



Planning Commission
CITY HALL COUNCIL CHAMBERS
AGENDA OF APRIL 8, 2025
7:00 PM

ROLL CALL

PLEDGE OF ALLEGIANCE

APPROVAL OF MINUTES

Regular meeting of March 11, 2025

CORRESPONDENCE

APA Cleveland Planning & Zoning Workshop

OLD BUSINESS

NEW BUSINESS

1. PPZ2025-0335: Panda Express, 32429 Cook Rd, PPN 07-00-003-102-104, -045, -046
Applicant: Phillip Meador, Heights Venture Architects, 5741 Legacy Dr, Suite 320, Plano, TX 74024. Owner: Cook Road Properties, LLC, 7670 Tyler Boulevard, Mentor, OH 44060. Proposal consists of constructing a new drive through restaurant. Property zoned B-3 Highway Commercial District.
2. PPZ2024-0319 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 building and site improvements for restaurant and lounge. Property is zoned B-3 Highway Commercial District.

ADJOURNMENT

**NORTH RIDGEVILLE PLANNING COMMISSION
MINUTES OF REGULAR MEETING
TUESDAY, MARCH 11, 2025**

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 Frank Toth, Council Liaison Bruce Abens and Chairman James Smolik.

Vice-Chairman Paul Schumann and member Steve Ali were 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 January 14, 2025. He asked if there were any corrections. Hearing none, the minutes were approved as submitted.

CORRESPONDENCE:

Administrative Approvals & Zoning Certificates

1. PPZ2025-0338 Little Ranger Rumble, 33135 Center Ridge Rd

Approval of a Certificate of Zoning Compliance for a commercial recreation; indoor toddler playground.

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

Director Lieber stated that one zoning certificate had been approved since the last meeting, which was for Little Ranger Rumble, an indoor toddler playground, which would take a portion of the space formerly occupied by Bullfrogs on Center Ridge Rd. She stated that she also wanted to mention that work was underway on the zoning code update and that she had been working with the consultant on basically establishing the districts and uses, use tables, use standards and conditional use standards. She said that they were getting close to at least having a draft of that section for full staff review and wanted them to know that that was happening in the background. She discussed that they would also be looking at scheduling a public meeting to discuss the Lear Lorain traffic study and recommendations likely towards the end of April, beginning of May timeframe and to stay tuned for more information about that as well.

OLD BUSINESS:

NEW BUSINESS:

PPZ2025-0337: Victory Park, 7777 Victory Lane, PPN 07-00-003-102-106

Owner: PMJ Park Holdings, 7777 Victory Lane, North Ridgeville, OH 44039. Proposal consists of new turf

fields, lighting and other site improvements. Property zoned I-2 Light Industrial District.

Application was read.

Chairman Smolik asked Director Lieber for findings of fact.

Director Lieber stated that the property itself was owned by the City of North Ridgeville, but the operator was PMJ Park Holdings LLC, a private entity. She discussed that the property was zoned I-2 Light Industrial District, however, the agreement between the City and the operator established the permitted use of this property as a sports park to include ball fields, parking, lighting, fencing and all the other amenities in support of a sports park. She added that the agreement also provided that prior to the installation of any improvements or changes, that the City would review and approve that installation in compliance with the codified ordinances and that it would include review by boards, commissions or councils and that was the reason that the project was before them that evening. She stated that the proposal consisted of the installation of two turf fields, identified on the plans as Field 3 and Field 4, lighting and other site improvements in support of the turf field project. She explained that Turfs 1 and 2 were existing and were west of the new fields and installed in the last several years without going through the planning review process. She stated that the new fields were shown located in the northernmost area of the site plan shown in blue to the right with the existing turf fields to the west and the lake to the east. She mentioned that there was an existing asphalt access drive between the fields that currently connected over towards Cook that would be reduced in length and be terminated in a T-turnaround. She stated that 12 new light poles were proposed and that 10 surrounded the new fields and were 80 feet high. She said that the two additional ones were 70 feet high and were a little bit to the south, more towards the parking area. She indicated that pole height, fixture type and illumination levels all exceeded the code requirements. She explained that it was a very unique area of the Planning and Zoning code regarding the lighting as Planning Commission had authority to grant approval without the need for variances. She said that that specific part of the code read, "That because of their unique requirements for providing greater nighttime visibility, their need to ensure public safety and their limited hours of operation, stadiums, which included ball diamonds, playing fields, tennis courts, amphitheaters and similar uses were exempted from the exterior lighting standards. A lighting plan for these uses shall be established at the time that the request for exterior lighting is made and shall be subject to Planning Commission approval." She mentioned that that was how they knew it wasn't a variance situation. She added that the lighting did exceed code, but the Commission could explore the lighting plan as part of their review in that case. She stated that there was a staff review with the applicant and several recommendations were made with requests for additional information, many of which were provided last Friday. She mentioned that they asked for a grading plan, which would be required as part of permit and had pointed out that the initial length, the east-west length of the fields, made it difficult to fit in the Fire Department's required 20 foot emergency access drive, while not getting too close to the property line on the east, so those fields had been reduced in width to 400 feet. She added that additional information had been provided on the fencing and netting. She mentioned that they talked about the need to contain soccer balls and not have them fished out of the lake and protecting the turf which had been identified on plans. She said that the applicants provided a portion of the emergency access drive that was now 20 feet with the T-turnaround at the end. She stated that regarding spectator viewing they indicated that it would be mobile and brought in on a temporary basis as needed. She said that they spent quite a bit of time talking about lighting and that the initial photometric plan just showed the illumination for the soccer turf fields themselves but on Friday they did receive some additional information that showed the broader photometric plan and carried out all

that lighting to 0, they could kind of see the full impacted area of the lighting. She stated that her greatest concern was understanding the impact of lighting but didn't have concerns about the turf fields themselves. She discussed that the lighting could potentially be separated out as a separate issue for being addressed by the Planning Commission and also wanted to point out that staff was aware from previous meetings with Victory Park that they had some other improvements in store potentially later this year or next year that would include additional parking lots and maybe some other additional small structures but those were not before the Commission that night. She added that they had some urgency in getting the turf fields installed for the playing season.

City Engineer Eavenson stated she did want to elaborate a little regarding the engineering permit and review process that she wanted to see some additional details in regard to the site plan and the grading plan and how the subsurface system for the new turf fields was going to connect to the existing storm sewer system. She said that engineering had asked for an as-built survey on the two existing turf fields because she believed the current storm sewer shown in the site plan was actually from the 2008 proposed plan and she wanted to see if that was really built to plan and to get a little more detail on that to ensure that it was still staying to the overall plan.

Assistant Law Director Morgan stated that she had a question for engineering and asked if all of those concerns were things they should have done that day for Planning Commission approval or were those things that they should do after Planning Commission approval.

City Engineer Eavenson stated that those details could be provided during the engineering review. She discussed that the plans needed to be a little more detailed to include their construction details for their subsurface drainage and how that connected to the existing system and what that existing storm water system or storm sewer system looked like in that area.

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

Joe Borky, PMJ Park Holdings, 7777 Victory Park, North Ridgeville, OH 44039.

Joe stated that he the majority owner and managing partner for Victory Park, PMJ Park Holdings, along with Don Mold, Steve Montana, who was a turf installer, and Tony Pallacino, who was their Park Director who were there in support of the project. He discussed what was originally approved as far as the layout of the park for that particular part of the parcel, there were to be five soccer fields across the lake and there were currently four. He stated that they never put in the fifth one because they needed the access drive to Cook Road originally when they put that in because there was no Victory Lane. He stated that they were trying to finish the park and essentially, they wanted to put in that fifth field and convert the 4th field to artificial grass as opposed to natural grass. He stated that there were a lot of things that they would be carrying on with as time went on and they had a huge master plan to continue to finish the facility all the way around, but for that Commission meeting they were focused on those two fields.

Chairman Smolik stated that for the record, there had been quite a few correspondences that came in after the initial Planning Commission member packets. He mentioned that they had received the updated plans for Victory Park that was sent on Friday, March 7th, an updated lighting plan for Victory Park that was March 7th as well, the engineer's recommendation sheet that was March 7th and Monday they received Victory Parks updated planning review which was administrative staff comments and then

they received an updated staff bulletin that day. He stated that he wanted to make sure the rest of the Commission members understood that there were items that came after the initial member packets. He asked if anyone in the audience had any questions or concerns regarding the project.

None were given.

Mr. Borkey asked if he could comment on the lighting and stated that when they did the light spill ratios and in talking about how it impacted properties outside of theirs at dusk and when it got dark, he stated that it was one foot candle with the light and that once they got to the north there, roughly 40 feet onto the trucker's property, they were at 1 foot candle and from there or anywhere else and all the way around, it was 1 foot candle. He stated that it was barely even at illumination levels that they had at dusk or at twilight, so when they talked about lighting spill or anything of that nature, it was a whole different technology than what was originally on that facility to begin with.

Chairman Smolik stated that they had a lot of information that came in late, especially with the photometrics and he was uncomfortable that night on the photometrics. He asked the applicant what their thoughts were of just going with the development plan that day and then coming back for the photometrics or the lighting plan.

Mr. Borkey stated that it depended on how it impacted the entire move forward strategy with the project and that the problem was that they were getting a lot of pressure from 4Sports as they were consolidating a lot of their sports, and they were trying to bring it to Victory Park. He discussed that it was a kind of option year for them and if they weren't able to get the project up and running by the Fall for them, they were going to be going back out to all the other different places and they might not have that opportunity again for several more years. He said that they were kind of under the gun to try to make that happen at that point.

