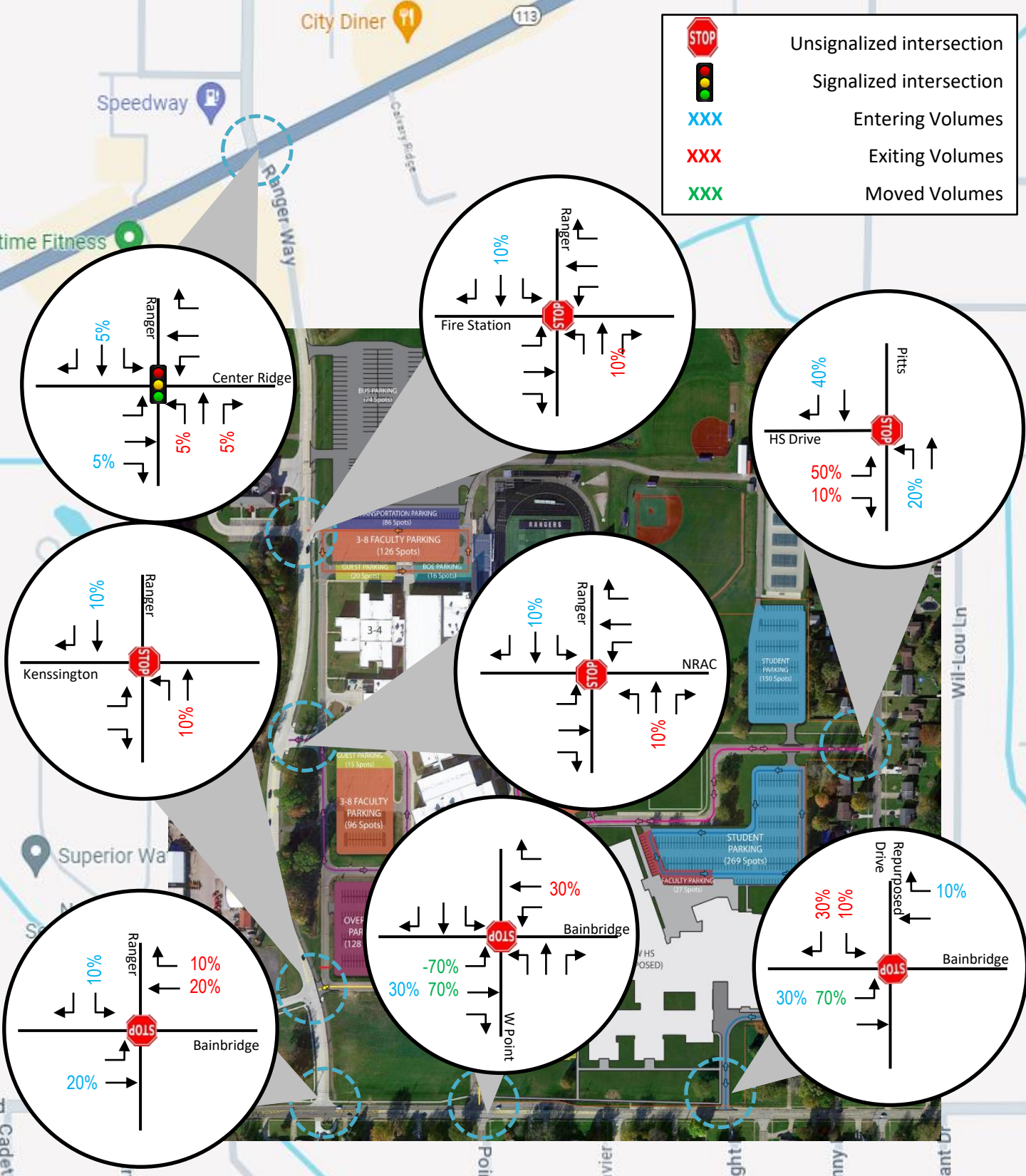




## NORTH RIDGEVILLE CSD TRAFFIC IMPACT STUDY

2049 NO-BUILD  
TRAFFIC DATA



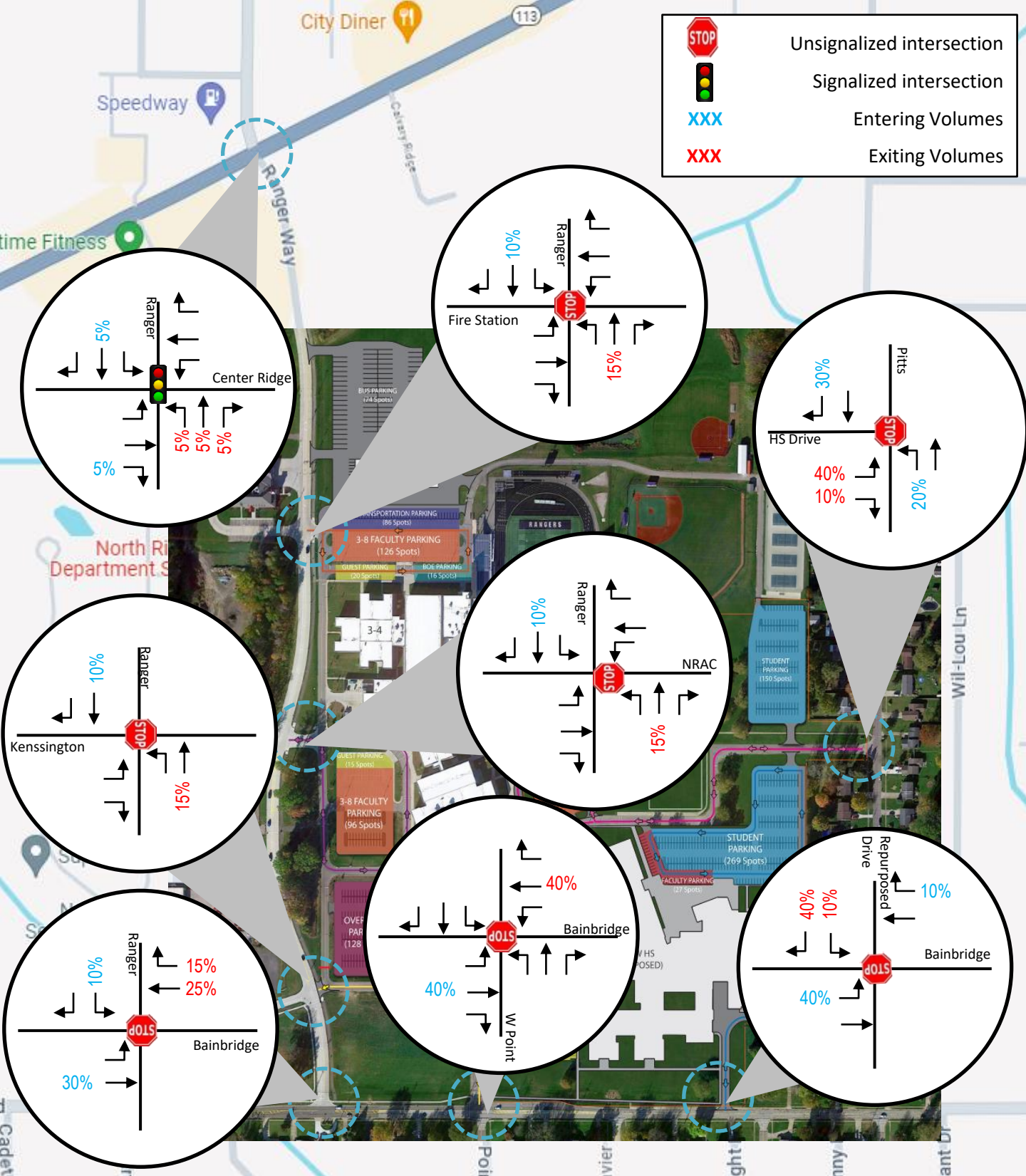


# **NORTH RIDGEVILLE CSD TRAFFIC IMPACT STUDY**

**AM TRIP DISTRIBUTION  
DATA**



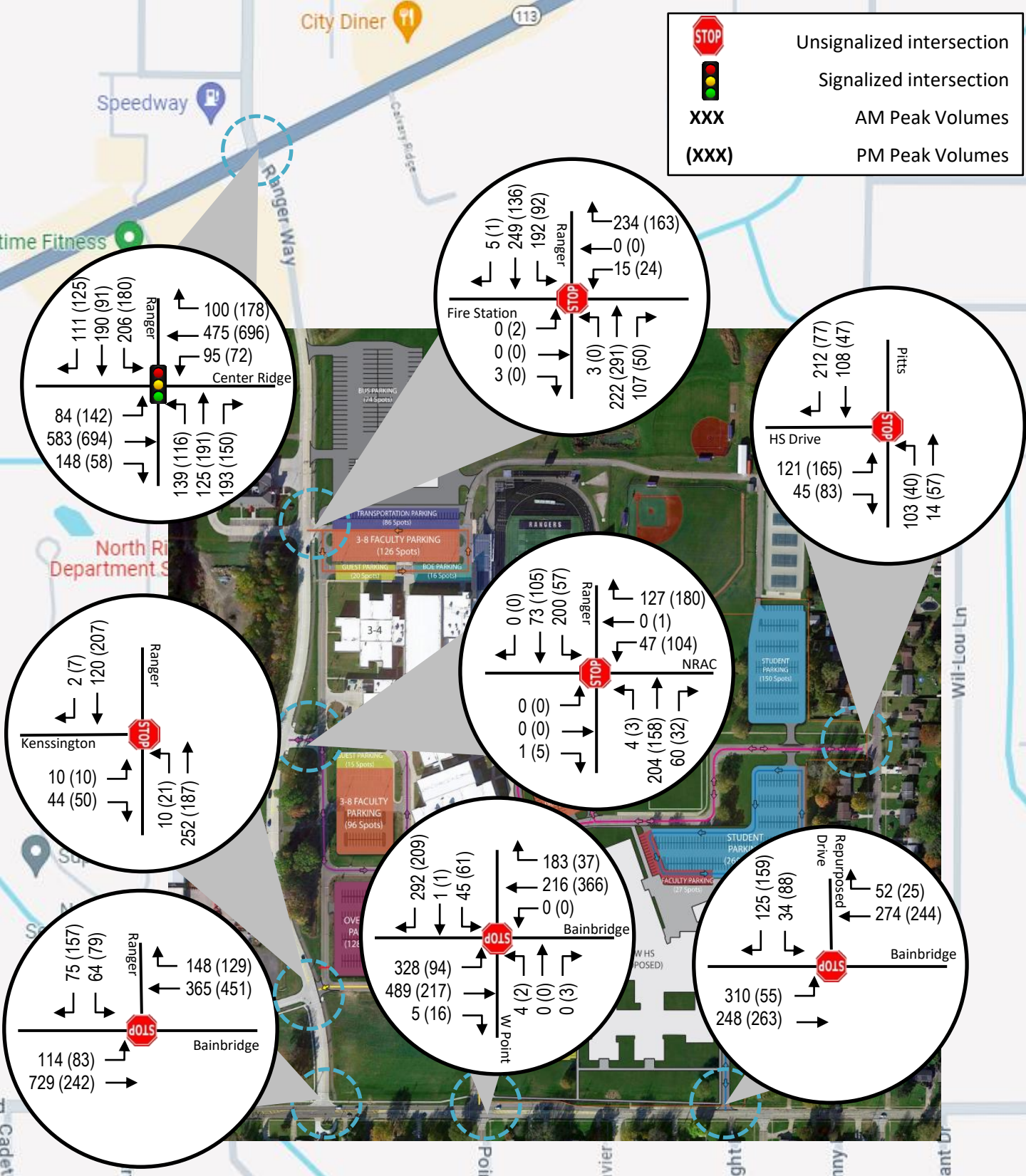




# NORTH RIDGEVILLE CSD TRAFFIC IMPACT STUDY

PM TRIP DISTRIBUTION  
DATA



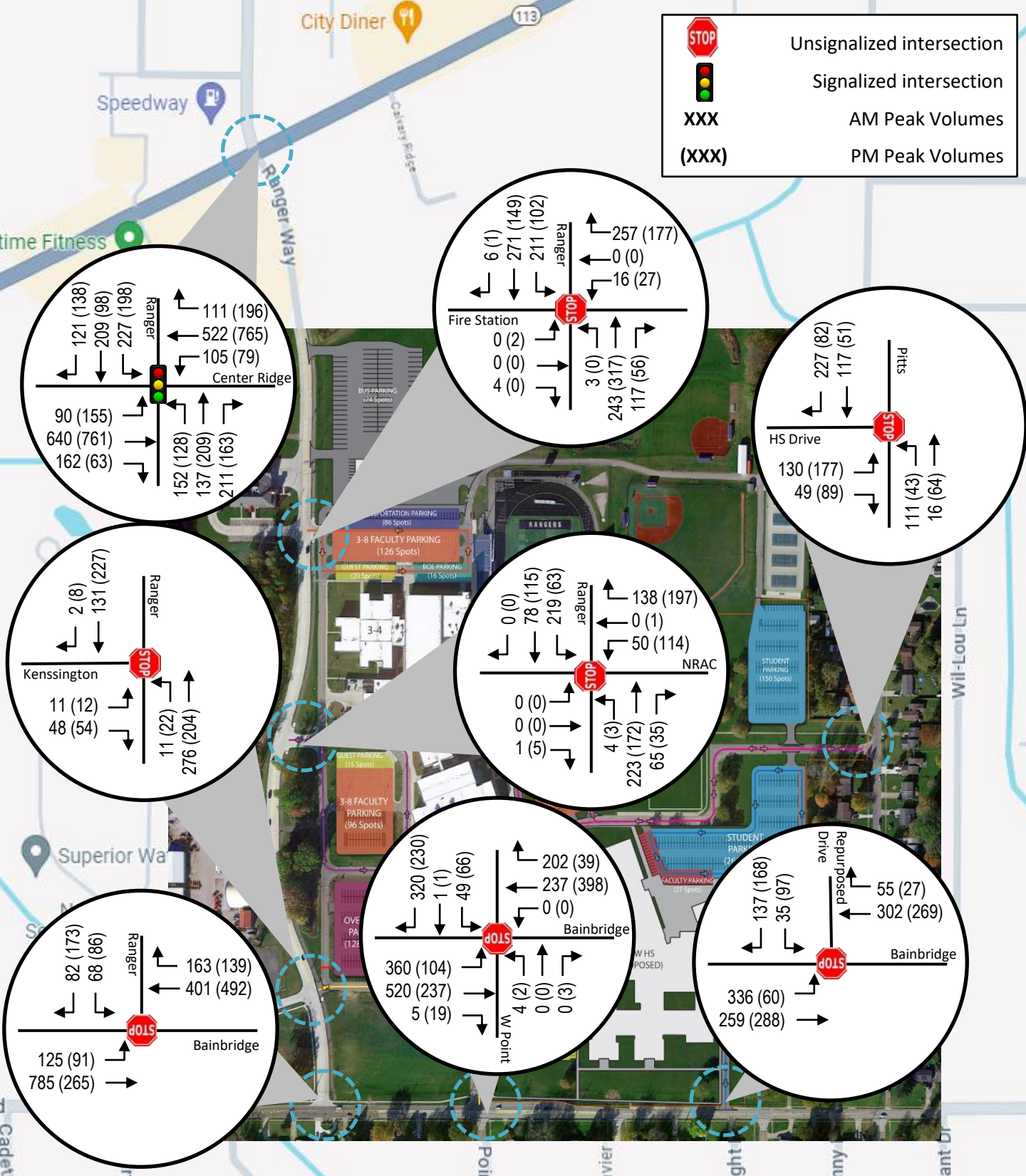


# NORTH RIDGEVILLE CSD TRAFFIC IMPACT STUDY

2029 BUILD  
TRAFFIC DATA







North Ridgeville City School District

# **North Ridgeville CSD Traffic Impact Study**

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## **Appendix C**

### **Calculations**





Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

| Center Ridge Road & Ranger Way         |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
|----------------------------------------|-----------------|------|-------|--------|-----------|-----------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|-------------|
| Opening Peak Hour Traffic Calculations |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Start Time                             | Center Ridge Rd |      |       |        |           | Center Ridge Rd |      |       |        |           | Ranger Way |      |       |        |           | Jaycox Rd  |      |       |        |           | Peak Period |
|                                        | Eastbound       |      |       |        |           | Westbound       |      |       |        |           | Northbound |      |       |        |           | Southbound |      |       |        |           |             |
|                                        | Left            | Thru | Right | U-Turn | App Total | Left            | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                                | 18              | 110  | 73    |        |           | 37              | 100  | 12    |        |           | 38         | 34   | 50    |        |           | 45         | 58   | 24    |        |           |             |
| 7:30 AM                                | 24              | 170  | 31    |        |           | 32              | 101  | 33    |        |           | 43         | 34   | 83    |        |           | 54         | 39   | 35    |        |           |             |
| 7:45 AM                                | 18              | 151  | 7     |        |           | 8               | 156  | 37    |        |           | 32         | 38   | 42    |        |           | 61         | 21   | 24    |        |           |             |
| 8:00 AM                                | 24              | 152  | 30    |        |           | 18              | 118  | 18    |        |           | 23         | 19   | 14    |        |           | 46         | 64   | 28    |        |           | 2427        |
| No-Build AM Peak                       | 84              | 583  | 141   | 0      | 0         | 95              | 475  | 100   | 0      | 0         | 136        | 125  | 189   | 0      | 0         | 206        | 182  | 111   | 0      | 0         | 2427        |
| Entering Traffic                       |                 |      | 7     |        |           |                 |      |       |        |           |            |      |       |        |           |            | 8    |       |        |           |             |
| Exiting Traffic                        |                 |      |       |        |           |                 |      |       |        |           | 3          |      | 4     |        |           |            |      |       |        |           |             |
| Move Traffic                           |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                        |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build AM Peak Total                    | 84              | 583  | 148   | 0      | 815       | 95              | 475  | 100   | 0      | 670       | 139        | 125  | 193   | 0      | 457       | 206        | 190  | 111   | 0      | 507       | 2427        |
|                                        |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| 2:45 PM                                | 35              | 152  | 13    |        |           | 11              | 136  | 32    |        |           | 20         | 29   | 34    |        |           | 54         | 24   | 21    |        |           |             |
| 3:00 PM                                | 34              | 205  | 19    |        |           | 27              | 175  | 47    |        |           | 36         | 50   | 33    |        |           | 38         | 23   | 26    |        |           |             |
| 3:15 PM                                | 29              | 135  | 9     |        |           | 15              | 162  | 44    |        |           | 36         | 71   | 54    |        |           | 47         | 26   | 55    |        |           |             |
| 3:30 PM                                | 44              | 202  | 15    |        |           | 19              | 223  | 55    |        |           | 20         | 36   | 24    |        |           | 41         | 16   | 23    |        |           | 2675        |
| No-Build PM Peak                       | 142             | 694  | 56    | 0      | 0         | 72              | 696  | 178   | 0      | 0         | 112        | 186  | 145   | 0      | 0         | 180        | 89   | 125   | 0      | 0         | 2675        |
| Entering Traffic                       |                 |      | 2     |        |           |                 |      |       |        |           |            |      |       |        |           |            | 2    |       |        |           |             |
| Exiting Traffic                        |                 |      |       |        |           |                 |      |       |        |           | 4          | 5    | 5     |        |           |            |      |       |        |           |             |
| Move Traffic                           |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                        |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build PM Peak Total                    | 142             | 694  | 58    | 0      | 894       | 72              | 696  | 178   | 0      | 946       | 116        | 191  | 150   | 0      | 456       | 180        | 91   | 125   | 0      | 396       | 2675        |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |



Study Name: North Ridgeville CSD TIS  
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| Ranger Way & Fire Station/School Parking Lot |              |      |       |        |           |                    |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
|----------------------------------------------|--------------|------|-------|--------|-----------|--------------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|-------------|
| Opening Peak Hour Traffic Calculations       |              |      |       |        |           |                    |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Start Time                                   | Fire Station |      |       |        |           | School Parking Lot |      |       |        |           | Ranger Way |      |       |        |           | Ranger Way |      |       |        |           | Peak Period |
|                                              | Eastbound    |      |       |        |           | Westbound          |      |       |        |           | Northbound |      |       |        |           | Southbound |      |       |        |           |             |
|                                              | Left         | Thru | Right | U-Turn | App Total | Left               | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                                      |              |      |       |        |           |                    |      | 81    |        |           |            | 36   | 52    |        |           | 92         | 58   |       |        |           |             |
| 7:30 AM                                      |              |      |       |        |           |                    |      | 116   |        |           | 1          | 86   | 48    |        |           | 82         | 61   | 1     |        |           |             |
| 7:45 AM                                      |              |      |       |        |           | 15                 |      | 34    |        |           | 1          | 41   |       |        |           | 9          | 34   | 3     |        |           |             |
| 8:00 AM                                      |              |      | 3     |        |           |                    |      | 3     |        |           | 1          | 52   | 7     |        |           | 9          | 81   | 1     |        |           | 1008        |
| No-Build AM Peak                             | 0            | 0    | 3     | 0      | 0         | 15                 | 0    | 234   | 0      | 0         | 3          | 215  | 107   | 0      | 0         | 192        | 234  | 5     | 0      | 0         | 1008        |
| Entering Traffic                             |              |      |       |        |           |                    |      |       |        |           |            |      |       |        |           |            | 15   |       |        |           |             |
| Exiting Traffic                              |              |      |       |        |           |                    |      |       |        |           |            | 7    |       |        |           |            |      |       |        |           |             |
| Move Traffic                                 |              |      |       |        |           |                    |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                              |              |      |       |        |           |                    |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build AM Peak Total                          | 0            | 0    | 3     | 0      | 3         | 15                 | 0    | 234   | 0      | 249       | 3          | 222  | 107   | 0      | 332       | 192        | 249  | 5     | 0      | 446       | 1008        |
|                                              |              |      |       |        |           |                    |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| 2:45 PM                                      |              |      |       |        |           | 7                  |      | 50    |        |           |            | 33   | 17    |        |           | 28         | 36   |       |        |           |             |
| 3:00 PM                                      | 2            |      |       |        |           | 12                 |      | 78    |        |           |            | 63   | 3     |        |           | 30         | 43   | 1     |        |           |             |
| 3:15 PM                                      |              |      |       |        |           | 3                  |      | 24    |        |           |            | 138  | 20    |        |           | 17         | 24   |       |        |           |             |
| 3:30 PM                                      |              |      |       |        |           | 2                  |      | 11    |        |           |            | 43   | 10    |        |           | 17         | 29   |       |        |           | 741         |
| No-Build PM Peak                             | 2            | 0    | 0     | 0      | 0         | 24                 | 0    | 163   | 0      | 0         | 0          | 277  | 50    | 0      | 0         | 92         | 132  | 1     | 0      | 0         | 741         |
| Entering Traffic                             |              |      |       |        |           |                    |      |       |        |           |            |      |       |        |           |            | 4    |       |        |           |             |
| Exiting Traffic                              |              |      |       |        |           |                    |      |       |        |           |            | 14   |       |        |           |            |      |       |        |           |             |
| Move Traffic                                 |              |      |       |        |           |                    |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                              |              |      |       |        |           |                    |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build PM Peak Total                          | 2            | 0    | 0     | 0      | 2         | 24                 | 0    | 163   | 0      | 187       | 0          | 291  | 50    | 0      | 341       | 92         | 136  | 1     | 0      | 229       | 741         |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |





Study Name: North Ridgeville CSD TIS  
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| Ranger Way & NRAC Drive                |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
|----------------------------------------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|-------------|
| Opening Peak Hour Traffic Calculations |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Start Time                             | NRAC Drive |      |       |        |           | NRAC Drive |      |       |        |           | Ranger Way |      |       |        |           | Ranger Way |      |       |        |           | Peak Period |
|                                        | Eastbound  |      |       |        |           | Westbound  |      |       |        |           | Northbound |      |       |        |           | Southbound |      |       |        |           |             |
|                                        | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                                |            |      | 1     |        |           | 7          |      | 16    |        |           |            | 81   | 36    |        |           | 46         | 11   |       |        |           |             |
| 7:30 AM                                |            |      |       |        |           | 25         |      | 43    |        |           | 2          | 87   | 10    |        |           | 52         | 11   |       |        |           |             |
| 7:45 AM                                |            |      |       |        |           | 9          |      | 24    |        |           | 1          | 11   | 7     |        |           | 26         | 25   |       |        |           |             |
| 8:00 AM                                |            |      |       |        |           | 6          |      | 44    |        |           | 1          | 18   | 7     |        |           | 76         | 11   |       |        |           | 694         |
| No-Build AM Peak                       | 0          | 0    | 1     | 0      | 0         | 47         | 0    | 127   | 0      | 0         | 4          | 197  | 60    | 0      | 0         | 200        | 58   | 0     | 0      | 0         | 694         |
| Entering Traffic                       |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            | 15   |       |        |           |             |
| Exiting Traffic                        |            |      |       |        |           |            |      |       |        |           |            | 7    |       |        |           |            |      |       |        |           |             |
| Move Traffic                           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                        |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build AM Peak Total                    | 0          | 0    | 1     | 0      | 1         | 47         | 0    | 127   | 0      | 174       | 4          | 204  | 60    | 0      | 268       | 200        | 73   | 0     | 0      | 273       | 694         |
|                                        |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| 2:45 PM                                |            |      | 2     |        |           | 38         |      | 23    |        |           | 2          | 32   | 7     | 1      |           | 11         | 33   |       |        |           |             |
| 3:00 PM                                |            |      |       |        |           | 24         |      | 30    |        |           | 1          | 28   | 12    |        |           | 27         | 32   |       |        |           |             |
| 3:15 PM                                |            |      | 1     |        |           | 34         |      | 104   |        |           |            | 51   | 8     |        |           | 10         | 15   |       |        |           |             |
| 3:30 PM                                |            |      | 2     |        |           | 8          | 1    | 23    |        |           |            | 33   | 5     |        |           | 9          | 21   |       |        |           | 628         |
| No-Build PM Peak                       | 0          | 0    | 5     | 0      | 0         | 104        | 1    | 180   | 0      | 0         | 3          | 144  | 32    | 1      | 0         | 57         | 101  | 0     | 0      | 0         | 628         |
| Entering Traffic                       |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            | 4    |       |        |           |             |
| Exiting Traffic                        |            |      |       |        |           |            |      |       |        |           |            | 14   |       |        |           |            |      |       |        |           |             |
| Move Traffic                           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                        |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build PM Peak Total                    | 0          | 0    | 5     | 0      | 5         | 104        | 1    | 180   | 0      | 285       | 3          | 158  | 32    | 1      | 194       | 57         | 105  | 0     | 0      | 162       | 628         |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |



Study Name: North Ridgeville CSD TIS  
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| Ranger Way & Kenssington Drive         |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
|----------------------------------------|----------------|------|-------|--------|-----------|-----------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|-------------|
| Opening Peak Hour Traffic Calculations |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Start Time                             | Kenssington Dr |      |       |        |           | -         |      |       |        |           | Ranger Way |      |       |        |           | Ranger Way |      |       |        |           | Peak Period |
|                                        | Eastbound      |      |       |        |           | Westbound |      |       |        |           | Northbound |      |       |        |           | Southbound |      |       |        |           |             |
|                                        | Left           | Thru | Right | U-Turn | App Total | Left      | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                                | 1              |      | 10    |        |           |           |      |       |        |           | 5          | 118  |       |        |           |            | 18   | 1     |        |           |             |
| 7:30 AM                                | 3              |      | 9     |        |           |           |      |       |        |           |            | 87   |       |        |           |            | 37   | 1     |        |           |             |
| 7:45 AM                                | 1              |      | 15    |        |           |           |      |       |        |           | 3          | 17   |       |        |           |            | 32   |       |        |           |             |
| 8:00 AM                                | 5              |      | 10    |        |           |           |      |       |        |           | 2          | 23   |       |        |           |            | 18   |       |        |           | 416         |
| No-Build AM Peak                       | 10             | 0    | 44    | 0      | 0         | 0         | 0    | 0     | 0      | 0         | 10         | 245  | 0     | 0      | 0         | 0          | 105  | 2     | 0      | 0         | 416         |
| Entering Traffic                       |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            | 15   |       |        |           |             |
| Exiting Traffic                        |                |      |       |        |           |           |      |       |        |           |            | 7    |       |        |           |            |      |       |        |           |             |
| Move Traffic                           |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                        |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build AM Peak Total                    | 10             | 0    | 44    | 0      | 54        | 0         | 0    | 0     | 0      | 0         | 10         | 252  | 0     | 0      | 262       | 0          | 120  | 2     | 0      | 122       | 416         |
|                                        |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| 2:45 PM                                | 3              |      | 6     |        |           |           |      |       |        |           | 7          | 36   |       |        |           |            | 70   | 3     |        |           |             |
| 3:00 PM                                | 3              |      | 38    |        |           |           |      |       |        |           | 1          | 36   |       |        |           |            | 53   | 1     |        |           |             |
| 3:15 PM                                | 2              |      |       |        |           |           |      |       |        |           | 5          | 58   |       |        |           |            | 48   | 2     |        |           |             |
| 3:30 PM                                | 2              |      | 6     |        |           |           |      |       |        |           | 8          | 43   |       |        |           |            | 32   | 1     |        |           | 464         |
| No-Build PM Peak                       | 10             | 0    | 50    | 0      | 0         | 0         | 0    | 0     | 0      | 0         | 21         | 173  | 0     | 0      | 0         | 0          | 203  | 7     | 0      | 0         | 464         |
| Entering Traffic                       |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            | 4    |       |        |           |             |
| Exiting Traffic                        |                |      |       |        |           |           |      |       |        |           |            | 14   |       |        |           |            |      |       |        |           |             |
| Move Traffic                           |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                        |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build PM Peak Total                    | 10             | 0    | 50    | 0      | 60        | 0         | 0    | 0     | 0      | 0         | 21         | 187  | 0     | 0      | 208       | 0          | 207  | 7     | 0      | 214       | 464         |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |





Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

| Ranger Way & Bainbridge Road           |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
|----------------------------------------|---------------|------|-------|--------|-----------|---------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|-------------|
| Opening Peak Hour Traffic Calculations |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Start Time                             | Bainbridge Rd |      |       |        |           | Bainbridge Rd |      |       |        |           | North Road |      |       |        |           | Ranger Way |      |       |        |           | Peak Period |
|                                        | Eastbound     |      |       |        |           | Westbound     |      |       |        |           | Northbound |      |       |        |           | Southbound |      |       |        |           |             |
|                                        | Left          | Thru | Right | U-Turn | App Total | Left          | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                                | 64            | 126  |       |        |           |               | 74   | 60    |        |           |            |      |       |        |           | 11         |      | 11    |        |           |             |
| 7:30 AM                                | 32            | 149  |       |        |           |               | 136  | 55    |        |           |            |      |       |        |           | 11         |      | 28    |        |           |             |
| 7:45 AM                                | 7             | 99   |       |        |           |               | 77   | 12    |        |           |            |      |       |        |           | 16         |      | 26    |        |           |             |
| 8:00 AM                                | 11            | 200  |       |        |           |               | 64   | 14    |        |           |            |      |       |        |           | 11         |      | 10    |        |           | 1304        |
| No-Build AM Peak                       | 114           | 574  | 0     | 0      | 0         | 0             | 351  | 141   | 0      | 0         | 0          | 0    | 0     | 0      | 0         | 49         | 0    | 75    | 0      | 0         | 1304        |
| Entering Traffic                       |               | 30   |       |        |           |               |      |       |        |           |            |      |       |        |           | 15         |      |       |        |           |             |
| Exiting Traffic                        |               |      |       |        |           |               | 14   | 7     |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Move Traffic                           |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                        |               | 125  |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build AM Peak Total                    | 114           | 729  | 0     | 0      | 843       | 0             | 365  | 148   | 0      | 513       | 0          | 0    | 0     | 0      | 0         | 64         | 0    | 75    | 0      | 139       | 1304        |
|                                        |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| 2:45 PM                                | 23            | 60   |       |        |           |               | 83   | 23    |        |           |            |      |       |        |           | 23         |      | 45    |        |           |             |
| 3:00 PM                                | 15            | 65   |       |        |           |               | 95   | 24    |        |           |            |      |       |        |           | 24         |      | 62    |        |           |             |
| 3:15 PM                                | 18            | 43   |       |        |           |               | 182  | 44    |        |           |            |      |       |        |           | 11         |      | 32    |        |           |             |
| 3:30 PM                                | 27            | 60   |       |        |           |               | 68   | 24    |        |           |            |      |       |        |           | 17         |      | 18    |        |           | 1086        |
| No-Build PM Peak                       | 83            | 228  | 0     | 0      | 0         | 0             | 428  | 115   | 0      | 0         | 0          | 0    | 0     | 0      | 0         | 75         | 0    | 157   | 0      | 0         | 1086        |
| Entering Traffic                       |               | 14   |       |        |           |               |      |       |        |           |            |      |       |        |           | 4          |      |       |        |           |             |
| Exiting Traffic                        |               |      |       |        |           |               | 23   | 14    |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Move Traffic                           |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                        |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build PM Peak Total                    | 83            | 242  | 0     | 0      | 325       | 0             | 451  | 129   | 0      | 580       | 0          | 0    | 0     | 0      | 0         | 79         | 0    | 157   | 0      | 236       | 1086        |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |



Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

| Bainbridge Road & W Point Drive        |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
|----------------------------------------|---------------|------|-------|--------|-----------|---------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|--------------|------|-------|--------|-----------|-------------|
| Opening Peak Hour Traffic Calculations |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Start Time                             | Bainbridge Rd |      |       |        |           | Bainbridge Rd |      |       |        |           | W Point Dr |      |       |        |           | School Drive |      |       |        |           | Peak Period |
|                                        | Eastbound     |      |       |        |           | Westbound     |      |       |        |           | Northbound |      |       |        |           | Southbound   |      |       |        |           |             |
|                                        | Left          | Thru | Right | U-Turn | App Total | Left          | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left         | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                                | 101           | 45   |       |        |           |               | 56   | 63    |        |           | 2          |      |       |        |           | 5            |      | 81    |        |           |             |
| 7:30 AM                                | 109           | 52   | 2     |        |           |               | 65   | 83    |        |           |            |      |       |        |           | 17           | 1    | 125   |        |           |             |
| 7:45 AM                                | 68            | 52   | 1     |        |           |               | 38   | 12    |        |           | 2          |      |       |        |           | 18           |      | 43    |        |           |             |
| 8:00 AM                                | 168           | 52   | 2     |        |           |               | 36   | 25    |        |           |            |      |       |        |           | 5            |      | 43    |        |           | 1372        |
| No-Build AM Peak                       | 446           | 201  | 5     | 0      | 652       | 0             | 195  | 183   | 0      | 0         | 4          | 0    | 0     | 0      | 0         | 45           | 1    | 292   | 0      | 0         | 1372        |
| Entering Traffic                       |               | 45   |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Exiting Traffic                        |               |      |       |        |           |               | 21   |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Move Traffic                           | -118          | 118  |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Balance Traffic                        |               | 125  |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Build AM Peak Total                    | 328           | 489  | 5     | 0      | 822       | 0             | 216  | 183   | 0      | 399       | 4          | 0    | 0     | 0      | 4         | 45           | 1    | 292   | 0      | 338       | 1372        |
|                                        |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| 2:45 PM                                | 39            | 45   | 2     |        |           |               | 65   | 14    |        |           |            |      | 1     |        |           | 20           |      | 51    |        |           |             |
| 3:00 PM                                | 36            | 50   | 8     |        |           |               | 54   | 10    |        |           | 1          |      | 1     |        |           | 16           |      | 56    |        |           |             |
| 3:15 PM                                | 11            | 39   | 3     |        |           |               | 138  | 6     |        |           |            |      | 1     |        |           | 24           | 1    | 85    |        |           |             |
| 3:30 PM                                | 8             | 65   | 3     |        |           |               | 72   | 7     |        |           | 1          |      |       |        |           | 1            |      | 17    |        |           | 951         |
| No-Build PM Peak                       | 94            | 199  | 16    | 0      | 309       | 0             | 329  | 37    | 0      | 0         | 2          | 0    | 3     | 0      | 0         | 61           | 1    | 209   | 0      | 0         | 951         |
| Entering Traffic                       |               | 18   |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Exiting Traffic                        |               |      |       |        |           |               | 37   |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Move Traffic                           |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Balance Traffic                        |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Build PM Peak Total                    | 94            | 217  | 16    | 0      | 327       | 0             | 366  | 37    | 0      | 403       | 2          | 0    | 3     | 0      | 5         | 61           | 1    | 209   | 0      | 271       | 951         |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |



Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

| Pitts Road & High School Drive         |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
|----------------------------------------|----------------|------|-------|--------|-----------|-----------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|-------------|
| Opening Peak Hour Traffic Calculations |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Start Time                             | High School Dr |      |       |        |           | -         |      |       |        |           | Pitts Rd   |      |       |        |           | Pitts Rd   |      |       |        |           | Peak Period |
|                                        | Eastbound      |      |       |        |           | Westbound |      |       |        |           | Northbound |      |       |        |           | Southbound |      |       |        |           |             |
|                                        | Left           | Thru | Right | U-Turn | App Total | Left      | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                                | 14             |      | 3     |        |           |           |      |       |        |           | 12         | 3    |       |        |           |            | 26   | 47    |        |           |             |
| 7:30 AM                                | 12             |      | 7     |        |           |           |      |       |        |           | 35         | 8    |       |        |           |            | 35   | 27    |        |           |             |
| 7:45 AM                                | 18             |      | 10    |        |           |           |      |       |        |           | 8          | 1    |       |        |           |            | 23   | 35    |        |           |             |
| 8:00 AM                                | 41             |      | 18    |        |           |           |      |       |        |           | 18         | 2    |       |        |           |            | 24   | 43    |        |           | 470         |
| No-Build AM Peak                       | 85             | 0    | 38    | 0      | 0         | 0         | 0    | 0     | 0      | 0         | 73         | 14   | 0     | 0      | 0         | 0          | 108  | 152   | 0      | 0         | 470         |
| Entering Traffic                       |                |      |       |        |           |           |      |       |        |           | 30         |      |       |        |           |            |      | 60    |        |           |             |
| Exiting Traffic                        | 36             |      | 7     |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Move Traffic                           |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                        |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build AM Peak Total                    | 121            | 0    | 45    | 0      | 166       | 0         | 0    | 0     | 0      | 0         | 103        | 14   | 0     | 0      | 117       | 0          | 108  | 212   | 0      | 320       | 470         |
|                                        |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| 2:45 PM                                | 29             |      | 6     |        |           |           |      |       |        |           | 11         | 12   |       |        |           |            | 14   | 25    |        |           |             |
| 3:00 PM                                | 20             |      | 10    |        |           |           |      |       |        |           | 9          | 9    |       |        |           |            | 15   | 18    |        |           |             |
| 3:15 PM                                | 68             |      | 51    |        |           |           |      |       |        |           | 9          | 27   |       |        |           |            | 8    | 10    |        |           |             |
| 3:30 PM                                | 11             |      | 7     |        |           |           |      |       |        |           | 2          | 9    |       |        |           |            | 10   | 6     |        |           | 396         |
| No-Build PM Peak                       | 128            | 0    | 74    | 0      | 0         | 0         | 0    | 0     | 0      | 0         | 31         | 57   | 0     | 0      | 0         | 0          | 47   | 59    | 0      | 0         | 396         |
| Entering Traffic                       |                |      |       |        |           |           |      |       |        |           | 9          |      |       |        |           |            |      | 18    |        |           |             |
| Exiting Traffic                        | 37             |      | 9     |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Move Traffic                           |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                        |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build PM Peak Total                    | 165            | 0    | 83    | 0      | 249       | 0         | 0    | 0     | 0      | 0         | 40         | 57   | 0     | 0      | 97        | 0          | 47   | 77    | 0      | 124       | 396         |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |





Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

| Bainbridge Road & Repurposed Drive     |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |             |
|----------------------------------------|---------------|------|-------|--------|-----------|---------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|-------------------------|------|-------|--------|-----------|-------------|
| Opening Peak Hour Traffic Calculations |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| Start Time                             | Bainbridge Rd |      |       |        |           | Bainbridge Rd |      |       |        |           | -          |      |       |        |           | High School Parking Lot |      |       |        |           | Peak Period |
|                                        | Eastbound     |      |       |        |           | Westbound     |      |       |        |           | Northbound |      |       |        |           | Southbound              |      |       |        |           |             |
|                                        | Left          | Thru | Right | U-Turn | App Total | Left          | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left                    | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                                | 14            | 36   |       |        |           |               | 100  | 4     |        |           |            |      |       |        |           | 5                       |      | 19    |        |           |             |
| 7:30 AM                                | 34            | 35   |       |        |           |               | 96   | 9     |        |           |            |      |       |        |           | 13                      |      | 52    |        |           |             |
| 7:45 AM                                | 30            | 40   |       |        |           |               | 39   | 7     |        |           |            |      |       |        |           | 3                       |      | 11    |        |           |             |
| 8:00 AM                                | 69            | 12   |       |        |           |               | 39   | 17    |        |           |            |      |       |        |           | 6                       |      | 22    |        |           | 315         |
| No-Build AM Peak                       | 147           | 123  | 0     | 0      | 0         | 0             | 274  | 37    | 0      | 0         | 0          | 0    | 0     | 0      | 0         | 27                      | 0    | 104   | 0      | 0         | 315         |
| Entering Traffic                       | 45            |      |       |        |           |               |      | 15    |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| Exiting Traffic                        |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           | 7                       |      | 21    |        |           |             |
| Move Traffic                           | 118           |      |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| Balance Traffic                        |               | 125  |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| Build AM Peak Total                    | 310           | 248  | 0     | 0      | 558       | 0             | 274  | 52    | 0      | 326       | 0          | 0    | 0     | 0      | 0         | 34                      | 0    | 125   | 0      | 159       | 1043        |
|                                        |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| 2:45 PM                                | 15            | 66   |       |        |           |               | 54   | 6     |        |           |            |      |       |        |           | 16                      |      | 25    |        |           |             |
| 3:00 PM                                | 16            | 67   |       |        |           |               | 50   | 7     |        |           |            |      |       |        |           | 9                       |      | 14    |        |           |             |
| 3:15 PM                                | 4             | 64   |       |        |           |               | 71   | 2     |        |           |            |      |       |        |           | 48                      |      | 73    |        |           |             |
| 3:30 PM                                | 2             | 66   |       |        |           |               | 69   | 1     |        |           |            |      |       |        |           | 6                       |      | 10    |        |           | 253         |
| No-Build PM Peak                       | 37            | 263  | 0     | 0      | 0         | 0             | 244  | 16    | 0      | 0         | 0          | 0    | 0     | 0      | 0         | 79                      | 0    | 122   | 0      | 0         | 253         |
| Entering Traffic                       | 18            |      |       |        |           |               |      | 9     |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| Exiting Traffic                        |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           | 9                       |      | 37    |        |           |             |
| Move Traffic                           |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| Balance Traffic                        |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| Build PM Peak Total                    | 55            | 263  | 0     | 0      | 318       | 0             | 244  | 25    | 0      | 269       | 0          | 0    | 0     | 0      | 0         | 88                      | 0    | 159   | 0      | 247       | 834         |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |



Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

| Center Ridge Road & Ranger Way        |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
|---------------------------------------|-----------------|------|-------|--------|-----------|-----------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|-------------|
| Design Peak Hour Traffic Calculations |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Start Time                            | Center Ridge Rd |      |       |        |           | Center Ridge Rd |      |       |        |           | Ranger Way |      |       |        |           | Jaycox Rd  |      |       |        |           | Peak Period |
|                                       | Eastbound       |      |       |        |           | Westbound       |      |       |        |           | Northbound |      |       |        |           | Southbound |      |       |        |           |             |
|                                       | Left            | Thru | Right | U-Turn | App Total | Left            | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                               | 19              | 120  | 81    |        |           | 41              | 110  | 14    |        |           | 42         | 37   | 54    |        |           | 50         | 63   | 26    |        |           |             |
| 7:30 AM                               | 26              | 187  | 34    |        |           | 35              | 111  | 36    |        |           | 47         | 37   | 92    |        |           | 59         | 43   | 38    |        |           |             |
| 7:45 AM                               | 19              | 166  | 7     |        |           | 9               | 171  | 41    |        |           | 35         | 42   | 46    |        |           | 67         | 24   | 26    |        |           |             |
| 8:00 AM                               | 26              | 167  | 33    |        |           | 20              | 130  | 20    |        |           | 25         | 21   | 15    |        |           | 51         | 71   | 31    |        |           | 2665        |
| No-Build AM Peak                      | 90              | 640  | 155   | 0      | 0         | 105             | 522  | 111   | 0      | 0         | 149        | 137  | 207   | 0      | 0         | 227        | 201  | 121   | 0      | 0         | 2665        |
| Entering Traffic                      |                 |      | 7     |        |           |                 |      |       |        |           |            |      |       |        |           |            | 8    |       |        |           |             |
| Exiting Traffic                       |                 |      |       |        |           |                 |      |       |        |           | 3          |      | 4     |        |           |            |      |       |        |           |             |
| Move Traffic                          |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                       |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build AM Peak Total                   | 90              | 640  | 162   | 0      | 892       | 105             | 522  | 111   | 0      | 738       | 152        | 137  | 211   | 0      | 500       | 227        | 209  | 121   | 0      | 557       | 2665        |
|                                       |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| 2:45 PM                               | 39              | 167  | 14    |        |           | 12              | 150  | 35    |        |           | 22         | 32   | 37    |        |           | 59         | 26   | 24    |        |           |             |
| 3:00 PM                               | 37              | 225  | 20    |        |           | 30              | 192  | 52    |        |           | 40         | 54   | 36    |        |           | 42         | 25   | 28    |        |           |             |
| 3:15 PM                               | 31              | 148  | 10    |        |           | 16              | 178  | 48    |        |           | 40         | 78   | 59    |        |           | 52         | 28   | 61    |        |           |             |
| 3:30 PM                               | 48              | 221  | 17    |        |           | 21              | 245  | 61    |        |           | 22         | 40   | 26    |        |           | 45         | 17   | 25    |        |           | 2935        |
| No-Build PM Peak                      | 155             | 761  | 61    | 0      | 0         | 79              | 765  | 196   | 0      | 0         | 124        | 204  | 158   | 0      | 0         | 198        | 96   | 138   | 0      | 0         | 2935        |
| Entering Traffic                      |                 |      | 2     |        |           |                 |      |       |        |           |            |      |       |        |           |            | 2    |       |        |           |             |
| Exiting Traffic                       |                 |      |       |        |           |                 |      |       |        |           | 4          | 5    | 5     |        |           |            |      |       |        |           |             |
| Move Traffic                          |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                       |                 |      |       |        |           |                 |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build PM Peak Total                   | 155             | 761  | 63    | 0      | 979       | 79              | 765  | 196   | 0      | 1040      | 128        | 209  | 163   | 0      | 499       | 198        | 98   | 138   | 0      | 434       | 2935        |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |



Study Name: North Ridgeville CSD TIS  
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| Ranger Way & Fire Station/School Parking Lot |              |      |       |        |           |                    |      |       |        |           |                       |      |       |        |           |                       |      |       |        |           |             |
|----------------------------------------------|--------------|------|-------|--------|-----------|--------------------|------|-------|--------|-----------|-----------------------|------|-------|--------|-----------|-----------------------|------|-------|--------|-----------|-------------|
| Design Peak Hour Traffic Calculations        |              |      |       |        |           |                    |      |       |        |           |                       |      |       |        |           |                       |      |       |        |           |             |
| Start Time                                   | Fire Station |      |       |        |           | School Parking Lot |      |       |        |           | Ranger Way Northbound |      |       |        |           | Ranger Way Southbound |      |       |        |           | Peak Period |
|                                              | Eastbound    |      |       |        |           | Westbound          |      |       |        |           |                       |      |       |        |           |                       |      |       |        |           |             |
|                                              | Left         | Thru | Right | U-Turn | App Total | Left               | Thru | Right | U-Turn | App Total | Left                  | Thru | Right | U-Turn | App Total | Left                  | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                                      |              |      |       |        |           |                    |      | 89    |        |           |                       | 40   | 57    |        |           | 101                   | 63   |       |        |           |             |
| 7:30 AM                                      |              |      |       |        |           |                    |      | 127   |        |           | 1                     | 94   | 53    |        |           | 90                    | 67   | 1     |        |           |             |
| 7:45 AM                                      |              |      |       |        |           | 16                 |      | 37    |        |           | 1                     | 45   |       |        |           | 10                    | 37   | 4     |        |           |             |
| 8:00 AM                                      |              |      | 4     |        |           |                    |      | 4     |        |           | 1                     | 57   | 7     |        |           | 10                    | 89   | 1     |        | 1106      |             |
| No-Build AM Peak                             | 0            | 0    | 4     | 0      | 0         | 16                 | 0    | 257   | 0      | 0         | 3                     | 236  | 117   | 0      | 0         | 211                   | 256  | 6     | 0      | 0         | 1106        |
| Entering Traffic                             |              |      |       |        |           |                    |      |       |        |           |                       |      |       |        |           |                       | 15   |       |        |           |             |
| Exiting Traffic                              |              |      |       |        |           |                    |      |       |        |           |                       | 7    |       |        |           |                       |      |       |        |           |             |
| Move Traffic                                 |              |      |       |        |           |                    |      |       |        |           |                       |      |       |        |           |                       |      |       |        |           |             |
| Balance Traffic                              |              |      |       |        |           |                    |      |       |        |           |                       |      |       |        |           |                       |      |       |        |           |             |
| Build AM Peak Total                          | 0            | 0    | 4     | 0      | 4         | 16                 | 0    | 257   | 0      | 273       | 3                     | 243  | 117   | 0      | 363       | 211                   | 271  | 6     | 0      | 488       | 1106        |
|                                              |              |      |       |        |           |                    |      |       |        |           |                       |      |       |        |           |                       |      |       |        |           |             |
| 2:45 PM                                      |              |      |       |        |           | 7                  |      | 54    |        |           |                       | 36   | 19    |        |           | 31                    | 40   |       |        |           |             |
| 3:00 PM                                      | 2            |      |       |        |           | 14                 |      | 85    |        |           |                       | 69   | 4     |        |           | 33                    | 47   | 1     |        |           |             |
| 3:15 PM                                      |              |      |       |        |           | 4                  |      | 26    |        |           |                       | 151  | 22    |        |           | 19                    | 26   |       |        |           |             |
| 3:30 PM                                      |              |      |       |        |           | 2                  |      | 12    |        |           |                       | 47   | 11    |        |           | 19                    | 32   |       |        | 813       |             |
| No-Build PM Peak                             | 2            | 0    | 0     | 0      | 0         | 27                 | 0    | 177   | 0      | 0         | 0                     | 303  | 56    | 0      | 0         | 102                   | 145  | 1     | 0      | 0         | 813         |
| Entering Traffic                             |              |      |       |        |           |                    |      |       |        |           |                       |      |       |        |           |                       | 4    |       |        |           |             |
| Exiting Traffic                              |              |      |       |        |           |                    |      |       |        |           |                       | 14   |       |        |           |                       |      |       |        |           |             |
| Move Traffic                                 |              |      |       |        |           |                    |      |       |        |           |                       |      |       |        |           |                       |      |       |        |           |             |
| Balance Traffic                              |              |      |       |        |           |                    |      |       |        |           |                       |      |       |        |           |                       |      |       |        |           |             |
| Build PM Peak Total                          | 2            | 0    | 0     | 0      | 2         | 27                 | 0    | 177   | 0      | 204       | 0                     | 317  | 56    | 0      | 373       | 102                   | 149  | 1     | 0      | 252       | 813         |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |





Study Name: North Ridgeville CSD TIS  
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| Ranger Way & NRAC Drive               |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
|---------------------------------------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|
| Design Peak Hour Traffic Calculations |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
| Start Time                            | NRAC Drive |      |       |        |           | NRAC Drive |      |       |        |           | Ranger Way |      |       |        |           | Ranger Way |      |       |        |           |
|                                       | Eastbound  |      |       |        |           | Westbound  |      |       |        |           | Northbound |      |       |        |           | Southbound |      |       |        |           |
|                                       | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total |
| 7:15 AM                               |            |      | 1     |        |           | 7          |      | 17    |        |           |            | 89   | 40    |        |           | 51         | 12   |       |        |           |
| 7:30 AM                               |            |      |       |        |           | 27         |      | 47    |        |           | 2          | 95   | 11    |        |           | 57         | 12   |       |        |           |
| 7:45 AM                               |            |      |       |        |           | 10         |      | 26    |        |           | 1          | 12   | 7     |        |           | 28         | 27   |       |        |           |
| 8:00 AM                               |            |      |       |        |           | 6          |      | 48    |        |           | 1          | 20   | 7     |        |           | 83         | 12   |       |        | 756       |
| No-Build AM Peak                      | 0          | 0    | 1     | 0      | 0         | 50         | 0    | 138   | 0      | 0         | 4          | 216  | 65    | 0      | 0         | 219        | 63   | 0     | 0      | 0         |
| Entering Traffic                      |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            | 15   |       |        |           |
| Exiting Traffic                       |            |      |       |        |           |            |      |       |        |           |            | 7    |       |        |           |            |      |       |        |           |
| Move Traffic                          |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
| Balance Traffic                       |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
| Build AM Peak Total                   | 0          | 0    | 1     | 0      | 1         | 50         | 0    | 138   | 0      | 188       | 4          | 223  | 65    | 0      | 292       | 219        | 78   | 0     | 0      | 297       |
| 756                                   |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
| 2:45 PM                               |            |      | 2     |        |           | 42         |      | 25    |        |           | 2          | 35   | 7     | 1      |           | 12         | 36   |       |        |           |
| 3:00 PM                               |            |      |       |        |           | 26         |      | 33    |        |           | 1          | 31   | 14    |        |           | 30         | 35   |       |        |           |
| 3:15 PM                               |            |      | 1     |        |           | 37         |      | 114   |        |           |            | 56   | 9     |        |           | 11         | 16   |       |        |           |
| 3:30 PM                               |            |      | 2     |        |           | 9          | 1    | 25    |        |           |            | 36   | 5     |        |           | 10         | 24   |       |        | 688       |
| No-Build PM Peak                      | 0          | 0    | 5     | 0      | 0         | 114        | 1    | 197   | 0      | 0         | 3          | 158  | 35    | 1      | 0         | 63         | 111  | 0     | 0      | 0         |
| Entering Traffic                      |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            | 4    |       |        |           |
| Exiting Traffic                       |            |      |       |        |           |            |      |       |        |           |            | 14   |       |        |           |            |      |       |        |           |
| Move Traffic                          |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
| Balance Traffic                       |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
| Build PM Peak Total                   | 0          | 0    | 5     | 0      | 5         | 114        | 1    | 197   | 0      | 312       | 3          | 172  | 35    | 1      | 211       | 63         | 115  | 0     | 0      | 178       |
| 688                                   |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |            |      |       |        |           |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |



Study Name: North Ridgeville CSD TIS  
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| Ranger Way & Kenssington Drive        |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
|---------------------------------------|----------------|------|-------|--------|-----------|-----------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|-------------|
| Design Peak Hour Traffic Calculations |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Start Time                            | Kenssington Dr |      |       |        |           | -         |      |       |        |           | Ranger Way |      |       |        |           | Ranger Way |      |       |        |           | Peak Period |
|                                       | Eastbound      |      |       |        |           | Westbound |      |       |        |           | Northbound |      |       |        |           | Southbound |      |       |        |           |             |
|                                       | Left           | Thru | Right | U-Turn | App Total | Left      | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                               | 1              |      | 11    |        |           |           |      |       |        |           | 5          | 130  |       |        |           |            | 20   | 1     |        |           |             |
| 7:30 AM                               | 4              |      | 10    |        |           |           |      |       |        |           |            | 95   |       |        |           |            | 41   | 1     |        |           |             |
| 7:45 AM                               | 1              |      | 16    |        |           |           |      |       |        |           | 4          | 19   |       |        |           |            | 35   |       |        |           |             |
| 8:00 AM                               | 5              |      | 11    |        |           |           |      |       |        |           | 2          | 25   |       |        |           |            | 20   |       |        |           | 457         |
| No-Build AM Peak                      | 11             | 0    | 48    | 0      | 0         | 0         | 0    | 0     | 0      | 0         | 11         | 269  | 0     | 0      | 0         | 0          | 116  | 2     | 0      | 0         | 457         |
| Entering Traffic                      |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            | 15   |       |        |           |             |
| Exiting Traffic                       |                |      |       |        |           |           |      |       |        |           |            | 7    |       |        |           |            |      |       |        |           |             |
| Move Traffic                          |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                       |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build AM Peak Total                   | 11             | 0    | 48    | 0      | 59        | 0         | 0    | 0     | 0      | 0         | 11         | 276  | 0     | 0      | 287       | 0          | 131  | 2     | 0      | 133       | 457         |
|                                       |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| 2:45 PM                               | 4              |      | 6     |        |           |           |      |       |        |           | 7          | 40   |       |        |           |            | 77   | 4     |        |           |             |
| 3:00 PM                               | 4              |      | 42    |        |           |           |      |       |        |           | 1          | 40   |       |        |           |            | 58   | 1     |        |           |             |
| 3:15 PM                               | 2              |      |       |        |           |           |      |       |        |           | 5          | 63   |       |        |           |            | 53   | 2     |        |           |             |
| 3:30 PM                               | 2              |      | 6     |        |           |           |      |       |        |           | 9          | 47   |       |        |           |            | 35   | 1     |        |           | 509         |
| No-Build PM Peak                      | 12             | 0    | 54    | 0      | 0         | 0         | 0    | 0     | 0      | 0         | 22         | 190  | 0     | 0      | 0         | 0          | 223  | 8     | 0      | 0         | 509         |
| Entering Traffic                      |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            | 4    |       |        |           |             |
| Exiting Traffic                       |                |      |       |        |           |           |      |       |        |           |            | 14   |       |        |           |            |      |       |        |           |             |
| Move Traffic                          |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                       |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build PM Peak Total                   | 12             | 0    | 54    | 0      | 66        | 0         | 0    | 0     | 0      | 0         | 22         | 204  | 0     | 0      | 226       | 0          | 227  | 8     | 0      | 235       | 509         |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |



Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

| Ranger Way & Bainbridge Road          |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
|---------------------------------------|---------------|------|-------|--------|-----------|---------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|
| Design Peak Hour Traffic Calculations |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
| Start Time                            | Bainbridge Rd |      |       |        |           | Bainbridge Rd |      |       |        |           | North Road |      |       |        |           | Ranger Way |      |       |        |           |
|                                       | Eastbound     |      |       |        |           | Westbound     |      |       |        |           | Northbound |      |       |        |           | Southbound |      |       |        |           |
|                                       | Left          | Thru | Right | U-Turn | App Total | Left          | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total |
| 7:15 AM                               | 71            | 139  |       |        |           |               | 82   | 66    |        |           |            |      |       |        |           | 12         |      | 12    |        |           |
| 7:30 AM                               | 35            | 163  |       |        |           |               | 150  | 61    |        |           |            |      |       |        |           | 12         |      | 31    |        |           |
| 7:45 AM                               | 7             | 109  |       |        |           |               | 84   | 14    |        |           |            |      |       |        |           | 17         |      | 28    |        |           |
| 8:00 AM                               | 12            | 219  |       |        |           |               | 71   | 15    |        |           |            |      |       |        |           | 12         |      | 11    |        | 1433      |
| No-Build AM Peak                      | 125           | 630  | 0     | 0      | 0         | 0             | 387  | 156   | 0      | 0         | 0          | 0    | 0     | 0      | 0         | 53         | 0    | 82    | 0      | 1433      |
| Entering Traffic                      |               | 30   |       |        |           |               |      |       |        |           |            |      |       |        |           | 15         |      |       |        |           |
| Exiting Traffic                       |               |      |       |        |           |               | 14   | 7     |        |           |            |      |       |        |           |            |      |       |        |           |
| Move Traffic                          |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
| Balance Traffic                       |               | 125  |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
| Build AM Peak Total                   | 125           | 785  | 0     | 0      | 910       | 0             | 401  | 163   | 0      | 564       | 0          | 0    | 0     | 0      | 0         | 68         | 0    | 82    | 0      | 150       |
| 2:45 PM                               | 25            | 66   |       |        |           |               | 92   | 25    |        |           |            |      |       |        |           | 25         |      | 50    |        |           |
| 3:00 PM                               | 16            | 72   |       |        |           |               | 104  | 26    |        |           |            |      |       |        |           | 26         |      | 68    |        |           |
| 3:15 PM                               | 20            | 47   |       |        |           |               | 199  | 48    |        |           |            |      |       |        |           | 12         |      | 35    |        |           |
| 3:30 PM                               | 30            | 66   |       |        |           |               | 74   | 26    |        |           |            |      |       |        |           | 19         |      | 20    |        | 1191      |
| No-Build PM Peak                      | 91            | 251  | 0     | 0      | 0         | 0             | 469  | 125   | 0      | 0         | 0          | 0    | 0     | 0      | 0         | 82         | 0    | 173   | 0      | 1191      |
| Entering Traffic                      |               | 14   |       |        |           |               |      |       |        |           |            |      |       |        |           | 4          |      |       |        |           |
| Exiting Traffic                       |               |      |       |        |           |               | 23   | 14    |        |           |            |      |       |        |           |            |      |       |        |           |
| Move Traffic                          |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
| Balance Traffic                       |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |            |      |       |        |           |
| Build PM Peak Total                   | 91            | 265  | 0     | 0      | 356       | 0             | 492  | 139   | 0      | 631       | 0          | 0    | 0     | 0      | 0         | 86         | 0    | 173   | 0      | 259       |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |





Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

| Bainbridge Road & W Point Drive       |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
|---------------------------------------|---------------|------|-------|--------|-----------|---------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|--------------|------|-------|--------|-----------|-------------|
| Design Peak Hour Traffic Calculations |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Start Time                            | Bainbridge Rd |      |       |        |           | Bainbridge Rd |      |       |        |           | W Point Dr |      |       |        |           | School Drive |      |       |        |           | Peak Period |
|                                       | Eastbound     |      |       |        |           | Westbound     |      |       |        |           | Northbound |      |       |        |           | Southbound   |      |       |        |           |             |
|                                       | Left          | Thru | Right | U-Turn | App Total | Left          | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left         | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                               | 111           | 50   |       |        |           |               | 62   | 69    |        |           | 2          |      |       |        |           | 5            |      | 89    |        |           |             |
| 7:30 AM                               | 120           | 57   | 2     |        |           |               | 72   | 92    |        |           |            |      |       |        |           | 19           | 1    | 137   |        |           |             |
| 7:45 AM                               | 74            | 57   | 1     |        |           |               | 42   | 14    |        |           | 2          |      |       |        |           | 20           |      | 47    |        |           |             |
| 8:00 AM                               | 184           | 57   | 2     |        |           |               | 40   | 27    |        |           |            |      |       |        |           | 5            |      | 47    |        |           | 1507        |
| No-Build AM Peak                      | 489           | 221  | 5     | 0      | 0         | 0             | 216  | 202   | 0      | 0         | 4          | 0    | 0     | 0      | 0         | 49           | 1    | 320   | 0      | 0         | 1507        |
| Entering Traffic                      |               | 45   |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Exiting Traffic                       |               |      |       |        |           |               | 21   |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Move Traffic                          | -129          | 129  |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Balance Traffic                       |               | 125  |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Build AM Peak Total                   | 360           | 520  | 5     | 0      | 885       | 0             | 237  | 202   | 0      | 439       | 4          | 0    | 0     | 0      | 4         | 49           | 1    | 320   | 0      | 370       | 1507        |
|                                       |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| 2:45 PM                               | 43            | 50   | 2     |        |           |               | 72   | 15    |        |           |            |      | 1     |        |           | 22           |      | 56    |        |           |             |
| 3:00 PM                               | 40            | 54   | 9     |        |           |               | 59   | 11    |        |           | 1          |      | 1     |        |           | 17           |      | 62    |        |           |             |
| 3:15 PM                               | 12            | 43   | 4     |        |           |               | 151  | 6     |        |           |            |      | 1     |        |           | 26           | 1    | 93    |        |           |             |
| 3:30 PM                               | 9             | 72   | 4     |        |           |               | 79   | 7     |        |           | 1          |      |       |        |           | 1            |      | 19    |        |           | 1044        |
| No-Build PM Peak                      | 104           | 219  | 19    | 0      | 0         | 0             | 361  | 39    | 0      | 0         | 2          | 0    | 3     | 0      | 0         | 66           | 1    | 230   | 0      | 0         | 1044        |
| Entering Traffic                      |               | 18   |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Exiting Traffic                       |               |      |       |        |           |               | 37   |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Move Traffic                          |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Balance Traffic                       |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |              |      |       |        |           |             |
| Build PM Peak Total                   | 104           | 237  | 19    | 0      | 360       | 0             | 398  | 39    | 0      | 437       | 2          | 0    | 3     | 0      | 5         | 66           | 1    | 230   | 0      | 297       | 1044        |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |



Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

| Pitts Road & High School Drive        |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
|---------------------------------------|----------------|------|-------|--------|-----------|-----------|------|-------|--------|-----------|------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|-------------|
| Design Peak Hour Traffic Calculations |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Start Time                            | High School Dr |      |       |        |           | -         |      |       |        |           | Pitts Rd   |      |       |        |           | Pitts Rd   |      |       |        |           | Peak Period |
|                                       | Eastbound      |      |       |        |           | Westbound |      |       |        |           | Northbound |      |       |        |           | Southbound |      |       |        |           |             |
|                                       | Left           | Thru | Right | U-Turn | App Total | Left      | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                               | 15             |      | 4     |        |           |           |      |       |        |           | 14         | 4    |       |        |           |            | 28   | 52    |        |           |             |
| 7:30 AM                               | 14             |      | 7     |        |           |           |      |       |        |           | 38         | 9    |       |        |           |            | 38   | 30    |        |           |             |
| 7:45 AM                               | 20             |      | 11    |        |           |           |      |       |        |           | 9          | 1    |       |        |           |            | 25   | 38    |        |           |             |
| 8:00 AM                               | 45             |      | 20    |        |           |           |      |       |        |           | 20         | 2    |       |        |           |            | 26   | 47    |        |           | 517         |
| No-Build AM Peak                      | 94             | 0    | 42    | 0      | 0         | 0         | 0    | 0     | 0      | 0         | 81         | 16   | 0     | 0      | 0         | 0          | 117  | 167   | 0      | 0         | 517         |
| Entering Traffic                      |                |      |       |        |           |           |      |       |        |           | 30         |      |       |        |           |            |      | 60    |        |           |             |
| Exiting Traffic                       | 36             |      | 7     |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Move Traffic                          |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                       |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build AM Peak Total                   | 130            | 0    | 49    | 0      | 179       | 0         | 0    | 0     | 0      | 0         | 111        | 16   | 0     | 0      | 127       | 0          | 117  | 227   | 0      | 344       | 517         |
|                                       |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| 2:45 PM                               | 32             |      | 6     |        |           |           |      |       |        |           | 12         | 14   |       |        |           |            | 15   | 27    |        |           |             |
| 3:00 PM                               | 22             |      | 11    |        |           |           |      |       |        |           | 10         | 10   |       |        |           |            | 16   | 20    |        |           |             |
| 3:15 PM                               | 74             |      | 56    |        |           |           |      |       |        |           | 10         | 30   |       |        |           |            | 9    | 11    |        |           |             |
| 3:30 PM                               | 12             |      | 7     |        |           |           |      |       |        |           | 2          | 10   |       |        |           |            | 11   | 6     |        |           | 433         |
| No-Build PM Peak                      | 140            | 0    | 80    | 0      | 0         | 0         | 0    | 0     | 0      | 0         | 34         | 64   | 0     | 0      | 0         | 0          | 51   | 64    | 0      | 0         | 433         |
| Entering Traffic                      |                |      |       |        |           |           |      |       |        |           | 9          |      |       |        |           |            |      | 18    |        |           |             |
| Exiting Traffic                       | 37             |      | 9     |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Move Traffic                          |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Balance Traffic                       |                |      |       |        |           |           |      |       |        |           |            |      |       |        |           |            |      |       |        |           |             |
| Build PM Peak Total                   | 177            | 0    | 89    | 0      | 267       | 0         | 0    | 0     | 0      | 0         | 43         | 64   | 0     | 0      | 107       | 0          | 51   | 82    | 0      | 133       | 433         |

|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |



Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

| Bainbridge Road & Repurposed Drive    |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |             |
|---------------------------------------|---------------|------|-------|--------|-----------|---------------|------|-------|--------|-----------|------------|------|-------|--------|-----------|-------------------------|------|-------|--------|-----------|-------------|
| Design Peak Hour Traffic Calculations |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| Start Time                            | Bainbridge Rd |      |       |        |           | Bainbridge Rd |      |       |        |           | -          |      |       |        |           | High School Parking Lot |      |       |        |           | Peak Period |
|                                       | Eastbound     |      |       |        |           | Westbound     |      |       |        |           | Northbound |      |       |        |           | Southbound              |      |       |        |           |             |
|                                       | Left          | Thru | Right | U-Turn | App Total | Left          | Thru | Right | U-Turn | App Total | Left       | Thru | Right | U-Turn | App Total | Left                    | Thru | Right | U-Turn | App Total |             |
| 7:15 AM                               | 16            | 39   |       |        |           |               | 110  | 4     |        |           |            |      |       |        |           | 5                       |      | 21    |        |           |             |
| 7:30 AM                               | 38            | 38   |       |        |           |               | 106  | 9     |        |           |            |      |       |        |           | 14                      |      | 58    |        |           |             |
| 7:45 AM                               | 33            | 44   |       |        |           |               | 44   | 8     |        |           |            |      |       |        |           | 3                       |      | 12    |        |           |             |
| 8:00 AM                               | 75            | 13   |       |        |           |               | 42   | 19    |        |           |            |      |       |        |           | 6                       |      | 25    |        |           | 346         |
| No-Build AM Peak                      | 162           | 134  | 0     | 0      | 0         | 0             | 302  | 40    | 0      | 0         | 0          | 0    | 0     | 0      | 0         | 28                      | 0    | 116   | 0      | 0         | 346         |
| Entering Traffic                      | 45            |      |       |        |           |               |      | 15    |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| Exiting Traffic                       |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           | 7                       |      | 21    |        |           |             |
| Move Traffic                          | 129           |      |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| Balance Traffic                       |               | 125  |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| Build AM Peak Total                   | 336           | 259  | 0     | 0      | 595       | 0             | 302  | 55    | 0      | 357       | 0          | 0    | 0     | 0      | 0         | 35                      | 0    | 137   | 0      | 172       | 346         |
|                                       |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| 2:45 PM                               | 17            | 73   |       |        |           |               | 60   | 7     |        |           |            |      |       |        |           | 18                      |      | 27    |        |           |             |
| 3:00 PM                               | 18            | 72   |       |        |           |               | 55   | 8     |        |           |            |      |       |        |           | 10                      |      | 15    |        |           |             |
| 3:15 PM                               | 4             | 70   |       |        |           |               | 78   | 2     |        |           |            |      |       |        |           | 53                      |      | 79    |        |           |             |
| 3:30 PM                               | 3             | 73   |       |        |           |               | 76   | 1     |        |           |            |      |       |        |           | 7                       |      | 10    |        |           | 277         |
| No-Build PM Peak                      | 42            | 288  | 0     | 0      | 0         | 0             | 269  | 18    | 0      | 0         | 0          | 0    | 0     | 0      | 0         | 88                      | 0    | 131   | 0      | 0         | 277         |
| Entering Traffic                      | 18            |      |       |        |           |               |      | 9     |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| Exiting Traffic                       |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           | 9                       |      | 37    |        |           |             |
| Move Traffic                          |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| Balance Traffic                       |               |      |       |        |           |               |      |       |        |           |            |      |       |        |           |                         |      |       |        |           |             |
| Build PM Peak Total                   | 60            | 288  | 0     | 0      | 348       | 0             | 269  | 27    | 0      | 296       | 0          | 0    | 0     | 0      | 0         | 97                      | 0    | 168   | 0      | 266       | 277         |

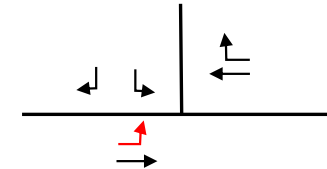
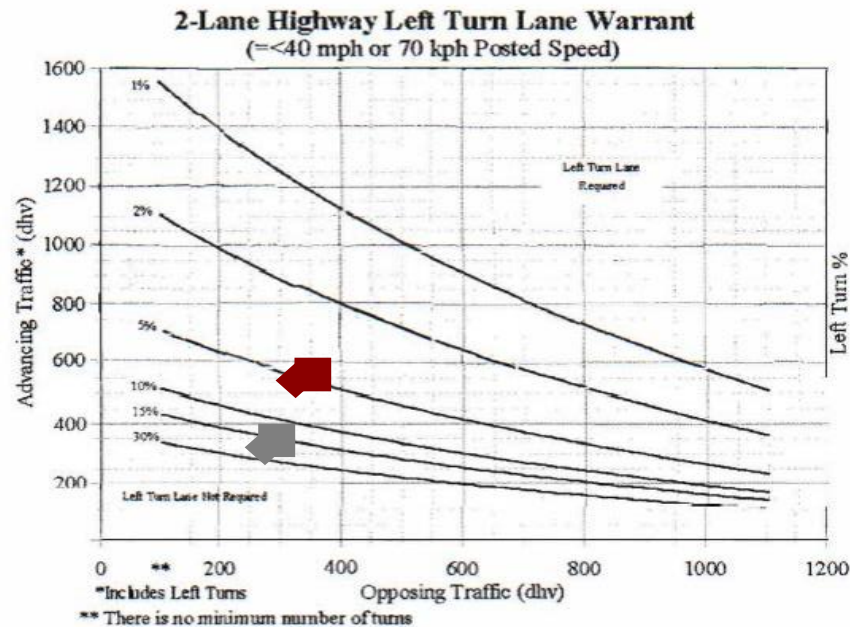
|              | AM Peak | PM Peak |
|--------------|---------|---------|
| Enter        | 151     | 44      |
| Exit         | 71      | 93      |
| Passby Enter | -       | -       |
| Passby Exit  | -       | -       |
| Total:       | 222     | 137     |



Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

## Bainbridge Road & Proposed Drive

### Turn Lane Warrant Analysis



| Bainbridge Road & Proposed Drive                                                    |              |                  |                   |            |              |                     |
|-------------------------------------------------------------------------------------|--------------|------------------|-------------------|------------|--------------|---------------------|
| Eastbound Left Turn                                                                 |              |                  |                   |            |              |                     |
|                                                                                     |              | Opposing Traffic | Advancing Traffic | Left Turns | % Left Turns | Turn Lane Warranted |
|  | 2029 AM Peak | 326              | 558               | 310        | 56%          | YES                 |
|  | 2029 PM Peak | 269              | 318               | 55         | 17%          | NO                  |
|  | 2049 AM Peak | 357              | 595               | 336        | 56%          | YES                 |
|  | 2049 PM Peak | 296              | 348               | 60         | 17%          | YES                 |

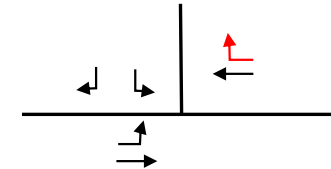
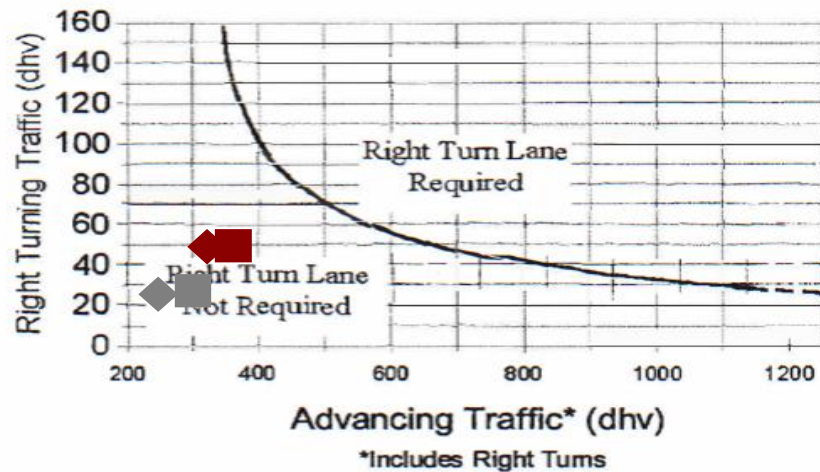


Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

### Bainbridge Road & Proposed Drive

#### Turn Lane Warrant Analysis

#### 2-Lane Highway Right Turn Lane Warrant =< 40 mph or 70 kph Posted Speed



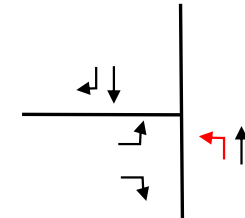
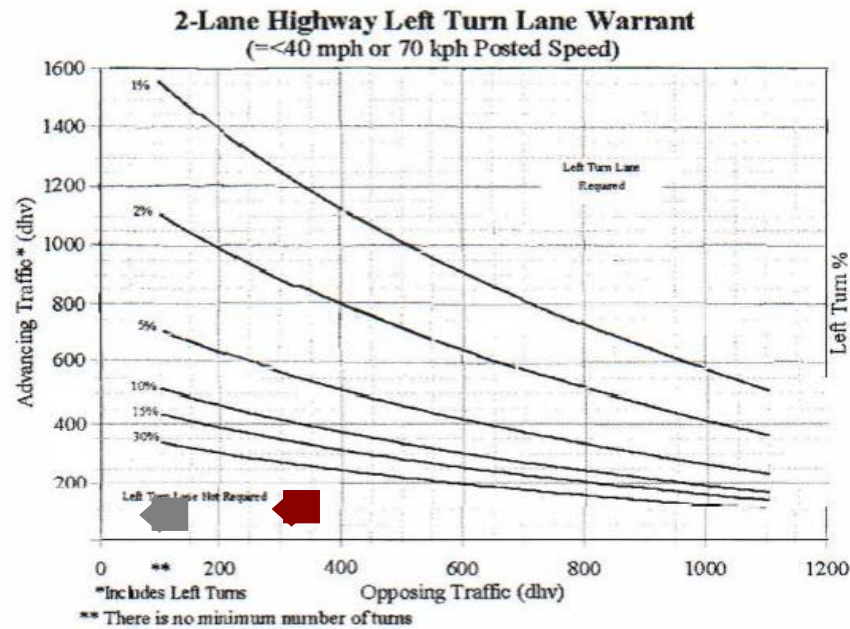
| Bainbridge Road & Proposed Drive |              |                   |             |                     |
|----------------------------------|--------------|-------------------|-------------|---------------------|
| Westbound Right Turn             |              |                   |             |                     |
|                                  |              | Advancing Traffic | Right Turns | Turn Lane Warranted |
|                                  | 2029 AM Peak | 326               | 52          | NO                  |
|                                  | 2029 PM Peak | 269               | 25          | NO                  |
|                                  | 2049 AM Peak | 357               | 55          | NO                  |
|                                  | 2049 PM Peak | 296               | 27          | NO                  |

Study Name: North Ridgeville CSD TIS

Date: 11/13/2024

Pitts Road & High School Drive

Turn Lane Warrant Analysis



| Pitts Road & High School Drive                                                      |              |                  |                   |            |              |                     |
|-------------------------------------------------------------------------------------|--------------|------------------|-------------------|------------|--------------|---------------------|
| Northbound Left Turn                                                                |              |                  |                   |            |              |                     |
|                                                                                     |              | Opposing Traffic | Advancing Traffic | Left Turns | % Left Turns | Turn Lane Warranted |
|  | 2029 AM Peak | 320              | 117               | 103        | 88%          | NO                  |
|  | 2029 PM Peak | 124              | 97                | 40         | 41%          | NO                  |
|  | 2049 AM Peak | 344              | 127               | 111        | 89%          | NO                  |
|  | 2049 PM Peak | 133              | 107               | 43         | 48%          | NO                  |





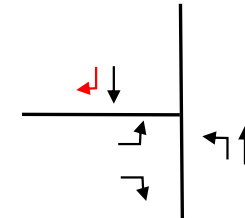
Study Name: North Ridgeville CSD TIS

Date: 11/13/2024

Pitts Road & High School Drive

Turn Lane Warrant Analysis

2-Lane Highway Right Turn Lane Warrant  
=< 40 mph or 70 kph Posted Speed



| Pitts Road & High School Drive |              |                   |             |                     |
|--------------------------------|--------------|-------------------|-------------|---------------------|
| Southbound Right Turn          |              |                   |             |                     |
|                                |              | Advancing Traffic | Right Turns | Turn Lane Warranted |
| ◆                              | 2029 AM Peak | 320               | 212         | NO                  |
| ◆                              | 2029 PM Peak | 124               | 77          | NO                  |
| ■                              | 2049 AM Peak | 344               | 227         | YES                 |
| ■                              | 2049 PM Peak | 133               | 82          | NO                  |

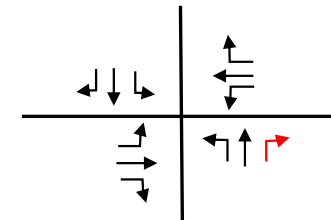


Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

Ranger Way & NRAC

Turn Lane Warrant Analysis

2-Lane Highway Right Turn Lane Warrant  
=< 40 mph or 70 kph Posted Speed



| Ranger Way & NRAC     |              |                   |             |                     |
|-----------------------|--------------|-------------------|-------------|---------------------|
| Northbound Right Turn |              |                   |             |                     |
|                       |              | Advancing Traffic | Right Turns | Turn Lane Warranted |
| ◆                     | 2029 AM Peak | 268               | 60          | NO                  |
| ◆                     | 2029 PM Peak | 194               | 32          | NO                  |
| ■                     | 2049 AM Peak | 292               | 65          | NO                  |
| ■                     | 2049 PM Peak | 211               | 35          | NO                  |

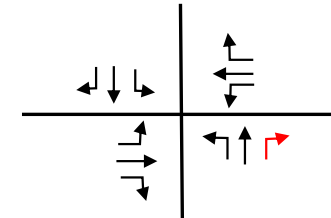


Study Name: North Ridgeville CSD TIS  
Date: 11/13/2024

### Ranger Way & Fire Station

#### Turn Lane Warrant Analysis

#### 2-Lane Highway Right Turn Lane Warrant =< 40 mph or 70 kph Posted Speed



| Ranger Way & Fire Station |              |                   |             |                     |
|---------------------------|--------------|-------------------|-------------|---------------------|
| Northbound Right Turn     |              |                   |             |                     |
|                           |              | Advancing Traffic | Right Turns | Turn Lane Warranted |
| ◆                         | 2029 AM Peak | 332               | 107         | NO                  |
| ◆                         | 2029 PM Peak | 341               | 50          | NO                  |
| ■                         | 2049 AM Peak | 363               | 117         | NO                  |
| ■                         | 2049 PM Peak | 373               | 56          | NO                  |



**DGL Consulting Engineers, LLC**  
**3455 Briarfield Blvd. - Suite E**      **419-535-1015**  
**Maumee, OH 43537**      **www.dgl-ltd.com**

Calculated by: tsj      Date: 8/22/2024  
 Checked by: cml      Date: 11/13/2024

Project: **North Ridgeville CSD TIS**  
 Road Name: **EB Bainbridge @ Repurposed Drive (Drive 2)**

|                             |            |                   |                              |            |
|-----------------------------|------------|-------------------|------------------------------|------------|
| Left Turn Movement:         | <b>336</b> | 56.47% Left Turns | Signalized                   |            |
| Thru Movement:              | <b>259</b> |                   | Cycle Length (if known)      |            |
| Right Turn Movement:        | <b>0</b>   | 0.00% Right Turns | Signalized Stopped Crossroad |            |
| Approach Volume:            | <b>595</b> |                   | Unsignalized Through Road    | <b>X</b>   |
| Speed Limit:                | <b>35</b>  |                   | Left Turn                    | <b>X</b>   |
| Average Vehicles per Cycle: |            |                   | 6                            | Right Turn |

Unsignalized or 2 Phase: **X**      3 Phase:      4 Phase:

| Type of Traffic Control        | Design Speed (MPH) |      |              |              |
|--------------------------------|--------------------|------|--------------|--------------|
|                                | 30-35              |      | 40-65        |              |
|                                | Turn Demand Volume |      |              |              |
|                                | High               | Low* | High         | Low*         |
| Signalized                     | A                  | A    | **<br>B or C | **<br>B or C |
| Unsignalized Stopped Crossroad | A                  | A    | A            | A            |
| Unsignalized Through Road      | A                  | A    | **<br>B or C | B            |

\* Low is considered 10% or Less of Approach Traffic Volume

\*\* Whichever is greater

|                                                                     |                                      |                                                                           |
|---------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------|
| <b>Condition A: Storage Only</b>                                    |                                      |                                                                           |
| Length = 50' (diverging taper) + Storage Length (L&D Figure 401-10) |                                      |                                                                           |
| Turn Lane Length:                                                   | <b>300</b>                           | Feet                                                                      |
| <b>Condition B: High Speed Deceleration Only</b>                    |                                      |                                                                           |
| Design Speed:                                                       | 35                                   | MPH                                                                       |
| Length:                                                             | 0                                    | Feet                                                                      |
| Turn Lane Length:                                                   | <b>0</b>                             | Feet- Including 50' Diverging Taper                                       |
| <b>Condition C: Moderate Speed Deceleration and Storage</b>         |                                      |                                                                           |
| Design Speed:                                                       |                                      | MPH                                                                       |
| Length:                                                             | <b>0</b>                             | Feet [including 50' Diverging Taper & Storage Length (L&D Figure 401-10)] |
| <b>Thru Block:</b>                                                  | Thru Movement:                       | 259                                                                       |
|                                                                     | Num. of Lanes:                       | 1                                                                         |
|                                                                     | Veh/hr/lane:                         | 259                                                                       |
|                                                                     | Average Vehicles Per Cycle Per Lane: | 4.00                                                                      |
|                                                                     | Thru Block:                          | <b>175</b> Feet                                                           |

|                                                      |
|------------------------------------------------------|
| <b>Proposed Turn Lane Length:      300      Feet</b> |
|------------------------------------------------------|

**DGL Consulting Engineers, LLC**  
**3455 Briarfield Blvd. - Suite E**      **419-535-1015**  
**Maumee, OH 43537**      **www.dgl-ltd.com**

Calculated by: tsj      Date: 8/22/2024  
Checked by: cml      Date: 11/13/2024

Project: **North Ridgeville CSD TIS**  
Road Name: **SB Pitts Blvd at High School Drive**

|                             |            |                    |   |                              |          |
|-----------------------------|------------|--------------------|---|------------------------------|----------|
| Left Turn Movement:         | <b>0</b>   | 0.00% Left Turns   |   | Signalized                   |          |
| Thru Movement:              | <b>117</b> |                    |   | Cycle Length (if known)      |          |
| Right Turn Movement:        | <b>227</b> | 65.99% Right Turns |   | Signalized Stopped Crossroad |          |
| Approach Volume:            | <b>344</b> |                    |   | Unsignalized Through Road    | <b>X</b> |
| Speed Limit:                | <b>25</b>  |                    |   | Left Turn                    |          |
| Average Vehicles per Cycle: |            |                    | 4 | Right Turn                   | <b>X</b> |

Unsignalized or 2 Phase: **X**      3 Phase:      4 Phase:

| Type of Traffic Control        | Design Speed (MPH) |      |              |              |
|--------------------------------|--------------------|------|--------------|--------------|
|                                | 30-35              |      | 40-65        |              |
|                                | Turn Demand Volume |      |              |              |
|                                | High               | Low* | High         | Low*         |
| Signalized                     | A                  | A    | **<br>B or C | **<br>B or C |
| Unsignalized Stopped Crossroad | A                  | A    | A            | A            |
| Unsignalized Through Road      | A                  | A    | **<br>B or C | B            |

\* Low is considered 10% or Less of Approach Traffic Volume

\*\* Whichever is greater

|                                                                     |                                      |                                                                           |
|---------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------|
| <b>Condition A: Storage Only</b>                                    |                                      |                                                                           |
| Length = 50' (diverging taper) + Storage Length (L&D Figure 401-10) |                                      |                                                                           |
| Turn Lane Length:                                                   | <b>225</b>                           | Feet                                                                      |
| <b>Condition B: High Speed Deceleration Only</b>                    |                                      |                                                                           |
| Design Speed:                                                       | 25                                   | MPH                                                                       |
| Length:                                                             | 0                                    | Feet                                                                      |
| Turn Lane Length:                                                   | <b>0</b>                             | Feet- Including 50' Diverging Taper                                       |
| <b>Condition C: Moderate Speed Deceleration and Storage</b>         |                                      |                                                                           |
| Design Speed:                                                       |                                      | MPH                                                                       |
| Length:                                                             | <b>0</b>                             | Feet [including 50' Diverging Taper & Storage Length (L&D Figure 401-10)] |
| <b>Thru Block:</b>                                                  | Thru Movement:                       | 117                                                                       |
|                                                                     | Num. of Lanes:                       | 1                                                                         |
|                                                                     | Veh/hr/lane:                         | 117                                                                       |
|                                                                     | Average Vehicles Per Cycle Per Lane: | 2.00                                                                      |
|                                                                     | Thru Block:                          | <b>100</b> Feet                                                           |

|                                                      |
|------------------------------------------------------|
| <b>Proposed Turn Lane Length:      225      Feet</b> |
|------------------------------------------------------|

## STUDY AND ANALYSIS INFORMATION

|                            |                     |                                                   |           |
|----------------------------|---------------------|---------------------------------------------------|-----------|
| Municipality:              | North Ridgeville    | Traffic Volumes Obtained By:                      | DGL       |
| County:                    | Lorain              | Analysis Date:                                    | 8/22/2024 |
| ODOT Engineering District: | 3                   | Agency/ Company Name Performing Warrant Analysis: | DGL       |
| Google map link:           | <a href="#">Map</a> |                                                   |           |

### Analysis Information

|                       |           |
|-----------------------|-----------|
| Data Collection Date: | 4/30/2024 |
| Day of the Week:      | Tuesday   |

Is the intersection in a built-up area of an isolated community of <10,000 population? No

Existing Traffic Signal at intersection: No

Total Number of Approaches at Intersection: 4

### Major Street Information

Major Street Name and Route Number: Bainbridge Road

Major Street Approach Direction: E-Bound  
W-Bound

Number of Thru Lanes on Each Major Street Approach: 1 LANE(S)

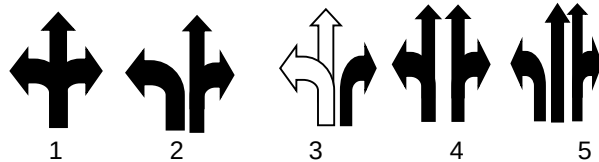
Speed Limit or 85th Percentile Speed on the Major Street\*: 35 MPH

\*Unknown assumes below 45 mph

### Minor Street Information

Minor Street Name and Route Number: W Point Drive

Minor Street Approach Configuration: 1 N-Bound  
3 S-Bound



Number of Thru Lanes on Each Minor Street Approach: 1 LANE(S)

Apply Right Turn Lane Reduction\*: No

\*Right Turn Lane Reduction Shall be used for Warrants 1, 2, & 3 for New ODOT Signals. Please refer to TEM 402-3.2 for clarification and criteria under which Right Turn Reduction is not required.



## TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

|                                                                                              | Warrant     |            | Notes and Comments:                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------|-------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                              | Applicable? | Satisfied? |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 1, Eight-Hour Vehicular Volume                                                       | Yes         | No         |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 2, Four-Hour Vehicular Volume                                                        | Yes         | No         |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 3, Peak Hour                                                                         | Yes         | Yes        | <div> <div>Signals installed under Warrant 3 should be traffic actuated.</div> <div> <div>Peak Hour</div> <div>7:15 AM</div> <div>8:15 AM</div> </div> </div>                                                                                                                                                                             |
| For Warrants 1-3, new ODOT signals must be based off of 100% volume thresholds (TEM 402-3.2) |             |            |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 4, Pedestrian Volume                                                                 | Yes         | No         | <div> <div>If this warrant is met, and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads complying with the provisions set forth in Chapter 4E of the OMUTCD.</div> <div> <div>Peak Hour</div> <div>7:15 AM</div> <div>8:15 AM</div> </div> </div> |
| Warrant 5, School Crossing                                                                   | Yes         | No         | N/A                                                                                                                                                                                                                                                                                                                                       |
| Warrant 6, Coordinated Signal System                                                         | No          |            | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                                                                                                   |
| Warrant 7, Crash Experience                                                                  | Yes         | No         | If this is the sole warrant, signal must be semi-actuated with control devices which provide proper coordination if installed at an intersection within a coordinated system and normally should be fully traffic actuated if installed at an isolated intersection.                                                                      |
| Warrant 8, Roadway Network                                                                   | Yes         | No         | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                                                                                                   |
| Warrant 9, Intersection Near a Grade Crossing                                                | No          |            | Figure 4C-9                                                                                                                                                                                                                                                                                                                               |
| Multi-Way Stop Warrant                                                                       | No          |            | May be used as an interim measure if traffic signal warrants are satisfied.                                                                                                                                                                                                                                                               |

**The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.**

If no warrants are satisfied, additional options may be considered:

1. An engineering study, performed by a firm prequalified by ODOT for signal design, if approved by the ODOT district, may be used to justify a new signal installation or retention of an existing signal that otherwise does not meet the published warrants. An example of such an instance is a traffic signal in proximity to a railroad crossing that serves to reduce queuing across the tracks.
2. According to TEM 402-2, If the actual turning movement counts fail to satisfy a signal warrant, it may be acceptable to use traffic volumes projected to the second year after project completion. The **Modeling and Forecasting Section** should provide the projected traffic volumes.
3. A pedestrian hybrid beacon may be considered for installation to facilitate pedestrian crossings at a location that does not meet traffic signal warrants (see Chapter 4C of TEM) or at a location that meets traffic signal warrants under Sections 4C.05 and/or 4C.06 but a decision is made to not install a traffic control signal. **Please fill inputs on PHB Score Sheet and submit to ODOT.**

Considerations such as geometrics and lack of sight distance generally have not been accepted in lieu of satisfying signal warrants. These considerations may allow an otherwise unwarranted traffic signal to be retained at **100 percent** local cost. Please review TEM 402-4 for details.

Conclusion:

Notes:

## STUDY AND ANALYSIS INFORMATION

|                            |                     |                                                   |           |
|----------------------------|---------------------|---------------------------------------------------|-----------|
| Municipality:              | North Ridgeville    | Traffic Volumes Obtained By:                      | DGL       |
| County:                    | Lorain              | Analysis Date:                                    | 8/22/2024 |
| ODOT Engineering District: | 3                   | Agency/ Company Name Performing Warrant Analysis: | DGL       |
| Google map link:           | <a href="#">Map</a> |                                                   |           |

### Analysis Information

Data Collection Date: 4/30/2024

Day of the Week: Tuesday

Is the intersection in a built-up area of an isolated community of <10,000 population? No

Existing Traffic Signal at intersection: No

Total Number of Approaches at Intersection: 4

### Major Street Information

Major Street Name and Route Number: Bainbridge Road

Major Street Approach Direction:

|         |
|---------|
| E-Bound |
| W-Bound |

Number of Thru Lanes on Each Major Street Approach: 1 LANE(S)

Speed Limit or 85th Percentile Speed on the Major Street\*: 35 MPH

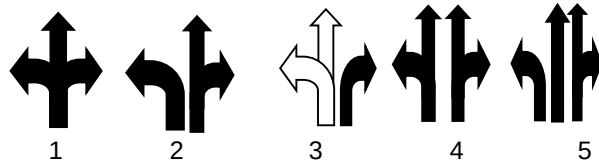
\*Unknown assumes below 45 mph

### Minor Street Information

Minor Street Name and Route Number: W Point Drive

Minor Street Approach Configuration:

|   |         |
|---|---------|
| 1 | N-Bound |
| 3 | S-Bound |



Number of Thru Lanes on Each Minor Street Approach: 1 LANE(S)

Apply Right Turn Lane Reduction\*: No

\*Right Turn Lane Reduction Shall be used for Warrants 1, 2, & 3 for New ODOT Signals. Please refer to TEM 402-3.2 for clarification and criteria under which Right Turn Reduction is not required.

## TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

|                                                                                              | Warrant     |            | Notes and Comments:                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------|-------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                              | Applicable? | Satisfied? |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 1, Eight-Hour Vehicular Volume                                                       | Yes         | No         |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 2, Four-Hour Vehicular Volume                                                        | Yes         | No         |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 3, Peak Hour                                                                         | Yes         | Yes        | <div> <div>Signals installed under Warrant 3 should be traffic actuated.</div> <div> <div>Peak Hour</div> <div>7:15 AM</div> <div>8:15 AM</div> </div> </div>                                                                                                                                                                             |
| For Warrants 1-3, new ODOT signals must be based off of 100% volume thresholds (TEM 402-3.2) |             |            |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 4, Pedestrian Volume                                                                 | Yes         | No         | <div> <div>If this warrant is met, and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads complying with the provisions set forth in Chapter 4E of the OMUTCD.</div> <div> <div>Peak Hour</div> <div>7:15 AM</div> <div>8:15 AM</div> </div> </div> |
| Warrant 5, School Crossing                                                                   | Yes         | No         | N/A                                                                                                                                                                                                                                                                                                                                       |
| Warrant 6, Coordinated Signal System                                                         | No          |            | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                                                                                                   |
| Warrant 7, Crash Experience                                                                  | Yes         | No         | If this is the sole warrant, signal must be semi-actuated with control devices which provide proper coordination if installed at an intersection within a coordinated system and normally should be fully traffic actuated if installed at an isolated intersection.                                                                      |
| Warrant 8, Roadway Network                                                                   | Yes         | No         | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                                                                                                   |
| Warrant 9, Intersection Near a Grade Crossing                                                | No          |            | Figure 4C-9                                                                                                                                                                                                                                                                                                                               |
| Multi-Way Stop Warrant                                                                       | Yes         | No         | May be used as an interim measure if traffic signal warrants are satisfied.                                                                                                                                                                                                                                                               |

**The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.**

If no warrants are satisfied, additional options may be considered:

1. An engineering study, performed by a firm prequalified by ODOT for signal design, if approved by the ODOT district, may be used to justify a new signal installation or retention of an existing signal that otherwise does not meet the published warrants. An example of such an instance is a traffic signal in proximity to a railroad crossing that serves to reduce queuing across the tracks.
2. According to TEM 402-2, If the actual turning movement counts fail to satisfy a signal warrant, it may be acceptable to use traffic volumes projected to the second year after project completion. The **Modeling and Forecasting Section** should provide the projected traffic volumes.
3. A pedestrian hybrid beacon may be considered for installation to facilitate pedestrian crossings at a location that does not meet traffic signal warrants (see Chapter 4C of TEM) or at a location that meets traffic signal warrants under Sections 4C.05 and/or 4C.06 but a decision is made to not install a traffic control signal. **Please fill inputs on PHB Score Sheet and submit to ODOT.**

Considerations such as geometrics and lack of sight distance generally have not been accepted in lieu of satisfying signal warrants. These considerations may allow an otherwise unwarranted traffic signal to be retained at **100 percent** local cost. Please review TEM 402-4 for details.

Conclusion:

Notes:



## STUDY AND ANALYSIS INFORMATION

|                            |                     |                                                   |           |
|----------------------------|---------------------|---------------------------------------------------|-----------|
| Municipality:              | North Ridgeville    | Traffic Volumes Obtained By:                      | DGL       |
| County:                    | Lorain              | Analysis Date:                                    | 8/22/2024 |
| ODOT Engineering District: | 3                   | Agency/ Company Name Performing Warrant Analysis: | DGL       |
| Google map link:           | <a href="#">Map</a> |                                                   |           |

### Analysis Information

|                       |           |
|-----------------------|-----------|
| Data Collection Date: | 4/30/2024 |
| Day of the Week:      | Tuesday   |

Is the intersection in a built-up area of an isolated community of <10,000 population? No

Existing Traffic Signal at intersection: No

Total Number of Approaches at Intersection: 4

### Major Street Information

Major Street Name and Route Number: Bainbridge Road

Major Street Approach Direction: E-Bound  
W-Bound

Number of Thru Lanes on Each Major Street Approach: 1 LANE(S)

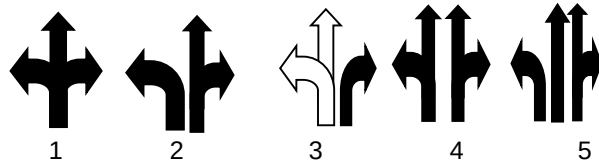
Speed Limit or 85th Percentile Speed on the Major Street\*: 35 MPH

\*Unknown assumes below 45 mph

### Minor Street Information

Minor Street Name and Route Number: W Point Drive

Minor Street Approach Configuration: 1 N-Bound  
3 S-Bound



Number of Thru Lanes on Each Minor Street Approach: 1 LANE(S)

Apply Right Turn Lane Reduction\*: No

\*Right Turn Lane Reduction Shall be used for Warrants 1, 2, & 3 for New ODOT Signals. Please refer to TEM 402-3.2 for clarification and criteria under which Right Turn Reduction is not required.

## TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

|                                                                                              | Warrant     |            | Notes and Comments:                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------|-------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                              | Applicable? | Satisfied? |                                                                                                                                                                                                                                                                                                                              |
| Warrant 1, Eight-Hour Vehicular Volume                                                       | Yes         | No         |                                                                                                                                                                                                                                                                                                                              |
| Warrant 2, Four-Hour Vehicular Volume                                                        | Yes         | No         |                                                                                                                                                                                                                                                                                                                              |
| Warrant 3, Peak Hour                                                                         | Yes         | Yes        | <div>Signals installed under Warrant 3 should be traffic actuated.</div> <div> <div>Peak Hour</div> <div>7:15 AM</div> <div>8:15 AM</div> </div>                                                                                                                                                                             |
| For Warrants 1-3, new ODOT signals must be based off of 100% volume thresholds (TEM 402-3.2) |             |            |                                                                                                                                                                                                                                                                                                                              |
| Warrant 4, Pedestrian Volume                                                                 | Yes         | No         | <div>If this warrant is met, and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads complying with the provisions set forth in Chapter 4E of the OMUTCD.</div> <div> <div>Peak Hour</div> <div>7:15 AM</div> <div>8:15 AM</div> </div> |
| Warrant 5, School Crossing                                                                   | Yes         | No         | N/A                                                                                                                                                                                                                                                                                                                          |
| Warrant 6, Coordinated Signal System                                                         | No          |            | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                                                                                      |
| Warrant 7, Crash Experience                                                                  | Yes         | No         | If this is the sole warrant, signal must be semi-actuated with control devices which provide proper coordination if installed at an intersection within a coordinated system and normally should be fully traffic actuated if installed at an isolated intersection.                                                         |
| Warrant 8, Roadway Network                                                                   | Yes         | No         | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                                                                                      |
| Warrant 9, Intersection Near a Grade Crossing                                                | No          |            | Figure 4C-9                                                                                                                                                                                                                                                                                                                  |
| Multi-Way Stop Warrant                                                                       | Yes         | No         | May be used as an interim measure if traffic signal warrants are satisfied.                                                                                                                                                                                                                                                  |

**The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.**

If no warrants are satisfied, additional options may be considered:

1. An engineering study, performed by a firm prequalified by ODOT for signal design, if approved by the ODOT district, may be used to justify a new signal installation or retention of an existing signal that otherwise does not meet the published warrants. An example of such an instance is a traffic signal in proximity to a railroad crossing that serves to reduce queuing across the tracks.
2. According to TEM 402-2, If the actual turning movement counts fail to satisfy a signal warrant, it may be acceptable to use traffic volumes projected to the second year after project completion. The **Modeling and Forecasting Section** should provide the projected traffic volumes.
3. A pedestrian hybrid beacon may be considered for installation to facilitate pedestrian crossings at a location that does not meet traffic signal warrants (see Chapter 4C of TEM) or at a location that meets traffic signal warrants under Sections 4C.05 and/or 4C.06 but a decision is made to not install a traffic control signal. **Please fill inputs on PHB Score Sheet and submit to ODOT.**

Considerations such as geometrics and lack of sight distance generally have not been accepted in lieu of satisfying signal warrants. These considerations may allow an otherwise unwarranted traffic signal to be retained at **100 percent** local cost. Please review TEM 402-4 for details.

Conclusion:

Notes:

## STUDY AND ANALYSIS INFORMATION

|                            |                     |                                                   |           |
|----------------------------|---------------------|---------------------------------------------------|-----------|
| Municipality:              | North Ridgeville    | Traffic Volumes Obtained By:                      | DGL       |
| County:                    | Lorain              | Analysis Date:                                    | 8/22/2024 |
| ODOT Engineering District: | 3                   | Agency/ Company Name Performing Warrant Analysis: | DGL       |
| Google map link:           | <a href="#">Map</a> |                                                   |           |

### Analysis Information

|                       |           |
|-----------------------|-----------|
| Data Collection Date: | 4/30/2024 |
| Day of the Week:      | Tuesday   |

Is the intersection in a built-up area of an isolated community of <10,000 population? No

Existing Traffic Signal at intersection: No

Total Number of Approaches at Intersection: 4

### Major Street Information

Major Street Name and Route Number: Bainbridge Road

Major Street Approach Direction: E-Bound  
W-Bound

Number of Thru Lanes on Each Major Street Approach: 1 LANE(S)

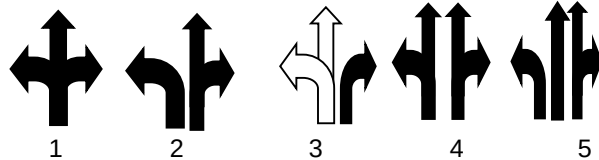
Speed Limit or 85th Percentile Speed on the Major Street\*: 35 MPH

\*Unknown assumes below 45 mph

### Minor Street Information

Minor Street Name and Route Number: W Point Drive

Minor Street Approach Configuration: 1 N-Bound  
3 S-Bound



Number of Thru Lanes on Each Minor Street Approach: 1 LANE(S)

Apply Right Turn Lane Reduction\*: No

\*Right Turn Lane Reduction Shall be used for Warrants 1, 2, & 3 for New ODOT Signals. Please refer to TEM 402-3.2 for clarification and criteria under which Right Turn Reduction is not required.



## TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

|                                                                                              | Warrant     |            | Notes and Comments:                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------|-------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                              | Applicable? | Satisfied? |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 1, Eight-Hour Vehicular Volume                                                       | Yes         | No         |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 2, Four-Hour Vehicular Volume                                                        | Yes         | No         |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 3, Peak Hour                                                                         | Yes         | Yes        | <div> <div>Signals installed under Warrant 3 should be traffic actuated.</div> <div> <div>Peak Hour</div> <div>7:15 AM</div> <div>8:15 AM</div> </div> </div>                                                                                                                                                                             |
| For Warrants 1-3, new ODOT signals must be based off of 100% volume thresholds (TEM 402-3.2) |             |            |                                                                                                                                                                                                                                                                                                                                           |
| Warrant 4, Pedestrian Volume                                                                 | Yes         | No         | <div> <div>If this warrant is met, and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads complying with the provisions set forth in Chapter 4E of the OMUTCD.</div> <div> <div>Peak Hour</div> <div>7:15 AM</div> <div>8:15 AM</div> </div> </div> |
| Warrant 5, School Crossing                                                                   | Yes         | No         | N/A                                                                                                                                                                                                                                                                                                                                       |
| Warrant 6, Coordinated Signal System                                                         | No          |            | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                                                                                                   |
| Warrant 7, Crash Experience                                                                  | Yes         | No         | If this is the sole warrant, signal must be semi-actuated with control devices which provide proper coordination if installed at an intersection within a coordinated system and normally should be fully traffic actuated if installed at an isolated intersection.                                                                      |
| Warrant 8, Roadway Network                                                                   | Yes         | No         | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                                                                                                   |
| Warrant 9, Intersection Near a Grade Crossing                                                | No          |            | Figure 4C-9                                                                                                                                                                                                                                                                                                                               |
| Multi-Way Stop Warrant                                                                       | Yes         | No         | May be used as an interim measure if traffic signal warrants are satisfied.                                                                                                                                                                                                                                                               |

**The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.**

If no warrants are satisfied, additional options may be considered:

1. An engineering study, performed by a firm prequalified by ODOT for signal design, if approved by the ODOT district, may be used to justify a new signal installation or retention of an existing signal that otherwise does not meet the published warrants. An example of such an instance is a traffic signal in proximity to a railroad crossing that serves to reduce queuing across the tracks.
2. According to TEM 402-2, If the actual turning movement counts fail to satisfy a signal warrant, it may be acceptable to use traffic volumes projected to the second year after project completion. The **Modeling and Forecasting Section** should provide the projected traffic volumes.
3. A pedestrian hybrid beacon may be considered for installation to facilitate pedestrian crossings at a location that does not meet traffic signal warrants (see Chapter 4C of TEM) or at a location that meets traffic signal warrants under Sections 4C.05 and/or 4C.06 but a decision is made to not install a traffic control signal. **Please fill inputs on PHB Score Sheet and submit to ODOT.**

Considerations such as geometrics and lack of sight distance generally have not been accepted in lieu of satisfying signal warrants. These considerations may allow an otherwise unwarranted traffic signal to be retained at **100 percent** local cost. Please review TEM 402-4 for details.

Conclusion:

Notes:

## STUDY AND ANALYSIS INFORMATION

|                            |                     |                                                   |           |
|----------------------------|---------------------|---------------------------------------------------|-----------|
| Municipality:              | North Ridgeville    | Traffic Volumes Obtained By:                      | DGL       |
| County:                    | Lorain              | Analysis Date:                                    | 8/22/2024 |
| ODOT Engineering District: | 3                   | Agency/ Company Name Performing Warrant Analysis: | DGL       |
| Google map link:           | <a href="#">Map</a> |                                                   |           |

### Analysis Information

Data Collection Date: 4/30/2024  
 Day of the Week: Tuesday

Is the intersection in a built-up area of an isolated community of <10,000 population? No

Existing Traffic Signal at intersection: No

Total Number of Approaches at Intersection: 4

### Major Street Information

Major Street Name and Route Number: Bainbridge Road

Major Street Approach Direction: E-Bound  
W-Bound

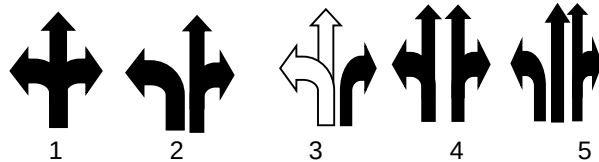
Number of Thru Lanes on Each Major Street Approach: 1 LANE(S)

Speed Limit or 85th Percentile Speed on the Major Street\*: 35 MPH  
 \*Unknown assumes below 45 mph

### Minor Street Information

Minor Street Name and Route Number: W Point Drive

Minor Street Approach Configuration: 1 N-Bound  
3 S-Bound



Number of Thru Lanes on Each Minor Street Approach: 1 LANE(S)

Apply Right Turn Lane Reduction\*: No

\*Right Turn Lane Reduction Shall be used for Warrants 1, 2, & 3 for New ODOT Signals. Please refer to TEM 402-3.2 for clarification and criteria under which Right Turn Reduction is not required.

## TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

|                                                                                              |             | Warrant    |                                                                                                                                                                                                                                                                      | Notes and Comments:                                                                          |           |         |         |
|----------------------------------------------------------------------------------------------|-------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-----------|---------|---------|
|                                                                                              | Applicable? | Satisfied? |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
| Warrant 1, Eight-Hour Vehicular Volume                                                       | Yes         | No         |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
| Warrant 2, Four-Hour Vehicular Volume                                                        | Yes         | No         |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
| Warrant 3, Peak Hour                                                                         | Yes         | Yes        | Signals installed under Warrant 3 should be traffic actuated.                                                                                                                                                                                                        | <table><tr><td>Peak Hour</td></tr><tr><td>7:15 AM</td></tr><tr><td>8:15 AM</td></tr></table> | Peak Hour | 7:15 AM | 8:15 AM |
| Peak Hour                                                                                    |             |            |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
| 7:15 AM                                                                                      |             |            |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
| 8:15 AM                                                                                      |             |            |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
| For Warrants 1-3, new ODOT signals must be based off of 100% volume thresholds (TEM 402-3.2) |             |            |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
| Warrant 4, Pedestrian Volume                                                                 | Yes         | No         | If this warrant is met, and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads complying with the provisions set forth in Chapter 4E of the OMUTCD.                            | <table><tr><td>Peak Hour</td></tr><tr><td>7:15 AM</td></tr><tr><td>8:15 AM</td></tr></table> | Peak Hour | 7:15 AM | 8:15 AM |
| Peak Hour                                                                                    |             |            |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
| 7:15 AM                                                                                      |             |            |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
| 8:15 AM                                                                                      |             |            |                                                                                                                                                                                                                                                                      |                                                                                              |           |         |         |
| Warrant 5, School Crossing                                                                   | Yes         | No         | N/A                                                                                                                                                                                                                                                                  |                                                                                              |           |         |         |
| Warrant 6, Coordinated Signal System                                                         | No          |            | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                              |                                                                                              |           |         |         |
| Warrant 7, Crash Experience                                                                  | Yes         | No         | If this is the sole warrant, signal must be semi-actuated with control devices which provide proper coordination if installed at an intersection within a coordinated system and normally should be fully traffic actuated if installed at an isolated intersection. |                                                                                              |           |         |         |
| Warrant 8, Roadway Network                                                                   | Yes         | No         | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                              |                                                                                              |           |         |         |
| Warrant 9, Intersection Near a Grade Crossing                                                | No          |            | Figure 4C-9                                                                                                                                                                                                                                                          |                                                                                              |           |         |         |
| Multi-Way Stop Warrant                                                                       | Yes         | No         | May be used as an interim measure if traffic signal warrants are satisfied.                                                                                                                                                                                          |                                                                                              |           |         |         |

**The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.**

If no warrants are satisfied, additional options may be considered:

1. An engineering study, performed by a firm prequalified by ODOT for signal design, if approved by the ODOT district, may be used to justify a new signal installation or retention of an existing signal that otherwise does not meet the published warrants. An example of such an instance is a traffic signal in proximity to a railroad crossing that serves to reduce queuing across the tracks.
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Considerations such as geometrics and lack of sight distance generally have not been accepted in lieu of satisfying signal warrants. These considerations may allow an otherwise unwarranted traffic signal to be retained at **100 percent** local cost. Please review TEM 402-4 for details.

Conclusion:

Notes:



## STUDY AND ANALYSIS INFORMATION

|                            |                     |                                                   |           |
|----------------------------|---------------------|---------------------------------------------------|-----------|
| Municipality:              | North Ridgeville    | Traffic Volumes Obtained By:                      | DGL       |
| County:                    | Lorain              | Analysis Date:                                    | 8/22/2024 |
| ODOT Engineering District: | 3                   | Agency/ Company Name Performing Warrant Analysis: | DGL       |
| Google map link:           | <a href="#">Map</a> |                                                   |           |

### Analysis Information

Data Collection Date: 4/30/2024  
 Day of the Week: Tuesday

Is the intersection in a built-up area of an isolated community of <10,000 population? No

Existing Traffic Signal at intersection: No

Total Number of Approaches at Intersection: 3

### Major Street Information

Major Street Name and Route Number: Bainbridge Road

Major Street Approach Direction: E-Bound  
W-Bound

Number of Thru Lanes on Each Major Street Approach: 1 LANE(S)

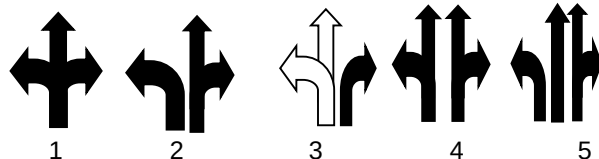
Speed Limit or 85th Percentile Speed on the Major Street\*: 35 MPH

\*Unknown assumes below 45 mph

### Minor Street Information

Minor Street Name and Route Number: Ranger Way

Minor Street Approach Configuration: N-Bound  
3 S-Bound



Number of Thru Lanes on Each Minor Street Approach: 0 LANE(S)

Apply Right Turn Lane Reduction\*: Yes

\*Right Turn Lane Reduction Shall be used for Warrants 1, 2, & 3 for New ODOT Signals. Please refer to TEM 402-3.2 for clarification and criteria under which Right Turn Reduction is not required.

## TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

|                                                                                              | Warrant     |            | Notes and Comments:                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------|-------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                              | Applicable? | Satisfied? |                                                                                                                                                                                                                                                                                                    |
| Warrant 1, Eight-Hour Vehicular Volume                                                       | Yes         | No         |                                                                                                                                                                                                                                                                                                    |
| Warrant 2, Four-Hour Vehicular Volume                                                        | Yes         | No         |                                                                                                                                                                                                                                                                                                    |
| Warrant 3, Peak Hour                                                                         | Yes         | No         | Signals installed under Warrant 3 should be traffic actuated. <div>Peak Hour<div>2:45 PM</div><div>3:45 PM</div></div>                                                                                                                                                                             |
| For Warrants 1-3, new ODOT signals must be based off of 100% volume thresholds (TEM 402-3.2) |             |            |                                                                                                                                                                                                                                                                                                    |
| Warrant 4, Pedestrian Volume                                                                 | Yes         | No         | If this warrant is met, and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads complying with the provisions set forth in Chapter 4E of the OMUTCD. <div>Peak Hour<div>7:15 AM</div><div>8:15 AM</div></div> |
| Warrant 5, School Crossing                                                                   | Yes         | No         | N/A                                                                                                                                                                                                                                                                                                |
| Warrant 6, Coordinated Signal System                                                         | No          |            | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                                                            |
| Warrant 7, Crash Experience                                                                  | Yes         | No         | If this is the sole warrant, signal must be semi-actuated with control devices which provide proper coordination if installed at an intersection within a coordinated system and normally should be fully traffic actuated if installed at an isolated intersection.                               |
| Warrant 8, Roadway Network                                                                   | Yes         | No         | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                                                            |
| Warrant 9, Intersection Near a Grade Crossing                                                | No          |            |                                                                                                                                                                                                                                                                                                    |
| Multi-Way Stop Warrant                                                                       | Yes         | No         | May be used as an interim measure if traffic signal warrants are satisfied.                                                                                                                                                                                                                        |

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Conclusion:

Notes:

## STUDY AND ANALYSIS INFORMATION

|                            |                     |                                                   |           |
|----------------------------|---------------------|---------------------------------------------------|-----------|
| Municipality:              | North Ridgeville    | Traffic Volumes Obtained By:                      | DGL       |
| County:                    | Lorain              | Analysis Date:                                    | 8/22/2024 |
| ODOT Engineering District: | 3                   | Agency/ Company Name Performing Warrant Analysis: | DGL       |
| Google map link:           | <a href="#">Map</a> |                                                   |           |

### Analysis Information

Data Collection Date: 4/30/2024  
 Day of the Week: Tuesday

Is the intersection in a built-up area of an isolated community of <10,000 population? No

Existing Traffic Signal at intersection: No

Total Number of Approaches at Intersection: 3

### Major Street Information

Major Street Name and Route Number: Bainbridge Road

Major Street Approach Direction: E-Bound  
W-Bound

Number of Thru Lanes on Each Major Street Approach: 1 LANE(S)

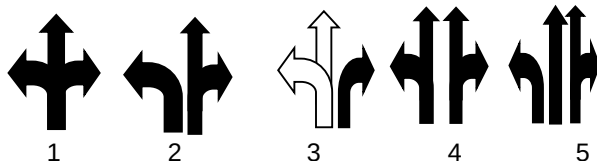
Speed Limit or 85th Percentile Speed on the Major Street\*: 35 MPH

\*Unknown assumes below 45 mph

### Minor Street Information

Minor Street Name and Route Number: Ranger Way

Minor Street Approach Configuration: N-Bound  
3 S-Bound



Number of Thru Lanes on Each Minor Street Approach: 0 LANE(S)

Apply Right Turn Lane Reduction\*: Yes

\*Right Turn Lane Reduction Shall be used for Warrants 1, 2, & 3 for New ODOT Signals. Please refer to TEM 402-3.2 for clarification and criteria under which Right Turn Reduction is not required.



## TRAFFIC SIGNAL WARRANT ANALYSIS FINDINGS

|                                                                                              | Warrant     |            | Notes and Comments:                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------|-------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                              | Applicable? | Satisfied? |                                                                                                                                                                                                                                                                                                                              |
| Warrant 1, Eight-Hour Vehicular Volume                                                       | Yes         | No         |                                                                                                                                                                                                                                                                                                                              |
| Warrant 2, Four-Hour Vehicular Volume                                                        | Yes         | No         |                                                                                                                                                                                                                                                                                                                              |
| Warrant 3, Peak Hour                                                                         | Yes         | No         | <div>Signals installed under Warrant 3 should be traffic actuated.</div> <div> <div>Peak Hour</div> <div>2:45 PM</div> <div>3:45 PM</div> </div>                                                                                                                                                                             |
| For Warrants 1-3, new ODOT signals must be based off of 100% volume thresholds (TEM 402-3.2) |             |            |                                                                                                                                                                                                                                                                                                                              |
| Warrant 4, Pedestrian Volume                                                                 | Yes         | No         | <div>If this warrant is met, and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads complying with the provisions set forth in Chapter 4E of the OMUTCD.</div> <div> <div>Peak Hour</div> <div>7:15 AM</div> <div>8:15 AM</div> </div> |
| Warrant 5, School Crossing                                                                   | Yes         | No         | N/A                                                                                                                                                                                                                                                                                                                          |
| Warrant 6, Coordinated Signal System                                                         | No          |            | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                                                                                      |
| Warrant 7, Crash Experience                                                                  | Yes         | No         | If this is the sole warrant, signal must be semi-actuated with control devices which provide proper coordination if installed at an intersection within a coordinated system and normally should be fully traffic actuated if installed at an isolated intersection.                                                         |
| Warrant 8, Roadway Network                                                                   | Yes         | No         | (Shall not be used as the sole warrant in the analysis)                                                                                                                                                                                                                                                                      |
| Warrant 9, Intersection Near a Grade Crossing                                                | No          |            |                                                                                                                                                                                                                                                                                                                              |
| Multi-Way Stop Warrant                                                                       | Yes         | No         | May be used as an interim measure if traffic signal warrants are satisfied.                                                                                                                                                                                                                                                  |

**The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.**

If no warrants are satisfied, additional options may be considered:

1. An engineering study, performed by a firm prequalified by ODOT for signal design, if approved by the ODOT district, may be used to justify a new signal installation or retention of an existing signal that otherwise does not meet the published warrants. An example of such an instance is a traffic signal in proximity to a railroad crossing that serves to reduce queuing across the tracks.
2. According to TEM 402-2, If the actual turning movement counts fail to satisfy a signal warrant, it may be acceptable to use traffic volumes projected to the second year after project completion. The **Modeling and Forecasting Section** should provide the projected traffic volumes.
3. A pedestrian hybrid beacon may be considered for installation to facilitate pedestrian crossings at a location that does not meet traffic signal warrants (see Chapter 4C of TEM) or at a location that meets traffic signal warrants under Sections 4C.05 and/or 4C.06 but a decision is made to not install a traffic control signal. **Please fill inputs on PHB Score Sheet and submit to ODOT.**

Considerations such as geometrics and lack of sight distance generally have not been accepted in lieu of satisfying signal warrants. These considerations may allow an otherwise unwarranted traffic signal to be retained at **100 percent** local cost. Please review TEM 402-4 for details.

Conclusion:

Notes:

North Ridgeville City School District

# **North Ridgeville CSD Traffic Impact Study**

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## **Appendix D HCS 2024 Reports**

North Ridgeville City School District

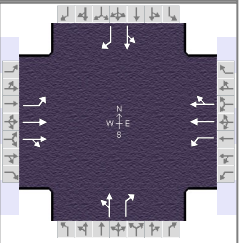
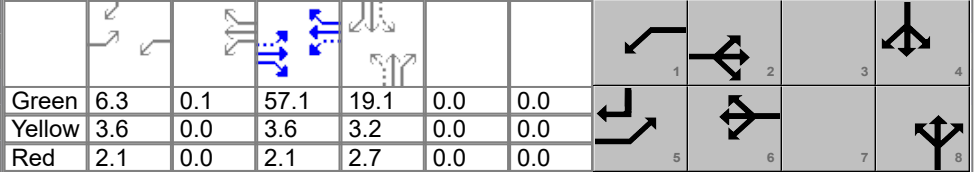
# **North Ridgeville CSD Traffic Impact Study**

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## **HCS 2024 Reports – Existing Conditions**



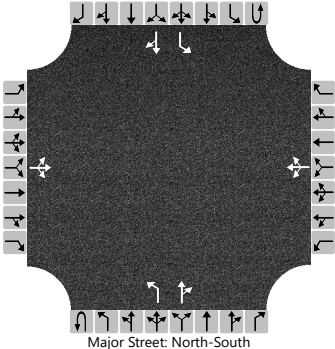
# HCS Signalized Intersection Results Summary

| General Information                             |                             |                 |               |                                                                                    |       | Intersection Information |         |       |       |      |       |  |       |       |       |
|-------------------------------------------------|-----------------------------|-----------------|---------------|------------------------------------------------------------------------------------|-------|--------------------------|---------|-------|-------|------|-------|-------------------------------------------------------------------------------------|-------|-------|-------|
| Agency                                          | DGL                         |                 |               |                                                                                    |       | Duration, h              | 0.250   |       |       |      |       |                                                                                     |       |       |       |
| Analyst                                         | tsj                         |                 | Analysis Date | Jun 18, 2024                                                                       |       | Area Type                | Other   |       |       |      |       |                                                                                     |       |       |       |
| Jurisdiction                                    | City of North Ridgeville    |                 | Time Period   | AM Peak                                                                            |       | PHF                      | 0.89    |       |       |      |       |                                                                                     |       |       |       |
| Urban Street                                    | Center Ridge                |                 | Analysis Year | 2024                                                                               |       | Analysis Period          | 1> 7:00 |       |       |      |       |                                                                                     |       |       |       |
| Intersection                                    | Center Ridge & Ranger...    |                 | File Name     | 2024 Existing AM Peak Center Ridge & Ranger.xus                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Project Description                             | AM Peak Existing Conditions |                 |               |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Demand Information                              |                             |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |
| Approach Movement                               |                             |                 |               | L                                                                                  | T     | R                        | L       | T     | R     | L    | T     | R                                                                                   | L     | T     | R     |
| Demand ( v ), veh/h                             |                             |                 |               | 76                                                                                 | 532   | 128                      | 84      | 422   | 89    | 120  | 111   | 167                                                                                 | 183   | 162   | 98    |
| Signal Information                              |                             |                 |               |  |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Cycle, s                                        | 100.0                       | Reference Phase | 2             |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Offset, s                                       | 0                           | Reference Point | End           |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Uncoordinated                                   | No                          | Simult. Gap E/W | On            |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Force Mode                                      | Fixed                       | Simult. Gap N/S | On            |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Green                                           | 6.3                         | 0.1             | 57.1          | 19.1                                                                               | 0.0   | 0.0                      |         |       |       |      |       |                                                                                     |       |       |       |
| Yellow                                          | 3.6                         | 0.0             | 3.6           | 3.2                                                                                | 0.0   | 0.0                      |         |       |       |      |       |                                                                                     |       |       |       |
| Red                                             | 2.1                         | 0.0             | 2.1           | 2.7                                                                                | 0.0   | 0.0                      |         |       |       |      |       |                                                                                     |       |       |       |
| Timer Results                                   |                             |                 |               | EBL                                                                                | EBT   | WBL                      | WBT     | NBL   | NBT   | SBL  | SBT   |                                                                                     |       |       |       |
| Assigned Phase                                  |                             |                 |               | 5                                                                                  | 2     | 1                        | 6       |       | 8     |      | 4     |                                                                                     |       |       |       |
| Case Number                                     |                             |                 |               | 1.1                                                                                | 4.0   | 1.1                      | 4.0     |       | 7.0   |      | 7.0   |                                                                                     |       |       |       |
| Phase Duration, s                               |                             |                 |               | 12.0                                                                               | 62.8  | 12.2                     | 63.0    |       | 25.0  |      | 25.0  |                                                                                     |       |       |       |
| Change Period, ( Y+R c ), s                     |                             |                 |               | 5.7                                                                                | 5.7   | 5.7                      | 5.7     |       | 5.9   |      | 5.9   |                                                                                     |       |       |       |
| Max Allow Headway ( MAH ), s                    |                             |                 |               | 4.1                                                                                | 0.0   | 4.1                      | 0.0     |       | 4.3   |      | 4.3   |                                                                                     |       |       |       |
| Queue Clearance Time ( g s ), s                 |                             |                 |               | 3.9                                                                                |       | 4.1                      |         |       | 21.1  |      | 21.1  |                                                                                     |       |       |       |
| Green Extension Time ( g e ), s                 |                             |                 |               | 0.1                                                                                | 0.0   | 0.1                      | 0.0     |       | 0.0   |      | 0.0   |                                                                                     |       |       |       |
| Phase Call Probability                          |                             |                 |               | 0.91                                                                               |       | 0.93                     |         |       | 1.00  |      | 1.00  |                                                                                     |       |       |       |
| Max Out Probability                             |                             |                 |               | 0.26                                                                               |       | 0.33                     |         |       | 1.00  |      | 1.00  |                                                                                     |       |       |       |
| Movement Group Results                          |                             |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |
| Approach Movement                               |                             |                 |               | L                                                                                  | T     | R                        | L       | T     | R     | L    | T     | R                                                                                   | L     | T     | R     |
| Assigned Movement                               |                             |                 |               | 5                                                                                  | 2     | 12                       | 1       | 6     | 16    | 3    | 8     | 18                                                                                  | 7     | 4     | 14    |
| Adjusted Flow Rate ( v ), veh/h                 |                             |                 |               | 85                                                                                 | 383   | 359                      | 94      | 295   | 280   |      | 260   | 188                                                                                 |       | 388   | 110   |
| Adjusted Saturation Flow Rate ( s ), veh/h/ln   |                             |                 |               | 1753                                                                               | 1841  | 1717                     | 1767    | 1856  | 1743  |      | 1287  | 1572                                                                                |       | 1273  | 1585  |
| Queue Service Time ( g s ), s                   |                             |                 |               | 1.9                                                                                | 11.3  | 11.3                     | 2.1     | 8.1   | 8.2   |      | 0.0   | 11.0                                                                                |       | 0.0   | 5.6   |
| Cycle Queue Clearance Time ( g c ), s           |                             |                 |               | 1.9                                                                                | 11.3  | 11.3                     | 2.1     | 8.1   | 8.2   |      | 19.1  | 11.0                                                                                |       | 19.1  | 5.6   |
| Green Ratio ( g/C )                             |                             |                 |               | 0.63                                                                               | 0.57  | 0.57                     | 0.64    | 0.57  | 0.57  |      | 0.19  | 0.19                                                                                |       | 0.19  | 0.25  |
| Capacity ( c ), veh/h                           |                             |                 |               | 572                                                                                | 1051  | 980                      | 513     | 1062  | 998   |      | 300   | 300                                                                                 |       | 298   | 403   |
| Volume-to-Capacity Ratio ( X )                  |                             |                 |               | 0.149                                                                              | 0.364 | 0.366                    | 0.184   | 0.277 | 0.280 |      | 0.864 | 0.625                                                                               |       | 1.300 | 0.273 |
| Back of Queue ( Q ), ft/ln ( 95 th percentile)  |                             |                 |               | 30                                                                                 | 207   | 192                      | 33      | 150   | 140   |      | 333   | 206                                                                                 |       | 798   | 97    |
| Back of Queue ( Q ), veh/ln ( 95 th percentile) |                             |                 |               | 1.2                                                                                | 8.0   | 7.7                      | 1.3     | 5.9   | 5.6   |      | 13.0  | 8.1                                                                                 |       | 31.4  | 3.8   |
| Queue Storage Ratio ( RQ ) ( 95 th percentile)  |                             |                 |               | 0.00                                                                               | 0.00  | 0.00                     | 0.00    | 0.00  | 0.00  |      | 0.00  | 0.00                                                                                |       | 0.00  | 0.00  |
| Uniform Delay ( d 1 ), s/veh                    |                             |                 |               | 7.6                                                                                | 11.6  | 11.6                     | 7.7     | 10.9  | 10.9  |      | 41.0  | 37.2                                                                                |       | 42.2  | 29.9  |
| Incremental Delay ( d 2 ), s/veh                |                             |                 |               | 0.1                                                                                | 1.0   | 1.1                      | 0.2     | 0.6   | 0.7   |      | 22.0  | 4.0                                                                                 |       | 157.5 | 0.4   |
| Initial Queue Delay ( d 3 ), s/veh              |                             |                 |               | 0.0                                                                                | 0.0   | 0.0                      | 0.0     | 0.0   | 0.0   |      | 0.0   | 0.0                                                                                 |       | 0.0   | 0.0   |
| Control Delay ( d ), s/veh                      |                             |                 |               | 7.7                                                                                | 12.6  | 12.7                     | 7.9     | 11.5  | 11.6  |      | 63.0  | 41.2                                                                                |       | 199.7 | 30.2  |
| Level of Service (LOS)                          |                             |                 |               | A                                                                                  | B     | B                        | A       | B     | B     |      | E     | D                                                                                   |       | F     | C     |
| Approach Delay, s/veh / LOS                     |                             |                 |               | 12.1                                                                               | B     |                          | 11.0    | B     |       | 53.8 | D     |                                                                                     | 162.2 | F     |       |
| Intersection Delay, s/veh / LOS                 |                             |                 |               | 50.1                                                                               |       |                          |         |       |       | D    |       |                                                                                     |       |       |       |
| Multimodal Results                              |                             |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |
| Pedestrian LOS Score / LOS                      |                             |                 |               | 1.89                                                                               | B     |                          | 1.89    | B     |       | 2.30 | B     |                                                                                     | 2.30  | B     |       |
| Bicycle LOS Score / LOS                         |                             |                 |               | 1.17                                                                               | A     |                          | 1.04    | A     |       | 1.23 | A     |                                                                                     | 1.31  | A     |       |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                        |
|--------------------------|--------------------------|----------------------------|----------------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Fire Station/School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville               |
| Date Performed           | 5/17/2024                | East/West Street           | Fire Station Drive                     |
| Analysis Year            | 2024                     | North/South Street         | Ranger Way                             |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.64                                   |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                   |
| Project Description      | Existing Conditions      |                            |                                        |

Lanes



Major Street: North-South

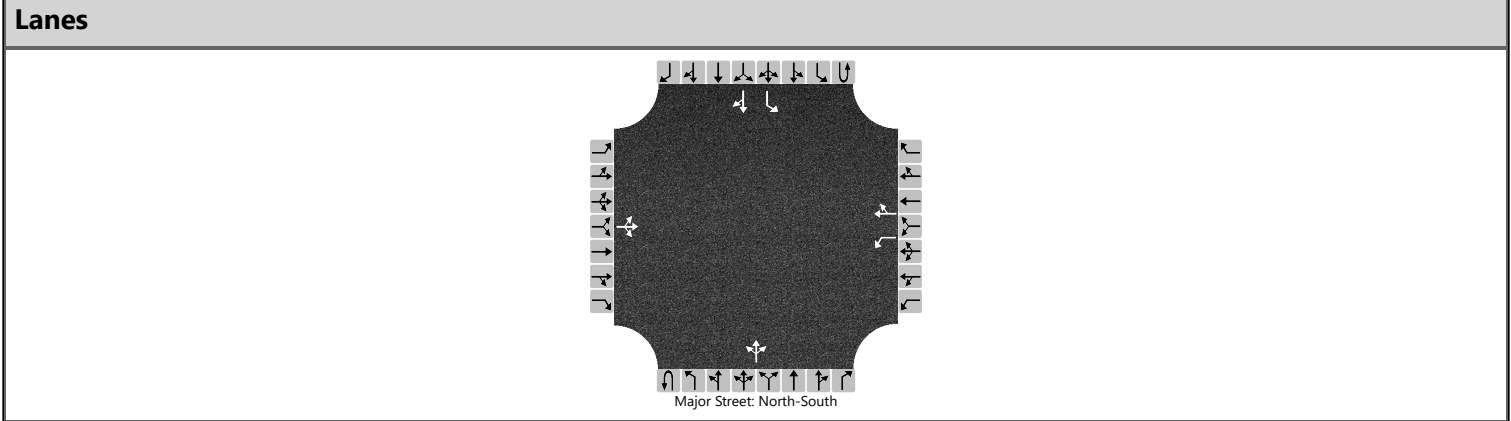
| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|-----|------------|---|-----|----|------------|-----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |     | Northbound |   |     |    | Southbound |     |     |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R   | U          | L | T   | R  | U          | L   | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9   | 1U         | 1 | 2   | 3  | 4U         | 4   | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0   | 0          | 1 | 1   | 0  | 0          | 1   | 1   | 0  |
| Configuration                   |           |    | LTR |    |           |    | LTR |     |            | L |     | TR |            | L   |     | TR |
| Volume (veh/h)                  |           | 0  | 0   | 3  |           | 13 | 0   | 208 |            | 3 | 190 | 95 |            | 171 | 207 | 5  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 11 | 11  | 11  |            | 8 |     |    |            | 4   |     |    |
| Proportion Time Blocked         |           |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |     |            |   |     |    |            |     |     |    |
| Right Turn Channelized          |           |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.21 | 6.61 | 6.31 |  | 4.18 |  |  |  | 4.14 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.60 | 4.10 | 3.40 |  | 2.27 |  |  |  | 2.24 |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |      |  |       |  |     |      |  |  |     |      |  |  |
|-------------------------------------------|------|--|------|--|------|--|-------|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                      |      |  | 5    |  |      |  | 345   |  |     | 5    |  |  |     | 267  |  |  |
| Capacity, c (veh/h)                       |      |  | 719  |  |      |  | 484   |  |     | 1195 |  |  |     | 1067 |  |  |
| v/c Ratio                                 |      |  | 0.01 |  |      |  | 0.71  |  |     | 0.00 |  |  |     | 0.25 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.0  |  |      |  | 5.6   |  |     | 0.0  |  |  |     | 1.0  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 0.0  |  |      |  | 152.3 |  |     | 0.0  |  |  |     | 25.8 |  |  |
| Control Delay (s/veh)                     |      |  | 10.0 |  |      |  | 28.8  |  |     | 8.0  |  |  |     | 9.5  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |      |  | D     |  |     | A    |  |  |     | A    |  |  |
| Approach Delay (s/veh)                    | 10.0 |  |      |  | 28.8 |  |       |  | 0.1 |      |  |  | 4.2 |      |  |  |
| Approach LOS                              | B    |  |      |  | D    |  |       |  | A   |      |  |  | A   |      |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                          |
|--------------------------|--------------------------|----------------------------|--------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & NRAC Drive  |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville |
| Date Performed           | 5/17/2024                | East/West Street           | NRAC Drive               |
| Analysis Year            | 2024                     | North/South Street         | Ranger Way               |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.75                     |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                     |
| Project Description      | Existing Conditions      |                            |                          |



| Vehicle Volumes and Adjustments |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
|---------------------------------|-----------|----|-----|----|-----------|----|----|-----|------------|---|-----|----|------------|-----|----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |    |     | Northbound |   |     |    | Southbound |     |    |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T  | R   | U          | L | T   | R  | U          | L   | T  | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8  | 9   | 1U         | 1 | 2   | 3  | 4U         | 4   | 5  | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 1  | 1  | 0   | 0          | 0 | 1   | 0  | 0          | 1   | 1  | 0  |
| Configuration                   |           |    | LTR |    |           | L  |    | TR  |            |   | LTR |    |            | L   |    | TR |
| Volume (veh/h)                  |           | 0  | 0   | 1  |           | 41 | 0  | 112 |            | 4 | 175 | 53 |            | 177 | 52 | 0  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 14 | 14 | 14  |            | 5 |     |    |            | 6   |    |    |
| Proportion Time Blocked         |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |    |     |            |   |     |    |            |     |    |    |
| Right Turn Channelized          |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.24 | 6.64 | 6.34 |  | 4.15 |  |  |  | 4.16 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.63 | 4.13 | 3.43 |  | 2.25 |  |  |  | 2.25 |  |  |

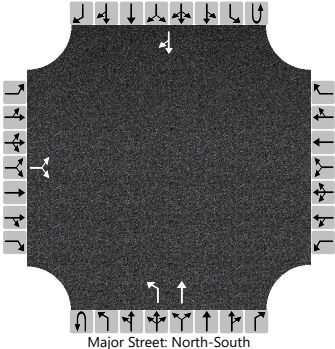
| Delay, Queue Length, and Level of Service |     |  |      |  |      |      |  |      |     |      |     |     |     |      |  |  |
|-------------------------------------------|-----|--|------|--|------|------|--|------|-----|------|-----|-----|-----|------|--|--|
| Flow Rate, v (veh/h)                      |     |  | 1    |  |      | 55   |  | 149  |     | 5    |     |     |     | 236  |  |  |
| Capacity, c (veh/h)                       |     |  | 999  |  |      | 225  |  | 742  |     | 1513 |     |     |     | 1234 |  |  |
| v/c Ratio                                 |     |  | 0.00 |  |      | 0.24 |  | 0.20 |     | 0.00 |     |     |     | 0.19 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     |  | 0.0  |  |      | 0.9  |  | 0.7  |     | 0.0  |     |     |     | 0.7  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     |  | 0.0  |  |      | 25.0 |  | 19.5 |     |      |     |     |     | 18.3 |  |  |
| Control Delay (s/veh)                     |     |  | 8.6  |  |      | 26.1 |  | 11.1 |     | 7.4  | 0.0 | 0.0 |     | 8.6  |  |  |
| Level of Service (LOS)                    |     |  | A    |  |      | D    |  | B    |     | A    | A   | A   |     | A    |  |  |
| Approach Delay (s/veh)                    | 8.6 |  |      |  | 15.1 |      |  |      | 0.2 |      |     |     | 6.7 |      |  |  |
| Approach LOS                              | A   |  |      |  | C    |      |  |      | A   |      |     |     | A   |      |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                |
|--------------------------|--------------------------|----------------------------|--------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Kenssington Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville       |
| Date Performed           | 5/17/2024                | East/West Street           | Kenssington Drive              |
| Analysis Year            | 2024                     | North/South Street         | Ranger Way                     |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.68                           |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                           |
| Project Description      | Existing Conditions      |                            |                                |

Lanes



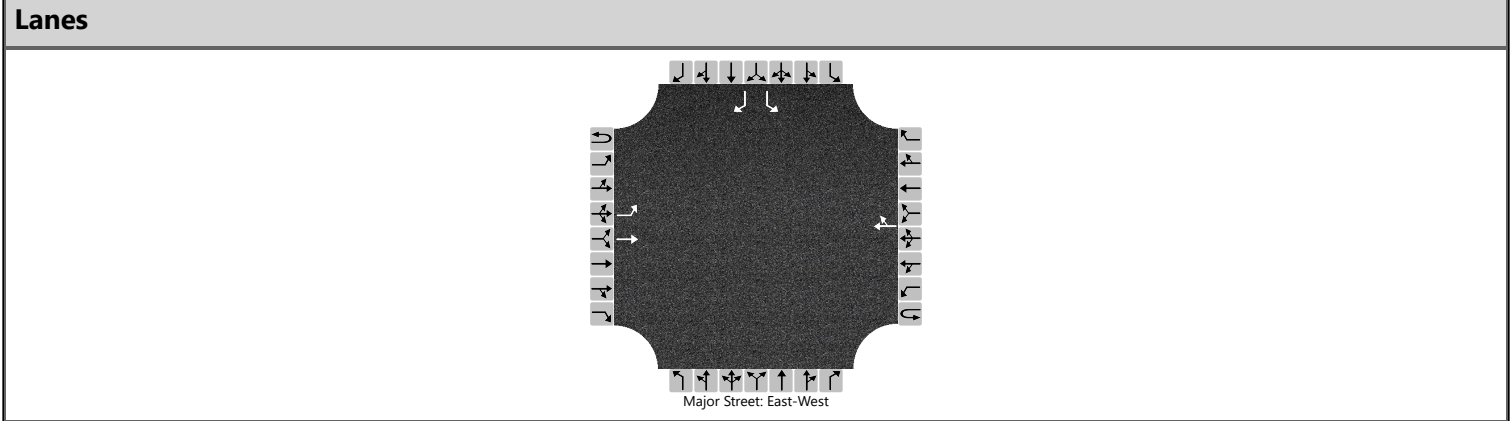
| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |   |     |   |            |   |    |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|---|-----|---|------------|---|----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |   |     |   | Southbound |   |    |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L | T   | R | U          | L | T  | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1 | 2   | 3 | 4U         | 4 | 5  | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 1 | 1   | 0 | 0          | 0 | 1  | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | L | T   |   |            |   |    | TR |
| Volume (veh/h)                  |           | 9  |    | 39 |           |   |   |   |            | 9 | 217 |   |            |   | 93 | 2  |
| Percent Heavy Vehicles (%)      |           | 13 |    | 13 |           |   |   |   |            | 6 |     |   |            |   |    |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |   |     |   |            |   |    |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |   |     |   |            |   |    |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |   |     |   |            |   |    |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |   |     |   |            |   |    |    |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.53 |  | 6.33 |  |  |  |  |  | 4.16 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.62 |  | 3.42 |  |  |  |  |  | 2.25 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |  |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|--|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 71   |  |  |  |  |  |     | 13   |  |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 773  |  |  |  |  |  |     | 1419 |  |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.09 |  |  |  |  |  |     | 0.01 |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.3  |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 8.3  |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 10.1 |  |  |  |  |  |     | 7.6  |  |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    |  |  |  |  |  |  |
| Approach Delay (s/veh)                    | 10.1 |  |      |  |  |  |  |  | 0.3 |      |  |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |  |  |  |  |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                              |
|--------------------------|--------------------------|----------------------------|------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Ranger Way |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road              |
| Analysis Year            | 2024                     | North/South Street         | Ranger Way                   |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.79                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                         |
| Project Description      | Existing Conditions      |                            |                              |



| Vehicle Volumes and Adjustments |           |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
|---------------------------------|-----------|-----|-----|---|-----------|---|-----|-----|------------|---|---|---|------------|----|----|----|
| Approach                        | Eastbound |     |     |   | Westbound |   |     |     | Northbound |   |   |   | Southbound |    |    |    |
| Movement                        | U         | L   | T   | R | U         | L | T   | R   | U          | L | T | R | U          | L  | T  | R  |
| Priority                        | 1U        | 1   | 2   | 3 | 4U        | 4 | 5   | 6   |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Number of Lanes                 | 0         | 1   | 1   | 0 | 0         | 0 | 1   | 0   |            | 0 | 0 | 0 |            | 1  | 0  | 1  |
| Configuration                   |           | L   | T   |   |           |   |     | TR  |            |   |   |   |            | L  |    | R  |
| Volume (veh/h)                  |           | 101 | 509 |   |           |   | 312 | 125 |            |   |   |   |            | 44 |    | 67 |
| Percent Heavy Vehicles (%)      |           | 2   |     |   |           |   |     |     |            |   |   |   |            | 14 |    | 14 |
| Proportion Time Blocked         |           |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
| Percent Grade (%)               |           |     |     |   |           |   |     |     |            |   |   |   | 0          |    |    |    |
| Right Turn Channelized          |           |     |     |   |           |   |     |     |            |   |   |   | No         |    |    |    |
| Median Type   Storage           | Undivided |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |

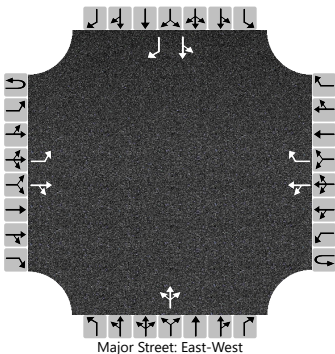
| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  |  |  |  |  |  |  |  |  | 6.54 |  | 6.34 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  |  |  |  |  |  |  |  |  | 3.63 |  | 3.43 |

| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 128  |  |  |  |  |  |  |  |  |  |  |      | 56   |  | 85   |
| Capacity, c (veh/h)                       |     | 1017 |  |  |  |  |  |  |  |  |  |  |      | 132  |  | 567  |
| v/c Ratio                                 |     | 0.13 |  |  |  |  |  |  |  |  |  |  |      | 0.42 |  | 0.15 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.4  |  |  |  |  |  |  |  |  |  |  |      | 1.8  |  | 0.5  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 10.2 |  |  |  |  |  |  |  |  |  |  |      | 50.0 |  | 13.9 |
| Control Delay (s/veh)                     |     | 9.0  |  |  |  |  |  |  |  |  |  |  |      | 50.8 |  | 12.5 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |      | F    |  | B    |
| Approach Delay (s/veh)                    | 1.5 |      |  |  |  |  |  |  |  |  |  |  | 27.7 |      |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | D    |      |  |      |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                              |
|--------------------------|--------------------------|----------------------------|----------------------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & High School Drive/W Poi... |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville                     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road                              |
| Analysis Year            | 2024                     | North/South Street         | High School Drive/W Point Drive              |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.75                                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                                         |
| Project Description      | Existing Conditions      |                            |                                              |

Lanes



Vehicle Volumes and Adjustments

| Approach                   | Eastbound |     |     |    | Westbound |    |     |     | Northbound |   |     |   | Southbound |    |    |     |
|----------------------------|-----------|-----|-----|----|-----------|----|-----|-----|------------|---|-----|---|------------|----|----|-----|
| Movement                   | U         | L   | T   | R  | U         | L  | T   | R   | U          | L | T   | R | U          | L  | T  | R   |
| Priority                   | 1U        | 1   | 2   | 3  | 4U        | 4  | 5   | 6   |            | 7 | 8   | 9 |            | 10 | 11 | 12  |
| Number of Lanes            | 0         | 1   | 1   | 0  | 0         | 0  | 1   | 1   |            | 0 | 1   | 0 |            | 0  | 1  | 1   |
| Configuration              |           | L   |     | TR |           | LT |     | R   |            |   | LTR |   |            | LT |    | R   |
| Volume (veh/h)             |           | 396 | 178 | 5  |           | 0  | 174 | 163 |            | 4 | 0   | 0 |            | 39 | 1  | 259 |
| Percent Heavy Vehicles (%) |           | 2   |     |    |           | 3  |     |     |            | 0 | 0   | 0 |            | 0  | 0  | 0   |
| Proportion Time Blocked    |           |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |
| Percent Grade (%)          |           |     |     |    |           |    |     |     | 0          |   |     |   | 0          |    |    |     |
| Right Turn Channelized     |           |     |     |    | No        |    |     |     |            |   |     |   | No         |    |    |     |
| Median Type   Storage      | Undivided |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |

Critical and Follow-up Headways

|                              |  |      |  |  |  |      |  |  |  |      |      |      |  |      |      |      |
|------------------------------|--|------|--|--|--|------|--|--|--|------|------|------|--|------|------|------|
| Base Critical Headway (sec)  |  | 4.1  |  |  |  | 4.1  |  |  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |
| Critical Headway (sec)       |  | 4.12 |  |  |  | 4.13 |  |  |  | 7.10 | 6.50 | 6.20 |  | 7.10 | 6.50 | 6.20 |
| Base Follow-Up Headway (sec) |  | 2.2  |  |  |  | 2.2  |  |  |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |
| Follow-Up Headway (sec)      |  | 2.22 |  |  |  | 2.23 |  |  |  | 3.50 | 4.00 | 3.30 |  | 3.50 | 4.00 | 3.30 |

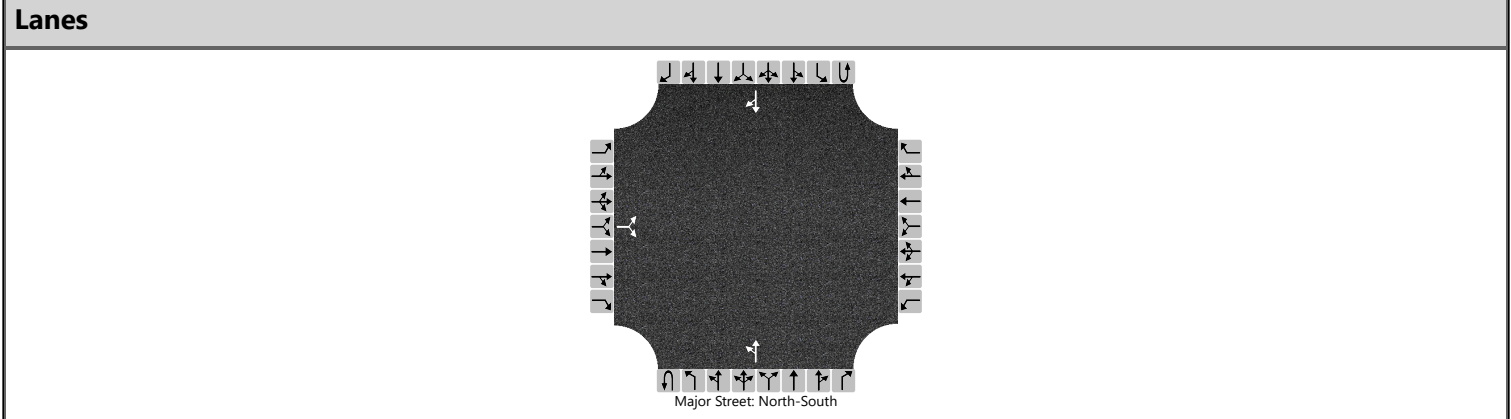
Delay, Queue Length, and Level of Service

|                                         |     |      |  |  |     |      |     |  |       |  |       |  |      |       |  |      |
|-----------------------------------------|-----|------|--|--|-----|------|-----|--|-------|--|-------|--|------|-------|--|------|
| Flow Rate, v (veh/h)                    |     | 528  |  |  |     | 0    |     |  |       |  | 5     |  |      | 53    |  | 345  |
| Capacity, c (veh/h)                     |     | 1107 |  |  |     | 1307 |     |  |       |  | 16    |  |      | 43    |  | 692  |
| v/c Ratio                               |     | 0.48 |  |  |     | 0.00 |     |  |       |  | 0.34  |  |      | 1.25  |  | 0.50 |
| 95% Queue Length, Q <sub>95</sub> (veh) |     | 2.6  |  |  |     | 0.0  |     |  |       |  | 0.9   |  |      | 5.2   |  | 2.8  |
| 95% Queue Length, Q <sub>95</sub> (ft)  |     | 66.0 |  |  |     |      |     |  |       |  | 22.5  |  |      | 130.0 |  | 70.0 |
| Control Delay (s/veh)                   |     | 11.2 |  |  |     | 7.8  | 0.0 |  |       |  | 326.7 |  |      | 371.1 |  | 15.3 |
| Level of Service (LOS)                  |     | B    |  |  |     | A    | A   |  |       |  | F     |  |      | F     |  | C    |
| Approach Delay (s/veh)                  | 7.6 |      |  |  | 0.0 |      |     |  | 326.7 |  |       |  | 62.9 |       |  |      |
| Approach LOS                            | A   |      |  |  | A   |      |     |  | F     |  |       |  | F    |       |  |      |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                     |
|--------------------------|--------------------------|----------------------------|-------------------------------------|
| Analyst                  | tsj                      | Intersection               | Pitts Boulevard & High School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville            |
| Date Performed           | 5/17/2024                | East/West Street           | High School Drive                   |
| Analysis Year            | 2024                     | North/South Street         | Pitts Boulevard                     |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.81                                |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                |
| Project Description      | Existing Conditions      |                            |                                     |

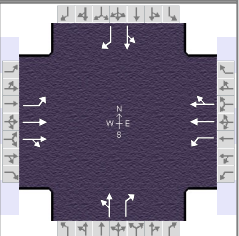
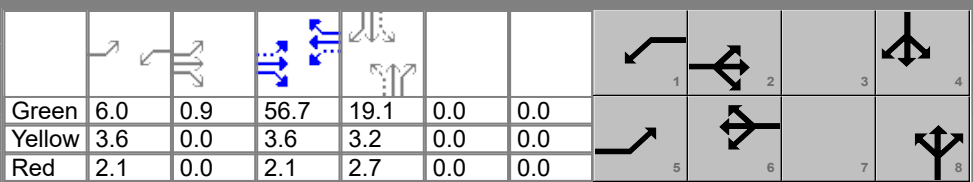


| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |    |   |            |   |    |     |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|----|---|------------|---|----|-----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |    |   | Southbound |   |    |     |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T  | R | U          | L | T  | R   |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2  | 3 | 4U         | 4 | 5  | 6   |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1  | 0 | 0          | 0 | 1  | 0   |
| Configuration                   |           |    | LR |    |           |   |   |   |            | LT |    |   |            |   |    | TR  |
| Volume (veh/h)                  |           | 75 |    | 34 |           |   |   |   |            | 65 | 13 |   |            |   | 95 | 135 |
| Percent Heavy Vehicles (%)      |           | 6  |    | 6  |           |   |   |   |            | 8  |    |   |            |   |    |     |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |    |   |            |   |    |     |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |    |   |            |   |    |     |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |    |   |            |   |    |     |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |    |   |            |   |    |     |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.46 |  | 6.26 |  |  |  |  |  | 4.18 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.55 |  | 3.35 |  |  |  |  |  | 2.27 |  |  |  |  |  |  |

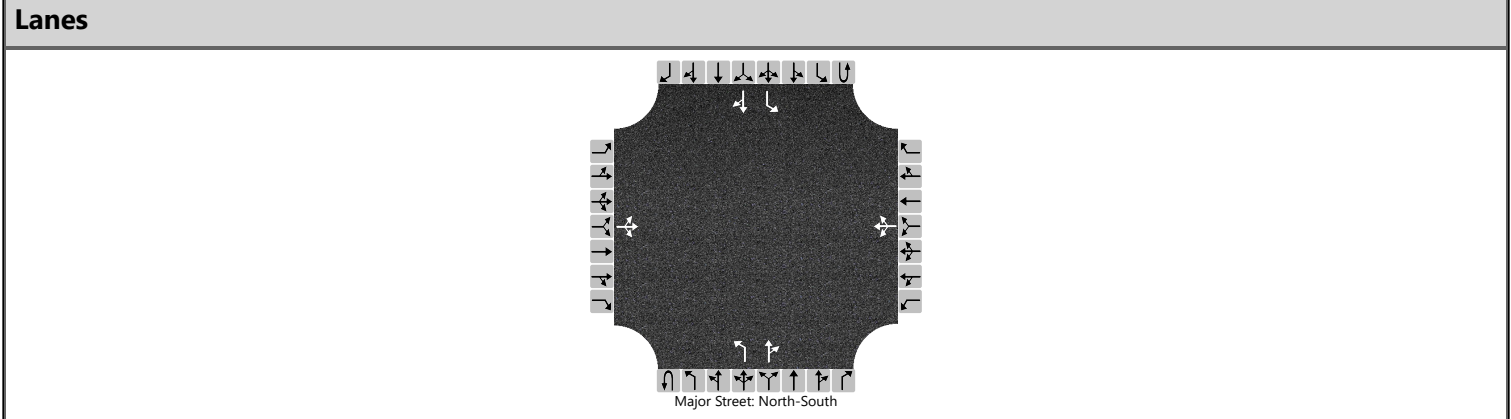
| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 135  |  |  |  |  |  |     | 80   |     |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 630  |  |  |  |  |  |     | 1240 |     |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.21 |  |  |  |  |  |     | 0.06 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.8  |  |  |  |  |  |     | 0.2  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 21.0 |  |  |  |  |  |     | 5.3  |     |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 12.3 |  |  |  |  |  |     | 8.1  | 0.5 |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                    | 12.3 |  |      |  |  |  |  |  | 6.8 |      |     |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |

# HCS Signalized Intersection Results Summary

| General Information                             |                             |                 |               |                                                                                    |        | Intersection Information |         |       |       |      |       |  |     |       |       |      |  |      |  |
|-------------------------------------------------|-----------------------------|-----------------|---------------|------------------------------------------------------------------------------------|--------|--------------------------|---------|-------|-------|------|-------|-------------------------------------------------------------------------------------|-----|-------|-------|------|--|------|--|
| Agency                                          | DGL                         |                 |               |                                                                                    |        | Duration, h              | 0.250   |       |       |      |       |                                                                                     |     |       |       |      |  |      |  |
| Analyst                                         | tsj                         |                 | Analysis Date | Jun 18, 2024                                                                       |        | Area Type                | Other   |       |       |      |       |                                                                                     |     |       |       |      |  |      |  |
| Jurisdiction                                    | City of North Ridgeville    |                 | Time Period   | PM Peak                                                                            |        | PHF                      | 0.93    |       |       |      |       |                                                                                     |     |       |       |      |  |      |  |
| Urban Street                                    | Center Ridge                |                 | Analysis Year | 2024                                                                               |        | Analysis Period          | 1> 7:00 |       |       |      |       |                                                                                     |     |       |       |      |  |      |  |
| Intersection                                    | Center Ridge & Ranger...    |                 | File Name     | 2024 Existing PM Peak Center Ridge & Ranger.xus                                    |        |                          |         |       |       |      |       |                                                                                     |     |       |       |      |  |      |  |
| Project Description                             | PM Peak Existing Conditions |                 |               |                                                                                    |        |                          |         |       |       |      |       |                                                                                     |     |       |       |      |  |      |  |
| Demand Information                              |                             |                 |               | EB                                                                                 |        |                          | WB      |       |       | NB   |       |                                                                                     | SB  |       |       |      |  |      |  |
| Approach Movement                               |                             |                 |               | L                                                                                  | T      | R                        | L       | T     | R     | L    | T     | R                                                                                   | L   | T     | R     |      |  |      |  |
| Demand ( v ), veh/h                             |                             |                 |               | 129                                                                                | 633    | 51                       | 64      | 618   | 158   | 100  | 165   | 128                                                                                 | 160 | 78    | 111   |      |  |      |  |
| Signal Information                              |                             |                 |               |  |        |                          |         |       |       |      |       |                                                                                     |     |       |       |      |  |      |  |
| Cycle, s                                        | 100.0                       | Reference Phase | 2             |                                                                                    |        |                          |         |       |       |      |       |                                                                                     |     |       |       |      |  |      |  |
| Offset, s                                       | 0                           | Reference Point | End           |                                                                                    |        |                          |         |       |       |      |       |                                                                                     |     |       |       |      |  |      |  |
| Uncoordinated                                   | No                          | Simult. Gap E/W | On            |                                                                                    | Green  | 6.0                      | 0.9     | 56.7  | 19.1  | 0.0  | 0.0   |                                                                                     |     |       |       |      |  |      |  |
| Force Mode                                      | Fixed                       | Simult. Gap N/S | On            |                                                                                    | Yellow | 3.6                      | 0.0     | 3.6   | 3.2   | 0.0  | 0.0   |                                                                                     |     |       |       |      |  |      |  |
|                                                 |                             |                 |               | Red                                                                                | 2.1    | 0.0                      | 2.1     | 2.7   | 0.0   | 0.0  |       |                                                                                     |     |       |       |      |  |      |  |
| Timer Results                                   |                             |                 |               | EBL                                                                                |        | EBT                      |         | WBL   |       | WBT  |       | NBL                                                                                 |     | NBT   |       | SBL  |  | SBT  |  |
| Assigned Phase                                  |                             |                 |               | 5                                                                                  |        | 2                        |         | 1     |       | 6    |       |                                                                                     |     | 8     |       |      |  | 4    |  |
| Case Number                                     |                             |                 |               | 1.1                                                                                |        | 4.0                      |         | 1.1   |       | 4.0  |       |                                                                                     |     | 7.0   |       |      |  | 7.0  |  |
| Phase Duration, s                               |                             |                 |               | 12.6                                                                               |        | 63.3                     |         | 11.7  |       | 62.4 |       |                                                                                     |     | 25.0  |       |      |  | 25.0 |  |
| Change Period, ( Y+R c ), s                     |                             |                 |               | 5.7                                                                                |        | 5.7                      |         | 5.7   |       | 5.7  |       |                                                                                     |     | 5.9   |       |      |  | 5.9  |  |
| Max Allow Headway ( MAH ), s                    |                             |                 |               | 4.1                                                                                |        | 0.0                      |         | 4.1   |       | 0.0  |       |                                                                                     |     | 4.3   |       |      |  | 4.3  |  |
| Queue Clearance Time ( g s ), s                 |                             |                 |               | 5.1                                                                                |        |                          |         | 3.5   |       |      |       |                                                                                     |     | 19.8  |       |      |  | 21.1 |  |
| Green Extension Time ( g e ), s                 |                             |                 |               | 0.1                                                                                |        | 0.0                      |         | 0.1   |       | 0.0  |       |                                                                                     |     | 0.0   |       |      |  | 0.0  |  |
| Phase Call Probability                          |                             |                 |               | 0.98                                                                               |        |                          |         | 0.85  |       |      |       |                                                                                     |     | 1.00  |       |      |  | 1.00 |  |
| Max Out Probability                             |                             |                 |               | 0.94                                                                               |        |                          |         | 0.16  |       |      |       |                                                                                     |     | 1.00  |       |      |  | 1.00 |  |
| Movement Group Results                          |                             |                 |               | EB                                                                                 |        |                          | WB      |       |       | NB   |       |                                                                                     | SB  |       |       |      |  |      |  |
| Approach Movement                               |                             |                 |               | L                                                                                  | T      | R                        | L       | T     | R     | L    | T     | R                                                                                   | L   | T     | R     |      |  |      |  |
| Assigned Movement                               |                             |                 |               | 5                                                                                  | 2      | 12                       | 1       | 6     | 16    | 3    | 8     | 18                                                                                  | 7   | 4     | 14    |      |  |      |  |
| Adjusted Flow Rate ( v ), veh/h                 |                             |                 |               | 139                                                                                | 372    | 363                      | 69      | 432   | 402   |      | 285   | 138                                                                                 |     | 256   | 119   |      |  |      |  |
| Adjusted Saturation Flow Rate ( s ), veh/h/ln   |                             |                 |               | 1767                                                                               | 1856   | 1806                     | 1781    | 1870  | 1738  |      | 1581  | 1572                                                                                |     | 1001  | 1598  |      |  |      |  |
| Queue Service Time ( g s ), s                   |                             |                 |               | 3.1                                                                                | 10.6   | 10.7                     | 1.5     | 13.0  | 13.0  |      | 0.0   | 7.8                                                                                 |     | 1.3   | 6.5   |      |  |      |  |
| Cycle Queue Clearance Time ( g c ), s           |                             |                 |               | 3.1                                                                                | 10.6   | 10.7                     | 1.5     | 13.0  | 13.0  |      | 17.8  | 7.8                                                                                 |     | 19.1  | 6.5   |      |  |      |  |
| Green Ratio ( g/C )                             |                             |                 |               | 0.64                                                                               | 0.58   | 0.58                     | 0.63    | 0.57  | 0.57  |      | 0.19  | 0.19                                                                                |     | 0.19  | 0.19  |      |  |      |  |
| Capacity ( c ), veh/h                           |                             |                 |               | 479                                                                                | 1069   | 1041                     | 503     | 1061  | 986   |      | 352   | 300                                                                                 |     | 251   | 305   |      |  |      |  |
| Volume-to-Capacity Ratio ( X )                  |                             |                 |               | 0.290                                                                              | 0.348  | 0.349                    | 0.137   | 0.407 | 0.408 |      | 0.810 | 0.458                                                                               |     | 1.018 | 0.391 |      |  |      |  |
| Back of Queue ( Q ), ft/ln ( 95 th percentile)  |                             |                 |               | 50                                                                                 | 197    | 189                      | 24      | 232   | 217   |      | 329   | 142                                                                                 |     | 402   | 3     |      |  |      |  |
| Back of Queue ( Q ), veh/ln ( 95 th percentile) |                             |                 |               | 2.0                                                                                | 7.7    | 7.6                      | 1.0     | 9.1   | 8.7   |      | 12.9  | 5.5                                                                                 |     | 15.9  | 0.1   |      |  |      |  |
| Queue Storage Ratio ( RQ ) ( 95 th percentile)  |                             |                 |               | 0.00                                                                               | 0.00   | 0.00                     | 0.00    | 0.00  | 0.00  |      | 0.00  | 0.00                                                                                |     | 0.00  | 0.00  |      |  |      |  |
| Uniform Delay ( d 1 ), s/veh                    |                             |                 |               | 8.3                                                                                | 11.2   | 11.2                     | 8.0     | 12.2  | 12.2  |      | 39.8  | 35.9                                                                                |     | 42.9  | 35.4  |      |  |      |  |
| Incremental Delay ( d 2 ), s/veh                |                             |                 |               | 0.3                                                                                | 0.9    | 0.9                      | 0.1     | 1.2   | 1.3   |      | 13.3  | 1.1                                                                                 |     | 61.5  | 0.8   |      |  |      |  |
| Initial Queue Delay ( d 3 ), s/veh              |                             |                 |               | 0.0                                                                                | 0.0    | 0.0                      | 0.0     | 0.0   | 0.0   |      | 0.0   | 0.0                                                                                 |     | 0.0   | 0.0   |      |  |      |  |
| Control Delay ( d ), s/veh                      |                             |                 |               | 8.6                                                                                | 12.1   | 12.2                     | 8.1     | 13.3  | 13.4  |      | 53.2  | 37.0                                                                                |     | 104.4 | 36.2  |      |  |      |  |
| Level of Service (LOS)                          |                             |                 |               | A                                                                                  | B      | B                        | A       | B     | B     |      | D     | D                                                                                   |     | F     | D     |      |  |      |  |
| Approach Delay, s/veh / LOS                     |                             |                 |               | 11.6                                                                               |        | B                        |         | 13.0  |       | B    |       | 47.9                                                                                |     | D     |       | 82.7 |  | F    |  |
| Intersection Delay, s/veh / LOS                 |                             |                 |               | 28.4                                                                               |        |                          |         |       |       | C    |       |                                                                                     |     |       |       |      |  |      |  |
| Multimodal Results                              |                             |                 |               | EB                                                                                 |        |                          | WB      |       |       | NB   |       |                                                                                     | SB  |       |       |      |  |      |  |
| Pedestrian LOS Score / LOS                      |                             |                 |               | 1.89                                                                               |        | B                        |         | 1.89  |       | B    |       | 2.30                                                                                |     | B     |       | 2.30 |  | B    |  |
| Bicycle LOS Score / LOS                         |                             |                 |               | 1.21                                                                               |        | A                        |         | 1.23  |       | A    |       | 1.18                                                                                |     | A     |       | 1.11 |  | A    |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                        |
|--------------------------|--------------------------|----------------------------|----------------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Fire Station/School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville               |
| Date Performed           | 5/17/2024                | East/West Street           | Fire Station Drive                     |
| Analysis Year            | 2024                     | North/South Street         | Ranger Way                             |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.79                                   |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                   |
| Project Description      | Existing Conditions      |                            |                                        |



| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|-----|------------|---|-----|----|------------|----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |     | Northbound |   |     |    | Southbound |    |     |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R   | U          | L | T   | R  | U          | L  | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9   | 1U         | 1 | 2   | 3  | 4U         | 4  | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0   | 0          | 1 | 1   | 0  | 0          | 1  | 1   | 0  |
| Configuration                   |           |    | LTR |    |           |    | LTR |     |            | L |     | TR |            | L  |     | TR |
| Volume (veh/h)                  |           | 2  | 0   | 0  |           | 22 | 0   | 144 |            | 0 | 245 | 45 |            | 82 | 117 | 1  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 0  | 0   | 0   |            | 5 |     |    |            | 2  |     |    |
| Proportion Time Blocked         |           |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |     |            |   |     |    |            |    |     |    |
| Right Turn Channelized          |           |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.10 | 6.50 | 6.20 |  | 4.15 |  |  |  | 4.12 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.50 | 4.00 | 3.30 |  | 2.25 |  |  |  | 2.22 |  |  |

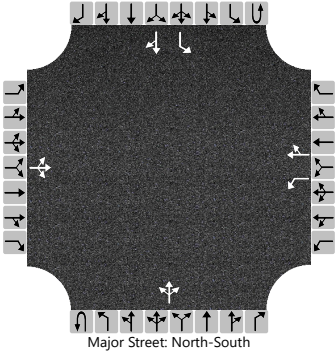
| Delay, Queue Length, and Level of Service |      |  |      |  |      |  |      |  |     |      |  |  |     |      |  |  |
|-------------------------------------------|------|--|------|--|------|--|------|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                      |      |  | 3    |  |      |  | 210  |  |     | 0    |  |  |     | 104  |  |  |
| Capacity, c (veh/h)                       |      |  | 187  |  |      |  | 486  |  |     | 1414 |  |  |     | 975  |  |  |
| v/c Ratio                                 |      |  | 0.01 |  |      |  | 0.43 |  |     | 0.00 |  |  |     | 0.11 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.0  |  |      |  | 2.2  |  |     | 0.0  |  |  |     | 0.4  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 0.0  |  |      |  | 55.0 |  |     |      |  |  |     | 10.2 |  |  |
| Control Delay (s/veh)                     |      |  | 24.5 |  |      |  | 17.9 |  |     | 7.5  |  |  |     | 9.1  |  |  |
| Level of Service (LOS)                    |      |  | C    |  |      |  | C    |  |     | A    |  |  |     | A    |  |  |
| Approach Delay (s/veh)                    | 24.5 |  |      |  | 17.9 |  |      |  | 0.0 |      |  |  | 3.7 |      |  |  |
| Approach LOS                              | C    |  |      |  | C    |  |      |  | A   |      |  |  | A   |      |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                          |
|--------------------------|--------------------------|----------------------------|--------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & NRAC Drive  |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville |
| Date Performed           | 5/17/2024                | East/West Street           | NRAC Drive               |
| Analysis Year            | 2024                     | North/South Street         | Ranger Way               |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.71                     |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                     |
| Project Description      | Existing Conditions      |                            |                          |

Lanes



| Vehicle Volumes and Adjustments |           |    |     |    |           |    |    |     |            |   |     |    |            |    |    |    |
|---------------------------------|-----------|----|-----|----|-----------|----|----|-----|------------|---|-----|----|------------|----|----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |    |     | Northbound |   |     |    | Southbound |    |    |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T  | R   | U          | L | T   | R  | U          | L  | T  | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8  | 9   | 1U         | 1 | 2   | 3  | 4U         | 4  | 5  | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 1  | 1  | 0   | 0          | 0 | 1   | 0  | 0          | 1  | 1  | 0  |
| Configuration                   |           |    | LTR |    |           | L  |    | TR  |            |   | LTR |    |            | L  |    | TR |
| Volume (veh/h)                  |           | 0  | 0   | 5  |           | 92 | 1  | 159 |            | 3 | 127 | 28 |            | 51 | 89 | 0  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 11 | 11 | 11  |            | 1 |     |    |            | 1  |    |    |
| Proportion Time Blocked         |           |    |     |    |           |    |    |     |            |   |     |    |            |    |    |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |    |     |            |   |     |    |            |    |    |    |
| Right Turn Channelized          |           |    |     |    |           |    |    |     |            |   |     |    |            |    |    |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |    |     |            |   |     |    |            |    |    |    |