Chairman Smolik stated that unfortunately the Commission was there to make sure that they felt comfortable with that type of installation in the community and from his point of view, the information came in late, and he was uncomfortable at that point in time.

Mr. Borkey stated that just to clear, he was uncomfortable that it was less than one foot candle on someone else's property.

Chairman Smolik stated that that was not a traditional photometrics that he would normally see in engineering drawings.

Mr. Borkey stated that it was the lighting spill based off of the engineering calculations, based off of the type of fixtures that were being installed and the type of direction that they were aimed, the type of product, the type of lamps that they were and the rest of that. He stated that it was based on the engineering calculations from the lighting manufacturer as to what that spill would be. He commented that the spill that they were talking about had to be on other people's properties.

Chairman Smolik stated that the exhibit did absolutely nothing for him because he didn't see property lines or anything. He stated that it was just his point of view but as far as the actual field itself, typically on synthetic turf fields they would have 15 feet of run out from their perimeter. He mentioned that their largest field, in some situations, only had 10 feet of run out and 12 feet of run out and he had some safety

concerns. He stated that some of the fences were too close to the field of play, and it didn't meet the traditional size of turf fields. He said that he thought there was too much being jammed in that one spot and it was quite evident when with that asphalt path to try to get the emergency vehicles in, everything shrunk, and he thought it was just too tight for they were planning on doing there. He stated that for example, the eastern run out, and he was scaling it because there was no dimension, was only 12 feet, and they had the run out along the center there to that net that was only like 10 feet. He stated that that was not much run out and 15 feet was the industry standard.

Steve Smetana, Field of Play, 3875 Hall Rd. Chardon, Ohio 44024.

Mr. Smetana stated that the north and south sides were about 17 1/2 feet originally and they did have plenty of room on the soccer lines east and west, but then they had softball lines that were slightly beyond that on the west side and on the two north and south corners. He discussed that on the east side that they shrunk that down and tried to get away from the lake a little bit more. He stated that currently they didn't have an exact measurement on the new drawing and that was something he would have to look at.

Chairman Smolik asked what their plan was for their storm water retention and water quality.

Don Mould, 34899 Lorain Road, North Ridgeville, OH 44039.

Mr. Mould stated that at that point in time, the existing fields had that quality of control for the storm water and that they talked about that with Christina, and they wanted to make sure they addressed it. He said that the new fields would tie into the old existing system and probably 2/3 of the fields currently were surface shedding to the pond as it always had and that was how it was designed initially when they built it 2008 or 2009. He discussed that they were going to continue to follow that same footprint but what they needed to do for Christina and engineering was validate where everything was going, which would be coming on a master plan later as they did build out plans. He stated that currently they were trying to move forward so that they could get the other plans started to get those guys to get submitted, so that they could get some approvals and try and stay on a timeline. He stated that Joe had told him that it was probably about \$3,000,000 out of pocket and he thought the impact on the area was going to be well worth it. He stated that they needed some kind of commitment from the Commission that it was okay as long as all the other criteria met their criteria, and they could move forward. He stated that they were kind of stopped because they didn't want to spend any more money if it wasn't going to move forward. He stated that they could address the lighting and that was not going to be an issue. He asked if they moved forward with everything except the lighting, how long would it take to have everything in hand to get that so they could keep it all moving and asked if it was a month or the next Planning Commission meeting or could they do something in between.

Chairman Smolik stated that those were questions that he didn't know the answers to. He stated that the Commission was a recommending body, and if an approval did come out, it would have to go to City Council and then City Council was the actual official body that would approve it.

Mr. Mould stated that so they had some time but what they were trying to do was contain the window, because they were going to have to engage Bramhall to get the drawings going and he didn't know what the timeline there was but for them to meet their target, which was a Fall start, they were going to push to get it. He stated that they could address the issues, but if they could sort through the issues and get the

things that were before them, so that they could continue to move forward. He stated that they were addressing the existing grass fields being turned into artificial because it gave it a capacity to increase the revenue source, and that Mr. Borkey was talking about some leases that were going to go on for some years. He stated that it would be a constant flow of people and by using artificial turf they were going to be able to work more and the season was going to become longer by doing the softball thing with the turf, there were multiple things that would be going on there and it would enhance their position.

Chairman Smolik asked if the Commission had any questions or comments.

Council Liaison Abens stated that he knew there was fly ash in that area and asked if that all was going to remain intact or if they were going to have to disturb it.

Mr. Mould stated that that was the intent. He discussed that they had some borings that were done that he didn't think were correct, but it was not something that was going to go by the wayside and would be addressed properly. He stated that Assistant City Engineer Lori told them to make sure they didn't let it go by the wayside, and they were aware of that. He said that there were details that would be provided for the buildout that reflected how they put piping and if they got into ash. He stated that the field was all over the board because when Lori was reading the boring and it said that there was no dirt over the ash and stated that that wasn't going to work because they couldn't grow grass on the ash. He stated that in some places it might have been 3 feet, and some places it might have been one foot, and it was supposed to be capped uniformly, but it wasn't done that way when whoever did it. He stated that they had to address it as they were moving forward, and they also had a conversation about the way to do the trenches properly from an environmental firm that put it together and they got that cut but those were going forward.

Chairman Smolik stated that from his point of view, that was a development plan, and he had some huge concerns regarding the fact that too much was being jammed in here. He stated that unfortunately all that he could do was vote on what was in front of him and he was extremely uncomfortable with it as well as the lighting.

Mr. Mould stated that if he understood correctly, his issues were the lighting and the configuration of the fields.

Chairman Smolik stated that was correct and that they had chain link fences there that were really close to the field of play.

Mr. Mould stated that he didn't know what the right dimension was supposed to be.

Mr. Borkey stated that it was 15 feet.

Mr. Mould asked if there was a way to adjust those to 15 feet, would that get him to be comfortable with that one issue.

Chairman Smolik stated that they talked about the east side being less than 15 feet.

Mr. Borkey commented on the lakeside but that was not fence, it was netting on the lakeside. He stated that the whole lakeside was net.

**NORTH RIDGEVILLE PLANNING COMMISSION
REGULAR MEETING–TUESDAY, MARCH 11, 2025**

PAGE 7

Mr. Mould stated that it was net and not chain link. He stated that the chain link was only north and south.

Mr. Borkey stated that it was only 200 feet in the middle and around 100 feet down either side and across the east and west was all netting.

Mr. Mould stated that there was not a fence where the kids were going to get into it, but it would keep them from getting into the lake.

Chairman Smolik asked if on the exhibit only the chain link was yellow.

Mr. Mould stated that was correct.

Chairman Smolik stated that they still had chain link within 10 feet.

Mr. Mould stated that Mr. Borkey indicated that he had it at 15 or better than 15, but if that was an issue of the criteria that they had to address, then they would just make that happen on the drawing.

Mr. Borkey stated that in the north-south they could continue to expand that and could go as far east as they wanted to. He stated that from north-south, they could expand that even further and it didn't really matter at that point but the only thing they were restricted on was the east and west portion of that.

Mr. Mould stated that they had already consolidated the field down to 400 feet from 420, and they shrunk it down to get the access road for the Fire Department and backed it away from the pond a little bit because there was some concern about that.

Chairman Smolik asked where the emergency gates were to enter the fields. He stated that they should have a double gate to accommodate a squad coming onto the field.

Mr. Borkey stated that 100 feet down was still net, 200 feet was fence and the last 100 feet was net and there would be a double gate. He stated that they didn't do all of the detail with the fencing and were just showing the fencing, but they had it so that all fields had a double gate to get in there.

Council Liaison Abens asked if it would be possible to add padding in those areas to protect the players on the chain link.

Chairman Smolik stated that he thought what they acknowledged was that they would minimize the field to obtain the 15-foot run out. He said that he wanted to keep that 15-foot run out on chain link and normal netting, because someone could get caught up in that.

Mr. Mould stated that it would be reflected when it went through engineering for the permit process and it would not be able to slip through the cracks.

Mr. Borkey stated that they didn't know what was done before they got there in 2011 and didn't know what was or wasn't there at that point. He stated that they did know that nothing was completed, the irrigation was never completed, so the number of things that got connected later on, they had no idea

what some of the stuff that ended up into, which they promised to deliver those as-builts. He discussed that that particular one piece on that parcel came to the forefront, which was why they jumped on that so quickly.

Chairman Smolik asked if there was anything else from the Commission.

Member Toth stated that he had a question regarding the access road. He mentioned that they showed a 20-foot access road between turf Fields 3 and 4, however, from their parking lot, which was the actual entrance and the connector to that access road, he looked at it that day and there was no way they could get a fire engine down that existing path.

Mr. Borkey stated that when they had the Magic of Lights there is 2016, it literally had truck traffic all the way out to Cook Road through that and a fire engine also maintained that path. He stated that it was the same road that they had that they paved with the City back in 2016-17.

Assistant Law Director Morgan stated that she had a question based on some of their concerns. She asked if it was their intention to suggest that the plan be approved separate from the lighting, if that met with their requirements and made sense for them.

Chairman Smolik stated that point in time, he thought they wanted both and didn't want to separate it but wanted everything together.

Assistant Law Director Morgan asked if a special meeting made more sense for them to come back and try again.

Chairman Smolik stated that they had been talking and in looking at it, he thought maybe they could push it back on the administration regarding that.

Mr. Borkey asked what would help assuage his fear regarding the lighting portion of that.

Chairman Smolik stated that typically a lot of the sports lighting was really good now, but he wasn't very familiar with that company. He stated that Tencate was a major turf manufacturer, but he didn't realize they were into lighting. He stated that the sports lighting he was used to was Musco, which was obviously the Cadillac version, and there was a reason they were the Cadillac because just like pharmaceuticals, they put a lot of money and time and research into making sure that their light fixtures had 0 cutoff, and they hardly had any light pollution. He stated that an 80-foot light in the air was a big thing for the community.

Mr. Borkey stated that it was the same size as the existing poles.

Chairman Smolik stated that he thought that maybe City Council might want to say hey, those lights needed to be off at a certain point in time and he thought that there needed to be a time when those needed to be off, because it was going to be lit up pretty good.

Mr. Borkey remarked to keep in mind that the two fields, Turf 1 and 2 above it were the old Hubble lighting actually that was there. He stated that he used to sell it as he was in the electric industry for 40 years and was pretty confident with much of what he had to say when it came to the lighting portion. He

said that the spill from the two existing fields was probably more than they got from the ones that were going in over there because of the technology that was back in 2005, six, seven, right, et cetera. He stated that the poles that were suggested on the drawing and the specifics to the LED fixtures that were going in there, they were a lot more specific with a lot less bleed and they were more focused as far as their targets were concerned. He stated that one of their main things that was also on their cut sheet talked about saving your neighbor, because their whole thing was focused on lighting the field of play, not the areas around it.

Council Liaison Abens stated that he grew up around State Road Park in Parma and remembered as far as curfew on the lighting, if that had been in Parma, they would have been in trouble a couple of times because of rain and things like that. He mentioned that he heard complaints from neighbors that were along Chestnut Road about the lighting over at University Hospital. He stated that his dad worked for General Electric in their lighting division and was one of the guys responsible for lighting the old Cleveland Municipal Stadium and was quite proud of that project. He said that as far as housing and that, there was just not a lot of housing over on Cook Road that he thought would be affected by it.

Mr. Borkey stated that the bulk of the activity there would be soccer, lacrosse and rugby and currently on the other two turf fields, the bulk of what they did do would be done by 10 o'clock. He stated that they kind of had a park rule by 11 for pretty much everything to be off, but usually all the programs were done by 10, unless there was some other extenuating circumstance like some games ran over, but it was usually by 11 o'clock and that was weekends and not during the week.

Director Lieber stated that the Planning Commission had a specific authority to approve photometric plans that didn't comply, and that staff could not do that, so sadly he could not delegate that authority to them. She mentioned that she and the Engineer were talking and believed that the photometric that showed it carried out to zero, they thought that those were just the proposed new lighting, so the 10 80-footers and the 2 70-footers. She said that it didn't take into account any additional existing lighting to remain on those other turf fields. She stated that there weren't property lines marked on there, but they could kind of see that from the underlying aerial and that there was one house on Cook Road that had some spill and that while farther away from the park it did get down to down to .2 or .1, there were some fringe areas of those commercial properties that were substantially higher than point something. She indicated that she was pointing out that it didn't immediately cut off and that one of her concerns would be and what she heard a lot coming from a town with a lot of car dealerships for residents, might not receive the light in their backyard, but they see the source of the light and that is the thing that they might find irritating. She mentioned that a concern of hers would be that she was not sure how drivers would experience going down Lorain or Cook and would they see the light source or would there be any glare to the driver on the public road system. She added that maybe the answer was no, but she didn't know that from their documentation and that would be a concern. She discussed that she had been told that previously when lighting was installed for the softball fields, that people complained over at the drive-in theater that it created too much brightness in the back backdrop, so she was just sensitive of not wanting to create a negative impact to any existing businesses and then have to try and address it afterwards, just trying to make sure that it was installed correctly. She stated that to kind of give them a visual of how high 80 feet was, in thinking about some of signs on Lorain Road like the Burger King sign or McDonald's sign, at the point those signs were installed, they had a freeway oriented sign allowance of up to 75 feet, so it would be that high or higher and when thinking about the brightness in the sky, they could kind of visualize that, which was the reason for her caution of wanting to make sure that they knew what they were going to get or how it would impact the surrounding property owners.

Mr. Borkey stated that the other two fields already had eight poles up with the old technology and they were literally right next to them, so he wasn't sure if there was a concern for the streets and any other properties that would have complained when those original ones were built because again, the new ones would not be anywhere near as bright or non-focused as those. He mentioned that it was going to be no worse than what it already was.

Chairman Smolik stated that in getting back to their schedule, he understood that they needed to get the turf order in so that could be manufactured but asked what the hurry was on the lighting.

Mr. Borkey stated that it could be 12 to 16 weeks for the lighting and that was if there were no delays, but they were roughly in a 12-week window currently and that was with an order today kind of thing. He stated that they kind of had 16 to 18 weeks as far as the commitment level from the customer base from Marko Raduka and 4Sports.

Chairman Smolik stated that the lighting was a big issue and as Director Lieber stated they had multiple City right-of-ways out there that were being impacted by it, so they wanted to make sure that it did not interfere with the motoring public and their driving. He said that he was going to ask the question one more time if they wanted to just do the development plan that night and then come back for the lighting.

Mr. Borkey asked if they did split the lighting off to get that further detail, would that slow down the actual start of construction and process.

Chairman Smolik stated that it wouldn't be up to the Commission. He stated that it would be up to them and that they had no idea what their schedule was.

Mr. Borkey asked if they didn't have the approvals yet on lighting, were they allowed to move dirt if the Commission approved everything else that they had at that point.

Chairman Smolik stated that that would be up to the Administration.

City Engineer Eavenson stated that she wanted to see a little more detail in the improvement plans but that if everything looked good, they could move them forward.

Mr. Borkey stated that it was okay, and they could do that.

Chairman Smolik stated that just for clarification, the applicant was withdrawing the lighting plan, and the Commission was just going to be taking a vote on the development plan.

Moved by Smolik and seconded by Toth to approve the development plan with the conditions that the athletic fields would have a 15-foot runout minimum, there would be a double gate to each field for emergency access and compliance with the engineering requirements.

A roll call vote was taken and the motion carried.

Yes – 3 No – 0

**NORTH RIDGEVILLE PLANNING COMMISSION
REGULAR MEETING–TUESDAY, MARCH 11, 2025**

PAGE 11

Council Liaison Abens stated that he had one other comment that if they were looking to limit their liabilities, they needed to tie down the trailer by one of their ball fields. He stated that it was a construction trailer that wasn't tied down. He stated that it would be around turf one and was a construction trailer.

Mr. Borkey stated that that was the media trailer.

Council Liaison Abens stated that he needed to tie it down.

Mr. Borkey commented okay.

ADJOURNMENT:

Chairman Smolik adjourned the meeting at 7:47 PM.

James Smolik
Chairman

Tina Wieber
Deputy Clerk of Council

Tuesday, April 8, 2025
Date Approved

Planning Commission Application

RECEIVED

FEB 11 2025



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

32429

~~32425~~ Cook Rd, North Ridgeville, OH 44039

0700003102104, 0700003102045, 0700003102046

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

Demo of existing building, consolidate 3 Parcels, and construct a new restaurant with Drive Thru

Project description

APPLICANT/AGENT INFORMATION

Phillip Meador, AIA, NCARB - Heights Venture Architects - on Behalf of Panda Express INC.

Name/Company

5741 Legacy Drive, Suite 320, Plano, TX 75024

Applicant address

281.854.6174

phillip.meador@hva.cc

Applicant phone

Applicant email

PROPERTY OWNER INFORMATION

Cook Road Properties LLC

Name/Company

7670 Tyler Boulevard, Mentor, OH 44060

Property owner address

(440) 951-4470

lance@osbornecapital.com

Property owner phone

Property owner email

Parcel: 0700003102104

AUTHORIZATION AND ACKNOWLEDGEMENT

✓ Phillip Meador

Digitally signed by Phillip Meador
DN: cn=Phillip Meador, o=US, ou=Heights Venture Architects,
LLP, email=Phillip.Meador@hva.cc
Date: 2025.01.24 08:43:53 -0500

Applicant signature

✓ *[Signature]* Authorized Agent
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.	ACTION
	PPZ 2025-0335 1# 150.00 2018880	

RECEIVED

FEB 11 2025

CITY OF NORTH
Ridgeville
EST 1810

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

32425 Cook Rd, North Ridgeville, OH 44039

0700003102104, 0700003102045, 0700003102046

Location address

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

Demo of existing building, consolidate 3 Parcels, and construct a new restaurant with Drive Thru

Project description

APPLICANT/AGENT INFORMATION

Phillip Meador, AIA, NCARB - Heights Venture Architects - on Behalf of Panda Express INC.

Name/Company

5741 Legacy Drive, Suite 320, Plano, TX 75024

Applicant address

281.854.6174

phillip.meador@hva.cc

Applicant phone

Applicant email

PROPERTY OWNER INFORMATION

BOBKOB 32425 LLC

Name/Company

4343 Thorn Ridge Circle, Cleveland, OH 44135

Property owner address

(216) 314-2419

texchp@yahoo.com

Property owner phone

Property owner email

Parcel: 0700003102045, 0700003102046

AUTHORIZATION AND ACKNOWLEDGEMENT

Phillip Meador

Digitally signed by Phillip Meador
DN: cn=Phillip Meador, c=US, o=Heights Venture Architects,
LLP, email=Phillip.Meador@hva.cc
Date: 2025.01.24 09:43:38 -0600

Applicant signature

Signed 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
--------	---------	-------------------	--------

Planning Review

March 31, 2025

Project: Panda Express
Location: 32429 Cook Road
PPNs: 07-00-003-102-104, 07-00-003-102-045, 07-00-003-102-046
District: B-3 Highway Commercial District

Project Summary:

This proposal consists of a new drive through restaurant. Drive through restaurants are permitted in the B-3 Highway Commercial District.