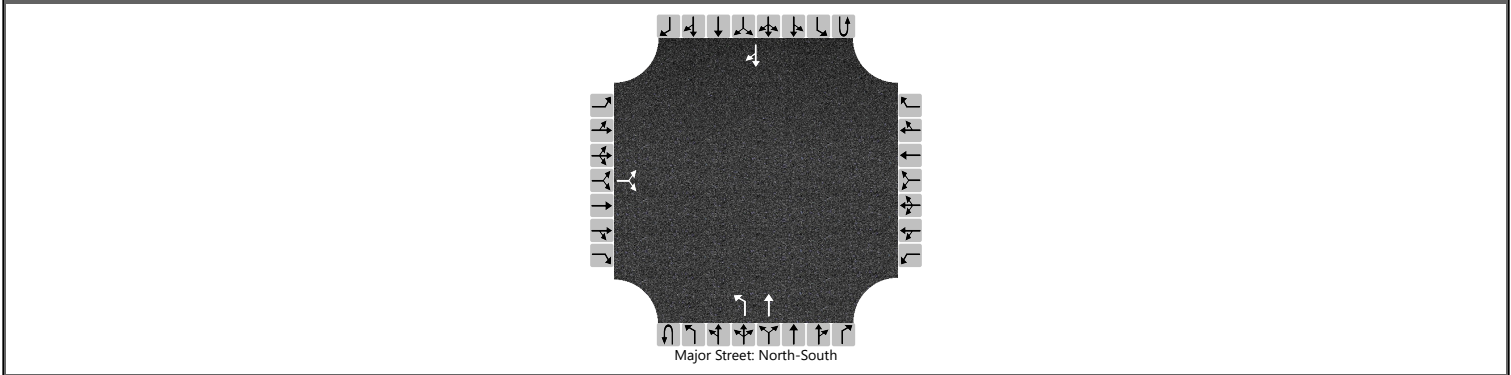
| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.21 | 6.61 | 6.31 |  | 4.11 |  |  |  | 4.11 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.60 | 4.10 | 3.40 |  | 2.21 |  |  |  | 2.21 |  |  |

| Delay, Queue Length, and Level of Service |     |  |      |  |      |      |  |      |     |      |     |     |     |      |  |  |
|-------------------------------------------|-----|--|------|--|------|------|--|------|-----|------|-----|-----|-----|------|--|--|
| Flow Rate, v (veh/h)                      |     |  | 7    |  |      | 130  |  | 225  |     | 4    |     |     |     | 72   |  |  |
| Capacity, c (veh/h)                       |     |  | 931  |  |      | 451  |  | 816  |     | 1467 |     |     |     | 1357 |  |  |
| v/c Ratio                                 |     |  | 0.01 |  |      | 0.29 |  | 0.28 |     | 0.00 |     |     |     | 0.05 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     |  | 0.0  |  |      | 1.2  |  | 1.1  |     | 0.0  |     |     |     | 0.2  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     |  | 0.0  |  |      | 32.6 |  | 29.9 |     |      |     |     |     | 5.0  |  |  |
| Control Delay (s/veh)                     |     |  | 8.9  |  |      | 16.2 |  | 11.1 |     | 7.5  | 0.0 | 0.0 |     | 7.8  |  |  |
| Level of Service (LOS)                    |     |  | A    |  |      | C    |  | B    |     | A    | A   | A   |     | A    |  |  |
| Approach Delay (s/veh)                    | 8.9 |  |      |  | 12.9 |      |  |      | 0.2 |      |     |     | 2.8 |      |  |  |
| Approach LOS                              | A   |  |      |  | B    |      |  |      | A   |      |     |     | A   |      |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                |
|--------------------------|--------------------------|----------------------------|--------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Kenssington Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville       |
| Date Performed           | 5/17/2024                | East/West Street           | Kenssington Drive              |
| Analysis Year            | 2024                     | North/South Street         | Ranger Way                     |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.87                           |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                           |
| Project Description      | Existing Conditions      |                            |                                |

Lanes



Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
|----------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Movement                   | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                   |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes            |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 1  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration              |           |    | LR |    |           |   |   |   |            | L  | T   |   |            |   |     | TR |
| Volume (veh/h)             |           | 10 |    | 44 |           |   |   |   |            | 18 | 153 |   |            |   | 180 | 7  |
| Percent Heavy Vehicles (%) |           | 4  |    | 4  |           |   |   |   |            | 2  |     |   |            |   |     |    |
| Proportion Time Blocked    |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)          | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized     |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage      | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

Critical and Follow-up Headways

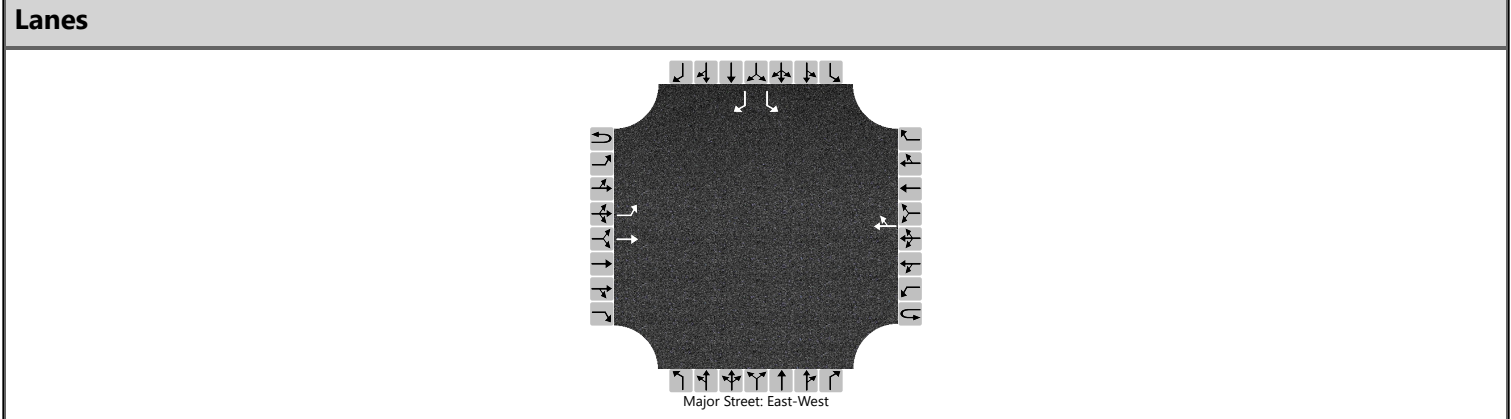
|                              |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)  |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)       |  | 6.44 |  | 6.24 |  |  |  |  |  | 4.12 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)      |  | 3.54 |  | 3.34 |  |  |  |  |  | 2.22 |  |  |  |  |  |  |

Delay, Queue Length, and Level of Service

|                                         |      |  |      |  |  |  |  |  |     |      |  |  |  |  |  |  |
|-----------------------------------------|------|--|------|--|--|--|--|--|-----|------|--|--|--|--|--|--|
| Flow Rate, v (veh/h)                    |      |  | 62   |  |  |  |  |  |     | 21   |  |  |  |  |  |  |
| Capacity, c (veh/h)                     |      |  | 739  |  |  |  |  |  |     | 1355 |  |  |  |  |  |  |
| v/c Ratio                               |      |  | 0.08 |  |  |  |  |  |     | 0.02 |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |      |  | 0.3  |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)  |      |  | 7.7  |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| Control Delay (s/veh)                   |      |  | 10.3 |  |  |  |  |  |     | 7.7  |  |  |  |  |  |  |
| Level of Service (LOS)                  |      |  | B    |  |  |  |  |  |     | A    |  |  |  |  |  |  |
| Approach Delay (s/veh)                  | 10.3 |  |      |  |  |  |  |  | 0.8 |      |  |  |  |  |  |  |
| Approach LOS                            | B    |  |      |  |  |  |  |  | A   |      |  |  |  |  |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                              |
|--------------------------|--------------------------|----------------------------|------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Ranger Way |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road              |
| Analysis Year            | 2024                     | North/South Street         | Ranger Way                   |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.82                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                         |
| Project Description      | Existing Conditions      |                            |                              |



| Vehicle Volumes and Adjustments |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|----|-----|---|-----------|---|-----|-----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |    |     |   | Westbound |   |     |     | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L  | T   | R | U         | L | T   | R   | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6   |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0   |            | 0 | 0 | 0 |            | 1  | 0  | 1   |
| Configuration                   |           | L  | T   |   |           |   |     | TR  |            |   |   |   |            | L  |    | R   |
| Volume (veh/h)                  |           | 73 | 202 |   |           |   | 379 | 101 |            |   |   |   |            | 66 |    | 139 |
| Percent Heavy Vehicles (%)      |           | 3  |     |   |           |   |     |     |            |   |   |   |            | 8  |    | 8   |
| Proportion Time Blocked         |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |    |     |   |           |   |     |     |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |    |     |   |           |   |     |     |            |   |   |   | No         |    |    |     |
| Median Type   Storage           | Undivided |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |

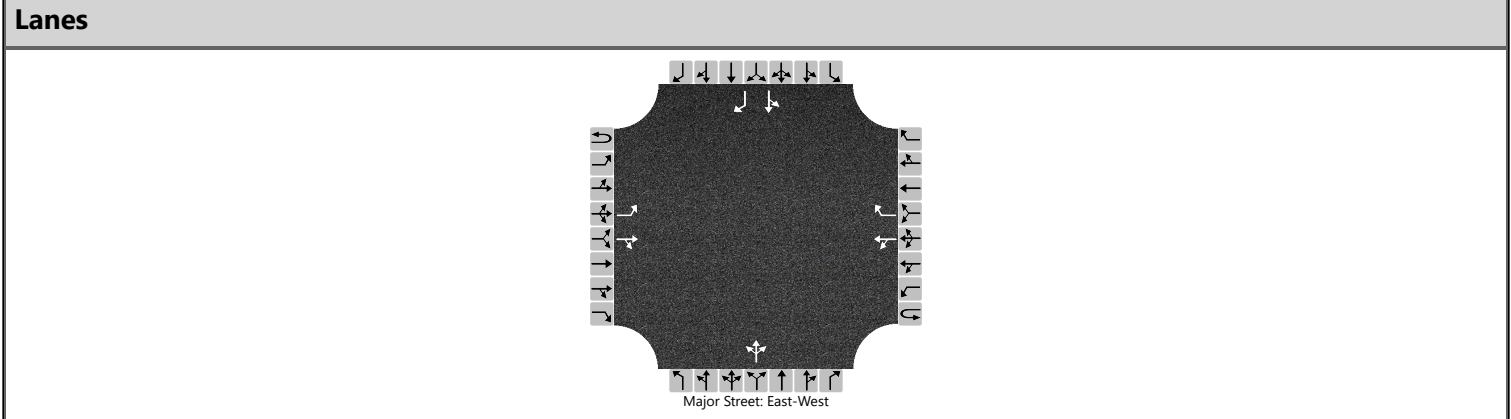
| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.48 |  | 6.28 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.57 |  | 3.37 |

| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 89   |  |  |  |  |  |  |  |  |  |  |      | 80   |  | 170  |
| Capacity, c (veh/h)                       |     | 984  |  |  |  |  |  |  |  |  |  |  |      | 257  |  | 542  |
| v/c Ratio                                 |     | 0.09 |  |  |  |  |  |  |  |  |  |  |      | 0.31 |  | 0.31 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.3  |  |  |  |  |  |  |  |  |  |  |      | 1.3  |  | 1.3  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 7.7  |  |  |  |  |  |  |  |  |  |  |      | 34.6 |  | 34.6 |
| Control Delay (s/veh)                     |     | 9.0  |  |  |  |  |  |  |  |  |  |  |      | 25.3 |  | 14.6 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |      | D    |  | B    |
| Approach Delay (s/veh)                    | 2.4 |      |  |  |  |  |  |  |  |  |  |  | 18.1 |      |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | C    |      |  |      |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                              |
|--------------------------|--------------------------|----------------------------|----------------------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & High School Drive/W Poi... |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville                     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road                              |
| Analysis Year            | 2024                     | North/South Street         | High School Drive/W Point Drive              |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.77                                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                                         |
| Project Description      | Existing Conditions      |                            |                                              |



| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |    |            |   |     |   |            |    |    |     |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|----|------------|---|-----|---|------------|----|----|-----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |    | Northbound |   |     |   | Southbound |    |    |     |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R  | U          | L | T   | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1  | 2   | 3  | 4U        | 4  | 5   | 6  |            | 7 | 8   | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1  | 1   | 0  | 0         | 0  | 1   | 1  |            | 0 | 1   | 0 |            | 0  | 1  | 1   |
| Configuration                   |           | L  |     | TR |           | LT |     | R  |            |   | LTR |   |            | LT |    | R   |
| Volume (veh/h)                  |           | 84 | 177 | 15 |           | 0  | 292 | 32 |            | 2 | 0   | 3 |            | 54 | 1  | 185 |
| Percent Heavy Vehicles (%)      |           | 2  |     |    |           | 2  |     |    |            | 0 | 0   | 0 |            | 1  | 1  | 1   |
| Proportion Time Blocked         |           |    |     |    |           |    |     |    |            |   |     |   |            |    |    |     |
| Percent Grade (%)               |           |    |     |    |           |    |     |    | 0          |   |     |   | 0          |    |    |     |
| Right Turn Channelized          |           |    |     |    | No        |    |     |    |            |   |     |   | No         |    |    |     |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |    |            |   |     |   |            |    |    |     |

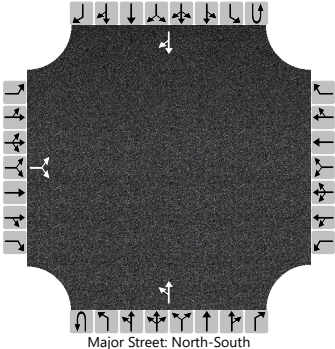
| Critical and Follow-up Headways |  |      |  |  |  |      |  |  |  |      |      |      |  |      |      |      |
|---------------------------------|--|------|--|--|--|------|--|--|--|------|------|------|--|------|------|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  | 4.1  |  |  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  | 4.12 |  |  |  | 7.10 | 6.50 | 6.20 |  | 7.11 | 6.51 | 6.21 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  | 2.2  |  |  |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  | 2.22 |  |  |  | 3.50 | 4.00 | 3.30 |  | 3.51 | 4.01 | 3.31 |

| Delay, Queue Length, and Level of Service |     |      |  |  |     |      |     |  |      |  |      |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|-----|------|-----|--|------|--|------|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 109  |  |  |     | 0    |     |  |      |  | 6    |  |      | 71   |  | 240  |
| Capacity, c (veh/h)                       |     | 1136 |  |  |     | 1290 |     |  |      |  | 241  |  |      | 249  |  | 608  |
| v/c Ratio                                 |     | 0.10 |  |  |     | 0.00 |     |  |      |  | 0.03 |  |      | 0.29 |  | 0.40 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.3  |  |  |     | 0.0  |     |  |      |  | 0.1  |  |      | 1.1  |  | 1.9  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 7.6  |  |  |     |      |     |  |      |  | 2.5  |  |      | 27.7 |  | 47.9 |
| Control Delay (s/veh)                     |     | 8.5  |  |  |     | 7.8  | 0.0 |  |      |  | 20.4 |  |      | 25.1 |  | 14.7 |
| Level of Service (LOS)                    |     | A    |  |  |     | A    | A   |  |      |  | C    |  |      | D    |  | B    |
| Approach Delay (s/veh)                    | 2.6 |      |  |  | 0.0 |      |     |  | 20.4 |  |      |  | 17.1 |      |  |      |
| Approach LOS                              | A   |      |  |  | A   |      |     |  | C    |  |      |  | C    |      |  |      |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                     |
|--------------------------|--------------------------|----------------------------|-------------------------------------|
| Analyst                  | tsj                      | Intersection               | Pitts Boulevard & High School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville            |
| Date Performed           | 5/17/2024                | East/West Street           | High School Drive                   |
| Analysis Year            | 2024                     | North/South Street         | Pitts Boulevard                     |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.57                                |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                |
| Project Description      | Existing Conditions      |                            |                                     |

Lanes



Major Street: North-South

| Vehicle Volumes and Adjustments |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
|---------------------------------|-----------|-----|----|----|-----------|---|---|---|------------|----|----|---|------------|---|----|----|
| Approach                        | Eastbound |     |    |    | Westbound |   |   |   | Northbound |    |    |   | Southbound |   |    |    |
| Movement                        | U         | L   | T  | R  | U         | L | T | R | U          | L  | T  | R | U          | L | T  | R  |
| Priority                        |           | 10  | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2  | 3 | 4U         | 4 | 5  | 6  |
| Number of Lanes                 |           | 0   | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1  | 0 | 0          | 0 | 1  | 0  |
| Configuration                   |           |     | LR |    |           |   |   |   |            | LT |    |   |            |   |    | TR |
| Volume (veh/h)                  |           | 114 |    | 65 |           |   |   |   |            | 28 | 51 |   |            |   | 41 | 52 |
| Percent Heavy Vehicles (%)      |           | 3   |    | 3  |           |   |   |   |            | 3  |    |   |            |   |    |    |
| Proportion Time Blocked         |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Percent Grade (%)               | 0         |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Right Turn Channelized          |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Median Type   Storage           | Undivided |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.43 |  | 6.23 |  |  |  |  |  | 4.13 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.53 |  | 3.33 |  |  |  |  |  | 2.23 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 314  |  |  |  |  |  |     | 49   |     |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 730  |  |  |  |  |  |     | 1404 |     |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.43 |  |  |  |  |  |     | 0.03 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 2.2  |  |  |  |  |  |     | 0.1  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 56.3 |  |  |  |  |  |     | 2.6  |     |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 13.6 |  |  |  |  |  |     | 7.7  | 0.3 |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                    | 13.6 |  |      |  |  |  |  |  | 2.9 |      |     |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |

North Ridgeville City School District

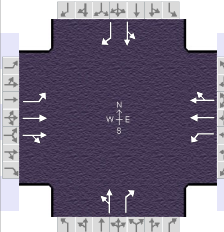
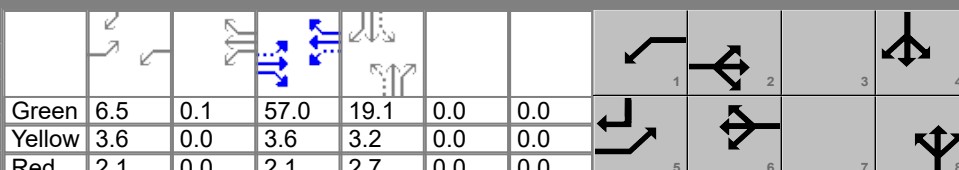
# **North Ridgeville CSD Traffic Impact Study**

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## **HCS 2024 Reports – No Build Conditions**



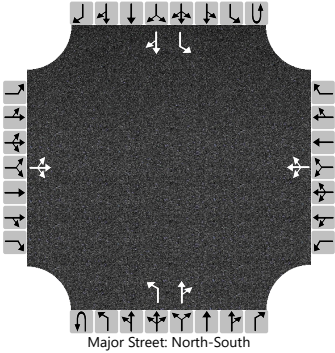
# HCS Signalized Intersection Results Summary

| General Information                             |                          |                 |               |                                                                                    |       | Intersection Information |         |       |       |      |       |  |     |       |       |       |  |      |  |
|-------------------------------------------------|--------------------------|-----------------|---------------|------------------------------------------------------------------------------------|-------|--------------------------|---------|-------|-------|------|-------|-------------------------------------------------------------------------------------|-----|-------|-------|-------|--|------|--|
| Agency                                          | DGL                      |                 |               |                                                                                    |       | Duration, h              | 0.250   |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Analyst                                         | tsj                      |                 | Analysis Date | Jun 18, 2024                                                                       |       | Area Type                | Other   |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Jurisdiction                                    | City of North Ridgeville |                 | Time Period   | AM Peak                                                                            |       | PHF                      | 0.89    |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Urban Street                                    | Center Ridge             |                 | Analysis Year | 2029                                                                               |       | Analysis Period          | 1> 7:00 |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Intersection                                    | Center Ridge & Ranger... |                 | File Name     | 2029 No Build AM Peak Center Ridge & Ranger.xus                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Project Description                             | No Build                 |                 |               |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Demand Information                              |                          |                 |               |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Approach Movement                               |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB  |       |       |       |  |      |  |
|                                                 |                          |                 |               | L                                                                                  | T     | R                        | L       | T     | R     | L    | T     | R                                                                                   | L   | T     | R     |       |  |      |  |
| Demand ( v ), veh/h                             |                          |                 |               | 84                                                                                 | 583   | 141                      | 95      | 475   | 100   | 136  | 125   | 189                                                                                 | 206 | 182   | 111   |       |  |      |  |
| Signal Information                              |                          |                 |               |  |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Cycle, s                                        | 100.0                    | Reference Phase | 2             |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Offset, s                                       | 0                        | Reference Point | End           |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Uncoordinated                                   | No                       | Simult. Gap E/W | On            |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Force Mode                                      | Fixed                    | Simult. Gap N/S | On            |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
|                                                 |                          |                 |               | Green                                                                              | 6.5   | 0.1                      | 57.0    | 19.1  | 0.0   | 0.0  |       |                                                                                     |     |       |       |       |  |      |  |
|                                                 |                          |                 |               | Yellow                                                                             | 3.6   | 0.0                      | 3.6     | 3.2   | 0.0   | 0.0  |       |                                                                                     |     |       |       |       |  |      |  |
|                                                 |                          |                 |               | Red                                                                                | 2.1   | 0.0                      | 2.1     | 2.7   | 0.0   | 0.0  |       |                                                                                     |     |       |       |       |  |      |  |
| Timer Results                                   |                          |                 |               | EBL                                                                                |       | EBT                      |         | WBL   |       | WBT  |       | NBL                                                                                 |     | NBT   |       | SBL   |  | SBT  |  |
| Assigned Phase                                  |                          |                 |               | 5                                                                                  |       | 2                        |         | 1     |       | 6    |       |                                                                                     |     | 8     |       |       |  | 4    |  |
| Case Number                                     |                          |                 |               | 1.1                                                                                |       | 4.0                      |         | 1.1   |       | 4.0  |       |                                                                                     |     | 7.0   |       |       |  | 7.0  |  |
| Phase Duration, s                               |                          |                 |               | 12.2                                                                               |       | 62.7                     |         | 12.3  |       | 62.8 |       |                                                                                     |     | 25.0  |       |       |  | 25.0 |  |
| Change Period, ( Y+R c ), s                     |                          |                 |               | 5.7                                                                                |       | 5.7                      |         | 5.7   |       | 5.7  |       |                                                                                     |     | 5.9   |       |       |  | 5.9  |  |
| Max Allow Headway ( MAH ), s                    |                          |                 |               | 4.1                                                                                |       | 0.0                      |         | 4.1   |       | 0.0  |       |                                                                                     |     | 4.3   |       |       |  | 4.3  |  |
| Queue Clearance Time ( g s ), s                 |                          |                 |               | 4.1                                                                                |       |                          |         | 4.3   |       |      |       |                                                                                     |     | 21.1  |       |       |  | 21.1 |  |
| Green Extension Time ( g e ), s                 |                          |                 |               | 0.1                                                                                |       | 0.0                      |         | 0.1   |       | 0.0  |       |                                                                                     |     | 0.0   |       |       |  | 0.0  |  |
| Phase Call Probability                          |                          |                 |               | 0.93                                                                               |       |                          |         | 0.95  |       |      |       |                                                                                     |     | 1.00  |       |       |  | 1.00 |  |
| Max Out Probability                             |                          |                 |               | 0.34                                                                               |       |                          |         | 0.46  |       |      |       |                                                                                     |     | 1.00  |       |       |  | 1.00 |  |
| Movement Group Results                          |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB  |       |       |       |  |      |  |
| Approach Movement                               |                          |                 |               | L                                                                                  | T     | R                        | L       | T     | R     | L    | T     | R                                                                                   | L   | T     | R     |       |  |      |  |
| Assigned Movement                               |                          |                 |               | 5                                                                                  | 2     | 12                       | 1       | 6     | 16    | 3    | 8     | 18                                                                                  | 7   | 4     | 14    |       |  |      |  |
| Adjusted Flow Rate ( v ), veh/h                 |                          |                 |               | 94                                                                                 | 421   | 393                      | 107     | 332   | 314   |      | 293   | 212                                                                                 |     | 436   | 125   |       |  |      |  |
| Adjusted Saturation Flow Rate ( s ), veh/h/ln   |                          |                 |               | 1753                                                                               | 1841  | 1716                     | 1767    | 1856  | 1743  |      | 1286  | 1572                                                                                |     | 1274  | 1585  |       |  |      |  |
| Queue Service Time ( g s ), s                   |                          |                 |               | 2.1                                                                                | 12.7  | 12.8                     | 2.3     | 9.3   | 9.4   |      | 0.0   | 12.6                                                                                |     | 0.0   | 6.4   |       |  |      |  |
| Cycle Queue Clearance Time ( g c ), s           |                          |                 |               | 2.1                                                                                | 12.7  | 12.8                     | 2.3     | 9.3   | 9.4   |      | 19.1  | 12.6                                                                                |     | 19.1  | 6.4   |       |  |      |  |
| Green Ratio ( g/C )                             |                          |                 |               | 0.63                                                                               | 0.57  | 0.57                     | 0.64    | 0.57  | 0.57  |      | 0.19  | 0.19                                                                                |     | 0.19  | 0.26  |       |  |      |  |
| Capacity ( c ), veh/h                           |                          |                 |               | 538                                                                                | 1048  | 978                      | 484     | 1060  | 996   |      | 300   | 300                                                                                 |     | 299   | 406   |       |  |      |  |
| Volume-to-Capacity Ratio ( X )                  |                          |                 |               | 0.175                                                                              | 0.401 | 0.402                    | 0.221   | 0.313 | 0.315 |      | 0.976 | 0.707                                                                               |     | 1.460 | 0.307 |       |  |      |  |
| Back of Queue ( Q ), ft/ln ( 95 th percentile)  |                          |                 |               | 34                                                                                 | 229   | 211                      | 38      | 174   | 162   |      | 425   | 238                                                                                 |     | 1028  | 111   |       |  |      |  |
| Back of Queue ( Q ), veh/ln ( 95 th percentile) |                          |                 |               | 1.3                                                                                | 8.9   | 8.5                      | 1.5     | 6.8   | 6.5   |      | 16.6  | 9.3                                                                                 |     | 40.5  | 4.4   |       |  |      |  |
| Queue Storage Ratio ( RQ ) ( 95 th percentile)  |                          |                 |               | 0.00                                                                               | 0.00  | 0.00                     | 0.00    | 0.00  | 0.00  |      | 0.00  | 0.00                                                                                |     | 0.00  | 0.00  |       |  |      |  |
| Uniform Delay ( d 1 ), s/veh                    |                          |                 |               | 7.8                                                                                | 12.0  | 12.0                     | 8.0     | 11.2  | 11.2  |      | 42.0  | 37.8                                                                                |     | 42.2  | 30.0  |       |  |      |  |
| Incremental Delay ( d 2 ), s/veh                |                          |                 |               | 0.2                                                                                | 1.1   | 1.2                      | 0.2     | 0.8   | 0.8   |      | 45.3  | 7.4                                                                                 |     | 224.8 | 0.4   |       |  |      |  |
| Initial Queue Delay ( d 3 ), s/veh              |                          |                 |               | 0.0                                                                                | 0.0   | 0.0                      | 0.0     | 0.0   | 0.0   |      | 0.0   | 0.0                                                                                 |     | 0.0   | 0.0   |       |  |      |  |
| Control Delay ( d ), s/veh                      |                          |                 |               | 7.9                                                                                | 13.2  | 13.2                     | 8.3     | 12.0  | 12.1  |      | 87.3  | 45.2                                                                                |     | 267.0 | 30.5  |       |  |      |  |
| Level of Service (LOS)                          |                          |                 |               | A                                                                                  | B     | B                        | A       | B     | B     |      | F     | D                                                                                   |     | F     | C     |       |  |      |  |
| Approach Delay, s/veh / LOS                     |                          |                 |               | 12.6                                                                               |       | B                        |         | 11.5  |       | B    |       | 69.6                                                                                |     | E     |       | 214.4 |  | F    |  |
| Intersection Delay, s/veh / LOS                 |                          |                 |               | 64.4                                                                               |       |                          |         |       |       | E    |       |                                                                                     |     |       |       |       |  |      |  |
| Multimodal Results                              |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB  |       |       |       |  |      |  |
| Pedestrian LOS Score / LOS                      |                          |                 |               | 1.89                                                                               |       | B                        |         | 1.89  |       | B    |       | 2.30                                                                                |     | B     |       | 2.30  |  | B    |  |
| Bicycle LOS Score / LOS                         |                          |                 |               | 1.24                                                                               |       | A                        |         | 1.11  |       | A    |       | 1.32                                                                                |     | A     |       | 1.41  |  | A    |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                        |
|--------------------------|--------------------------|----------------------------|----------------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Fire Station/School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville               |
| Date Performed           | 5/17/2024                | East/West Street           | Fire Station Drive                     |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                             |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.64                                   |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                   |
| Project Description      | No Build                 |                            |                                        |

Lanes



Major Street: North-South

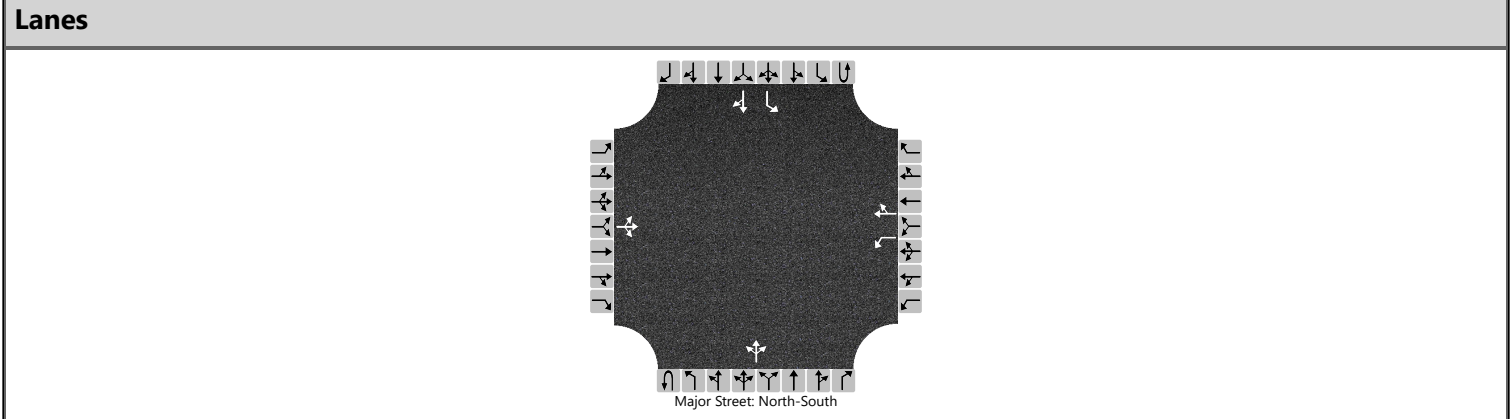
| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|-----|------------|---|-----|-----|------------|-----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |     | Northbound |   |     |     | Southbound |     |     |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R   | U          | L | T   | R   | U          | L   | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9   | 1U         | 1 | 2   | 3   | 4U         | 4   | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0   | 0          | 1 | 1   | 0   | 0          | 1   | 1   | 0  |
| Configuration                   |           |    | LTR |    |           |    | LTR |     |            | L |     | TR  |            | L   |     | TR |
| Volume (veh/h)                  |           | 0  | 0   | 3  |           | 15 | 0   | 234 |            | 3 | 215 | 107 |            | 192 | 234 | 5  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 11 | 11  | 11  |            | 8 |     |     |            | 4   |     |    |
| Proportion Time Blocked         |           |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |     |            |   |     |     |            |     |     |    |
| Right Turn Channelized          |           |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.21 | 6.61 | 6.31 |  | 4.18 |  |  |  | 4.14 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.60 | 4.10 | 3.40 |  | 2.27 |  |  |  | 2.24 |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |      |  |       |  |     |      |  |  |     |      |  |  |
|-------------------------------------------|------|--|------|--|------|--|-------|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                      |      |  | 5    |  |      |  | 389   |  |     | 5    |  |  |     | 300  |  |  |
| Capacity, c (veh/h)                       |      |  | 681  |  |      |  | 419   |  |     | 1153 |  |  |     | 1015 |  |  |
| v/c Ratio                                 |      |  | 0.01 |  |      |  | 0.93  |  |     | 0.00 |  |  |     | 0.30 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.0  |  |      |  | 10.4  |  |     | 0.0  |  |  |     | 1.2  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 0.0  |  |      |  | 282.9 |  |     | 0.0  |  |  |     | 31.0 |  |  |
| Control Delay (s/veh)                     |      |  | 10.3 |  |      |  | 59.7  |  |     | 8.1  |  |  |     | 10.0 |  |  |
| Level of Service (LOS)                    |      |  | B    |  |      |  | F     |  |     | A    |  |  |     | B    |  |  |
| Approach Delay (s/veh)                    | 10.3 |  |      |  | 59.7 |  |       |  | 0.1 |      |  |  | 4.5 |      |  |  |
| Approach LOS                              | B    |  |      |  | F    |  |       |  | A   |      |  |  | A   |      |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                          |
|--------------------------|--------------------------|----------------------------|--------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & NRAC Drive  |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville |
| Date Performed           | 5/17/2024                | East/West Street           | NRAC Drive               |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way               |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.75                     |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                     |
| Project Description      | No Build                 |                            |                          |



| Vehicle Volumes and Adjustments |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
|---------------------------------|-----------|----|-----|----|-----------|----|----|-----|------------|---|-----|----|------------|-----|----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |    |     | Northbound |   |     |    | Southbound |     |    |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T  | R   | U          | L | T   | R  | U          | L   | T  | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8  | 9   | 1U         | 1 | 2   | 3  | 4U         | 4   | 5  | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 1  | 1  | 0   | 0          | 0 | 1   | 0  | 0          | 1   | 1  | 0  |
| Configuration                   |           |    | LTR |    |           | L  |    | TR  |            |   | LTR |    |            | L   |    | TR |
| Volume (veh/h)                  |           | 0  | 0   | 1  |           | 47 | 0  | 127 |            | 4 | 197 | 60 |            | 200 | 58 | 0  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 14 | 14 | 14  |            | 5 |     |    |            | 6   |    |    |
| Proportion Time Blocked         |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |    |     |            |   |     |    |            |     |    |    |
| Right Turn Channelized          |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |

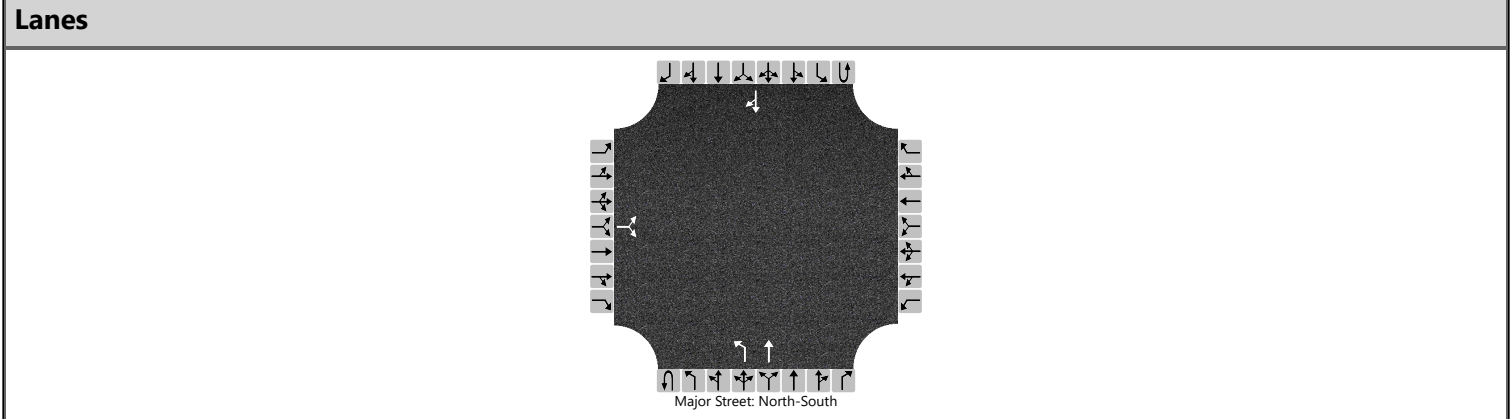
| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.24 | 6.64 | 6.34 |  | 4.15 |  |  |  | 4.16 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.63 | 4.13 | 3.43 |  | 2.25 |  |  |  | 2.25 |  |  |

| Delay, Queue Length, and Level of Service |     |  |      |  |      |      |  |      |     |      |     |     |     |      |  |  |
|-------------------------------------------|-----|--|------|--|------|------|--|------|-----|------|-----|-----|-----|------|--|--|
| Flow Rate, v (veh/h)                      |     |  | 1    |  |      | 63   |  | 169  |     | 5    |     |     |     | 267  |  |  |
| Capacity, c (veh/h)                       |     |  | 989  |  |      | 184  |  | 710  |     | 1502 |     |     |     | 1194 |  |  |
| v/c Ratio                                 |     |  | 0.00 |  |      | 0.34 |  | 0.24 |     | 0.00 |     |     |     | 0.22 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     |  | 0.0  |  |      | 1.4  |  | 0.9  |     | 0.0  |     |     |     | 0.9  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     |  | 0.0  |  |      | 38.9 |  | 25.0 |     |      |     |     |     | 23.6 |  |  |
| Control Delay (s/veh)                     |     |  | 8.6  |  |      | 34.5 |  | 11.7 |     | 7.4  | 0.0 | 0.0 |     | 8.9  |  |  |
| Level of Service (LOS)                    |     |  | A    |  |      | D    |  | B    |     | A    | A   | A   |     | A    |  |  |
| Approach Delay (s/veh)                    | 8.6 |  |      |  | 17.8 |      |  |      | 0.1 |      |     |     | 6.9 |      |  |  |
| Approach LOS                              | A   |  |      |  | C    |      |  |      | A   |      |     |     | A   |      |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                |
|--------------------------|--------------------------|----------------------------|--------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Kenssington Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville       |
| Date Performed           | 5/17/2024                | East/West Street           | Kenssington Drive              |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                     |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.68                           |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                           |
| Project Description      | No Build                 |                            |                                |



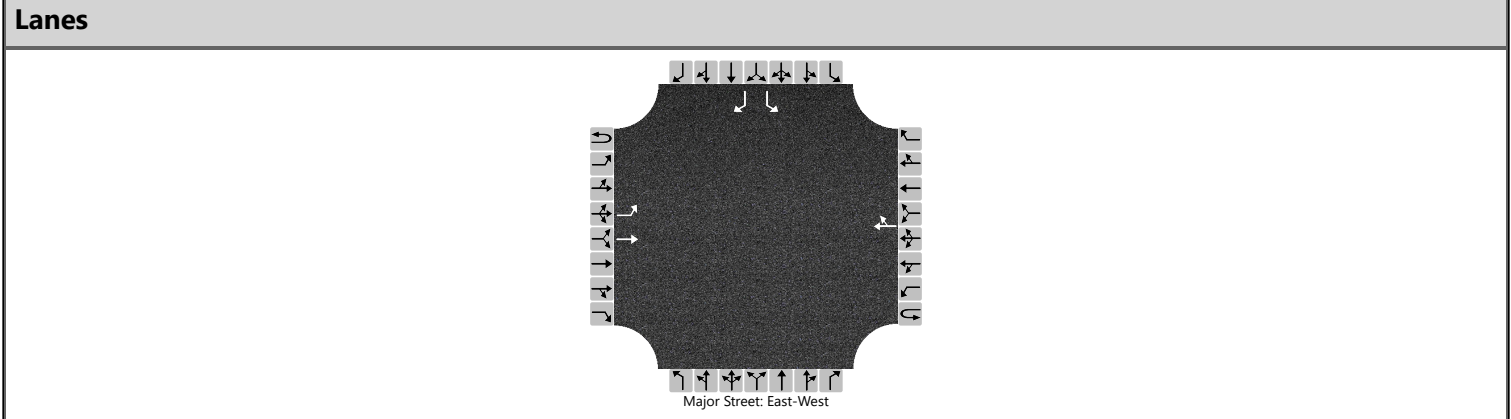
| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 1  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | L  | T   |   |            |   |     | TR |
| Volume (veh/h)                  |           | 10 |    | 44 |           |   |   |   |            | 10 | 245 |   |            |   | 105 | 2  |
| Percent Heavy Vehicles (%)      |           | 13 |    | 13 |           |   |   |   |            | 6  |     |   |            |   |     |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.53 |  | 6.33 |  |  |  |  |  | 4.16 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.62 |  | 3.42 |  |  |  |  |  | 2.25 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |  |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|--|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 79   |  |  |  |  |  |     | 15   |  |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 743  |  |  |  |  |  |     | 1398 |  |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.11 |  |  |  |  |  |     | 0.01 |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.4  |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 11.0 |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 10.4 |  |  |  |  |  |     | 7.6  |  |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    |  |  |  |  |  |  |
| Approach Delay (s/veh)                    | 10.4 |  |      |  |  |  |  |  | 0.3 |      |  |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |  |  |  |  |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                              |
|--------------------------|--------------------------|----------------------------|------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Ranger Way |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road              |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                   |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.79                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                         |
| Project Description      | No Build                 |                            |                              |



| Vehicle Volumes and Adjustments |           |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
|---------------------------------|-----------|-----|-----|---|-----------|---|-----|-----|------------|---|---|---|------------|----|----|----|
| Approach                        | Eastbound |     |     |   | Westbound |   |     |     | Northbound |   |   |   | Southbound |    |    |    |
| Movement                        | U         | L   | T   | R | U         | L | T   | R   | U          | L | T | R | U          | L  | T  | R  |
| Priority                        | 1U        | 1   | 2   | 3 | 4U        | 4 | 5   | 6   |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Number of Lanes                 | 0         | 1   | 1   | 0 | 0         | 0 | 1   | 0   |            | 0 | 0 | 0 |            | 1  | 0  | 1  |
| Configuration                   |           | L   | T   |   |           |   |     | TR  |            |   |   |   |            | L  |    | R  |
| Volume (veh/h)                  |           | 114 | 699 |   |           |   | 351 | 141 |            |   |   |   |            | 49 |    | 75 |
| Percent Heavy Vehicles (%)      |           | 2   |     |   |           |   |     |     |            |   |   |   |            | 14 |    | 14 |
| Proportion Time Blocked         |           |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
| Percent Grade (%)               |           |     |     |   |           |   |     |     |            |   |   |   | 0          |    |    |    |
| Right Turn Channelized          |           |     |     |   |           |   |     |     |            |   |   |   | No         |    |    |    |
| Median Type   Storage           | Undivided |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |

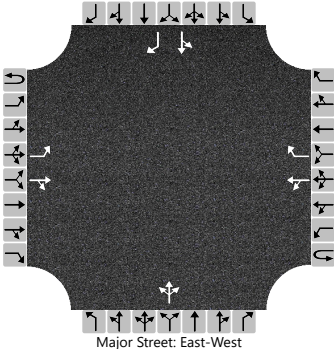
| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  |  |  |  |  |  |  |  |  | 6.54 |  | 6.34 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  |  |  |  |  |  |  |  |  | 3.63 |  | 3.43 |

| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |      |       |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|------|-------|--|------|
| Flow Rate, v (veh/h)                      |     | 144  |  |  |  |  |  |  |  |  |  |  |      | 62    |  | 95   |
| Capacity, c (veh/h)                       |     | 958  |  |  |  |  |  |  |  |  |  |  |      | 79    |  | 524  |
| v/c Ratio                                 |     | 0.15 |  |  |  |  |  |  |  |  |  |  |      | 0.78  |  | 0.18 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.5  |  |  |  |  |  |  |  |  |  |  |      | 3.9   |  | 0.7  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 12.7 |  |  |  |  |  |  |  |  |  |  |      | 108.4 |  | 19.5 |
| Control Delay (s/veh)                     |     | 9.4  |  |  |  |  |  |  |  |  |  |  |      | 136.3 |  | 13.4 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |      | F     |  | B    |
| Approach Delay (s/veh)                    | 1.3 |      |  |  |  |  |  |  |  |  |  |  | 61.9 |       |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | F    |       |  |      |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                              |
|--------------------------|--------------------------|----------------------------|----------------------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & High School Drive/W Poi... |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville                     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road                              |
| Analysis Year            | 2029                     | North/South Street         | High School Drive/W Point Drive              |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.75                                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                                         |
| Project Description      | No Build                 |                            |                                              |

Lanes



Major Street: East-West

| Vehicle Volumes and Adjustments |           |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |
|---------------------------------|-----------|-----|-----|----|-----------|----|-----|-----|------------|---|-----|---|------------|----|----|-----|
| Approach                        | Eastbound |     |     |    | Westbound |    |     |     | Northbound |   |     |   | Southbound |    |    |     |
| Movement                        | U         | L   | T   | R  | U         | L  | T   | R   | U          | L | T   | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1   | 2   | 3  | 4U        | 4  | 5   | 6   |            | 7 | 8   | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1   | 1   | 0  | 0         | 0  | 1   | 1   |            | 0 | 1   | 0 |            | 0  | 1  | 1   |
| Configuration                   |           | L   |     | TR |           | LT |     | R   |            |   | LTR |   |            | LT |    | R   |
| Volume (veh/h)                  |           | 446 | 201 | 5  |           | 0  | 195 | 183 |            | 4 | 0   | 0 |            | 45 | 1  | 292 |
| Percent Heavy Vehicles (%)      |           | 2   |     |    |           | 3  |     |     |            | 0 | 0   | 0 |            | 0  | 0  | 0   |
| Proportion Time Blocked         |           |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |
| Percent Grade (%)               |           |     |     |    |           |    |     |     | 0          |   |     |   | 0          |    |    |     |
| Right Turn Channelized          |           |     |     |    | No        |    |     |     |            |   |     |   | No         |    |    |     |
| Median Type   Storage           | Undivided |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |      |  |  |  |      |      |      |  |      |      |      |
|---------------------------------|--|------|--|--|--|------|--|--|--|------|------|------|--|------|------|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  | 4.1  |  |  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  | 4.13 |  |  |  | 7.10 | 6.50 | 6.20 |  | 7.10 | 6.50 | 6.20 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  | 2.2  |  |  |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  | 2.23 |  |  |  | 3.50 | 4.00 | 3.30 |  | 3.50 | 4.00 | 3.30 |

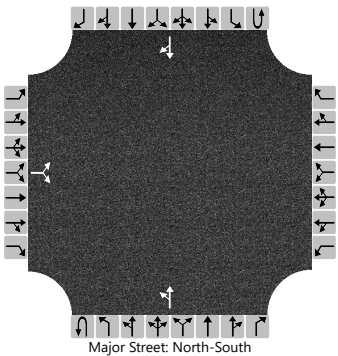
| Delay, Queue Length, and Level of Service |     |      |  |  |     |      |     |  |       |  |       |  |       |       |  |      |
|-------------------------------------------|-----|------|--|--|-----|------|-----|--|-------|--|-------|--|-------|-------|--|------|
| Flow Rate, v (veh/h)                      |     | 595  |  |  |     | 0    |     |  |       |  | 5     |  |       | 61    |  | 389  |
| Capacity, c (veh/h)                       |     | 1057 |  |  |     | 1273 |     |  |       |  | 7     |  |       | 26    |  | 656  |
| v/c Ratio                                 |     | 0.56 |  |  |     | 0.00 |     |  |       |  | 0.73  |  |       | 2.40  |  | 0.59 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 3.6  |  |  |     | 0.0  |     |  |       |  | 1.3   |  |       | 7.5   |  | 3.9  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 91.4 |  |  |     |      |     |  |       |  | 32.5  |  |       | 187.5 |  | 97.5 |
| Control Delay (s/veh)                     |     | 12.7 |  |  |     | 7.8  | 0.0 |  |       |  | 847.2 |  |       | 961.4 |  | 18.2 |
| Level of Service (LOS)                    |     | B    |  |  |     | A    | A   |  |       |  | F     |  |       | F     |  | C    |
| Approach Delay (s/veh)                    | 8.7 |      |  |  | 0.0 |      |     |  | 847.2 |  |       |  | 146.5 |       |  |      |
| Approach LOS                              | A   |      |  |  | A   |      |     |  | F     |  |       |  | F     |       |  |      |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                     |
|--------------------------|--------------------------|----------------------------|-------------------------------------|
| Analyst                  | tsj                      | Intersection               | Pitts Boulevard & High School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville            |
| Date Performed           | 5/17/2024                | East/West Street           | High School Drive                   |
| Analysis Year            | 2029                     | North/South Street         | Pitts Boulevard                     |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.81                                |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                |
| Project Description      | No Build                 |                            |                                     |

Lanes



Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |    |   | Southbound |   |     |     |
|----------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|----|---|------------|---|-----|-----|
| Movement                   | U         | L  | T  | R  | U         | L | T | R | U          | L  | T  | R | U          | L | T   | R   |
| Priority                   |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2  | 3 | 4U         | 4 | 5   | 6   |
| Number of Lanes            |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1  | 0 | 0          | 0 | 1   | 0   |
| Configuration              |           |    | LR |    |           |   |   |   |            | LT |    |   |            |   |     | TR  |
| Volume (veh/h)             |           | 85 |    | 38 |           |   |   |   |            | 73 | 14 |   |            |   | 108 | 152 |
| Percent Heavy Vehicles (%) |           | 6  |    | 6  |           |   |   |   |            | 8  |    |   |            |   |     |     |
| Proportion Time Blocked    |           |    |    |    |           |   |   |   |            |    |    |   |            |   |     |     |
| Percent Grade (%)          | 0         |    |    |    |           |   |   |   |            |    |    |   |            |   |     |     |
| Right Turn Channelized     |           |    |    |    |           |   |   |   |            |    |    |   |            |   |     |     |
| Median Type   Storage      | Undivided |    |    |    |           |   |   |   |            |    |    |   |            |   |     |     |

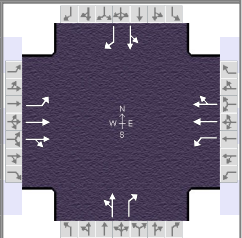
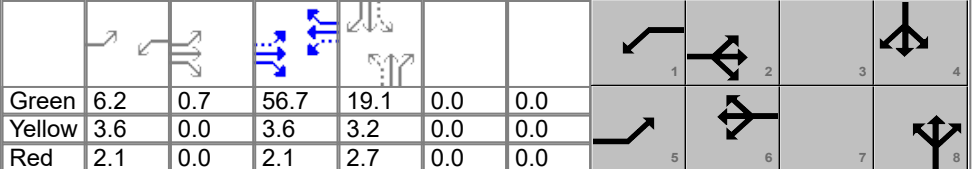
Critical and Follow-up Headways

|                              |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)  |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)       |  | 6.46 |  | 6.26 |  |  |  |  |  | 4.18 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)      |  | 3.55 |  | 3.35 |  |  |  |  |  | 2.27 |  |  |  |  |  |  |

Delay, Queue Length, and Level of Service

|                                         |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-----------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                    |      |  | 152  |  |  |  |  |  |     | 90   |     |  |  |  |  |  |
| Capacity, c (veh/h)                     |      |  | 589  |  |  |  |  |  |     | 1201 |     |  |  |  |  |  |
| v/c Ratio                               |      |  | 0.26 |  |  |  |  |  |     | 0.08 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |      |  | 1.0  |  |  |  |  |  |     | 0.2  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)  |      |  | 26.2 |  |  |  |  |  |     | 5.3  |     |  |  |  |  |  |
| Control Delay (s/veh)                   |      |  | 13.2 |  |  |  |  |  |     | 8.2  | 0.6 |  |  |  |  |  |
| Level of Service (LOS)                  |      |  | B    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                  | 13.2 |  |      |  |  |  |  |  | 7.0 |      |     |  |  |  |  |  |
| Approach LOS                            | B    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |

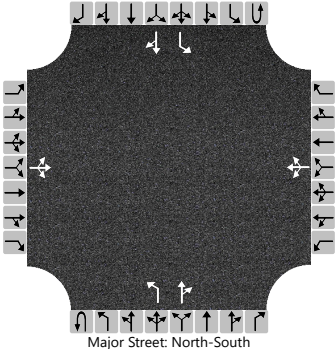
# HCS Signalized Intersection Results Summary

| General Information                             |                          |                 |               |                                                                                    |        | Intersection Information |         |       |       |      |       |  |       |       |       |
|-------------------------------------------------|--------------------------|-----------------|---------------|------------------------------------------------------------------------------------|--------|--------------------------|---------|-------|-------|------|-------|-------------------------------------------------------------------------------------|-------|-------|-------|
| Agency                                          | DGL                      |                 |               |                                                                                    |        | Duration, h              | 0.250   |       |       |      |       |                                                                                     |       |       |       |
| Analyst                                         | tsj                      |                 | Analysis Date | Jun 18, 2024                                                                       |        | Area Type                | Other   |       |       |      |       |                                                                                     |       |       |       |
| Jurisdiction                                    | City of North Ridgeville |                 | Time Period   | PM Peak                                                                            |        | PHF                      | 0.93    |       |       |      |       |                                                                                     |       |       |       |
| Urban Street                                    | Center Ridge             |                 | Analysis Year | 2029                                                                               |        | Analysis Period          | 1> 7:00 |       |       |      |       |                                                                                     |       |       |       |
| Intersection                                    | Center Ridge & Ranger... |                 | File Name     | 2029 No Build PM Peak Center Ridge & Ranger.xus                                    |        |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Project Description                             | No Build                 |                 |               |                                                                                    |        |                          |         |       |       |      |       |                                                                                     |       |       |       |
|                                                 |                          |                 |               |                                                                                    |        |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Demand Information                              |                          |                 |               | EB                                                                                 |        |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |
| Approach Movement                               |                          |                 |               | L                                                                                  | T      | R                        | L       | T     | R     | L    | T     | R                                                                                   | L     | T     | R     |
| Demand ( v ), veh/h                             |                          |                 |               | 142                                                                                | 694    | 56                       | 72      | 696   | 178   | 112  | 186   | 145                                                                                 | 180   | 89    | 125   |
| Signal Information                              |                          |                 |               |  |        |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Cycle, s                                        | 100.0                    | Reference Phase | 2             |                                                                                    |        |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Offset, s                                       | 0                        | Reference Point | End           |                                                                                    |        |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Uncoordinated                                   | No                       | Simult. Gap E/W | On            |                                                                                    | Green  | 6.2                      | 0.7     | 56.7  | 19.1  | 0.0  | 0.0   |                                                                                     |       |       |       |
| Force Mode                                      | Fixed                    | Simult. Gap N/S | On            |                                                                                    | Yellow | 3.6                      | 0.0     | 3.6   | 3.2   | 0.0  | 0.0   |                                                                                     |       |       |       |
|                                                 |                          |                 |               | Red                                                                                | 2.1    | 0.0                      | 2.1     | 2.7   | 0.0   | 0.0  |       |                                                                                     |       |       |       |
| Timer Results                                   |                          |                 |               | EBL                                                                                | EBT    | WBL                      | WBT     | NBL   | NBT   | SBL  | SBT   |                                                                                     |       |       |       |
| Assigned Phase                                  |                          |                 |               | 5                                                                                  | 2      | 1                        | 6       |       | 8     |      | 4     |                                                                                     |       |       |       |
| Case Number                                     |                          |                 |               | 1.1                                                                                | 4.0    | 1.1                      | 4.0     |       | 7.0   |      | 7.0   |                                                                                     |       |       |       |
| Phase Duration, s                               |                          |                 |               | 12.6                                                                               | 63.1   | 11.9                     | 62.4    |       | 25.0  |      | 25.0  |                                                                                     |       |       |       |
| Change Period, ( Y+R c ), s                     |                          |                 |               | 5.7                                                                                | 5.7    | 5.7                      | 5.7     |       | 5.9   |      | 5.9   |                                                                                     |       |       |       |
| Max Allow Headway ( MAH ), s                    |                          |                 |               | 4.1                                                                                | 0.0    | 4.1                      | 0.0     |       | 4.3   |      | 4.3   |                                                                                     |       |       |       |
| Queue Clearance Time ( g s ), s                 |                          |                 |               | 5.4                                                                                |        | 3.7                      |         |       | 21.1  |      | 21.1  |                                                                                     |       |       |       |
| Green Extension Time ( g e ), s                 |                          |                 |               | 0.2                                                                                | 0.0    | 0.1                      | 0.0     |       | 0.0   |      | 0.0   |                                                                                     |       |       |       |
| Phase Call Probability                          |                          |                 |               | 0.99                                                                               |        | 0.88                     |         |       | 1.00  |      | 1.00  |                                                                                     |       |       |       |
| Max Out Probability                             |                          |                 |               | 1.00                                                                               |        | 0.21                     |         |       | 1.00  |      | 1.00  |                                                                                     |       |       |       |
| Movement Group Results                          |                          |                 |               | EB                                                                                 |        |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |
| Approach Movement                               |                          |                 |               | L                                                                                  | T      | R                        | L       | T     | R     | L    | T     | R                                                                                   | L     | T     | R     |
| Assigned Movement                               |                          |                 |               | 5                                                                                  | 2      | 12                       | 1       | 6     | 16    | 3    | 8     | 18                                                                                  | 7     | 4     | 14    |
| Adjusted Flow Rate ( v ), veh/h                 |                          |                 |               | 153                                                                                | 408    | 398                      | 77      | 487   | 453   |      | 320   | 156                                                                                 |       | 289   | 134   |
| Adjusted Saturation Flow Rate ( s ), veh/h/ln   |                          |                 |               | 1767                                                                               | 1856   | 1806                     | 1781    | 1870  | 1738  |      | 1572  | 1572                                                                                |       | 959   | 1598  |
| Queue Service Time ( g s ), s                   |                          |                 |               | 3.4                                                                                | 12.0   | 12.0                     | 1.7     | 15.2  | 15.2  |      | 0.0   | 8.9                                                                                 |       | 0.0   | 7.4   |
| Cycle Queue Clearance Time ( g c ), s           |                          |                 |               | 3.4                                                                                | 12.0   | 12.0                     | 1.7     | 15.2  | 15.2  |      | 19.1  | 8.9                                                                                 |       | 19.1  | 7.4   |
| Green Ratio ( g/C )                             |                          |                 |               | 0.64                                                                               | 0.57   | 0.57                     | 0.63    | 0.57  | 0.57  |      | 0.19  | 0.19                                                                                |       | 0.19  | 0.19  |
| Capacity ( c ), veh/h                           |                          |                 |               | 439                                                                                | 1065   | 1037                     | 475     | 1061  | 986   |      | 350   | 300                                                                                 |       | 243   | 305   |
| Volume-to-Capacity Ratio ( X )                  |                          |                 |               | 0.348                                                                              | 0.383  | 0.384                    | 0.163   | 0.459 | 0.459 |      | 0.916 | 0.519                                                                               |       | 1.189 | 0.440 |
| Back of Queue ( Q ), ft/ln ( 95 th percentile)  |                          |                 |               | 56                                                                                 | 217    | 208                      | 27      | 264   | 246   |      | 411   | 164                                                                                 |       | 551   | 133   |
| Back of Queue ( Q ), veh/ln ( 95 th percentile) |                          |                 |               | 2.2                                                                                | 8.5    | 8.3                      | 1.1     | 10.4  | 9.9   |      | 16.0  | 6.4                                                                                 |       | 21.9  | 5.3   |
| Queue Storage Ratio ( RQ ) ( 95 th percentile)  |                          |                 |               | 0.00                                                                               | 0.00   | 0.00                     | 0.00    | 0.00  | 0.00  |      | 0.00  | 0.00                                                                                |       | 0.00  | 0.00  |
| Uniform Delay ( d 1 ), s/veh                    |                          |                 |               | 8.8                                                                                | 11.6   | 11.6                     | 8.2     | 12.7  | 12.7  |      | 41.0  | 36.3                                                                                |       | 42.8  | 35.7  |
| Incremental Delay ( d 2 ), s/veh                |                          |                 |               | 0.5                                                                                | 1.0    | 1.1                      | 0.2     | 1.4   | 1.5   |      | 28.0  | 1.6                                                                                 |       | 118.4 | 1.0   |
| Initial Queue Delay ( d 3 ), s/veh              |                          |                 |               | 0.0                                                                                | 0.0    | 0.0                      | 0.0     | 0.0   | 0.0   |      | 0.0   | 0.0                                                                                 |       | 0.0   | 0.0   |
| Control Delay ( d ), s/veh                      |                          |                 |               | 9.3                                                                                | 12.7   | 12.7                     | 8.4     | 14.1  | 14.2  |      | 69.0  | 37.9                                                                                |       | 161.2 | 36.7  |
| Level of Service (LOS)                          |                          |                 |               | A                                                                                  | B      | B                        | A       | B     | B     |      | E     | D                                                                                   |       | F     | D     |
| Approach Delay, s/veh / LOS                     |                          |                 |               | 12.1                                                                               | B      |                          | 13.7    | B     |       | 58.8 | E     |                                                                                     | 121.7 | F     |       |
| Intersection Delay, s/veh / LOS                 |                          |                 |               | 36.6                                                                               |        |                          |         |       |       | D    |       |                                                                                     |       |       |       |
| Multimodal Results                              |                          |                 |               | EB                                                                                 |        |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |
| Pedestrian LOS Score / LOS                      |                          |                 |               | 1.89                                                                               | B      |                          | 1.89    | B     |       | 2.30 | B     |                                                                                     | 2.30  | B     |       |
| Bicycle LOS Score / LOS                         |                          |                 |               | 1.28                                                                               | A      |                          | 1.33    | A     |       | 1.27 | A     |                                                                                     | 1.19  | A     |       |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                        |
|--------------------------|--------------------------|----------------------------|----------------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Fire Station/School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville               |
| Date Performed           | 5/17/2024                | East/West Street           | Fire Station Drive                     |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                             |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.79                                   |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                   |
| Project Description      | No Build                 |                            |                                        |

Lanes



Major Street: North-South

| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|-----|------------|---|-----|----|------------|----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |     | Northbound |   |     |    | Southbound |    |     |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R   | U          | L | T   | R  | U          | L  | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9   | 1U         | 1 | 2   | 3  | 4U         | 4  | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0   | 0          | 1 | 1   | 0  | 0          | 1  | 1   | 0  |
| Configuration                   |           |    | LTR |    |           |    | LTR |     |            | L |     | TR |            | L  |     | TR |
| Volume (veh/h)                  |           | 2  | 0   | 0  |           | 24 | 0   | 163 |            | 0 | 277 | 50 |            | 92 | 132 | 1  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 0  | 0   | 0   |            | 5 |     |    |            | 2  |     |    |
| Proportion Time Blocked         |           |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |     |            |   |     |    |            |    |     |    |
| Right Turn Channelized          |           |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |

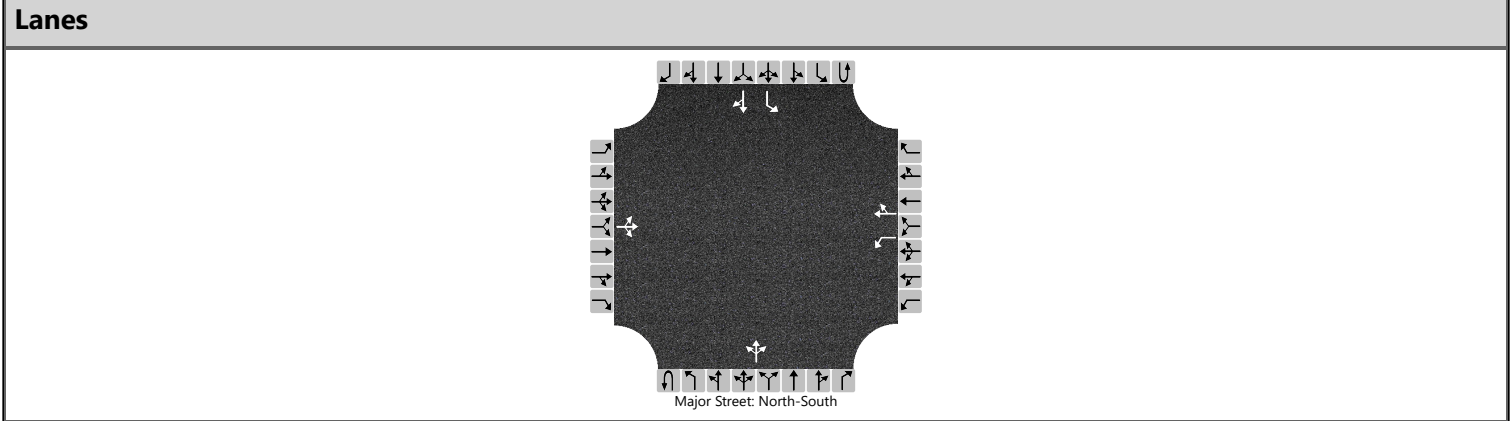
| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.10 | 6.50 | 6.20 |  | 4.15 |  |  |  | 4.12 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.50 | 4.00 | 3.30 |  | 2.25 |  |  |  | 2.22 |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |      |  |      |  |     |      |  |  |     |      |  |  |
|-------------------------------------------|------|--|------|--|------|--|------|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                      |      |  | 3    |  |      |  | 237  |  |     | 0    |  |  |     | 116  |  |  |
| Capacity, c (veh/h)                       |      |  | 142  |  |      |  | 450  |  |     | 1391 |  |  |     | 937  |  |  |
| v/c Ratio                                 |      |  | 0.02 |  |      |  | 0.53 |  |     | 0.00 |  |  |     | 0.12 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.1  |  |      |  | 3.0  |  |     | 0.0  |  |  |     | 0.4  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 2.5  |  |      |  | 75.0 |  |     |      |  |  |     | 10.2 |  |  |
| Control Delay (s/veh)                     |      |  | 30.9 |  |      |  | 21.5 |  |     | 7.6  |  |  |     | 9.4  |  |  |
| Level of Service (LOS)                    |      |  | D    |  |      |  | C    |  |     | A    |  |  |     | A    |  |  |
| Approach Delay (s/veh)                    | 30.9 |  |      |  | 21.5 |  |      |  | 0.0 |      |  |  | 3.8 |      |  |  |
| Approach LOS                              | D    |  |      |  | C    |  |      |  | A   |      |  |  | A   |      |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                          |
|--------------------------|--------------------------|----------------------------|--------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & NRAC Drive  |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville |
| Date Performed           | 5/17/2024                | East/West Street           | NRAC Drive               |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way               |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.71                     |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                     |
| Project Description      | No Build                 |                            |                          |



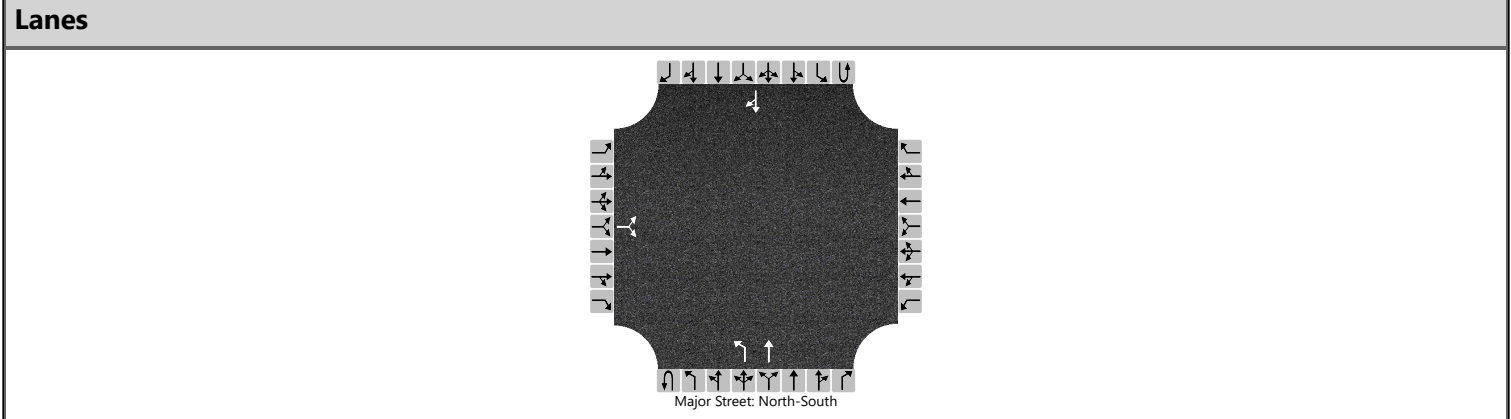
| Vehicle Volumes and Adjustments |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
|---------------------------------|-----------|----|-----|----|-----------|-----|----|-----|------------|---|-----|----|------------|----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |     |    |     | Northbound |   |     |    | Southbound |    |     |    |
| Movement                        | U         | L  | T   | R  | U         | L   | T  | R   | U          | L | T   | R  | U          | L  | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7   | 8  | 9   | 1U         | 1 | 2   | 3  | 4U         | 4  | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 1   | 1  | 0   | 0          | 0 | 1   | 0  | 0          | 1  | 1   | 0  |
| Configuration                   |           |    | LTR |    |           | L   |    | TR  |            |   | LTR |    |            | L  |     | TR |
| Volume (veh/h)                  |           | 0  | 0   | 5  |           | 104 | 1  | 180 |            | 3 | 144 | 32 |            | 57 | 101 | 0  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 11  | 11 | 11  |            | 1 |     |    |            | 1  |     |    |
| Proportion Time Blocked         |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |     |    |     |            |   |     |    |            |    |     |    |
| Right Turn Channelized          |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.21 | 6.61 | 6.31 |  | 4.11 |  |  |  | 4.11 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.60 | 4.10 | 3.40 |  | 2.21 |  |  |  | 2.21 |  |  |

| Delay, Queue Length, and Level of Service |     |  |      |  |      |      |  |      |     |      |     |     |     |      |  |  |
|-------------------------------------------|-----|--|------|--|------|------|--|------|-----|------|-----|-----|-----|------|--|--|
| Flow Rate, v (veh/h)                      |     |  | 7    |  |      | 146  |  | 255  |     | 4    |     |     |     | 80   |  |  |
| Capacity, c (veh/h)                       |     |  | 911  |  |      | 408  |  | 788  |     | 1447 |     |     |     | 1324 |  |  |
| v/c Ratio                                 |     |  | 0.01 |  |      | 0.36 |  | 0.32 |     | 0.00 |     |     |     | 0.06 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     |  | 0.0  |  |      | 1.6  |  | 1.4  |     | 0.0  |     |     |     | 0.2  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     |  | 0.0  |  |      | 43.5 |  | 38.1 |     |      |     |     |     | 5.0  |  |  |
| Control Delay (s/veh)                     |     |  | 9.0  |  |      | 18.7 |  | 11.7 |     | 7.5  | 0.0 | 0.0 |     | 7.9  |  |  |
| Level of Service (LOS)                    |     |  | A    |  |      | C    |  | B    |     | A    | A   | A   |     | A    |  |  |
| Approach Delay (s/veh)                    | 9.0 |  |      |  | 14.3 |      |  |      | 0.2 |      |     |     | 2.8 |      |  |  |
| Approach LOS                              | A   |  |      |  | B    |      |  |      | A   |      |     |     | A   |      |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                |
|--------------------------|--------------------------|----------------------------|--------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Kenssington Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville       |
| Date Performed           | 5/17/2024                | East/West Street           | Kenssington Drive              |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                     |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.87                           |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                           |
| Project Description      | No Build                 |                            |                                |



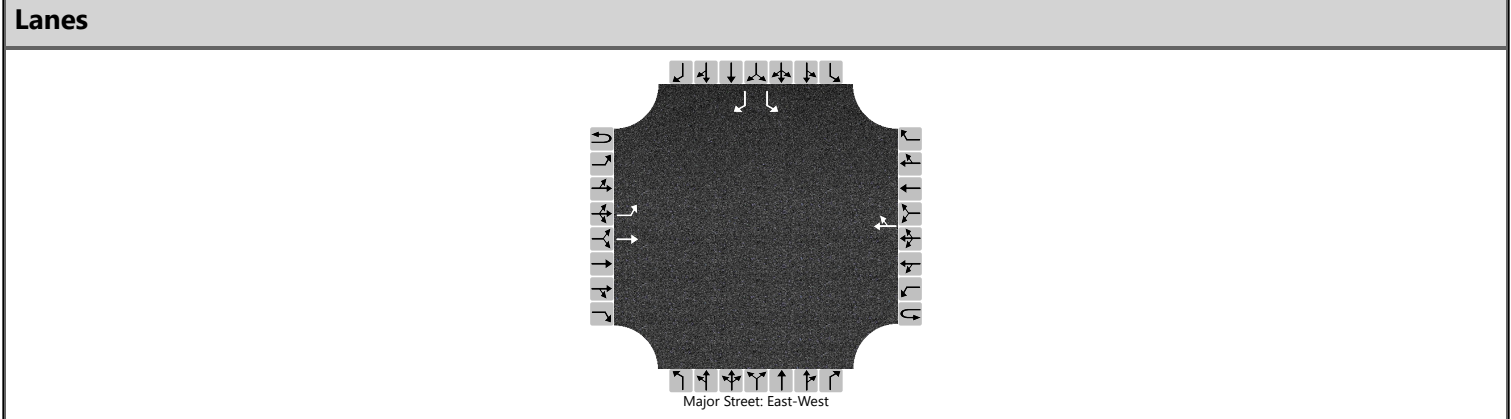
| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 1  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | L  | T   |   |            |   |     | TR |
| Volume (veh/h)                  |           | 10 |    | 50 |           |   |   |   |            | 21 | 173 |   |            |   | 203 | 7  |
| Percent Heavy Vehicles (%)      |           | 4  |    | 4  |           |   |   |   |            | 2  |     |   |            |   |     |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.44 |  | 6.24 |  |  |  |  |  | 4.12 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.54 |  | 3.34 |  |  |  |  |  | 2.22 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |  |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|--|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 69   |  |  |  |  |  |     | 24   |  |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 712  |  |  |  |  |  |     | 1325 |  |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.10 |  |  |  |  |  |     | 0.02 |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.3  |  |  |  |  |  |     | 0.1  |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 7.7  |  |  |  |  |  |     | 2.5  |  |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 10.6 |  |  |  |  |  |     | 7.8  |  |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    |  |  |  |  |  |  |
| Approach Delay (s/veh)                    | 10.6 |  |      |  |  |  |  |  | 0.8 |      |  |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |  |  |  |  |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                              |
|--------------------------|--------------------------|----------------------------|------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Ranger Way |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road              |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                   |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.82                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                         |
| Project Description      | No Build                 |                            |                              |



| Vehicle Volumes and Adjustments |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|----|-----|---|-----------|---|-----|-----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |    |     |   | Westbound |   |     |     | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L  | T   | R | U         | L | T   | R   | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6   |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0   |            | 0 | 0 | 0 |            | 1  | 0  | 1   |
| Configuration                   |           | L  | T   |   |           |   |     | TR  |            |   |   |   |            | L  |    | R   |
| Volume (veh/h)                  |           | 83 | 228 |   |           |   | 428 | 115 |            |   |   |   |            | 75 |    | 157 |
| Percent Heavy Vehicles (%)      |           | 3  |     |   |           |   |     |     |            |   |   |   |            | 8  |    | 8   |
| Proportion Time Blocked         |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |    |     |   |           |   |     |     |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |    |     |   |           |   |     |     |            |   |   |   | No         |    |    |     |
| Median Type   Storage           | Undivided |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.48 |  | 6.28 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.57 |  | 3.37 |

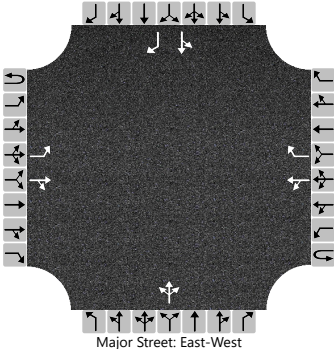
| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 101  |  |  |  |  |  |  |  |  |  |  |      | 91   |  | 191  |
| Capacity, c (veh/h)                       |     | 922  |  |  |  |  |  |  |  |  |  |  |      | 211  |  | 495  |
| v/c Ratio                                 |     | 0.11 |  |  |  |  |  |  |  |  |  |  |      | 0.43 |  | 0.39 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.4  |  |  |  |  |  |  |  |  |  |  |      | 2.0  |  | 1.8  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 10.2 |  |  |  |  |  |  |  |  |  |  |      | 53.2 |  | 47.9 |
| Control Delay (s/veh)                     |     | 9.4  |  |  |  |  |  |  |  |  |  |  |      | 34.4 |  | 16.8 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |      | D    |  | C    |
| Approach Delay (s/veh)                    | 2.5 |      |  |  |  |  |  |  |  |  |  |  | 22.5 |      |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | C    |      |  |      |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                              |
|--------------------------|--------------------------|----------------------------|----------------------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & High School Drive/W Poi... |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville                     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road                              |
| Analysis Year            | 2029                     | North/South Street         | High School Drive/W Point Drive              |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.77                                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                                         |
| Project Description      | No Build                 |                            |                                              |

Lanes



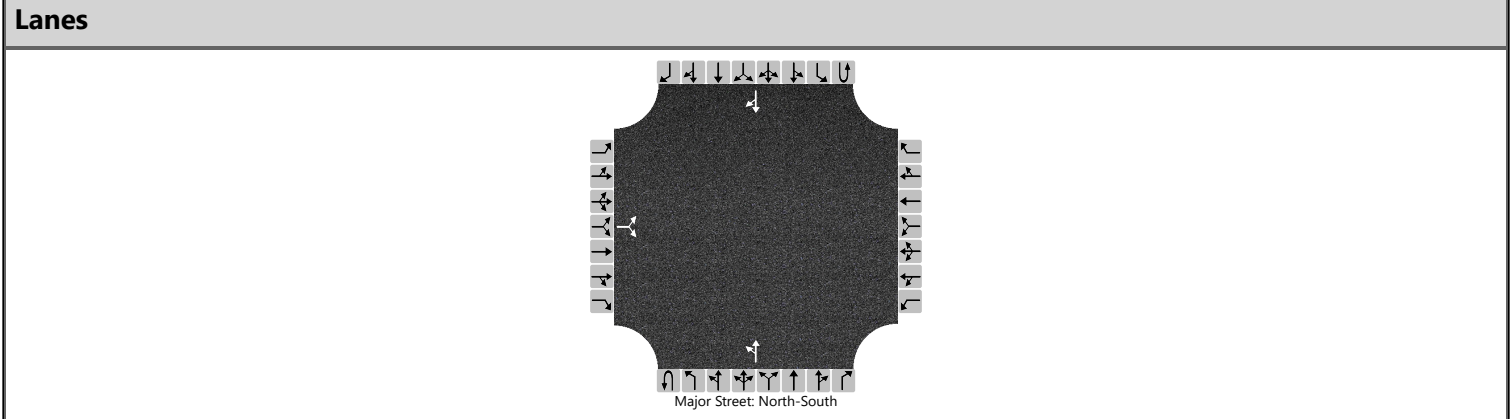
| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |    |            |   |     |   |            |    |    |     |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|----|------------|---|-----|---|------------|----|----|-----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |    | Northbound |   |     |   | Southbound |    |    |     |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R  | U          | L | T   | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1  | 2   | 3  | 4U        | 4  | 5   | 6  |            | 7 | 8   | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1  | 1   | 0  | 0         | 0  | 1   | 1  |            | 0 | 1   | 0 |            | 0  | 1  | 1   |
| Configuration                   |           | L  |     | TR |           | LT |     | R  |            |   | LTR |   |            | LT |    | R   |
| Volume (veh/h)                  |           | 94 | 199 | 16 |           | 0  | 329 | 37 |            | 2 | 0   | 3 |            | 61 | 1  | 209 |
| Percent Heavy Vehicles (%)      |           | 2  |     |    |           | 2  |     |    |            | 0 | 0   | 0 |            | 1  | 1  | 1   |
| Proportion Time Blocked         |           |    |     |    |           |    |     |    |            |   |     |   |            |    |    |     |
| Percent Grade (%)               |           |    |     |    |           |    |     |    | 0          |   |     |   | 0          |    |    |     |
| Right Turn Channelized          |           |    |     |    | No        |    |     |    |            |   |     |   | No         |    |    |     |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |    |            |   |     |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |      |  |  |  |      |      |      |  |      |      |      |
|---------------------------------|--|------|--|--|--|------|--|--|--|------|------|------|--|------|------|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  | 4.1  |  |  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  | 4.12 |  |  |  | 7.10 | 6.50 | 6.20 |  | 7.11 | 6.51 | 6.21 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  | 2.2  |  |  |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  | 2.22 |  |  |  | 3.50 | 4.00 | 3.30 |  | 3.51 | 4.01 | 3.31 |

| Delay, Queue Length, and Level of Service |     |      |  |  |     |      |     |  |      |  |      |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|-----|------|-----|--|------|--|------|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 122  |  |  |     | 0    |     |  |      |  | 6    |  |      | 81   |  | 271  |
| Capacity, c (veh/h)                       |     | 1085 |  |  |     | 1258 |     |  |      |  | 178  |  |      | 207  |  | 569  |
| v/c Ratio                                 |     | 0.11 |  |  |     | 0.00 |     |  |      |  | 0.04 |  |      | 0.39 |  | 0.48 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.4  |  |  |     | 0.0  |     |  |      |  | 0.1  |  |      | 1.7  |  | 2.6  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 10.2 |  |  |     |      |     |  |      |  | 2.5  |  |      | 42.8 |  | 65.5 |
| Control Delay (s/veh)                     |     | 8.7  |  |  |     | 7.9  | 0.0 |  |      |  | 26.0 |  |      | 33.0 |  | 17.0 |
| Level of Service (LOS)                    |     | A    |  |  |     | A    | A   |  |      |  | D    |  |      | D    |  | C    |
| Approach Delay (s/veh)                    | 2.7 |      |  |  | 0.0 |      |     |  | 26.0 |  |      |  | 20.6 |      |  |      |
| Approach LOS                              | A   |      |  |  | A   |      |     |  | D    |  |      |  | C    |      |  |      |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                     |
|--------------------------|--------------------------|----------------------------|-------------------------------------|
| Analyst                  | tsj                      | Intersection               | Pitts Boulevard & High School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville            |
| Date Performed           | 5/17/2024                | East/West Street           | High School Drive                   |
| Analysis Year            | 2029                     | North/South Street         | Pitts Boulevard                     |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.57                                |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                |
| Project Description      | No Build                 |                            |                                     |

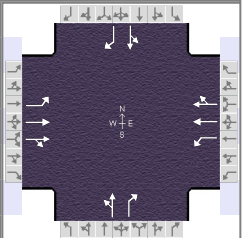
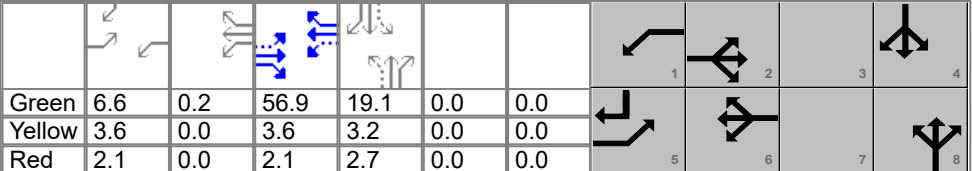


| Vehicle Volumes and Adjustments |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
|---------------------------------|-----------|-----|----|----|-----------|---|---|---|------------|----|----|---|------------|---|----|----|
| Approach                        | Eastbound |     |    |    | Westbound |   |   |   | Northbound |    |    |   | Southbound |   |    |    |
| Movement                        | U         | L   | T  | R  | U         | L | T | R | U          | L  | T  | R | U          | L | T  | R  |
| Priority                        |           | 10  | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2  | 3 | 4U         | 4 | 5  | 6  |
| Number of Lanes                 |           | 0   | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1  | 0 | 0          | 0 | 1  | 0  |
| Configuration                   |           |     | LR |    |           |   |   |   |            | LT |    |   |            |   |    | TR |
| Volume (veh/h)                  |           | 128 |    | 74 |           |   |   |   |            | 31 | 57 |   |            |   | 47 | 59 |
| Percent Heavy Vehicles (%)      |           | 3   |    | 3  |           |   |   |   |            | 3  |    |   |            |   |    |    |
| Proportion Time Blocked         |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Percent Grade (%)               | 0         |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Right Turn Channelized          |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Median Type   Storage           | Undivided |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.43 |  | 6.23 |  |  |  |  |  | 4.13 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.53 |  | 3.33 |  |  |  |  |  | 2.23 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 354  |  |  |  |  |  |     | 54   |     |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 698  |  |  |  |  |  |     | 1378 |     |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.51 |  |  |  |  |  |     | 0.04 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 2.9  |  |  |  |  |  |     | 0.1  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 74.2 |  |  |  |  |  |     | 2.6  |     |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 15.4 |  |  |  |  |  |     | 7.7  | 0.3 |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | C    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                    | 15.4 |  |      |  |  |  |  |  | 2.9 |      |     |  |  |  |  |  |
| Approach LOS                              | C    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |

# HCS Signalized Intersection Results Summary

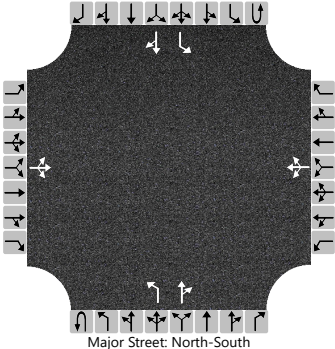
| General Information                             |                          |                 |               |                                                                                    |  | Intersection Information |         |       |       |       |       |  |       |       |     |       |       |       |   |      |  |
|-------------------------------------------------|--------------------------|-----------------|---------------|------------------------------------------------------------------------------------|--|--------------------------|---------|-------|-------|-------|-------|-------------------------------------------------------------------------------------|-------|-------|-----|-------|-------|-------|---|------|--|
| Agency                                          | DGL                      |                 |               |                                                                                    |  | Duration, h              | 0.250   |       |       |       |       |                                                                                     |       |       |     |       |       |       |   |      |  |
| Analyst                                         | tsj                      |                 | Analysis Date | Jun 18, 2024                                                                       |  | Area Type                | Other   |       |       |       |       |                                                                                     |       |       |     |       |       |       |   |      |  |
| Jurisdiction                                    | City of North Ridgeville |                 | Time Period   | AM Peak                                                                            |  | PHF                      | 0.89    |       |       |       |       |                                                                                     |       |       |     |       |       |       |   |      |  |
| Urban Street                                    | Center Ridge             |                 | Analysis Year | 2049                                                                               |  | Analysis Period          | 1> 7:00 |       |       |       |       |                                                                                     |       |       |     |       |       |       |   |      |  |
| Intersection                                    | Center Ridge & Ranger... |                 | File Name     | 2049 No Build AM Peak Center Ridge & Ranger.xus                                    |  |                          |         |       |       |       |       |                                                                                     |       |       |     |       |       |       |   |      |  |
| Project Description                             | No Build                 |                 |               |                                                                                    |  |                          |         |       |       |       |       |                                                                                     |       |       |     |       |       |       |   |      |  |
| Demand Information                              |                          |                 |               |                                                                                    |  | EB                       |         |       | WB    |       |       | NB                                                                                  |       |       | SB  |       |       |       |   |      |  |
| Approach Movement                               |                          |                 |               |                                                                                    |  | L                        | T       | R     | L     | T     | R     | L                                                                                   | T     | R     | L   | T     | R     |       |   |      |  |
| Demand ( v ), veh/h                             |                          |                 |               |                                                                                    |  | 90                       | 640     | 155   | 105   | 522   | 111   | 149                                                                                 | 137   | 207   | 227 | 201   | 121   |       |   |      |  |
| Signal Information                              |                          |                 |               |  |  |                          |         |       |       |       |       |                                                                                     |       |       |     |       |       |       |   |      |  |
| Cycle, s                                        | 100.0                    | Reference Phase | 2             |                                                                                    |  |                          |         |       |       |       |       |                                                                                     |       |       |     |       |       |       |   |      |  |
| Offset, s                                       | 0                        | Reference Point | End           |                                                                                    |  |                          |         |       |       |       |       |                                                                                     |       |       |     |       |       |       |   |      |  |
| Uncoordinated                                   | No                       | Simult. Gap E/W | On            |                                                                                    |  |                          |         |       |       |       |       |                                                                                     |       |       |     |       |       |       |   |      |  |
| Force Mode                                      | Fixed                    | Simult. Gap N/S | On            |                                                                                    |  |                          |         |       |       |       |       |                                                                                     |       |       |     |       |       |       |   |      |  |
| Green                                           |                          |                 |               |                                                                                    |  | 6.6                      | 0.2     | 56.9  | 19.1  | 0.0   | 0.0   | 1                                                                                   |       |       |     |       |       | 2     | 3 | 4    |  |
| Yellow                                          |                          |                 |               |                                                                                    |  | 3.6                      | 0.0     | 3.6   | 3.2   | 0.0   | 0.0   | 5                                                                                   |       |       |     |       |       | 6     | 7 | 8    |  |
| Red                                             |                          |                 |               |                                                                                    |  | 2.1                      | 0.0     | 2.1   | 2.7   | 0.0   | 0.0   |                                                                                     |       |       |     |       |       |       |   |      |  |
| Timer Results                                   |                          |                 |               |                                                                                    |  | EBL                      |         | EBT   |       | WBL   |       | WBT                                                                                 |       | NBL   |     | NBT   |       | SBL   |   | SBT  |  |
| Assigned Phase                                  |                          |                 |               |                                                                                    |  | 5                        |         | 2     |       | 1     |       | 6                                                                                   |       |       |     | 8     |       |       |   | 4    |  |
| Case Number                                     |                          |                 |               |                                                                                    |  | 1.1                      |         | 4.0   |       | 1.1   |       | 4.0                                                                                 |       |       |     | 7.0   |       |       |   | 7.0  |  |
| Phase Duration, s                               |                          |                 |               |                                                                                    |  | 12.3                     |         | 62.6  |       | 12.4  |       | 62.7                                                                                |       |       |     | 25.0  |       |       |   | 25.0 |  |
| Change Period, ( Y+R c ), s                     |                          |                 |               |                                                                                    |  | 5.7                      |         | 5.7   |       | 5.7   |       | 5.7                                                                                 |       |       |     | 5.9   |       |       |   | 5.9  |  |
| Max Allow Headway ( MAH ), s                    |                          |                 |               |                                                                                    |  | 4.1                      |         | 0.0   |       | 4.1   |       | 0.0                                                                                 |       |       |     | 4.4   |       |       |   | 4.4  |  |
| Queue Clearance Time ( g s ), s                 |                          |                 |               |                                                                                    |  | 4.2                      |         |       |       | 4.6   |       |                                                                                     |       |       |     | 21.1  |       |       |   | 21.1 |  |
| Green Extension Time ( g e ), s                 |                          |                 |               |                                                                                    |  | 0.1                      |         | 0.0   |       | 0.1   |       | 0.0                                                                                 |       |       |     | 0.0   |       |       |   | 0.0  |  |
| Phase Call Probability                          |                          |                 |               |                                                                                    |  | 0.94                     |         |       |       | 0.96  |       |                                                                                     |       |       |     | 1.00  |       |       |   | 1.00 |  |
| Max Out Probability                             |                          |                 |               |                                                                                    |  | 0.41                     |         |       |       | 0.60  |       |                                                                                     |       |       |     | 1.00  |       |       |   | 1.00 |  |
| Movement Group Results                          |                          |                 |               |                                                                                    |  | EB                       |         |       | WB    |       |       | NB                                                                                  |       |       | SB  |       |       |       |   |      |  |
| Approach Movement                               |                          |                 |               |                                                                                    |  | L                        | T       | R     | L     | T     | R     | L                                                                                   | T     | R     | L   | T     | R     |       |   |      |  |
| Assigned Movement                               |                          |                 |               |                                                                                    |  | 5                        | 2       | 12    | 1     | 6     | 16    | 3                                                                                   | 8     | 18    | 7   | 4     | 14    |       |   |      |  |
| Adjusted Flow Rate ( v ), veh/h                 |                          |                 |               |                                                                                    |  | 101                      | 462     | 431   | 118   | 366   | 345   |                                                                                     | 321   | 233   |     | 481   | 136   |       |   |      |  |
| Adjusted Saturation Flow Rate ( s ), veh/h/ln   |                          |                 |               |                                                                                    |  | 1753                     | 1841    | 1716  | 1767  | 1856  | 1742  |                                                                                     | 1285  | 1572  |     | 1275  | 1585  |       |   |      |  |
| Queue Service Time ( g s ), s                   |                          |                 |               |                                                                                    |  | 2.2                      | 14.5    | 14.5  | 2.6   | 10.6  | 10.6  |                                                                                     | 0.0   | 14.0  |     | 0.0   | 7.0   |       |   |      |  |
| Cycle Queue Clearance Time ( g c ), s           |                          |                 |               |                                                                                    |  | 2.2                      | 14.5    | 14.5  | 2.6   | 10.6  | 10.6  |                                                                                     | 19.1  | 14.0  |     | 19.1  | 7.0   |       |   |      |  |
| Green Ratio ( g/C )                             |                          |                 |               |                                                                                    |  | 0.63                     | 0.57    | 0.57  | 0.64  | 0.57  | 0.57  |                                                                                     | 0.19  | 0.19  |     | 0.19  | 0.26  |       |   |      |  |
| Capacity ( c ), veh/h                           |                          |                 |               |                                                                                    |  | 510                      | 1047    | 976   | 453   | 1058  | 993   |                                                                                     | 300   | 300   |     | 299   | 407   |       |   |      |  |
| Volume-to-Capacity Ratio ( X )                  |                          |                 |               |                                                                                    |  | 0.198                    | 0.442   | 0.442 | 0.260 | 0.346 | 0.347 |                                                                                     | 1.070 | 0.774 |     | 1.611 | 0.334 |       |   |      |  |
| Back of Queue ( Q ), ft/ln ( 95 th percentile)  |                          |                 |               |                                                                                    |  | 36                       | 254     | 234   | 42    | 197   | 183   |                                                                                     | 518   | 270   |     | 1251  | 122   |       |   |      |  |
| Back of Queue ( Q ), veh/ln ( 95 th percentile) |                          |                 |               |                                                                                    |  | 1.4                      | 9.9     | 9.4   | 1.6   | 7.7   | 7.3   |                                                                                     | 20.2  | 10.5  |     | 49.2  | 4.8   |       |   |      |  |
| Queue Storage Ratio ( RQ ) ( 95 th percentile)  |                          |                 |               |                                                                                    |  | 0.00                     | 0.00    | 0.00  | 0.00  | 0.00  | 0.00  |                                                                                     | 0.00  | 0.00  |     | 0.00  | 0.00  |       |   |      |  |
| Uniform Delay ( d 1 ), s/veh                    |                          |                 |               |                                                                                    |  | 8.0                      | 12.4    | 12.4  | 8.4   | 11.5  | 11.5  |                                                                                     | 42.2  | 38.4  |     | 42.2  | 30.2  |       |   |      |  |
| Incremental Delay ( d 2 ), s/veh                |                          |                 |               |                                                                                    |  | 0.2                      | 1.4     | 1.5   | 0.3   | 0.9   | 1.0   |                                                                                     | 71.8  | 11.9  |     | 289.9 | 0.5   |       |   |      |  |
| Initial Queue Delay ( d 3 ), s/veh              |                          |                 |               |                                                                                    |  | 0.0                      | 0.0     | 0.0   | 0.0   | 0.0   | 0.0   |                                                                                     | 0.0   | 0.0   |     | 0.0   | 0.0   |       |   |      |  |
| Control Delay ( d ), s/veh                      |                          |                 |               |                                                                                    |  | 8.2                      | 13.8    | 13.9  | 8.7   | 12.4  | 12.5  |                                                                                     | 114.0 | 50.3  |     | 332.1 | 30.7  |       |   |      |  |
| Level of Service (LOS)                          |                          |                 |               |                                                                                    |  | A                        | B       | B     | A     | B     | B     |                                                                                     | F     | D     |     | F     | C     |       |   |      |  |
| Approach Delay, s/veh / LOS                     |                          |                 |               |                                                                                    |  | 13.3                     |         | B     |       | 11.9  |       | B                                                                                   |       | 87.3  |     | F     |       | 265.7 |   | F    |  |
| Intersection Delay, s/veh / LOS                 |                          |                 |               |                                                                                    |  | 78.6                     |         |       |       |       |       | E                                                                                   |       |       |     |       |       |       |   |      |  |
| Multimodal Results                              |                          |                 |               |                                                                                    |  | EB                       |         |       | WB    |       |       | NB                                                                                  |       |       | SB  |       |       |       |   |      |  |
| Pedestrian LOS Score / LOS                      |                          |                 |               |                                                                                    |  | 1.89                     |         | B     |       | 1.89  |       | B                                                                                   |       | 2.30  |     | B     |       | 2.30  |   | B    |  |
| Bicycle LOS Score / LOS                         |                          |                 |               |                                                                                    |  | 1.31                     |         | A     |       | 1.17  |       | A                                                                                   |       | 1.40  |     | A     |       | 1.51  |   | B    |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                        |
|--------------------------|--------------------------|----------------------------|----------------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Fire Station/School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville               |
| Date Performed           | 5/17/2024                | East/West Street           | Fire Station Drive                     |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                             |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.64                                   |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                   |
| Project Description      | No Build                 |                            |                                        |

Lanes



Major Street: North-South

| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|-----|------------|---|-----|-----|------------|-----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |     | Northbound |   |     |     | Southbound |     |     |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R   | U          | L | T   | R   | U          | L   | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9   | 1U         | 1 | 2   | 3   | 4U         | 4   | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0   | 0          | 1 | 1   | 0   | 0          | 1   | 1   | 0  |
| Configuration                   |           |    | LTR |    |           |    | LTR |     |            | L |     | TR  |            | L   |     | TR |
| Volume (veh/h)                  |           | 0  | 0   | 4  |           | 16 | 0   | 257 |            | 3 | 236 | 117 |            | 211 | 256 | 6  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 11 | 11  | 11  |            | 8 |     |     |            | 4   |     |    |
| Proportion Time Blocked         |           |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |     |            |   |     |     |            |     |     |    |
| Right Turn Channelized          |           |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |

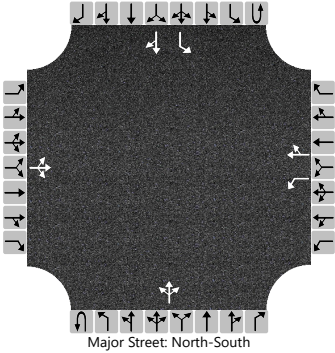
| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.21 | 6.61 | 6.31 |  | 4.18 |  |  |  | 4.14 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.60 | 4.10 | 3.40 |  | 2.27 |  |  |  | 2.24 |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |       |  |       |  |     |      |  |  |     |      |  |  |
|-------------------------------------------|------|--|------|--|-------|--|-------|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                      |      |  | 6    |  |       |  | 427   |  |     | 5    |  |  |     | 330  |  |  |
| Capacity, c (veh/h)                       |      |  | 650  |  |       |  | 369   |  |     | 1118 |  |  |     | 974  |  |  |
| v/c Ratio                                 |      |  | 0.01 |  |       |  | 1.16  |  |     | 0.00 |  |  |     | 0.34 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.0  |  |       |  | 16.8  |  |     | 0.0  |  |  |     | 1.5  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 0.0  |  |       |  | 457.0 |  |     | 0.0  |  |  |     | 38.7 |  |  |
| Control Delay (s/veh)                     |      |  | 10.6 |  |       |  | 129.9 |  |     | 8.2  |  |  |     | 10.6 |  |  |
| Level of Service (LOS)                    |      |  | B    |  |       |  | F     |  |     | A    |  |  |     | B    |  |  |
| Approach Delay (s/veh)                    | 10.6 |  |      |  | 129.9 |  |       |  | 0.1 |      |  |  | 4.7 |      |  |  |
| Approach LOS                              | B    |  |      |  | F     |  |       |  | A   |      |  |  | A   |      |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                          |
|--------------------------|--------------------------|----------------------------|--------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & NRAC Drive  |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville |
| Date Performed           | 5/17/2024                | East/West Street           | NRAC Drive               |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way               |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.75                     |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                     |
| Project Description      | No Build                 |                            |                          |

Lanes



Major Street: North-South

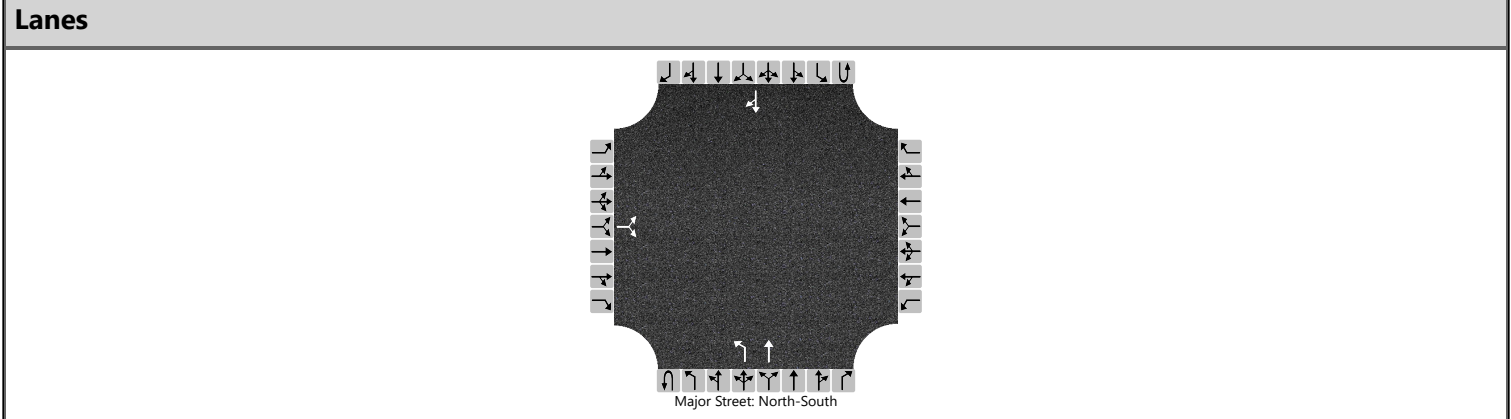
| Vehicle Volumes and Adjustments |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
|---------------------------------|-----------|----|-----|----|-----------|----|----|-----|------------|---|-----|----|------------|-----|----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |    |     | Northbound |   |     |    | Southbound |     |    |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T  | R   | U          | L | T   | R  | U          | L   | T  | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8  | 9   | 1U         | 1 | 2   | 3  | 4U         | 4   | 5  | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 1  | 1  | 0   | 0          | 0 | 1   | 0  | 0          | 1   | 1  | 0  |
| Configuration                   |           |    | LTR |    |           | L  |    | TR  |            |   | LTR |    |            | L   |    | TR |
| Volume (veh/h)                  |           | 0  | 0   | 1  |           | 50 | 0  | 138 |            | 4 | 216 | 65 |            | 219 | 63 | 0  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 14 | 14 | 14  |            | 5 |     |    |            | 6   |    |    |
| Proportion Time Blocked         |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |    |     |            |   |     |    |            |     |    |    |
| Right Turn Channelized          |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.24 | 6.64 | 6.34 |  | 4.15 |  |  |  | 4.16 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.63 | 4.13 | 3.43 |  | 2.25 |  |  |  | 2.25 |  |  |

| Delay, Queue Length, and Level of Service |     |  |      |  |      |      |  |      |     |      |     |     |     |      |  |  |
|-------------------------------------------|-----|--|------|--|------|------|--|------|-----|------|-----|-----|-----|------|--|--|
| Flow Rate, v (veh/h)                      |     |  | 1    |  |      | 67   |  | 184  |     | 5    |     |     |     | 292  |  |  |
| Capacity, c (veh/h)                       |     |  | 981  |  |      | 154  |  | 684  |     | 1494 |     |     |     | 1162 |  |  |
| v/c Ratio                                 |     |  | 0.00 |  |      | 0.43 |  | 0.27 |     | 0.00 |     |     |     | 0.25 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     |  | 0.0  |  |      | 1.9  |  | 1.1  |     | 0.0  |     |     |     | 1.0  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     |  | 0.0  |  |      | 52.8 |  | 30.6 |     |      |     |     |     | 26.2 |  |  |
| Control Delay (s/veh)                     |     |  | 8.7  |  |      | 45.0 |  | 12.2 |     | 7.4  | 0.0 | 0.0 |     | 9.1  |  |  |
| Level of Service (LOS)                    |     |  | A    |  |      | E    |  | B    |     | A    | A   | A   |     | A    |  |  |
| Approach Delay (s/veh)                    | 8.7 |  |      |  | 20.9 |      |  |      | 0.1 |      |     |     | 7.1 |      |  |  |
| Approach LOS                              | A   |  |      |  | C    |      |  |      | A   |      |     |     | A   |      |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                |
|--------------------------|--------------------------|----------------------------|--------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Kenssington Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville       |
| Date Performed           | 5/17/2024                | East/West Street           | Kenssington Drive              |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                     |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.68                           |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                           |
| Project Description      | No Build                 |                            |                                |



| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 1  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | L  | T   |   |            |   |     | TR |
| Volume (veh/h)                  |           | 11 |    | 48 |           |   |   |   |            | 11 | 269 |   |            |   | 116 | 2  |
| Percent Heavy Vehicles (%)      |           | 13 |    | 13 |           |   |   |   |            | 6  |     |   |            |   |     |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

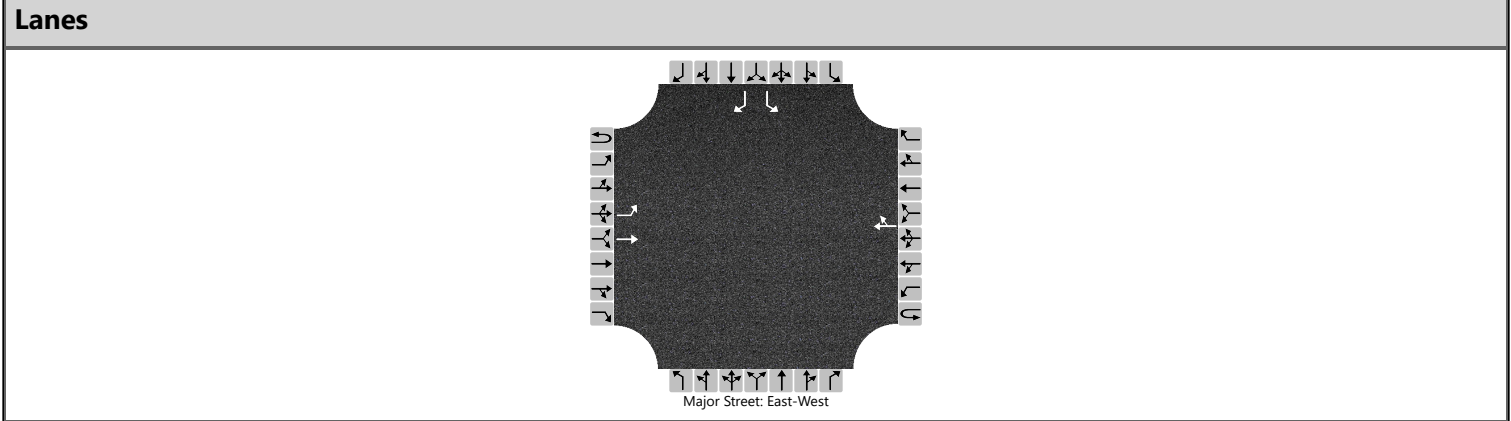
| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.53 |  | 6.33 |  |  |  |  |  | 4.16 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.62 |  | 3.42 |  |  |  |  |  | 2.25 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |  |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|--|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 87   |  |  |  |  |  |     | 16   |  |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 715  |  |  |  |  |  |     | 1379 |  |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.12 |  |  |  |  |  |     | 0.01 |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.4  |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 11.0 |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 10.7 |  |  |  |  |  |     | 7.6  |  |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    |  |  |  |  |  |  |
| Approach Delay (s/veh)                    | 10.7 |  |      |  |  |  |  |  | 0.3 |      |  |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |  |  |  |  |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                              |
|--------------------------|--------------------------|----------------------------|------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Ranger Way |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road              |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                   |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.79                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                         |
| Project Description      | No Build                 |                            |                              |



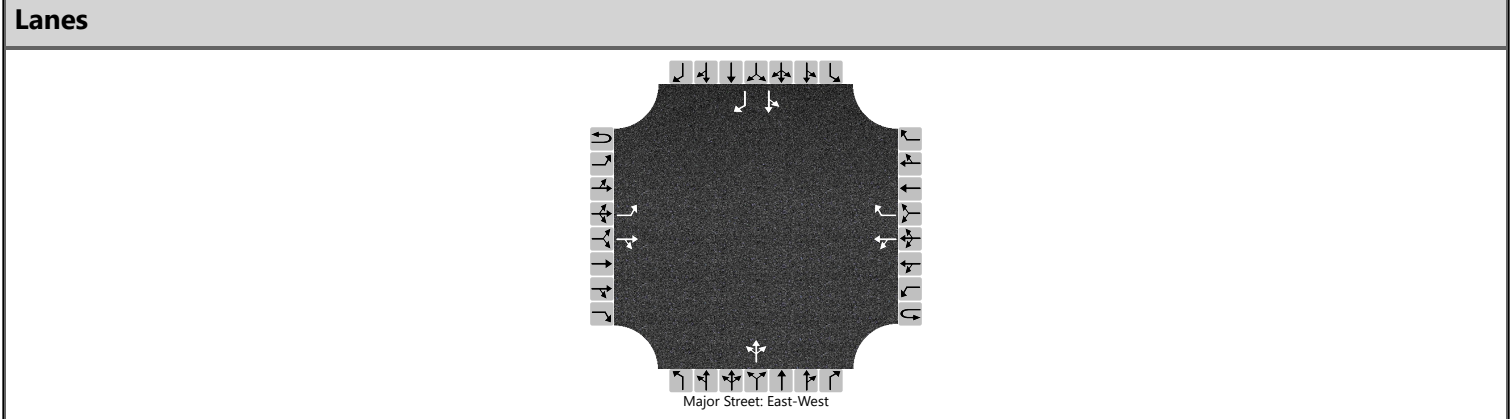
| Vehicle Volumes and Adjustments |           |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
|---------------------------------|-----------|-----|-----|---|-----------|---|-----|-----|------------|---|---|---|------------|----|----|----|
| Approach                        | Eastbound |     |     |   | Westbound |   |     |     | Northbound |   |   |   | Southbound |    |    |    |
| Movement                        | U         | L   | T   | R | U         | L | T   | R   | U          | L | T | R | U          | L  | T  | R  |
| Priority                        | 1U        | 1   | 2   | 3 | 4U        | 4 | 5   | 6   |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Number of Lanes                 | 0         | 1   | 1   | 0 | 0         | 0 | 1   | 0   |            | 0 | 0 | 0 |            | 1  | 0  | 1  |
| Configuration                   |           | L   | T   |   |           |   |     | TR  |            |   |   |   |            | L  |    | R  |
| Volume (veh/h)                  |           | 125 | 755 |   |           |   | 387 | 156 |            |   |   |   |            | 53 |    | 82 |
| Percent Heavy Vehicles (%)      |           | 2   |     |   |           |   |     |     |            |   |   |   |            | 14 |    | 14 |
| Proportion Time Blocked         |           |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
| Percent Grade (%)               |           |     |     |   |           |   |     |     |            |   |   |   | 0          |    |    |    |
| Right Turn Channelized          |           |     |     |   |           |   |     |     |            |   |   |   | No         |    |    |    |
| Median Type   Storage           | Undivided |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |

| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  |  |  |  |  |  |  |  |  | 6.54 |  | 6.34 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  |  |  |  |  |  |  |  |  | 3.63 |  | 3.43 |

| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |       |       |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|-------|-------|--|------|
| Flow Rate, v (veh/h)                      |     | 158  |  |  |  |  |  |  |  |  |  |  |       | 67    |  | 104  |
| Capacity, c (veh/h)                       |     | 907  |  |  |  |  |  |  |  |  |  |  |       | 62    |  | 487  |
| v/c Ratio                                 |     | 0.17 |  |  |  |  |  |  |  |  |  |  |       | 1.09  |  | 0.21 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.6  |  |  |  |  |  |  |  |  |  |  |       | 5.4   |  | 0.8  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 15.2 |  |  |  |  |  |  |  |  |  |  |       | 150.1 |  | 22.2 |
| Control Delay (s/veh)                     |     | 9.8  |  |  |  |  |  |  |  |  |  |  |       | 252.7 |  | 14.4 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |       | F     |  | B    |
| Approach Delay (s/veh)                    | 1.4 |      |  |  |  |  |  |  |  |  |  |  | 107.9 |       |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | F     |       |  |      |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                              |
|--------------------------|--------------------------|----------------------------|----------------------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & High School Drive/W Poi... |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville                     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road                              |
| Analysis Year            | 2049                     | North/South Street         | High School Drive/W Point Drive              |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.75                                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                                         |
| Project Description      | No Build                 |                            |                                              |



| Vehicle Volumes and Adjustments |           |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |
|---------------------------------|-----------|-----|-----|----|-----------|----|-----|-----|------------|---|-----|---|------------|----|----|-----|
| Approach                        | Eastbound |     |     |    | Westbound |    |     |     | Northbound |   |     |   | Southbound |    |    |     |
| Movement                        | U         | L   | T   | R  | U         | L  | T   | R   | U          | L | T   | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1   | 2   | 3  | 4U        | 4  | 5   | 6   |            | 7 | 8   | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1   | 1   | 0  | 0         | 0  | 1   | 1   |            | 0 | 1   | 0 |            | 0  | 1  | 1   |
| Configuration                   |           | L   |     | TR |           | LT |     | R   |            |   | LTR |   |            | LT |    | R   |
| Volume (veh/h)                  |           | 489 | 221 | 5  |           | 0  | 216 | 202 |            | 4 | 0   | 0 |            | 49 | 1  | 320 |
| Percent Heavy Vehicles (%)      |           | 2   |     |    |           | 3  |     |     |            | 0 | 0   | 0 |            | 0  | 0  | 0   |
| Proportion Time Blocked         |           |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |
| Percent Grade (%)               |           |     |     |    |           |    |     |     | 0          |   |     |   | 0          |    |    |     |
| Right Turn Channelized          |           |     |     |    | No        |    |     |     |            |   |     |   | No         |    |    |     |
| Median Type   Storage           | Undivided |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |

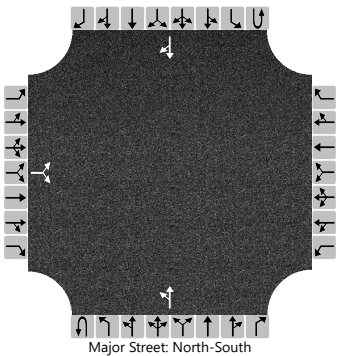
| Critical and Follow-up Headways |  |      |  |  |  |      |  |  |  |      |      |      |  |      |      |      |
|---------------------------------|--|------|--|--|--|------|--|--|--|------|------|------|--|------|------|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  | 4.1  |  |  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  | 4.13 |  |  |  | 7.10 | 6.50 | 6.20 |  | 7.10 | 6.50 | 6.20 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  | 2.2  |  |  |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  | 2.23 |  |  |  | 3.50 | 4.00 | 3.30 |  | 3.50 | 4.00 | 3.30 |

| Delay, Queue Length, and Level of Service |      |       |  |  |     |      |     |  |        |  |        |  |       |        |  |       |
|-------------------------------------------|------|-------|--|--|-----|------|-----|--|--------|--|--------|--|-------|--------|--|-------|
| Flow Rate, v (veh/h)                      |      | 652   |  |  |     | 0    |     |  |        |  | 5      |  |       | 67     |  | 427   |
| Capacity, c (veh/h)                       |      | 1010  |  |  |     | 1245 |     |  |        |  | 3      |  |       | 15     |  | 623   |
| v/c Ratio                                 |      | 0.65  |  |  |     | 0.00 |     |  |        |  | 1.63   |  |       | 4.33   |  | 0.69  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      | 4.9   |  |  |     | 0.0  |     |  |        |  | 1.5    |  |       | 9.1    |  | 5.4   |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      | 124.5 |  |  |     |      |     |  |        |  | 37.5   |  |       | 227.5  |  | 135.0 |
| Control Delay (s/veh)                     |      | 14.8  |  |  |     | 7.9  | 0.0 |  |        |  | 2162.9 |  |       | 1995.7 |  | 22.4  |
| Level of Service (LOS)                    |      | B     |  |  |     | A    | A   |  |        |  | F      |  |       | F      |  | C     |
| Approach Delay (s/veh)                    | 10.1 |       |  |  | 0.0 |      |     |  | 2162.9 |  |        |  | 289.1 |        |  |       |
| Approach LOS                              | B    |       |  |  | A   |      |     |  | F      |  |        |  | F     |        |  |       |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                     |
|--------------------------|--------------------------|----------------------------|-------------------------------------|
| Analyst                  | tsj                      | Intersection               | Pitts Boulevard & High School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville            |
| Date Performed           | 5/17/2024                | East/West Street           | High School Drive                   |
| Analysis Year            | 2049                     | North/South Street         | Pitts Boulevard                     |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.81                                |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                |
| Project Description      | No Build                 |                            |                                     |

Lanes



Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |    |   | Southbound |   |     |     |
|----------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|----|---|------------|---|-----|-----|
| Movement                   | U         | L  | T  | R  | U         | L | T | R | U          | L  | T  | R | U          | L | T   | R   |
| Priority                   |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2  | 3 | 4U         | 4 | 5   | 6   |
| Number of Lanes            |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1  | 0 | 0          | 0 | 1   | 0   |
| Configuration              |           |    | LR |    |           |   |   |   |            | LT |    |   |            |   |     | TR  |
| Volume (veh/h)             |           | 94 |    | 42 |           |   |   |   |            | 81 | 16 |   |            |   | 117 | 167 |
| Percent Heavy Vehicles (%) |           | 6  |    | 6  |           |   |   |   |            | 8  |    |   |            |   |     |     |
| Proportion Time Blocked    |           |    |    |    |           |   |   |   |            |    |    |   |            |   |     |     |
| Percent Grade (%)          | 0         |    |    |    |           |   |   |   |            |    |    |   |            |   |     |     |
| Right Turn Channelized     |           |    |    |    |           |   |   |   |            |    |    |   |            |   |     |     |
| Median Type   Storage      | Undivided |    |    |    |           |   |   |   |            |    |    |   |            |   |     |     |

Critical and Follow-up Headways

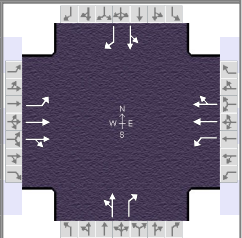
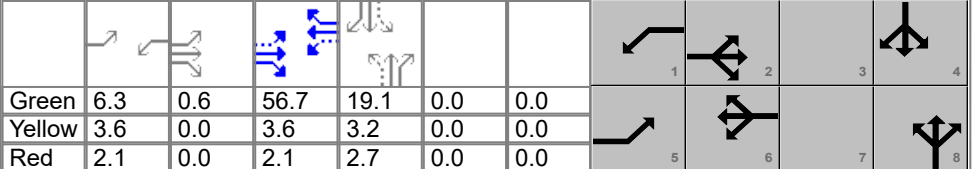
|                              |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)  |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)       |  | 6.46 |  | 6.26 |  |  |  |  |  | 4.18 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)      |  | 3.55 |  | 3.35 |  |  |  |  |  | 2.27 |  |  |  |  |  |  |

Delay, Queue Length, and Level of Service

|                                         |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-----------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                    |      |  | 168  |  |  |  |  |  |     | 100  |     |  |  |  |  |  |
| Capacity, c (veh/h)                     |      |  | 556  |  |  |  |  |  |     | 1171 |     |  |  |  |  |  |
| v/c Ratio                               |      |  | 0.30 |  |  |  |  |  |     | 0.09 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |      |  | 1.3  |  |  |  |  |  |     | 0.3  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)  |      |  | 34.1 |  |  |  |  |  |     | 8.0  |     |  |  |  |  |  |
| Control Delay (s/veh)                   |      |  | 14.3 |  |  |  |  |  |     | 8.4  | 0.7 |  |  |  |  |  |
| Level of Service (LOS)                  |      |  | B    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                  | 14.3 |  |      |  |  |  |  |  | 7.1 |      |     |  |  |  |  |  |
| Approach LOS                            | B    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |

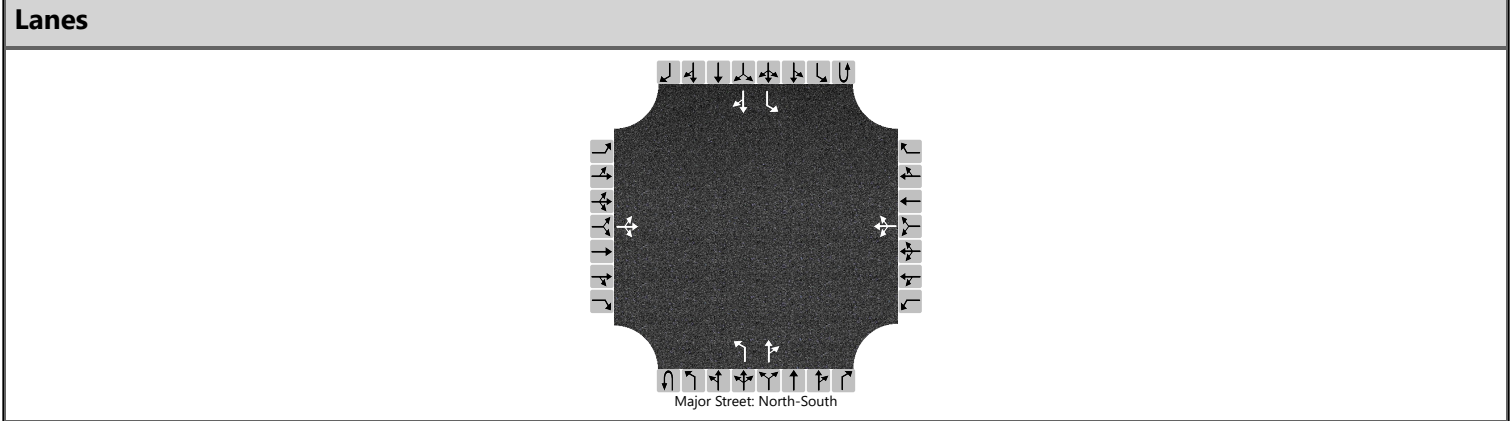


# HCS Signalized Intersection Results Summary

| General Information                             |                          |                 |               |                                                                                    |       | Intersection Information |         |       |       |      |       |  |       |       |       |
|-------------------------------------------------|--------------------------|-----------------|---------------|------------------------------------------------------------------------------------|-------|--------------------------|---------|-------|-------|------|-------|-------------------------------------------------------------------------------------|-------|-------|-------|
| Agency                                          | DGL                      |                 |               |                                                                                    |       | Duration, h              | 0.250   |       |       |      |       |                                                                                     |       |       |       |
| Analyst                                         | tsj                      |                 | Analysis Date | Jun 18, 2024                                                                       |       | Area Type                | Other   |       |       |      |       |                                                                                     |       |       |       |
| Jurisdiction                                    | City of North Ridgeville |                 | Time Period   | PM Peak                                                                            |       | PHF                      | 0.93    |       |       |      |       |                                                                                     |       |       |       |
| Urban Street                                    | Center Ridge             |                 | Analysis Year | 2049                                                                               |       | Analysis Period          | 1> 7:00 |       |       |      |       |                                                                                     |       |       |       |
| Intersection                                    | Center Ridge & Ranger... |                 | File Name     | 2049 No Build PM Peak Center Ridge & Ranger.xus                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Project Description                             | No Build                 |                 |               |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Demand Information                              |                          |                 |               |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
|                                                 |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |
| Approach Movement                               |                          |                 |               | L                                                                                  | T     | R                        | L       | T     | R     | L    | T     | R                                                                                   | L     | T     | R     |
| Demand ( v ), veh/h                             |                          |                 |               | 155                                                                                | 761   | 61                       | 79      | 765   | 196   | 124  | 204   | 158                                                                                 | 198   | 96    | 138   |
| Signal Information                              |                          |                 |               |  |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Cycle, s                                        | 100.0                    | Reference Phase | 2             |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Offset, s                                       | 0                        | Reference Point | End           |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Uncoordinated                                   | No                       | Simult. Gap E/W | On            |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
| Force Mode                                      | Fixed                    | Simult. Gap N/S | On            |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |       |       |       |
|                                                 |                          |                 |               | Green                                                                              | 6.3   | 0.6                      | 56.7    | 19.1  | 0.0   | 0.0  |       |                                                                                     |       |       |       |
|                                                 |                          |                 |               | Yellow                                                                             | 3.6   | 0.0                      | 3.6     | 3.2   | 0.0   | 0.0  |       |                                                                                     |       |       |       |
|                                                 |                          |                 |               | Red                                                                                | 2.1   | 0.0                      | 2.1     | 2.7   | 0.0   | 0.0  |       |                                                                                     |       |       |       |
| Timer Results                                   |                          |                 |               | EBL                                                                                | EBT   | WBL                      | WBT     | NBL   | NBT   | SBL  | SBT   |                                                                                     |       |       |       |
| Assigned Phase                                  |                          |                 |               | 5                                                                                  | 2     | 1                        | 6       |       | 8     |      | 4     |                                                                                     |       |       |       |
| Case Number                                     |                          |                 |               | 1.1                                                                                | 4.0   | 1.1                      | 4.0     |       | 7.0   |      | 7.0   |                                                                                     |       |       |       |
| Phase Duration, s                               |                          |                 |               | 12.6                                                                               | 63.0  | 12.0                     | 62.4    |       | 25.0  |      | 25.0  |                                                                                     |       |       |       |
| Change Period, ( Y+R c ), s                     |                          |                 |               | 5.7                                                                                | 5.7   | 5.7                      | 5.7     |       | 5.9   |      | 5.9   |                                                                                     |       |       |       |
| Max Allow Headway ( MAH ), s                    |                          |                 |               | 4.1                                                                                | 0.0   | 4.1                      | 0.0     |       | 4.4   |      | 4.4   |                                                                                     |       |       |       |
| Queue Clearance Time ( g s ), s                 |                          |                 |               | 5.8                                                                                |       | 3.9                      |         |       | 21.1  |      | 21.1  |                                                                                     |       |       |       |
| Green Extension Time ( g e ), s                 |                          |                 |               | 0.2                                                                                | 0.0   | 0.1                      | 0.0     |       | 0.0   |      | 0.0   |                                                                                     |       |       |       |
| Phase Call Probability                          |                          |                 |               | 0.99                                                                               |       | 0.91                     |         |       | 1.00  |      | 1.00  |                                                                                     |       |       |       |
| Max Out Probability                             |                          |                 |               | 1.00                                                                               |       | 0.26                     |         |       | 1.00  |      | 1.00  |                                                                                     |       |       |       |
| Movement Group Results                          |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |
| Approach Movement                               |                          |                 |               | L                                                                                  | T     | R                        | L       | T     | R     | L    | T     | R                                                                                   | L     | T     | R     |
| Assigned Movement                               |                          |                 |               | 5                                                                                  | 2     | 12                       | 1       | 6     | 16    | 3    | 8     | 18                                                                                  | 7     | 4     | 14    |
| Adjusted Flow Rate ( v ), veh/h                 |                          |                 |               | 167                                                                                | 448   | 436                      | 85      | 536   | 498   |      | 353   | 170                                                                                 |       | 316   | 148   |
| Adjusted Saturation Flow Rate ( s ), veh/h/ln   |                          |                 |               | 1767                                                                               | 1856  | 1807                     | 1781    | 1870  | 1738  |      | 1570  | 1572                                                                                |       | 959   | 1598  |
| Queue Service Time ( g s ), s                   |                          |                 |               | 3.8                                                                                | 13.6  | 13.6                     | 1.9     | 17.4  | 17.4  |      | 0.0   | 9.8                                                                                 |       | 0.0   | 8.3   |
| Cycle Queue Clearance Time ( g c ), s           |                          |                 |               | 3.8                                                                                | 13.6  | 13.6                     | 1.9     | 17.4  | 17.4  |      | 19.1  | 9.8                                                                                 |       | 19.1  | 8.3   |
| Green Ratio ( g/C )                             |                          |                 |               | 0.64                                                                               | 0.57  | 0.57                     | 0.63    | 0.57  | 0.57  |      | 0.19  | 0.19                                                                                |       | 0.19  | 0.19  |
| Capacity ( c ), veh/h                           |                          |                 |               | 407                                                                                | 1063  | 1035                     | 447     | 1060  | 985   |      | 350   | 300                                                                                 |       | 244   | 305   |
| Volume-to-Capacity Ratio ( X )                  |                          |                 |               | 0.409                                                                              | 0.421 | 0.422                    | 0.190   | 0.505 | 0.505 |      | 1.009 | 0.566                                                                               |       | 1.298 | 0.486 |
| Back of Queue ( Q ), ft/ln ( 95 th percentile)  |                          |                 |               | 62                                                                                 | 240   | 230                      | 30      | 295   | 275   |      | 508   | 183                                                                                 |       | 670   | 148   |
| Back of Queue ( Q ), veh/ln ( 95 th percentile) |                          |                 |               | 2.4                                                                                | 9.4   | 9.2                      | 1.2     | 11.6  | 11.0  |      | 19.8  | 7.2                                                                                 |       | 26.6  | 5.9   |
| Queue Storage Ratio ( RQ ) ( 95 th percentile)  |                          |                 |               | 0.00                                                                               | 0.00  | 0.00                     | 0.00    | 0.00  | 0.00  |      | 0.00  | 0.00                                                                                |       | 0.00  | 0.00  |
| Uniform Delay ( d 1 ), s/veh                    |                          |                 |               | 9.5                                                                                | 12.0  | 12.0                     | 8.5     | 13.2  | 13.2  |      | 41.8  | 36.7                                                                                |       | 42.8  | 36.1  |
| Incremental Delay ( d 2 ), s/veh                |                          |                 |               | 0.7                                                                                | 1.2   | 1.3                      | 0.2     | 1.7   | 1.9   |      | 50.5  | 2.5                                                                                 |       | 161.0 | 1.2   |
| Initial Queue Delay ( d 3 ), s/veh              |                          |                 |               | 0.0                                                                                | 0.0   | 0.0                      | 0.0     | 0.0   | 0.0   |      | 0.0   | 0.0                                                                                 |       | 0.0   | 0.0   |
| Control Delay ( d ), s/veh                      |                          |                 |               | 10.2                                                                               | 13.3  | 13.3                     | 8.7     | 14.9  | 15.0  |      | 92.3  | 39.1                                                                                |       | 203.9 | 37.3  |
| Level of Service (LOS)                          |                          |                 |               | B                                                                                  | B     | B                        | A       | B     | B     |      | F     | D                                                                                   |       | F     | D     |
| Approach Delay, s/veh / LOS                     |                          |                 |               | 12.8                                                                               | B     |                          | 14.5    | B     |       | 75.0 | E     |                                                                                     | 150.6 | F     |       |
| Intersection Delay, s/veh / LOS                 |                          |                 |               | 44.0                                                                               |       |                          |         |       |       | D    |       |                                                                                     |       |       |       |
| Multimodal Results                              |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB    |       |       |
| Pedestrian LOS Score / LOS                      |                          |                 |               | 1.89                                                                               | B     |                          | 1.89    | B     |       | 2.30 | B     |                                                                                     | 2.30  | B     |       |
| Bicycle LOS Score / LOS                         |                          |                 |               | 1.35                                                                               | A     |                          | 1.41    | A     |       | 1.35 | A     |                                                                                     | 1.25  | A     |       |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                        |
|--------------------------|--------------------------|----------------------------|----------------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Fire Station/School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville               |
| Date Performed           | 5/17/2024                | East/West Street           | Fire Station Drive                     |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                             |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.79                                   |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                   |
| Project Description      | No Build                 |                            |                                        |



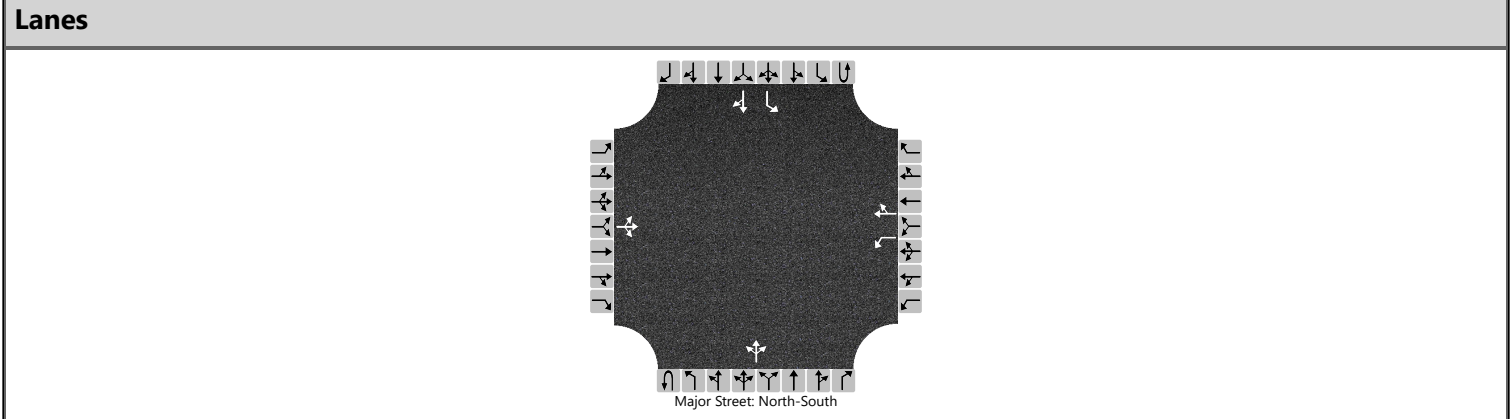
| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|-----|------------|---|-----|----|------------|-----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |     | Northbound |   |     |    | Southbound |     |     |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R   | U          | L | T   | R  | U          | L   | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9   | 1U         | 1 | 2   | 3  | 4U         | 4   | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0   | 0          | 1 | 1   | 0  | 0          | 1   | 1   | 0  |
| Configuration                   |           |    | LTR |    |           |    | LTR |     |            | L |     | TR |            | L   |     | TR |
| Volume (veh/h)                  |           | 2  | 0   | 0  |           | 27 | 0   | 177 |            | 0 | 303 | 56 |            | 102 | 145 | 1  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 0  | 0   | 0   |            | 5 |     |    |            | 2   |     |    |
| Proportion Time Blocked         |           |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |     |            |   |     |    |            |     |     |    |
| Right Turn Channelized          |           |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.10 | 6.50 | 6.20 |  | 4.15 |  |  |  | 4.12 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.50 | 4.00 | 3.30 |  | 2.25 |  |  |  | 2.22 |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |      |  |       |  |     |      |  |  |     |      |  |  |
|-------------------------------------------|------|--|------|--|------|--|-------|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                      |      |  | 3    |  |      |  | 258   |  |     | 0    |  |  |     | 129  |  |  |
| Capacity, c (veh/h)                       |      |  | 110  |  |      |  | 416   |  |     | 1372 |  |  |     | 905  |  |  |
| v/c Ratio                                 |      |  | 0.02 |  |      |  | 0.62  |  |     | 0.00 |  |  |     | 0.14 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.1  |  |      |  | 4.1   |  |     | 0.0  |  |  |     | 0.5  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 2.5  |  |      |  | 102.5 |  |     |      |  |  |     | 12.7 |  |  |
| Control Delay (s/veh)                     |      |  | 38.5 |  |      |  | 26.7  |  |     | 7.6  |  |  |     | 9.6  |  |  |
| Level of Service (LOS)                    |      |  | E    |  |      |  | D     |  |     | A    |  |  |     | A    |  |  |
| Approach Delay (s/veh)                    | 38.5 |  |      |  | 26.7 |  |       |  | 0.0 |      |  |  | 4.0 |      |  |  |
| Approach LOS                              | E    |  |      |  | D    |  |       |  | A   |      |  |  | A   |      |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                          |
|--------------------------|--------------------------|----------------------------|--------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & NRAC Drive  |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville |
| Date Performed           | 5/17/2024                | East/West Street           | NRAC Drive               |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way               |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.71                     |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                     |
| Project Description      | No Build                 |                            |                          |



| Vehicle Volumes and Adjustments |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
|---------------------------------|-----------|----|-----|----|-----------|-----|----|-----|------------|---|-----|----|------------|----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |     |    |     | Northbound |   |     |    | Southbound |    |     |    |
| Movement                        | U         | L  | T   | R  | U         | L   | T  | R   | U          | L | T   | R  | U          | L  | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7   | 8  | 9   | 1U         | 1 | 2   | 3  | 4U         | 4  | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 1   | 1  | 0   | 0          | 0 | 1   | 0  | 0          | 1  | 1   | 0  |
| Configuration                   |           |    | LTR |    |           | L   |    | TR  |            |   | LTR |    |            | L  |     | TR |
| Volume (veh/h)                  |           | 0  | 0   | 5  |           | 114 | 1  | 197 |            | 3 | 158 | 35 |            | 63 | 111 | 0  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 11  | 11 | 11  |            | 1 |     |    |            | 1  |     |    |
| Proportion Time Blocked         |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |     |    |     |            |   |     |    |            |    |     |    |
| Right Turn Channelized          |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |

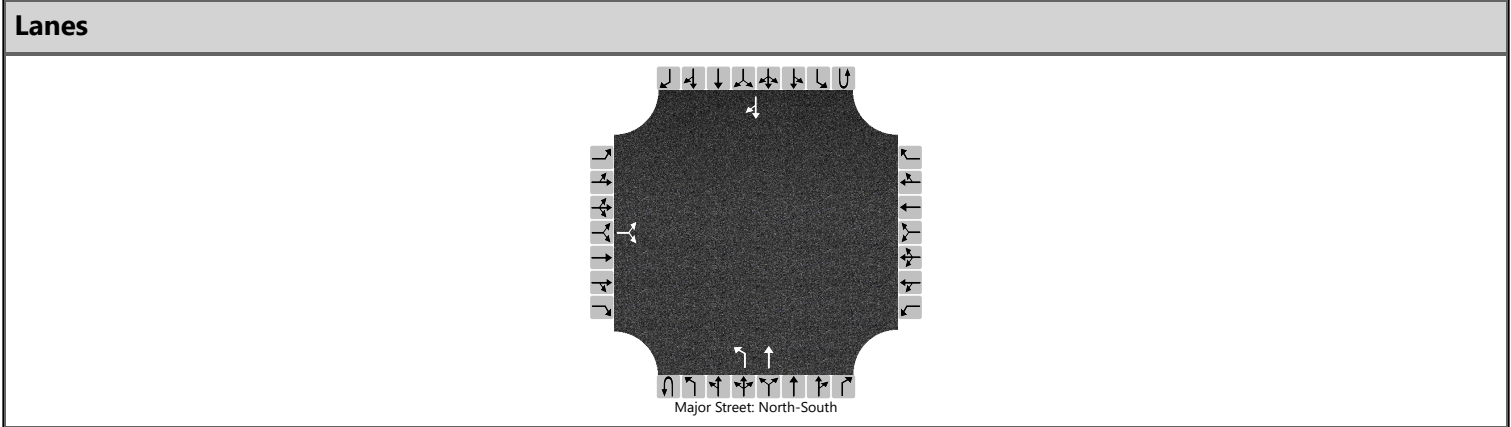
| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.21 | 6.61 | 6.31 |  | 4.11 |  |  |  | 4.11 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.60 | 4.10 | 3.40 |  | 2.21 |  |  |  | 2.21 |  |  |

| Delay, Queue Length, and Level of Service |     |  |      |  |      |      |  |      |     |      |     |     |     |      |  |  |
|-------------------------------------------|-----|--|------|--|------|------|--|------|-----|------|-----|-----|-----|------|--|--|
| Flow Rate, v (veh/h)                      |     |  | 7    |  |      | 161  |  | 279  |     | 4    |     |     |     | 89   |  |  |
| Capacity, c (veh/h)                       |     |  | 895  |  |      | 372  |  | 766  |     | 1430 |     |     |     | 1297 |  |  |
| v/c Ratio                                 |     |  | 0.01 |  |      | 0.43 |  | 0.36 |     | 0.00 |     |     |     | 0.07 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     |  | 0.0  |  |      | 2.1  |  | 1.7  |     | 0.0  |     |     |     | 0.2  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     |  | 0.0  |  |      | 57.1 |  | 46.2 |     |      |     |     |     | 5.0  |  |  |
| Control Delay (s/veh)                     |     |  | 9.1  |  |      | 21.8 |  | 12.4 |     | 7.5  | 0.0 | 0.0 |     | 8.0  |  |  |
| Level of Service (LOS)                    |     |  | A    |  |      | C    |  | B    |     | A    | A   | A   |     | A    |  |  |
| Approach Delay (s/veh)                    | 9.1 |  |      |  | 15.8 |      |  |      | 0.1 |      |     |     | 2.9 |      |  |  |
| Approach LOS                              | A   |  |      |  | C    |      |  |      | A   |      |     |     | A   |      |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                |
|--------------------------|--------------------------|----------------------------|--------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Kenssington Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville       |
| Date Performed           | 5/17/2024                | East/West Street           | Kenssington Drive              |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                     |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.87                           |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                           |
| Project Description      | No Build                 |                            |                                |



| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 1  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | L  | T   |   |            |   |     | TR |
| Volume (veh/h)                  |           | 12 |    | 54 |           |   |   |   |            | 22 | 190 |   |            |   | 223 | 8  |
| Percent Heavy Vehicles (%)      |           | 4  |    | 4  |           |   |   |   |            | 2  |     |   |            |   |     |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

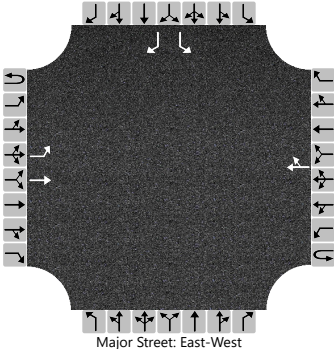
| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.44 |  | 6.24 |  |  |  |  |  | 4.12 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.54 |  | 3.34 |  |  |  |  |  | 2.22 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |  |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|--|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 76   |  |  |  |  |  |     | 25   |  |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 681  |  |  |  |  |  |     | 1298 |  |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.11 |  |  |  |  |  |     | 0.02 |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.4  |  |  |  |  |  |     | 0.1  |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 10.3 |  |  |  |  |  |     | 2.5  |  |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 10.9 |  |  |  |  |  |     | 7.8  |  |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    |  |  |  |  |  |  |
| Approach Delay (s/veh)                    | 10.9 |  |      |  |  |  |  |  | 0.8 |      |  |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |  |  |  |  |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                              |
|--------------------------|--------------------------|----------------------------|------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Ranger Way |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road              |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                   |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.82                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                         |
| Project Description      | No Build                 |                            |                              |

Lanes



Major Street: East-West

| Vehicle Volumes and Adjustments |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|----|-----|---|-----------|---|-----|-----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |    |     |   | Westbound |   |     |     | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L  | T   | R | U         | L | T   | R   | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6   |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0   |            | 0 | 0 | 0 |            | 1  | 0  | 1   |
| Configuration                   |           | L  | T   |   |           |   |     | TR  |            |   |   |   |            | L  |    | R   |
| Volume (veh/h)                  |           | 91 | 251 |   |           |   | 469 | 125 |            |   |   |   |            | 82 |    | 173 |
| Percent Heavy Vehicles (%)      |           | 3  |     |   |           |   |     |     |            |   |   |   |            | 8  |    | 8   |
| Proportion Time Blocked         |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |    |     |   |           |   |     |     |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |    |     |   |           |   |     |     |            |   |   |   | No         |    |    |     |
| Median Type   Storage           | Undivided |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |

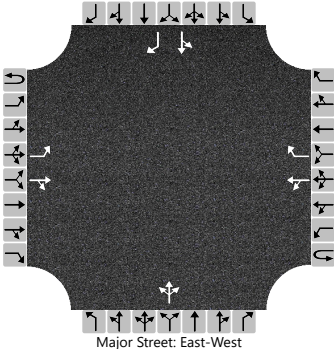
| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.48 |  | 6.28 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.57 |  | 3.37 |

| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 111  |  |  |  |  |  |  |  |  |  |  |      | 100  |  | 211  |
| Capacity, c (veh/h)                       |     | 874  |  |  |  |  |  |  |  |  |  |  |      | 179  |  | 460  |
| v/c Ratio                                 |     | 0.13 |  |  |  |  |  |  |  |  |  |  |      | 0.56 |  | 0.46 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.4  |  |  |  |  |  |  |  |  |  |  |      | 2.9  |  | 2.4  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 10.2 |  |  |  |  |  |  |  |  |  |  |      | 77.1 |  | 63.8 |
| Control Delay (s/veh)                     |     | 9.7  |  |  |  |  |  |  |  |  |  |  |      | 47.7 |  | 19.3 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |      | E    |  | C    |
| Approach Delay (s/veh)                    | 2.6 |      |  |  |  |  |  |  |  |  |  |  | 28.4 |      |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | D    |      |  |      |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                              |
|--------------------------|--------------------------|----------------------------|----------------------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & High School Drive/W Poi... |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville                     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road                              |
| Analysis Year            | 2049                     | North/South Street         | High School Drive/W Point Drive              |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.77                                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                                         |
| Project Description      | No Build                 |                            |                                              |

Lanes



| Vehicle Volumes and Adjustments |           |     |     |    |           |    |     |    |            |   |     |   |            |    |    |     |
|---------------------------------|-----------|-----|-----|----|-----------|----|-----|----|------------|---|-----|---|------------|----|----|-----|
| Approach                        | Eastbound |     |     |    | Westbound |    |     |    | Northbound |   |     |   | Southbound |    |    |     |
| Movement                        | U         | L   | T   | R  | U         | L  | T   | R  | U          | L | T   | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1   | 2   | 3  | 4U        | 4  | 5   | 6  |            | 7 | 8   | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1   | 1   | 0  | 0         | 0  | 1   | 1  |            | 0 | 1   | 0 |            | 0  | 1  | 1   |
| Configuration                   |           | L   |     | TR |           | LT |     | R  |            |   | LTR |   |            | LT |    | R   |
| Volume (veh/h)                  |           | 104 | 219 | 19 |           | 0  | 361 | 39 |            | 2 | 0   | 3 |            | 66 | 1  | 230 |
| Percent Heavy Vehicles (%)      |           | 2   |     |    |           | 2  |     |    |            | 0 | 0   | 0 |            | 1  | 1  | 1   |
| Proportion Time Blocked         |           |     |     |    |           |    |     |    |            |   |     |   |            |    |    |     |
| Percent Grade (%)               |           |     |     |    |           |    |     |    | 0          |   |     |   | 0          |    |    |     |
| Right Turn Channelized          |           |     |     |    | No        |    |     |    |            |   |     |   | No         |    |    |     |
| Median Type   Storage           | Undivided |     |     |    |           |    |     |    |            |   |     |   |            |    |    |     |

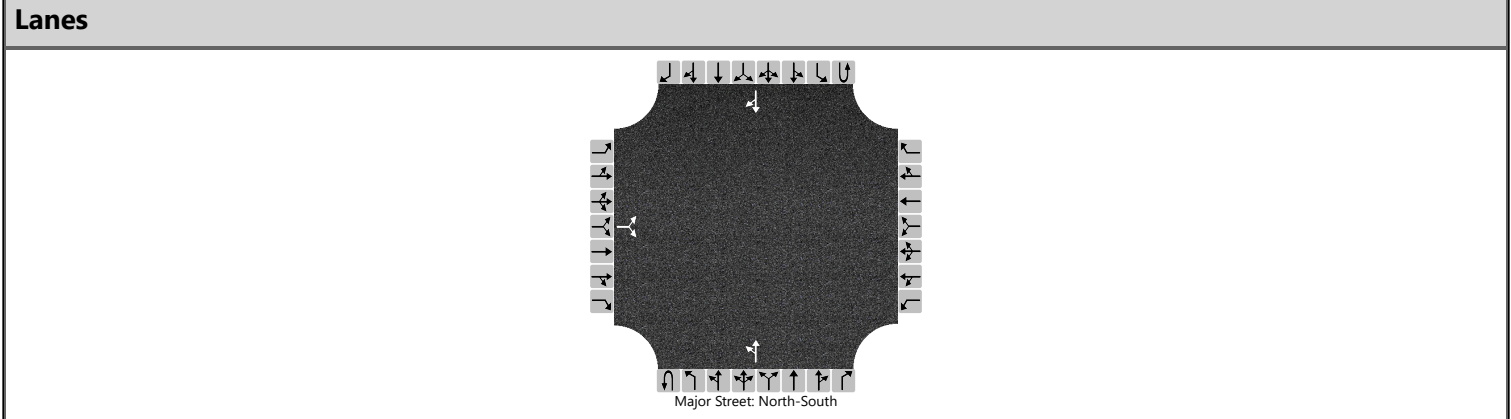
| Critical and Follow-up Headways |  |      |  |  |  |      |  |  |  |      |      |      |  |      |      |      |
|---------------------------------|--|------|--|--|--|------|--|--|--|------|------|------|--|------|------|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  | 4.1  |  |  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  | 4.12 |  |  |  | 7.10 | 6.50 | 6.20 |  | 7.11 | 6.51 | 6.21 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  | 2.2  |  |  |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  | 2.22 |  |  |  | 3.50 | 4.00 | 3.30 |  | 3.51 | 4.01 | 3.31 |

| Delay, Queue Length, and Level of Service |     |      |  |  |     |      |     |  |      |  |      |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|-----|------|-----|--|------|--|------|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 135  |  |  |     | 0    |     |  |      |  | 6    |  |      | 87   |  | 299  |
| Capacity, c (veh/h)                       |     | 1045 |  |  |     | 1227 |     |  |      |  | 129  |  |      | 175  |  | 538  |
| v/c Ratio                                 |     | 0.13 |  |  |     | 0.00 |     |  |      |  | 0.05 |  |      | 0.50 |  | 0.56 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.4  |  |  |     | 0.0  |     |  |      |  | 0.2  |  |      | 2.4  |  | 3.4  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 10.2 |  |  |     |      |     |  |      |  | 5.0  |  |      | 60.5 |  | 85.7 |
| Control Delay (s/veh)                     |     | 9.0  |  |  |     | 7.9  | 0.0 |  |      |  | 34.3 |  |      | 44.5 |  | 19.7 |
| Level of Service (LOS)                    |     | A    |  |  |     | A    | A   |  |      |  | D    |  |      | E    |  | C    |
| Approach Delay (s/veh)                    | 2.7 |      |  |  | 0.0 |      |     |  | 34.3 |  |      |  | 25.3 |      |  |      |
| Approach LOS                              | A   |      |  |  | A   |      |     |  | D    |  |      |  | D    |      |  |      |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                     |
|--------------------------|--------------------------|----------------------------|-------------------------------------|
| Analyst                  | tsj                      | Intersection               | Pitts Boulevard & High School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville            |
| Date Performed           | 5/17/2024                | East/West Street           | High School Drive                   |
| Analysis Year            | 2049                     | North/South Street         | Pitts Boulevard                     |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.57                                |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                |
| Project Description      | No Build                 |                            |                                     |



| Vehicle Volumes and Adjustments |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
|---------------------------------|-----------|-----|----|----|-----------|---|---|---|------------|----|----|---|------------|---|----|----|
| Approach                        | Eastbound |     |    |    | Westbound |   |   |   | Northbound |    |    |   | Southbound |   |    |    |
| Movement                        | U         | L   | T  | R  | U         | L | T | R | U          | L  | T  | R | U          | L | T  | R  |
| Priority                        |           | 10  | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2  | 3 | 4U         | 4 | 5  | 6  |
| Number of Lanes                 |           | 0   | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1  | 0 | 0          | 0 | 1  | 0  |
| Configuration                   |           |     | LR |    |           |   |   |   |            | LT |    |   |            |   |    | TR |
| Volume (veh/h)                  |           | 140 |    | 80 |           |   |   |   |            | 34 | 64 |   |            |   | 51 | 64 |
| Percent Heavy Vehicles (%)      |           | 3   |    | 3  |           |   |   |   |            | 3  |    |   |            |   |    |    |
| Proportion Time Blocked         |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Percent Grade (%)               | 0         |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Right Turn Channelized          |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Median Type   Storage           | Undivided |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.43 |  | 6.23 |  |  |  |  |  | 4.13 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.53 |  | 3.33 |  |  |  |  |  | 2.23 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 386  |  |  |  |  |  |     | 60   |     |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 669  |  |  |  |  |  |     | 1359 |     |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.58 |  |  |  |  |  |     | 0.04 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 3.7  |  |  |  |  |  |     | 0.1  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 94.7 |  |  |  |  |  |     | 2.6  |     |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 17.4 |  |  |  |  |  |     | 7.8  | 0.4 |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | C    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                    | 17.4 |  |      |  |  |  |  |  | 2.9 |      |     |  |  |  |  |  |
| Approach LOS                              | C    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |

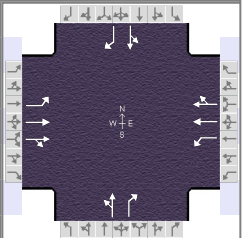
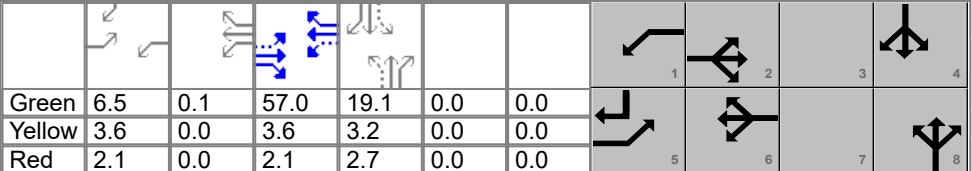
North Ridgeville City School District

# **North Ridgeville CSD Traffic Impact Study**

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## **HCS 2024 Reports – Build Conditions**

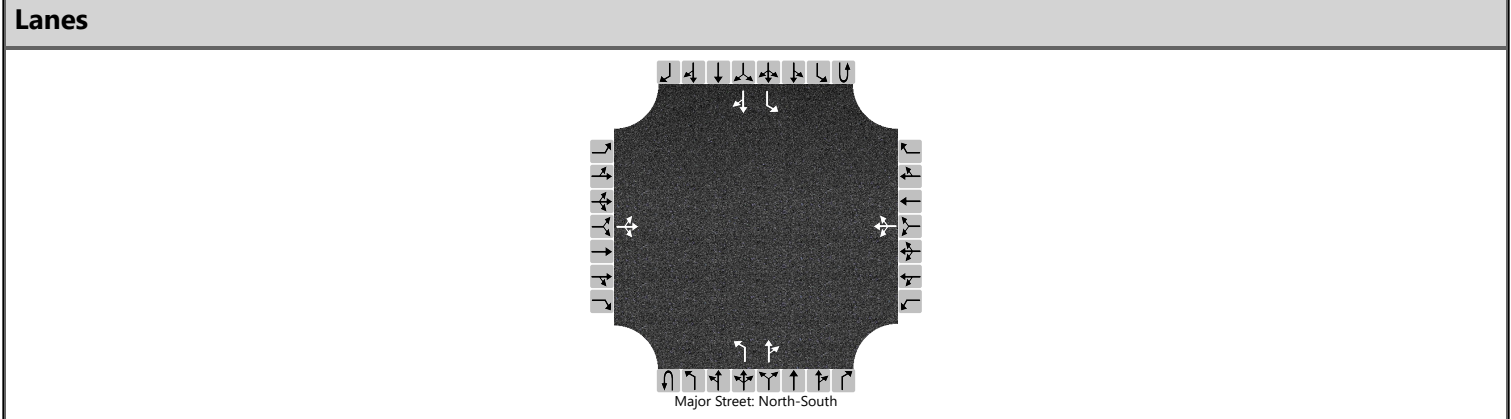
# HCS Signalized Intersection Results Summary

| General Information                             |                          |                 |               |                                                                                    |       | Intersection Information |         |       |       |      |       |  |     |       |       |       |  |      |  |
|-------------------------------------------------|--------------------------|-----------------|---------------|------------------------------------------------------------------------------------|-------|--------------------------|---------|-------|-------|------|-------|-------------------------------------------------------------------------------------|-----|-------|-------|-------|--|------|--|
| Agency                                          | DGL                      |                 |               |                                                                                    |       | Duration, h              | 0.250   |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Analyst                                         | tsj                      |                 | Analysis Date | Jun 18, 2024                                                                       |       | Area Type                | Other   |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Jurisdiction                                    | City of North Ridgeville |                 | Time Period   | AM Peak                                                                            |       | PHF                      | 0.89    |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Urban Street                                    | Center Ridge             |                 | Analysis Year | 2029                                                                               |       | Analysis Period          | 1> 7:00 |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Intersection                                    | Center Ridge & Ranger... |                 | File Name     | 2029 Build AM Peak Center Ridge & Ranger.xus                                       |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Project Description                             | Build                    |                 |               |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Demand Information                              |                          |                 |               |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Approach Movement                               |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB  |       |       |       |  |      |  |
|                                                 |                          |                 |               | L                                                                                  | T     | R                        | L       | T     | R     | L    | T     | R                                                                                   | L   | T     | R     |       |  |      |  |
| Demand ( v ), veh/h                             |                          |                 |               | 84                                                                                 | 583   | 148                      | 95      | 475   | 100   | 139  | 125   | 193                                                                                 | 206 | 190   | 111   |       |  |      |  |
| Signal Information                              |                          |                 |               |  |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Cycle, s                                        | 100.0                    | Reference Phase | 2             |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Offset, s                                       | 0                        | Reference Point | End           |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Uncoordinated                                   | No                       | Simult. Gap E/W | On            |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Force Mode                                      | Fixed                    | Simult. Gap N/S | On            |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
|                                                 |                          |                 |               | Green                                                                              | 6.5   | 0.1                      | 57.0    | 19.1  | 0.0   | 0.0  |       |                                                                                     |     |       |       |       |  |      |  |
|                                                 |                          |                 |               | Yellow                                                                             | 3.6   | 0.0                      | 3.6     | 3.2   | 0.0   | 0.0  |       |                                                                                     |     |       |       |       |  |      |  |
|                                                 |                          |                 |               | Red                                                                                | 2.1   | 0.0                      | 2.1     | 2.7   | 0.0   | 0.0  |       |                                                                                     |     |       |       |       |  |      |  |
| Timer Results                                   |                          |                 |               | EBL                                                                                |       | EBT                      |         | WBL   |       | WBT  |       | NBL                                                                                 |     | NBT   |       | SBL   |  | SBT  |  |
| Assigned Phase                                  |                          |                 |               | 5                                                                                  |       | 2                        |         | 1     |       | 6    |       |                                                                                     |     | 8     |       |       |  | 4    |  |
| Case Number                                     |                          |                 |               | 1.1                                                                                |       | 4.0                      |         | 1.1   |       | 4.0  |       |                                                                                     |     | 7.0   |       |       |  | 7.0  |  |
| Phase Duration, s                               |                          |                 |               | 12.2                                                                               |       | 62.7                     |         | 12.3  |       | 62.8 |       |                                                                                     |     | 25.0  |       |       |  | 25.0 |  |
| Change Period, ( Y+R c ), s                     |                          |                 |               | 5.7                                                                                |       | 5.7                      |         | 5.7   |       | 5.7  |       |                                                                                     |     | 5.9   |       |       |  | 5.9  |  |
| Max Allow Headway ( MAH ), s                    |                          |                 |               | 4.1                                                                                |       | 0.0                      |         | 4.1   |       | 0.0  |       |                                                                                     |     | 4.3   |       |       |  | 4.3  |  |
| Queue Clearance Time ( g s ), s                 |                          |                 |               | 4.1                                                                                |       |                          |         | 4.3   |       |      |       |                                                                                     |     | 21.1  |       |       |  | 21.1 |  |
| Green Extension Time ( g e ), s                 |                          |                 |               | 0.1                                                                                |       | 0.0                      |         | 0.1   |       | 0.0  |       |                                                                                     |     | 0.0   |       |       |  | 0.0  |  |
| Phase Call Probability                          |                          |                 |               | 0.93                                                                               |       |                          |         | 0.95  |       |      |       |                                                                                     |     | 1.00  |       |       |  | 1.00 |  |
| Max Out Probability                             |                          |                 |               | 0.34                                                                               |       |                          |         | 0.46  |       |      |       |                                                                                     |     | 1.00  |       |       |  | 1.00 |  |
| Movement Group Results                          |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB  |       |       |       |  |      |  |
| Approach Movement                               |                          |                 |               | L                                                                                  | T     | R                        | L       | T     | R     | L    | T     | R                                                                                   | L   | T     | R     |       |  |      |  |
| Assigned Movement                               |                          |                 |               | 5                                                                                  | 2     | 12                       | 1       | 6     | 16    | 3    | 8     | 18                                                                                  | 7   | 4     | 14    |       |  |      |  |
| Adjusted Flow Rate ( v ), veh/h                 |                          |                 |               | 94                                                                                 | 425   | 396                      | 107     | 332   | 314   |      | 297   | 217                                                                                 |     | 445   | 125   |       |  |      |  |
| Adjusted Saturation Flow Rate ( s ), veh/h/ln   |                          |                 |               | 1753                                                                               | 1841  | 1711                     | 1767    | 1856  | 1743  |      | 1266  | 1572                                                                                |     | 1291  | 1585  |       |  |      |  |
| Queue Service Time ( g s ), s                   |                          |                 |               | 2.1                                                                                | 12.9  | 13.0                     | 2.3     | 9.3   | 9.4   |      | 0.0   | 12.9                                                                                |     | 0.0   | 6.4   |       |  |      |  |
| Cycle Queue Clearance Time ( g c ), s           |                          |                 |               | 2.1                                                                                | 12.9  | 13.0                     | 2.3     | 9.3   | 9.4   |      | 19.1  | 12.9                                                                                |     | 19.1  | 6.4   |       |  |      |  |
| Green Ratio ( g/C )                             |                          |                 |               | 0.63                                                                               | 0.57  | 0.57                     | 0.64    | 0.57  | 0.57  |      | 0.19  | 0.19                                                                                |     | 0.19  | 0.26  |       |  |      |  |
| Capacity ( c ), veh/h                           |                          |                 |               | 538                                                                                | 1048  | 975                      | 480     | 1060  | 996   |      | 297   | 300                                                                                 |     | 301   | 406   |       |  |      |  |
| Volume-to-Capacity Ratio ( X )                  |                          |                 |               | 0.175                                                                              | 0.406 | 0.406                    | 0.222   | 0.313 | 0.315 |      | 0.999 | 0.722                                                                               |     | 1.477 | 0.307 |       |  |      |  |
| Back of Queue ( Q ), ft/ln ( 95 th percentile)  |                          |                 |               | 34                                                                                 | 232   | 214                      | 38      | 174   | 162   |      | 444   | 245                                                                                 |     | 1061  | 111   |       |  |      |  |
| Back of Queue ( Q ), veh/ln ( 95 th percentile) |                          |                 |               | 1.3                                                                                | 9.0   | 8.5                      | 1.5     | 6.8   | 6.5   |      | 17.3  | 9.6                                                                                 |     | 41.8  | 4.4   |       |  |      |  |
| Queue Storage Ratio ( RQ ) ( 95 th percentile)  |                          |                 |               | 0.00                                                                               | 0.00  | 0.00                     | 0.00    | 0.00  | 0.00  |      | 0.00  | 0.00                                                                                |     | 0.00  | 0.00  |       |  |      |  |
| Uniform Delay ( d 1 ), s/veh                    |                          |                 |               | 7.8                                                                                | 12.0  | 12.1                     | 8.1     | 11.2  | 11.2  |      | 42.2  | 38.0                                                                                |     | 42.2  | 30.0  |       |  |      |  |
| Incremental Delay ( d 2 ), s/veh                |                          |                 |               | 0.2                                                                                | 1.2   | 1.3                      | 0.2     | 0.8   | 0.8   |      | 52.0  | 8.2                                                                                 |     | 231.8 | 0.4   |       |  |      |  |
| Initial Queue Delay ( d 3 ), s/veh              |                          |                 |               | 0.0                                                                                | 0.0   | 0.0                      | 0.0     | 0.0   | 0.0   |      | 0.0   | 0.0                                                                                 |     | 0.0   | 0.0   |       |  |      |  |
| Control Delay ( d ), s/veh                      |                          |                 |               | 7.9                                                                                | 13.2  | 13.3                     | 8.3     | 12.0  | 12.1  |      | 94.2  | 46.2                                                                                |     | 274.0 | 30.5  |       |  |      |  |
| Level of Service (LOS)                          |                          |                 |               | A                                                                                  | B     | B                        | A       | B     | B     |      | F     | D                                                                                   |     | F     | C     |       |  |      |  |
| Approach Delay, s/veh / LOS                     |                          |                 |               | 12.7                                                                               |       | B                        |         | 11.5  |       | B    |       | 73.9                                                                                |     | E     |       | 220.7 |  | F    |  |
| Intersection Delay, s/veh / LOS                 |                          |                 |               | 66.9                                                                               |       |                          |         |       |       | E    |       |                                                                                     |     |       |       |       |  |      |  |
| Multimodal Results                              |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB  |       |       |       |  |      |  |
| Pedestrian LOS Score / LOS                      |                          |                 |               | 1.89                                                                               |       | B                        |         | 1.89  |       | B    |       | 2.30                                                                                |     | B     |       | 2.30  |  | B    |  |
| Bicycle LOS Score / LOS                         |                          |                 |               | 1.24                                                                               |       | A                        |         | 1.11  |       | A    |       | 1.33                                                                                |     | A     |       | 1.43  |  | A    |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                        |
|--------------------------|--------------------------|----------------------------|----------------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Fire Station/School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville               |
| Date Performed           | 5/17/2024                | East/West Street           | Fire Station Drive                     |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                             |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.64                                   |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                   |
| Project Description      | Build                    |                            |                                        |



| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|-----|------------|---|-----|-----|------------|-----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |     | Northbound |   |     |     | Southbound |     |     |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R   | U          | L | T   | R   | U          | L   | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9   | 1U         | 1 | 2   | 3   | 4U         | 4   | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0   | 0          | 1 | 1   | 0   | 0          | 1   | 1   | 0  |
| Configuration                   |           |    | LTR |    |           |    | LTR |     |            | L |     | TR  |            | L   |     | TR |
| Volume (veh/h)                  |           | 0  | 0   | 3  |           | 15 | 0   | 234 |            | 3 | 222 | 107 |            | 192 | 249 | 5  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 11 | 11  | 11  |            | 8 |     |     |            | 4   |     |    |
| Proportion Time Blocked         |           |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |     |            |   |     |     |            |     |     |    |
| Right Turn Channelized          |           |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |

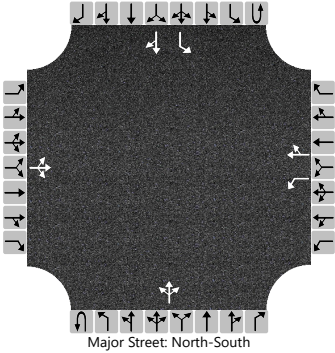
| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.21 | 6.61 | 6.31 |  | 4.18 |  |  |  | 4.14 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.60 | 4.10 | 3.40 |  | 2.27 |  |  |  | 2.24 |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |      |  |       |  |     |      |  |  |     |      |  |  |
|-------------------------------------------|------|--|------|--|------|--|-------|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                      |      |  | 5    |  |      |  | 389   |  |     | 5    |  |  |     | 300  |  |  |
| Capacity, c (veh/h)                       |      |  | 660  |  |      |  | 406   |  |     | 1130 |  |  |     | 1006 |  |  |
| v/c Ratio                                 |      |  | 0.01 |  |      |  | 0.96  |  |     | 0.00 |  |  |     | 0.30 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.0  |  |      |  | 11.0  |  |     | 0.0  |  |  |     | 1.3  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 0.0  |  |      |  | 299.2 |  |     | 0.0  |  |  |     | 33.5 |  |  |
| Control Delay (s/veh)                     |      |  | 10.5 |  |      |  | 66.8  |  |     | 8.2  |  |  |     | 10.1 |  |  |
| Level of Service (LOS)                    |      |  | B    |  |      |  | F     |  |     | A    |  |  |     | B    |  |  |
| Approach Delay (s/veh)                    | 10.5 |  |      |  | 66.8 |  |       |  | 0.1 |      |  |  | 4.3 |      |  |  |
| Approach LOS                              | B    |  |      |  | F    |  |       |  | A   |      |  |  | A   |      |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                          |
|--------------------------|--------------------------|----------------------------|--------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & NRAC Drive  |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville |
| Date Performed           | 5/17/2024                | East/West Street           | NRAC Drive               |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way               |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.75                     |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                     |
| Project Description      | Build                    |                            |                          |

Lanes



Major Street: North-South

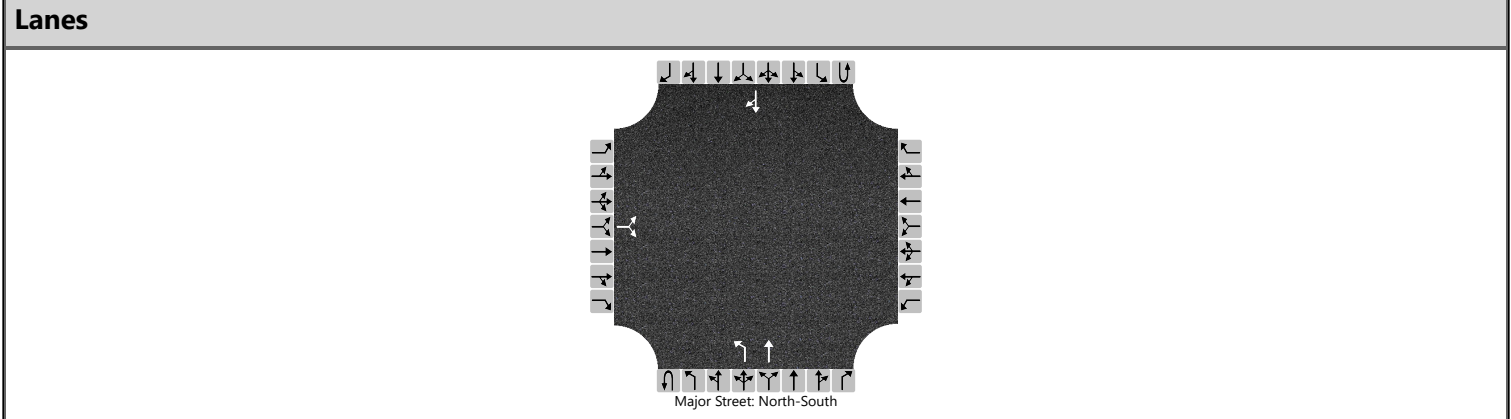
| Vehicle Volumes and Adjustments |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
|---------------------------------|-----------|----|-----|----|-----------|----|----|-----|------------|---|-----|----|------------|-----|----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |    |     | Northbound |   |     |    | Southbound |     |    |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T  | R   | U          | L | T   | R  | U          | L   | T  | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8  | 9   | 1U         | 1 | 2   | 3  | 4U         | 4   | 5  | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 1  | 1  | 0   | 0          | 0 | 1   | 0  | 0          | 1   | 1  | 0  |
| Configuration                   |           |    | LTR |    |           | L  |    | TR  |            |   | LTR |    |            | L   |    | TR |
| Volume (veh/h)                  |           | 0  | 0   | 1  |           | 47 | 0  | 127 |            | 4 | 204 | 60 |            | 200 | 73 | 0  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 14 | 14 | 14  |            | 5 |     |    |            | 6   |    |    |
| Proportion Time Blocked         |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |    |     |            |   |     |    |            |     |    |    |
| Right Turn Channelized          |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.24 | 6.64 | 6.34 |  | 4.15 |  |  |  | 4.16 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.63 | 4.13 | 3.43 |  | 2.25 |  |  |  | 2.25 |  |  |

| Delay, Queue Length, and Level of Service |     |  |      |  |      |      |  |      |     |      |     |     |     |      |  |  |
|-------------------------------------------|-----|--|------|--|------|------|--|------|-----|------|-----|-----|-----|------|--|--|
| Flow Rate, v (veh/h)                      |     |  | 1    |  |      | 63   |  | 169  |     | 5    |     |     |     | 267  |  |  |
| Capacity, c (veh/h)                       |     |  | 964  |  |      | 175  |  | 701  |     | 1477 |     |     |     | 1185 |  |  |
| v/c Ratio                                 |     |  | 0.00 |  |      | 0.36 |  | 0.24 |     | 0.00 |     |     |     | 0.23 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     |  | 0.0  |  |      | 1.5  |  | 0.9  |     | 0.0  |     |     |     | 0.9  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     |  | 0.0  |  |      | 41.7 |  | 25.0 |     |      |     |     |     | 23.6 |  |  |
| Control Delay (s/veh)                     |     |  | 8.7  |  |      | 36.7 |  | 11.8 |     | 7.4  | 0.0 | 0.0 |     | 8.9  |  |  |
| Level of Service (LOS)                    |     |  | A    |  |      | E    |  | B    |     | A    | A   | A   |     | A    |  |  |
| Approach Delay (s/veh)                    | 8.7 |  |      |  | 18.5 |      |  |      | 0.1 |      |     |     | 6.5 |      |  |  |
| Approach LOS                              | A   |  |      |  | C    |      |  |      | A   |      |     |     | A   |      |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                |
|--------------------------|--------------------------|----------------------------|--------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Kenssington Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville       |
| Date Performed           | 5/17/2024                | East/West Street           | Kenssington Drive              |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                     |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.68                           |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                           |
| Project Description      | Build                    |                            |                                |



| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 1  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | L  | T   |   |            |   |     | TR |
| Volume (veh/h)                  |           | 10 |    | 44 |           |   |   |   |            | 10 | 252 |   |            |   | 120 | 2  |
| Percent Heavy Vehicles (%)      |           | 13 |    | 13 |           |   |   |   |            | 6  |     |   |            |   |     |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

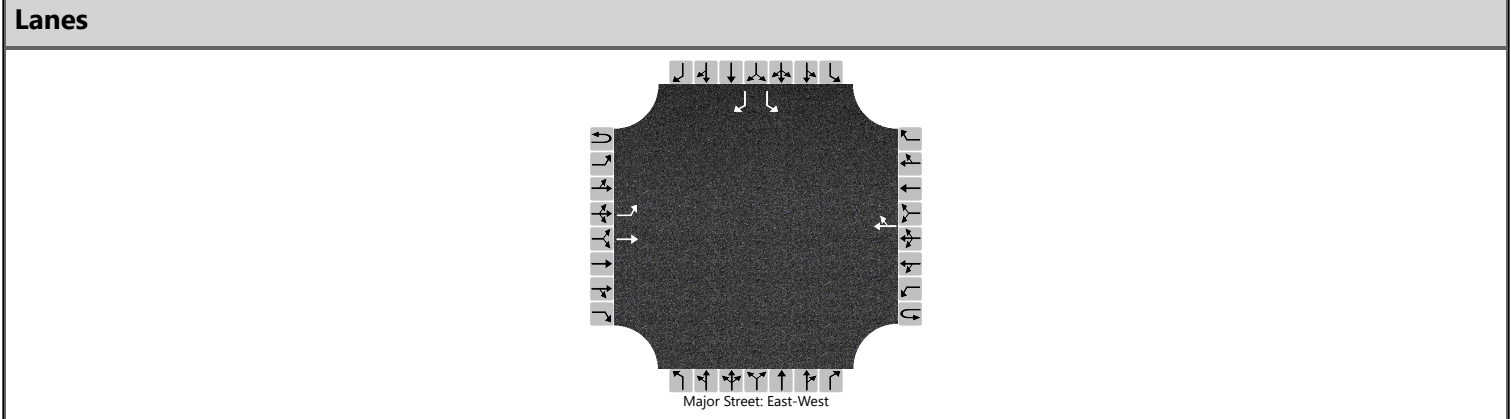
| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.53 |  | 6.33 |  |  |  |  |  | 4.16 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.62 |  | 3.42 |  |  |  |  |  | 2.25 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |  |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|--|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 79   |  |  |  |  |  |     | 15   |  |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 719  |  |  |  |  |  |     | 1372 |  |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.11 |  |  |  |  |  |     | 0.01 |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.4  |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 11.0 |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 10.6 |  |  |  |  |  |     | 7.7  |  |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    |  |  |  |  |  |  |
| Approach Delay (s/veh)                    | 10.6 |  |      |  |  |  |  |  | 0.3 |      |  |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |  |  |  |  |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                              |
|--------------------------|--------------------------|----------------------------|------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Ranger Way |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road              |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                   |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.79                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                         |
| Project Description      | Build                    |                            |                              |



| Vehicle Volumes and Adjustments |           |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
|---------------------------------|-----------|-----|-----|---|-----------|---|-----|-----|------------|---|---|---|------------|----|----|----|
| Approach                        | Eastbound |     |     |   | Westbound |   |     |     | Northbound |   |   |   | Southbound |    |    |    |
| Movement                        | U         | L   | T   | R | U         | L | T   | R   | U          | L | T | R | U          | L  | T  | R  |
| Priority                        | 1U        | 1   | 2   | 3 | 4U        | 4 | 5   | 6   |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Number of Lanes                 | 0         | 1   | 1   | 0 | 0         | 0 | 1   | 0   |            | 0 | 0 | 0 |            | 1  | 0  | 1  |
| Configuration                   |           | L   | T   |   |           |   |     | TR  |            |   |   |   |            | L  |    | R  |
| Volume (veh/h)                  |           | 114 | 729 |   |           |   | 365 | 148 |            |   |   |   |            | 64 |    | 75 |
| Percent Heavy Vehicles (%)      |           | 2   |     |   |           |   |     |     |            |   |   |   |            | 14 |    | 14 |
| Proportion Time Blocked         |           |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
| Percent Grade (%)               |           |     |     |   |           |   |     |     |            |   |   |   | 0          |    |    |    |
| Right Turn Channelized          |           |     |     |   |           |   |     |     |            |   |   |   | No         |    |    |    |
| Median Type   Storage           | Undivided |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |

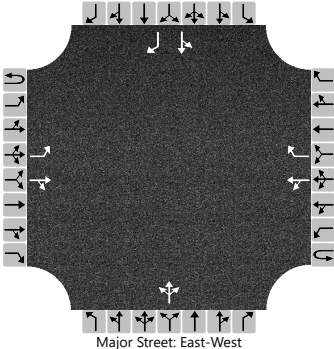
| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  |  |  |  |  |  |  |  |  | 6.54 |  | 6.34 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  |  |  |  |  |  |  |  |  | 3.63 |  | 3.43 |

| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |       |       |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|-------|-------|--|------|
| Flow Rate, v (veh/h)                      |     | 144  |  |  |  |  |  |  |  |  |  |  |       | 81    |  | 95   |
| Capacity, c (veh/h)                       |     | 937  |  |  |  |  |  |  |  |  |  |  |       | 73    |  | 508  |
| v/c Ratio                                 |     | 0.15 |  |  |  |  |  |  |  |  |  |  |       | 1.12  |  | 0.19 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.5  |  |  |  |  |  |  |  |  |  |  |       | 6.1   |  | 0.7  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 12.7 |  |  |  |  |  |  |  |  |  |  |       | 169.6 |  | 19.5 |
| Control Delay (s/veh)                     |     | 9.5  |  |  |  |  |  |  |  |  |  |  |       | 240.9 |  | 13.7 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |       | F     |  | B    |
| Approach Delay (s/veh)                    | 1.3 |      |  |  |  |  |  |  |  |  |  |  | 118.3 |       |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | F     |       |  |      |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                              |
|--------------------------|--------------------------|----------------------------|----------------------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & High School Drive/W Poi... |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville                     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road                              |
| Analysis Year            | 2029                     | North/South Street         | High School Drive/W Point Drive              |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.75                                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                                         |
| Project Description      | Build                    |                            |                                              |

Lanes



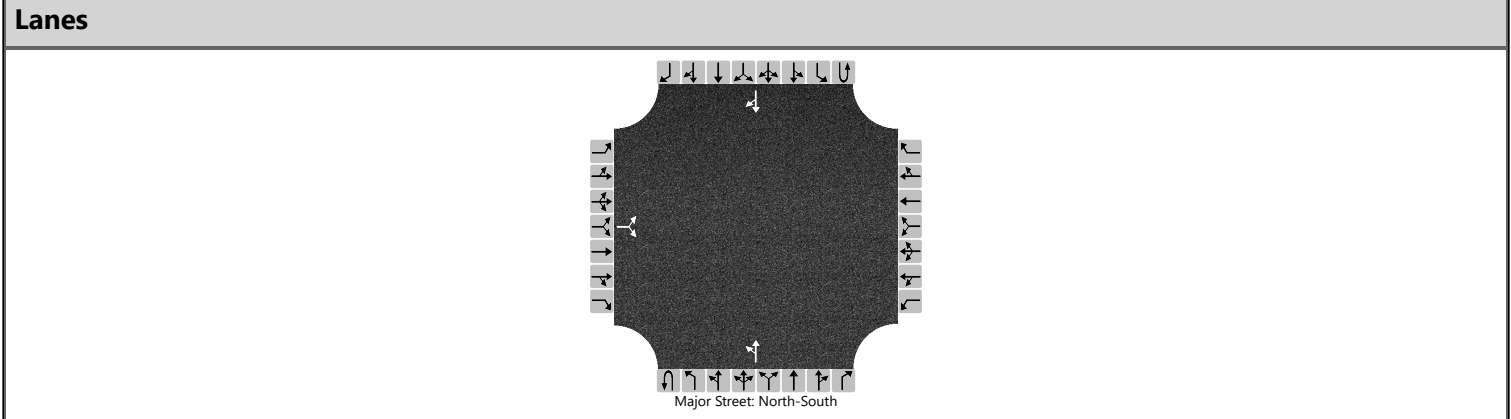
| Vehicle Volumes and Adjustments |           |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |
|---------------------------------|-----------|-----|-----|----|-----------|----|-----|-----|------------|---|-----|---|------------|----|----|-----|
| Approach                        | Eastbound |     |     |    | Westbound |    |     |     | Northbound |   |     |   | Southbound |    |    |     |
| Movement                        | U         | L   | T   | R  | U         | L  | T   | R   | U          | L | T   | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1   | 2   | 3  | 4U        | 4  | 5   | 6   |            | 7 | 8   | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1   | 1   | 0  | 0         | 0  | 1   | 1   |            | 0 | 1   | 0 |            | 0  | 1  | 1   |
| Configuration                   |           | L   |     | TR |           | LT |     | R   |            |   | LTR |   |            | LT |    | R   |
| Volume (veh/h)                  |           | 328 | 489 | 5  |           | 0  | 216 | 183 |            | 4 | 0   | 0 |            | 45 | 1  | 292 |
| Percent Heavy Vehicles (%)      |           | 2   |     |    |           | 3  |     |     |            | 0 | 0   | 0 |            | 0  | 0  | 0   |
| Proportion Time Blocked         |           |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |
| Percent Grade (%)               |           |     |     |    |           |    |     |     | 0          |   |     |   | 0          |    |    |     |
| Right Turn Channelized          |           |     |     |    | No        |    |     |     |            |   |     |   | No         |    |    |     |
| Median Type   Storage           | Undivided |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |      |  |  |  |      |      |      |  |      |      |      |
|---------------------------------|--|------|--|--|--|------|--|--|--|------|------|------|--|------|------|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  | 4.1  |  |  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  | 4.13 |  |  |  | 7.10 | 6.50 | 6.20 |  | 7.10 | 6.50 | 6.20 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  | 2.2  |  |  |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  | 2.23 |  |  |  | 3.50 | 4.00 | 3.30 |  | 3.50 | 4.00 | 3.30 |

| Delay, Queue Length, and Level of Service |     |      |  |  |     |      |     |  |       |  |       |  |       |       |  |       |
|-------------------------------------------|-----|------|--|--|-----|------|-----|--|-------|--|-------|--|-------|-------|--|-------|
| Flow Rate, v (veh/h)                      |     | 437  |  |  |     | 0    |     |  |       |  | 5     |  |       | 61    |  | 389   |
| Capacity, c (veh/h)                       |     | 1032 |  |  |     | 918  |     |  |       |  | 8     |  |       | 29    |  | 633   |
| v/c Ratio                                 |     | 0.42 |  |  |     | 0.00 |     |  |       |  | 0.69  |  |       | 2.13  |  | 0.62  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 2.1  |  |  |     | 0.0  |     |  |       |  | 1.3   |  |       | 7.2   |  | 4.2   |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 53.3 |  |  |     |      |     |  |       |  | 32.5  |  |       | 180.0 |  | 105.0 |
| Control Delay (s/veh)                     |     | 11.0 |  |  |     | 8.9  | 0.0 |  |       |  | 788.9 |  |       | 814.9 |  | 19.3  |
| Level of Service (LOS)                    |     | B    |  |  |     | A    | A   |  |       |  | F     |  |       | F     |  | C     |
| Approach Delay (s/veh)                    | 4.4 |      |  |  | 0.0 |      |     |  | 788.9 |  |       |  | 127.6 |       |  |       |
| Approach LOS                              | A   |      |  |  | A   |      |     |  | F     |  |       |  | F     |       |  |       |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                     |
|--------------------------|--------------------------|----------------------------|-------------------------------------|
| Analyst                  | tsj                      | Intersection               | Pitts Boulevard & High School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville            |
| Date Performed           | 5/17/2024                | East/West Street           | High School Drive                   |
| Analysis Year            | 2029                     | North/South Street         | Pitts Boulevard                     |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.81                                |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                |
| Project Description      | Build                    |                            |                                     |



| Vehicle Volumes and Adjustments |           |     |    |    |           |   |   |   |            |     |    |   |            |   |     |     |
|---------------------------------|-----------|-----|----|----|-----------|---|---|---|------------|-----|----|---|------------|---|-----|-----|
| Approach                        | Eastbound |     |    |    | Westbound |   |   |   | Northbound |     |    |   | Southbound |   |     |     |
| Movement                        | U         | L   | T  | R  | U         | L | T | R | U          | L   | T  | R | U          | L | T   | R   |
| Priority                        |           | 10  | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1   | 2  | 3 | 4U         | 4 | 5   | 6   |
| Number of Lanes                 |           | 0   | 1  | 0  |           | 0 | 0 | 0 | 0          | 0   | 1  | 0 | 0          | 0 | 1   | 0   |
| Configuration                   |           |     | LR |    |           |   |   |   |            | LT  |    |   |            |   |     | TR  |
| Volume (veh/h)                  |           | 121 |    | 45 |           |   |   |   |            | 103 | 14 |   |            |   | 108 | 212 |
| Percent Heavy Vehicles (%)      |           | 6   |    | 6  |           |   |   |   |            | 8   |    |   |            |   |     |     |
| Proportion Time Blocked         |           |     |    |    |           |   |   |   |            |     |    |   |            |   |     |     |
| Percent Grade (%)               | 0         |     |    |    |           |   |   |   |            |     |    |   |            |   |     |     |
| Right Turn Channelized          |           |     |    |    |           |   |   |   |            |     |    |   |            |   |     |     |
| Median Type   Storage           | Undivided |     |    |    |           |   |   |   |            |     |    |   |            |   |     |     |

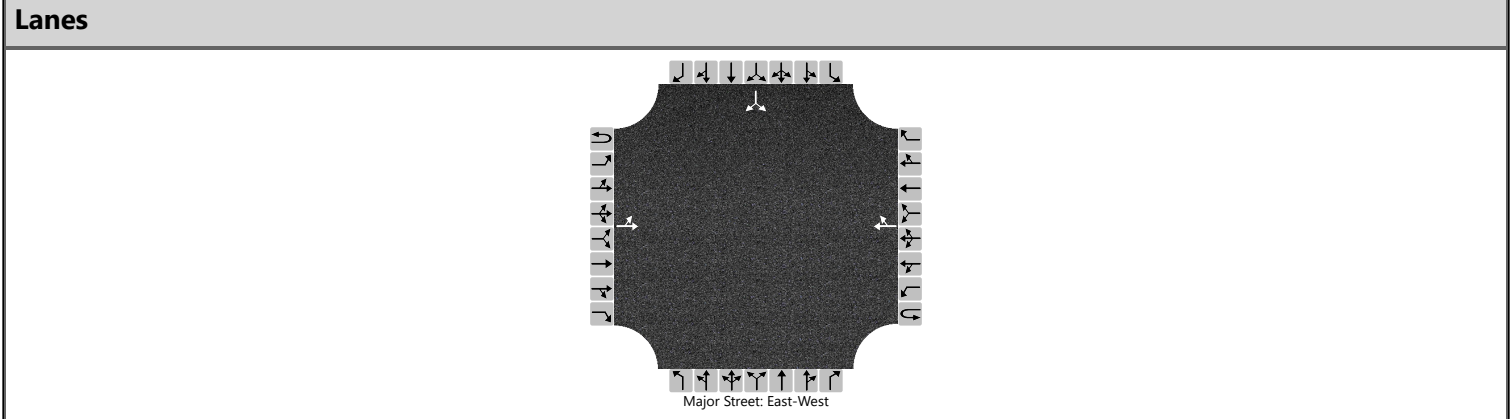
| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.46 |  | 6.26 |  |  |  |  |  | 4.18 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.55 |  | 3.35 |  |  |  |  |  | 2.27 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 205  |  |  |  |  |  |     | 127  |     |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 493  |  |  |  |  |  |     | 1128 |     |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.42 |  |  |  |  |  |     | 0.11 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 2.0  |  |  |  |  |  |     | 0.4  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 52.4 |  |  |  |  |  |     | 10.6 |     |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 17.4 |  |  |  |  |  |     | 8.6  | 1.0 |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | C    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                    | 17.4 |  |      |  |  |  |  |  | 7.7 |      |     |  |  |  |  |  |
| Approach LOS                              | C    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                               |
|--------------------------|--------------------------|----------------------------|-------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Prop. Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville      |
| Date Performed           | 8/21/2024                | East/West Street           | Bainbridge Road               |
| Analysis Year            | 2029                     | North/South Street         | Repurposed Drive              |
| Time Analyzed            | AM Peak                  | Peak Hour Factor           | 0.77                          |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                          |
| Project Description      | Build                    |                            |                               |

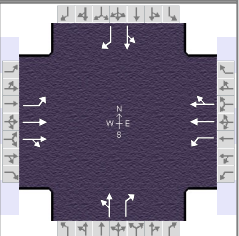
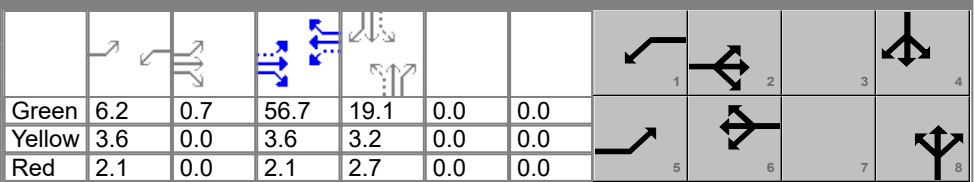


| Vehicle Volumes and Adjustments |           |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|-----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |     |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L   | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1   | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 0   | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0   |
| Configuration                   |           | LT  |     |   |           |   |     | TR |            |   |   |   |            |    | LR |     |
| Volume (veh/h)                  |           | 310 | 248 |   |           |   | 274 | 52 |            |   |   |   |            | 34 |    | 125 |
| Percent Heavy Vehicles (%)      |           | 3   |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked         |           |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |     |     |   |           |   |     |    |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Median Type   Storage           | Undivided |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.43 |  | 6.23 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

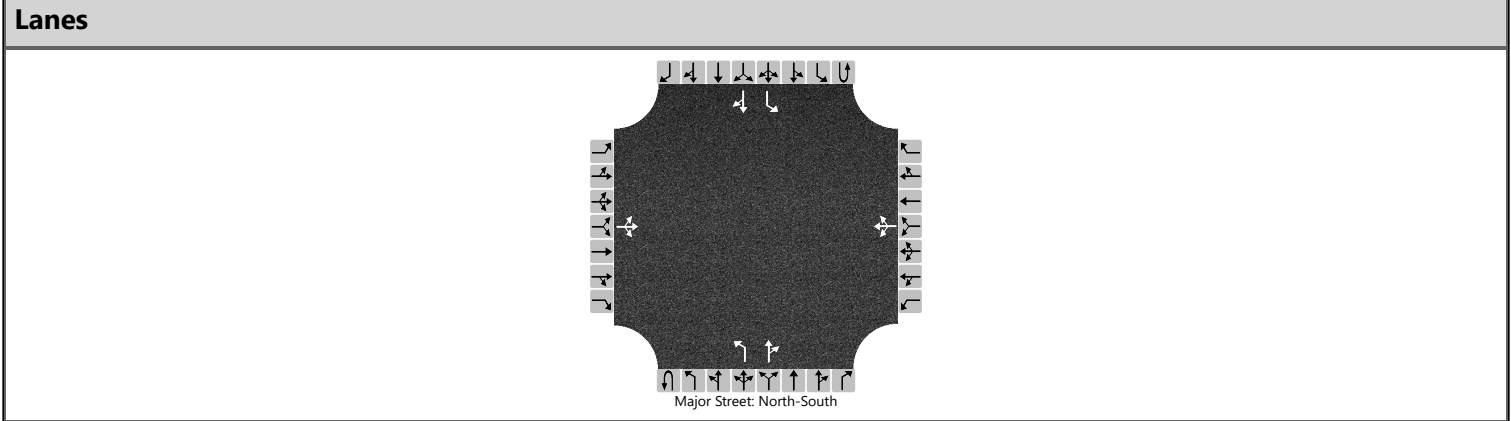
| Delay, Queue Length, and Level of Service |     |      |     |  |  |  |  |  |  |  |  |  |      |  |       |  |
|-------------------------------------------|-----|------|-----|--|--|--|--|--|--|--|--|--|------|--|-------|--|
| Flow Rate, v (veh/h)                      |     | 403  |     |  |  |  |  |  |  |  |  |  |      |  | 206   |  |
| Capacity, c (veh/h)                       |     | 1131 |     |  |  |  |  |  |  |  |  |  |      |  | 244   |  |
| v/c Ratio                                 |     | 0.36 |     |  |  |  |  |  |  |  |  |  |      |  | 0.84  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 1.6  |     |  |  |  |  |  |  |  |  |  |      |  | 6.7   |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 41.0 |     |  |  |  |  |  |  |  |  |  |      |  | 171.5 |  |
| Control Delay (s/veh)                     |     | 9.9  | 4.3 |  |  |  |  |  |  |  |  |  |      |  | 67.3  |  |
| Level of Service (LOS)                    |     | A    | A   |  |  |  |  |  |  |  |  |  |      |  | F     |  |
| Approach Delay (s/veh)                    | 7.4 |      |     |  |  |  |  |  |  |  |  |  | 67.3 |  |       |  |
| Approach LOS                              | A   |      |     |  |  |  |  |  |  |  |  |  | F    |  |       |  |

# HCS Signalized Intersection Results Summary

| General Information                             |                          |                 |               |                                                                                    |       | Intersection Information |         |       |       |      |       |  |     |       |       |       |  |      |  |
|-------------------------------------------------|--------------------------|-----------------|---------------|------------------------------------------------------------------------------------|-------|--------------------------|---------|-------|-------|------|-------|-------------------------------------------------------------------------------------|-----|-------|-------|-------|--|------|--|
| Agency                                          | DGL                      |                 |               |                                                                                    |       | Duration, h              | 0.250   |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Analyst                                         | tsj                      |                 | Analysis Date | Jun 18, 2024                                                                       |       | Area Type                | Other   |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Jurisdiction                                    | City of North Ridgeville |                 | Time Period   | PM Peak                                                                            |       | PHF                      | 0.93    |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Urban Street                                    | Center Ridge             |                 | Analysis Year | 2029                                                                               |       | Analysis Period          | 1> 7:00 |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Intersection                                    | Center Ridge & Ranger... |                 | File Name     | 2029 Build PM Peak Center Ridge & Ranger.xus                                       |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Project Description                             | Build                    |                 |               |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Demand Information                              |                          |                 |               |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
|                                                 |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB  |       |       |       |  |      |  |
| Approach Movement                               |                          |                 |               | L                                                                                  | T     | R                        | L       | T     | R     | L    | T     | R                                                                                   | L   | T     | R     |       |  |      |  |
| Demand ( v ), veh/h                             |                          |                 |               | 142                                                                                | 694   | 58                       | 72      | 696   | 178   | 116  | 191   | 150                                                                                 | 180 | 91    | 125   |       |  |      |  |
| Signal Information                              |                          |                 |               |  |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Cycle, s                                        | 100.0                    | Reference Phase | 2             |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Offset, s                                       | 0                        | Reference Point | End           |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Uncoordinated                                   | No                       | Simult. Gap E/W | On            |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
| Force Mode                                      | Fixed                    | Simult. Gap N/S | On            |                                                                                    |       |                          |         |       |       |      |       |                                                                                     |     |       |       |       |  |      |  |
|                                                 |                          |                 |               | Green                                                                              | 6.2   | 0.7                      | 56.7    | 19.1  | 0.0   | 0.0  |       |                                                                                     |     |       |       |       |  |      |  |
|                                                 |                          |                 |               | Yellow                                                                             | 3.6   | 0.0                      | 3.6     | 3.2   | 0.0   | 0.0  |       |                                                                                     |     |       |       |       |  |      |  |
|                                                 |                          |                 |               | Red                                                                                | 2.1   | 0.0                      | 2.1     | 2.7   | 0.0   | 0.0  |       |                                                                                     |     |       |       |       |  |      |  |
| Timer Results                                   |                          |                 |               | EBL                                                                                |       | EBT                      |         | WBL   |       | WBT  |       | NBL                                                                                 |     | NBT   |       | SBL   |  | SBT  |  |
| Assigned Phase                                  |                          |                 |               | 5                                                                                  |       | 2                        |         | 1     |       | 6    |       |                                                                                     |     | 8     |       |       |  | 4    |  |
| Case Number                                     |                          |                 |               | 1.1                                                                                |       | 4.0                      |         | 1.1   |       | 4.0  |       |                                                                                     |     | 7.0   |       |       |  | 7.0  |  |
| Phase Duration, s                               |                          |                 |               | 12.6                                                                               |       | 63.1                     |         | 11.9  |       | 62.4 |       |                                                                                     |     | 25.0  |       |       |  | 25.0 |  |
| Change Period, ( Y+R c ), s                     |                          |                 |               | 5.7                                                                                |       | 5.7                      |         | 5.7   |       | 5.7  |       |                                                                                     |     | 5.9   |       |       |  | 5.9  |  |
| Max Allow Headway ( MAH ), s                    |                          |                 |               | 4.1                                                                                |       | 0.0                      |         | 4.1   |       | 0.0  |       |                                                                                     |     | 4.3   |       |       |  | 4.3  |  |
| Queue Clearance Time ( g s ), s                 |                          |                 |               | 5.4                                                                                |       |                          |         | 3.7   |       |      |       |                                                                                     |     | 21.1  |       |       |  | 21.1 |  |
| Green Extension Time ( g e ), s                 |                          |                 |               | 0.2                                                                                |       | 0.0                      |         | 0.1   |       | 0.0  |       |                                                                                     |     | 0.0   |       |       |  | 0.0  |  |
| Phase Call Probability                          |                          |                 |               | 0.99                                                                               |       |                          |         | 0.88  |       |      |       |                                                                                     |     | 1.00  |       |       |  | 1.00 |  |
| Max Out Probability                             |                          |                 |               | 1.00                                                                               |       |                          |         | 0.21  |       |      |       |                                                                                     |     | 1.00  |       |       |  | 1.00 |  |
| Movement Group Results                          |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB  |       |       |       |  |      |  |
| Approach Movement                               |                          |                 |               | L                                                                                  | T     | R                        | L       | T     | R     | L    | T     | R                                                                                   | L   | T     | R     |       |  |      |  |
| Assigned Movement                               |                          |                 |               | 5                                                                                  | 2     | 12                       | 1       | 6     | 16    | 3    | 8     | 18                                                                                  | 7   | 4     | 14    |       |  |      |  |
| Adjusted Flow Rate ( v ), veh/h                 |                          |                 |               | 153                                                                                | 410   | 399                      | 77      | 487   | 453   |      | 330   | 161                                                                                 |     | 291   | 134   |       |  |      |  |
| Adjusted Saturation Flow Rate ( s ), veh/h/ln   |                          |                 |               | 1767                                                                               | 1856  | 1805                     | 1781    | 1870  | 1738  |      | 1564  | 1572                                                                                |     | 966   | 1598  |       |  |      |  |
| Queue Service Time ( g s ), s                   |                          |                 |               | 3.4                                                                                | 12.1  | 12.1                     | 1.7     | 15.2  | 15.2  |      | 0.0   | 9.2                                                                                 |     | 0.0   | 7.4   |       |  |      |  |
| Cycle Queue Clearance Time ( g c ), s           |                          |                 |               | 3.4                                                                                | 12.1  | 12.1                     | 1.7     | 15.2  | 15.2  |      | 19.1  | 9.2                                                                                 |     | 19.1  | 7.4   |       |  |      |  |
| Green Ratio ( g/C )                             |                          |                 |               | 0.64                                                                               | 0.57  | 0.57                     | 0.63    | 0.57  | 0.57  |      | 0.19  | 0.19                                                                                |     | 0.19  | 0.19  |       |  |      |  |
| Capacity ( c ), veh/h                           |                          |                 |               | 439                                                                                | 1065  | 1036                     | 474     | 1061  | 986   |      | 348   | 300                                                                                 |     | 244   | 305   |       |  |      |  |
| Volume-to-Capacity Ratio ( X )                  |                          |                 |               | 0.348                                                                              | 0.385 | 0.385                    | 0.163   | 0.459 | 0.459 |      | 0.948 | 0.537                                                                               |     | 1.193 | 0.440 |       |  |      |  |
| Back of Queue ( Q ), ft/ln ( 95 th percentile)  |                          |                 |               | 56                                                                                 | 218   | 209                      | 27      | 264   | 246   |      | 441   | 171                                                                                 |     | 556   | 133   |       |  |      |  |
| Back of Queue ( Q ), veh/ln ( 95 th percentile) |                          |                 |               | 2.2                                                                                | 8.5   | 8.4                      | 1.1     | 10.4  | 9.9   |      | 17.2  | 6.7                                                                                 |     | 22.1  | 5.3   |       |  |      |  |
| Queue Storage Ratio ( RQ ) ( 95 th percentile)  |                          |                 |               | 0.00                                                                               | 0.00  | 0.00                     | 0.00    | 0.00  | 0.00  |      | 0.00  | 0.00                                                                                |     | 0.00  | 0.00  |       |  |      |  |
| Uniform Delay ( d 1 ), s/veh                    |                          |                 |               | 8.8                                                                                | 11.6  | 11.6                     | 8.2     | 12.7  | 12.7  |      | 41.3  | 36.5                                                                                |     | 42.8  | 35.7  |       |  |      |  |
| Incremental Delay ( d 2 ), s/veh                |                          |                 |               | 0.5                                                                                | 1.1   | 1.1                      | 0.2     | 1.4   | 1.5   |      | 34.7  | 1.9                                                                                 |     | 119.7 | 1.0   |       |  |      |  |
| Initial Queue Delay ( d 3 ), s/veh              |                          |                 |               | 0.0                                                                                | 0.0   | 0.0                      | 0.0     | 0.0   | 0.0   |      | 0.0   | 0.0                                                                                 |     | 0.0   | 0.0   |       |  |      |  |
| Control Delay ( d ), s/veh                      |                          |                 |               | 9.3                                                                                | 12.7  | 12.7                     | 8.4     | 14.1  | 14.2  |      | 76.1  | 38.4                                                                                |     | 162.5 | 36.7  |       |  |      |  |
| Level of Service (LOS)                          |                          |                 |               | A                                                                                  | B     | B                        | A       | B     | B     |      | E     | D                                                                                   |     | F     | D     |       |  |      |  |
| Approach Delay, s/veh / LOS                     |                          |                 |               | 12.2                                                                               |       | B                        |         | 13.7  |       | B    |       | 63.7                                                                                |     | E     |       | 122.8 |  | F    |  |
| Intersection Delay, s/veh / LOS                 |                          |                 |               | 37.7                                                                               |       |                          |         |       |       | D    |       |                                                                                     |     |       |       |       |  |      |  |
| Multimodal Results                              |                          |                 |               | EB                                                                                 |       |                          | WB      |       |       | NB   |       |                                                                                     | SB  |       |       |       |  |      |  |
| Pedestrian LOS Score / LOS                      |                          |                 |               | 1.89                                                                               |       | B                        |         | 1.89  |       | B    |       | 2.30                                                                                |     | B     |       | 2.30  |  | B    |  |
| Bicycle LOS Score / LOS                         |                          |                 |               | 1.28                                                                               |       | A                        |         | 1.33  |       | A    |       | 1.30                                                                                |     | A     |       | 1.19  |  | A    |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                        |
|--------------------------|--------------------------|----------------------------|----------------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Fire Station/School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville               |
| Date Performed           | 5/17/2024                | East/West Street           | Fire Station Drive                     |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                             |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.79                                   |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                   |
| Project Description      | Build                    |                            |                                        |



| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|-----|------------|---|-----|----|------------|----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |     | Northbound |   |     |    | Southbound |    |     |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R   | U          | L | T   | R  | U          | L  | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9   | 1U         | 1 | 2   | 3  | 4U         | 4  | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0   | 0          | 1 | 1   | 0  | 0          | 1  | 1   | 0  |
| Configuration                   |           |    | LTR |    |           |    | LTR |     |            | L |     | TR |            | L  |     | TR |
| Volume (veh/h)                  |           | 2  | 0   | 0  |           | 24 | 0   | 163 |            | 0 | 291 | 50 |            | 92 | 136 | 1  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 0  | 0   | 0   |            | 5 |     |    |            | 2  |     |    |
| Proportion Time Blocked         |           |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |     |            |   |     |    |            |    |     |    |
| Right Turn Channelized          |           |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |     |            |   |     |    |            |    |     |    |

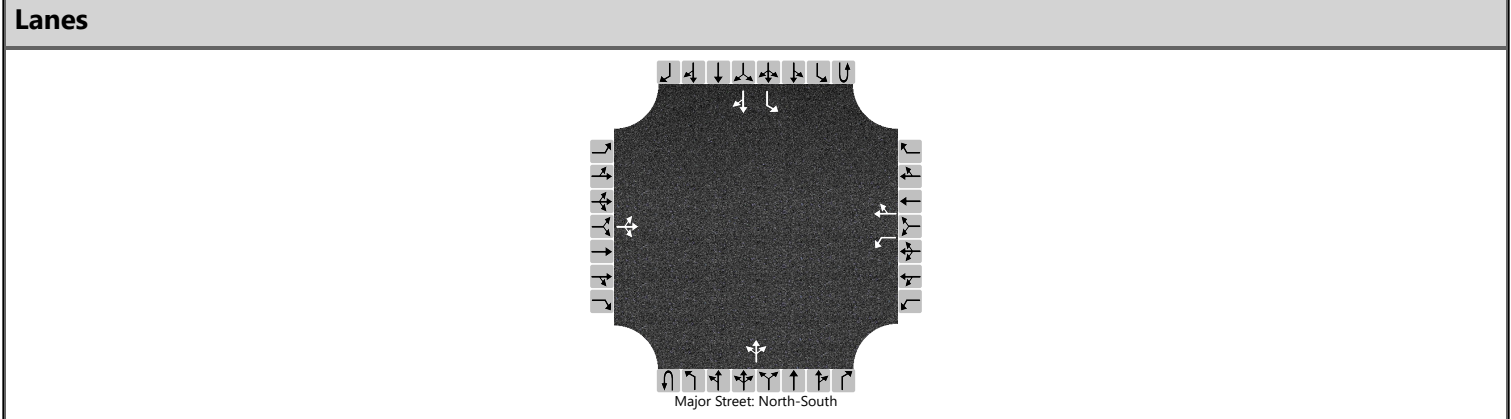
| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.10 | 6.50 | 6.20 |  | 4.15 |  |  |  | 4.12 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.50 | 4.00 | 3.30 |  | 2.25 |  |  |  | 2.22 |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |      |  |      |  |     |      |  |  |     |      |  |  |
|-------------------------------------------|------|--|------|--|------|--|------|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                      |      |  | 3    |  |      |  | 237  |  |     | 0    |  |  |     | 116  |  |  |
| Capacity, c (veh/h)                       |      |  | 134  |  |      |  | 438  |  |     | 1385 |  |  |     | 923  |  |  |
| v/c Ratio                                 |      |  | 0.02 |  |      |  | 0.54 |  |     | 0.00 |  |  |     | 0.13 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.1  |  |      |  | 3.1  |  |     | 0.0  |  |  |     | 0.4  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 2.5  |  |      |  | 77.5 |  |     |      |  |  |     | 10.2 |  |  |
| Control Delay (s/veh)                     |      |  | 32.3 |  |      |  | 22.5 |  |     | 7.6  |  |  |     | 9.5  |  |  |
| Level of Service (LOS)                    |      |  | D    |  |      |  | C    |  |     | A    |  |  |     | A    |  |  |
| Approach Delay (s/veh)                    | 32.3 |  |      |  | 22.5 |  |      |  | 0.0 |      |  |  | 3.8 |      |  |  |
| Approach LOS                              | D    |  |      |  | C    |  |      |  | A   |      |  |  | A   |      |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                          |
|--------------------------|--------------------------|----------------------------|--------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & NRAC Drive  |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville |
| Date Performed           | 5/17/2024                | East/West Street           | NRAC Drive               |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way               |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.71                     |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                     |
| Project Description      | Build                    |                            |                          |



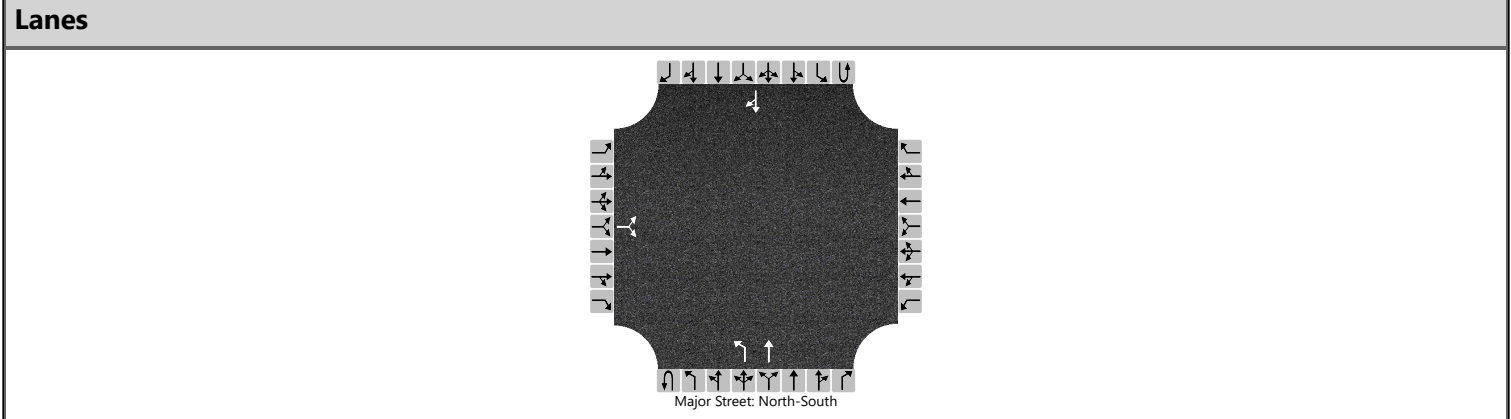
| Vehicle Volumes and Adjustments |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
|---------------------------------|-----------|----|-----|----|-----------|-----|----|-----|------------|---|-----|----|------------|----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |     |    |     | Northbound |   |     |    | Southbound |    |     |    |
| Movement                        | U         | L  | T   | R  | U         | L   | T  | R   | U          | L | T   | R  | U          | L  | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7   | 8  | 9   | 1U         | 1 | 2   | 3  | 4U         | 4  | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 1   | 1  | 0   | 0          | 0 | 1   | 0  | 0          | 1  | 1   | 0  |
| Configuration                   |           |    | LTR |    |           | L   |    | TR  |            |   | LTR |    |            | L  |     | TR |
| Volume (veh/h)                  |           | 0  | 0   | 5  |           | 104 | 1  | 180 |            | 3 | 158 | 32 |            | 57 | 105 | 0  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 11  | 11 | 11  |            | 1 |     |    |            | 1  |     |    |
| Proportion Time Blocked         |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |     |    |     |            |   |     |    |            |    |     |    |
| Right Turn Channelized          |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.21 | 6.61 | 6.31 |  | 4.11 |  |  |  | 4.11 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.60 | 4.10 | 3.40 |  | 2.21 |  |  |  | 2.21 |  |  |

| Delay, Queue Length, and Level of Service |     |  |      |  |      |      |  |      |     |      |     |     |     |      |  |  |
|-------------------------------------------|-----|--|------|--|------|------|--|------|-----|------|-----|-----|-----|------|--|--|
| Flow Rate, v (veh/h)                      |     |  | 7    |  |      | 146  |  | 255  |     | 4    |     |     |     | 80   |  |  |
| Capacity, c (veh/h)                       |     |  | 904  |  |      | 391  |  | 768  |     | 1440 |     |     |     | 1302 |  |  |
| v/c Ratio                                 |     |  | 0.01 |  |      | 0.37 |  | 0.33 |     | 0.00 |     |     |     | 0.06 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     |  | 0.0  |  |      | 1.7  |  | 1.5  |     | 0.0  |     |     |     | 0.2  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     |  | 0.0  |  |      | 46.2 |  | 40.8 |     |      |     |     |     | 5.0  |  |  |
| Control Delay (s/veh)                     |     |  | 9.0  |  |      | 19.6 |  | 12.0 |     | 7.5  | 0.0 | 0.0 |     | 7.9  |  |  |
| Level of Service (LOS)                    |     |  | A    |  |      | C    |  | B    |     | A    | A   | A   |     | A    |  |  |
| Approach Delay (s/veh)                    | 9.0 |  |      |  | 14.8 |      |  |      | 0.1 |      |     |     | 2.8 |      |  |  |
| Approach LOS                              | A   |  |      |  | B    |      |  |      | A   |      |     |     | A   |      |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                |
|--------------------------|--------------------------|----------------------------|--------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Kenssington Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville       |
| Date Performed           | 5/17/2024                | East/West Street           | Kenssington Drive              |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                     |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.87                           |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                           |
| Project Description      | Build                    |                            |                                |



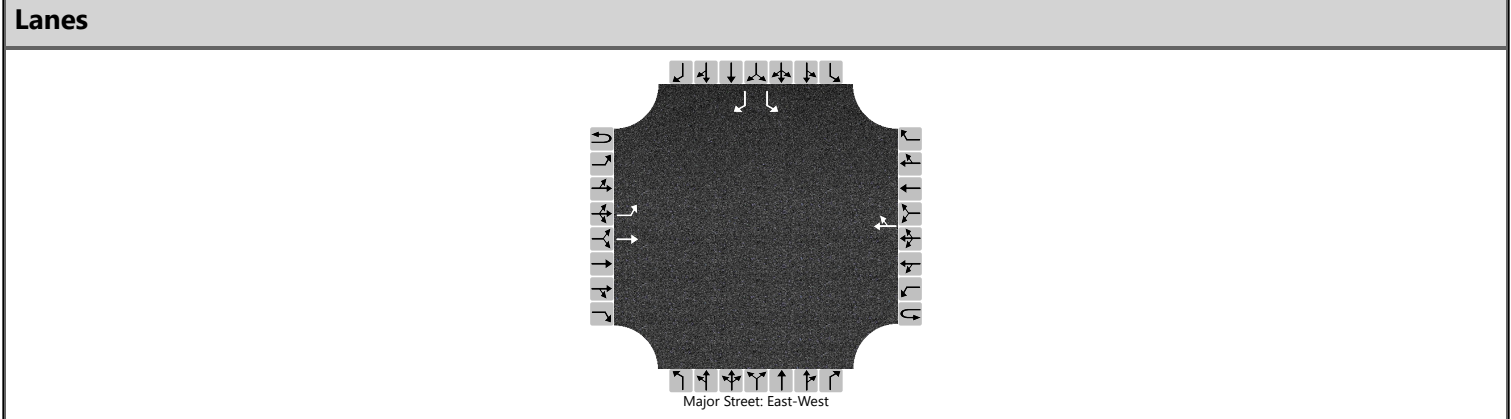
| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 1  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | L  | T   |   |            |   |     | TR |
| Volume (veh/h)                  |           | 10 |    | 50 |           |   |   |   |            | 21 | 187 |   |            |   | 207 | 7  |
| Percent Heavy Vehicles (%)      |           | 4  |    | 4  |           |   |   |   |            | 2  |     |   |            |   |     |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.44 |  | 6.24 |  |  |  |  |  | 4.12 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.54 |  | 3.34 |  |  |  |  |  | 2.22 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |  |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|--|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 69   |  |  |  |  |  |     | 24   |  |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 705  |  |  |  |  |  |     | 1320 |  |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.10 |  |  |  |  |  |     | 0.02 |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.3  |  |  |  |  |  |     | 0.1  |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 7.7  |  |  |  |  |  |     | 2.5  |  |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 10.7 |  |  |  |  |  |     | 7.8  |  |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    |  |  |  |  |  |  |
| Approach Delay (s/veh)                    | 10.7 |  |      |  |  |  |  |  | 0.8 |      |  |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |  |  |  |  |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                              |
|--------------------------|--------------------------|----------------------------|------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Ranger Way |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road              |
| Analysis Year            | 2029                     | North/South Street         | Ranger Way                   |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.82                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                         |
| Project Description      | Build                    |                            |                              |



| Vehicle Volumes and Adjustments |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|----|-----|---|-----------|---|-----|-----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |    |     |   | Westbound |   |     |     | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L  | T   | R | U         | L | T   | R   | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6   |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0   |            | 0 | 0 | 0 |            | 1  | 0  | 1   |
| Configuration                   |           | L  | T   |   |           |   |     | TR  |            |   |   |   |            | L  |    | R   |
| Volume (veh/h)                  |           | 83 | 242 |   |           |   | 451 | 129 |            |   |   |   |            | 79 |    | 157 |
| Percent Heavy Vehicles (%)      |           | 3  |     |   |           |   |     |     |            |   |   |   |            | 8  |    | 8   |
| Proportion Time Blocked         |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |    |     |   |           |   |     |     |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |    |     |   |           |   |     |     |            |   |   |   | No         |    |    |     |
| Median Type   Storage           | Undivided |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.48 |  | 6.28 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.57 |  | 3.37 |

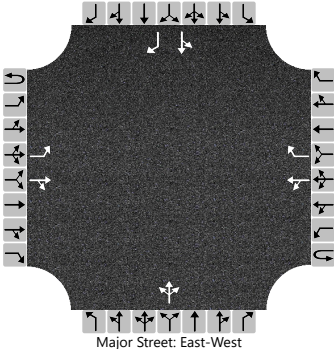
| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 101  |  |  |  |  |  |  |  |  |  |  |      | 96   |  | 191  |
| Capacity, c (veh/h)                       |     | 887  |  |  |  |  |  |  |  |  |  |  |      | 195  |  | 472  |
| v/c Ratio                                 |     | 0.11 |  |  |  |  |  |  |  |  |  |  |      | 0.49 |  | 0.41 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.4  |  |  |  |  |  |  |  |  |  |  |      | 2.4  |  | 1.9  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 10.2 |  |  |  |  |  |  |  |  |  |  |      | 63.8 |  | 50.5 |
| Control Delay (s/veh)                     |     | 9.6  |  |  |  |  |  |  |  |  |  |  |      | 40.2 |  | 17.7 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |      | E    |  | C    |
| Approach Delay (s/veh)                    | 2.4 |      |  |  |  |  |  |  |  |  |  |  | 25.2 |      |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | D    |      |  |      |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                              |
|--------------------------|--------------------------|----------------------------|----------------------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & High School Drive/W Poi... |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville                     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road                              |
| Analysis Year            | 2029                     | North/South Street         | High School Drive/W Point Drive              |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.77                                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                                         |
| Project Description      | Build                    |                            |                                              |

Lanes



| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |    |            |   |     |   |            |    |    |     |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|----|------------|---|-----|---|------------|----|----|-----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |    | Northbound |   |     |   | Southbound |    |    |     |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R  | U          | L | T   | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1  | 2   | 3  | 4U        | 4  | 5   | 6  |            | 7 | 8   | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1  | 1   | 0  | 0         | 0  | 1   | 1  |            | 0 | 1   | 0 |            | 0  | 1  | 1   |
| Configuration                   |           | L  |     | TR |           | LT |     | R  |            |   | LTR |   |            | LT |    | R   |
| Volume (veh/h)                  |           | 94 | 217 | 16 |           | 0  | 366 | 37 |            | 2 | 0   | 3 |            | 61 | 1  | 209 |
| Percent Heavy Vehicles (%)      |           | 2  |     |    |           | 2  |     |    |            | 0 | 0   | 0 |            | 1  | 1  | 1   |
| Proportion Time Blocked         |           |    |     |    |           |    |     |    |            |   |     |   |            |    |    |     |
| Percent Grade (%)               |           |    |     |    |           |    |     |    | 0          |   |     |   | 0          |    |    |     |
| Right Turn Channelized          |           |    |     |    | No        |    |     |    |            |   |     |   | No         |    |    |     |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |    |            |   |     |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |      |  |  |  |      |      |      |  |      |      |      |
|---------------------------------|--|------|--|--|--|------|--|--|--|------|------|------|--|------|------|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  | 4.1  |  |  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  | 4.12 |  |  |  | 7.10 | 6.50 | 6.20 |  | 7.11 | 6.51 | 6.21 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  | 2.2  |  |  |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  | 2.22 |  |  |  | 3.50 | 4.00 | 3.30 |  | 3.51 | 4.01 | 3.31 |

| Delay, Queue Length, and Level of Service |     |      |  |  |     |      |     |  |      |  |      |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|-----|------|-----|--|------|--|------|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 122  |  |  |     | 0    |     |  |      |  | 6    |  |      | 81   |  | 271  |
| Capacity, c (veh/h)                       |     | 1041 |  |  |     | 1234 |     |  |      |  | 151  |  |      | 184  |  | 534  |
| v/c Ratio                                 |     | 0.12 |  |  |     | 0.00 |     |  |      |  | 0.04 |  |      | 0.44 |  | 0.51 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.4  |  |  |     | 0.0  |     |  |      |  | 0.1  |  |      | 2.0  |  | 2.8  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 10.2 |  |  |     |      |     |  |      |  | 2.5  |  |      | 50.4 |  | 70.6 |
| Control Delay (s/veh)                     |     | 8.9  |  |  |     | 7.9  | 0.0 |  |      |  | 29.8 |  |      | 38.9 |  | 18.5 |
| Level of Service (LOS)                    |     | A    |  |  |     | A    | A   |  |      |  | D    |  |      | E    |  | C    |
| Approach Delay (s/veh)                    | 2.6 |      |  |  | 0.0 |      |     |  | 29.8 |  |      |  | 23.1 |      |  |      |
| Approach LOS                              | A   |      |  |  | A   |      |     |  | D    |  |      |  | C    |      |  |      |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                     |
|--------------------------|--------------------------|----------------------------|-------------------------------------|
| Analyst                  | tsj                      | Intersection               | Pitts Boulevard & High School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville            |
| Date Performed           | 5/17/2024                | East/West Street           | High School Drive                   |
| Analysis Year            | 2029                     | North/South Street         | Pitts Boulevard                     |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.57                                |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                |
| Project Description      | Build                    |                            |                                     |

Lanes

Major Street: North-South

| Vehicle Volumes and Adjustments |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
|---------------------------------|-----------|-----|----|----|-----------|---|---|---|------------|----|----|---|------------|---|----|----|
| Approach                        | Eastbound |     |    |    | Westbound |   |   |   | Northbound |    |    |   | Southbound |   |    |    |
| Movement                        | U         | L   | T  | R  | U         | L | T | R | U          | L  | T  | R | U          | L | T  | R  |
| Priority                        |           | 10  | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2  | 3 | 4U         | 4 | 5  | 6  |
| Number of Lanes                 |           | 0   | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1  | 0 | 0          | 0 | 1  | 0  |
| Configuration                   |           |     | LR |    |           |   |   |   |            | LT |    |   |            |   |    | TR |
| Volume (veh/h)                  |           | 165 |    | 83 |           |   |   |   |            | 40 | 57 |   |            |   | 47 | 77 |
| Percent Heavy Vehicles (%)      |           | 3   |    | 3  |           |   |   |   |            | 3  |    |   |            |   |    |    |
| Proportion Time Blocked         |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Percent Grade (%)               | 0         |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Right Turn Channelized          |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Median Type   Storage           | Undivided |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.43 |  | 6.23 |  |  |  |  |  | 4.13 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.53 |  | 3.33 |  |  |  |  |  | 2.23 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |       |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-------------------------------------------|------|--|-------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 435   |  |  |  |  |  |     | 70   |     |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 648   |  |  |  |  |  |     | 1341 |     |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.67  |  |  |  |  |  |     | 0.05 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 5.1   |  |  |  |  |  |     | 0.2  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 130.6 |  |  |  |  |  |     | 5.1  |     |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 21.2  |  |  |  |  |  |     | 7.8  | 0.4 |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | C     |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                    | 21.2 |  |       |  |  |  |  |  | 3.5 |      |     |  |  |  |  |  |
| Approach LOS                              | C    |  |       |  |  |  |  |  | A   |      |     |  |  |  |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                               |
|--------------------------|--------------------------|----------------------------|-------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Prop. Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville      |
| Date Performed           | 8/21/2024                | East/West Street           | Bainbridge Road               |
| Analysis Year            | 2029                     | North/South Street         | Repurposed Drive              |
| Time Analyzed            | PM Peak                  | Peak Hour Factor           | 0.73                          |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                          |
| Project Description      | Build                    |                            |                               |

Lanes

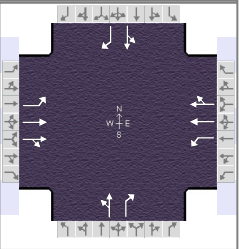
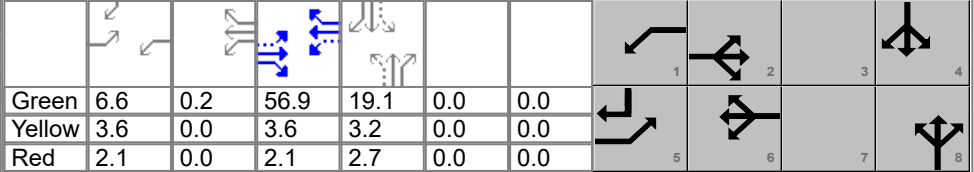
| Vehicle Volumes and Adjustments |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 0  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0   |
| Configuration                   |           | LT |     |   |           |   |     | TR |            |   |   |   |            |    | LR |     |
| Volume (veh/h)                  |           | 55 | 263 |   |           |   | 244 | 25 |            |   |   |   |            | 88 |    | 159 |
| Percent Heavy Vehicles (%)      |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked         |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |    |     |   |           |   |     |    |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Median Type   Storage           | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.43 |  | 6.23 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

| Delay, Queue Length, and Level of Service |     |      |     |  |  |  |  |  |  |  |  |  |      |  |       |  |
|-------------------------------------------|-----|------|-----|--|--|--|--|--|--|--|--|--|------|--|-------|--|
| Flow Rate, v (veh/h)                      |     | 75   |     |  |  |  |  |  |  |  |  |  |      |  | 338   |  |
| Capacity, c (veh/h)                       |     | 1185 |     |  |  |  |  |  |  |  |  |  |      |  | 470   |  |
| v/c Ratio                                 |     | 0.06 |     |  |  |  |  |  |  |  |  |  |      |  | 0.72  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.2  |     |  |  |  |  |  |  |  |  |  |      |  | 5.7   |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 5.1  |     |  |  |  |  |  |  |  |  |  |      |  | 145.9 |  |
| Control Delay (s/veh)                     |     | 8.2  | 0.7 |  |  |  |  |  |  |  |  |  |      |  | 30.0  |  |
| Level of Service (LOS)                    |     | A    | A   |  |  |  |  |  |  |  |  |  |      |  | D     |  |
| Approach Delay (s/veh)                    | 2.0 |      |     |  |  |  |  |  |  |  |  |  | 30.0 |  |       |  |
| Approach LOS                              | A   |      |     |  |  |  |  |  |  |  |  |  | D    |  |       |  |



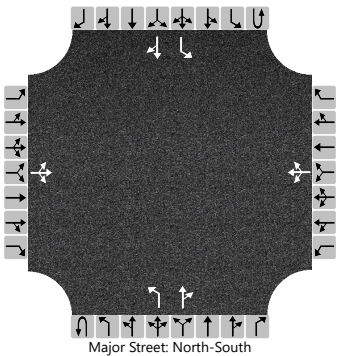
# HCS Signalized Intersection Results Summary

| General Information                             |       |                          |     |                                                                                    |       | Intersection Information                     |       |                 |       |         |       |  |     |       |       |       |  |      |  |
|-------------------------------------------------|-------|--------------------------|-----|------------------------------------------------------------------------------------|-------|----------------------------------------------|-------|-----------------|-------|---------|-------|-------------------------------------------------------------------------------------|-----|-------|-------|-------|--|------|--|
| Agency                                          |       | DGL                      |     |                                                                                    |       | Duration, h                                  |       | 0.250           |       |         |       |                                                                                     |     |       |       |       |  |      |  |
| Analyst                                         |       | tsj                      |     | Analysis Date                                                                      |       | Jun 18, 2024                                 |       | Area Type       |       | Other   |       |                                                                                     |     |       |       |       |  |      |  |
| Jurisdiction                                    |       | City of North Ridgeville |     | Time Period                                                                        |       | AM Peak                                      |       | PHF             |       | 0.89    |       |                                                                                     |     |       |       |       |  |      |  |
| Urban Street                                    |       | Center Ridge             |     | Analysis Year                                                                      |       | 2049                                         |       | Analysis Period |       | 1> 7:00 |       |                                                                                     |     |       |       |       |  |      |  |
| Intersection                                    |       | Center Ridge & Ranger... |     | File Name                                                                          |       | 2049 Build AM Peak Center Ridge & Ranger.xus |       |                 |       |         |       |                                                                                     |     |       |       |       |  |      |  |
| Project Description                             |       | Build                    |     |                                                                                    |       |                                              |       |                 |       |         |       |                                                                                     |     |       |       |       |  |      |  |
| Demand Information                              |       |                          |     | EB                                                                                 |       |                                              | WB    |                 |       | NB      |       |                                                                                     | SB  |       |       |       |  |      |  |
| Approach Movement                               |       |                          |     | L                                                                                  | T     | R                                            | L     | T               | R     | L       | T     | R                                                                                   | L   | T     | R     |       |  |      |  |
| Demand ( v ), veh/h                             |       |                          |     | 90                                                                                 | 640   | 162                                          | 105   | 522             | 111   | 152     | 137   | 211                                                                                 | 227 | 209   | 121   |       |  |      |  |
| Signal Information                              |       |                          |     |  |       |                                              |       |                 |       |         |       |                                                                                     |     |       |       |       |  |      |  |
| Cycle, s                                        | 100.0 | Reference Phase          | 2   |                                                                                    |       |                                              |       |                 |       |         |       |                                                                                     |     |       |       |       |  |      |  |
| Offset, s                                       | 0     | Reference Point          | End |                                                                                    |       |                                              |       |                 |       |         |       |                                                                                     |     |       |       |       |  |      |  |
| Uncoordinated                                   | No    | Simult. Gap E/W          | On  |                                                                                    |       |                                              |       |                 |       |         |       |                                                                                     |     |       |       |       |  |      |  |
| Force Mode                                      | Fixed | Simult. Gap N/S          | On  |                                                                                    |       |                                              |       |                 |       |         |       |                                                                                     |     |       |       |       |  |      |  |
|                                                 |       |                          |     | Green                                                                              | 6.6   | 0.2                                          | 56.9  | 19.1            | 0.0   | 0.0     | 1     |                                                                                     | 2   |       | 3     | 4     |  |      |  |
|                                                 |       |                          |     | Yellow                                                                             | 3.6   | 0.0                                          | 3.6   | 3.2             | 0.0   | 0.0     | 5     |                                                                                     | 6   |       | 7     | 8     |  |      |  |
|                                                 |       |                          |     | Red                                                                                | 2.1   | 0.0                                          | 2.1   | 2.7             | 0.0   | 0.0     |       |                                                                                     |     |       |       |       |  |      |  |
| Timer Results                                   |       |                          |     | EBL                                                                                |       | EBT                                          |       | WBL             |       | WBT     |       | NBL                                                                                 |     | NBT   |       | SBL   |  | SBT  |  |
| Assigned Phase                                  |       |                          |     | 5                                                                                  |       | 2                                            |       | 1               |       | 6       |       |                                                                                     |     | 8     |       |       |  | 4    |  |
| Case Number                                     |       |                          |     | 1.1                                                                                |       | 4.0                                          |       | 1.1             |       | 4.0     |       |                                                                                     |     | 7.0   |       |       |  | 7.0  |  |
| Phase Duration, s                               |       |                          |     | 12.3                                                                               |       | 62.6                                         |       | 12.4            |       | 62.7    |       |                                                                                     |     | 25.0  |       |       |  | 25.0 |  |
| Change Period, ( Y+R c ), s                     |       |                          |     | 5.7                                                                                |       | 5.7                                          |       | 5.7             |       | 5.7     |       |                                                                                     |     | 5.9   |       |       |  | 5.9  |  |
| Max Allow Headway ( MAH ), s                    |       |                          |     | 4.1                                                                                |       | 0.0                                          |       | 4.1             |       | 0.0     |       |                                                                                     |     | 4.4   |       |       |  | 4.4  |  |
| Queue Clearance Time ( g s ), s                 |       |                          |     | 4.2                                                                                |       |                                              |       | 4.6             |       |         |       |                                                                                     |     | 21.1  |       |       |  | 21.1 |  |
| Green Extension Time ( g e ), s                 |       |                          |     | 0.1                                                                                |       | 0.0                                          |       | 0.1             |       | 0.0     |       |                                                                                     |     | 0.0   |       |       |  | 0.0  |  |
| Phase Call Probability                          |       |                          |     | 0.94                                                                               |       |                                              |       | 0.96            |       |         |       |                                                                                     |     | 1.00  |       |       |  | 1.00 |  |
| Max Out Probability                             |       |                          |     | 0.41                                                                               |       |                                              |       | 0.60            |       |         |       |                                                                                     |     | 1.00  |       |       |  | 1.00 |  |
| Movement Group Results                          |       |                          |     | EB                                                                                 |       |                                              | WB    |                 |       | NB      |       |                                                                                     | SB  |       |       |       |  |      |  |
| Approach Movement                               |       |                          |     | L                                                                                  | T     | R                                            | L     | T               | R     | L       | T     | R                                                                                   | L   | T     | R     |       |  |      |  |
| Assigned Movement                               |       |                          |     | 5                                                                                  | 2     | 12                                           | 1     | 6               | 16    | 3       | 8     | 18                                                                                  | 7   | 4     | 14    |       |  |      |  |
| Adjusted Flow Rate ( v ), veh/h                 |       |                          |     | 101                                                                                | 467   | 434                                          | 118   | 366             | 345   |         | 325   | 237                                                                                 |     | 490   | 136   |       |  |      |  |
| Adjusted Saturation Flow Rate ( s ), veh/h/ln   |       |                          |     | 1753                                                                               | 1841  | 1712                                         | 1767  | 1856            | 1742  |         | 1268  | 1572                                                                                |     | 1289  | 1585  |       |  |      |  |
| Queue Service Time ( g s ), s                   |       |                          |     | 2.2                                                                                | 14.7  | 14.7                                         | 2.6   | 10.6            | 10.6  |         | 0.0   | 14.4                                                                                |     | 0.0   | 7.0   |       |  |      |  |
| Cycle Queue Clearance Time ( g c ), s           |       |                          |     | 2.2                                                                                | 14.7  | 14.7                                         | 2.6   | 10.6            | 10.6  |         | 19.1  | 14.4                                                                                |     | 19.1  | 7.0   |       |  |      |  |
| Green Ratio ( g/C )                             |       |                          |     | 0.63                                                                               | 0.57  | 0.57                                         | 0.64  | 0.57            | 0.57  |         | 0.19  | 0.19                                                                                |     | 0.19  | 0.26  |       |  |      |  |
| Capacity ( c ), veh/h                           |       |                          |     | 510                                                                                | 1047  | 973                                          | 450   | 1058            | 993   |         | 297   | 300                                                                                 |     | 301   | 407   |       |  |      |  |
| Volume-to-Capacity Ratio ( X )                  |       |                          |     | 0.198                                                                              | 0.446 | 0.446                                        | 0.262 | 0.346           | 0.347 |         | 1.093 | 0.789                                                                               |     | 1.627 | 0.334 |       |  |      |  |
| Back of Queue ( Q ), ft/ln ( 95 th percentile)  |       |                          |     | 36                                                                                 | 257   | 236                                          | 42    | 197             | 183   |         | 540   | 278                                                                                 |     | 1285  | 122   |       |  |      |  |
| Back of Queue ( Q ), veh/ln ( 95 th percentile) |       |                          |     | 1.4                                                                                | 10.0  | 9.4                                          | 1.6   | 7.7             | 7.3   |         | 21.1  | 10.8                                                                                |     | 50.6  | 4.8   |       |  |      |  |
| Queue Storage Ratio ( RQ ) ( 95 th percentile)  |       |                          |     | 0.00                                                                               | 0.00  | 0.00                                         | 0.00  | 0.00            | 0.00  |         | 0.00  | 0.00                                                                                |     | 0.00  | 0.00  |       |  |      |  |
| Uniform Delay ( d 1 ), s/veh                    |       |                          |     | 8.0                                                                                | 12.5  | 12.5                                         | 8.4   | 11.5            | 11.5  |         | 42.2  | 38.5                                                                                |     | 42.2  | 30.2  |       |  |      |  |
| Incremental Delay ( d 2 ), s/veh                |       |                          |     | 0.2                                                                                | 1.4   | 1.5                                          | 0.3   | 0.9             | 1.0   |         | 79.5  | 13.2                                                                                |     | 297.0 | 0.5   |       |  |      |  |
| Initial Queue Delay ( d 3 ), s/veh              |       |                          |     | 0.0                                                                                | 0.0   | 0.0                                          | 0.0   | 0.0             | 0.0   |         | 0.0   | 0.0                                                                                 |     | 0.0   | 0.0   |       |  |      |  |
| Control Delay ( d ), s/veh                      |       |                          |     | 8.2                                                                                | 13.8  | 13.9                                         | 8.7   | 12.4            | 12.5  |         | 121.7 | 51.7                                                                                |     | 339.2 | 30.7  |       |  |      |  |
| Level of Service (LOS)                          |       |                          |     | A                                                                                  | B     | B                                            | A     | B               | B     |         | F     | D                                                                                   |     | F     | C     |       |  |      |  |
| Approach Delay, s/veh / LOS                     |       |                          |     | 13.3                                                                               |       | B                                            |       | 11.9            |       | B       |       | 92.2                                                                                |     | F     |       | 272.2 |  | F    |  |
| Intersection Delay, s/veh / LOS                 |       |                          |     | 81.3                                                                               |       |                                              |       |                 |       | F       |       |                                                                                     |     |       |       |       |  |      |  |
| Multimodal Results                              |       |                          |     | EB                                                                                 |       |                                              | WB    |                 |       | NB      |       |                                                                                     | SB  |       |       |       |  |      |  |
| Pedestrian LOS Score / LOS                      |       |                          |     | 1.89                                                                               |       | B                                            |       | 1.89            |       | B       |       | 2.30                                                                                |     | B     |       | 2.30  |  | B    |  |
| Bicycle LOS Score / LOS                         |       |                          |     | 1.31                                                                               |       | A                                            |       | 1.17            |       | A       |       | 1.41                                                                                |     | A     |       | 1.52  |  | B    |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                        |
|--------------------------|--------------------------|----------------------------|----------------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Fire Station/School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville               |
| Date Performed           | 5/17/2024                | East/West Street           | Fire Station Drive                     |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                             |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.64                                   |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                   |
| Project Description      | Build                    |                            |                                        |

Lanes



Vehicle Volumes and Adjustments

| Approach                   | Eastbound |    |     |    | Westbound |    |     |     | Northbound |   |     |     | Southbound |     |     |    |
|----------------------------|-----------|----|-----|----|-----------|----|-----|-----|------------|---|-----|-----|------------|-----|-----|----|
| Movement                   | U         | L  | T   | R  | U         | L  | T   | R   | U          | L | T   | R   | U          | L   | T   | R  |
| Priority                   |           | 10 | 11  | 12 |           | 7  | 8   | 9   | 1U         | 1 | 2   | 3   | 4U         | 4   | 5   | 6  |
| Number of Lanes            |           | 0  | 1   | 0  |           | 0  | 1   | 0   | 0          | 1 | 1   | 0   | 0          | 1   | 1   | 0  |
| Configuration              |           |    | LTR |    |           |    | LTR |     |            | L |     | TR  |            | L   |     | TR |
| Volume (veh/h)             |           | 0  | 0   | 4  |           | 16 | 0   | 257 |            | 3 | 243 | 117 |            | 211 | 271 | 6  |
| Percent Heavy Vehicles (%) |           | 0  | 0   | 0  |           | 11 | 11  | 11  |            | 8 |     |     |            | 4   |     |    |
| Proportion Time Blocked    |           |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |
| Percent Grade (%)          | 0         |    |     |    | 0         |    |     |     |            |   |     |     |            |     |     |    |
| Right Turn Channelized     |           |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |
| Median Type   Storage      | Undivided |    |     |    |           |    |     |     |            |   |     |     |            |     |     |    |

Critical and Follow-up Headways

|                              |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)       |  | 7.10 | 6.50 | 6.20 |  | 7.21 | 6.61 | 6.31 |  | 4.18 |  |  |  | 4.14 |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)      |  | 3.50 | 4.00 | 3.30 |  | 3.60 | 4.10 | 3.40 |  | 2.27 |  |  |  | 2.24 |  |  |

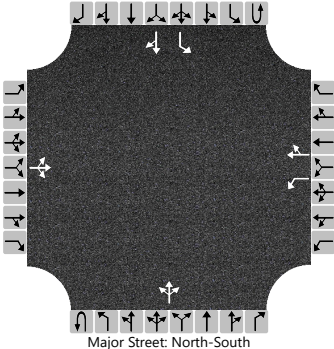
Delay, Queue Length, and Level of Service

|                                         |      |  |      |  |       |  |       |  |     |      |  |  |     |      |  |  |
|-----------------------------------------|------|--|------|--|-------|--|-------|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                    |      |  | 6    |  |       |  | 427   |  |     | 5    |  |  |     | 330  |  |  |
| Capacity, c (veh/h)                     |      |  | 631  |  |       |  | 357   |  |     | 1095 |  |  |     | 965  |  |  |
| v/c Ratio                               |      |  | 0.01 |  |       |  | 1.20  |  |     | 0.00 |  |  |     | 0.34 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |      |  | 0.0  |  |       |  | 17.7  |  |     | 0.0  |  |  |     | 1.5  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)  |      |  | 0.0  |  |       |  | 481.4 |  |     | 0.0  |  |  |     | 38.7 |  |  |
| Control Delay (s/veh)                   |      |  | 10.8 |  |       |  | 144.9 |  |     | 8.3  |  |  |     | 10.7 |  |  |
| Level of Service (LOS)                  |      |  | B    |  |       |  | F     |  |     | A    |  |  |     | B    |  |  |
| Approach Delay (s/veh)                  | 10.8 |  |      |  | 144.9 |  |       |  | 0.1 |      |  |  | 4.6 |      |  |  |
| Approach LOS                            | B    |  |      |  | F     |  |       |  | A   |      |  |  | A   |      |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                          |
|--------------------------|--------------------------|----------------------------|--------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & NRAC Drive  |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville |
| Date Performed           | 5/17/2024                | East/West Street           | NRAC Drive               |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way               |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.75                     |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                     |
| Project Description      | Build                    |                            |                          |

Lanes



Major Street: North-South

| Vehicle Volumes and Adjustments |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
|---------------------------------|-----------|----|-----|----|-----------|----|----|-----|------------|---|-----|----|------------|-----|----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |    |     | Northbound |   |     |    | Southbound |     |    |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T  | R   | U          | L | T   | R  | U          | L   | T  | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8  | 9   | 1U         | 1 | 2   | 3  | 4U         | 4   | 5  | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 1  | 1  | 0   | 0          | 0 | 1   | 0  | 0          | 1   | 1  | 0  |
| Configuration                   |           |    | LTR |    |           | L  |    | TR  |            |   | LTR |    |            | L   |    | TR |
| Volume (veh/h)                  |           | 0  | 0   | 1  |           | 50 | 0  | 138 |            | 4 | 223 | 65 |            | 219 | 78 | 0  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 14 | 14 | 14  |            | 5 |     |    |            | 6   |    |    |
| Proportion Time Blocked         |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |    |     |            |   |     |    |            |     |    |    |
| Right Turn Channelized          |           |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |    |     |            |   |     |    |            |     |    |    |

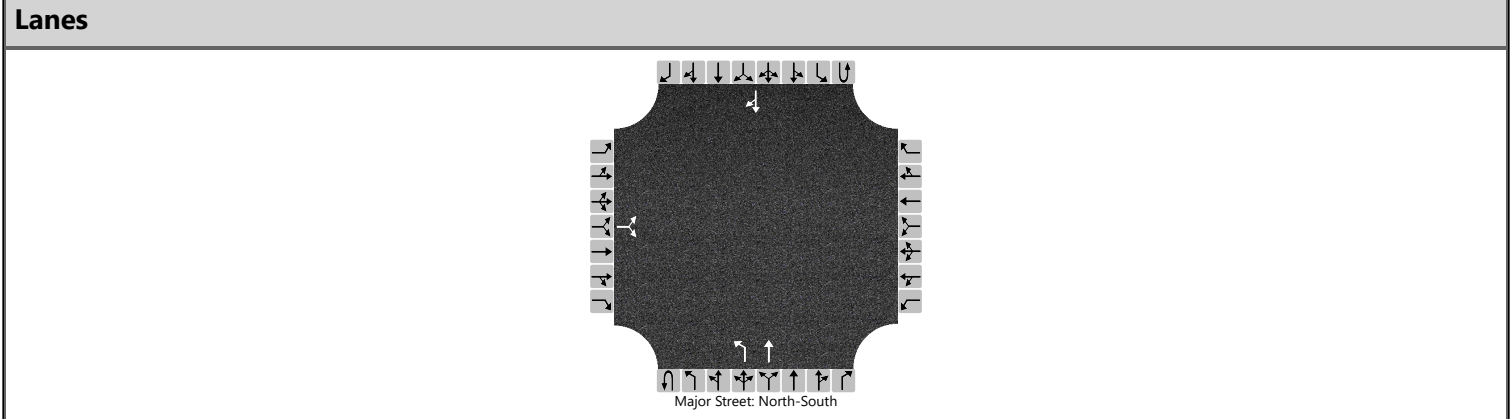
| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.24 | 6.64 | 6.34 |  | 4.15 |  |  |  | 4.16 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.63 | 4.13 | 3.43 |  | 2.25 |  |  |  | 2.25 |  |  |

| Delay, Queue Length, and Level of Service |     |  |      |  |      |      |  |      |     |      |     |     |     |      |  |  |
|-------------------------------------------|-----|--|------|--|------|------|--|------|-----|------|-----|-----|-----|------|--|--|
| Flow Rate, v (veh/h)                      |     |  | 1    |  |      | 67   |  | 184  |     | 5    |     |     |     | 292  |  |  |
| Capacity, c (veh/h)                       |     |  | 956  |  |      | 147  |  | 675  |     | 1469 |     |     |     | 1153 |  |  |
| v/c Ratio                                 |     |  | 0.00 |  |      | 0.45 |  | 0.27 |     | 0.00 |     |     |     | 0.25 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     |  | 0.0  |  |      | 2.1  |  | 1.1  |     | 0.0  |     |     |     | 1.0  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     |  | 0.0  |  |      | 58.4 |  | 30.6 |     |      |     |     |     | 26.2 |  |  |
| Control Delay (s/veh)                     |     |  | 8.8  |  |      | 48.4 |  | 12.3 |     | 7.5  | 0.0 | 0.0 |     | 9.2  |  |  |
| Level of Service (LOS)                    |     |  | A    |  |      | E    |  | B    |     | A    | A   | A   |     | A    |  |  |
| Approach Delay (s/veh)                    | 8.8 |  |      |  | 21.9 |      |  |      | 0.1 |      |     |     | 6.8 |      |  |  |
| Approach LOS                              | A   |  |      |  | C    |      |  |      | A   |      |     |     | A   |      |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                |
|--------------------------|--------------------------|----------------------------|--------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Kenssington Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville       |
| Date Performed           | 5/17/2024                | East/West Street           | Kenssington Drive              |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                     |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.68                           |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                           |
| Project Description      | Build                    |                            |                                |



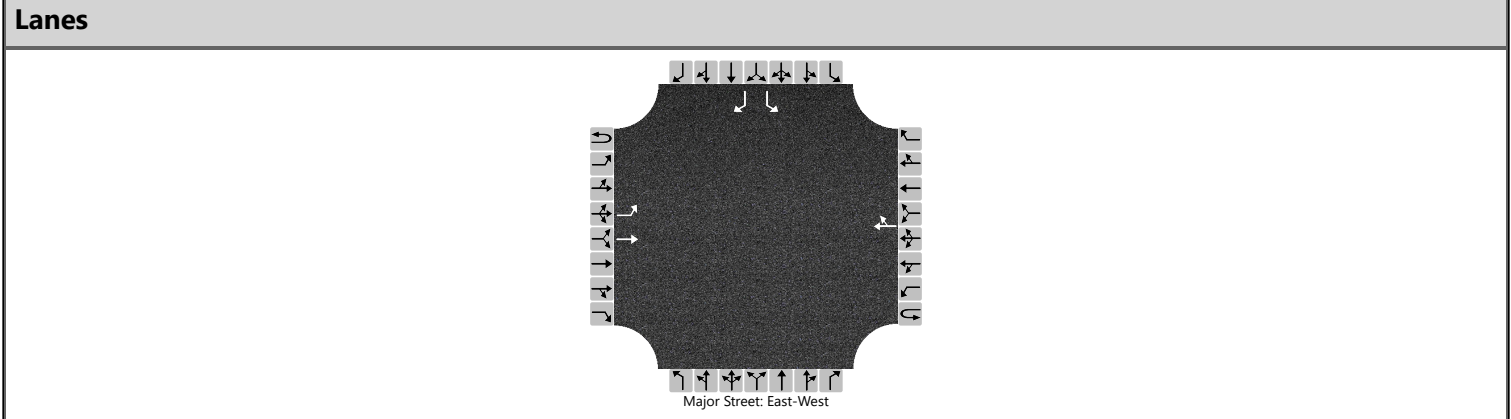
| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 1  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | L  | T   |   |            |   |     | TR |
| Volume (veh/h)                  |           | 11 |    | 48 |           |   |   |   |            | 11 | 276 |   |            |   | 131 | 2  |
| Percent Heavy Vehicles (%)      |           | 13 |    | 13 |           |   |   |   |            | 6  |     |   |            |   |     |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.53 |  | 6.33 |  |  |  |  |  | 4.16 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.62 |  | 3.42 |  |  |  |  |  | 2.25 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |  |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|--|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 87   |  |  |  |  |  |     | 16   |  |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 692  |  |  |  |  |  |     | 1354 |  |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.13 |  |  |  |  |  |     | 0.01 |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.4  |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 11.0 |  |  |  |  |  |     | 0.0  |  |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 10.9 |  |  |  |  |  |     | 7.7  |  |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    |  |  |  |  |  |  |
| Approach Delay (s/veh)                    | 10.9 |  |      |  |  |  |  |  | 0.3 |      |  |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |  |  |  |  |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                              |
|--------------------------|--------------------------|----------------------------|------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Ranger Way |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road              |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                   |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.79                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                         |
| Project Description      | Build                    |                            |                              |



| Vehicle Volumes and Adjustments |           |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
|---------------------------------|-----------|-----|-----|---|-----------|---|-----|-----|------------|---|---|---|------------|----|----|----|
| Approach                        | Eastbound |     |     |   | Westbound |   |     |     | Northbound |   |   |   | Southbound |    |    |    |
| Movement                        | U         | L   | T   | R | U         | L | T   | R   | U          | L | T | R | U          | L  | T  | R  |
| Priority                        | 1U        | 1   | 2   | 3 | 4U        | 4 | 5   | 6   |            | 7 | 8 | 9 |            | 10 | 11 | 12 |
| Number of Lanes                 | 0         | 1   | 1   | 0 | 0         | 0 | 1   | 0   |            | 0 | 0 | 0 |            | 1  | 0  | 1  |
| Configuration                   |           | L   | T   |   |           |   |     | TR  |            |   |   |   |            | L  |    | R  |
| Volume (veh/h)                  |           | 125 | 785 |   |           |   | 401 | 163 |            |   |   |   |            | 68 |    | 82 |
| Percent Heavy Vehicles (%)      |           | 2   |     |   |           |   |     |     |            |   |   |   |            | 14 |    | 14 |
| Proportion Time Blocked         |           |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |
| Percent Grade (%)               |           |     |     |   |           |   |     |     |            |   |   |   | 0          |    |    |    |
| Right Turn Channelized          |           |     |     |   |           |   |     |     |            |   |   |   | No         |    |    |    |
| Median Type   Storage           | Undivided |     |     |   |           |   |     |     |            |   |   |   |            |    |    |    |

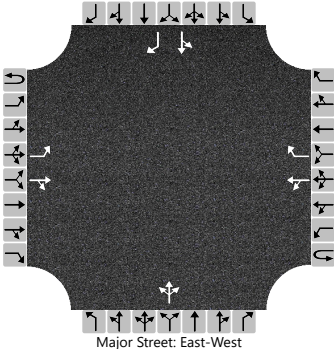
| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  |  |  |  |  |  |  |  |  | 6.54 |  | 6.34 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  |  |  |  |  |  |  |  |  | 3.63 |  | 3.43 |

| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |       |       |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|-------|-------|--|------|
| Flow Rate, v (veh/h)                      |     | 158  |  |  |  |  |  |  |  |  |  |  |       | 86    |  | 104  |
| Capacity, c (veh/h)                       |     | 886  |  |  |  |  |  |  |  |  |  |  |       | 56    |  | 473  |
| v/c Ratio                                 |     | 0.18 |  |  |  |  |  |  |  |  |  |  |       | 1.53  |  | 0.22 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.6  |  |  |  |  |  |  |  |  |  |  |       | 7.8   |  | 0.8  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 15.2 |  |  |  |  |  |  |  |  |  |  |       | 216.8 |  | 22.2 |
| Control Delay (s/veh)                     |     | 9.9  |  |  |  |  |  |  |  |  |  |  |       | 429.4 |  | 14.7 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |       | F     |  | B    |
| Approach Delay (s/veh)                    | 1.4 |      |  |  |  |  |  |  |  |  |  |  | 202.7 |       |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | F     |       |  |      |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                              |
|--------------------------|--------------------------|----------------------------|----------------------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & High School Drive/W Poi... |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville                     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road                              |
| Analysis Year            | 2049                     | North/South Street         | High School Drive/W Point Drive              |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.75                                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                                         |
| Project Description      | Build                    |                            |                                              |

Lanes



| Vehicle Volumes and Adjustments |           |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |
|---------------------------------|-----------|-----|-----|----|-----------|----|-----|-----|------------|---|-----|---|------------|----|----|-----|
| Approach                        | Eastbound |     |     |    | Westbound |    |     |     | Northbound |   |     |   | Southbound |    |    |     |
| Movement                        | U         | L   | T   | R  | U         | L  | T   | R   | U          | L | T   | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1   | 2   | 3  | 4U        | 4  | 5   | 6   |            | 7 | 8   | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1   | 1   | 0  | 0         | 0  | 1   | 1   |            | 0 | 1   | 0 |            | 0  | 1  | 1   |
| Configuration                   |           | L   |     | TR |           | LT |     | R   |            |   | LTR |   |            | LT |    | R   |
| Volume (veh/h)                  |           | 360 | 520 | 5  |           | 0  | 237 | 202 |            | 4 | 0   | 0 |            | 49 | 1  | 320 |
| Percent Heavy Vehicles (%)      |           | 2   |     |    |           | 3  |     |     |            | 0 | 0   | 0 |            | 0  | 0  | 0   |
| Proportion Time Blocked         |           |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |
| Percent Grade (%)               |           |     |     |    |           |    |     |     | 0          |   |     |   | 0          |    |    |     |
| Right Turn Channelized          |           |     |     |    | No        |    |     |     |            |   |     |   | No         |    |    |     |
| Median Type   Storage           | Undivided |     |     |    |           |    |     |     |            |   |     |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |      |  |  |  |      |      |      |  |      |      |      |
|---------------------------------|--|------|--|--|--|------|--|--|--|------|------|------|--|------|------|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  | 4.1  |  |  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  | 4.13 |  |  |  | 7.10 | 6.50 | 6.20 |  | 7.10 | 6.50 | 6.20 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  | 2.2  |  |  |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  | 2.23 |  |  |  | 3.50 | 4.00 | 3.30 |  | 3.50 | 4.00 | 3.30 |

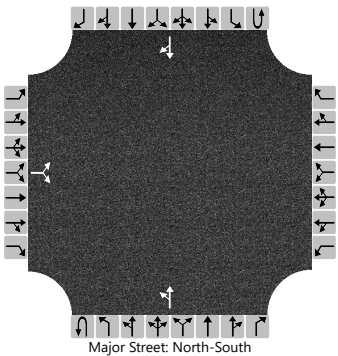
| Delay, Queue Length, and Level of Service |     |      |  |  |     |      |     |  |        |  |        |  |       |        |  |       |
|-------------------------------------------|-----|------|--|--|-----|------|-----|--|--------|--|--------|--|-------|--------|--|-------|
| Flow Rate, v (veh/h)                      |     | 480  |  |  |     | 0    |     |  |        |  | 5      |  |       | 67     |  | 427   |
| Capacity, c (veh/h)                       |     | 986  |  |  |     | 886  |     |  |        |  | 4      |  |       | 19     |  | 601   |
| v/c Ratio                                 |     | 0.49 |  |  |     | 0.00 |     |  |        |  | 1.41   |  |       | 3.42   |  | 0.71  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 2.7  |  |  |     | 0.0  |     |  |        |  | 1.5    |  |       | 8.8    |  | 5.8   |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 68.6 |  |  |     |      |     |  |        |  | 37.5   |  |       | 220.0  |  | 145.0 |
| Control Delay (s/veh)                     |     | 12.1 |  |  |     | 9.1  | 0.0 |  |        |  | 1832.3 |  |       | 1497.0 |  | 24.3  |
| Level of Service (LOS)                    |     | B    |  |  |     | A    | A   |  |        |  | F      |  |       | F      |  | C     |
| Approach Delay (s/veh)                    | 4.9 |      |  |  | 0.0 |      |     |  | 1832.3 |  |        |  | 223.3 |        |  |       |
| Approach LOS                              | A   |      |  |  | A   |      |     |  | F      |  |        |  | F     |        |  |       |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                     |
|--------------------------|--------------------------|----------------------------|-------------------------------------|
| Analyst                  | tsj                      | Intersection               | Pitts Boulevard & High School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville            |
| Date Performed           | 5/17/2024                | East/West Street           | High School Drive                   |
| Analysis Year            | 2049                     | North/South Street         | Pitts Boulevard                     |
| Time Analyzed            | AM Peak Hour             | Peak Hour Factor           | 0.81                                |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                |
| Project Description      | Build                    |                            |                                     |

Lanes



Vehicle Volumes and Adjustments

| Approach                   | Eastbound |     |    |    | Westbound |   |   |   | Northbound |     |    |   | Southbound |   |     |     |
|----------------------------|-----------|-----|----|----|-----------|---|---|---|------------|-----|----|---|------------|---|-----|-----|
| Movement                   | U         | L   | T  | R  | U         | L | T | R | U          | L   | T  | R | U          | L | T   | R   |
| Priority                   |           | 10  | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1   | 2  | 3 | 4U         | 4 | 5   | 6   |
| Number of Lanes            |           | 0   | 1  | 0  |           | 0 | 0 | 0 | 0          | 0   | 1  | 0 | 0          | 0 | 1   | 0   |
| Configuration              |           |     | LR |    |           |   |   |   |            | LT  |    |   |            |   |     | TR  |
| Volume (veh/h)             |           | 130 |    | 49 |           |   |   |   |            | 111 | 16 |   |            |   | 117 | 227 |
| Percent Heavy Vehicles (%) |           | 6   |    | 6  |           |   |   |   |            | 8   |    |   |            |   |     |     |
| Proportion Time Blocked    |           |     |    |    |           |   |   |   |            |     |    |   |            |   |     |     |
| Percent Grade (%)          | 0         |     |    |    |           |   |   |   |            |     |    |   |            |   |     |     |
| Right Turn Channelized     |           |     |    |    |           |   |   |   |            |     |    |   |            |   |     |     |
| Median Type   Storage      | Undivided |     |    |    |           |   |   |   |            |     |    |   |            |   |     |     |

Critical and Follow-up Headways

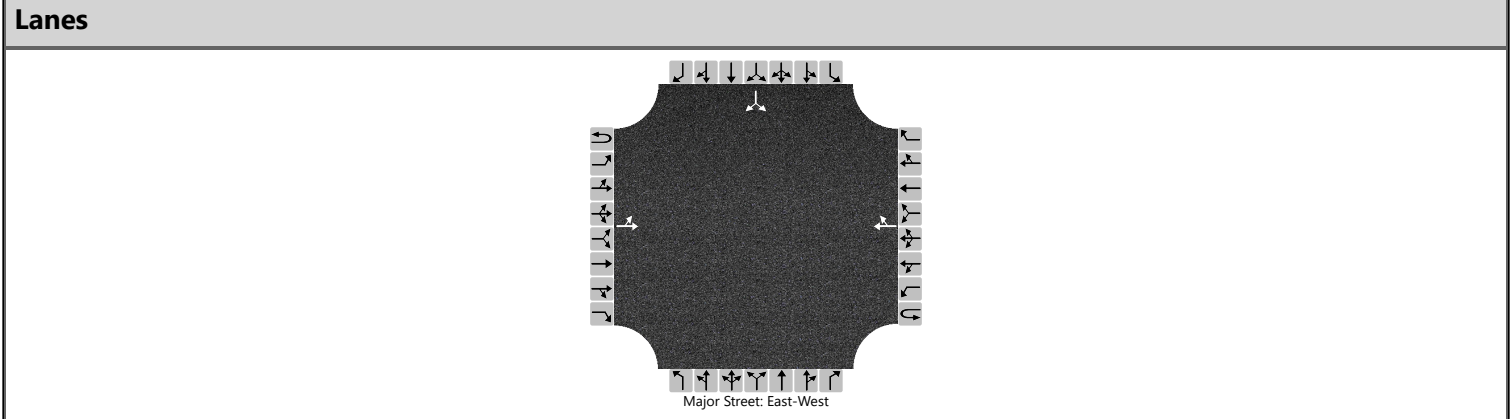
|                              |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)  |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)       |  | 6.46 |  | 6.26 |  |  |  |  |  | 4.18 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec) |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)      |  | 3.55 |  | 3.35 |  |  |  |  |  | 2.27 |  |  |  |  |  |  |

Delay, Queue Length, and Level of Service

|                                         |      |  |      |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-----------------------------------------|------|--|------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                    |      |  | 221  |  |  |  |  |  |     | 137  |     |  |  |  |  |  |
| Capacity, c (veh/h)                     |      |  | 463  |  |  |  |  |  |     | 1099 |     |  |  |  |  |  |
| v/c Ratio                               |      |  | 0.48 |  |  |  |  |  |     | 0.12 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |      |  | 2.5  |  |  |  |  |  |     | 0.4  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)  |      |  | 65.5 |  |  |  |  |  |     | 10.6 |     |  |  |  |  |  |
| Control Delay (s/veh)                   |      |  | 19.7 |  |  |  |  |  |     | 8.7  | 1.1 |  |  |  |  |  |
| Level of Service (LOS)                  |      |  | C    |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                  | 19.7 |  |      |  |  |  |  |  | 7.8 |      |     |  |  |  |  |  |
| Approach LOS                            | C    |  |      |  |  |  |  |  | A   |      |     |  |  |  |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                               |
|--------------------------|--------------------------|----------------------------|-------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Prop. Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville      |
| Date Performed           | 8/21/2024                | East/West Street           | Bainbridge Road               |
| Analysis Year            | 2049                     | North/South Street         | Repurposed Drive              |
| Time Analyzed            | AM Peak                  | Peak Hour Factor           | 0.77                          |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                          |
| Project Description      | Build                    |                            |                               |