The project site consists of three parcels on Cook Road zoned B-3, including the vacant lot to the east of Starbucks and two adjacent parcels to the east with an existing commercial building used for an auto repair business that will be demolished. The three parcels will be consolidated as part of the project. All surrounding property is similarly zoned B-3 District.

The 2,700 square foot building façade will be comprised of a combination of stone, composite cladding and EIFS. The proposed dumpster enclosure is shown constructed out of EIFS applied as a stucco product over masonry. A double drive through is shown. Code requires stacking for at least 10 vehicles and must be designed to allow vehicles to exit the waiting lane. A stacking exhibit should be provided and the applicant has provided an escape lane.

A detailed landscape plan is included in the submittal. The site plan shows a new ground sign in the area of an existing tree west of driveway that will need to be relocated (not removed) for sign placement. The lighting plan shows light levels that are generally code compliant. Parking lot lights will be mounted at 18 feet. No fixture cut sheets were provided for the pole lights or any building lights. A detailed sign package has not been submitted for review.

Currently, access along this stretch of Cook Road is frequent and poorly defined, not in conformance with access management standards. With this project, the curb cut to the auto repair building will be removed. Panda Express shows utilizing the existing curb cut shared with Starbucks and will share parking spaces and the drive aisle adjacent to the Starbucks drive through for circulation. Cross access is also provided between the Panda Express property and the commercial building to the east on Cook Road. There are numerous access and utility easements impacting this property and adjacent properties.

Code requires one parking space for every 100 square feet of area or one per three seats, whichever is greater. Based on square footage, 27 spaces are required and 40 spaces are provided. Three parking spaces are shown north of the building in the area between the two driveways to Cook Road. These spaces create the likelihood of conflict between vehicles traveling from Cook Road onto the property, the drive through traffic exiting the site and drivers backing out of these spaces. Given the excess of parking, these spaces can be removed without impacting the count. Sidewalks are required for any new

commercial construction. A sidewalk has been provided along with a pedestrian route to the building entrance. Bike parking is required for this use.

Truck turns were provided. The exhibit shows a 40-foot fire vehicle can traverse the site. A semi-truck, however, can only traverse the site successfully if various parking spaces are vacant. The applicant should clarify what type of vehicles provide delivery to Panda Express and Starbucks.

The applicant submitted a Traffic Impact Study, which recommended that a 100-foot eastbound right turn lane be constructed on Cook Road leading to the Starbucks/Cook driveway. That improvement has not been included in the Panda Express submission.

The city had the TIS reviewed by its consultants at Woolpert who have been recently engaged in the Lorain and Lear Nagle traffic study. Given the heavy traffic in this location and noting the minimal driveway spacing between the two curb cuts, Woolpert made several suggestions for potential improvements to access and onsite circulation. These included the potential of converting the west drive to right in, right out only and/or modifying the circulation plan to provide one way circulation to reduce the potential number of conflicts at the west driveway. Panda Express has not been amenable to discussing any changes to the proposed driveways or circulation patterns.

While the removal of one of the existing driveways to Cook Road is a benefit to access management, the future use of drive through restaurant is expected to generate significant traffic, adding to an already congested intersection. Therefore, driveway spacing, cross access and site circulation must be carefully considered.

Recommendations:

- Planning Commission should make lot consolidation a condition of approval.
- Where will loading/unloading take place? What kind of vehicles will make deliveries?
- Remove three parking spaces shown along Cook Road.
- Provide bike parking per 1285.03(c).
- Show vehicle stacking in drive through.
- Clarify where canopy with downlighting (MTL-2) would appear on elevation.
- Provide cut sheets of all proposed lighting fixtures.

Planning Review

February 25, 2025
Preliminary Review

Project: Panda Express
Location: 32429 Cook Road
PPNs: 07-00-003-102-104, 07-00-003-102-045, 07-00-003-102-046
District: B-3 Highway Commercial District

Project Summary:

This proposal consists of a new drive through restaurant. Drive through restaurants are permitted in the B-3 Highway Commercial District.

The project site consists of three parcels on Cook Road zoned B-3, including the vacant lot to the east of Starbucks and two adjacent parcels to the east with an existing commercial building used for an auto repair business that will be demolished. The three parcels will be consolidated as part of the project. All surrounding property is similarly zoned B-3 District.

The 2,700 square foot building façade will be comprised of a combination of stone, composite cladding and EIFS. The proposed dumpster enclosure is shown constructed out of EIFS. A double drive through is shown. Code requires stacking for at least 10 vehicles and must be designed to allow vehicles to exit the waiting lane.

The curb cut to the existing auto repair building will be removed. Panda Express will utilize the existing curb cut shared with Starbucks and will share some parking spaces and the drive aisle adjacent to the Starbucks drive through.

Cross access is also provided between the Panda Express property and the commercial building to the east on Cook Road. There is a 40-foot-wide access easement that runs north-south centered on the property line between Panda Express and the neighboring commercial building. In the easement area along the east property line, the Panda Express site and landscape plan show a strip of existing gravel to remain. Gravel is not a permitted paving surface. Given the complete redevelopment of the site, there is no ability for the applicant to claim a grandfather status of the gravel.

Code requires one parking space for every 100 square feet of area or one per three seats, whichever is greater. Based on square footage, 27 spaces are required and 42 spaces are provided. Four parking spaces are shown north of the building in the area between the two driveways to Cook Road. These spaces create the likelihood of conflict between vehicles traveling from Cook Road to the property, the drive through traffic exiting the site and drivers backing out of these spaces. Given the excess of parking, these spaces can be removed without impacting the count.

Sidewalks are required for any new commercial construction. Sidewalk should be provided along with a pedestrian route to the building entrance.

A detailed landscape plan is included in the submittal. It was provided to the City Arborist for review and comment. His comments are:

- Existing tree west of driveway will need to be moved for sign placement.
- Replace Flame Amur Maples with smaller species as to not interfere with overhead utilities: Red Bud or Japanese Maple varieties.
- Recommend a larger, shade producing species for the parking lot islands: London Plane trees.

The lighting plan shows light levels in excess of code allowances. The lighting designer should create separate calculation zones for the pedestrian areas around the building versus the open parking lot in order to make a better determination of deviation. No fixture cut sheets were provided.

Signage has been shown generally but a full package has not been submitted for review.

Recommendations:

- Provide rear elevation.
- Replace EIFS with masonry trash enclosure for long term durability.
- Provide exhibit showing drive through stacking.
- Provide truck turn exhibit.
- Provide sidewalk along frontage per 1024.01(c).
- Create calculation zones within the lighting plan to differentiate open parking lot from building entrances and pedestrian areas. Provide lighting cut sheets.
- Replace gravel strip with approved material.
- Remove four parking spaces shown along Cook Road.
- Provide bike parking per 1285.03(c).
- Show vehicle stacking in drive through.

Planning Commission Comment Sheet



PROJECT INFORMATION

Panda Express Restaurant

Proposed project

32429 Cook Rd

Location

March 11, 2025

Meeting date

07-00-003-102-104, -045, -046

Parcel number

February 27, 2025

Comments due

RECOMMENDATIONS

Type comments here. Attach additional sheets as necessary.

Detailed sign information required to determine if variances are required.

Zero footcandles required at property line for lighting.

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



PROJECT INFORMATION

Panda Express Restaurant

Proposed project

32429 Cook Rd

Location

March 11, 2025

Meeting date

07-00-003-102-104, -045, -046

Parcel number

February 27, 2025

Comments due

RECOMMENDATIONS

Please contact Asst. Chief Mike Uhnak with the North Ridgeville Fire Department. To discuss the following code requirements:

- 1: OFC Rule 5 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.

Respectfully:

Asst. Chief Mike Uhnak
North Ridgeville Fire Department
Muhnak@nridgeville.org
(440)653-6362

SUBMITTED BY

Mike Uhnak

Administrative officer signature

Assistant Fire 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

Panda Express Restaurant

Proposed project

32429 Cook Rd

Location

March 24, 2025

Meeting date

07-00-003-102-104, -045, -046

Parcel number

Comments due

RECOMMENDATIONS

Type comments here. Attach additional sheets as necessary.

- 1) Please explain the relationship between the two owners of the three parcels and provide the shared access agreement with the Starbucks property, for the existing driveway, and the property to the east for the proposed new driveway. *Not yet provided.*
- 2) Adding another access drive to the already congested Cook Road needs to be taken into consideration. There are currently times where the wait line for Starbucks is backed out onto Cook Road. There needs to be a consideration for one larger shared driveway, rather than adding an additional drive to the east. *Remains a concern based on sharing driveway with the property to the east.*
- 3) ~~There is concern about access to the dumpsters when there are parking spaces in front of the enclosure.~~ *Appreciate revision*
- 4) If approved the City will require a revised and updated stormwater management plan for the shared retention basin. *Needs to be provided for both benefitting properties, including water quality features.*
- 5) ~~Explain why there will be a strip of existing gravel drive on the east side of the site.~~
- 6) Stormwater calculations for the shared detention basin and water quality features will need to be reviewed with final submission. *Not yet provided*
- 7) Will patio seating be provided outside the building? *Not yet provided*
- 8) Describe the proposed parking arrangement between the new and existing businesses. *Not yet provided*

SUBMITTED BY

Administrative officer signature

Project 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.

PANDA EXPRESS



S8-26-D36943

32425 COOK RD

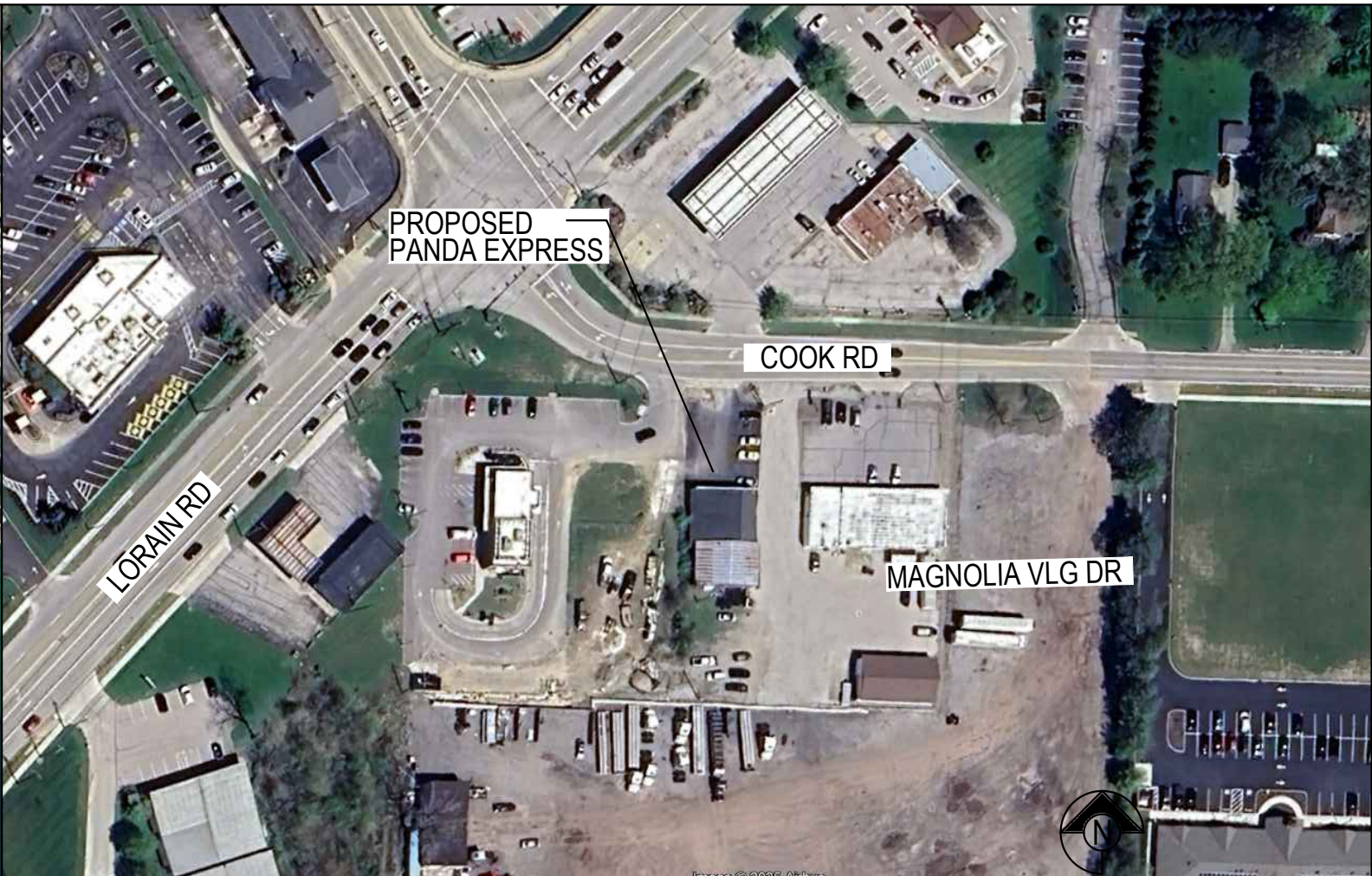
N. RIDGEVILLE, OH 44039



VICINITY MAP

Scale= NTS

G-001



KEY PLAN

Scale= NTS

G-001

GENERAL		PLANNING		
G.001	TITLE SHEET	01.28.25		
CIVIL				
C02.0	DEMOLITION			
C03.0	SITE PLAN			
C03.1	STAKING PLAN			
C04.0	UTILITY PLAN			
C05.0	GRADING AND DRAINAGE PLAN			
LANDSCAPING				
LP01.01	LANDSCAPE PLAN			
ARCHITECTURAL				
A-202	EXTERIOR ELEVATIONS COLORED			
A-203	SIGNAGE			
	SITE PHOTOMETRICS			



PANDA EXPRESS, INC.
1683 Walnut Grove Ave.
Rosemead, California
91770
Telephone: 626.799.9898
Facsimile: 626.372.8288

All ideas, designs, arrangement and plans indicated or represented by this drawing are the property of Panda Express Inc. and were created for use on this specific project. None of these ideas, designs, arrangements or plans may be used by or disclosed to any person, firm, or corporation without the written permission of Panda Express Inc.

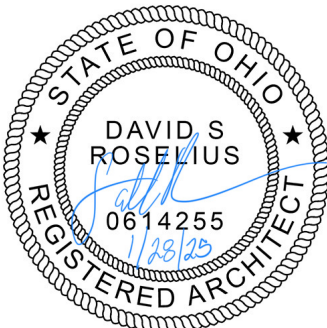
REVISIONS:

ISSUE DATE:

PLANNING SET 01-28-25

DRAWN BY:

PANDA PROJECT #: S8-26-D36943
PANDA STORE #: D36943
ARCH PROJECT #: 24120



Heights Venture
ARCHITECTURE • DESIGN

HOUSTON
1111 North Loop West, Suite 800
Houston, Texas 77008
281.854.6100
DALLAS
5741 Legacy Drive, Suite 320
Plano, Texas 75024
281.854.6100
CHICAGO
3333 Warrenville Road, Suite 200
Lisle, Illinois 60532
281.854.6100

PANDA EXPRESS
PANDA HOME R3
32425 COOK ROAD
N. RIDGEVILLE, OH 44039

G-001

TITLE SHEET

PANDA HOME R4

SHEET INDEX

Scale= NTS

G-001

N:\LAND DEVELOPMENT\ProJ\15010-ALTA.dwg, 12/6/2024 12:35:36 PM, smetcalf

SYMBOL LEGEND (EXISTING)	
	CENTER LINE
	PROPERTY LINE
	CONSOLIDATED LOTS
	IRON PIN/PIPE FOUND
	IRON PIN SET
	MONUMENT BOX FOUND
	DRILL HOLE FOUND
	DRILL HOLE SET
	IRON NAIL FOUND
	IRON NAIL SET
	EXISTING FIRE HYDRANT
	EXISTING STAND PIPE
	EXISTING WATER VALVE
	EXISTING GAS VALVE
	EXISTING IRRIGATION CONTROL VALVE
	EXISTING CLEAN OUT
	EXISTING DOWNSPOUT
	EXISTING WATER LINE VALVE
	EXISTING WATER CORP STOP
	EXISTING GAS METER
	EXISTING WATER METER
	EXISTING ELECTRIC METER
	EXISTING SQUARE INLET BASIN
	EXISTING ROUND INLET BASIN
	EXISTING YARD BASIN
	EXISTING CURB INLET BASIN
	EXISTING GUTTER INLET BASIN
	EXISTING SQUARE MANHOLE
	EXISTING MANHOLE
	EXISTING CABLE MANHOLE
	EXISTING ELECTRIC MANHOLE
	EXISTING ELECTRIC HAND HOLE
	EXISTING GAS MANHOLE
	EXISTING TELEPHONE MANHOLE
	EXISTING WATER MANHOLE
	EXISTING MONITORING WELL
	EXISTING FLAG POLE
	EXISTING SIGNAL POLE
	EXISTING POWER POLE
	EXISTING GUY ANCHOR
	EXISTING LIGHT POLE
	EXISTING SQUARE LIGHT POLE
	EXISTING GROUND LIGHT
	EXISTING RAILROAD SIGNAL
	EXISTING TRAFFIC POLE
	EXISTING TRAFFIC SIGNAL
	EXISTING TRANSFORMER
	EXISTING CABLE BOX
	EXISTING UTILITY BOX (ELEC, TELE,)
	EXISTING TELEPHONE BOX
	EXISTING TRAFFIC BOX
	EXISTING BOLLARD
	EXISTING TRAFFIC SIGN
	EXISTING MAILBOX
	EXISTING TREE
	EXISTING HANDICAP PARKING
	EX. SANITARY SEWER
	EX. STORM SEWER
	EX. WATER LINE
	EX. FENCE
	EX. GAS LINE
	EX. UNDERGROUND ELECTRIC
	EX. UNDERGROUND TELEPHONE
	EX. OVERHEAD UTILITY LINE

LEGAL DESCRIPTION

PARCEL 1:

Situated in the City of North Ridgeville, County of Lorain and State of Ohio and being part of Original Ridgeville Township Lot No. 3, bounded and described as follows: Beginning in the original centerline of Cook Road at its intersection with the original centerline of Butternut Ridge Road; thence South 85° 59' East along the centerline of Cook Road, a distance of 275.08 feet to the place beginning of land hereafter described; thence continuing South 85° 59' East along the centerline of Cook Road, a distance of 51.00 feet to a point; thence South 4° 01' West and at right angles to the above line, a distance of 185.00 feet to an iron pin said line passes through an iron pin set 30.00 feet from the centerline of Cook Road; thence North 85° 59' West and parallel to the centerline of Cook Road, a distance of 51.00 feet to an iron pin; thence North 4° 01' East, a distance of 185.00 feet to the centerline of Cook Road and the place of beginning and containing within said bounds about 0.2165 acres of land, be the same more or less, but subject to all legal highways and easements and agreements of record as surveyed by Arnold T. Koepp, Registered Surveyor No. 4306.