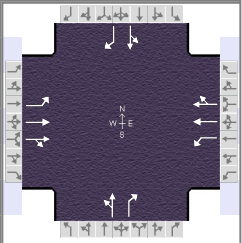
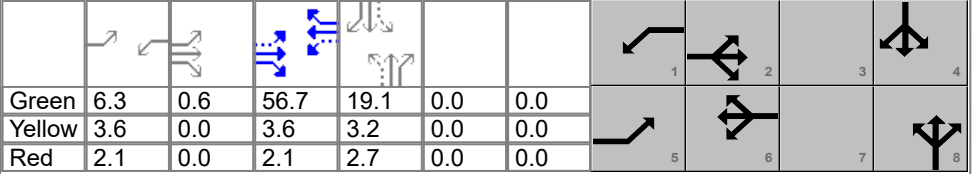
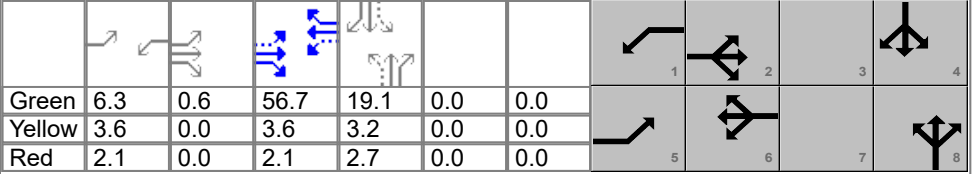
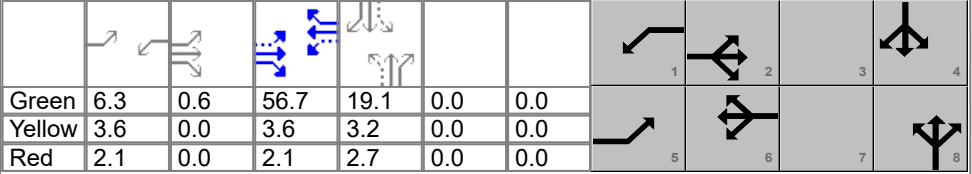
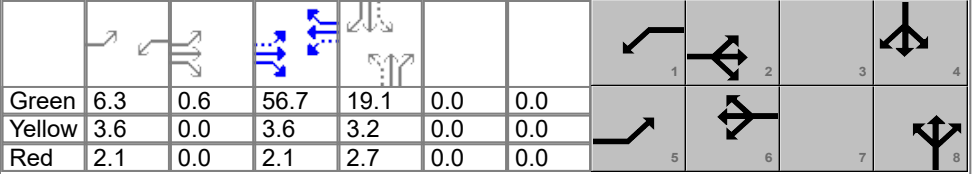
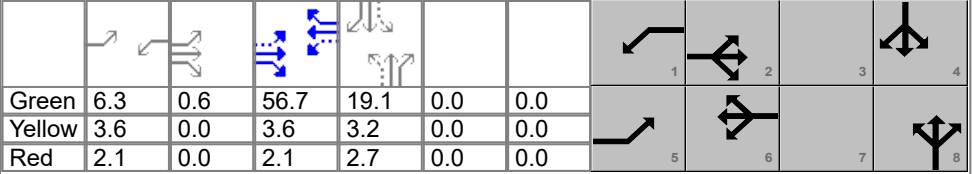
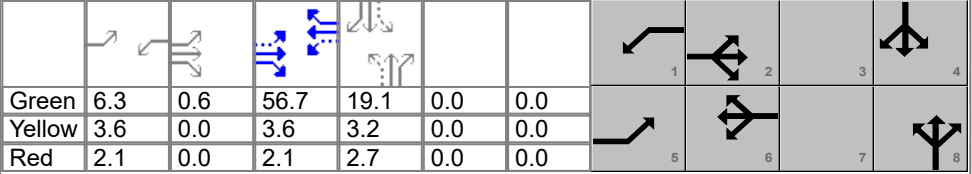
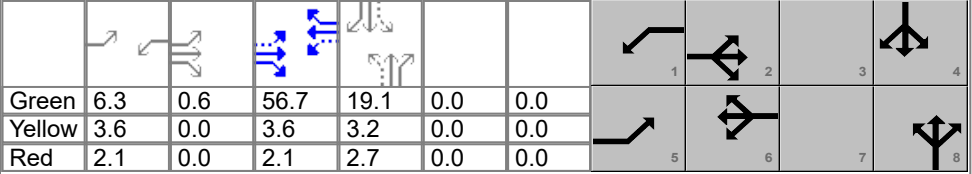
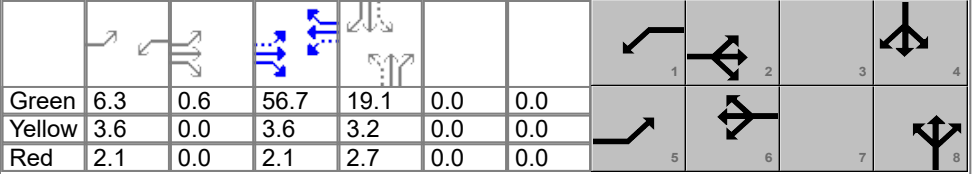
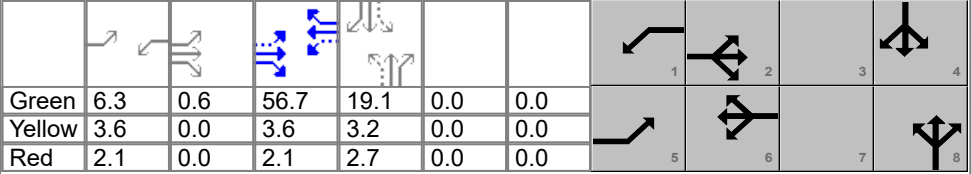
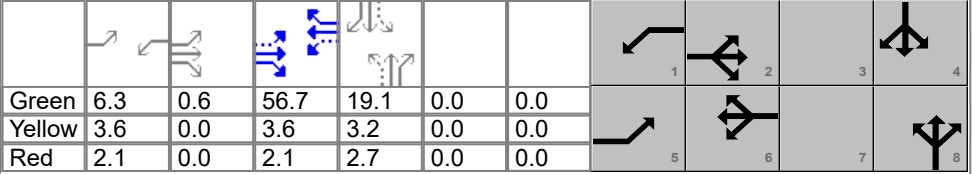
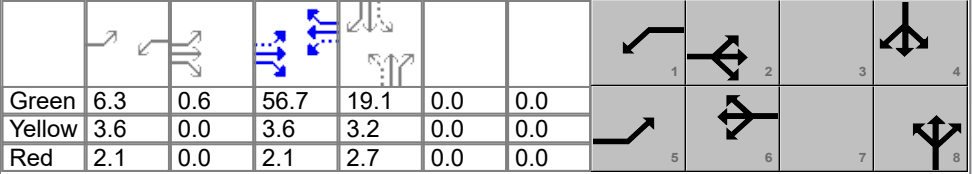
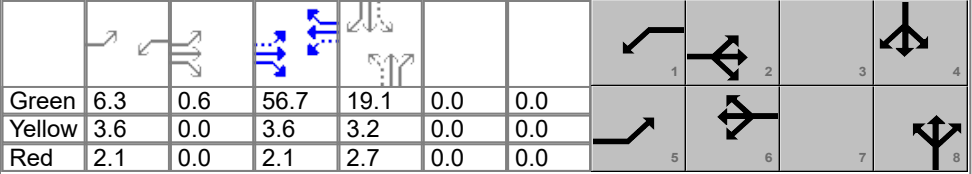


| Vehicle Volumes and Adjustments |           |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|-----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |     |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L   | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1   | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 0   | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0   |
| Configuration                   |           | LT  |     |   |           |   |     | TR |            |   |   |   |            |    | LR |     |
| Volume (veh/h)                  |           | 336 | 259 |   |           |   | 302 | 55 |            |   |   |   |            | 35 |    | 137 |
| Percent Heavy Vehicles (%)      |           | 3   |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked         |           |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |     |     |   |           |   |     |    |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Median Type   Storage           | Undivided |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.43 |  | 6.23 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

| Delay, Queue Length, and Level of Service |     |      |     |  |  |  |  |  |  |  |  |  |       |  |       |  |
|-------------------------------------------|-----|------|-----|--|--|--|--|--|--|--|--|--|-------|--|-------|--|
| Flow Rate, v (veh/h)                      |     | 436  |     |  |  |  |  |  |  |  |  |  |       |  | 223   |  |
| Capacity, c (veh/h)                       |     | 1092 |     |  |  |  |  |  |  |  |  |  |       |  | 204   |  |
| v/c Ratio                                 |     | 0.40 |     |  |  |  |  |  |  |  |  |  |       |  | 1.10  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 1.9  |     |  |  |  |  |  |  |  |  |  |       |  | 10.5  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 48.6 |     |  |  |  |  |  |  |  |  |  |       |  | 268.8 |  |
| Control Delay (s/veh)                     |     | 10.5 | 5.1 |  |  |  |  |  |  |  |  |  |       |  | 140.2 |  |
| Level of Service (LOS)                    |     | B    | A   |  |  |  |  |  |  |  |  |  |       |  | F     |  |
| Approach Delay (s/veh)                    | 8.2 |      |     |  |  |  |  |  |  |  |  |  | 140.2 |  |       |  |
| Approach LOS                              | A   |      |     |  |  |  |  |  |  |  |  |  | F     |  |       |  |

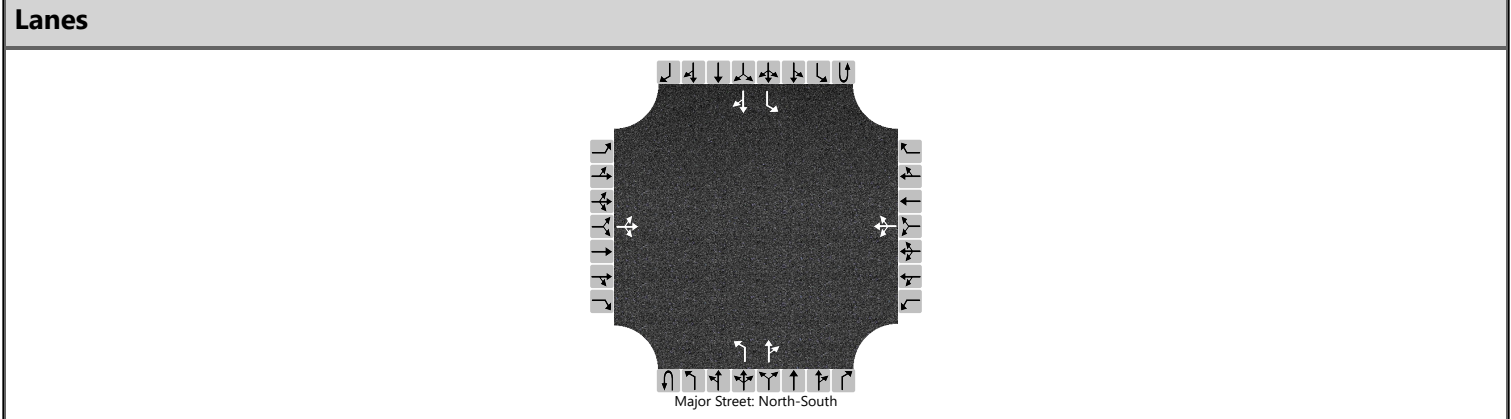
# HCS Signalized Intersection Results Summary

| General Information                             |                          |                 |               |                                                                                    |                                                                                    | Intersection Information                                                           |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |  |                                                                                    |                                                                                    |                                                                                    |       |  |      |  |
|-------------------------------------------------|--------------------------|-----------------|---------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------|--|------|--|
| Agency                                          | DGL                      |                 |               |                                                                                    |                                                                                    | Duration, h                                                                        | 0.250                                                                              |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |       |  |      |  |
| Analyst                                         | tsj                      |                 | Analysis Date | Jun 18, 2024                                                                       |                                                                                    | Area Type                                                                          | Other                                                                              |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |       |  |      |  |
| Jurisdiction                                    | City of North Ridgeville |                 | Time Period   | PM Peak                                                                            |                                                                                    | PHF                                                                                | 0.93                                                                               |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |       |  |      |  |
| Urban Street                                    | Center Ridge             |                 | Analysis Year | 2049                                                                               |                                                                                    | Analysis Period                                                                    | 1> 7:00                                                                            |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |       |  |      |  |
| Intersection                                    | Center Ridge & Ranger... |                 | File Name     | 2049 Build PM Peak Center Ridge & Ranger.xus                                       |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |       |  |      |  |
| Project Description                             | Build                    |                 |               |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |       |  |      |  |
| Demand Information                              |                          |                 |               | EB                                                                                 |                                                                                    |                                                                                    | WB                                                                                 |                                                                                    |                                                                                    | NB                                                                                 |                                                                                    |                                                                                     | SB                                                                                 |                                                                                    |                                                                                    |       |  |      |  |
| Approach Movement                               |                          |                 |               | L                                                                                  | T                                                                                  | R                                                                                  | L                                                                                  | T                                                                                  | R                                                                                  | L                                                                                  | T                                                                                  | R                                                                                   | L                                                                                  | T                                                                                  | R                                                                                  |       |  |      |  |
| Demand ( v ), veh/h                             |                          |                 |               | 155                                                                                | 761                                                                                | 63                                                                                 | 79                                                                                 | 765                                                                                | 196                                                                                | 128                                                                                | 209                                                                                | 163                                                                                 | 198                                                                                | 98                                                                                 | 138                                                                                |       |  |      |  |
| Signal Information                              |                          |                 |               |  |  |  |  |  |  |  |  |   |  |  |  |       |  |      |  |
| Cycle, s                                        | 100.0                    | Reference Phase | 2             |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |       |  |      |  |
| Offset, s                                       | 0                        | Reference Point | End           |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |       |  |      |  |
| Uncoordinated                                   | No                       | Simult. Gap E/W | On            |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |       |  |      |  |
| Force Mode                                      | Fixed                    | Simult. Gap N/S | On            |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |       |  |      |  |
|                                                 |                          |                 |               | Green                                                                              | 6.3                                                                                | 0.6                                                                                | 56.7                                                                               | 19.1                                                                               | 0.0                                                                                | 0.0                                                                                |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |       |  |      |  |
|                                                 |                          |                 |               | Yellow                                                                             | 3.6                                                                                | 0.0                                                                                | 3.6                                                                                | 3.2                                                                                | 0.0                                                                                | 0.0                                                                                |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |       |  |      |  |
|                                                 |                          |                 |               | Red                                                                                | 2.1                                                                                | 0.0                                                                                | 2.1                                                                                | 2.7                                                                                | 0.0                                                                                | 0.0                                                                                |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |       |  |      |  |
| Timer Results                                   |                          |                 |               | EBL                                                                                |                                                                                    | EBT                                                                                |                                                                                    | WBL                                                                                |                                                                                    | WBT                                                                                |                                                                                    | NBL                                                                                 |                                                                                    | NBT                                                                                |                                                                                    | SBL   |  | SBT  |  |
| Assigned Phase                                  |                          |                 |               | 5                                                                                  |                                                                                    | 2                                                                                  |                                                                                    | 1                                                                                  |                                                                                    | 6                                                                                  |                                                                                    |                                                                                     |                                                                                    | 8                                                                                  |                                                                                    |       |  | 4    |  |
| Case Number                                     |                          |                 |               | 1.1                                                                                |                                                                                    | 4.0                                                                                |                                                                                    | 1.1                                                                                |                                                                                    | 4.0                                                                                |                                                                                    |                                                                                     |                                                                                    | 7.0                                                                                |                                                                                    |       |  | 7.0  |  |
| Phase Duration, s                               |                          |                 |               | 12.6                                                                               |                                                                                    | 63.0                                                                               |                                                                                    | 12.0                                                                               |                                                                                    | 62.4                                                                               |                                                                                    |                                                                                     |                                                                                    | 25.0                                                                               |                                                                                    |       |  | 25.0 |  |
| Change Period, ( Y+R c ), s                     |                          |                 |               | 5.7                                                                                |                                                                                    | 5.7                                                                                |                                                                                    | 5.7                                                                                |                                                                                    | 5.7                                                                                |                                                                                    |                                                                                     |                                                                                    | 5.9                                                                                |                                                                                    |       |  | 5.9  |  |
| Max Allow Headway ( MAH ), s                    |                          |                 |               | 4.1                                                                                |                                                                                    | 0.0                                                                                |                                                                                    | 4.1                                                                                |                                                                                    | 0.0                                                                                |                                                                                    |                                                                                     |                                                                                    | 4.4                                                                                |                                                                                    |       |  | 4.4  |  |
| Queue Clearance Time ( g s ), s                 |                          |                 |               | 5.8                                                                                |                                                                                    |                                                                                    |                                                                                    | 3.9                                                                                |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    | 21.1                                                                               |                                                                                    |       |  | 21.1 |  |
| Green Extension Time ( g e ), s                 |                          |                 |               | 0.2                                                                                |                                                                                    | 0.0                                                                                |                                                                                    | 0.1                                                                                |                                                                                    | 0.0                                                                                |                                                                                    |                                                                                     |                                                                                    | 0.0                                                                                |                                                                                    |       |  | 0.0  |  |
| Phase Call Probability                          |                          |                 |               | 0.99                                                                               |                                                                                    |                                                                                    |                                                                                    | 0.91                                                                               |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    | 1.00                                                                               |                                                                                    |       |  | 1.00 |  |
| Max Out Probability                             |                          |                 |               | 1.00                                                                               |                                                                                    |                                                                                    |                                                                                    | 0.26                                                                               |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                    | 1.00                                                                               |                                                                                    |       |  | 1.00 |  |
| Movement Group Results                          |                          |                 |               | EB                                                                                 |                                                                                    |                                                                                    | WB                                                                                 |                                                                                    |                                                                                    | NB                                                                                 |                                                                                    |                                                                                     | SB                                                                                 |                                                                                    |                                                                                    |       |  |      |  |
| Approach Movement                               |                          |                 |               | L                                                                                  | T                                                                                  | R                                                                                  | L                                                                                  | T                                                                                  | R                                                                                  | L                                                                                  | T                                                                                  | R                                                                                   | L                                                                                  | T                                                                                  | R                                                                                  |       |  |      |  |
| Assigned Movement                               |                          |                 |               | 5                                                                                  | 2                                                                                  | 12                                                                                 | 1                                                                                  | 6                                                                                  | 16                                                                                 | 3                                                                                  | 8                                                                                  | 18                                                                                  | 7                                                                                  | 4                                                                                  | 14                                                                                 |       |  |      |  |
| Adjusted Flow Rate ( v ), veh/h                 |                          |                 |               | 167                                                                                | 449                                                                                | 437                                                                                | 85                                                                                 | 536                                                                                | 498                                                                                |                                                                                    | 362                                                                                | 175                                                                                 |                                                                                    | 318                                                                                | 148                                                                                |       |  |      |  |
| Adjusted Saturation Flow Rate ( s ), veh/h/ln   |                          |                 |               | 1767                                                                               | 1856                                                                               | 1805                                                                               | 1781                                                                               | 1870                                                                               | 1738                                                                               |                                                                                    | 1564                                                                               | 1572                                                                                |                                                                                    | 965                                                                                | 1598                                                                               |       |  |      |  |
| Queue Service Time ( g s ), s                   |                          |                 |               | 3.8                                                                                | 13.6                                                                               | 13.6                                                                               | 1.9                                                                                | 17.4                                                                               | 17.4                                                                               |                                                                                    | 0.0                                                                                | 10.1                                                                                |                                                                                    | 0.0                                                                                | 8.3                                                                                |       |  |      |  |
| Cycle Queue Clearance Time ( g c ), s           |                          |                 |               | 3.8                                                                                | 13.6                                                                               | 13.6                                                                               | 1.9                                                                                | 17.4                                                                               | 17.4                                                                               |                                                                                    | 19.1                                                                               | 10.1                                                                                |                                                                                    | 19.1                                                                               | 8.3                                                                                |       |  |      |  |
| Green Ratio ( g/C )                             |                          |                 |               | 0.64                                                                               | 0.57                                                                               | 0.57                                                                               | 0.63                                                                               | 0.57                                                                               | 0.57                                                                               |                                                                                    | 0.19                                                                               | 0.19                                                                                |                                                                                    | 0.19                                                                               | 0.19                                                                               |       |  |      |  |
| Capacity ( c ), veh/h                           |                          |                 |               | 407                                                                                | 1063                                                                               | 1034                                                                               | 446                                                                                | 1060                                                                               | 985                                                                                |                                                                                    | 348                                                                                | 300                                                                                 |                                                                                    | 244                                                                                | 305                                                                                |       |  |      |  |
| Volume-to-Capacity Ratio ( X )                  |                          |                 |               | 0.409                                                                              | 0.423                                                                              | 0.423                                                                              | 0.191                                                                              | 0.505                                                                              | 0.505                                                                              |                                                                                    | 1.040                                                                              | 0.584                                                                               |                                                                                    | 1.302                                                                              | 0.486                                                                              |       |  |      |  |
| Back of Queue ( Q ), ft/ln ( 95 th percentile)  |                          |                 |               | 62                                                                                 | 241                                                                                | 231                                                                                | 30                                                                                 | 295                                                                                | 275                                                                                |                                                                                    | 541                                                                                | 191                                                                                 |                                                                                    | 677                                                                                | 148                                                                                |       |  |      |  |
| Back of Queue ( Q ), veh/ln ( 95 th percentile) |                          |                 |               | 2.4                                                                                | 9.4                                                                                | 9.2                                                                                | 1.2                                                                                | 11.6                                                                               | 11.0                                                                               |                                                                                    | 21.1                                                                               | 7.5                                                                                 |                                                                                    | 26.9                                                                               | 5.9                                                                                |       |  |      |  |
| Queue Storage Ratio ( RQ ) ( 95 th percentile)  |                          |                 |               | 0.00                                                                               | 0.00                                                                               | 0.00                                                                               | 0.00                                                                               | 0.00                                                                               | 0.00                                                                               |                                                                                    | 0.00                                                                               | 0.00                                                                                |                                                                                    | 0.00                                                                               | 0.00                                                                               |       |  |      |  |
| Uniform Delay ( d 1 ), s/veh                    |                          |                 |               | 9.5                                                                                | 12.0                                                                               | 12.0                                                                               | 8.5                                                                                | 13.2                                                                               | 13.2                                                                               |                                                                                    | 41.8                                                                               | 36.8                                                                                |                                                                                    | 42.8                                                                               | 36.1                                                                               |       |  |      |  |
| Incremental Delay ( d 2 ), s/veh                |                          |                 |               | 0.7                                                                                | 1.2                                                                                | 1.3                                                                                | 0.2                                                                                | 1.7                                                                                | 1.9                                                                                |                                                                                    | 59.0                                                                               | 2.9                                                                                 |                                                                                    | 162.4                                                                              | 1.2                                                                                |       |  |      |  |
| Initial Queue Delay ( d 3 ), s/veh              |                          |                 |               | 0.0                                                                                | 0.0                                                                                | 0.0                                                                                | 0.0                                                                                | 0.0                                                                                | 0.0                                                                                |                                                                                    | 0.0                                                                                | 0.0                                                                                 |                                                                                    | 0.0                                                                                | 0.0                                                                                |       |  |      |  |
| Control Delay ( d ), s/veh                      |                          |                 |               | 10.2                                                                               | 13.3                                                                               | 13.3                                                                               | 8.7                                                                                | 14.9                                                                               | 15.0                                                                               |                                                                                    | 100.8                                                                              | 39.7                                                                                |                                                                                    | 205.2                                                                              | 37.3                                                                               |       |  |      |  |
| Level of Service (LOS)                          |                          |                 |               | B                                                                                  | B                                                                                  | B                                                                                  | A                                                                                  | B                                                                                  | B                                                                                  |                                                                                    | F                                                                                  | D                                                                                   |                                                                                    | F                                                                                  | D                                                                                  |       |  |      |  |
| Approach Delay, s/veh / LOS                     |                          |                 |               | 12.8                                                                               |                                                                                    | B                                                                                  |                                                                                    | 14.5                                                                               |                                                                                    | B                                                                                  |                                                                                    | 80.9                                                                                |                                                                                    | F                                                                                  |                                                                                    | 151.8 |  | F    |  |
| Intersection Delay, s/veh / LOS                 |                          |                 |               | 45.4                                                                               |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    | D                                                                                  |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |       |  |      |  |
| Multimodal Results                              |                          |                 |               | EB                                                                                 |                                                                                    |                                                                                    | WB                                                                                 |                                                                                    |                                                                                    | NB                                                                                 |                                                                                    |                                                                                     | SB                                                                                 |                                                                                    |                                                                                    |       |  |      |  |
| Pedestrian LOS Score / LOS                      |                          |                 |               | 1.89                                                                               |                                                                                    | B                                                                                  |                                                                                    | 1.89                                                                               |                                                                                    | B                                                                                  |                                                                                    | 2.30                                                                                |                                                                                    | B                                                                                  |                                                                                    | 2.30  |  | B    |  |
| Bicycle LOS Score / LOS                         |                          |                 |               | 1.36                                                                               |                                                                                    | A                                                                                  |                                                                                    | 1.41                                                                               |                                                                                    | A                                                                                  |                                                                                    | 1.37                                                                                |                                                                                    | A                                                                                  |                                                                                    | 1.26  |  | A    |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                        |
|--------------------------|--------------------------|----------------------------|----------------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Fire Station/School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville               |
| Date Performed           | 5/17/2024                | East/West Street           | Fire Station Drive                     |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                             |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.79                                   |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                   |
| Project Description      | Build                    |                            |                                        |



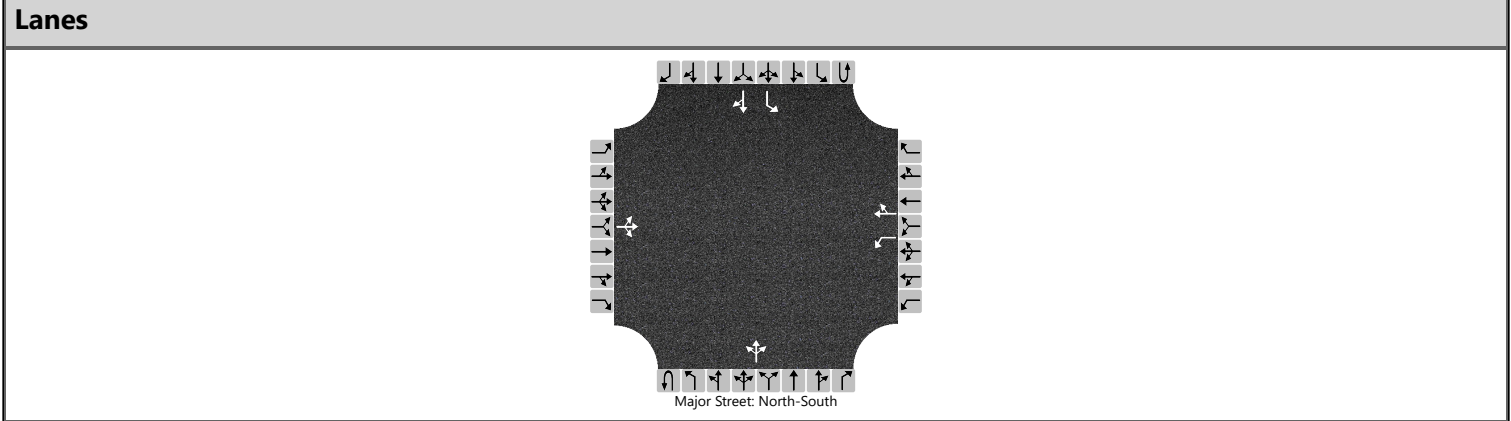
| Vehicle Volumes and Adjustments |           |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |
|---------------------------------|-----------|----|-----|----|-----------|----|-----|-----|------------|---|-----|----|------------|-----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |    |     |     | Northbound |   |     |    | Southbound |     |     |    |
| Movement                        | U         | L  | T   | R  | U         | L  | T   | R   | U          | L | T   | R  | U          | L   | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7  | 8   | 9   | 1U         | 1 | 2   | 3  | 4U         | 4   | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 0  | 1   | 0   | 0          | 1 | 1   | 0  | 0          | 1   | 1   | 0  |
| Configuration                   |           |    | LTR |    |           |    | LTR |     |            | L |     | TR |            | L   |     | TR |
| Volume (veh/h)                  |           | 2  | 0   | 0  |           | 27 | 0   | 177 |            | 0 | 317 | 56 |            | 102 | 149 | 1  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 0  | 0   | 0   |            | 5 |     |    |            | 2   |     |    |
| Proportion Time Blocked         |           |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |    |     |     |            |   |     |    |            |     |     |    |
| Right Turn Channelized          |           |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |    |     |     |            |   |     |    |            |     |     |    |

| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.10 | 6.50 | 6.20 |  | 4.15 |  |  |  | 4.12 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.50 | 4.00 | 3.30 |  | 2.25 |  |  |  | 2.22 |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |      |  |       |  |     |      |  |  |     |      |  |  |
|-------------------------------------------|------|--|------|--|------|--|-------|--|-----|------|--|--|-----|------|--|--|
| Flow Rate, v (veh/h)                      |      |  | 3    |  |      |  | 258   |  |     | 0    |  |  |     | 129  |  |  |
| Capacity, c (veh/h)                       |      |  | 104  |  |      |  | 405   |  |     | 1366 |  |  |     | 892  |  |  |
| v/c Ratio                                 |      |  | 0.02 |  |      |  | 0.64  |  |     | 0.00 |  |  |     | 0.14 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.1  |  |      |  | 4.3   |  |     | 0.0  |  |  |     | 0.5  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 2.5  |  |      |  | 107.5 |  |     |      |  |  |     | 12.7 |  |  |
| Control Delay (s/veh)                     |      |  | 40.5 |  |      |  | 28.2  |  |     | 7.6  |  |  |     | 9.7  |  |  |
| Level of Service (LOS)                    |      |  | E    |  |      |  | D     |  |     | A    |  |  |     | A    |  |  |
| Approach Delay (s/veh)                    | 40.5 |  |      |  | 28.2 |  |       |  | 0.0 |      |  |  | 3.9 |      |  |  |
| Approach LOS                              | E    |  |      |  | D    |  |       |  | A   |      |  |  | A   |      |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                          |
|--------------------------|--------------------------|----------------------------|--------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & NRAC Drive  |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville |
| Date Performed           | 5/17/2024                | East/West Street           | NRAC Drive               |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way               |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.71                     |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                     |
| Project Description      | Build                    |                            |                          |



| Vehicle Volumes and Adjustments |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
|---------------------------------|-----------|----|-----|----|-----------|-----|----|-----|------------|---|-----|----|------------|----|-----|----|
| Approach                        | Eastbound |    |     |    | Westbound |     |    |     | Northbound |   |     |    | Southbound |    |     |    |
| Movement                        | U         | L  | T   | R  | U         | L   | T  | R   | U          | L | T   | R  | U          | L  | T   | R  |
| Priority                        |           | 10 | 11  | 12 |           | 7   | 8  | 9   | 1U         | 1 | 2   | 3  | 4U         | 4  | 5   | 6  |
| Number of Lanes                 |           | 0  | 1   | 0  |           | 1   | 1  | 0   | 0          | 0 | 1   | 0  | 0          | 1  | 1   | 0  |
| Configuration                   |           |    | LTR |    |           | L   |    | TR  |            |   | LTR |    |            | L  |     | TR |
| Volume (veh/h)                  |           | 0  | 0   | 5  |           | 114 | 1  | 197 |            | 3 | 172 | 35 |            | 63 | 115 | 0  |
| Percent Heavy Vehicles (%)      |           | 0  | 0   | 0  |           | 11  | 11 | 11  |            | 1 |     |    |            | 1  |     |    |
| Proportion Time Blocked         |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
| Percent Grade (%)               | 0         |    |     |    | 0         |     |    |     |            |   |     |    |            |    |     |    |
| Right Turn Channelized          |           |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |
| Median Type   Storage           | Undivided |    |     |    |           |     |    |     |            |   |     |    |            |    |     |    |

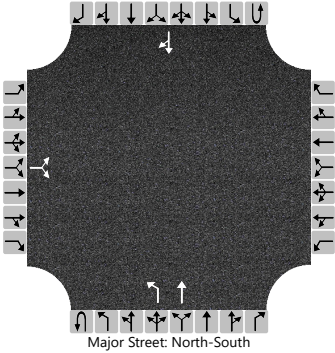
| Critical and Follow-up Headways |  |      |      |      |  |      |      |      |  |      |  |  |  |      |  |  |
|---------------------------------|--|------|------|------|--|------|------|------|--|------|--|--|--|------|--|--|
| Base Critical Headway (sec)     |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |  | 4.1  |  |  |  | 4.1  |  |  |
| Critical Headway (sec)          |  | 7.10 | 6.50 | 6.20 |  | 7.21 | 6.61 | 6.31 |  | 4.11 |  |  |  | 4.11 |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |  | 2.2  |  |  |  | 2.2  |  |  |
| Follow-Up Headway (sec)         |  | 3.50 | 4.00 | 3.30 |  | 3.60 | 4.10 | 3.40 |  | 2.21 |  |  |  | 2.21 |  |  |

| Delay, Queue Length, and Level of Service |     |  |      |  |      |      |  |      |     |      |     |     |     |      |  |  |
|-------------------------------------------|-----|--|------|--|------|------|--|------|-----|------|-----|-----|-----|------|--|--|
| Flow Rate, v (veh/h)                      |     |  | 7    |  |      | 161  |  | 279  |     | 4    |     |     |     | 89   |  |  |
| Capacity, c (veh/h)                       |     |  | 888  |  |      | 358  |  | 747  |     | 1423 |     |     |     | 1276 |  |  |
| v/c Ratio                                 |     |  | 0.01 |  |      | 0.45 |  | 0.37 |     | 0.00 |     |     |     | 0.07 |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     |  | 0.0  |  |      | 2.2  |  | 1.7  |     | 0.0  |     |     |     | 0.2  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     |  | 0.0  |  |      | 59.8 |  | 46.2 |     |      |     |     |     | 5.0  |  |  |
| Control Delay (s/veh)                     |     |  | 9.1  |  |      | 23.0 |  | 12.7 |     | 7.5  | 0.0 | 0.0 |     | 8.0  |  |  |
| Level of Service (LOS)                    |     |  | A    |  |      | C    |  | B    |     | A    | A   | A   |     | A    |  |  |
| Approach Delay (s/veh)                    | 9.1 |  |      |  | 16.5 |      |  |      | 0.1 |      |     |     | 2.8 |      |  |  |
| Approach LOS                              | A   |  |      |  | C    |      |  |      | A   |      |     |     | A   |      |  |  |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                |
|--------------------------|--------------------------|----------------------------|--------------------------------|
| Analyst                  | tsj                      | Intersection               | Ranger Way & Kenssington Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville       |
| Date Performed           | 5/17/2024                | East/West Street           | Kenssington Drive              |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                     |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.87                           |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                           |
| Project Description      | Build                    |                            |                                |

Lanes



Major Street: North-South

| Vehicle Volumes and Adjustments |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
|---------------------------------|-----------|----|----|----|-----------|---|---|---|------------|----|-----|---|------------|---|-----|----|
| Approach                        | Eastbound |    |    |    | Westbound |   |   |   | Northbound |    |     |   | Southbound |   |     |    |
| Movement                        | U         | L  | T  | R  | U         | L | T | R | U          | L  | T   | R | U          | L | T   | R  |
| Priority                        |           | 10 | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2   | 3 | 4U         | 4 | 5   | 6  |
| Number of Lanes                 |           | 0  | 1  | 0  |           | 0 | 0 | 0 | 0          | 1  | 1   | 0 | 0          | 0 | 1   | 0  |
| Configuration                   |           |    | LR |    |           |   |   |   |            | L  | T   |   |            |   |     | TR |
| Volume (veh/h)                  |           | 12 |    | 54 |           |   |   |   |            | 22 | 204 |   |            |   | 227 | 8  |
| Percent Heavy Vehicles (%)      |           | 4  |    | 4  |           |   |   |   |            | 2  |     |   |            |   |     |    |
| Proportion Time Blocked         |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Percent Grade (%)               | 0         |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Right Turn Channelized          |           |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |
| Median Type   Storage           | Undivided |    |    |    |           |   |   |   |            |    |     |   |            |   |     |    |

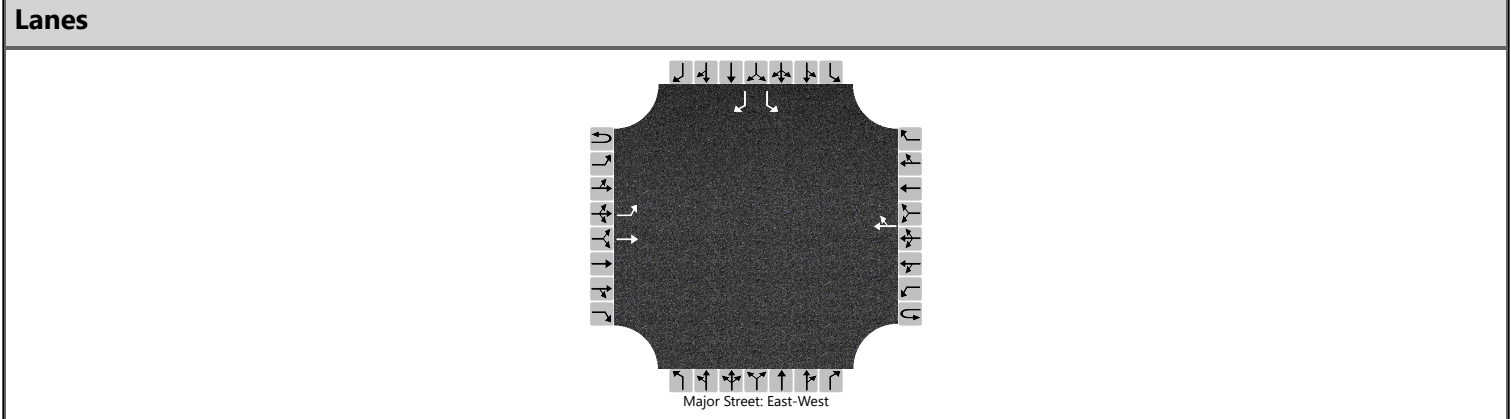
| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.44 |  | 6.24 |  |  |  |  |  | 4.12 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.54 |  | 3.34 |  |  |  |  |  | 2.22 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |      |  |  |  |  |  |     |      |  |  |  |  |  |  |
|-------------------------------------------|------|--|------|--|--|--|--|--|-----|------|--|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 76   |  |  |  |  |  |     | 25   |  |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 673  |  |  |  |  |  |     | 1293 |  |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.11 |  |  |  |  |  |     | 0.02 |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 0.4  |  |  |  |  |  |     | 0.1  |  |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 10.3 |  |  |  |  |  |     | 2.5  |  |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 11.0 |  |  |  |  |  |     | 7.8  |  |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | B    |  |  |  |  |  |     | A    |  |  |  |  |  |  |
| Approach Delay (s/veh)                    | 11.0 |  |      |  |  |  |  |  | 0.8 |      |  |  |  |  |  |  |
| Approach LOS                              | B    |  |      |  |  |  |  |  | A   |      |  |  |  |  |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                              |
|--------------------------|--------------------------|----------------------------|------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Ranger Way |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road              |
| Analysis Year            | 2049                     | North/South Street         | Ranger Way                   |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.82                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                         |
| Project Description      | Build                    |                            |                              |



| Vehicle Volumes and Adjustments |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|----|-----|---|-----------|---|-----|-----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |    |     |   | Westbound |   |     |     | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L  | T   | R | U         | L | T   | R   | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6   |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0   |            | 0 | 0 | 0 |            | 1  | 0  | 1   |
| Configuration                   |           | L  | T   |   |           |   |     | TR  |            |   |   |   |            | L  |    | R   |
| Volume (veh/h)                  |           | 91 | 265 |   |           |   | 492 | 139 |            |   |   |   |            | 86 |    | 173 |
| Percent Heavy Vehicles (%)      |           | 3  |     |   |           |   |     |     |            |   |   |   |            | 8  |    | 8   |
| Proportion Time Blocked         |           |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |    |     |   |           |   |     |     |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |    |     |   |           |   |     |     |            |   |   |   | No         |    |    |     |
| Median Type   Storage           | Undivided |    |     |   |           |   |     |     |            |   |   |   |            |    |    |     |

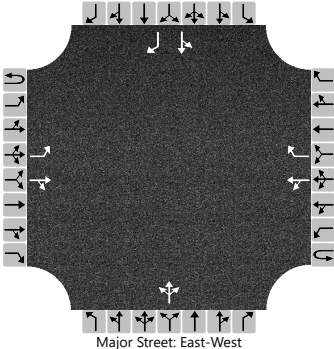
| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.48 |  | 6.28 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.57 |  | 3.37 |

| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 111  |  |  |  |  |  |  |  |  |  |  |      | 105  |  | 211  |
| Capacity, c (veh/h)                       |     | 840  |  |  |  |  |  |  |  |  |  |  |      | 166  |  | 438  |
| v/c Ratio                                 |     | 0.13 |  |  |  |  |  |  |  |  |  |  |      | 0.63 |  | 0.48 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.5  |  |  |  |  |  |  |  |  |  |  |      | 3.5  |  | 2.6  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 12.8 |  |  |  |  |  |  |  |  |  |  |      | 93.1 |  | 69.2 |
| Control Delay (s/veh)                     |     | 9.9  |  |  |  |  |  |  |  |  |  |  |      | 58.3 |  | 20.6 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |      | F    |  | C    |
| Approach Delay (s/veh)                    | 2.5 |      |  |  |  |  |  |  |  |  |  |  | 33.1 |      |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | D    |      |  |      |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                              |
|--------------------------|--------------------------|----------------------------|----------------------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & High School Drive/W Poi... |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville                     |
| Date Performed           | 5/17/2024                | East/West Street           | Bainbridge Road                              |
| Analysis Year            | 2049                     | North/South Street         | High School Drive/W Point Drive              |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.77                                         |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                                         |
| Project Description      | Build                    |                            |                                              |

Lanes



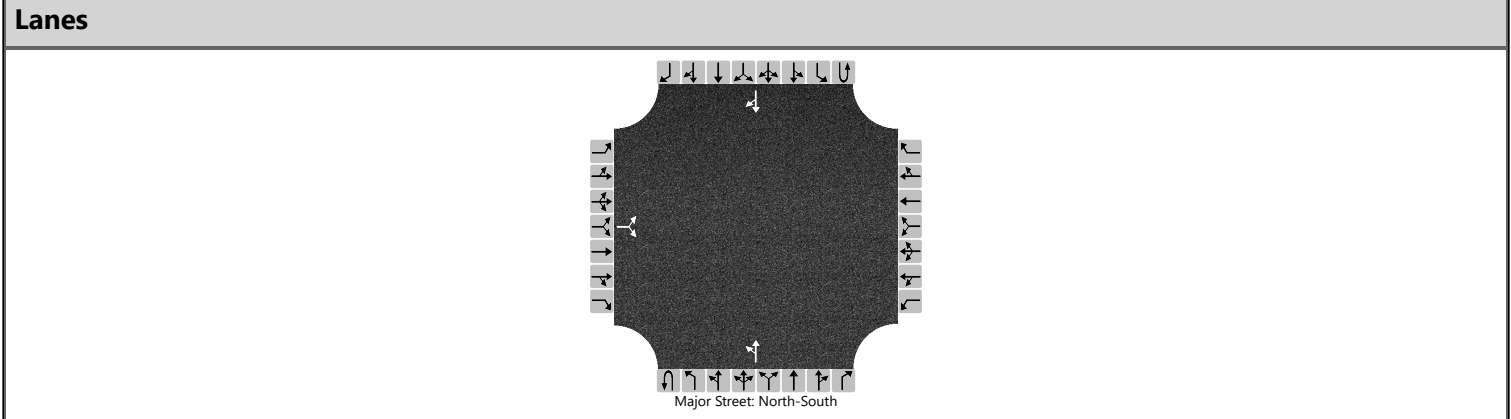
| Vehicle Volumes and Adjustments |           |     |     |    |           |    |     |    |            |   |     |   |            |    |    |     |
|---------------------------------|-----------|-----|-----|----|-----------|----|-----|----|------------|---|-----|---|------------|----|----|-----|
| Approach                        | Eastbound |     |     |    | Westbound |    |     |    | Northbound |   |     |   | Southbound |    |    |     |
| Movement                        | U         | L   | T   | R  | U         | L  | T   | R  | U          | L | T   | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1   | 2   | 3  | 4U        | 4  | 5   | 6  |            | 7 | 8   | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1   | 1   | 0  | 0         | 0  | 1   | 1  |            | 0 | 1   | 0 |            | 0  | 1  | 1   |
| Configuration                   |           | L   |     | TR |           | LT |     | R  |            |   | LTR |   |            | LT |    | R   |
| Volume (veh/h)                  |           | 104 | 237 | 19 |           | 0  | 398 | 39 |            | 2 | 0   | 3 |            | 66 | 1  | 230 |
| Percent Heavy Vehicles (%)      |           | 2   |     |    |           | 2  |     |    |            | 0 | 0   | 0 |            | 1  | 1  | 1   |
| Proportion Time Blocked         |           |     |     |    |           |    |     |    |            |   |     |   |            |    |    |     |
| Percent Grade (%)               |           |     |     |    |           |    |     |    | 0          |   |     |   | 0          |    |    |     |
| Right Turn Channelized          |           |     |     |    | No        |    |     |    |            |   |     |   | No         |    |    |     |
| Median Type   Storage           | Undivided |     |     |    |           |    |     |    |            |   |     |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |      |  |  |  |      |      |      |  |      |      |      |
|---------------------------------|--|------|--|--|--|------|--|--|--|------|------|------|--|------|------|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  | 4.1  |  |  |  | 7.1  | 6.5  | 6.2  |  | 7.1  | 6.5  | 6.2  |
| Critical Headway (sec)          |  | 4.12 |  |  |  | 4.12 |  |  |  | 7.10 | 6.50 | 6.20 |  | 7.11 | 6.51 | 6.21 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  | 2.2  |  |  |  | 3.5  | 4.0  | 3.3  |  | 3.5  | 4.0  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.22 |  |  |  | 2.22 |  |  |  | 3.50 | 4.00 | 3.30 |  | 3.51 | 4.01 | 3.31 |

| Delay, Queue Length, and Level of Service |     |      |  |  |     |      |     |  |      |  |      |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|-----|------|-----|--|------|--|------|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 135  |  |  |     | 0    |     |  |      |  | 6    |  |      | 87   |  | 299  |
| Capacity, c (veh/h)                       |     | 1003 |  |  |     | 1203 |     |  |      |  | 107  |  |      | 155  |  | 505  |
| v/c Ratio                                 |     | 0.13 |  |  |     | 0.00 |     |  |      |  | 0.06 |  |      | 0.56 |  | 0.59 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.5  |  |  |     | 0.0  |     |  |      |  | 0.2  |  |      | 2.9  |  | 3.8  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 12.7 |  |  |     |      |     |  |      |  | 5.0  |  |      | 73.1 |  | 95.8 |
| Control Delay (s/veh)                     |     | 9.1  |  |  |     | 8.0  | 0.0 |  |      |  | 40.7 |  |      | 54.3 |  | 21.9 |
| Level of Service (LOS)                    |     | A    |  |  |     | A    | A   |  |      |  | E    |  |      | F    |  | C    |
| Approach Delay (s/veh)                    | 2.6 |      |  |  | 0.0 |      |     |  | 40.7 |  |      |  | 29.2 |      |  |      |
| Approach LOS                              | A   |      |  |  | A   |      |     |  | E    |  |      |  | D    |      |  |      |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                                     |
|--------------------------|--------------------------|----------------------------|-------------------------------------|
| Analyst                  | tsj                      | Intersection               | Pitts Boulevard & High School Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville            |
| Date Performed           | 5/17/2024                | East/West Street           | High School Drive                   |
| Analysis Year            | 2049                     | North/South Street         | Pitts Boulevard                     |
| Time Analyzed            | PM Peak Hour             | Peak Hour Factor           | 0.57                                |
| Intersection Orientation | North-South              | Analysis Time Period (hrs) | 0.25                                |
| Project Description      | Build                    |                            |                                     |



| Vehicle Volumes and Adjustments |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
|---------------------------------|-----------|-----|----|----|-----------|---|---|---|------------|----|----|---|------------|---|----|----|
| Approach                        | Eastbound |     |    |    | Westbound |   |   |   | Northbound |    |    |   | Southbound |   |    |    |
| Movement                        | U         | L   | T  | R  | U         | L | T | R | U          | L  | T  | R | U          | L | T  | R  |
| Priority                        |           | 10  | 11 | 12 |           | 7 | 8 | 9 | 1U         | 1  | 2  | 3 | 4U         | 4 | 5  | 6  |
| Number of Lanes                 |           | 0   | 1  | 0  |           | 0 | 0 | 0 | 0          | 0  | 1  | 0 | 0          | 0 | 1  | 0  |
| Configuration                   |           |     | LR |    |           |   |   |   |            | LT |    |   |            |   |    | TR |
| Volume (veh/h)                  |           | 177 |    | 89 |           |   |   |   |            | 43 | 64 |   |            |   | 51 | 82 |
| Percent Heavy Vehicles (%)      |           | 3   |    | 3  |           |   |   |   |            | 3  |    |   |            |   |    |    |
| Proportion Time Blocked         |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Percent Grade (%)               | 0         |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Right Turn Channelized          |           |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |
| Median Type   Storage           | Undivided |     |    |    |           |   |   |   |            |    |    |   |            |   |    |    |

| Critical and Follow-up Headways |  |      |  |      |  |  |  |  |  |      |  |  |  |  |  |  |
|---------------------------------|--|------|--|------|--|--|--|--|--|------|--|--|--|--|--|--|
| Base Critical Headway (sec)     |  | 7.1  |  | 6.2  |  |  |  |  |  | 4.1  |  |  |  |  |  |  |
| Critical Headway (sec)          |  | 6.43 |  | 6.23 |  |  |  |  |  | 4.13 |  |  |  |  |  |  |
| Base Follow-Up Headway (sec)    |  | 3.5  |  | 3.3  |  |  |  |  |  | 2.2  |  |  |  |  |  |  |
| Follow-Up Headway (sec)         |  | 3.53 |  | 3.33 |  |  |  |  |  | 2.23 |  |  |  |  |  |  |

| Delay, Queue Length, and Level of Service |      |  |       |  |  |  |  |  |     |      |     |  |  |  |  |  |
|-------------------------------------------|------|--|-------|--|--|--|--|--|-----|------|-----|--|--|--|--|--|
| Flow Rate, v (veh/h)                      |      |  | 467   |  |  |  |  |  |     | 75   |     |  |  |  |  |  |
| Capacity, c (veh/h)                       |      |  | 621   |  |  |  |  |  |     | 1324 |     |  |  |  |  |  |
| v/c Ratio                                 |      |  | 0.75  |  |  |  |  |  |     | 0.06 |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |      |  | 6.7   |  |  |  |  |  |     | 0.2  |     |  |  |  |  |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |      |  | 171.5 |  |  |  |  |  |     | 5.1  |     |  |  |  |  |  |
| Control Delay (s/veh)                     |      |  | 26.2  |  |  |  |  |  |     | 7.9  | 0.5 |  |  |  |  |  |
| Level of Service (LOS)                    |      |  | D     |  |  |  |  |  |     | A    | A   |  |  |  |  |  |
| Approach Delay (s/veh)                    | 26.2 |  |       |  |  |  |  |  | 3.5 |      |     |  |  |  |  |  |
| Approach LOS                              | D    |  |       |  |  |  |  |  | A   |      |     |  |  |  |  |  |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                               |
|--------------------------|--------------------------|----------------------------|-------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Prop. Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville      |
| Date Performed           | 8/21/2024                | East/West Street           | Bainbridge Road               |
| Analysis Year            | 2049                     | North/South Street         | Repurposed Drive              |
| Time Analyzed            | PM Peak                  | Peak Hour Factor           | 0.73                          |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                          |
| Project Description      | Build                    |                            |                               |

Lanes

| Vehicle Volumes and Adjustments |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 0  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 0  | 1  | 0   |
| Configuration                   |           | LT |     |   |           |   |     | TR |            |   |   |   |            |    | LR |     |
| Volume (veh/h)                  |           | 60 | 288 |   |           |   | 269 | 27 |            |   |   |   |            | 97 |    | 168 |
| Percent Heavy Vehicles (%)      |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked         |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |    |     |   |           |   |     |    |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Median Type   Storage           | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.43 |  | 6.23 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

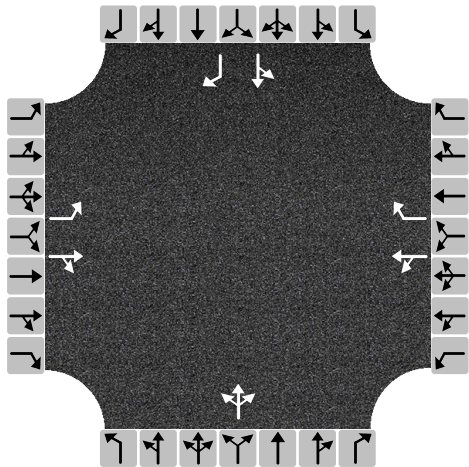
| Delay, Queue Length, and Level of Service |     |      |     |  |  |  |  |  |  |  |  |  |      |  |       |  |
|-------------------------------------------|-----|------|-----|--|--|--|--|--|--|--|--|--|------|--|-------|--|
| Flow Rate, v (veh/h)                      |     | 82   |     |  |  |  |  |  |  |  |  |  |      |  | 363   |  |
| Capacity, c (veh/h)                       |     | 1148 |     |  |  |  |  |  |  |  |  |  |      |  | 424   |  |
| v/c Ratio                                 |     | 0.07 |     |  |  |  |  |  |  |  |  |  |      |  | 0.86  |  |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.2  |     |  |  |  |  |  |  |  |  |  |      |  | 8.4   |  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 5.1  |     |  |  |  |  |  |  |  |  |  |      |  | 215.0 |  |
| Control Delay (s/veh)                     |     | 8.4  | 0.8 |  |  |  |  |  |  |  |  |  |      |  | 46.7  |  |
| Level of Service (LOS)                    |     | A    | A   |  |  |  |  |  |  |  |  |  |      |  | E     |  |
| Approach Delay (s/veh)                    | 2.1 |      |     |  |  |  |  |  |  |  |  |  | 46.7 |  |       |  |
| Approach LOS                              | A   |      |     |  |  |  |  |  |  |  |  |  | E    |  |       |  |

# HCS All-Way Stop Control Report

## General and Site Information

|                            |                                        |
|----------------------------|----------------------------------------|
| Analyst                    | tsj                                    |
| Agency/Co.                 | DGL Consulting Engineers               |
| Date Performed             | 8/29/2024                              |
| Analysis Year              | 2029                                   |
| Analysis Time Period (hrs) | 0.25                                   |
| Time Analyzed              | AM Peak Hour                           |
| Project Description        | Build + AWSC                           |
| Intersection               | Bainbridge Road & High School Drive... |
| Jurisdiction               | City of North Ridgeville               |
| East/West Street           | Bainbridge Road                        |
| North/South Street         | High School Drive/W Point Drive        |
| Peak Hour Factor           | 0.75                                   |

## Lanes



## Turning Movement Demand Volumes

| Approach               | Eastbound |     |   | Westbound |     |     | Northbound |   |   | Southbound |   |     |
|------------------------|-----------|-----|---|-----------|-----|-----|------------|---|---|------------|---|-----|
| Movement               | L         | T   | R | L         | T   | R   | L          | T | R | L          | T | R   |
| Volume (veh/h)         | 328       | 489 | 5 | 0         | 216 | 183 | 4          | 0 | 0 | 45         | 1 | 292 |
| % Thrus in Shared Lane |           |     |   |           |     |     |            |   |   |            |   |     |

## Lane Flow Rate and Adjustments

| Approach                                      | Eastbound |       |    | Westbound |       |    | Northbound |    |    | Southbound |       |    |
|-----------------------------------------------|-----------|-------|----|-----------|-------|----|------------|----|----|------------|-------|----|
| Lane                                          | L1        | L2    | L3 | L1        | L2    | L3 | L1         | L2 | L3 | L1         | L2    | L3 |
| Configuration                                 | L         | TR    |    | LT        | R     |    | LTR        |    |    | LT         | R     |    |
| Flow Rate, v (veh/h)                          | 437       | 659   |    | 288       | 244   |    | 5          |    |    | 61         | 389   |    |
| Percent Heavy Vehicles                        | 2         | 2     |    | 3         | 3     |    | 0          |    |    | 0          | 0     |    |
| Initial Departure Headway, h <sub>d</sub> (s) | 3.20      | 3.20  |    | 3.20      | 3.20  |    | 3.20       |    |    | 3.20       | 3.20  |    |
| Initial Degree of Utilization, x              | 0.389     | 0.585 |    | 0.256     | 0.217 |    | 0.005      |    |    | 0.055      | 0.346 |    |
| Final Departure Headway, h <sub>d</sub> (s)   | 7.62      | 7.10  |    | 7.58      | 6.89  |    | 8.94       |    |    | 8.35       | 7.17  |    |
| Final Degree of Utilization, x                | 0.926     | 1.300 |    | 0.607     | 0.467 |    | 0.013      |    |    | 0.142      | 0.776 |    |
| Move-Up Time, m (s)                           | 2.3       | 2.3   |    | 2.3       | 2.3   |    | 2.0        |    |    | 2.3        | 2.3   |    |
| Service Time, t <sub>s</sub> (s)              | 5.32      | 4.80  |    | 5.28      | 4.59  |    | 6.94       |    |    | 6.05       | 4.87  |    |

## Capacity, Delay and Level of Service

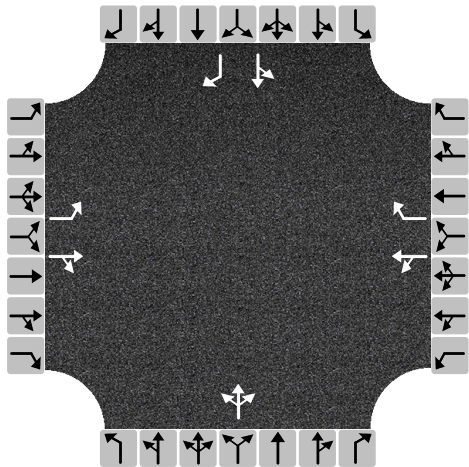
| Approach                                | Eastbound |       |    | Westbound |      |    | Northbound |    |    | Southbound |       |    |
|-----------------------------------------|-----------|-------|----|-----------|------|----|------------|----|----|------------|-------|----|
| Lane                                    | L1        | L2    | L3 | L1        | L2   | L3 | L1         | L2 | L3 | L1         | L2    | L3 |
| Configuration                           | L         | TR    |    | LT        | R    |    | LTR        |    |    | LT         | R     |    |
| Flow Rate, v (veh/h)                    | 437       | 659   |    | 288       | 244  |    | 5          |    |    | 61         | 389   |    |
| Capacity (veh/h)                        | 472       | 507   |    | 475       | 523  |    | 403        |    |    | 431        | 502   |    |
| 95% Queue Length, Q <sub>95</sub> (veh) | 10.8      | 27.9  |    | 4.0       | 2.5  |    | 0.0        |    |    | 0.5        | 7.0   |    |
| 95% Queue Length, Q <sub>95</sub> (ft)  | 274.3     | 708.7 |    | 102.4     | 64.0 |    | 0.0        |    |    | 12.5       | 175.0 |    |
| Control Delay (s/veh)                   | 52.4      | 170.6 |    | 21.3      | 15.5 |    | 12.1       |    |    | 12.4       | 30.5  |    |
| Level of Service, LOS                   | F         | F     |    | C         | C    |    | B          |    |    | B          | D     |    |
| Approach Delay (s/veh)   LOS            | 123.4     | F     |    | 18.6      | C    |    | 12.1       | B  |    | 28.0       | D     |    |
| Intersection Delay (s/veh)   LOS        | 75.8      |       |    |           |      |    | F          |    |    |            |       |    |

HCS All-Way Stop Control Report

General and Site Information

|                            |                                        |
|----------------------------|----------------------------------------|
| Analyst                    | tsj                                    |
| Agency/Co.                 | DGL Consulting Engineers               |
| Date Performed             | 8/29/2024                              |
| Analysis Year              | 2029                                   |
| Analysis Time Period (hrs) | 0.25                                   |
| Time Analyzed              | PM Peak Hour                           |
| Project Description        | Build + AWSC                           |
| Intersection               | Bainbridge Road & High School Drive... |
| Jurisdiction               | City of North Ridgeville               |
| East/West Street           | Bainbridge Road                        |
| North/South Street         | High School Drive/W Point Drive        |
| Peak Hour Factor           | 0.77                                   |

Lanes



Turning Movement Demand Volumes

| Approach               | Eastbound |     |    | Westbound |     |    | Northbound |   |   | Southbound |   |     |
|------------------------|-----------|-----|----|-----------|-----|----|------------|---|---|------------|---|-----|
| Movement               | L         | T   | R  | L         | T   | R  | L          | T | R | L          | T | R   |
| Volume (veh/h)         | 94        | 217 | 16 | 0         | 366 | 37 | 2          | 0 | 3 | 61         | 1 | 209 |
| % Thrus in Shared Lane |           |     |    |           |     |    |            |   |   |            |   |     |

Lane Flow Rate and Adjustments

| Approach                                      | Eastbound |       |    | Westbound |       |    | Northbound |    |    | Southbound |       |    |
|-----------------------------------------------|-----------|-------|----|-----------|-------|----|------------|----|----|------------|-------|----|
| Lane                                          | L1        | L2    | L3 | L1        | L2    | L3 | L1         | L2 | L3 | L1         | L2    | L3 |
| Configuration                                 | L         | TR    |    | LT        | R     |    | LTR        |    |    | LT         | R     |    |
| Flow Rate, v (veh/h)                          | 122       | 303   |    | 475       | 48    |    | 6          |    |    | 81         | 271   |    |
| Percent Heavy Vehicles                        | 2         | 2     |    | 2         | 2     |    | 0          |    |    | 1          | 1     |    |
| Initial Departure Headway, h <sub>d</sub> (s) | 3.20      | 3.20  |    | 3.20      | 3.20  |    | 3.20       |    |    | 3.20       | 3.20  |    |
| Initial Degree of Utilization, x              | 0.109     | 0.269 |    | 0.423     | 0.043 |    | 0.006      |    |    | 0.072      | 0.241 |    |
| Final Departure Headway, h <sub>d</sub> (s)   | 6.95      | 6.40  |    | 6.32      | 5.61  |    | 7.51       |    |    | 7.49       | 6.29  |    |
| Final Degree of Utilization, x                | 0.236     | 0.538 |    | 0.835     | 0.075 |    | 0.014      |    |    | 0.168      | 0.474 |    |
| Move-Up Time, m (s)                           | 2.3       | 2.3   |    | 2.3       | 2.3   |    | 2.0        |    |    | 2.3        | 2.3   |    |
| Service Time, t <sub>s</sub> (s)              | 4.65      | 4.10  |    | 4.02      | 3.31  |    | 5.51       |    |    | 5.19       | 3.99  |    |

Capacity, Delay and Level of Service

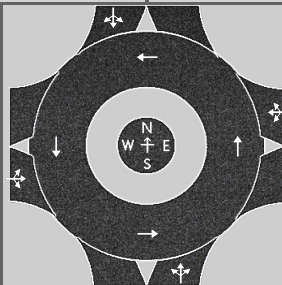
| Approach                                | Eastbound |      |    | Westbound |     |    | Northbound |    |    | Southbound |      |    |
|-----------------------------------------|-----------|------|----|-----------|-----|----|------------|----|----|------------|------|----|
| Lane                                    | L1        | L2   | L3 | L1        | L2  | L3 | L1         | L2 | L3 | L1         | L2   | L3 |
| Configuration                           | L         | TR   |    | LT        | R   |    | LTR        |    |    | LT         | R    |    |
| Flow Rate, v (veh/h)                    | 122       | 303  |    | 475       | 48  |    | 6          |    |    | 81         | 271  |    |
| Capacity (veh/h)                        | 518       | 563  |    | 569       | 641 |    | 479        |    |    | 481        | 572  |    |
| 95% Queue Length, Q <sub>95</sub> (veh) | 0.9       | 3.2  |    | 8.7       | 0.2 |    | 0.0        |    |    | 0.6        | 2.5  |    |
| 95% Queue Length, Q <sub>95</sub> (ft)  | 22.9      | 81.3 |    | 221.0     | 5.1 |    | 0.0        |    |    | 15.1       | 63.0 |    |
| Control Delay (s/veh)                   | 11.8      | 16.3 |    | 33.1      | 8.8 |    | 10.6       |    |    | 11.7       | 14.5 |    |
| Level of Service, LOS                   | B         | C    |    | D         | A   |    | B          |    |    | B          | B    |    |
| Approach Delay (s/veh)   LOS            | 15.0      |      | C  | 30.9      |     | D  | 10.6       |    | B  | 13.9       |      | B  |
| Intersection Delay (s/veh)   LOS        | 21.0      |      |    |           |     |    | C          |    |    |            |      |    |



# HCS Roundabouts Report

## General Information

|                     |                          |
|---------------------|--------------------------|
| Analyst             | tsj                      |
| Agency or Co.       | DGL Consulting Engineers |
| Date Performed      | 8/29/2024                |
| Analysis Year       | 2029                     |
| Time Analyzed       | AM Peak                  |
| Project Description | Build + Roundabout       |



## Site Information

|                           |                               |
|---------------------------|-------------------------------|
| Intersection              | Bainbridge Road & School D... |
| E/W Street Name           | Bainbridge Road               |
| N/S Street Name           | School Drive/W Point Drive    |
| Analysis Time Period, hrs | 0.25                          |
| Peak Hour Factor          | 0.75                          |
| Jurisdiction              | City of North Ridgeville      |

## Volume Adjustments and Site Characteristics

| Approach                            | EB   |     |     |   | WB   |   |     |     | NB   |   |     |   | SB   |    |     |     |
|-------------------------------------|------|-----|-----|---|------|---|-----|-----|------|---|-----|---|------|----|-----|-----|
| Movement                            | U    | L   | T   | R | U    | L | T   | R   | U    | L | T   | R | U    | L  | T   | R   |
| Number of Lanes (N)                 | 0    | 0   | 1   | 0 | 0    | 0 | 1   | 0   | 0    | 0 | 1   | 0 | 0    | 0  | 1   | 0   |
| Lane Assignment                     |      |     | LTR |   |      |   | LTR |     |      |   | LTR |   |      |    | LTR |     |
| Volume (V), veh/h                   | 0    | 328 | 489 | 5 | 0    | 0 | 216 | 183 | 0    | 4 | 0   | 0 | 0    | 45 | 1   | 292 |
| Percent Heavy Vehicles, %           | 2    | 2   | 2   | 2 | 3    | 3 | 3   | 3   | 0    | 0 | 0   | 0 | 0    | 0  | 0   | 0   |
| Flow Rate (V <sub>PCE</sub> ), pc/h | 0    | 446 | 665 | 7 | 0    | 0 | 297 | 251 | 0    | 5 | 0   | 0 | 0    | 60 | 1   | 389 |
| Right-Turn Bypass                   | None |     |     |   | None |   |     |     | None |   |     |   | None |    |     |     |
| Conflicting Lanes                   | 1    |     |     |   | 1    |   |     |     | 1    |   |     |   | 1    |    |     |     |
| Pedestrians Crossing, p/h           | 0    |     |     |   | 0    |   |     |     | 0    |   |     |   | 0    |    |     |     |
| Proportion of CAVs, %               | 0    |     |     |   |      |   |     |     |      |   |     |   |      |    |     |     |

## Critical and Follow-Up Headway Adjustment

| Approach             | EB   |        |        | WB   |        |        | NB   |        |        | SB   |        |        |
|----------------------|------|--------|--------|------|--------|--------|------|--------|--------|------|--------|--------|
| Lane                 | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right  | Bypass |
| Critical Headway, s  |      | 4.9763 |        |      | 4.9763 |        |      | 4.9763 |        |      | 4.9763 |        |
| Follow-Up Headway, s |      | 2.6087 |        |      | 2.6087 |        |      | 2.6087 |        |      | 2.6087 |        |

## Flow Computations, Capacity and v/c Ratios

| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Entry Flow ( $v_e$ ), pc/h       |      | 1118  |        |      | 548   |        |      | 5     |        |      | 450   |        |
| Entry Volume, veh/h              |      | 1096  |        |      | 532   |        |      | 5     |        |      | 450   |        |
| Circulating Flow ( $v_c$ ), pc/h | 61   |       |        | 451  |       |        | 1171 |       |        | 302  |       |        |
| Exiting Flow ( $v_{ex}$ ), pc/h  | 725  |       |        | 691  |       |        | 697  |       |        | 8    |       |        |
| Capacity ( $C_{pce}$ ), pc/h     |      | 1297  |        |      | 871   |        |      | 418   |        |      | 1014  |        |
| Capacity (c), veh/h              |      | 1271  |        |      | 846   |        |      | 418   |        |      | 1014  |        |
| v/c Ratio (x)                    |      | 0.86  |        |      | 0.63  |        |      | 0.01  |        |      | 0.44  |        |

## Delay and Level of Service

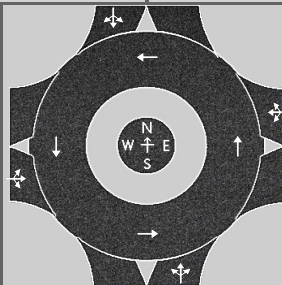
| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Lane Control Delay (d), s/veh    |      | 21.5  |        |      | 14.3  |        |      | 8.8   |        |      | 8.6   |        |
| Lane LOS                         |      | C     |        |      | B     |        |      | A     |        |      | A     |        |
| 95% Queue Length, $Q_{95}$ (veh) |      | 12.1  |        |      | 4.6   |        |      | 0.0   |        |      | 2.3   |        |
| 95% Queue Length, $Q_{95}$ (ft)  |      | 307.3 |        |      | 117.8 |        |      | 0.0   |        |      | 57.5  |        |
| Approach Delay, s/veh   LOS      | 21.5 | C     |        | 14.3 | B     |        | 8.8  | A     |        | 8.6  | A     |        |
| Intersection Delay, s/veh   LOS  | 16.9 |       |        |      |       |        | C    |       |        |      |       |        |



# HCS Roundabouts Report

## General Information

|                     |                          |
|---------------------|--------------------------|
| Analyst             | tsj                      |
| Agency or Co.       | DGL Consulting Engineers |
| Date Performed      | 8/29/2024                |
| Analysis Year       | 2029                     |
| Time Analyzed       | PM Peak                  |
| Project Description | Build + Roundabout       |



## Site Information

|                           |                               |
|---------------------------|-------------------------------|
| Intersection              | Bainbridge Road & School D... |
| E/W Street Name           | Bainbridge Road               |
| N/S Street Name           | School Drive/W Point Drive    |
| Analysis Time Period, hrs | 0.25                          |
| Peak Hour Factor          | 0.77                          |
| Jurisdiction              | City of North Ridgeville      |

## Volume Adjustments and Site Characteristics

| Approach                            | EB   |     |     |    | WB   |   |     |    | NB   |   |     |   | SB   |    |     |     |
|-------------------------------------|------|-----|-----|----|------|---|-----|----|------|---|-----|---|------|----|-----|-----|
| Movement                            | U    | L   | T   | R  | U    | L | T   | R  | U    | L | T   | R | U    | L  | T   | R   |
| Number of Lanes (N)                 | 0    | 0   | 1   | 0  | 0    | 0 | 1   | 0  | 0    | 0 | 1   | 0 | 0    | 0  | 1   | 0   |
| Lane Assignment                     |      |     | LTR |    |      |   | LTR |    |      |   | LTR |   |      |    | LTR |     |
| Volume (V), veh/h                   | 0    | 94  | 217 | 16 | 0    | 0 | 366 | 37 | 0    | 2 | 0   | 3 | 0    | 61 | 1   | 209 |
| Percent Heavy Vehicles, %           | 2    | 2   | 2   | 2  | 3    | 3 | 3   | 3  | 0    | 0 | 0   | 0 | 1    | 1  | 1   | 1   |
| Flow Rate (V <sub>PCE</sub> ), pc/h | 0    | 125 | 287 | 21 | 0    | 0 | 490 | 49 | 0    | 3 | 0   | 4 | 0    | 80 | 1   | 274 |
| Right-Turn Bypass                   | None |     |     |    | None |   |     |    | None |   |     |   | None |    |     |     |
| Conflicting Lanes                   | 1    |     |     |    | 1    |   |     |    | 1    |   |     |   | 1    |    |     |     |
| Pedestrians Crossing, p/h           | 0    |     |     |    | 0    |   |     |    | 0    |   |     |   | 0    |    |     |     |
| Proportion of CAVs, %               | 0    |     |     |    |      |   |     |    |      |   |     |   |      |    |     |     |

## Critical and Follow-Up Headway Adjustment

| Approach             | EB   |        |        | WB   |        |        | NB   |        |        | SB   |        |        |
|----------------------|------|--------|--------|------|--------|--------|------|--------|--------|------|--------|--------|
| Lane                 | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right  | Bypass |
| Critical Headway, s  |      | 4.9763 |        |      | 4.9763 |        |      | 4.9763 |        |      | 4.9763 |        |
| Follow-Up Headway, s |      | 2.6087 |        |      | 2.6087 |        |      | 2.6087 |        |      | 2.6087 |        |

## Flow Computations, Capacity and v/c Ratios

| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Entry Flow ( $v_e$ ), pc/h       |      | 433   |        |      | 539   |        |      | 7     |        |      | 355   |        |
| Entry Volume, veh/h              |      | 425   |        |      | 523   |        |      | 7     |        |      | 351   |        |
| Circulating Flow ( $v_c$ ), pc/h | 81   |       |        | 128  |       |        | 492  |       |        | 493  |       |        |
| Exiting Flow ( $v_{ex}$ ), pc/h  | 371  |       |        | 767  |       |        | 174  |       |        | 22   |       |        |
| Capacity ( $C_{pce}$ ), pc/h     |      | 1271  |        |      | 1211  |        |      | 835   |        |      | 835   |        |
| Capacity (c), veh/h              |      | 1246  |        |      | 1176  |        |      | 835   |        |      | 826   |        |
| v/c Ratio (x)                    |      | 0.34  |        |      | 0.45  |        |      | 0.01  |        |      | 0.43  |        |

## Delay and Level of Service

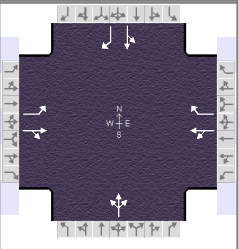
| Approach                                | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|-----------------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                                    | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Lane Control Delay (d), s/veh           |      | 6.1   |        |      | 7.7   |        |      | 4.4   |        |      | 9.7   |        |
| Lane LOS                                |      | A     |        |      | A     |        |      | A     |        |      | A     |        |
| 95% Queue Length, Q <sub>95</sub> (veh) |      | 1.5   |        |      | 2.3   |        |      | 0.0   |        |      | 2.1   |        |
| 95% Queue Length, Q <sub>95</sub> (ft)  |      | 38.1  |        |      | 58.9  |        |      | 0.0   |        |      | 52.9  |        |
| Approach Delay, s/veh   LOS             | 6.1  |       | A      |      | 7.7   |        | A    |       | 4.4    |      | A     |        |
| Intersection Delay, s/veh   LOS         | 7.7  |       |        |      |       |        | A    |       |        |      |       |        |

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# HCS Signalized Intersection Results Summary

| General Information |                          |               |                                                   | Intersection Information |         |  |
|---------------------|--------------------------|---------------|---------------------------------------------------|--------------------------|---------|-------------------------------------------------------------------------------------|
| Agency              | DGL                      |               |                                                   | Duration, h              | 0.250   |                                                                                     |
| Analyst             | tsj                      | Analysis Date | Aug 29, 2024                                      | Area Type                | Other   |                                                                                     |
| Jurisdiction        | City of North Ridgeville | Time Period   | AM Peak                                           | PHF                      | 0.75    |                                                                                     |
| Urban Street        | Bainbridge Road          | Analysis Year | 2029                                              | Analysis Period          | 1> 7:00 |                                                                                     |
| Intersection        | Bainbridge Road & Sch... | File Name     | 2029 Build Signal AM Peak Bainbridge and W Poi... |                          |         |                                                                                     |
| Project Description | Build + Improvement      |               |                                                   |                          |         |                                                                                     |

| Demand Information    | EB  |     |   | WB |     |     | NB |   |   | SB |   |     |
|-----------------------|-----|-----|---|----|-----|-----|----|---|---|----|---|-----|
| Approach Movement     | L   | T   | R | L  | T   | R   | L  | T | R | L  | T | R   |
| Demand ( $v$ ), veh/h | 328 | 489 | 5 | 0  | 216 | 183 | 4  | 0 | 0 | 45 | 1 | 292 |

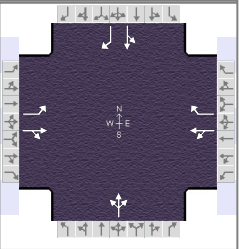
| Signal Information |       |                 |     |  |  |  |  |  |  |  |  |
|--------------------|-------|-----------------|-----|--|--|--|--|--|--|--|--|
| Cycle, s           | 86.3  | Reference Phase | 2   |  |  |  |  |  |  |  |  |
| Offset, s          | 0     | Reference Point | End |  |  |  |  |  |  |  |  |
| Uncoordinated      | Yes   | Simult. Gap E/W | On  |  |  |  |  |  |  |  |  |
| Force Mode         | Fixed | Simult. Gap N/S | On  |  |  |  |  |  |  |  |  |

| Timer Results                     | EBL  | EBT  | WBL | WBT  | NBL | NBT  | SBL | SBT  |
|-----------------------------------|------|------|-----|------|-----|------|-----|------|
| Assigned Phase                    | 5    | 2    |     | 6    |     | 8    |     | 4    |
| Case Number                       | 1.0  | 4.0  |     | 7.3  |     | 12.0 |     | 11.0 |
| Phase Duration, s                 | 23.9 | 49.9 |     | 26.0 |     | 7.2  |     | 29.2 |
| Change Period, ( $Y+R_c$ ), s     | 6.0  | 6.0  |     | 6.0  |     | 6.0  |     | 6.0  |
| Max Allow Headway ( $MAH$ ), s    | 3.1  | 3.1  |     | 3.1  |     | 3.1  |     | 3.3  |
| Queue Clearance Time ( $g_s$ ), s | 17.1 | 25.1 |     | 14.2 |     | 2.3  |     | 22.1 |
| Green Extension Time ( $g_e$ ), s | 0.8  | 2.5  |     | 2.2  |     | 0.0  |     | 1.0  |
| Phase Call Probability            | 1.00 | 1.00 |     | 1.00 |     | 0.12 |     | 1.00 |
| Max Out Probability               | 0.00 | 0.00 |     | 0.09 |     | 0.00 |     | 0.00 |

| Movement Group Results                            | EB    |       |    | WB   |       |       | NB   |       |    | SB   |       |       |
|---------------------------------------------------|-------|-------|----|------|-------|-------|------|-------|----|------|-------|-------|
| Approach Movement                                 | L     | T     | R  | L    | T     | R     | L    | T     | R  | L    | T     | R     |
| Assigned Movement                                 | 5     | 2     | 12 | 1    | 6     | 16    | 3    | 8     | 18 | 7    | 4     | 14    |
| Adjusted Flow Rate ( $v$ ), veh/h                 | 437   | 659   |    |      | 0     | 244   |      | 5     |    |      | 61    | 389   |
| Adjusted Saturation Flow Rate ( $s$ ), veh/h/ln   | 1781  | 1867  |    |      | 0     | 1572  |      | 1810  |    |      | 1811  | 1610  |
| Queue Service Time ( $g_s$ ), s                   | 15.1  | 23.1  |    |      | 0.0   | 12.2  |      | 0.3   |    |      | 2.2   | 20.1  |
| Cycle Queue Clearance Time ( $g_c$ ), s           | 15.1  | 23.1  |    |      | 0.0   | 12.2  |      | 0.3   |    |      | 2.2   | 20.1  |
| Green Ratio ( $g/C$ )                             | 0.46  | 0.51  |    |      | 0.23  |       |      | 0.01  |    |      | 0.27  | 0.27  |
| Capacity ( $c$ ), veh/h                           | 552   | 950   |    |      | 364   |       |      | 25    |    |      | 487   | 432   |
| Volume-to-Capacity Ratio ( $X$ )                  | 0.793 | 0.693 |    |      | 0.000 | 0.670 |      | 0.211 |    |      | 0.126 | 0.900 |
| Back of Queue ( $Q$ ), ft/ln ( 95 th percentile)  | 249   | 352   |    |      | 0     | 206   |      | 5     |    |      | 42    | 308   |
| Back of Queue ( $Q$ ), veh/ln ( 95 th percentile) | 9.8   | 13.9  |    |      | 0.0   | 8.0   |      | 0.2   |    |      | 1.7   | 12.3  |
| Queue Storage Ratio ( $RQ$ ) ( 95 th percentile)  | 1.08  | 0.00  |    |      | 0.00  | 1.03  |      | 0.00  |    |      | 0.00  | 2.20  |
| Uniform Delay ( $d_1$ ), s/veh                    | 18.5  | 16.1  |    |      |       | 30.2  |      | 42.1  |    |      | 23.9  | 30.5  |
| Incremental Delay ( $d_2$ ), s/veh                | 1.2   | 0.5   |    |      | 0.0   | 1.1   |      | 1.5   |    |      | 0.0   | 2.8   |
| Initial Queue Delay ( $d_3$ ), s/veh              | 0.0   | 0.0   |    |      | 0.0   | 0.0   |      | 0.0   |    |      | 0.0   | 0.0   |
| Control Delay ( $d$ ), s/veh                      | 19.6  | 16.6  |    |      |       | 31.3  |      | 43.6  |    |      | 24.0  | 33.3  |
| Level of Service (LOS)                            | B     | B     |    |      |       | C     |      | D     |    |      | C     | C     |
| Approach Delay, s/veh / LOS                       | 17.8  | B     |    | 31.2 | C     |       | 43.6 | D     |    | 32.0 | C     |       |
| Intersection Delay, s/veh / LOS                   | 24.4  |       |    |      |       |       | C    |       |    |      |       |       |

| Multimodal Results         | EB   |   |  | WB   |   |  | NB   |   |  | SB   |   |  |
|----------------------------|------|---|--|------|---|--|------|---|--|------|---|--|
| Pedestrian LOS Score / LOS | 1.67 | B |  | 1.93 | B |  | 1.95 | B |  | 1.95 | B |  |
| Bicycle LOS Score / LOS    | 2.30 | B |  | 1.37 | A |  | 0.50 | A |  | 1.23 | A |  |

# HCS Signalized Intersection Results Summary

| General Information |                          |               |                                                   | Intersection Information |         |  |
|---------------------|--------------------------|---------------|---------------------------------------------------|--------------------------|---------|-------------------------------------------------------------------------------------|
| Agency              | DGL                      |               |                                                   | Duration, h              | 0.250   |                                                                                     |
| Analyst             | tsj                      | Analysis Date | Aug 29, 2024                                      | Area Type                | Other   |                                                                                     |
| Jurisdiction        | City of North Ridgeville | Time Period   | PM Peak                                           | PHF                      | 0.77    |                                                                                     |
| Urban Street        | Bainbridge Road          | Analysis Year | 2029                                              | Analysis Period          | 1> 7:00 |                                                                                     |
| Intersection        | Bainbridge Road & Sch... | File Name     | 2029 Build Signal PM Peak Bainbridge and W Poi... |                          |         |                                                                                     |
| Project Description | Build + Improvement      |               |                                                   |                          |         |                                                                                     |

| Demand Information    | EB |     |    | WB |     |    | NB |   |   | SB |   |     |
|-----------------------|----|-----|----|----|-----|----|----|---|---|----|---|-----|
| Approach Movement     | L  | T   | R  | L  | T   | R  | L  | T | R | L  | T | R   |
| Demand ( $v$ ), veh/h | 94 | 217 | 16 | 0  | 366 | 37 | 2  | 0 | 3 | 61 | 1 | 209 |

| Signal Information |       |                 |     |  |  |  |  |  |  |  |  |
|--------------------|-------|-----------------|-----|--|--|--|--|--|--|--|--|
| Cycle, s           | 63.7  | Reference Phase | 2   |  |  |  |  |  |  |  |  |
| Offset, s          | 0     | Reference Point | End |  |  |  |  |  |  |  |  |
| Uncoordinated      | Yes   | Simult. Gap E/W | On  |  |  |  |  |  |  |  |  |
| Force Mode         | Fixed | Simult. Gap N/S | On  |  |  |  |  |  |  |  |  |

| Timer Results                     | EBL  | EBT  | WBL | WBT  | NBL | NBT  | SBL | SBT  |
|-----------------------------------|------|------|-----|------|-----|------|-----|------|
| Assigned Phase                    | 5    | 2    |     | 6    |     | 8    |     | 4    |
| Case Number                       | 1.0  | 4.0  |     | 7.3  |     | 12.0 |     | 11.0 |
| Phase Duration, s                 | 12.2 | 37.7 |     | 25.5 |     | 7.1  |     | 19.0 |
| Change Period, ( $Y+R_c$ ), s     | 6.0  | 6.0  |     | 6.0  |     | 6.0  |     | 6.0  |
| Max Allow Headway ( $MAH$ ), s    | 3.1  | 3.1  |     | 3.1  |     | 3.3  |     | 3.3  |
| Queue Clearance Time ( $g_s$ ), s | 4.7  | 8.3  |     | 17.1 |     | 2.2  |     | 12.4 |
| Green Extension Time ( $g_e$ ), s | 0.0  | 1.4  |     | 0.9  |     | 0.0  |     | 0.6  |
| Phase Call Probability            | 0.88 | 1.00 |     | 1.00 |     | 0.11 |     | 1.00 |
| Max Out Probability               | 1.00 | 0.03 |     | 0.01 |     | 0.00 |     | 0.01 |

| Movement Group Results                            | EB    |       |    | WB   |       |       | NB   |       |    | SB   |       |       |
|---------------------------------------------------|-------|-------|----|------|-------|-------|------|-------|----|------|-------|-------|
| Approach Movement                                 | L     | T     | R  | L    | T     | R     | L    | T     | R  | L    | T     | R     |
| Assigned Movement                                 | 5     | 2     | 12 | 1    | 6     | 16    | 3    | 8     | 18 | 7    | 4     | 14    |
| Adjusted Flow Rate ( $v$ ), veh/h                 | 122   | 303   |    |      | 0     | 48    |      | 6     |    |      | 81    | 271   |
| Adjusted Saturation Flow Rate ( $s$ ), veh/h/ln   | 1781  | 1848  |    |      | 0     | 1585  |      | 1684  |    |      | 1797  | 1598  |
| Queue Service Time ( $g_s$ ), s                   | 2.7   | 6.3   |    |      | 0.0   | 1.4   |      | 0.2   |    |      | 2.4   | 10.4  |
| Cycle Queue Clearance Time ( $g_c$ ), s           | 2.7   | 6.3   |    |      | 0.0   | 1.4   |      | 0.2   |    |      | 2.4   | 10.4  |
| Green Ratio ( $g/C$ )                             | 0.43  | 0.50  |    |      |       | 0.31  |      | 0.02  |    |      | 0.20  | 0.20  |
| Capacity ( $c$ ), veh/h                           | 349   | 918   |    |      |       | 484   |      | 29    |    |      | 366   | 325   |
| Volume-to-Capacity Ratio ( $X$ )                  | 0.350 | 0.330 |    |      | 0.000 | 0.099 |      | 0.226 |    |      | 0.220 | 0.835 |
| Back of Queue ( $Q$ ), ft/ln ( 95 th percentile)  | 42    | 97    |    |      | 0     | 21    |      | 5     |    |      | 42    | 172   |
| Back of Queue ( $Q$ ), veh/ln ( 95 th percentile) | 1.7   | 3.8   |    |      | 0.0   | 0.8   |      | 0.2   |    |      | 1.7   | 6.8   |
| Queue Storage Ratio ( $RQ$ ) ( 95 th percentile)  | 0.18  | 0.00  |    |      | 0.00  | 0.11  |      | 0.00  |    |      | 0.00  | 1.23  |
| Uniform Delay ( $d_1$ ), s/veh                    | 13.6  | 9.6   |    |      |       | 15.8  |      | 30.9  |    |      | 21.2  | 24.4  |
| Incremental Delay ( $d_2$ ), s/veh                | 0.2   | 0.1   |    |      | 0.0   | 0.0   |      | 1.5   |    |      | 0.1   | 2.2   |
| Initial Queue Delay ( $d_3$ ), s/veh              | 0.0   | 0.0   |    |      | 0.0   | 0.0   |      | 0.0   |    |      | 0.0   | 0.0   |
| Control Delay ( $d$ ), s/veh                      | 13.8  | 9.7   |    |      |       | 15.9  |      | 32.4  |    |      | 21.3  | 26.5  |
| Level of Service (LOS)                            | B     | A     |    |      |       | B     |      | C     |    |      | C     | C     |
| Approach Delay, s/veh / LOS                       | 10.9  | B     |    | 21.4 | C     |       | 32.4 | C     |    | 25.3 | C     |       |
| Intersection Delay, s/veh / LOS                   | 19.1  |       |    |      |       |       | B    |       |    |      |       |       |

| Multimodal Results         | EB   |   |  | WB   |   |  | NB   |   |  | SB   |   |  |
|----------------------------|------|---|--|------|---|--|------|---|--|------|---|--|
| Pedestrian LOS Score / LOS | 1.66 | B |  | 1.91 | B |  | 1.94 | B |  | 1.93 | B |  |
| Bicycle LOS Score / LOS    | 1.19 | A |  | 1.35 | A |  | 0.50 | A |  | 1.07 | A |  |