Permanent Parcel No.: 07-00-003-102-045

PARCEL 2:

Situated in the City of North Ridgeville, County of Lorain and State of Ohio and being part of Original Ridgeville Township Lot No. 3, bounded and described as follows: Beginning in the original centerline of Cook Road, at its intersection with the original centerline of Butternut Ridge Road; thence South 85° 59' East along the centerline of Cook Road, a distance of 326.08 feet to the place of beginning of land hereafter described; thence continuing South 85° 59' East along the centerline of Cook Road, a distance of 20.00 feet to a point; thence South 4° 01' West and at right angles to the above line, a distance of 185.00 feet to an iron pin; said line passes through an iron pin set 30.00 feet from the centerline of Cook Road; thence North 85° 59' West and parallel to the centerline of Cook Road, a distance of 20.00 feet to an iron pin; thence North 4° 01' East, a distance of 185.00 feet to the centerline of Cook Road and the place of beginning of the land herein described, be the same more or less, but subject to all legal highways and easements and agreements of record and in particular, a perpetual easement to Cleveland Builders Supply Co. as recorded in Volume 952, Page 800 Lorain County Records. Intending to convey 0.08 acres of land.

Permanent Parcel No.: 07-00-003-102-046

PARCEL 3:

Situated in the City of North Ridgeville, County of Lorain and State of Ohio and known as being part of Original Ridgeville Township Lot No. 3 and being further bounded and described as follows:

Beginning at a point at the intersection of the centerline of Lorain Road (Right of Way varies) (formerly known as Butternut Ridge Road), also known as State Route 10, where it intersects with the centerline of Cook Road (60 feet wide), also known as the Northerly line of Original Lot No. 3; Thence South 85°59'00" East, along the Northerly line of Original Lot No. 3 and the centerline of Cook Road a distance of 170.29 feet to the Principal Place of Beginning;

Thence South 85°59'00" East, continuing along the centerline of Cook Road, a distance of 104.79 feet to a point;

Thence South 04°01'00" West, passing through a 5/8" capped iron pin set at 30.00 feet, a distance of 185.00 feet to a 5/8" capped iron pin set;

Thence South 85°59'00" East a distance of 71.00 feet to a 5/8" capped iron pin set;

Thence South 04°01'00" West a distance of 85.77 feet to a 5/8" capped iron pin set;

Thence North 85°59'00" West a distance of 175.79 feet to a 5/8" capped iron pin set;

Thence North 04°01'00" Eat a distance of 270.77 feet, passing through a 5/8" capped iron pin set at 240.77 feet set on the Southerly right of way of Cook Road, to a point on the centerline of Cook Road and the Principal Place of Beginning, containing 0.7912 acres (34,464 square feet) of land, as described by Stephen Hovancsek & Associates, Inc. in January of 2021, under the direction of Thomas Cappello, Registered Surveyor No. 7880, State of Ohio, be the same more or less but subject to all legal highways.

The basis of bearing for this description being to as assumed meridian and used to denote angles only.

Permanent Parcel No.: 07-00-003-102-104

SURVEYOR'S NOTES

As to Item 9 of Table A of the Survey Requirements, there are **00** total striped parking spaces of which **00** are marked disabled spaces and **00** are standard spaces.

As to Item 16 of Table A of the Survey Requirements, there is **NO** observed evidence of current earth moving work, building construction or building additions.

As to Item 17 of Table A of the Survey Requirements, there are **NO** known changes in street right of way lines or observed evidence of recent street or sidewalk construction or repairs.

The Property has direct access to Cook Road, being a public right of way.

The property described hereon is the same as the property described in File Number: 241219ST dated September 28, 2024 at 07:00 AM issued by Stewart Title Company Company and that all easements, covenants and restrictions referenced in said title commitment or apparent from a physical inspection of the site or otherwise known to me have been plotted hereon or otherwise noted as to their effect on the subject property.

The boundary lines of the parcels collectively constituting the Premises are contiguous with each other and contain no gaps, gores or overlaps, as described in their most recent respective legal descriptions of record as provided to the undersigned.

BASIS OF BEARING

The **basis of bearings** for the premises surveyed is NAD83 (CORS96) Ohio State Plane Coordinate System, North Zone (3401).

TOTAL LAND AREA

TITLE PARCEL 1 = 9,432 S.F. -- 0.2165 ACRES
(AREA WITHIN R/W) -- 1,530 S.F. -- 0.0351 ACRES

TITLE PARCEL 2 = 3,716 S.F. -- 0.0853 ACRES
(AREA WITHIN R/W) -- 600 S.F. -- 0.0138 ACRES

TITLE PARCEL 3 = 34,434 S.F. -- 0.7905 ACRES
(AREA WITHIN R/W) -- 3,138 S.F. -- 0.0720 ACRES

ENCROACHMENTS

(E1) EXISTING JERSEY WALL ON SOUTHERN PARCEL NO. PPN 07-00-003-102-028, 027 & 010 ENCROACHES 0.8' INTO SUBJECT PARCEL AS SHOWN.

FLOOD_ZONE CERTIFICATION

I hereby certify that the Title Parcel shown hereon **does not** lie within a special flood hazard zone according to the National Flood Insurance Program as shown on the Flood Insurance Rate Map of Community Panel Number **39093C0163D** dated **August 18, 2008** and noted as **Zone X**.

SCHEDULE B, SECTION II

This survey coordinated with a title commitment for an ALTA Owner's Policy of Issuing Office File Number: 241219ST dated September 28, 2024 at 07:00 AM issued by Stewart Title Company Company.

AS TO PARCEL NO. 1 AND PARCEL NO. 2:

- Easement from Harry Strauss and Mildred E. Strauss, to Ohio Edison Company recorded 11. May 9, 1960 in Volume 772, Page 141 of Lorain County Records.
DOES NOT AFFECT TITLE PARCELS.
- Easement Agreement by and between Harry Strauss and Mildred E. Strauss, and L & M Properties Company recorded July 23, 1964 in Volume 882, Page 445 of Lorain County Records.
DOES NOT AFFECT TITLE PARCELS.
- Easement from Mildred E. Strauss and Harry Strauss, to Ohio Edison Company recorded March 7, 1967 in Volume 941, Page 147 of Lorain County Records.
DOES NOT AFFECT TITLE PARCELS.
- Reservation of an easement for water main purposes in Warranty Deed from Harry F. Strauss and Mildred E. Strauss, to The Cleveland Builders Supply Company, an Ohio corporation, recorded September 25, 1967 in Volume 952, Page 796 of Lorain County Records.
DOES NOT AFFECT TITLE PARCELS.
- Easement for access and utility purposes from Harry F. Strauss and Mildred E. Strauss to The Cleveland Builders Supply Company, an Ohio corporation, recorded September 25, 1967 in Volume 952, Page 800 of Lorain County Records.
AFFECTS TITLE PARCELS AS SHOWN.
- 17. **NOT A SURVEY MATTER**

AS TO PARCEL NO. 3:

- NOT A SURVEY MATTER**
- Easement from Harry Strauss and Mildred E. Strauss, to Ohio Edison Company recorded May 9, 1960 in Volume 772, Page 141 of Lorain County Records.
AFFECTS TITLE PARCEL AS SHOWN.
- Easement Agreement by and between Harry Strauss and Mildred E. Strauss, and L & M Properties Company recorded July 23, 1964 in Volume 882, Page 445 of Lorain County Records.
DOES NOT AFFECT TITLE PARCEL.
- Easement from Mildred E. Strauss and Harry Strauss, to Ohio Edison Company recorded March 7, 1967 in Volume 941, Page 147 of Lorain County Records.
AFFECTS TITLE PARCEL AS SHOWN -- BLANKET IN NATURE -- NOTHING TO PLOT
- Reservation of an easement for water main purposes in Warranty Deed from Harry F. Strauss and Mildred E. Strauss, to The Cleveland Builders Supply Company, an Ohio corporation, recorded September 25, 1967 in Volume 952, Page 796 of Lorain County Records.
DOES NOT AFFECT TITLE PARCEL.
- Easement for access and utility purposes from Harry F. Strauss and Mildred E. Strauss to The Cleveland Builders Supply Company, an Ohio corporation, recorded September 25, 1967 in Volume 952, Page 800 of Lorain County Records.
AFFECTS TITLE PARCEL AS SHOWN.
- Restrictive covenants set forth in Grantor's Declaration of Restriction to Run with the Land by Osborne Co., Ltd., an Ohio corporation, recorded February 2, 2016 as Instrument No. 2016-0574081 of Lorain County Records.
RESTRICTIONS AFFECTS TITLE PARCES AS SHOWN -- BLANKET IN NATURE -- NOTHING TO PLOT
- Restrictive covenants set forth in Grantor's Declaration of Restriction to Run with the Land by Osborne Co., Ltd., an Ohio corporation, recorded September 23, 2016 as Instrument No. 2016-0601951.

Note: Amended and Restated Grantor's Declaration of Restriction to Run with the Land recorded December 18, 2017 as Instrument No. 20170655547 of Lorain County Records.
DOES NOT AFFECT TITLE PARCEL.
- Declaration of Easements by Osborne Co., Ltd., an Ohio corporation, recorded December 21, 2016 as Instrument No. 2016-0612812 of Lorain County Records.
DOES NOT AFFECT TITLE PARCEL.
- Easement Agreement by and among 32499 North Ridge, LLC, NKLB Ridgeville, LLC, and Cook Road Properties, LLC, recorded June 28, 2021 as Instrument No. 2021-0825657 of Lorain County Records.
TITLE PARCEL HAS RIGHTS TO THIS EASEMENT.
- Easement with Covenants and Restrictions Affecting Land by and between NKLB Ridgeville, LLC and Cook Road Properties, LLC recorded August 1, 2023 as Instrument No. 2023-0924147 of Lorain County Records.

Amended Easements with Covenants and Restrictions Affecting Land recorded September 13, 2023 as Instrument No. 2023-0929122 of Lorain County Records.
AFFECTS TITLE PARCEL AS SHOWN.
- Easement from Cook Road Properties, LLC to Ohio Edison Company recorded March 25, 2024 as Instrument No. 2024-0007805 of Lorain County Records.
AFFECTS TITLE PARCEL AS SHOWN.
- 31 **NOT A SURVEY MATTER**

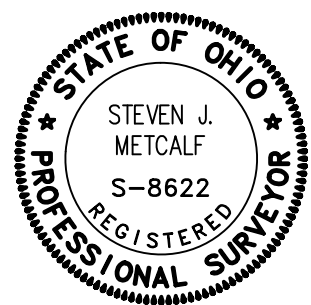
SURVEY CERTIFICATION

Panda Restaurant Group, Inc.; CFT NV Developments, LLC; Cherng Family Trust dated October 30, 1987, as amended; Panda Express, Inc., and their affiliated entities, successors, and assigns;
Fidelity National Title Insurance Company

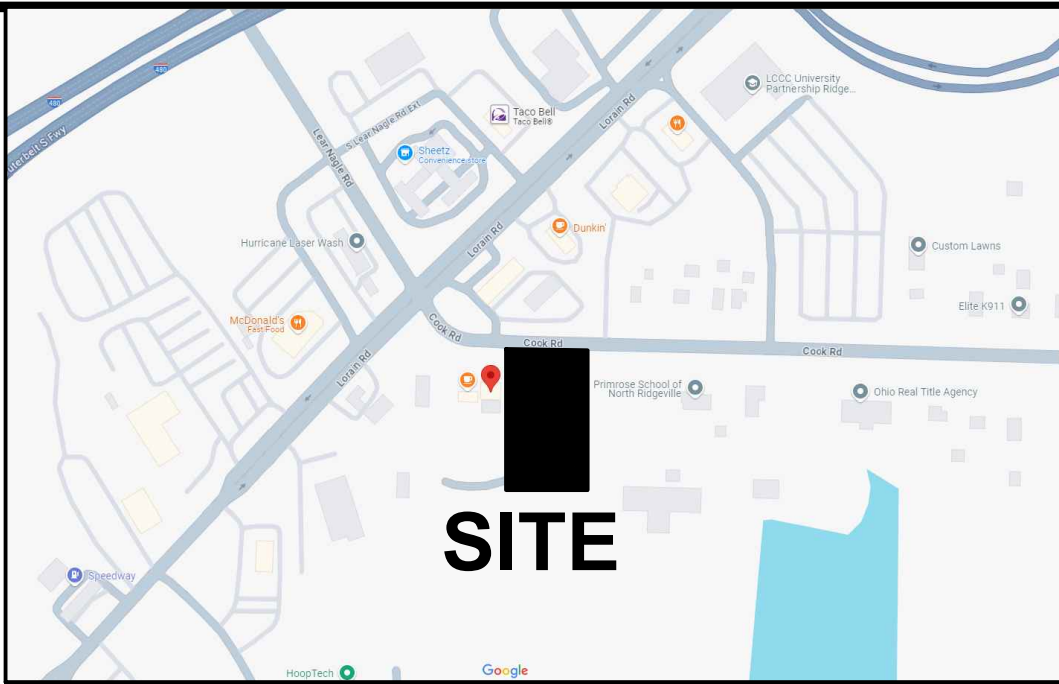
This is to certify that this map or plot and the survey on which it was based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1, 2, 3, 4, 6(a), 6(b), 7(a), 7(b)(1), 7(c), 8, 9, 11(a), 13, 14, 16, 17, 18 and 19 of Table A thereof.
The field work was completed on **September 20, 2024**.

PRELIMINARY

Steven J. Metcalf
Registered Surveyor No. 8622-Ohio



October 18, 2024
Date



VICINITY MAP
NOT TO SCALE

OHIO
Utilities Protection
SERVICE
Call Before You Dig
1-800-362-2764
B426201163-00B

Also call: OGPUPS @ 1-800-925-0988
(Ohio Oil & Gas Underground Protection Service)

-- or dial 8-1-1--

ABBREVIATIONS

AFN.....	AUTOMATED FILING NO.
ASPH.....	ASPHALT
C. or CALC....	CALCULATED
CL.....	CENTER LINE
CONC.....	CONCRETE
C.D.R.....	COUNTY DEED RECORD
C.M.R.....	COUNTY MAP RECORD
D.....	DEED
EX.....	EXISTING
FD.....	FOUND
FF EL.....	FINISH FLOOR ELEVATION
INSTR.....	INSTRUMENT
L/A.....	LIMITED ACCESS
MON.....	MONUMENT
O. or OBS.....	OBSERVED
PG.....	PAGE
P. or P/L.....	PROPERTY LINE
PPN.....	PERMANENT PARCEL NO.
PVMT.....	PAVEMENT
R. or REC.....	RECORD
R/W.....	RIGHT OF WAY
SQ. FT.....	SQUARE FEET
U.....	USED
VOL.....	VOLUME
SAN.....	SANITARY
STM.....	STORM
WAT.....	WATER
INV.....	INVERT
PVC.....	POLYVINYL CHLORIDE
VCP.....	VITRIFIED CLAY PIPE
RCP.....	REINFORCED CONCRETE PIPE
CMP.....	CORRUGATED METAL PIPE
GUT.....	GUTTER
TC.....	TOP OF CURB

The underground utilities shown have been located from field survey information and existing drawings. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in service or abandoned.

The surveyor further does not warrant that the underground utilities shown are in the exact location indicated, although the surveyor does certify that they are located as accurately as possible from information available. The surveyor has not physically located the underground utilities.

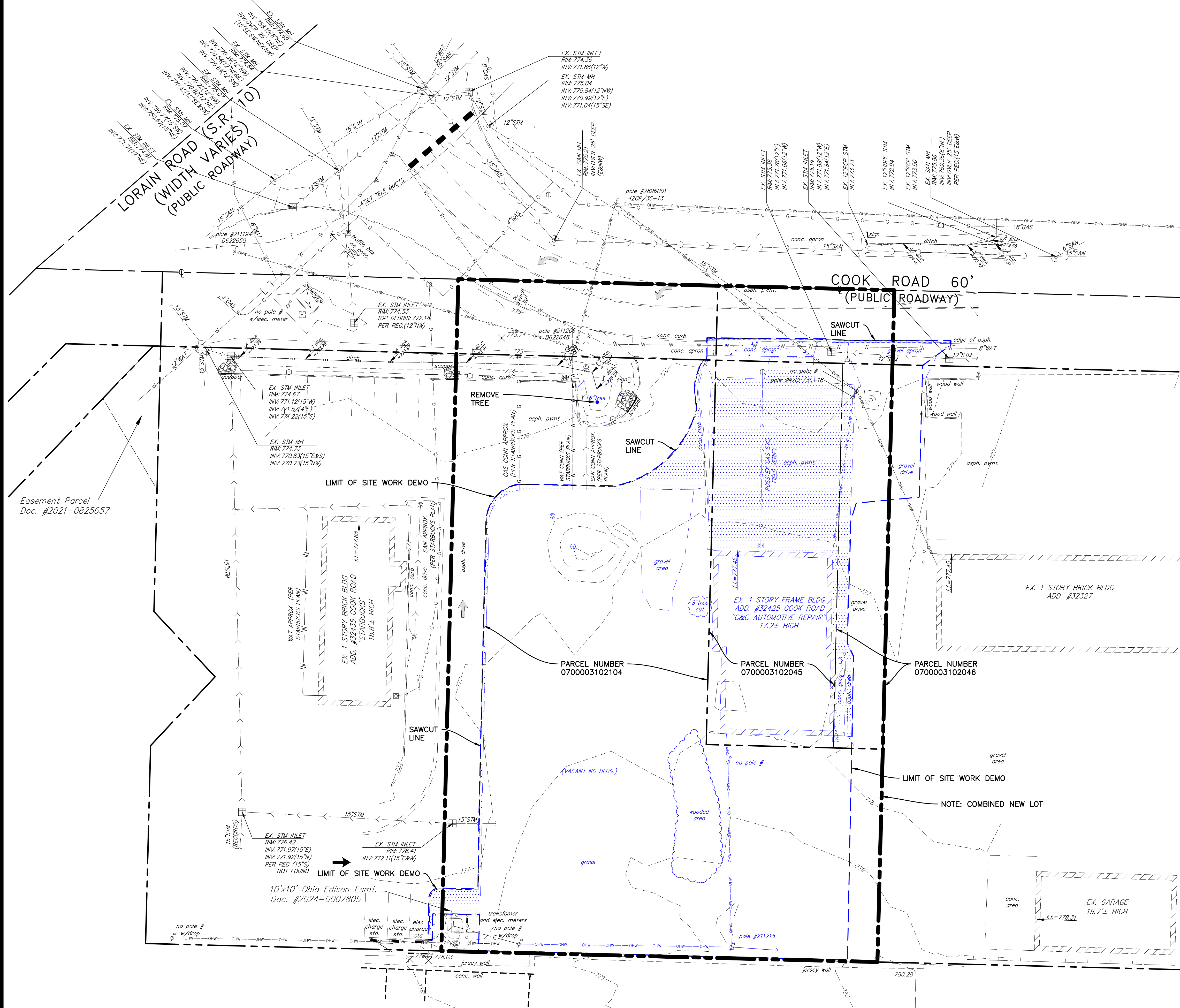
Prior to excavation and/or demolition contact:
O.U.P.S. (Ohio Utilities Protection Service).