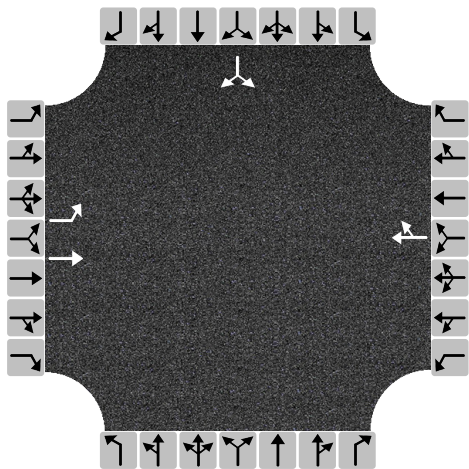


# HCS All-Way Stop Control Report

## General and Site Information

|                            |                               |
|----------------------------|-------------------------------|
| Analyst                    | tsj                           |
| Agency/Co.                 | DGL Consulting Engineers      |
| Date Performed             | 11/7/2024                     |
| Analysis Year              | 2029                          |
| Analysis Time Period (hrs) | 0.25                          |
| Time Analyzed              | AM Peak                       |
| Project Description        | Build                         |
| Intersection               | Bainbridge Road & Prop. Drive |
| Jurisdiction               | City of North Ridgeville      |
| East/West Street           | Bainbridge Road               |
| North/South Street         | Repurposed Drive              |
| Peak Hour Factor           | 0.77                          |

## Lanes



## Turning Movement Demand Volumes

| Approach               | Eastbound |     |   | Westbound |     |    | Northbound |   |   | Southbound |   |     |
|------------------------|-----------|-----|---|-----------|-----|----|------------|---|---|------------|---|-----|
| Movement               | L         | T   | R | L         | T   | R  | L          | T | R | L          | T | R   |
| Volume (veh/h)         | 310       | 248 |   |           | 274 | 52 |            |   |   | 34         |   | 125 |
| % Thrus in Shared Lane |           |     |   |           |     |    |            |   |   |            |   |     |

## Lane Flow Rate and Adjustments

| Approach                             | Eastbound |       |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|--------------------------------------|-----------|-------|----|-----------|----|----|------------|----|----|------------|----|----|
| Lane                                 | L1        | L2    | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration                        | L         | T     |    | TR        |    |    |            |    |    | LR         |    |    |
| Flow Rate, $v$ (veh/h)               | 403       | 322   |    | 423       |    |    |            |    |    | 206        |    |    |
| Percent Heavy Vehicles               | 2         | 2     |    | 3         |    |    |            |    |    | 3          |    |    |
| Initial Departure Headway, $h_d$ (s) | 3.20      | 3.20  |    | 3.20      |    |    |            |    |    | 3.20       |    |    |
| Initial Degree of Utilization, $x$   | 0.358     | 0.286 |    | 0.376     |    |    |            |    |    | 0.184      |    |    |
| Final Departure Headway, $h_d$ (s)   | 6.22      | 5.71  |    | 5.45      |    |    |            |    |    | 6.00       |    |    |
| Final Degree of Utilization, $x$     | 0.695     | 0.511 |    | 0.641     |    |    |            |    |    | 0.344      |    |    |
| Move-Up Time, $m$ (s)                | 2.3       | 2.3   |    | 2.0       |    |    |            |    |    | 2.0        |    |    |
| Service Time, $t_s$ (s)              | 3.92      | 3.41  |    | 3.45      |    |    |            |    |    | 4.00       |    |    |

## Capacity, Delay and Level of Service

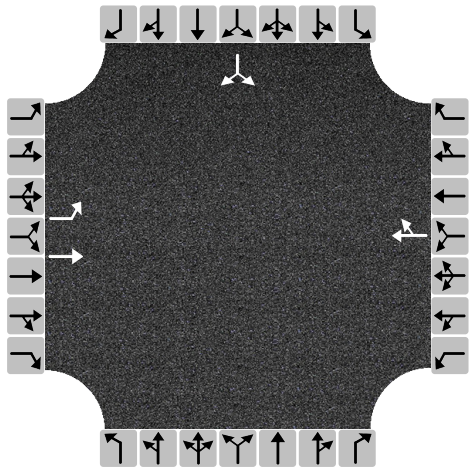
| Approach                                | Eastbound |      |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|-----------------------------------------|-----------|------|----|-----------|----|----|------------|----|----|------------|----|----|
| Lane                                    | L1        | L2   | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration                           | L         | T    |    | TR        |    |    |            |    |    | LR         |    |    |
| Flow Rate, v (veh/h)                    | 403       | 322  |    | 423       |    |    |            |    |    | 206        |    |    |
| Capacity (veh/h)                        | 579       | 630  |    | 660       |    |    |            |    |    | 600        |    |    |
| 95% Queue Length, Q <sub>95</sub> (veh) | 5.5       | 2.9  |    | 4.6       |    |    |            |    |    | 1.5        |    |    |
| 95% Queue Length, Q <sub>95</sub> (ft)  | 139.7     | 73.7 |    | 117.8     |    |    |            |    |    | 38.4       |    |    |
| Control Delay (s/veh)                   | 21.9      | 14.2 |    | 17.7      |    |    |            |    |    | 12.1       |    |    |
| Level of Service, LOS                   | C         | B    |    | C         |    |    |            |    |    | B          |    |    |
| Approach Delay (s/veh)   LOS            | 18.5      |      | C  | 17.7      |    | C  |            |    |    | 12.1       |    | B  |
| Intersection Delay (s/veh)   LOS        | 17.3      |      |    |           |    |    | C          |    |    |            |    |    |

HCS All-Way Stop Control Report

General and Site Information

|                            |                               |
|----------------------------|-------------------------------|
| Analyst                    | tsj                           |
| Agency/Co.                 | DGL Consulting Engineers      |
| Date Performed             | 11/7/2024                     |
| Analysis Year              | 2029                          |
| Analysis Time Period (hrs) | 0.25                          |
| Time Analyzed              | PM Peak                       |
| Project Description        | Build                         |
| Intersection               | Bainbridge Road & Prop. Drive |
| Jurisdiction               | City of North Ridgeville      |
| East/West Street           | Bainbridge Road               |
| North/South Street         | Repurposed Drive              |
| Peak Hour Factor           | 0.73                          |

Lanes



Turning Movement Demand Volumes

| Approach               | Eastbound |     |   | Westbound |     |    | Northbound |   |   | Southbound |   |     |
|------------------------|-----------|-----|---|-----------|-----|----|------------|---|---|------------|---|-----|
| Movement               | L         | T   | R | L         | T   | R  | L          | T | R | L          | T | R   |
| Volume (veh/h)         | 55        | 263 |   |           | 244 | 25 |            |   |   | 88         |   | 159 |
| % Thrus in Shared Lane |           |     |   |           |     |    |            |   |   |            |   |     |

Lane Flow Rate and Adjustments

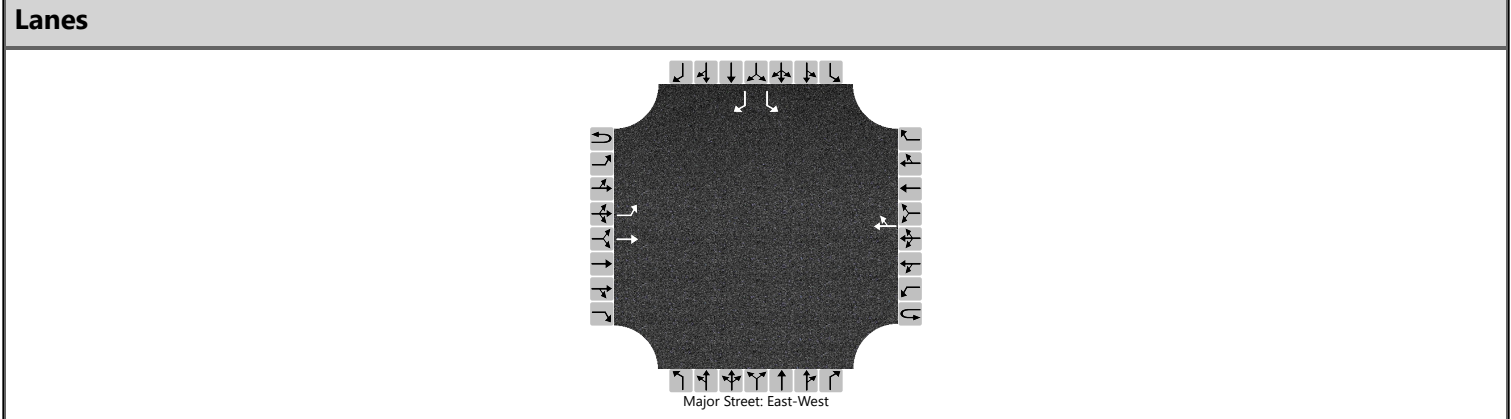
| Approach                                      | Eastbound |       |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|-----------------------------------------------|-----------|-------|----|-----------|----|----|------------|----|----|------------|----|----|
| Lane                                          | L1        | L2    | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration                                 | L         | T     |    | TR        |    |    |            |    |    | LR         |    |    |
| Flow Rate, v (veh/h)                          | 75        | 360   |    | 368       |    |    |            |    |    | 338        |    |    |
| Percent Heavy Vehicles                        | 3         | 3     |    | 3         |    |    |            |    |    | 3          |    |    |
| Initial Departure Headway, h <sub>d</sub> (s) | 3.20      | 3.20  |    | 3.20      |    |    |            |    |    | 3.20       |    |    |
| Initial Degree of Utilization, x              | 0.067     | 0.320 |    | 0.328     |    |    |            |    |    | 0.301      |    |    |
| Final Departure Headway, h <sub>d</sub> (s)   | 6.66      | 6.16  |    | 5.77      |    |    |            |    |    | 5.76       |    |    |
| Final Degree of Utilization, x                | 0.139     | 0.616 |    | 0.590     |    |    |            |    |    | 0.541      |    |    |
| Move-Up Time, m (s)                           | 2.3       | 2.3   |    | 2.0       |    |    |            |    |    | 2.0        |    |    |
| Service Time, t <sub>s</sub> (s)              | 4.36      | 3.86  |    | 3.77      |    |    |            |    |    | 3.76       |    |    |

Capacity, Delay and Level of Service

| Approach                                | Eastbound |       |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|-----------------------------------------|-----------|-------|----|-----------|----|----|------------|----|----|------------|----|----|
| Lane                                    | L1        | L2    | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration                           | L         | T     |    | TR        |    |    |            |    |    | LR         |    |    |
| Flow Rate, v (veh/h)                    | 75        | 360   |    | 368       |    |    |            |    |    | 338        |    |    |
| Capacity (veh/h)                        | 540       | 585   |    | 624       |    |    |            |    |    | 625        |    |    |
| 95% Queue Length, Q <sub>95</sub> (veh) | 0.5       | 4.2   |    | 3.9       |    |    |            |    |    | 3.2        |    |    |
| 95% Queue Length, Q <sub>95</sub> (ft)  | 12.8      | 107.5 |    | 99.8      |    |    |            |    |    | 81.9       |    |    |
| Control Delay (s/veh)                   | 10.4      | 18.2  |    | 16.7      |    |    |            |    |    | 15.3       |    |    |
| Level of Service, LOS                   | B         | C     |    | C         |    |    |            |    |    | C          |    |    |
| Approach Delay (s/veh)   LOS            | 16.9      |       | C  | 16.7      |    | C  |            |    |    | 15.3       |    | C  |
| Intersection Delay (s/veh)   LOS        | 16.4      |       |    |           |    |    | C          |    |    |            |    |    |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                               |
|--------------------------|--------------------------|----------------------------|-------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Prop. Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville      |
| Date Performed           | 8/21/2024                | East/West Street           | Bainbridge Road               |
| Analysis Year            | 2029                     | North/South Street         | Repurposed Drive              |
| Time Analyzed            | AM Peak                  | Peak Hour Factor           | 0.77                          |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                          |
| Project Description      | Build                    |                            |                               |



| Vehicle Volumes and Adjustments |           |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|-----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |     |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L   | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1   | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1   | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 1  | 0  | 1   |
| Configuration                   |           | L   | T   |   |           |   |     | TR |            |   |   |   |            | L  |    | R   |
| Volume (veh/h)                  |           | 310 | 248 |   |           |   | 274 | 52 |            |   |   |   |            | 34 |    | 125 |
| Percent Heavy Vehicles (%)      |           | 3   |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked         |           |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |     |     |   |           |   |     |    |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |     |     |   |           |   |     |    |            |   |   |   | No         |    |    |     |
| Median Type   Storage           | Undivided |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

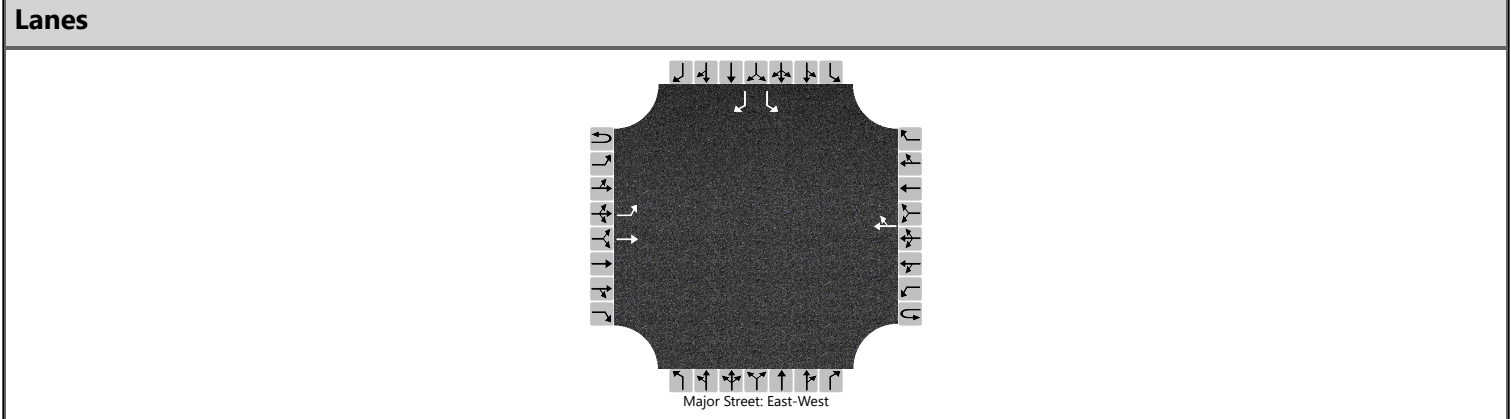
| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.43 |  | 6.23 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 403  |  |  |  |  |  |  |  |  |  |  |      | 44   |  | 162  |
| Capacity, c (veh/h)                       |     | 1131 |  |  |  |  |  |  |  |  |  |  |      | 84   |  | 657  |
| v/c Ratio                                 |     | 0.36 |  |  |  |  |  |  |  |  |  |  |      | 0.53 |  | 0.25 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 1.6  |  |  |  |  |  |  |  |  |  |  |      | 2.3  |  | 1.0  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 41.0 |  |  |  |  |  |  |  |  |  |  |      | 58.9 |  | 25.6 |
| Control Delay (s/veh)                     |     | 9.9  |  |  |  |  |  |  |  |  |  |  |      | 87.8 |  | 12.3 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |      | F    |  | B    |
| Approach Delay (s/veh)                    | 5.5 |      |  |  |  |  |  |  |  |  |  |  | 28.4 |      |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | D    |      |  |      |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                               |
|--------------------------|--------------------------|----------------------------|-------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Prop. Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville      |
| Date Performed           | 8/21/2024                | East/West Street           | Bainbridge Road               |
| Analysis Year            | 2029                     | North/South Street         | Repurposed Drive              |
| Time Analyzed            | PM Peak                  | Peak Hour Factor           | 0.73                          |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                          |
| Project Description      | Build                    |                            |                               |



| Vehicle Volumes and Adjustments |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 1  | 0  | 1   |
| Configuration                   |           | L  | T   |   |           |   |     | TR |            |   |   |   |            | L  |    | R   |
| Volume (veh/h)                  |           | 55 | 263 |   |           |   | 244 | 25 |            |   |   |   |            | 88 |    | 159 |
| Percent Heavy Vehicles (%)      |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked         |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |    |     |   |           |   |     |    |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |    |     |   |           |   |     |    |            |   |   |   | No         |    |    |     |
| Median Type   Storage           | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

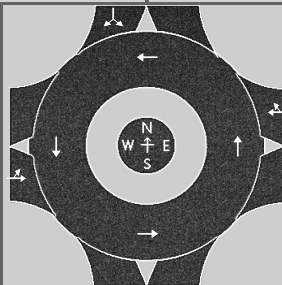
| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.43 |  | 6.23 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 75   |  |  |  |  |  |  |  |  |  |  |      | 121  |  | 218  |
| Capacity, c (veh/h)                       |     | 1185 |  |  |  |  |  |  |  |  |  |  |      | 303  |  | 690  |
| v/c Ratio                                 |     | 0.06 |  |  |  |  |  |  |  |  |  |  |      | 0.40 |  | 0.32 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.2  |  |  |  |  |  |  |  |  |  |  |      | 1.8  |  | 1.4  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 5.1  |  |  |  |  |  |  |  |  |  |  |      | 46.1 |  | 35.8 |
| Control Delay (s/veh)                     |     | 8.2  |  |  |  |  |  |  |  |  |  |  |      | 24.5 |  | 12.6 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |      | C    |  | B    |
| Approach Delay (s/veh)                    | 1.4 |      |  |  |  |  |  |  |  |  |  |  | 16.8 |      |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | C    |      |  |      |

# HCS Roundabouts Report

## General Information

|                     |                          |
|---------------------|--------------------------|
| Analyst             | tsj                      |
| Agency or Co.       | DGL Consulting Engineers |
| Date Performed      | 11/7/2024                |
| Analysis Year       | 2029                     |
| Time Analyzed       | AM Peak Hour             |
| Project Description | Build                    |



## Site Information

|                           |                                |
|---------------------------|--------------------------------|
| Intersection              | Bainbridge Road & Prop. Dri... |
| E/W Street Name           | Bainbridge Road                |
| N/S Street Name           | Repurposed Drive               |
| Analysis Time Period, hrs | 0.25                           |
| Peak Hour Factor          | 0.77                           |
| Jurisdiction              | City of North Ridgeville       |

## Volume Adjustments and Site Characteristics

| Approach                            | EB   |     |     |   | WB   |   |     |    | NB   |   |   |   | SB   |    |    |     |
|-------------------------------------|------|-----|-----|---|------|---|-----|----|------|---|---|---|------|----|----|-----|
| Movement                            | U    | L   | T   | R | U    | L | T   | R  | U    | L | T | R | U    | L  | T  | R   |
| Number of Lanes (N)                 | 0    | 0   | 1   | 0 | 0    | 0 | 1   | 0  | 0    | 0 | 0 | 0 | 0    | 0  | 1  | 0   |
| Lane Assignment                     |      |     | LT  |   |      |   | TR  |    |      |   |   |   |      |    | LR |     |
| Volume (V), veh/h                   | 0    | 310 | 248 |   | 0    |   | 274 | 52 |      |   |   |   | 0    | 34 |    | 125 |
| Percent Heavy Vehicles, %           | 3    | 2   | 2   |   | 3    |   | 3   | 3  |      |   |   |   | 3    | 3  |    | 3   |
| Flow Rate (V <sub>PCE</sub> ), pc/h | 0    | 411 | 329 |   | 0    |   | 367 | 70 |      |   |   |   | 0    | 45 |    | 167 |
| Right-Turn Bypass                   | None |     |     |   | None |   |     |    | None |   |   |   | None |    |    |     |
| Conflicting Lanes                   | 1    |     |     |   | 1    |   |     |    |      |   |   |   | 1    |    |    |     |
| Pedestrians Crossing, p/h           | 0    |     |     |   | 0    |   |     |    |      |   |   |   | 0    |    |    |     |
| Proportion of CAVs, %               | 0    |     |     |   |      |   |     |    |      |   |   |   |      |    |    |     |

## Critical and Follow-Up Headway Adjustment

| Approach             | EB   |        |        | WB   |        |        | NB   |       |        | SB   |        |        |
|----------------------|------|--------|--------|------|--------|--------|------|-------|--------|------|--------|--------|
| Lane                 | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right | Bypass | Left | Right  | Bypass |
| Critical Headway, s  |      | 4.9763 |        |      | 4.9763 |        |      |       |        |      | 4.9763 |        |
| Follow-Up Headway, s |      | 2.6087 |        |      | 2.6087 |        |      |       |        |      | 2.6087 |        |

## Flow Computations, Capacity and v/c Ratios

| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Entry Flow ( $v_e$ ), pc/h       |      | 740   |        |      | 437   |        |      |       |        |      | 212   |        |
| Entry Volume, veh/h              |      | 725   |        |      | 424   |        |      |       |        |      | 206   |        |
| Circulating Flow ( $v_c$ ), pc/h | 45   |       |        | 411  |       |        | 785  |       |        | 367  |       |        |
| Exiting Flow ( $v_{ex}$ ), pc/h  | 374  |       |        | 534  |       |        | 481  |       |        | 0    |       |        |
| Capacity ( $C_{pce}$ ), pc/h     |      | 1318  |        |      | 907   |        |      |       |        |      | 949   |        |
| Capacity (c), veh/h              |      | 1292  |        |      | 881   |        |      |       |        |      | 921   |        |
| v/c Ratio (x)                    |      | 0.56  |        |      | 0.48  |        |      |       |        |      | 0.22  |        |

## Delay and Level of Service

| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Lane Control Delay (d), s/veh    |      | 9.1   |        |      | 10.2  |        |      |       |        |      | 6.1   |        |
| Lane LOS                         |      | A     |        |      | B     |        |      |       |        |      | A     |        |
| 95% Queue Length, $Q_{95}$ (veh) |      | 3.7   |        |      | 2.7   |        |      |       |        |      | 0.9   |        |
| 95% Queue Length, $Q_{95}$ (ft)  |      | 92.5  |        |      | 69.1  |        |      |       |        |      | 23.0  |        |
| Approach Delay, s/veh   LOS      | 9.1  | A     |        | 10.2 | B     |        |      |       |        | 6.1  | A     |        |
| Intersection Delay, s/veh   LOS  | 9.0  |       |        |      |       |        | A    |       |        |      |       |        |

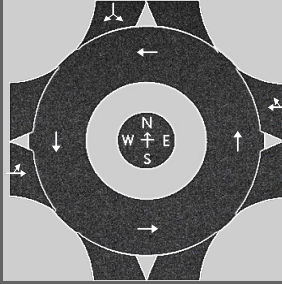




# HCS Roundabouts Report

## General Information

|                     |                          |
|---------------------|--------------------------|
| Analyst             | tsj                      |
| Agency or Co.       | DGL Consulting Engineers |
| Date Performed      | 11/7/2024                |
| Analysis Year       | 2029                     |
| Time Analyzed       | PM Peak Hour             |
| Project Description | Build                    |



## Site Information

|                           |                                |
|---------------------------|--------------------------------|
| Intersection              | Bainbridge Road & Prop. Dri... |
| E/W Street Name           | Bainbridge Road                |
| N/S Street Name           | Repurposed Drive               |
| Analysis Time Period, hrs | 0.25                           |
| Peak Hour Factor          | 0.73                           |
| Jurisdiction              | City of North Ridgeville       |

## Volume Adjustments and Site Characteristics

| Approach                            | EB   |    |     |   | WB   |   |     |    | NB   |   |   |   | SB   |     |    |     |
|-------------------------------------|------|----|-----|---|------|---|-----|----|------|---|---|---|------|-----|----|-----|
| Movement                            | U    | L  | T   | R | U    | L | T   | R  | U    | L | T | R | U    | L   | T  | R   |
| Number of Lanes (N)                 | 0    | 0  | 1   | 0 | 0    | 0 | 1   | 0  | 0    | 0 | 0 | 0 | 0    | 0   | 1  | 0   |
| Lane Assignment                     |      |    | LT  |   |      |   | TR  |    |      |   |   |   |      |     | LR |     |
| Volume (V), veh/h                   | 0    | 55 | 263 |   | 0    |   | 244 | 25 |      |   |   |   | 0    | 88  |    | 159 |
| Percent Heavy Vehicles, %           | 3    | 3  | 3   |   | 3    |   | 3   | 3  |      |   |   |   | 3    | 3   |    | 3   |
| Flow Rate (V <sub>PCE</sub> ), pc/h | 0    | 78 | 371 |   | 0    |   | 344 | 35 |      |   |   |   | 0    | 124 |    | 224 |
| Right-Turn Bypass                   | None |    |     |   | None |   |     |    | None |   |   |   | None |     |    |     |
| Conflicting Lanes                   | 1    |    |     |   | 1    |   |     |    |      |   |   |   | 1    |     |    |     |
| Pedestrians Crossing, p/h           | 0    |    |     |   | 0    |   |     |    |      |   |   |   | 0    |     |    |     |
| Proportion of CAVs, %               | 0    |    |     |   |      |   |     |    |      |   |   |   |      |     |    |     |

## Critical and Follow-Up Headway Adjustment

| Approach             | EB   |        |        | WB   |        |        | NB   |       |        | SB   |        |        |
|----------------------|------|--------|--------|------|--------|--------|------|-------|--------|------|--------|--------|
| Lane                 | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right | Bypass | Left | Right  | Bypass |
| Critical Headway, s  |      | 4.9763 |        |      | 4.9763 |        |      |       |        |      | 4.9763 |        |
| Follow-Up Headway, s |      | 2.6087 |        |      | 2.6087 |        |      |       |        |      | 2.6087 |        |

## Flow Computations, Capacity and v/c Ratios

| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Entry Flow ( $v_e$ ), pc/h       |      | 449   |        |      | 379   |        |      |       |        |      | 348   |        |
| Entry Volume, veh/h              |      | 436   |        |      | 368   |        |      |       |        |      | 338   |        |
| Circulating Flow ( $v_c$ ), pc/h | 124  |       |        | 78   |       |        | 573  |       |        | 344  |       |        |
| Exiting Flow ( $v_{ex}$ ), pc/h  | 495  |       |        | 568  |       |        | 113  |       |        | 0    |       |        |
| Capacity ( $c_{pce}$ ), pc/h     |      | 1216  |        |      | 1274  |        |      |       |        |      | 972   |        |
| Capacity (c), veh/h              |      | 1181  |        |      | 1237  |        |      |       |        |      | 943   |        |
| v/c Ratio (x)                    |      | 0.37  |        |      | 0.30  |        |      |       |        |      | 0.36  |        |

## Delay and Level of Service

| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Lane Control Delay (d), s/veh    |      | 6.7   |        |      | 5.6   |        |      |       |        |      | 7.7   |        |
| Lane LOS                         |      | A     |        |      | A     |        |      |       |        |      | A     |        |
| 95% Queue Length, $Q_{95}$ (veh) |      | 1.7   |        |      | 1.3   |        |      |       |        |      | 1.6   |        |
| 95% Queue Length, $Q_{95}$ (ft)  |      | 42.5  |        |      | 33.3  |        |      |       |        |      | 41.0  |        |
| Approach Delay, s/veh   LOS      | 6.7  | A     |        | 5.6  | A     |        |      |       |        | 7.7  | A     |        |
| Intersection Delay, s/veh   LOS  | 6.6  |       |        |      |       |        | A    |       |        |      |       |        |

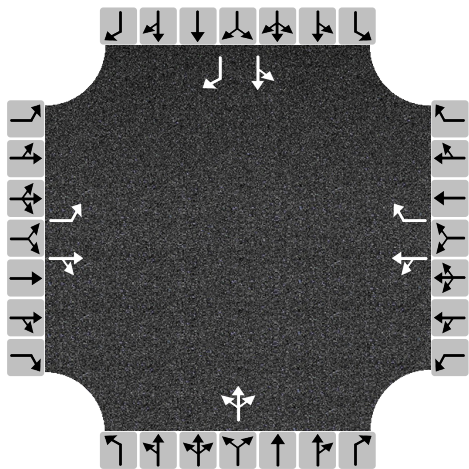


# HCS All-Way Stop Control Report

## General and Site Information

|                            |                                        |
|----------------------------|----------------------------------------|
| Analyst                    | tsj                                    |
| Agency/Co.                 | DGL Consulting Engineers               |
| Date Performed             | 8/29/2024                              |
| Analysis Year              | 2049                                   |
| Analysis Time Period (hrs) | 0.25                                   |
| Time Analyzed              | AM Peak Hour                           |
| Project Description        | Build + AWSC                           |
| Intersection               | Bainbridge Road & High School Drive... |
| Jurisdiction               | City of North Ridgeville               |
| East/West Street           | Bainbridge Road                        |
| North/South Street         | High School Drive/W Point Drive        |
| Peak Hour Factor           | 0.75                                   |

## Lanes



## Turning Movement Demand Volumes

| Approach               | Eastbound |     |   | Westbound |     |     | Northbound |   |   | Southbound |   |     |
|------------------------|-----------|-----|---|-----------|-----|-----|------------|---|---|------------|---|-----|
| Movement               | L         | T   | R | L         | T   | R   | L          | T | R | L          | T | R   |
| Volume (veh/h)         | 360       | 520 | 5 | 0         | 237 | 202 | 4          | 0 | 0 | 49         | 1 | 320 |
| % Thrus in Shared Lane |           |     |   |           |     |     |            |   |   |            |   |     |

## Lane Flow Rate and Adjustments

| Approach                                      | Eastbound |       |    | Westbound |       |    | Northbound |    |    | Southbound |       |    |
|-----------------------------------------------|-----------|-------|----|-----------|-------|----|------------|----|----|------------|-------|----|
| Lane                                          | L1        | L2    | L3 | L1        | L2    | L3 | L1         | L2 | L3 | L1         | L2    | L3 |
| Configuration                                 | L         | TR    |    | LT        | R     |    | LTR        |    |    | LT         | R     |    |
| Flow Rate, v (veh/h)                          | 480       | 700   |    | 316       | 269   |    | 5          |    |    | 67         | 427   |    |
| Percent Heavy Vehicles                        | 2         | 2     |    | 3         | 3     |    | 0          |    |    | 0          | 0     |    |
| Initial Departure Headway, h <sub>d</sub> (s) | 3.20      | 3.20  |    | 3.20      | 3.20  |    | 3.20       |    |    | 3.20       | 3.20  |    |
| Initial Degree of Utilization, x              | 0.427     | 0.622 |    | 0.281     | 0.239 |    | 0.005      |    |    | 0.059      | 0.379 |    |
| Final Departure Headway, h <sub>d</sub> (s)   | 7.93      | 7.41  |    | 7.83      | 7.13  |    | 9.48       |    |    | 8.59       | 7.41  |    |
| Final Degree of Utilization, x                | 1.057     | 1.441 |    | 0.687     | 0.533 |    | 0.014      |    |    | 0.159      | 0.878 |    |
| Move-Up Time, m (s)                           | 2.3       | 2.3   |    | 2.3       | 2.3   |    | 2.0        |    |    | 2.3        | 2.3   |    |
| Service Time, t <sub>s</sub> (s)              | 5.63      | 5.11  |    | 5.53      | 4.83  |    | 7.48       |    |    | 6.29       | 5.11  |    |

## Capacity, Delay and Level of Service

| Approach                                | Eastbound |       |    | Westbound |      |    | Northbound |    |    | Southbound |       |    |
|-----------------------------------------|-----------|-------|----|-----------|------|----|------------|----|----|------------|-------|----|
| Lane                                    | L1        | L2    | L3 | L1        | L2   | L3 | L1         | L2 | L3 | L1         | L2    | L3 |
| Configuration                           | L         | TR    |    | LT        | R    |    | LTR        |    |    | LT         | R     |    |
| Flow Rate, v (veh/h)                    | 480       | 700   |    | 316       | 269  |    | 5          |    |    | 67         | 427   |    |
| Capacity (veh/h)                        | 454       | 486   |    | 460       | 505  |    | 380        |    |    | 419        | 486   |    |
| 95% Queue Length, Q <sub>95</sub> (veh) | 15.1      | 34.4  |    | 5.1       | 3.1  |    | 0.0        |    |    | 0.6        | 9.5   |    |
| 95% Queue Length, Q <sub>95</sub> (ft)  | 383.5     | 873.8 |    | 130.6     | 79.4 |    | 0.0        |    |    | 15.0       | 237.5 |    |
| Control Delay (s/veh)                   | 86.2      | 230.5 |    | 26.0      | 17.7 |    | 12.6       |    |    | 12.9       | 43.3  |    |
| Level of Service, LOS                   | F         | F     |    | D         | C    |    | B          |    |    | B          | E     |    |
| Approach Delay (s/veh)   LOS            | 171.8     |       | F  | 22.2      |      | C  | 12.6       |    | B  | 39.2       |       | E  |
| Intersection Delay (s/veh)   LOS        | 103.8     |       |    |           |      |    | F          |    |    |            |       |    |

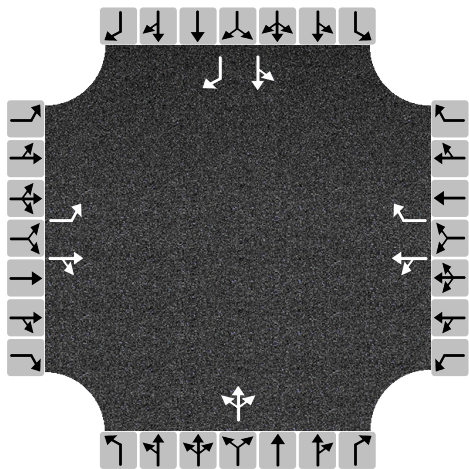


# HCS All-Way Stop Control Report

## General and Site Information

|                            |                                        |
|----------------------------|----------------------------------------|
| Analyst                    | tsj                                    |
| Agency/Co.                 | DGL Consulting Engineers               |
| Date Performed             | 8/29/2024                              |
| Analysis Year              | 2049                                   |
| Analysis Time Period (hrs) | 0.25                                   |
| Time Analyzed              | PM Peak Hour                           |
| Project Description        | Build + AWSC                           |
| Intersection               | Bainbridge Road & High School Drive... |
| Jurisdiction               | City of North Ridgeville               |
| East/West Street           | Bainbridge Road                        |
| North/South Street         | High School Drive/W Point Drive        |
| Peak Hour Factor           | 0.77                                   |

## Lanes



## Turning Movement Demand Volumes

| Approach               | Eastbound |     |    | Westbound |     |    | Northbound |   |   | Southbound |   |     |
|------------------------|-----------|-----|----|-----------|-----|----|------------|---|---|------------|---|-----|
| Movement               | L         | T   | R  | L         | T   | R  | L          | T | R | L          | T | R   |
| Volume (veh/h)         | 104       | 237 | 19 | 0         | 398 | 39 | 2          | 0 | 3 | 66         | 1 | 230 |
| % Thrus in Shared Lane |           |     |    |           |     |    |            |   |   |            |   |     |

## Lane Flow Rate and Adjustments

| Approach                                      | Eastbound |       |    | Westbound |       |    | Northbound |    |    | Southbound |       |    |
|-----------------------------------------------|-----------|-------|----|-----------|-------|----|------------|----|----|------------|-------|----|
| Lane                                          | L1        | L2    | L3 | L1        | L2    | L3 | L1         | L2 | L3 | L1         | L2    | L3 |
| Configuration                                 | L         | TR    |    | LT        | R     |    | LTR        |    |    | LT         | R     |    |
| Flow Rate, v (veh/h)                          | 135       | 332   |    | 517       | 51    |    | 6          |    |    | 87         | 299   |    |
| Percent Heavy Vehicles                        | 2         | 2     |    | 2         | 2     |    | 0          |    |    | 1          | 1     |    |
| Initial Departure Headway, h <sub>d</sub> (s) | 3.20      | 3.20  |    | 3.20      | 3.20  |    | 3.20       |    |    | 3.20       | 3.20  |    |
| Initial Degree of Utilization, x              | 0.120     | 0.296 |    | 0.459     | 0.045 |    | 0.006      |    |    | 0.077      | 0.266 |    |
| Final Departure Headway, h <sub>d</sub> (s)   | 7.22      | 6.66  |    | 6.57      | 5.86  |    | 7.93       |    |    | 7.74       | 6.54  |    |
| Final Degree of Utilization, x                | 0.271     | 0.615 |    | 0.943     | 0.082 |    | 0.014      |    |    | 0.187      | 0.542 |    |
| Move-Up Time, m (s)                           | 2.3       | 2.3   |    | 2.3       | 2.3   |    | 2.0        |    |    | 2.3        | 2.3   |    |
| Service Time, t <sub>s</sub> (s)              | 4.92      | 4.36  |    | 4.27      | 3.56  |    | 5.93       |    |    | 5.44       | 4.24  |    |

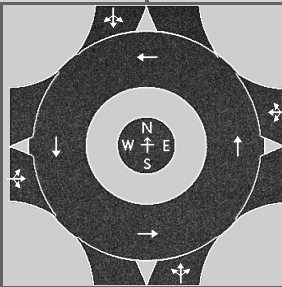
## Capacity, Delay and Level of Service

| Approach                                | Eastbound |       |    | Westbound |     |    | Northbound |    |    | Southbound |      |    |
|-----------------------------------------|-----------|-------|----|-----------|-----|----|------------|----|----|------------|------|----|
| Lane                                    | L1        | L2    | L3 | L1        | L2  | L3 | L1         | L2 | L3 | L1         | L2   | L3 |
| Configuration                           | L         | TR    |    | LT        | R   |    | LTR        |    |    | LT         | R    |    |
| Flow Rate, v (veh/h)                    | 135       | 332   |    | 517       | 51  |    | 6          |    |    | 87         | 299  |    |
| Capacity (veh/h)                        | 499       | 541   |    | 548       | 614 |    | 454        |    |    | 465        | 551  |    |
| 95% Queue Length, Q <sub>95</sub> (veh) | 1.1       | 4.1   |    | 12.1      | 0.3 |    | 0.0        |    |    | 0.7        | 3.2  |    |
| 95% Queue Length, Q <sub>95</sub> (ft)  | 27.9      | 104.1 |    | 307.3     | 7.6 |    | 0.0        |    |    | 17.6       | 80.6 |    |
| Control Delay (s/veh)                   | 12.6      | 19.4  |    | 50.8      | 9.1 |    | 11.1       |    |    | 12.2       | 16.7 |    |
| Level of Service, LOS                   | B         | C     |    | F         | A   |    | B          |    |    | B          | C    |    |
| Approach Delay (s/veh)   LOS            | 17.4      |       | C  | 47.0      |     | E  | 11.1       |    | B  | 15.7       |      | C  |
| Intersection Delay (s/veh)   LOS        | 28.7      |       |    |           |     |    | D          |    |    |            |      |    |

# HCS Roundabouts Report

## General Information

|                     |                          |
|---------------------|--------------------------|
| Analyst             | tsj                      |
| Agency or Co.       | DGL Consulting Engineers |
| Date Performed      | 8/29/2024                |
| Analysis Year       | 2049                     |
| Time Analyzed       | AM Peak                  |
| Project Description | Build + Roundabout       |



## Site Information

|                           |                               |
|---------------------------|-------------------------------|
| Intersection              | Bainbridge Road & School D... |
| E/W Street Name           | Bainbridge Road               |
| N/S Street Name           | School Drive/W Point Drive    |
| Analysis Time Period, hrs | 0.25                          |
| Peak Hour Factor          | 0.75                          |
| Jurisdiction              | City of North Ridgeville      |

## Volume Adjustments and Site Characteristics

| Approach                            | EB   |     |     |   | WB   |   |     |     | NB   |   |     |   | SB   |    |     |     |
|-------------------------------------|------|-----|-----|---|------|---|-----|-----|------|---|-----|---|------|----|-----|-----|
| Movement                            | U    | L   | T   | R | U    | L | T   | R   | U    | L | T   | R | U    | L  | T   | R   |
| Number of Lanes (N)                 | 0    | 0   | 1   | 0 | 0    | 0 | 1   | 0   | 0    | 0 | 1   | 0 | 0    | 0  | 1   | 0   |
| Lane Assignment                     |      |     | LTR |   |      |   | LTR |     |      |   | LTR |   |      |    | LTR |     |
| Volume (V), veh/h                   | 0    | 360 | 520 | 5 | 0    | 0 | 237 | 202 | 0    | 4 | 0   | 0 | 0    | 49 | 1   | 320 |
| Percent Heavy Vehicles, %           | 2    | 2   | 2   | 2 | 3    | 3 | 3   | 3   | 0    | 0 | 0   | 0 | 0    | 0  | 0   | 0   |
| Flow Rate (V <sub>PCE</sub> ), pc/h | 0    | 490 | 707 | 7 | 0    | 0 | 325 | 277 | 0    | 5 | 0   | 0 | 0    | 65 | 1   | 427 |
| Right-Turn Bypass                   | None |     |     |   | None |   |     |     | None |   |     |   | None |    |     |     |
| Conflicting Lanes                   | 1    |     |     |   | 1    |   |     |     | 1    |   |     |   | 1    |    |     |     |
| Pedestrians Crossing, p/h           | 0    |     |     |   | 0    |   |     |     | 0    |   |     |   | 0    |    |     |     |
| Proportion of CAVs, %               | 0    |     |     |   |      |   |     |     |      |   |     |   |      |    |     |     |

## Critical and Follow-Up Headway Adjustment

| Approach             | EB   |        |        | WB   |        |        | NB   |        |        | SB   |        |        |
|----------------------|------|--------|--------|------|--------|--------|------|--------|--------|------|--------|--------|
| Lane                 | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right  | Bypass |
| Critical Headway, s  |      | 4.9763 |        |      | 4.9763 |        |      | 4.9763 |        |      | 4.9763 |        |
| Follow-Up Headway, s |      | 2.6087 |        |      | 2.6087 |        |      | 2.6087 |        |      | 2.6087 |        |

## Flow Computations, Capacity and v/c Ratios

| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Entry Flow ( $v_e$ ), pc/h       |      | 1204  |        |      | 602   |        |      | 5     |        |      | 493   |        |
| Entry Volume, veh/h              |      | 1180  |        |      | 584   |        |      | 5     |        |      | 493   |        |
| Circulating Flow ( $v_c$ ), pc/h | 66   |       |        | 495  |       |        | 1262 |       |        | 330  |       |        |
| Exiting Flow ( $v_{ex}$ ), pc/h  | 772  |       |        | 757  |       |        | 767  |       |        | 8    |       |        |
| Capacity ( $C_{pce}$ ), pc/h     |      | 1290  |        |      | 833   |        |      | 381   |        |      | 986   |        |
| Capacity (c), veh/h              |      | 1265  |        |      | 809   |        |      | 381   |        |      | 986   |        |
| v/c Ratio (x)                    |      | 0.93  |        |      | 0.72  |        |      | 0.01  |        |      | 0.50  |        |

## Delay and Level of Service

| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Lane Control Delay (d), s/veh    |      | 30.2  |        |      | 18.8  |        |      | 9.6   |        |      | 9.8   |        |
| Lane LOS                         |      | D     |        |      | C     |        |      | A     |        |      | A     |        |
| 95% Queue Length, $Q_{95}$ (veh) |      | 16.4  |        |      | 6.4   |        |      | 0.0   |        |      | 2.9   |        |
| 95% Queue Length, $Q_{95}$ (ft)  |      | 416.6 |        |      | 163.8 |        |      | 0.0   |        |      | 72.5  |        |
| Approach Delay, s/veh   LOS      | 30.2 |       | D      | 18.8 |       | C      | 9.6  |       | A      | 9.8  |       | A      |
| Intersection Delay, s/veh   LOS  | 22.7 |       |        |      |       |        | C    |       |        |      |       |        |

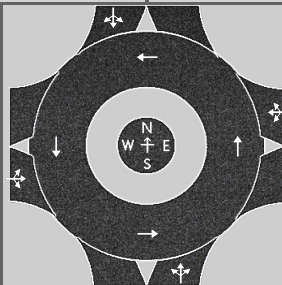




# HCS Roundabouts Report

## General Information

|                     |                          |
|---------------------|--------------------------|
| Analyst             | tsj                      |
| Agency or Co.       | DGL Consulting Engineers |
| Date Performed      | 8/29/2024                |
| Analysis Year       | 2049                     |
| Time Analyzed       | PM Peak                  |
| Project Description | Build + Roundabout       |



## Site Information

|                           |                               |
|---------------------------|-------------------------------|
| Intersection              | Bainbridge Road & School D... |
| E/W Street Name           | Bainbridge Road               |
| N/S Street Name           | School Drive/W Point Drive    |
| Analysis Time Period, hrs | 0.25                          |
| Peak Hour Factor          | 0.77                          |
| Jurisdiction              | City of North Ridgeville      |

## Volume Adjustments and Site Characteristics

| Approach                            | EB   |     |     |    | WB   |   |     |    | NB   |   |     |   | SB   |    |     |     |
|-------------------------------------|------|-----|-----|----|------|---|-----|----|------|---|-----|---|------|----|-----|-----|
| Movement                            | U    | L   | T   | R  | U    | L | T   | R  | U    | L | T   | R | U    | L  | T   | R   |
| Number of Lanes (N)                 | 0    | 0   | 1   | 0  | 0    | 0 | 1   | 0  | 0    | 0 | 1   | 0 | 0    | 0  | 1   | 0   |
| Lane Assignment                     |      |     | LTR |    |      |   | LTR |    |      |   | LTR |   |      |    | LTR |     |
| Volume (V), veh/h                   | 0    | 104 | 237 | 19 | 0    | 0 | 398 | 39 | 0    | 2 | 0   | 3 | 0    | 66 | 1   | 230 |
| Percent Heavy Vehicles, %           | 2    | 2   | 2   | 2  | 3    | 3 | 3   | 3  | 0    | 0 | 0   | 0 | 1    | 1  | 1   | 1   |
| Flow Rate (V <sub>PCE</sub> ), pc/h | 0    | 138 | 314 | 25 | 0    | 0 | 532 | 52 | 0    | 3 | 0   | 4 | 0    | 87 | 1   | 302 |
| Right-Turn Bypass                   | None |     |     |    | None |   |     |    | None |   |     |   | None |    |     |     |
| Conflicting Lanes                   | 1    |     |     |    | 1    |   |     |    | 1    |   |     |   | 1    |    |     |     |
| Pedestrians Crossing, p/h           | 0    |     |     |    | 0    |   |     |    | 0    |   |     |   | 0    |    |     |     |
| Proportion of CAVs, %               | 0    |     |     |    |      |   |     |    |      |   |     |   |      |    |     |     |

## Critical and Follow-Up Headway Adjustment

| Approach             | EB   |        |        | WB   |        |        | NB   |        |        | SB   |        |        |
|----------------------|------|--------|--------|------|--------|--------|------|--------|--------|------|--------|--------|
| Lane                 | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right  | Bypass |
| Critical Headway, s  |      | 4.9763 |        |      | 4.9763 |        |      | 4.9763 |        |      | 4.9763 |        |
| Follow-Up Headway, s |      | 2.6087 |        |      | 2.6087 |        |      | 2.6087 |        |      | 2.6087 |        |

## Flow Computations, Capacity and v/c Ratios

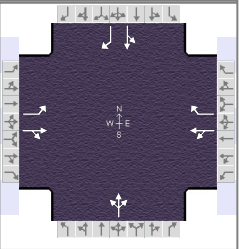
| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Entry Flow ( $v_e$ ), pc/h       |      | 477   |        |      | 584   |        |      | 7     |        |      | 390   |        |
| Entry Volume, veh/h              |      | 468   |        |      | 567   |        |      | 7     |        |      | 386   |        |
| Circulating Flow ( $v_c$ ), pc/h | 88   |       |        | 141  |       |        | 539  |       |        | 535  |       |        |
| Exiting Flow ( $v_{ex}$ ), pc/h  | 405  |       |        | 837  |       |        | 190  |       |        | 26   |       |        |
| Capacity ( $C_{pce}$ ), pc/h     |      | 1262  |        |      | 1195  |        |      | 796   |        |      | 800   |        |
| Capacity (c), veh/h              |      | 1237  |        |      | 1160  |        |      | 796   |        |      | 792   |        |
| v/c Ratio (x)                    |      | 0.38  |        |      | 0.49  |        |      | 0.01  |        |      | 0.49  |        |

## Delay and Level of Service

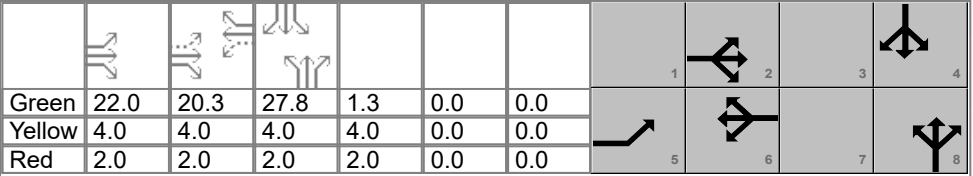
| Approach                                | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |      |  |   |  |
|-----------------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|------|--|---|--|
| Lane                                    | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |      |  |   |  |
| Lane Control Delay (d), s/veh           |      | 6.6   |        |      | 8.5   |        |      | 4.6   |        |      | 11.2  |        |      |  |   |  |
| Lane LOS                                |      | A     |        |      | A     |        |      | A     |        |      | B     |        |      |  |   |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |      | 1.8   |        |      | 2.8   |        |      | 0.0   |        |      | 2.7   |        |      |  |   |  |
| 95% Queue Length, Q <sub>95</sub> (ft)  |      | 45.7  |        |      | 71.7  |        |      | 0.0   |        |      | 68.0  |        |      |  |   |  |
| Approach Delay, s/veh   LOS             | 6.6  |       | A      |      | 8.5   |        | A    |       | 4.6    |      | A     |        | 11.2 |  | B |  |
| Intersection Delay, s/veh   LOS         | 8.6  |       |        |      |       |        | A    |       |        |      |       |        |      |  |   |  |



# HCS Signalized Intersection Results Summary

| General Information |                          |               |                                                   | Intersection Information |         |  |
|---------------------|--------------------------|---------------|---------------------------------------------------|--------------------------|---------|-------------------------------------------------------------------------------------|
| Agency              | DGL                      |               |                                                   | Duration, h              | 0.250   |                                                                                     |
| Analyst             | tsj                      | Analysis Date | Aug 29, 2024                                      | Area Type                | Other   |                                                                                     |
| Jurisdiction        | City of North Ridgeville | Time Period   | AM Peak                                           | PHF                      | 0.75    |                                                                                     |
| Urban Street        | Bainbridge Road          | Analysis Year | 2049                                              | Analysis Period          | 1> 7:00 |                                                                                     |
| Intersection        | Bainbridge Road & Sch... | File Name     | 2049 Build Signal AM Peak Bainbridge and W Poi... |                          |         |                                                                                     |
| Project Description | Build + Improvement      |               |                                                   |                          |         |                                                                                     |

| Demand Information    | EB  |     |   | WB |     |     | NB |   |   | SB |   |     |
|-----------------------|-----|-----|---|----|-----|-----|----|---|---|----|---|-----|
| Approach Movement     | L   | T   | R | L  | T   | R   | L  | T | R | L  | T | R   |
| Demand ( $v$ ), veh/h | 360 | 520 | 5 | 0  | 237 | 202 | 4  | 0 | 0 | 49 | 1 | 320 |

| Signal Information |       |                 |     |  |  |  |  |  |  |  |  |
|--------------------|-------|-----------------|-----|------------------------------------------------------------------------------------|--|--|--|--|--|--|--|
| Cycle, s           | 95.4  | Reference Phase | 2   |                                                                                    |  |  |  |  |  |  |  |
| Offset, s          | 0     | Reference Point | End |                                                                                    |  |  |  |  |  |  |  |
| Uncoordinated      | Yes   | Simult. Gap E/W | On  |                                                                                    |  |  |  |  |  |  |  |
| Force Mode         | Fixed | Simult. Gap N/S | On  |                                                                                    |  |  |  |  |  |  |  |

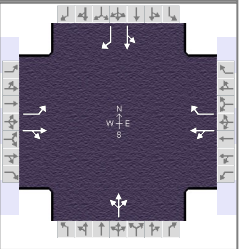
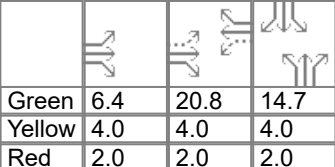
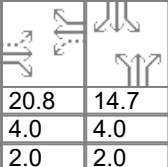
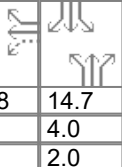
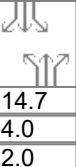
| Timer Results                     | EBL  | EBT  | WBL | WBT  | NBL | NBT  | SBL | SBT  |
|-----------------------------------|------|------|-----|------|-----|------|-----|------|
| Assigned Phase                    | 5    | 2    |     | 6    |     | 8    |     | 4    |
| Case Number                       | 1.0  | 4.0  |     | 7.3  |     | 12.0 |     | 11.0 |
| Phase Duration, s                 | 28.0 | 54.3 |     | 26.3 |     | 7.3  |     | 33.8 |
| Change Period, ( $Y+R_c$ ), s     | 6.0  | 6.0  |     | 6.0  |     | 6.0  |     | 6.0  |
| Max Allow Headway ( $MAH$ ), s    | 3.1  | 3.1  |     | 3.1  |     | 3.1  |     | 3.3  |
| Queue Clearance Time ( $g_s$ ), s | 20.9 | 30.4 |     | 17.6 |     | 2.3  |     | 26.5 |
| Green Extension Time ( $g_e$ ), s | 1.0  | 2.8  |     | 2.6  |     | 0.0  |     | 1.1  |
| Phase Call Probability            | 1.00 | 1.00 |     | 1.00 |     | 0.13 |     | 1.00 |
| Max Out Probability               | 0.00 | 0.00 |     | 0.04 |     | 0.00 |     | 0.00 |

| Movement Group Results                            | EB    |       |    | WB   |       |       | NB   |       |    | SB   |       |       |
|---------------------------------------------------|-------|-------|----|------|-------|-------|------|-------|----|------|-------|-------|
| Approach Movement                                 | L     | T     | R  | L    | T     | R     | L    | T     | R  | L    | T     | R     |
| Assigned Movement                                 | 5     | 2     | 12 | 1    | 6     | 16    | 3    | 8     | 18 | 7    | 4     | 14    |
| Adjusted Flow Rate ( $v$ ), veh/h                 | 480   | 700   |    |      | 0     | 269   |      | 5     |    |      | 67    | 427   |
| Adjusted Saturation Flow Rate ( $s$ ), veh/h/ln   | 1781  | 1867  |    |      | 0     | 1572  |      | 1810  |    |      | 1811  | 1610  |
| Queue Service Time ( $g_s$ ), s                   | 18.9  | 28.4  |    |      | 0.0   | 15.6  |      | 0.3   |    |      | 2.6   | 24.5  |
| Cycle Queue Clearance Time ( $g_c$ ), s           | 18.9  | 28.4  |    |      | 0.0   | 15.6  |      | 0.3   |    |      | 2.6   | 24.5  |
| Green Ratio ( $g/C$ )                             | 0.47  | 0.51  |    |      | 0.21  |       |      | 0.01  |    |      | 0.29  | 0.29  |
| Capacity ( $c$ ), veh/h                           | 541   | 946   |    |      |       | 335   |      | 25    |    |      | 528   | 470   |
| Volume-to-Capacity Ratio ( $X$ )                  | 0.887 | 0.740 |    |      | 0.000 | 0.804 |      | 0.210 |    |      | 0.126 | 0.909 |
| Back of Queue ( $Q$ ), ft/ln ( 95 th percentile)  | 311   | 428   |    |      | 0     | 255   |      | 6     |    |      | 49    | 364   |
| Back of Queue ( $Q$ ), veh/ln ( 95 th percentile) | 12.3  | 16.9  |    |      | 0.0   | 10.0  |      | 0.2   |    |      | 2.0   | 14.6  |
| Queue Storage Ratio ( $RQ$ ) ( 95 th percentile)  | 1.35  | 0.00  |    |      | 0.00  | 1.28  |      | 0.00  |    |      | 0.00  | 2.60  |
| Uniform Delay ( $d_1$ ), s/veh                    | 21.1  | 18.7  |    |      |       | 35.8  |      | 46.7  |    |      | 25.0  | 32.7  |
| Incremental Delay ( $d_2$ ), s/veh                | 2.8   | 0.4   |    |      | 0.0   | 1.7   |      | 1.5   |    |      | 0.0   | 2.9   |
| Initial Queue Delay ( $d_3$ ), s/veh              | 0.0   | 0.0   |    |      | 0.0   | 0.0   |      | 0.0   |    |      | 0.0   | 0.0   |
| Control Delay ( $d$ ), s/veh                      | 23.9  | 19.1  |    |      |       | 37.5  |      | 48.2  |    |      | 25.0  | 35.6  |
| Level of Service (LOS)                            | C     | B     |    |      |       | D     |      | D     |    |      | C     | D     |
| Approach Delay, s/veh / LOS                       | 21.0  | C     |    | 37.4 | D     |       | 48.2 | D     |    | 34.1 | C     |       |
| Intersection Delay, s/veh / LOS                   | 28.2  |       |    |      |       |       | C    |       |    |      |       |       |

| Multimodal Results         | EB   |   | WB   |   | NB   |   | SB   |   |
|----------------------------|------|---|------|---|------|---|------|---|
| Pedestrian LOS Score / LOS | 1.67 | B | 1.93 | B | 1.95 | B | 1.95 | B |
| Bicycle LOS Score / LOS    | 2.43 | B | 1.45 | A | 0.50 | A | 1.30 | A |



# HCS Signalized Intersection Results Summary

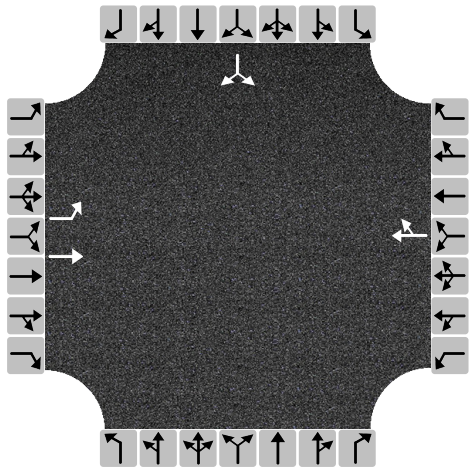
| General Information                             |                          |                 |               |                                                                                   |                                                                                   | Intersection Information                                                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |  |                                                                                    |                                                                                    |                                                                                    |     |  |  |      |  |  |     |  |  |      |  |  |
|-------------------------------------------------|--------------------------|-----------------|---------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----|--|--|------|--|--|-----|--|--|------|--|--|
| Agency                                          | DGL                      |                 |               |                                                                                   |                                                                                   | Duration, h                                                                       | 0.250                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |     |  |  |      |  |  |     |  |  |      |  |  |
| Analyst                                         | tsj                      |                 | Analysis Date | Aug 29, 2024                                                                      |                                                                                   | Area Type                                                                         | Other                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |     |  |  |      |  |  |     |  |  |      |  |  |
| Jurisdiction                                    | City of North Ridgeville |                 | Time Period   | PM Peak                                                                           |                                                                                   | PHF                                                                               | 0.77                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |     |  |  |      |  |  |     |  |  |      |  |  |
| Urban Street                                    | Bainbridge Road          |                 | Analysis Year | 2049                                                                              |                                                                                   | Analysis Period                                                                   | 1> 7:00                                                                           |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |     |  |  |      |  |  |     |  |  |      |  |  |
| Intersection                                    | Bainbridge Road & Sch... |                 | File Name     | 2049 Build Signal PM Peak Bainbridge and W Poi...                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |     |  |  |      |  |  |     |  |  |      |  |  |
| Project Description                             | Build + Improvement      |                 |               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |     |  |  |      |  |  |     |  |  |      |  |  |
| Demand Information                              |                          |                 |               | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                    |                                                                                     | SB                                                                                 |                                                                                    |                                                                                    |     |  |  |      |  |  |     |  |  |      |  |  |
| Approach Movement                               |                          |                 |               | L                                                                                 | T                                                                                 | R                                                                                 | L                                                                                 | T                                                                                 | R                                                                                 | L                                                                                 | T                                                                                  | R                                                                                   | L                                                                                  | T                                                                                  | R                                                                                  |     |  |  |      |  |  |     |  |  |      |  |  |
| Demand ( v ), veh/h                             |                          |                 |               | 104                                                                               | 237                                                                               | 19                                                                                | 0                                                                                 | 398                                                                               | 39                                                                                | 2                                                                                 | 0                                                                                  | 3                                                                                   | 66                                                                                 | 1                                                                                  | 230                                                                                |     |  |  |      |  |  |     |  |  |      |  |  |
| Signal Information                              |                          |                 |               |  |  |  |  |  |  |  |  |   |  |  |  |     |  |  |      |  |  |     |  |  |      |  |  |
| Cycle, s                                        | 67.1                     | Reference Phase | 2             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |     |  |  |      |  |  |     |  |  |      |  |  |
| Offset, s                                       | 0                        | Reference Point | End           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |     |  |  |      |  |  |     |  |  |      |  |  |
| Uncoordinated                                   | Yes                      | Simult. Gap E/W | On            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |     |  |  |      |  |  |     |  |  |      |  |  |
| Force Mode                                      | Fixed                    | Simult. Gap N/S | On            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |     |  |  |      |  |  |     |  |  |      |  |  |
|                                                 |                          |                 |               | Green                                                                             | 6.4                                                                               | 20.8                                                                              | 14.7                                                                              | 1.1                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |     |  |  |      |  |  |     |  |  |      |  |  |
|                                                 |                          |                 |               | Yellow                                                                            | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |     |  |  |      |  |  |     |  |  |      |  |  |
|                                                 |                          |                 |               | Red                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |     |  |  |      |  |  |     |  |  |      |  |  |
| Timer Results                                   |                          |                 |               | EBL                                                                               |                                                                                   |                                                                                   | EBT                                                                               |                                                                                   |                                                                                   | WBL                                                                               |                                                                                    |                                                                                     | WBT                                                                                |                                                                                    |                                                                                    | NBL |  |  | NBT  |  |  | SBL |  |  | SBT  |  |  |
| Assigned Phase                                  |                          |                 |               | 5                                                                                 |                                                                                   |                                                                                   | 2                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 6                                                                                  |                                                                                    |                                                                                    |     |  |  | 8    |  |  |     |  |  | 4    |  |  |
| Case Number                                     |                          |                 |               | 1.0                                                                               |                                                                                   |                                                                                   | 4.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 7.3                                                                                |                                                                                    |                                                                                    |     |  |  | 12.0 |  |  |     |  |  | 11.0 |  |  |
| Phase Duration, s                               |                          |                 |               | 12.4                                                                              |                                                                                   |                                                                                   | 39.2                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 26.8                                                                               |                                                                                    |                                                                                    |     |  |  | 7.1  |  |  |     |  |  | 20.7 |  |  |
| Change Period, ( Y+R c ), s                     |                          |                 |               | 6.0                                                                               |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 6.0                                                                                |                                                                                    |                                                                                    |     |  |  | 6.0  |  |  |     |  |  | 6.0  |  |  |
| Max Allow Headway ( MAH ), s                    |                          |                 |               | 3.1                                                                               |                                                                                   |                                                                                   | 3.1                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 3.1                                                                                |                                                                                    |                                                                                    |     |  |  | 3.3  |  |  |     |  |  | 3.3  |  |  |
| Queue Clearance Time ( g s ), s                 |                          |                 |               | 5.1                                                                               |                                                                                   |                                                                                   | 9.5                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 19.7                                                                               |                                                                                    |                                                                                    |     |  |  | 2.3  |  |  |     |  |  | 14.1 |  |  |
| Green Extension Time ( g e ), s                 |                          |                 |               | 0.0                                                                               |                                                                                   |                                                                                   | 1.5                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 1.1                                                                                |                                                                                    |                                                                                    |     |  |  | 0.0  |  |  |     |  |  | 0.7  |  |  |
| Phase Call Probability                          |                          |                 |               | 0.92                                                                              |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 1.00                                                                               |                                                                                    |                                                                                    |     |  |  | 0.11 |  |  |     |  |  | 1.00 |  |  |
| Max Out Probability                             |                          |                 |               | 1.00                                                                              |                                                                                   |                                                                                   | 0.06                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 0.00                                                                               |                                                                                    |                                                                                    |     |  |  | 0.00 |  |  |     |  |  | 0.01 |  |  |
| Movement Group Results                          |                          |                 |               | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                    |                                                                                     | SB                                                                                 |                                                                                    |                                                                                    |     |  |  |      |  |  |     |  |  |      |  |  |
| Approach Movement                               |                          |                 |               | L                                                                                 | T                                                                                 | R                                                                                 | L                                                                                 | T                                                                                 | R                                                                                 | L                                                                                 | T                                                                                  | R                                                                                   | L                                                                                  | T                                                                                  | R                                                                                  |     |  |  |      |  |  |     |  |  |      |  |  |
| Assigned Movement                               |                          |                 |               | 5                                                                                 | 2                                                                                 | 12                                                                                | 1                                                                                 | 6                                                                                 | 16                                                                                | 3                                                                                 | 8                                                                                  | 18                                                                                  | 7                                                                                  | 4                                                                                  | 14                                                                                 |     |  |  |      |  |  |     |  |  |      |  |  |
| Adjusted Flow Rate ( v ), veh/h                 |                          |                 |               | 135                                                                               | 332                                                                               |                                                                                   |                                                                                   | 0                                                                                 | 51                                                                                |                                                                                   | 6                                                                                  |                                                                                     |                                                                                    | 87                                                                                 | 299                                                                                |     |  |  |      |  |  |     |  |  |      |  |  |
| Adjusted Saturation Flow Rate ( s ), veh/h/ln   |                          |                 |               | 1781                                                                              | 1846                                                                              |                                                                                   |                                                                                   | 0                                                                                 | 1585                                                                              |                                                                                   | 1684                                                                               |                                                                                     |                                                                                    | 1797                                                                               | 1598                                                                               |     |  |  |      |  |  |     |  |  |      |  |  |
| Queue Service Time ( g s ), s                   |                          |                 |               | 3.1                                                                               | 7.5                                                                               |                                                                                   |                                                                                   | 0.0                                                                               | 1.5                                                                               |                                                                                   | 0.3                                                                                |                                                                                     |                                                                                    | 2.7                                                                                | 12.1                                                                               |     |  |  |      |  |  |     |  |  |      |  |  |
| Cycle Queue Clearance Time ( g c ), s           |                          |                 |               | 3.1                                                                               | 7.5                                                                               |                                                                                   |                                                                                   | 0.0                                                                               | 1.5                                                                               |                                                                                   | 0.3                                                                                |                                                                                     |                                                                                    | 2.7                                                                                | 12.1                                                                               |     |  |  |      |  |  |     |  |  |      |  |  |
| Green Ratio ( g/C )                             |                          |                 |               | 0.44                                                                              | 0.50                                                                              |                                                                                   |                                                                                   |                                                                                   | 0.31                                                                              |                                                                                   | 0.02                                                                               |                                                                                     |                                                                                    | 0.22                                                                               | 0.22                                                                               |     |  |  |      |  |  |     |  |  |      |  |  |
| Capacity ( c ), veh/h                           |                          |                 |               | 319                                                                               | 914                                                                               |                                                                                   |                                                                                   |                                                                                   | 491                                                                               |                                                                                   | 29                                                                                 |                                                                                     |                                                                                    | 395                                                                                | 351                                                                                |     |  |  |      |  |  |     |  |  |      |  |  |
| Volume-to-Capacity Ratio ( X )                  |                          |                 |               | 0.423                                                                             | 0.364                                                                             |                                                                                   |                                                                                   | 0.000                                                                             | 0.103                                                                             |                                                                                   | 0.226                                                                              |                                                                                     |                                                                                    | 0.220                                                                              | 0.851                                                                              |     |  |  |      |  |  |     |  |  |      |  |  |
| Back of Queue ( Q ), ft/ln ( 95 th percentile)  |                          |                 |               | 51                                                                                | 118                                                                               |                                                                                   |                                                                                   | 0                                                                                 | 24                                                                                |                                                                                   | 5                                                                                  |                                                                                     |                                                                                    | 48                                                                                 | 199                                                                                |     |  |  |      |  |  |     |  |  |      |  |  |
| Back of Queue ( Q ), veh/ln ( 95 th percentile) |                          |                 |               | 2.0                                                                               | 4.7                                                                               |                                                                                   |                                                                                   | 0.0                                                                               | 0.9                                                                               |                                                                                   | 0.2                                                                                |                                                                                     |                                                                                    | 1.9                                                                                | 7.9                                                                                |     |  |  |      |  |  |     |  |  |      |  |  |
| Queue Storage Ratio ( RQ ) ( 95 th percentile)  |                          |                 |               | 0.22                                                                              | 0.00                                                                              |                                                                                   |                                                                                   | 0.00                                                                              | 0.12                                                                              |                                                                                   | 0.00                                                                               |                                                                                     |                                                                                    | 0.00                                                                               | 1.42                                                                               |     |  |  |      |  |  |     |  |  |      |  |  |
| Uniform Delay ( d 1 ), s/veh                    |                          |                 |               | 15.0                                                                              | 10.4                                                                              |                                                                                   |                                                                                   |                                                                                   | 16.5                                                                              |                                                                                   | 32.6                                                                               |                                                                                     |                                                                                    | 21.5                                                                               | 25.1                                                                               |     |  |  |      |  |  |     |  |  |      |  |  |
| Incremental Delay ( d 2 ), s/veh                |                          |                 |               | 0.3                                                                               | 0.1                                                                               |                                                                                   |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 1.5                                                                                |                                                                                     |                                                                                    | 0.1                                                                                | 2.4                                                                                |     |  |  |      |  |  |     |  |  |      |  |  |
| Initial Queue Delay ( d 3 ), s/veh              |                          |                 |               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                                |                                                                                     |                                                                                    | 0.0                                                                                | 0.0                                                                                |     |  |  |      |  |  |     |  |  |      |  |  |
| Control Delay ( d ), s/veh                      |                          |                 |               | 15.3                                                                              | 10.5                                                                              |                                                                                   |                                                                                   |                                                                                   | 16.6                                                                              |                                                                                   | 34.0                                                                               |                                                                                     |                                                                                    | 21.6                                                                               | 27.5                                                                               |     |  |  |      |  |  |     |  |  |      |  |  |
| Level of Service (LOS)                          |                          |                 |               | B                                                                                 | B                                                                                 |                                                                                   |                                                                                   |                                                                                   | B                                                                                 |                                                                                   | C                                                                                  |                                                                                     |                                                                                    | C                                                                                  | C                                                                                  |     |  |  |      |  |  |     |  |  |      |  |  |
| Approach Delay, s/veh / LOS                     |                          |                 |               | 11.9                                                                              |                                                                                   | B                                                                                 | 23.5                                                                              |                                                                                   | C                                                                                 | 34.0                                                                              |                                                                                    | C                                                                                   | 26.2                                                                               |                                                                                    | C                                                                                  |     |  |  |      |  |  |     |  |  |      |  |  |
| Intersection Delay, s/veh / LOS                 |                          |                 |               | 20.5                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                    |                                                                                    |                                                                                    |     |  |  |      |  |  |     |  |  |      |  |  |
| Multimodal Results                              |                          |                 |               | EB                                                                                |                                                                                   |                                                                                   | WB                                                                                |                                                                                   |                                                                                   | NB                                                                                |                                                                                    |                                                                                     | SB                                                                                 |                                                                                    |                                                                                    |     |  |  |      |  |  |     |  |  |      |  |  |
| Pedestrian LOS Score / LOS                      |                          |                 |               | 1.66                                                                              |                                                                                   | B                                                                                 | 1.91                                                                              |                                                                                   | B                                                                                 | 1.94                                                                              |                                                                                    | B                                                                                   | 1.94                                                                               |                                                                                    | B                                                                                  |     |  |  |      |  |  |     |  |  |      |  |  |
| Bicycle LOS Score / LOS                         |                          |                 |               | 1.26                                                                              |                                                                                   | A                                                                                 | 1.42                                                                              |                                                                                   | A                                                                                 | 0.50                                                                              |                                                                                    | A                                                                                   | 1.12                                                                               |                                                                                    | A                                                                                  |     |  |  |      |  |  |     |  |  |      |  |  |

HCS All-Way Stop Control Report

General and Site Information

|                            |                               |
|----------------------------|-------------------------------|
| Analyst                    | tsj                           |
| Agency/Co.                 | DGL Consulting Engineers      |
| Date Performed             | 11/7/2024                     |
| Analysis Year              | 2049                          |
| Analysis Time Period (hrs) | 0.25                          |
| Time Analyzed              | AM Peak                       |
| Project Description        | Build                         |
| Intersection               | Bainbridge Road & Prop. Drive |
| Jurisdiction               | City of North Ridgeville      |
| East/West Street           | Bainbridge Road               |
| North/South Street         | Repurposed Drive              |
| Peak Hour Factor           | 0.77                          |

Lanes



Turning Movement Demand Volumes

| Approach               | Eastbound |     |   | Westbound |     |    | Northbound |   |   | Southbound |   |     |
|------------------------|-----------|-----|---|-----------|-----|----|------------|---|---|------------|---|-----|
| Movement               | L         | T   | R | L         | T   | R  | L          | T | R | L          | T | R   |
| Volume (veh/h)         | 336       | 259 |   |           | 302 | 55 |            |   |   | 35         |   | 137 |
| % Thrus in Shared Lane |           |     |   |           |     |    |            |   |   |            |   |     |

Lane Flow Rate and Adjustments

| Approach                                      | Eastbound |       |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|-----------------------------------------------|-----------|-------|----|-----------|----|----|------------|----|----|------------|----|----|
| Lane                                          | L1        | L2    | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration                                 | L         | T     |    | TR        |    |    |            |    |    | LR         |    |    |
| Flow Rate, v (veh/h)                          | 436       | 336   |    | 464       |    |    |            |    |    | 223        |    |    |
| Percent Heavy Vehicles                        | 2         | 2     |    | 3         |    |    |            |    |    | 3          |    |    |
| Initial Departure Headway, h <sub>d</sub> (s) | 3.20      | 3.20  |    | 3.20      |    |    |            |    |    | 3.20       |    |    |
| Initial Degree of Utilization, x              | 0.388     | 0.299 |    | 0.412     |    |    |            |    |    | 0.199      |    |    |
| Final Departure Headway, h <sub>d</sub> (s)   | 6.38      | 5.87  |    | 5.59      |    |    |            |    |    | 6.17       |    |    |
| Final Degree of Utilization, x                | 0.773     | 0.548 |    | 0.720     |    |    |            |    |    | 0.383      |    |    |
| Move-Up Time, m (s)                           | 2.3       | 2.3   |    | 2.0       |    |    |            |    |    | 2.0        |    |    |
| Service Time, t <sub>s</sub> (s)              | 4.08      | 3.57  |    | 3.59      |    |    |            |    |    | 4.17       |    |    |

Capacity, Delay and Level of Service

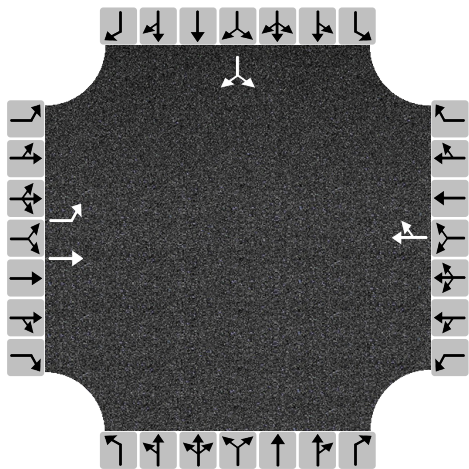
| Approach                                | Eastbound |      |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|-----------------------------------------|-----------|------|----|-----------|----|----|------------|----|----|------------|----|----|
| Lane                                    | L1        | L2   | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration                           | L         | T    |    | TR        |    |    |            |    |    | LR         |    |    |
| Flow Rate, v (veh/h)                    | 436       | 336  |    | 464       |    |    |            |    |    | 223        |    |    |
| Capacity (veh/h)                        | 565       | 613  |    | 644       |    |    |            |    |    | 583        |    |    |
| 95% Queue Length, Q <sub>95</sub> (veh) | 7.1       | 3.3  |    | 6.1       |    |    |            |    |    | 1.8        |    |    |
| 95% Queue Length, Q <sub>95</sub> (ft)  | 180.3     | 83.8 |    | 156.2     |    |    |            |    |    | 46.1       |    |    |
| Control Delay (s/veh)                   | 27.5      | 15.5 |    | 21.6      |    |    |            |    |    | 13.0       |    |    |
| Level of Service, LOS                   | D         | C    |    | C         |    |    |            |    |    | B          |    |    |
| Approach Delay (s/veh)   LOS            | 22.2      |      | C  | 21.6      |    | C  |            |    |    | 13.0       |    | B  |
| Intersection Delay (s/veh)   LOS        | 20.6      |      |    |           |    |    | C          |    |    |            |    |    |

HCS All-Way Stop Control Report

General and Site Information

|                            |                              |
|----------------------------|------------------------------|
| Analyst                    | tsj                          |
| Agency/Co.                 | DGL Consulting Engineers     |
| Date Performed             | 11/7/2024                    |
| Analysis Year              | 2049                         |
| Analysis Time Period (hrs) | 0.25                         |
| Time Analyzed              | PM Peak                      |
| Project Description        | Build                        |
| Intersection               | Bainbrige Road & Prop. Drive |
| Jurisdiction               | City of North Ridgeville     |
| East/West Street           | Bainbrige Road               |
| North/South Street         | Repurposed Drive             |
| Peak Hour Factor           | 0.73                         |

Lanes



Turning Movement Demand Volumes

| Approach               | Eastbound |     |   | Westbound |     |    | Northbound |   |   | Southbound |   |     |
|------------------------|-----------|-----|---|-----------|-----|----|------------|---|---|------------|---|-----|
| Movement               | L         | T   | R | L         | T   | R  | L          | T | R | L          | T | R   |
| Volume (veh/h)         | 60        | 288 |   |           | 269 | 27 |            |   |   | 97         |   | 168 |
| % Thrus in Shared Lane |           |     |   |           |     |    |            |   |   |            |   |     |

Lane Flow Rate and Adjustments

| Approach                             | Eastbound |       |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|--------------------------------------|-----------|-------|----|-----------|----|----|------------|----|----|------------|----|----|
| Lane                                 | L1        | L2    | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration                        | L         | T     |    | TR        |    |    |            |    |    | LR         |    |    |
| Flow Rate, $v$ (veh/h)               | 82        | 395   |    | 405       |    |    |            |    |    | 363        |    |    |
| Percent Heavy Vehicles               | 3         | 3     |    | 3         |    |    |            |    |    | 3          |    |    |
| Initial Departure Headway, $h_d$ (s) | 3.20      | 3.20  |    | 3.20      |    |    |            |    |    | 3.20       |    |    |
| Initial Degree of Utilization, $x$   | 0.073     | 0.351 |    | 0.360     |    |    |            |    |    | 0.323      |    |    |
| Final Departure Headway, $h_d$ (s)   | 6.90      | 6.39  |    | 5.99      |    |    |            |    |    | 6.00       |    |    |
| Final Degree of Utilization, $x$     | 0.157     | 0.700 |    | 0.675     |    |    |            |    |    | 0.605      |    |    |
| Move-Up Time, $m$ (s)                | 2.3       | 2.3   |    | 2.0       |    |    |            |    |    | 2.0        |    |    |
| Service Time, $t_s$ (s)              | 4.60      | 4.09  |    | 3.99      |    |    |            |    |    | 4.00       |    |    |

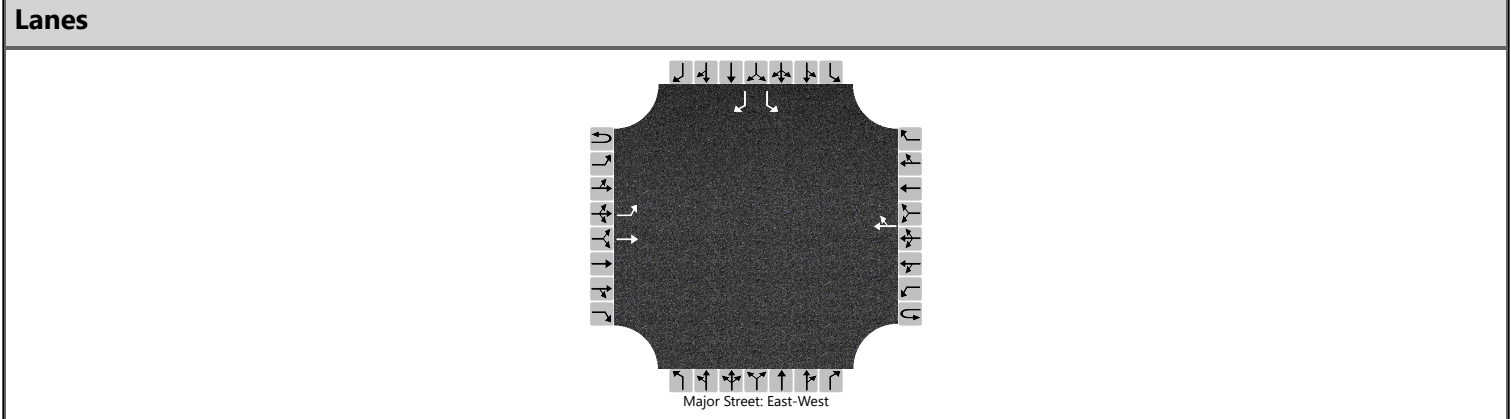
Capacity, Delay and Level of Service

| Approach                                | Eastbound |       |    | Westbound |    |    | Northbound |    |    | Southbound |    |    |
|-----------------------------------------|-----------|-------|----|-----------|----|----|------------|----|----|------------|----|----|
| Lane                                    | L1        | L2    | L3 | L1        | L2 | L3 | L1         | L2 | L3 | L1         | L2 | L3 |
| Configuration                           | L         | T     |    | TR        |    |    |            |    |    | LR         |    |    |
| Flow Rate, v (veh/h)                    | 82        | 395   |    | 405       |    |    |            |    |    | 363        |    |    |
| Capacity (veh/h)                        | 522       | 564   |    | 601       |    |    |            |    |    | 600        |    |    |
| 95% Queue Length, Q <sub>95</sub> (veh) | 0.6       | 5.5   |    | 5.1       |    |    |            |    |    | 4.0        |    |    |
| 95% Queue Length, Q <sub>95</sub> (ft)  | 15.4      | 140.8 |    | 130.6     |    |    |            |    |    | 102.4      |    |    |
| Control Delay (s/veh)                   | 10.9      | 22.6  |    | 20.5      |    |    |            |    |    | 17.8       |    |    |
| Level of Service, LOS                   | B         | C     |    | C         |    |    |            |    |    | C          |    |    |
| Approach Delay (s/veh)   LOS            | 20.6      |       | C  | 20.5      |    | C  |            |    |    | 17.8       |    | C  |
| Intersection Delay (s/veh)   LOS        | 19.8      |       |    |           |    |    | C          |    |    |            |    |    |



HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                               |
|--------------------------|--------------------------|----------------------------|-------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Prop. Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville      |
| Date Performed           | 8/21/2024                | East/West Street           | Bainbridge Road               |
| Analysis Year            | 2049                     | North/South Street         | Repurposed Drive              |
| Time Analyzed            | AM Peak                  | Peak Hour Factor           | 0.77                          |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                          |
| Project Description      | Build                    |                            |                               |



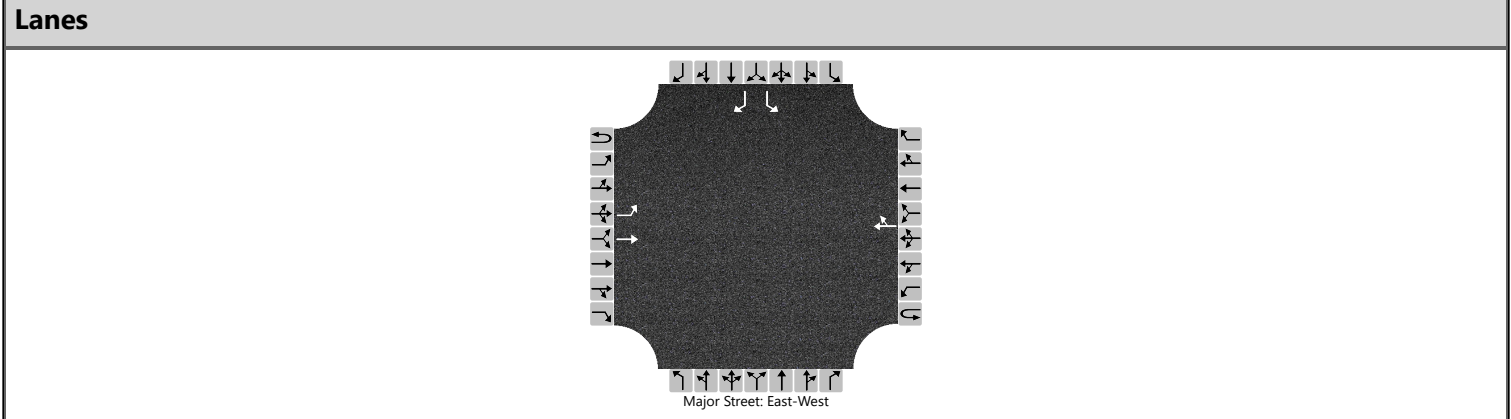
| Vehicle Volumes and Adjustments |           |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|-----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |     |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L   | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1   | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1   | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 1  | 0  | 1   |
| Configuration                   |           | L   | T   |   |           |   |     | TR |            |   |   |   |            | L  |    | R   |
| Volume (veh/h)                  |           | 336 | 259 |   |           |   | 302 | 55 |            |   |   |   |            | 35 |    | 137 |
| Percent Heavy Vehicles (%)      |           | 3   |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked         |           |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |     |     |   |           |   |     |    |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |     |     |   |           |   |     |    |            |   |   |   | No         |    |    |     |
| Median Type   Storage           | Undivided |     |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.43 |  | 6.23 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |      |       |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|------|-------|--|------|
| Flow Rate, v (veh/h)                      |     | 436  |  |  |  |  |  |  |  |  |  |  |      | 45    |  | 178  |
| Capacity, c (veh/h)                       |     | 1092 |  |  |  |  |  |  |  |  |  |  |      | 66    |  | 625  |
| v/c Ratio                                 |     | 0.40 |  |  |  |  |  |  |  |  |  |  |      | 0.69  |  | 0.28 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 1.9  |  |  |  |  |  |  |  |  |  |  |      | 3.0   |  | 1.2  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 48.6 |  |  |  |  |  |  |  |  |  |  |      | 76.8  |  | 30.7 |
| Control Delay (s/veh)                     |     | 10.5 |  |  |  |  |  |  |  |  |  |  |      | 136.8 |  | 13.0 |
| Level of Service (LOS)                    |     | B    |  |  |  |  |  |  |  |  |  |  |      | F     |  | B    |
| Approach Delay (s/veh)                    | 5.9 |      |  |  |  |  |  |  |  |  |  |  | 38.2 |       |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | E    |       |  |      |

HCS Two-Way Stop-Control Report

| General Information      |                          | Site Information           |                               |
|--------------------------|--------------------------|----------------------------|-------------------------------|
| Analyst                  | tsj                      | Intersection               | Bainbridge Road & Prop. Drive |
| Agency/Co.               | DGL Consulting Engineers | Jurisdiction               | City of North Ridgeville      |
| Date Performed           | 8/21/2024                | East/West Street           | Bainbridge Road               |
| Analysis Year            | 2049                     | North/South Street         | Repurposed Drive              |
| Time Analyzed            | PM Peak                  | Peak Hour Factor           | 0.73                          |
| Intersection Orientation | East-West                | Analysis Time Period (hrs) | 0.25                          |
| Project Description      | Build                    |                            |                               |



| Vehicle Volumes and Adjustments |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
|---------------------------------|-----------|----|-----|---|-----------|---|-----|----|------------|---|---|---|------------|----|----|-----|
| Approach                        | Eastbound |    |     |   | Westbound |   |     |    | Northbound |   |   |   | Southbound |    |    |     |
| Movement                        | U         | L  | T   | R | U         | L | T   | R  | U          | L | T | R | U          | L  | T  | R   |
| Priority                        | 1U        | 1  | 2   | 3 | 4U        | 4 | 5   | 6  |            | 7 | 8 | 9 |            | 10 | 11 | 12  |
| Number of Lanes                 | 0         | 1  | 1   | 0 | 0         | 0 | 1   | 0  |            | 0 | 0 | 0 |            | 1  | 0  | 1   |
| Configuration                   |           | L  | T   |   |           |   |     | TR |            |   |   |   |            | L  |    | R   |
| Volume (veh/h)                  |           | 60 | 288 |   |           |   | 269 | 27 |            |   |   |   |            | 97 |    | 168 |
| Percent Heavy Vehicles (%)      |           | 3  |     |   |           |   |     |    |            |   |   |   |            | 3  |    | 3   |
| Proportion Time Blocked         |           |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |
| Percent Grade (%)               |           |    |     |   |           |   |     |    |            |   |   |   | 0          |    |    |     |
| Right Turn Channelized          |           |    |     |   |           |   |     |    |            |   |   |   | No         |    |    |     |
| Median Type   Storage           | Undivided |    |     |   |           |   |     |    |            |   |   |   |            |    |    |     |

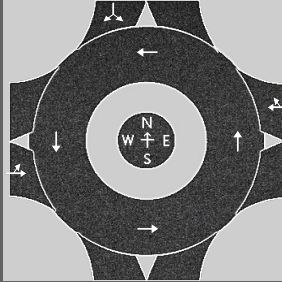
| Critical and Follow-up Headways |  |      |  |  |  |  |  |  |  |  |  |  |  |      |  |      |
|---------------------------------|--|------|--|--|--|--|--|--|--|--|--|--|--|------|--|------|
| Base Critical Headway (sec)     |  | 4.1  |  |  |  |  |  |  |  |  |  |  |  | 7.1  |  | 6.2  |
| Critical Headway (sec)          |  | 4.13 |  |  |  |  |  |  |  |  |  |  |  | 6.43 |  | 6.23 |
| Base Follow-Up Headway (sec)    |  | 2.2  |  |  |  |  |  |  |  |  |  |  |  | 3.5  |  | 3.3  |
| Follow-Up Headway (sec)         |  | 2.23 |  |  |  |  |  |  |  |  |  |  |  | 3.53 |  | 3.33 |

| Delay, Queue Length, and Level of Service |     |      |  |  |  |  |  |  |  |  |  |  |      |      |  |      |
|-------------------------------------------|-----|------|--|--|--|--|--|--|--|--|--|--|------|------|--|------|
| Flow Rate, v (veh/h)                      |     | 82   |  |  |  |  |  |  |  |  |  |  |      | 133  |  | 230  |
| Capacity, c (veh/h)                       |     | 1148 |  |  |  |  |  |  |  |  |  |  |      | 268  |  | 659  |
| v/c Ratio                                 |     | 0.07 |  |  |  |  |  |  |  |  |  |  |      | 0.50 |  | 0.35 |
| 95% Queue Length, Q <sub>95</sub> (veh)   |     | 0.2  |  |  |  |  |  |  |  |  |  |  |      | 2.6  |  | 1.6  |
| 95% Queue Length, Q <sub>95</sub> (ft)    |     | 5.1  |  |  |  |  |  |  |  |  |  |  |      | 66.6 |  | 41.0 |
| Control Delay (s/veh)                     |     | 8.4  |  |  |  |  |  |  |  |  |  |  |      | 30.9 |  | 13.4 |
| Level of Service (LOS)                    |     | A    |  |  |  |  |  |  |  |  |  |  |      | D    |  | B    |
| Approach Delay (s/veh)                    | 1.4 |      |  |  |  |  |  |  |  |  |  |  | 19.8 |      |  |      |
| Approach LOS                              | A   |      |  |  |  |  |  |  |  |  |  |  | C    |      |  |      |

# HCS Roundabouts Report

## General Information

|                     |                          |
|---------------------|--------------------------|
| Analyst             | tsj                      |
| Agency or Co.       | DGL Consulting Engineers |
| Date Performed      | 11/7/2024                |
| Analysis Year       | 2049                     |
| Time Analyzed       | AM Peak Hour             |
| Project Description | Build                    |



## Site Information

|                           |                                |
|---------------------------|--------------------------------|
| Intersection              | Bainbridge Road & Prop. Dri... |
| E/W Street Name           | Bainbridge Road                |
| N/S Street Name           | Repurposed Drive               |
| Analysis Time Period, hrs | 0.25                           |
| Peak Hour Factor          | 0.77                           |
| Jurisdiction              | City of North Ridgeville       |

## Volume Adjustments and Site Characteristics

| Approach                            | EB   |     |     |   | WB   |   |     |    | NB   |   |   |   | SB   |    |    |     |
|-------------------------------------|------|-----|-----|---|------|---|-----|----|------|---|---|---|------|----|----|-----|
| Movement                            | U    | L   | T   | R | U    | L | T   | R  | U    | L | T | R | U    | L  | T  | R   |
| Number of Lanes (N)                 | 0    | 0   | 1   | 0 | 0    | 0 | 1   | 0  | 0    | 0 | 0 | 0 | 0    | 0  | 1  | 0   |
| Lane Assignment                     |      |     | LT  |   |      |   | TR  |    |      |   |   |   |      |    | LR |     |
| Volume (V), veh/h                   | 0    | 336 | 259 |   | 0    |   | 302 | 55 |      |   |   |   | 0    | 35 |    | 137 |
| Percent Heavy Vehicles, %           | 3    | 2   | 2   |   | 3    |   | 3   | 3  |      |   |   |   | 3    | 3  |    | 3   |
| Flow Rate (V <sub>PCE</sub> ), pc/h | 0    | 445 | 343 |   | 0    |   | 404 | 74 |      |   |   |   | 0    | 47 |    | 183 |
| Right-Turn Bypass                   | None |     |     |   | None |   |     |    | None |   |   |   | None |    |    |     |
| Conflicting Lanes                   | 1    |     |     |   | 1    |   |     |    |      |   |   |   | 1    |    |    |     |
| Pedestrians Crossing, p/h           | 0    |     |     |   | 0    |   |     |    |      |   |   |   | 0    |    |    |     |
| Proportion of CAVs, %               | 0    |     |     |   |      |   |     |    |      |   |   |   |      |    |    |     |

## Critical and Follow-Up Headway Adjustment

| Approach             | EB   |        |        | WB   |        |        | NB   |       |        | SB   |        |        |
|----------------------|------|--------|--------|------|--------|--------|------|-------|--------|------|--------|--------|
| Lane                 | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right | Bypass | Left | Right  | Bypass |
| Critical Headway, s  |      | 4.9763 |        |      | 4.9763 |        |      |       |        |      | 4.9763 |        |
| Follow-Up Headway, s |      | 2.6087 |        |      | 2.6087 |        |      |       |        |      | 2.6087 |        |

## Flow Computations, Capacity and v/c Ratios

| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Entry Flow ( $v_e$ ), pc/h       |      | 788   |        |      | 478   |        |      |       |        |      | 230   |        |
| Entry Volume, veh/h              |      | 773   |        |      | 464   |        |      |       |        |      | 223   |        |
| Circulating Flow ( $v_c$ ), pc/h | 47   |       |        | 445  |       |        | 835  |       |        | 404  |       |        |
| Exiting Flow ( $v_{ex}$ ), pc/h  | 390  |       |        | 587  |       |        | 519  |       |        | 0    |       |        |
| Capacity ( $C_{pce}$ ), pc/h     |      | 1315  |        |      | 877   |        |      |       |        |      | 914   |        |
| Capacity (c), veh/h              |      | 1290  |        |      | 851   |        |      |       |        |      | 887   |        |
| v/c Ratio (x)                    |      | 0.60  |        |      | 0.55  |        |      |       |        |      | 0.25  |        |

## Delay and Level of Service

| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Lane Control Delay (d), s/veh    |      | 9.9   |        |      | 11.9  |        |      |       |        |      | 6.7   |        |
| Lane LOS                         |      | A     |        |      | B     |        |      |       |        |      | A     |        |
| 95% Queue Length, $Q_{95}$ (veh) |      | 4.2   |        |      | 3.4   |        |      |       |        |      | 1.0   |        |
| 95% Queue Length, $Q_{95}$ (ft)  |      | 105.0 |        |      | 87.0  |        |      |       |        |      | 25.6  |        |
| Approach Delay, s/veh   LOS      | 9.9  | A     |        | 11.9 | B     |        |      |       |        | 6.7  | A     |        |
| Intersection Delay, s/veh   LOS  | 10.0 |       |        |      |       |        | B    |       |        |      |       |        |





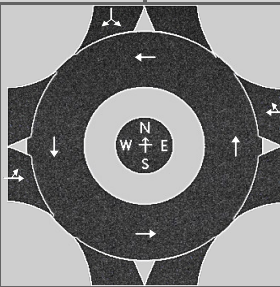
# HCS Roundabouts Report

## General Information

|                     |                          |
|---------------------|--------------------------|
| Analyst             | tsj                      |
| Agency or Co.       | DGL Consulting Engineers |
| Date Performed      | 11/7/2024                |
| Analysis Year       | 2049                     |
| Time Analyzed       | PM Peak Hour             |
| Project Description | Build                    |

## Site Information

|                           |                                |
|---------------------------|--------------------------------|
| Intersection              | Bainbridge Road & Prop. Dri... |
| E/W Street Name           | Bainbridge Road                |
| N/S Street Name           | Repurposed Drive               |
| Analysis Time Period, hrs | 0.25                           |
| Peak Hour Factor          | 0.73                           |
| Jurisdiction              | City of North Ridgeville       |



## Volume Adjustments and Site Characteristics

| Approach                            | EB   |    |     |   | WB   |   |     |    | NB   |   |   |   | SB   |     |    |     |
|-------------------------------------|------|----|-----|---|------|---|-----|----|------|---|---|---|------|-----|----|-----|
| Movement                            | U    | L  | T   | R | U    | L | T   | R  | U    | L | T | R | U    | L   | T  | R   |
| Number of Lanes (N)                 | 0    | 0  | 1   | 0 | 0    | 0 | 1   | 0  | 0    | 0 | 0 | 0 | 0    | 0   | 1  | 0   |
| Lane Assignment                     |      |    | LT  |   |      |   | TR  |    |      |   |   |   |      |     | LR |     |
| Volume (V), veh/h                   | 0    | 60 | 288 |   | 0    |   | 269 | 27 |      |   |   |   | 0    | 97  |    | 168 |
| Percent Heavy Vehicles, %           | 3    | 3  | 3   |   | 3    |   | 3   | 3  |      |   |   |   | 3    | 3   |    | 3   |
| Flow Rate (V <sub>PCE</sub> ), pc/h | 0    | 85 | 406 |   | 0    |   | 380 | 38 |      |   |   |   | 0    | 137 |    | 237 |
| Right-Turn Bypass                   | None |    |     |   | None |   |     |    | None |   |   |   | None |     |    |     |
| Conflicting Lanes                   | 1    |    |     |   | 1    |   |     |    |      |   |   |   | 1    |     |    |     |
| Pedestrians Crossing, p/h           | 0    |    |     |   | 0    |   |     |    |      |   |   |   | 0    |     |    |     |
| Proportion of CAVs, %               | 0    |    |     |   |      |   |     |    |      |   |   |   |      |     |    |     |

## Critical and Follow-Up Headway Adjustment

| Approach             | EB   |        |        | WB   |        |        | NB   |       |        | SB   |        |        |
|----------------------|------|--------|--------|------|--------|--------|------|-------|--------|------|--------|--------|
| Lane                 | Left | Right  | Bypass | Left | Right  | Bypass | Left | Right | Bypass | Left | Right  | Bypass |
| Critical Headway, s  |      | 4.9763 |        |      | 4.9763 |        |      |       |        |      | 4.9763 |        |
| Follow-Up Headway, s |      | 2.6087 |        |      | 2.6087 |        |      |       |        |      | 2.6087 |        |

## Flow Computations, Capacity and v/c Ratios

| Approach                         | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |
|----------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|
| Lane                             | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |
| Entry Flow ( $v_e$ ), pc/h       |      | 491   |        |      | 418   |        |      |       |        |      | 374   |        |
| Entry Volume, veh/h              |      | 477   |        |      | 406   |        |      |       |        |      | 363   |        |
| Circulating Flow ( $v_c$ ), pc/h | 137  |       |        | 85   |       |        | 628  |       |        | 380  |       |        |
| Exiting Flow ( $v_{ex}$ ), pc/h  | 543  |       |        | 617  |       |        | 123  |       |        | 0    |       |        |
| Capacity ( $c_{pce}$ ), pc/h     |      | 1200  |        |      | 1265  |        |      |       |        |      | 937   |        |
| Capacity (c), veh/h              |      | 1165  |        |      | 1229  |        |      |       |        |      | 909   |        |
| v/c Ratio (x)                    |      | 0.41  |        |      | 0.33  |        |      |       |        |      | 0.40  |        |

## Delay and Level of Service

| Approach                                | EB   |       |        | WB   |       |        | NB   |       |        | SB   |       |        |   |  |
|-----------------------------------------|------|-------|--------|------|-------|--------|------|-------|--------|------|-------|--------|---|--|
| Lane                                    | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass | Left | Right | Bypass |   |  |
| Lane Control Delay (d), s/veh           |      | 7.3   |        |      | 6.0   |        |      |       |        |      | 8.6   |        |   |  |
| Lane LOS                                |      | A     |        |      | A     |        |      |       |        |      | A     |        |   |  |
| 95% Queue Length, Q <sub>95</sub> (veh) |      | 2.0   |        |      | 1.5   |        |      |       |        |      | 1.9   |        |   |  |
| 95% Queue Length, Q <sub>95</sub> (ft)  |      | 50.0  |        |      | 38.4  |        |      |       |        |      | 48.6  |        |   |  |
| Approach Delay, s/veh   LOS             | 7.3  |       | A      |      | 6.0   |        | A    |       |        |      | 8.6   |        | A |  |
| Intersection Delay, s/veh   LOS         | 7.2  |       |        |      |       |        | A    |       |        |      |       |        |   |  |

Page 600 of 640







# **NORTH RIDGEVILLE CITY SCHOOLS**

New High School + Transportation and Maintenance Facility

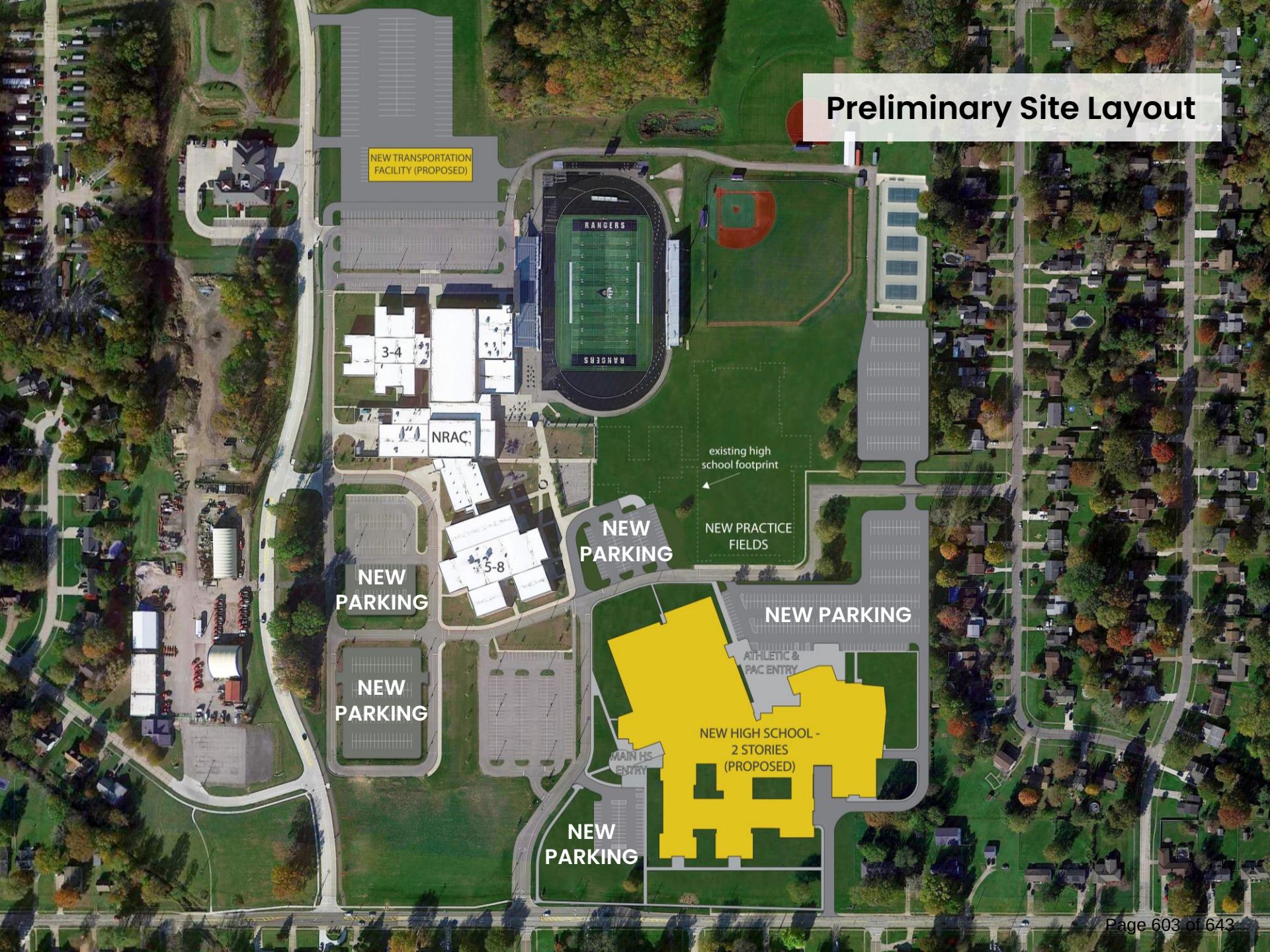
## **Planning Commission Submission**

November 15, 2024





# Preliminary Site Layout



NEW TRANSPORTATION  
FACILITY (PROPOSED)

3-4

NRAC

5-8

NEW  
PARKING

existing high  
school footprint

NEW PRACTICE  
FIELDS

NEW  
PARKING

NEW  
PARKING

NEW PARKING

ATHLETIC &  
PAC ENTRY

NEW HIGH SCHOOL -  
2 STORIES  
(PROPOSED)

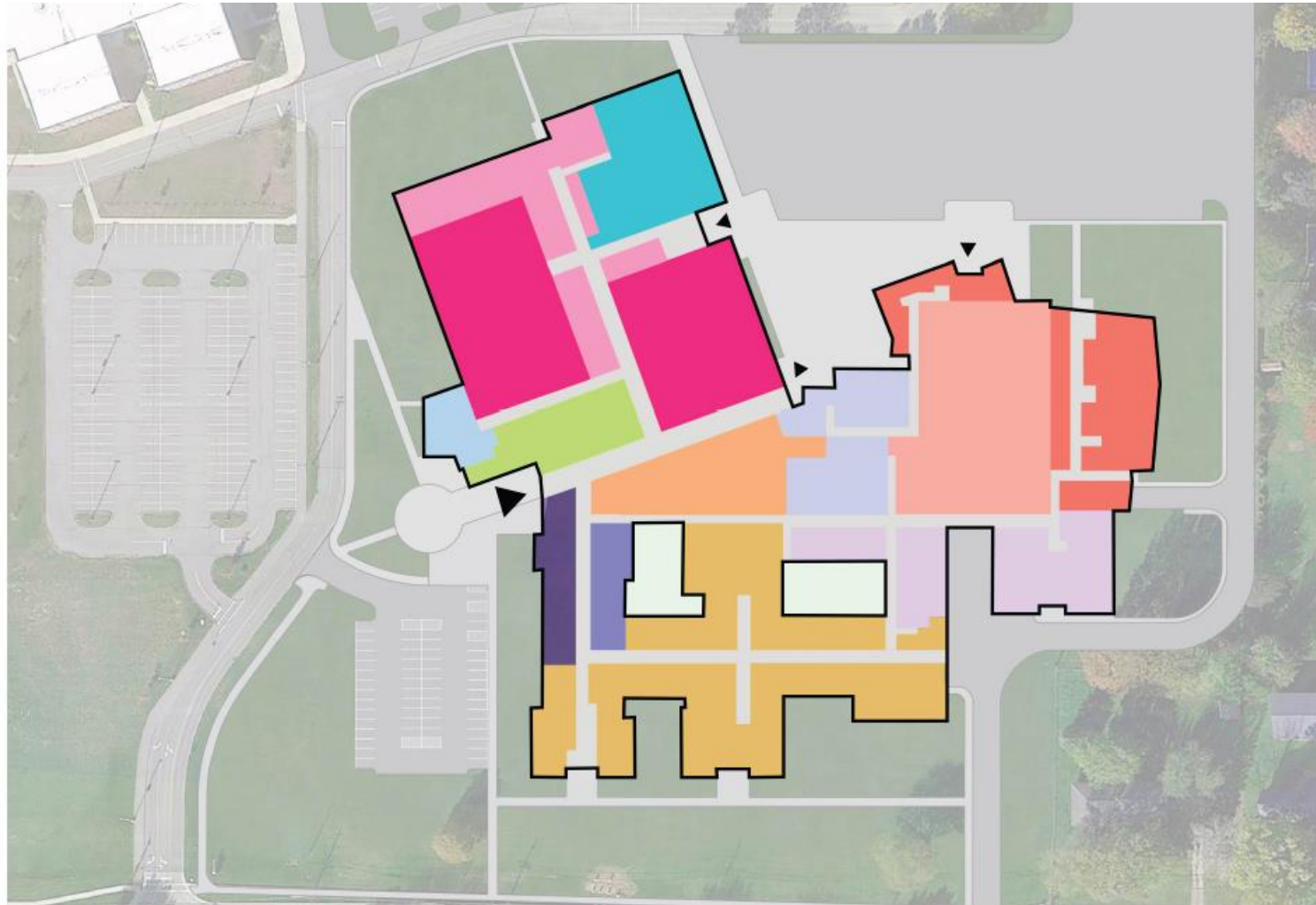
MAIN HS  
ENTRY

NEW  
PARKING



# First Floor Diagram

North Ridgeville High School



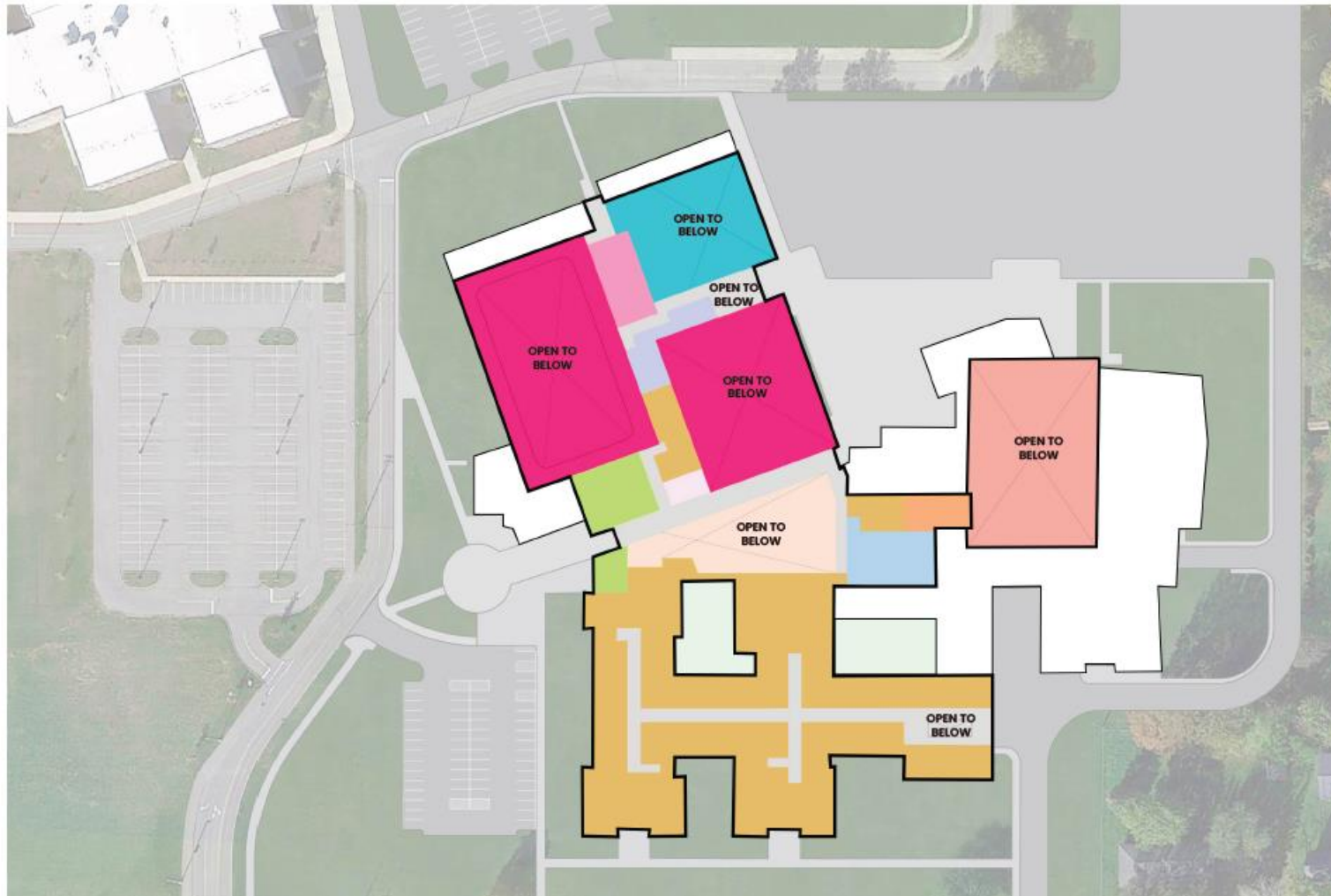
## Legend

- Gymnasium
- Athletics
- Natatorium
- Meeting Space
- Administration
- Student Dining
- Kitchen + Mechanical
- Family Consumer Science
- School Store + Business
- Academic Space
- Auditorium
- Music
- Art + Career Tech
- Courtyard



# Second Floor Diagram

North Ridgeville High School

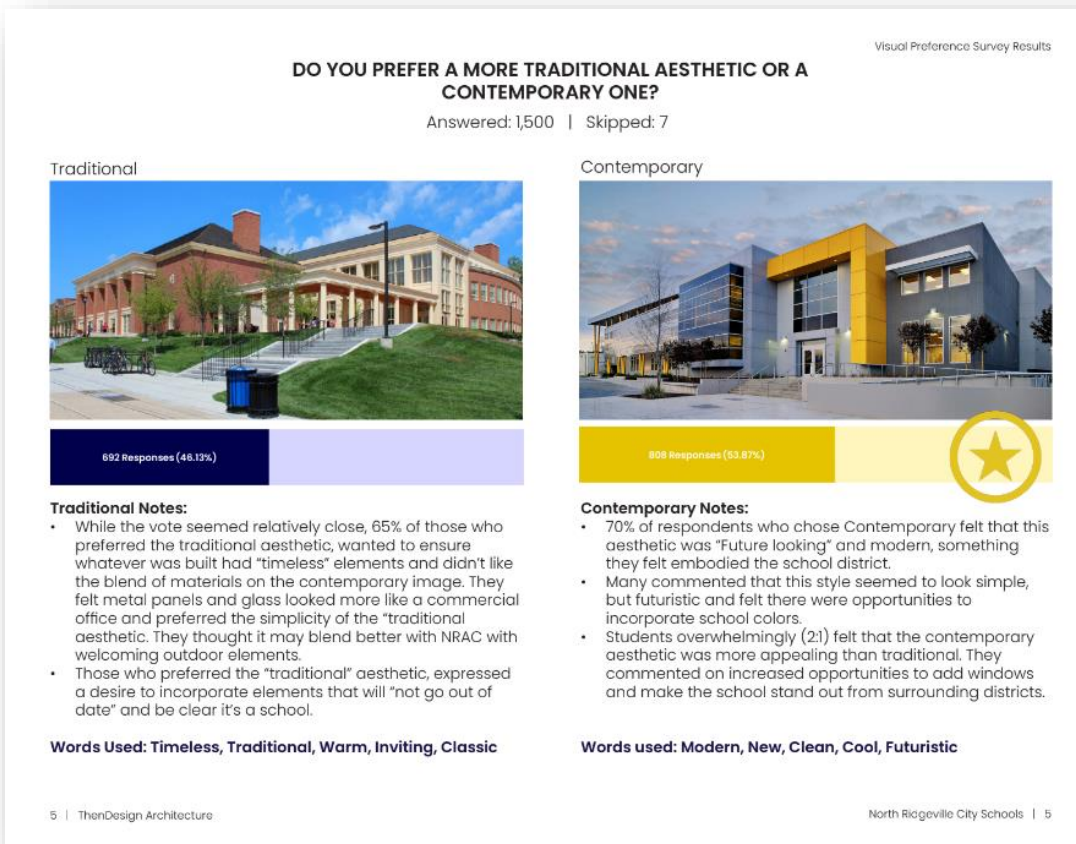


## Legend

- Gymnasium
- Athletics
- Natatorium
- Administration
- Staff Dining
- Academic Space
- Auditorium
- Courtyard
- Mechanical
- Media Center

# Visual Preference

## Community Providing Feedback on Exterior Design



The feedback from this survey will be incorporated into the design process to help guide the exterior aesthetic of the new high school.

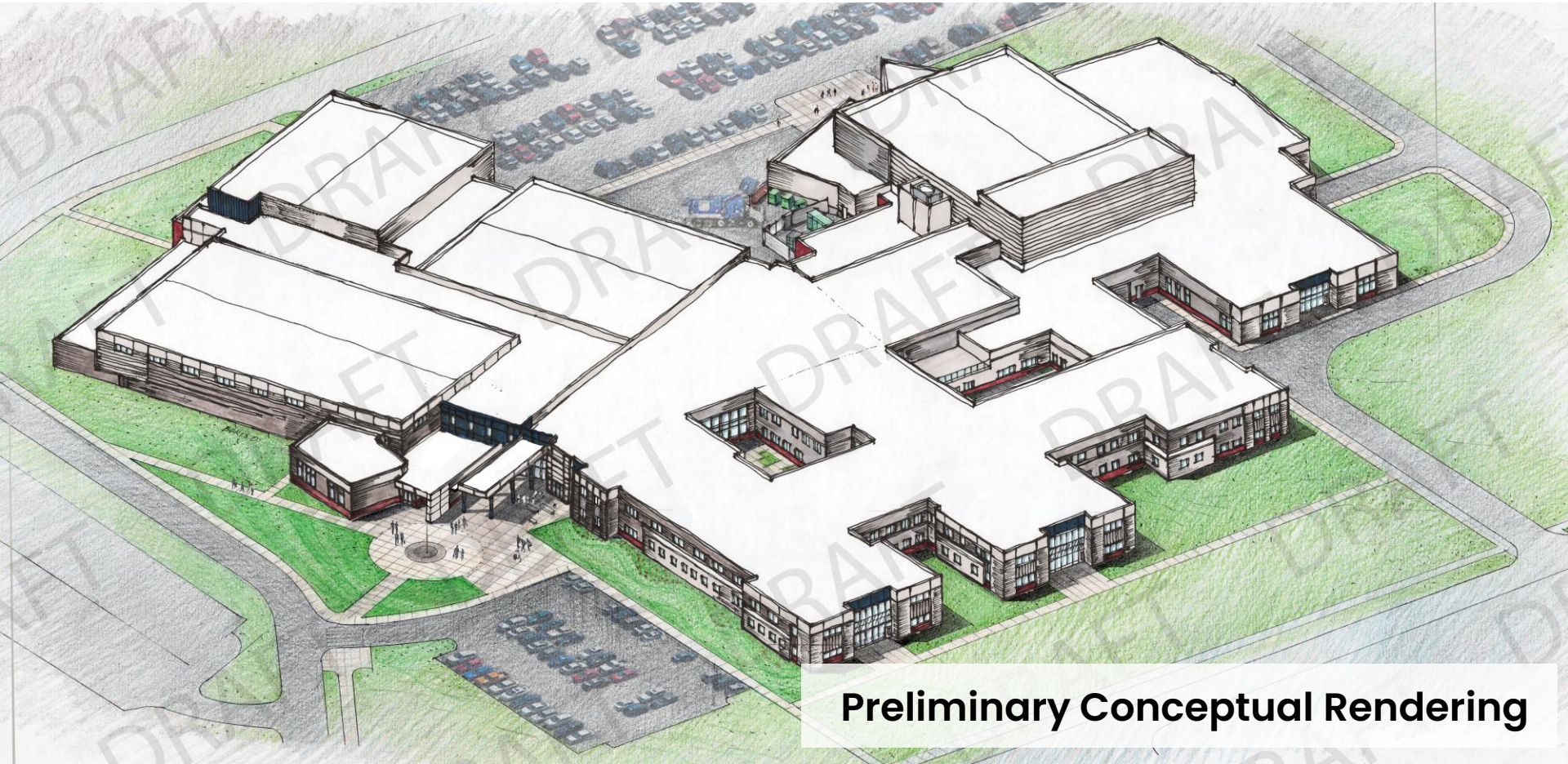


- A **transition** from a middle school to a high school environment
- Aspects of a "Timeless Design"
- A **Statement Entry**
- An **overhang/covering** for the Student Entry
- Exterior **Textures**



# Southwest Exterior Axonometric

North Ridgeville High School

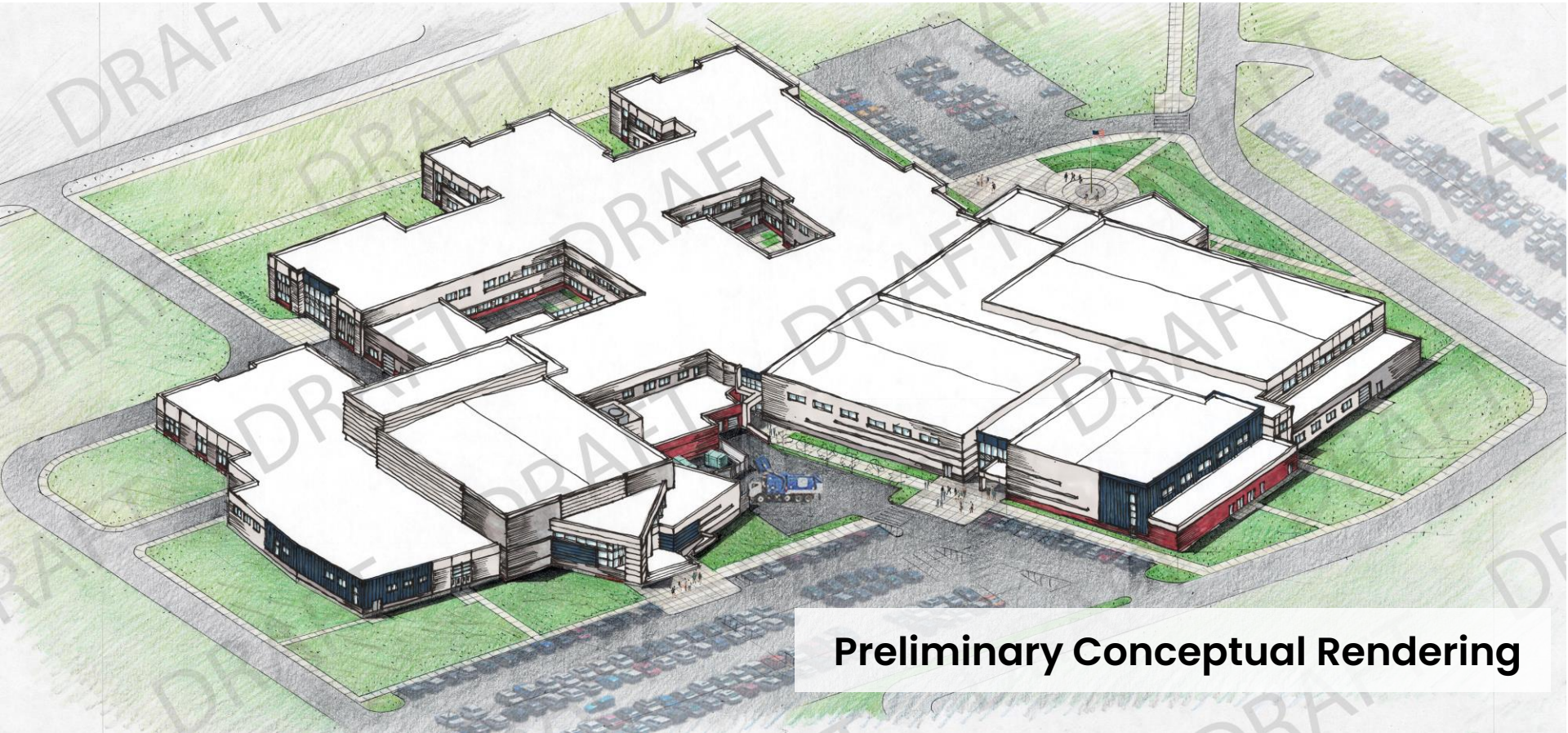


Preliminary Conceptual Rendering



# Northeast Exterior Axonometric

North Ridgeville High School



Preliminary Conceptual Rendering



# Primary Entrance

North Ridgeville High School

Preliminary Conceptual Rendering





# Performing Arts Center Entrance

North Ridgeville High School

Preliminary Conceptual Rendering





# Natatorium and Student Athlete Entrance

North Ridgeville High School

Preliminary Conceptual Rendering





# TIMELINE: BUILDING PROGRAM



2025

2026

2027

2028

EARLY SITE

HS BUILDING CONSTRUCTION

DEMO HS

TRANSPORTATION



Transportation Opens  
January 2026



High School Opens  
2028-29 SY



# TIMELINE: FALL 2024



ACADEMIC  
CENTER

NRHS

T/M

RANGER WAY

BAINBRIDGE RD



# TIMELINE: MARCH 2025



CONSTRUCTION ZONE

ACADEMIC  
CENTER

NRHS

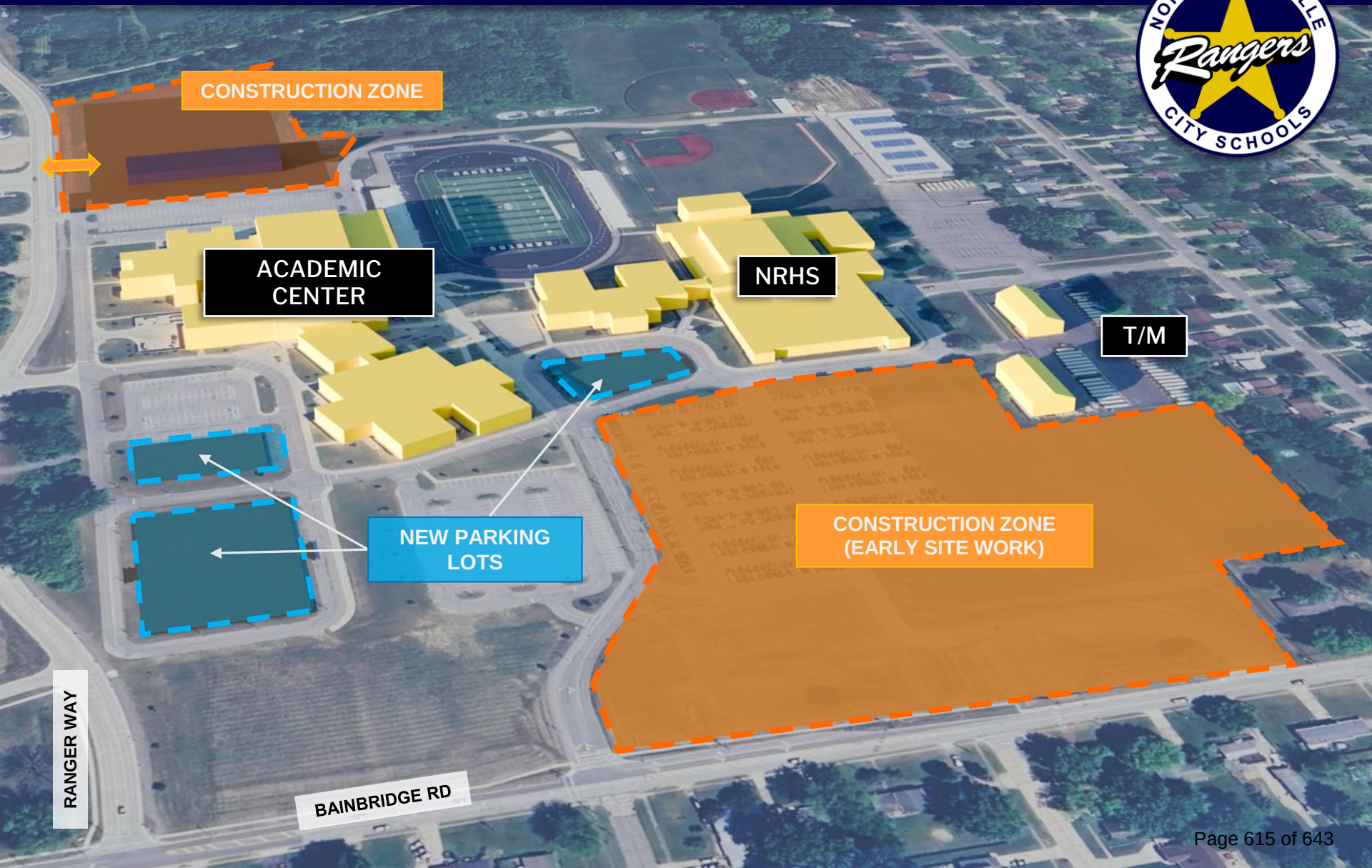
T/M

RANGER WAY

BAINBRIDGE RD



# TIMELINE: SUMMER 2025





# TIMELINE: FALL 2025



CONSTRUCTION ZONE

ACADEMIC  
CENTER

NRHS

T/M

NEW PARKING  
LOTS

CONSTRUCTION ZONE  
(EARLY SITE WORK)

RANGER WAY

BAINBRIDGE RD



# TIMELINE: WINTER 2025-2026



★  
TRANSPORTATION  
CENTER OPENS

ACADEMIC  
CENTER

NRHS

DEMO

CONSTRUCTION ZONE

RANGER WAY

BAINBRIDGE RD



# TIMELINE: SPRING 2026 – SPRING 2028





# TIMELINE: START OF 2028-29 SY



ACADEMIC  
CENTER

DEMO

NRHS

FIRST DAY OF SCHOOL

RANGER WAY

BAINBRIDGE RD



# TIMELINE: FALL 2028



ACADEMIC  
CENTER

FIELDS SEEDED

NRHS

RANGER WAY

BAINBRIDGE RD

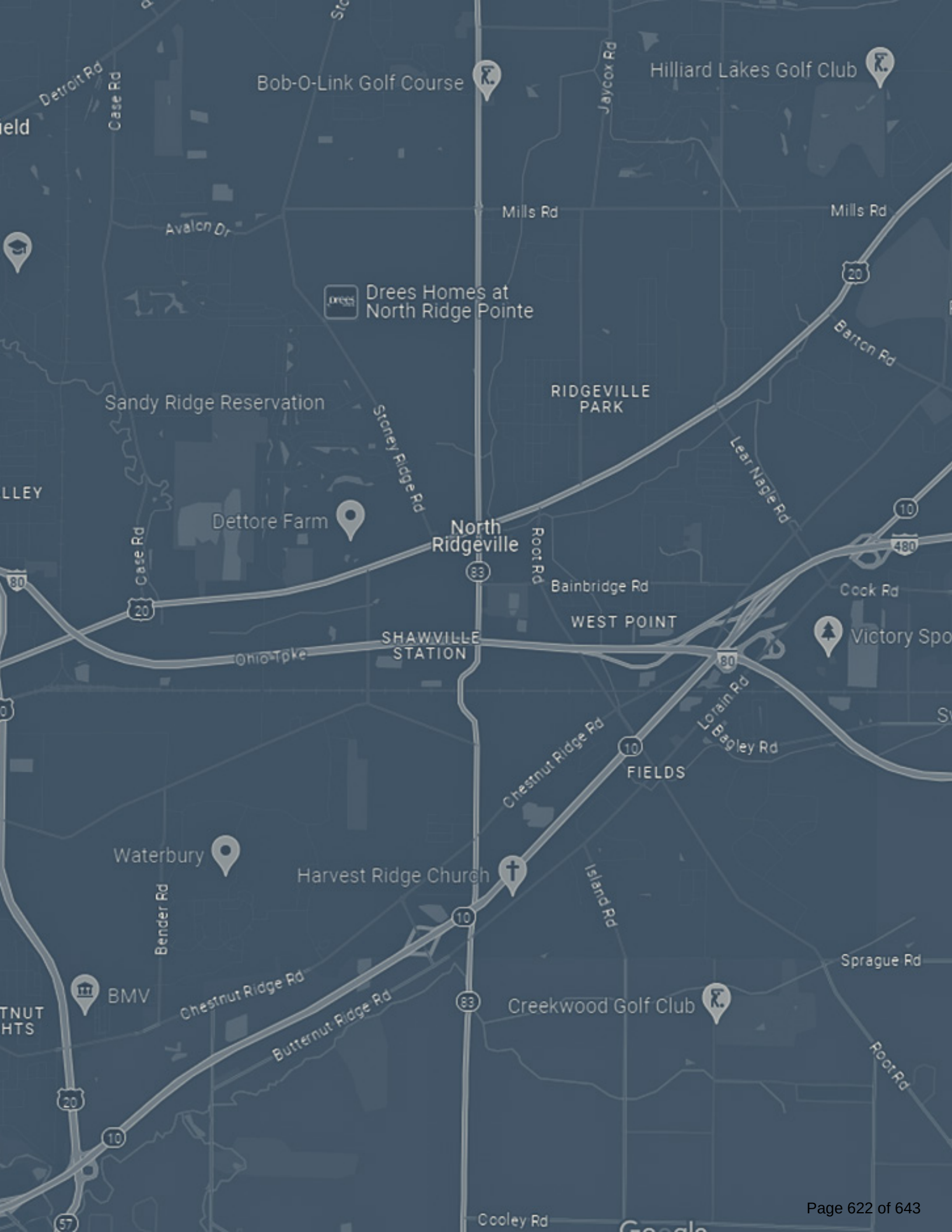


CITY OF NORTH  
*Ridgeville*  
EST 1810



**Planning &  
Zoning Code**  
DIAGNOSIS







# Contents

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# Introduction

The purpose of this diagnosis is to provide detailed documentation of the strengths and weaknesses of the current North Ridgeville Planning and Zoning Code. This report intends to identify potential approaches to the existing deficiencies in the current regulations and to provide a proposed outline for the new code's structure. This diagnosis and outline are based on discussions with city staff, leadership, boards and commission members, stakeholders, the project advisory committee, the feedback from the public survey and our review of the existing regulations.

It is important to keep in mind that this diagnosis does not necessarily identify every issue or individual problem with the existing ordinance but tries to focus on the broader issues that will need direction from the city prior to our drafting of the updated code.

## General Recommendations

As a result of the discussions held during the diagnosis process, clear recommendations emerged which would improve the organization and accessibility of the Zoning Code. Those recommendations include:

- › Re-organize the Planning and Zoning Code to present the information in a more logical order to make it easier to navigate. See pages 24-25 for the existing and proposed organization of the Planning and Zoning Code.
- › Create a clear separation between building, business, and zoning requirements and relocate regulations from the business and building code to the zoning code and vice versa as applicable. See Section 1294.11 and Chapter 1462 for examples.
- › Simplify, modernize, and consolidate uses where possible.
- › Consolidate all definitions into one title, remove antiquated language and ensure consistency between terms throughout the code.
- › Remove all the cross references at the start of each title.
- › Ensure that terminology is consistent with state law for uses that are regulated by the Ohio Revised Code, where applicable (i.e., residential treatment facilities, residential facilities, type A family day-care homes, type B family day-care homes, etc.).
- › Incorporate additional tables, graphics, and illustrations to make regulations simpler and easier to understand.
- › Ensure that all references are the same in the document and refer to either the "code" or the "Planning and Zoning Code."





## Implement the Master Plan

The Ridgeville Ready Master Plan includes several recommendations for ways the Planning and Zoning Code could be updated in order to align with the plan's vision. These recommendations are included below, organized by the chapter in which they were located. The proposed ways in which these recommendations are to be implemented within the code are identified within the Analysis of the Existing Code starting on page 9.

### › Land Use

- Establish site design standards to create strong and attractive neighborhoods and ensure new development respects and provides appropriate transitions to adjacent properties.
- Review the business districts and other non-residential zoning districts and consolidate districts that are similar in nature and intent while also providing improved standards.
- Create mixed-use districts and/or allow for mixed-use within designated business districts along commercial corridors.
- Support proactive rezoning of property consistent with the adopted Master Plan to improve long-term land use outcomes.



### › Economy

- Eliminate split zoning to maximize the development potential on commercial corridors such as Center Ridge Road.
- Create basic design and landscape standards to improve aesthetics and uniformity along key corridors.

### › Housing

- Update residential zoning districts to remove unused districts, redundancy, and create a hierarchy of districts by lot size and densities and promote housing options.
- Update subdivision regulations and implement developer agreements to ensure consistent and harmonious guidelines for developers and establish the city's expectations for quality development (e.g., usable open space, limit culs-de-sac or dead-end streets).



- Improve the development review process to make it easier for applicants to understand what process applies to them and what that process is.
- Simplify terms and definitions within the code to ensure they are consistent and that definitions are easy to understand.

#### › Mobility and Physical Infrastructure

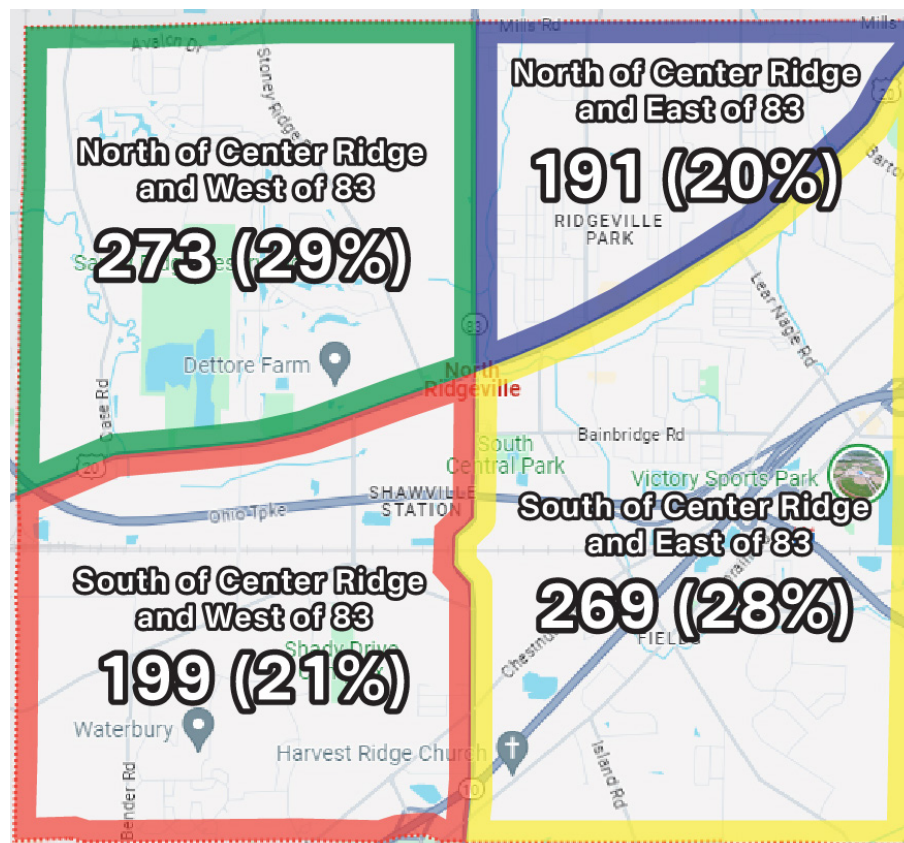
- Address sustainable design practices in the zoning code including rain gardens, bioswales, electric vehicle charging stations, and similar technologies.
- Restrict or limit new culs-de-sac and dead-end streets within subdivisions.

#### › Town Center

- Establish a mixed-use zoning district in order to direct the development and design of the Town Center that includes flexibility for potential uses as well as design standards to ensure the final product meets the community's goals.

## Public Survey Summary

This project included the publication of a public online survey in order to obtain feedback on zoning priorities, future housing and commercial development, community amenities and overall zoning needs and concerns. The survey was open from May 20 to June 26, 2024 and received 962 responses. A complete summary of the survey results is available [here](#), but the highlights are provided herein.



*Of the 954 responses to the survey, 922 were from residents.*

"Of the codes we read, we felt



## PROTECTIONS FOR GREEN SPACE



## REQUIREMENTS FOR PLANNED COMMUNITIES



## GUIDELINES FOR PROPERTIES

where commercial abuts residential areas were **PARTICULARLY PROBLEMATIC**. We agree that zoning codes are one of the best tools for shaping the future of the city, and it needs to be done before significant development happens."

**86%** of survey respondents **SUPPORT THE CITY ADOPTING DESIGN GUIDELINES** for new commercial buildings to help set an architectural standard along Center Ridge Road and Lorain Road.

Housing options that describe survey respondents' interests/needs:

- 1. SINGLE-FAMILY NEIGHBORHOODS (72%)**
- 2. RURAL HOMESTEADS (30%)**
- 3. AGING-IN-PLACE/DOWNSIZING (29%)**
- 4. CONDOS/APARTMENT UNITS (11%)**

When asked "Which Open Space amenities do you like for residential neighborhoods?"

**70%** said **"POND WALKING PATHS."**



**The following were rated as the highest priorities for the Planning and Zoning Code update by survey respondents.**

- › Address access management and efficient traffic circulation.
- › Protect residential properties from the impacts of neighboring commercial development (light, noise, odors, etc.)
- › Limit undesirable or redundant business uses.
- › Address new business types/uses.
- › Create clear standards in a user-friendly format.
- › Improve/increase open space requirements in new developments.

**Additional priorities include:**

- › Limiting new housing developments
- › Improving commercial areas and bringing in new businesses
- › Improving and expanding sidewalk networks
- › Improving and expanding parks and greenspace

## **Analysis of the Existing Code**

This analysis sets forth a section-by-section review of the city's current Planning and Zoning Code and proposes changes to either the organization or the substance within each section. These proposals are based on our professional assessment of the code, researching best practices on relevant topics, reviewing the city's recent zoning variances and development regulations, discussions with city staff, the advisory committee, and stakeholder groups and feedback from the public survey. The intent of this analysis is not to provide line-by-line edits, but rather to identify key issues that may need to be addressed in the update process.

The city's existing Planning and Zoning Code is organized into a series of titles with sections and sub-sections located within. The following analysis is presented in the same flow as the existing code with each title and its sections identified.

### **Title Two. Planning**

#### **1210 - Planning Commission**

- › The Planning Commission Rules and Procedures/Charter need to be reviewed to ensure the Planning and Zoning Code update is consistent with their respective regulations.
- › Move "traffic impact study" regulations to the administration/procedures chapter.

- › Move "similar use determination" regulations to use chapter.

#### **1212 - Comprehensive Plan (Master Plan)**

- › Change specific references to plans to "the current adopted Comprehensive Plan/Master Plan" to prevent having to update the reference whenever a new comprehensive/master plan is adopted.

## Title Four. Subdivision Regulations

### 1220 – General Provisions and Definitions

- › Clarify the vague language regarding frontage requirements.
- › Remove duplicated separability and general clauses once the Planning and Zoning Code has been converted to a Unified Development Ordinance (UDO).
- › Include the phrase "as amended" whenever the Ohio Revised Code (ORC) or other codes are referenced to ensure that the reference is still valid if the code is amended or moved or include a section clarifying that all references to the ORC or other codes include any amendments.
- › Clarify the building setback line definition.
- › Remove 1220.07(d). Frontage variances should be reviewed utilizing the same standards as other variances. Clarify under the BZA powers what they can grant variances for.
- › Remove 1220.08 since zoning doesn't apply to the County Health Department.

### 1222 – Administration, Enforcement and Penalty

- › Consolidate administration, enforcement, and penalty for subdivision regulations and zoning in one chapter.

### 1224 – Platting Procedure

- › Remove signature blocks from the Planning and Zoning Code.
- › Clarify minor subdivision requirements and change process.
- › Clarify the platting process and ensure it is clear when construction plans are required.

### 1226 – Design Standards

- › It is recommended that much of the design standards be removed from the Planning and Zoning Code and located in a separate subdivision manual. This would allow staff to make updates to these standards as needed without going through a full code amendment process. This would be done with the recommendation of the City Engineer.
- › Elaborate on the street tree requirement to include when street trees are required, where they are required, and if there are any species restrictions. All updates should be coordinated with updates to Chapters 1030 and 1032.
- › Remove Section 1226.07 Off Street Parking and Loading. It is proposed that there will be a new dedicated chapter to the topic.
- › Confirm and update as applicable, minimum easement widths, corner radii at intersections, and other design standards with the City Engineer (or remove if being relocated to the manual).
- › Remove the lot width-to-depth ratio requirement.
- › Update the standards for walk widths and review the standards for block length in new subdivisions.
- › Consider including walk easements for new blocks.
- › Provide more specific guidance for how much additional lot width is required for corner lots and clarify vague language.
- › Provide more specific requirements for planting screens such as what is the required quantity, type, height, etc.
- › Eliminate 1226.12 neighborhood unit-type developments regulations.
- › Work with the City's Engineering Department to determine what access management and traffic circulation design standards should be incorporated into the code.

## 1228 - Improvements

- › Move duties of the City Engineer to the proposed administration chapter with other city officials, boards, and commissions.
- › There is discrepancy on downspout drainage regulations, especially related to existing structures. Recommend talking to the City Engineer about whether the downspout drainage regulations should be updated to include a standard for all structures.
- › The subdivision process is not clear, the update to the Planning and Zoning Code should plainly state the process and include flowcharts as applicable.
- › Update the "Subdivider's Agreement" based on current agreements and engineering comments.
- › Remove Engineering Details and lighting installation requirements from the code.

## Appendix I - Method of street naming

- › Remove from Planning and Zoning Code and locate in the proposed subdivision manual. This will allow the city to update as necessary without going through a text amendment process.

## Appendix II - Street Standards

- › Remove from the Planning and Zoning Code and locate in the proposed subdivision manual. This will allow the city to update as necessary without going through a text amendment process.

## Title Six. Zoning

### 1240 - General Provisions and Definitions

- › Move the computation of required yard area to the proposed measurement section.
- › Definitions
  - Clarify what terms are being used for city staff (Administrative Officer, Chief Building

Official, City Engineer, Planning and Economic Development Director, etc.)

- Align all definitions with code terms used in the use table.
- Modernize and add definitions that are missing.
- Remove antiquated definitions.
- Align "agriculture" definition with the ORC.
- Better define "dwelling."
- Define lot coverage.
- Define barndominiums.
- › Include clause that the city owned properties are exempt from zoning subject to the limits of the Charter.

### 1242 - Administration, Enforcement and Penalty

- › Change gender specific terms (his/her) to non-binary terms (them/they/their) - i.e., "shall serve as their designee" instead of "shall serve as his/her designee".
- › Update the penalty section to remove any references to the dollar amount of fines and as needed based on the review of the City Law Department.

### 1243 - Permits and Development Review

- › Update and clarify what qualifies as an "administrative review". Consider making it an addition that is a percentage of the building size or a maximum size (i.e., a building addition of no more than 10 percent or 5,000 square feet, whichever is less, may qualify as an administrative review).
- › Remove signs from the development plan requirements other than showing proposed locations. Generally, signs are submitted later in the process and not with the development plan.
- › Add a development plan requirement for how the development is going to screen mechanical units.



## 1244 – Board of Zoning Appeals

- › Include the required minimum number of days that is required for BZA public hearing notices. The Planning and Zoning Code currently states a "reasonable time".
- › Change BZA review criteria to the Duncan Standards which are the seven criteria the Ohio Supreme Court laid out for granting an area variance in the case "Duncan vs. Middlefield". This is considered best practice.

## 1246 – Amendments

- › Include review criteria for zone changes.

## Sections 1247, 1248, 1250, 1252, 1254, 1256, 1258, 1260, 1262, 1264, 1266, 1268, 1270, 1272, 1274, 1276 and 1278

### › Uses and Use Regulations

- Create a permitted use table and review and update permitted, conditional, accessory, and temporary uses.
- Create use specific standards for uses that have specific regulation requirements. This generally includes regulations for very specific uses such as fueling stations which need specific regulations for fuel canopies, pump islands, incorporating multiple uses such as car washes, etc. This also includes establishing larger setback requirements for certain uses that should be above and beyond the minimum requirements of the zoning districts. This usually applies to uses such as drive-thrus, industrial uses, outdoor storage areas, etc.
- Add in language for short term rentals.
- Carefully review senior facilities and which zoning districts they are permitted.
- Clarify that an accessory structure is not permitted without a principal structure on the same lot. Consider adding in an exemption to this requirement for specific land uses (agriculture, outdoor recreation) where a principal structure is not always necessary.
- Address group homes/congregate living.
- Include the use manufactured home/trailer parks.
- Address outdoor storage, self-storage, and additional storage classifications.
- Schools, churches and other public/semi-public uses are permitted by right, consider making them conditional.
- Designate the districts that allow mixed-use development based on the recommendations of the Master Plan and create use specific standards.
- Address food trucks and other temporary places of business.
- Address generators as accessory structures.
- Create standards for agricultural structures and improvements as necessary.
- Address home occupations and consider a tiered structure to allow more intensive home occupations on large lots.

### › Dimensional and Design Regulations

- Present setbacks and dimensional requirements in a table and relocate this information to the proposed Title Five: Dimensional and Design Standards.
- Add in requirements for parking lot setbacks, impervious surfaces, and other dimensional standards as appropriate.
- Review density requirements based on minimum lot size.
- Remove the specific architectural requirements for the B-5 district and replace with general design standards, form, and massing regulations that will apply to all the commercial and mixed use zoning districts.

- Reconsider R-1 lot sizes (standard R-1 lot size requirements are rather large (16,200 sf for lots served by public utilities) so it is very unlikely that a developer would use the existing regulations to build a new subdivision. This means that these regulations generally only apply to lot splits of existing R-1 zoned lots as new subdivisions will come in as PUDs (previously Cluster Subdivisions). This may be affected by the proposed changes to the residential zoning districts as identified in the Zoning Map section.

#### › Zoning Districts

- Modify the business zoning districts based on the recommendations in the Zoning Map section for more information.
  - Modify the industrial districts based on the recommendations in the Zoning Map section for more information.
  - Modify the residential districts based on the recommendations in the Zoning Map section for more information.
  - Create a new mixed-use "Town Center" zoning district as proposed and recommended by the Master Plan.
  - Change the definition of a residential district. Currently the definition includes residential uses on non-residentially zoned property. This means that a commercial use on a commercial lot with a residential neighbor on a commercial lot is subject to greater requirements for building setbacks and buffering than would otherwise be required.
- › Review stormwater storage requirements that are specified only in industrial districts and work with the city to determine whether the regulations are different from what is required in other developments.
- › Remove references to signs, off-street parking, street trees, streetlights, and other similar chapters/sections and relocate that information to the proposed Title Six: Development Standards.

### 1273 – Special Development District

- › Remove the Special Development District process and replace it with a Planned Unit Development process.

### 1279 – PCD Planned Community Development District

- › The Planned Community Development District only applies to existing areas that are zoned this way. The standards and requirements can remain in the update code, but process information for creating a new district can be removed as it is no longer applicable.

### 1280 – Cluster Subdivisions and 1282 – Single-Family Detached and Cluster Development

- › Remove and replace with a Planned Unit Development process.
- › Include previously approved 1280 and 1282 subdivisions on the zoning map as overlay districts and include the standards and requirements that were approved as part of the subdivision.
- › Section 1282 has a 20 percent open space requirement but there are no limits on what can be included in that open space (stormwater ponds, wetlands, skinny unusable strips between sublots, etc.). Some of the requirements and process listed in this chapter do not align with the requirements of the subdivision regulations. These need to be updated to provide usable open space for the residents of subdivisions.

### 1285 – Parking, Loading, and Lighting

- › Review and update applicability language to clarify when these regulations are required and add language that encourages the redevelopment of underutilized parking areas.
- › Clarify that off-street parking spaces for a residential use can be in a driveway or garage.
- › Ensure the uses that are listed in the parking requirements section align with the uses located in the use table for consistency.

- › Expand the electric vehicle parking regulations to address the different types of EV charges and some additional specifics of how and where they can be installed.
- › Add "where measured from" to the vehicle stacking requirements table.
- › Incorporate ingress/egress regulations with driveway regulations for distance requirements between driveways and to intersections.
- › Add in a requirement that a pedestrian path should be provided within parking areas to allow for safe pedestrian passage.
- › Move lighting regulations to a separate chapter and address more than just parking lot illumination. Lighting regulations should address requirements for full-cutoff lighting, lighting plan requirements, photometric regulations, lighting height and design standards and dark sky requirements.
- › Clearly state that the use of gravel for the surfacing of driveways is prohibited.
- › Include limits on the area of paved surfaces on residential properties.
- › Revisit the parking of vehicles and RVs on residential properties.

### 1286 – Signs

- › The existing sign section will be incorporated into the updated Planning and Zoning Code as it was recently updated by the city. The proposed updates are minor in nature and are intended to improve accessibility.
- › Add a definition for "mural" and "public art".
- › Move vision clearance requirement to the proposed measurement section as it applies to more than just signage.
- › Clarify and add a graphic for how sign height is measured on a slope.
- › Include pictures and graphics for each type of sign.



- › Recommend looking closely at the prohibited sign sections of the code and ensure that all signs that the city does not want are listed as prohibited.

## 1288 - Buffer Strips

- › Present landscaping and buffering requirements in a table format.
- › Expand buffering and landscaping regulations.
- › Add setback/buffer requirements from streams, creeks, and wetlands.
- › Consider adding tree preservation regulations to help protect the mature trees within the community.

## 1292 - Nonconforming Structures and Uses

- › Move to the proposed Title Two: Administration and Procedures.

## 1294 - Supplementary Regulations

- › Add "essential services" to the use table.
- › Consolidate "basement dwellings" with proposed ADU regulations and determine which types of ADUs are appropriate in different areas of the City.
- › Add a section dedicated to temporary structures and uses.
- › Add a section dedicated to accessory structures and uses and regulate the size of accessory structures based on lot size.
- › Add regulations for farm animals such as chickens, cattle, etc. and create restrictions for the number or type of animal based on the size of the property.
- › Rename "house trailer" to "recreational vehicle".
- › Move "building height limitations" and "area and yard requirements, projections" to the proposed measurements section.

- › Create a separate chapter for fences and add in graphics to show how fences are measured. Clarify where they are allowed on corner lots and through lots.
- › Move "parking and storage of recreational equipment and trailers on residential property", "detached private garages", and "height limitations for antennas" to the accessory/temporary use requirements.
- › Move "setback requirements for Center Ridge Road" to proposed dimensional chapter.
- › Make standards for outbuildings consistent. Under half acre is a square footage limit. Over half acre is based on 10 percent lot coverage.
- › Address carports.
- › Address wireless communication facilities.
- › Include standards or limitations on temporary tent structures.
- › Consider revisiting the parking of vehicles and RVs on residential properties.

## Appendix I - Summary of Requirements for all Districts

- › Remove and move information to the proposed Title Five: Dimensional and Design Standards.

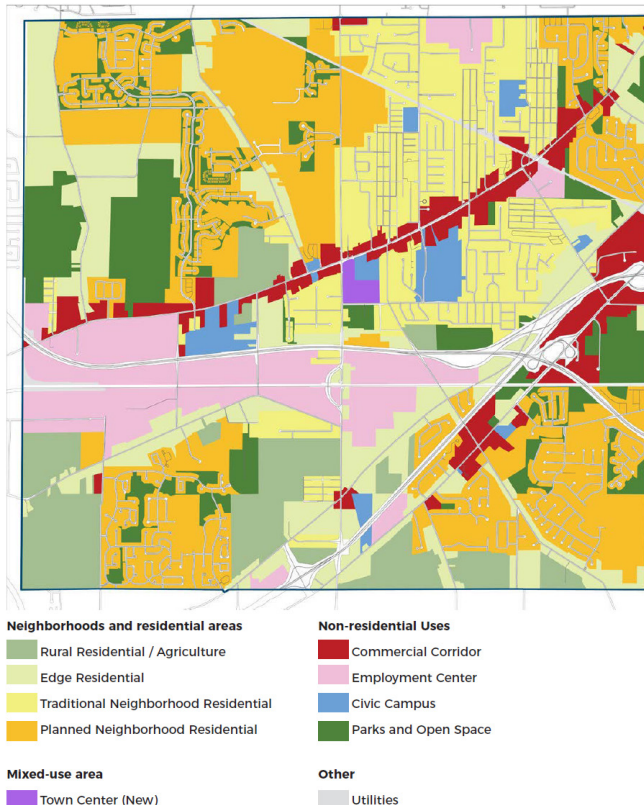
## Zoning Map

### Residential Districts

Including the Special Residence Districts, there are a total of seven residential zonings districts in North Ridgeville which range in minimum lot area for single family residences from 16,200 square feet to 4 acres and provides for multi-family densities between 2.3 to 8 dwelling units per acre. Based on the adopted Zoning Map, the vast majority of land zoned in North Ridgeville is zoned R-1 Residence with only a few areas zoned R-2, R-3, R-4, and R-5 respectively. In order to bring the residential districts into alignment with the vision of the adopted Master Plan and future land use map, we recommend considering the following changes to the residential districts.

- › **R-1 Residence.** The intent of the R-1 District most closely aligns with the "Edge Residential" future land use area in the Master Plan which consists of, "areas of mostly large lot (greater than one acre), single family residential development situated along rural corridors". In order to align the District with the vision of the Master Plan, the following text and map amendments should be considered:
  - Consider renaming the R-1 District to reflect the intent of the district.
  - Consider utilizing the R-1 as a low density edge district which can serve as a buffer between more dense suburban-style subdivisions and large residential/agricultural estates as the smaller lots within the existing R-1 district are proposed to be located in new overlay districts that reflects their existing development form.
  - The R-1 District will have one standard minimum lot size, however, the minimum lot size for non-sewered lots will be based on the requirements of Lorain County Public Health for septic systems.
  - Update permitted and conditional uses as necessary to meet the intent of the R-1 District.

Future Land Use



*Proposed Future Land Use map of which changes are based upon.*

- › **R-2 Multiple Residence.** The intent of the R-2 District does not currently align with a future land use area in the Master Plan but operates as a catch-all residential district that conditionally permits single-family residences and permits two-family and multifamily (3-8 units) residences which is aligned with the "Traditional Neighborhood Residential" land use area. In order to align the District with the vision of the Master Plan, the following text and map amendment should be considered:
  - Consider renaming the R-2 District to reflect the intent of the district.
  - Consider utilizing the R-2 as a single family residential district which may include other housing types of similar scale to replace the R-1 District in areas where the city's oldest subdivisions are currently located.

- Ensure that the minimum lot sizes and dimensional standards are consistent with the built form of existing subdivisions and support infill housing which is compatible to adjacent properties.
- Update permitted and conditional uses to permit single family residential and conditionally allow other housing types such as townhomes, two-family, three-family dwellings, and senior housing.

› **R-3 and R-4 Multiple Residence.** The intent of the R-3 District closely mirrors that of the R-4 which is to provide areas for "apartment developments" to "fulfill the need for variety and choice of housing accommodations within the city". Since the R-4 district is sparsely located on the zoning map and the R-3 district does not exist anywhere on the zoning map, and only permit multiple apartment-type dwellings, one option the city should consider is combining the two districts or removing one of the two districts. For this option, the following text and map amendments should be considered:

- Consider combining the R-3 and R-4 Multiple Residence Districts or remove one of them and update their dimensional standards as needed.
- Explore additional uses, such as mixed-use developments and senior housing, that could fit in with the intent of the new district including conditionally uses that could be used to support the multiple apartment-type dwellings.

Another option the city could consider is combining the two districts and aligning the new district's intent and permitted uses with the "Planned Residential" future land use area which is designed to be more of a "mixed-use" residential district that focuses on single family residential but includes options for attached and detached cluster dwellings, neighborhood scale commercial, senior housing, and other uses. In order to align the District with the vision of the Master Plan, the following text and map amendments should be considered:

- Consider combining the R-3 and R-4 Multiple Residence Districts and rename the combined district to reflect the intent of the district.
- Consider utilizing the new district in areas of the city where there is open areas around existing neighborhoods and subdivisions which allow for potential expansion in one or two major phases. Proximity to arterial roadways is ideal to provide for neighborhood-scale commercial or mixed-use developments at the edges of or along these roadways.
- Update the dimensional standards of the new district to reflect the desired built form for new residential subdivisions.
- Update permitted and conditional uses to support the different housing types and amenities available to residents.



*Examples of the "Traditional Neighborhood Residential", as well as "Edge Residential" built form from the Master Plan.*



› **R-5 Estate Residence.** The intent of the R-5 District most closely aligns with the "Rural Residential/Agriculture" future land use area in the Master Plan which consists of, "areas of rural development made up of mostly agriculture and single family residential on a wide range of lot sizes". In order to align the District with the vision of the Master Plan, the following text and map amendments should be considered:

- Consider renaming the R-5 District to reflect the intent of the district.
- Consider utilizing the R-5 as in areas where the city wants to preserve the rural character of the community, maintain a low population density, and that require minimal services from the city.
- Consider a minimum lot size of between 5-10 acres and dimensional standards to protect rural land in the city and promote the current intent of the R-5 which is, "to provide areas that will retain the country character of the original community".
- Update permitted and conditional uses as necessary to meet the intent of the R-5 District.

› **Existing 1280 or 1282 Cluster Subdivisions.**

The current zoning map does not show the areas where existing cluster subdivisions are located. Since most of these subdivisions do not comply with the existing zoning district standards, the previously approved cluster subdivisions should be added to the zoning map as overlays districts.

› **Proposed Residential Districts Hierarchy.**

Based on the proposed changes to the residential zoning districts the following list would be the hierarchy of the districts from the lowest density and level of development to the highest. It should be noted that the district names and designations are subject to change so the corresponding future land use area is included for reference.

- Estate Residence;
- Single Family Residence;
- Mixed Residence; and
- Multiple Residence.



*Example of the "Rural Residential/Agriculture" built form from the Master Plan.*

## Business Districts

There are a total of five business zonings districts in North Ridgeville which range from no minimum lot area required to one acre and provide for a lot coverage between no maximum lot coverage to 25% building coverage. Based on the adopted Zoning Map, the vast majority of land zoned for business in North Ridgeville is zoned B-3 Highway Commercial while there seems to be little if any land zoned B-1 Neighborhood Business.

Unlike the residential districts, the Master Plan includes the majority of commercially zoned land in the "Commercial Corridor" and "Town Center" future land use areas which does not provide significant delineation between the scale and types of uses permitted. As such, we are recommending that the city consider modifying the existing business districts to provide clear distinctions and design standards that will provide the same quality of development but limit certain uses such as automobile oriented businesses from being located in neighborhood commercial areas. In order to provide this delineation and meet the intent and vision of the Master Plan, we recommend considering the following changes to the districts in turn.

- › **B-1 Neighborhood Business.** There currently is little if any land designated as B-1. Due to this, it is recommended that the B-1 District is removed and any property zoned B-1 is rezoned to an appropriate business district.
- › **Town Center Zoning District.** A specific recommendation of the Master Plan is the creation of a "Town Center" which will serve a focal point of the City and include a mix of uses as well as a walkable pattern. To meet this recommendation, the following text and map amendments should be considered:
  - Create the new "Town Center" District.
  - Utilize the new district in the areas indicated in the Future Land Use map.
  - Establish a minimum lot size and dimensional standards to reflect the intent of the Town Center area as a focal point for the city that is developed to promote walkability, encourage mixed use development and promote the inclusion of community gathering spaces.
  - Ensure the permitted and conditional uses include a mix of uses such as retail, office, civic, residential and community related used.
  - Ensure that development and architectural standards are included to promote high quality architectural design.
- › **B-2 Central Business, B-3 Highway Commercial, and B-5 Architectural Business.** The B-2, B-3, and B-5 Districts are the three major business zoning districts located along Center Ridge Road. While the intent of the three districts are different, they share many of the same permitted uses and are located in the "Corridor Commercial" future land use area which covers much of the existing land zoned B-2, B-3, and B-5. In order to differentiate the districts and provide for business districts of different development and use intensity, the following new districts are proposed which align with the vision of the "Corridor Commercial" land use area in the Master Plan:
  - Consolidate and rename the B-2 and B-5 Districts into one business district ("Neighborhood Commercial") to reflect its intent as a district that provides mixed-use developments at a neighborhood-appropriate scale that serve the surrounding residential subdivisions. The consolidated district's dimensional and design standards should be reviewed and updated to provide high quality development and site design. This consolidated district should be focused around the proposed Town Center District and tie in to any existing and proposed pedestrian infrastructure and avoid larger and more intense commercial uses such as big-box stores, hotels and auto-oriented uses.





Map of potential areas to incorporate Mixed-Use.

- The B-3 District is proposed to remain but should be renamed ("Corridor Commercial") to reflect its intent as a district that allows for larger scale retail, office, and auto-oriented developments that would be out of character in the proposed "Neighborhood Commercial" District. The current development pattern of the B-3 supports these higher intensity uses as the district currently contains several large lot developments such as a Giant Eagle and Marc's as well as multi-tenant strip malls. The B-3 dimensional and design standards should be reviewed to provide high quality development and site design and the uses updated to reflect the district's intent. One specific zoning map recommendation is removing the B-3 District from the residential subdivision near Gatestone Road.
- For both proposed districts, there should be a focus on creating regulations that limit curb cuts, incorporate public amenities, and include high-quality landscaping.
- The city should consider if mixed-use developments with a residential component would be appropriate in this zoning district or not. This could take the form of a development with multi-family at the rear of the site and commercial along the road frontage or residential and commercial uses mixed within a building.
- › **B-4 Commercial Parkway.** The B-4 District is limited to areas in the immediate vicinity of major interchanges between Federal and State routes and predominately provides goods and services to motorists. Unlike with the other business districts, major changes are not proposed for this district other than changing the District name to "Highway Commercial", reviewing the districts dimensional, development, and use regulations to ensure that they are requiring high quality buildings, site design, and landscaping. In terms of district location, one option that should be considered by the city is consolidating the areas zoned B-3 directly to the northeast and southwest of the district into the B-4.



› **Proposed Business Districts Hierarchy.**

Based on the proposed changes to the business zoning districts the following list would be the hierarchy of the districts from the lowest level of development intensity to the highest. It should be noted that the district names and designations are subject to change so the corresponding future land use area is included for reference.

- Neighborhood Commercial
- Town Center
- Corridor Commercial
- Highway Commercial

## Industrial Districts

There are a total of three industrial zonings districts in North Ridgeville which range from no minimum lot area required to 10 acres and provide for 50% building coverage to 65% building coverage. Based on the adopted Zoning Map, the three industrial districts are utilized evenly with the vast majority of land zoned for industrial in North Ridgeville being located along I-80. In accordance with the Master Plan, the three districts were reviewed and the following consolidations and improvements are recommended for each district in turn.

› **I-1 Industrial Park and I-2 Light Industrial.**

The intent of the I-1 District is to provide areas of the city for, "the development of industrial subdivisions" with a heightened focus on architectural and site design standards. The uses in this district include some light assembly, manufacturing and warehousing as well as office uses that will not create a nuisance or have an effect on the surrounding area. The I-2 as the designated "light industrial" district has a similar scope and could benefit from the design standard set forth in the I-1 District. The consolidation of these districts would be accordance with the Master Plan as the "Employment Center" land use area contemplates areas in the city that, "accommodate a diverse range of employment uses, including office, light industrial, research, and technology, small local businesses , and start-ups." For these reasons, the following text and map amendments should be considered:

- Consolidate I-1 and I-2 Districts into one industrial district ("Light Industrial") and update the permitted and conditional uses to reflect the primary and secondary uses reflected in the "Employment Center" land use area.
- Update the dimensional and design standards to provide for high quality architecture and site design standards that conserve natural features, provide

adequate buffering, and ensure that larger buildings and heavier operations have increased setbacks.

- › **I-3 Heavy Industrial .** The I-3 District is proposed to largely remain as is in order to provide areas in the city for more intense industrial operations that require larger areas of land, create higher traffic volume, and contain other conditions that are not compatible with other types of land uses. However, the permitted uses, dimensional standards, and design standards should still be reviewed and updated to ensure that future developments are properly sited and buffered. Additionally, the city should consider heightened architectural and design standards for sites in the I-3 District that are visible from high volume roadways such as I-80.

› **Proposed Industrial Districts Hierarchy.**

Based on the proposed changes to the industrial zoning districts the following list would be the hierarchy of the districts from the lowest level of development intensity to the highest. It should be noted that the district names and designations are subject to change so the corresponding future land use area is included for reference.

- Light Industrial District
- Heavy Industrial District

## Code Organization

The city's existing Planning and Zoning Code is divided into three titles. The current organization and flow of the code could be improved to make information easier to find. We recommend dividing the code into more titles so that certain topics are grouped together such as use regulations, development standards, administration, etc. We also recommend ordering the code in a manner where the most used regulations are closer to the front and less used and more lengthy regulations are located towards the end of the code. For instance, we recommend moving the subdivision regulations to the end of the code along with the code's definitions being at the very end so they serve like a glossary in a book. These recommended organizational changes are represented in the following Proposed Code Format.

### Existing Code Format

#### Title Two. Planning

- › 1210 - Planning Commission
- › 1212 - Comprehensive Plan (Master Plan)
- › 1214 - Official Thoroughfare Plan

#### Title Four. Subdivision Regulations

- › 1220 - General Provisions and Definitions
- › 1222 - Administration, Enforcement and Penalty
- › 1224 - Platting Procedure
- › 1226 - Design Standards
- › 1228 - Improvements
- › Appendix I - Method of street naming
- › Appendix II - Street Standards

#### Title Six. Zoning

- › 1240 - General Provisions and Definitions
- › 1242 - Administration, Enforcement and Penalty
- › 1243 - Permits and Development Review
- › 1244 - Board of Zoning Appeals
- › 1246 - Amendments
- › 1247 - Conditional Uses
- › 1248 - Districts Generally and Zoning Map
- › 1250 - Residence District
- › 1252 - R-2 Multiple Residence District
- › 1254 - R-3 Multiple Family Residence District

- › 1256 - R-4 Multiple Family Residence District
- › 1258 - R-5 Estate Residence District
- › 1260 - RS-1 Special Residence District
- › 1262 - RS-2 General Residence District
- › 1264 - B-1 Neighborhood Business District
- › 1266 - B-2 Central Business District
- › 1268 - B-3 Highway Commercial District
- › 1270 - B-4 Commercial Parkway District
- › 1272 - B-5 Architectural Business District
- › 1273 - Special Development District
- › 1274 - I-1 Industrial Park District
- › 1276 - I-2 Light Industrial District
- › 1278 - I-3 Heavy Industrial District
- › 1279 - PCD Planned Community Development District
- › 1280 - Cluster Subdivisions
- › 1282 - Single-Family Detached and Cluster Development
- › 1285 - Parking, Loading, and Lighting
- › 1286 - Signs
- › 1288 - Buffer Strips
- › 1292 - Nonconforming Structures and Uses
- › 1294 - Supplementary Regulations
- › Appendix I - Summary of Requirements for all Districts

## Proposed Code Format

### Title One. General Provisions

- › 1210 - Title and Authority
- › 1211 - General Regulations
- › 1212 - Graphics, Illustrations, Figures and Cross-References
- › 1213 - Alignment with Adopted Plans and Studies
- › 1214 - How to use this Code

### Title Two. Administration and Procedures

- › 1220 - Review and Decision Making Bodies
- › 1221 - Application Requirements
- › 1222 - Procedures

### Title Three. Zoning Districts

- › 1230 - Purpose
- › 1231 - Zoning Districts Established
- › 1232 - Zoning Districts and Map
- › 1232 - Purpose Statements

### Title Four. Use Regulations

- › 1240 - Purpose
- › 1241 - Use Table
- › 1241 - General Use Standards
- › 1242 - Residential Use Standards
- › 1243 - Public/Institutional Use Standards
- › 1244 - Commercial/Mixed Use Standards
- › 1245 - Industrial Use Standards
- › 1246 - Accessory Use Standards
- › 1247 - Temporary Use Standards
- › 1248 - Special Uses

### Title Five. Dimensional and Design Standards

- › 1250 - Purpose
- › 1251 - Residential District Standards
- › 1252 - Commercial/Mixed Use District Standards
- › 1253 - Industrial District Standards
- › 1254 - Measurement, Computations and Exceptions
- › 1255 - Lot Requirements

### Title Six. Development Standards

- › 1260 - Fences
- › 1261 - Parking and Loading
- › 1262 - Landscaping and Buffering
- › 1263 - Lighting
- › 1264 - Signs

### Title Seven. Overlays and Special Districts

- › 1270 - Overlays and Special Districts
- › 1271 - Planned Unit Developments
- › 1272 - Planned Community Development District

### Title Eight. Subdivision Regulations

- › 1280 - Purpose
- › 1281 - General Provisions and Definitions
- › 1282 - Administration, Enforcement and Penalty
- › 1283 - Platting Procedure
- › 1284 - Design Standards
- › 1285 - Improvements
- › 1286 - Fees and Penalties

### Title Nine. Definitions

- › 1290 - Purpose
- › 1291 - Rules and Interpretations
- › 1292 - Definitions