	12-06-24	Revs per Panda Attny. -- item 28	
	10-17-24	Submit to client	
REV NO	DATE	DESCRIPTION	
DWG NAME	DRAWN BY	CHECKED BY	JOB NO
15010-E	TEW/JFK	SJM	15010

PANDA - COOK ROAD
ALTA/ NSPS LAND TITLE SURVEY
CITY OF NORTH RIDGEVILLE, COUNTY OF CUYAHOGA, STATE OF OHIO

NEFF & ASSOCIATES
Civil Engineers • Land Surveyors • Architects • Planners • Surveyors
6405 E. 12th Avenue • Suite 100 • Aurora, CO 80015
Tel: 440.884.5100 | Fax: 440.884.3104
www.neffr-assoc.com

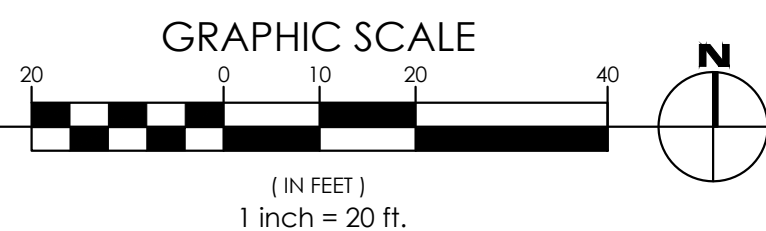
SHEET NO.
1 OF 3



DEMOLITION LEGEND

DEMO ITEMS SHOWN IN BLUE

DEMOLITION PLAN



GENERAL DEMOLITION NOTES

1. ALL SITE CLEARING, TOPSOIL STRIPPING, EXCAVATION, EMBANKMENT, GRADING, COMPACTION, SUB GRADE PREPARATION AND OTHER WORK HEREIN CONTEMPLATED SHALL MEET OR EXCEED THE STANDARDS AND SPECIFICATIONS SET FORTH BY THE GOVERNING MUNICIPAL AUTHORITY OR STATE DOT. THE HIGHER QUALITY STANDARD SHALL APPLY. ALL WORK SHALL BE INSPECTED AND APPROVED BY PERKINS TOWNSHIP/ERIE COUNTY OR UTILITIES INSPECTOR.
2. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES SHALL BE INVESTIGATED AND VERIFIED IN THE FIELD BY THE CONTRACTOR BEFORE STARTING WORK IN THE CONSTRUCTION AREA. EXCAVATION IN THE VICINITY OF EXISTING STRUCTURES AND FIBER OPTIC CABLE INSTALLATIONS SHALL BE PERFORMED BY HAND. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY AND ALL DAMAGES TO EXISTING FACILITIES, MAINTENANCE AND PROTECTION OF EXISTING UTILITIES AND STRUCTURES AND FIBER OPTIC CABLE INSTALLATIONS.
3. THE CONTRACTOR IS TO UNCOVER ALL LINES BEING TIED INTO AND VERIFY LOCATION AND ELEVATION BEFORE ANY CONSTRUCTION.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL STREET AND SIDEWALK CLOSURES WITH THE MUNICIPALITY.
5. CONDUCT DEMOLITION OPERATIONS AND REMOVAL OF DEBRIS AND SPOILS TO INSURE MINIMAL INTERFERENCE WITH OWNER OPERATIONS.
6. INSURE SAFE PASSAGE OF PERSONS AROUND AREAS OF DEMOLITION. REMOVE FROM SITE ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FORM DEMOLITION AND LAWFULLY DISPOSE OF SAME.
7. ALL ITEMS TO BE REMOVED SHALL BE PROPERLY AND LEGALLY DISPOSED OF BY THE CONTRACTOR.
8. AT LOCATIONS OF UTILITY REMOVAL, ANY OPEN TRENCHES REQUIRED, SHALL BE BACKFILLED WITH COMPACTED TRENCH BACKFILL.
9. NOTIFY UTILITY OWNER 72 HOURS IN ADVANCE OF ANY UTILITY SHUTDOWN.
10. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER ALL ITEMS DESIGNATED TO BE REMOVED OR RELOCATED.
11. IF ANY ITEMS ARE ENCOUNTERED IN THE FIELD THAT ARE NOT SHOWN ON THE PLAN WHICH REQUIRE DEMOLITION OR RELOCATION, THE CONTRACTOR SHALL NOTIFY THE A/E IMMEDIATELY.
12. THE SURVEY BASE PROVIDED HEREIN IS FOR INFORMATIONAL PURPOSES ONLY. THE OWNER, ARCHITECT & ENGINEER(S) ARE NOT RESPONSIBLE FOR ANY MISCHARTED OR UNCHARTED UTILITIES, OR OTHER ERRORS DETECTED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL SITE CONDITIONS.
13. THE CONTRACTOR WILL PROTECT ALL UTILITIES, STREETS, STRUCTURES, VEGETATION, AND ADJACENT PROPERTY DESIGNATED TO REMAIN. ANY DAMAGE BY THE CONTRACTOR TO UTILITIES, STREETS, STRUCTURES, VEGETATION AND ADJACENT PROPERTY WILL BE REPLACED OR REPAIRED AT THE CONTRACTOR'S EXPENSE.
14. CONTRACTOR TO ADJUST RIMS OF EXISTING STRUCTURES WITHIN SCOPE OF WORK TO FINAL GRADE ELEVATIONS.
15. EXISTING LATERAL CONNECTIONS FOR UTILITIES SHALL BE COORDINATED WITH THE CORRESPONDING UTILITY COMPANY FOR CAPPING AND CUT OFF WITHIN THE SCOPE OF WORK.
16. THE CONTRACTOR IS TO COMPLY WITH FEDERAL, STATE, AND LOCAL ORDINANCES WITH REGARD TO REMOVAL AND DISPOSAL OF MATERIALS FOR ALL ITEMS TO BE DEMOLISHED. WORK INCLUDES THE COMPLETE REMOVAL AND LEGAL DISPOSAL OF ALL OBJECTS AND MATERIALS (REGARDLESS OF THEIR NATURE) INCLUDING BUT NOT LIMITED TO TREE ROOTS, ORGANIC SOIL, DRUMS, TIRES, WOOD, BROKEN CONCRETE PIECES, AND FENCES ABOVE THE REQUIRED ELEVATION.
17. BURNING ON OWNERS PROPERTY IS NOT PERMITTED.
18. SIDEWALK DEMOLITION SAWCUTS SHALL BE AT THE NEAREST EXISTING JOINT.
19. FULL DEPTH SAWCUTS ARE REQUIRED FOR PAVEMENT REMOVALS, ADJACENT TO EXISTING PAVEMENT TO REMAIN.
20. SAWCUT ALL TREE ROOTS ENCOUNTERED IN LIEU OF USING SHOVELS (HAND SHOVELS OR MECHANICAL). LANDSCAPE PLANS FOR TREE PROTECTION AND REMOVALS SHALL TAKE PRECEDENCE.
21. ALL CONCRETE SAWCUTTING SHALL BE PERFORMED WITH A WETSAW TO CONTROL DUST.



PANDA EXPRESS, INC.
1683 Walnut Grove Ave.
Rosemead, California
91770

Telephone: 626.799.9898
Facsimile: 626.372.8288

All ideas, designs, arrangement and plans indicated or represented by this drawing are the property of Panda Express Inc. and were created for use on this specific project. None of these ideas, designs, arrangements or plans may be used by or disclosed to any person, firm, or corporation without the written permission of Panda Express Inc.

REVISIONS:

[illegible]

ISSUE DATE:

[illegible]

DRAWN BY:

rtm

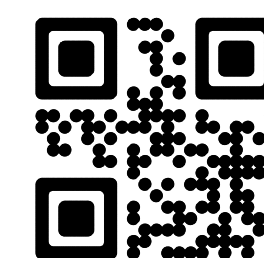
PANDA PROJECT #: D36943

PANDA STORE #:

ARCH PROJECT #: 24120



Heights Venture
ARCHITECTURE ♦ DESIGN



HOUSTON
1111 North Loop West, Suite 800
Houston, Texas 77008
281.854.6100

DALLAS
5741 Legacy Drive, Suite 320
Plano, Texas 75024
281.854.6100

CHICAGO
3333 Warrenville Road, Suite 200
Lisle, Illinois 60532
281.854.6100

PANDA EXPRESS

PANDA HOME R4

LORAIN RD & COOK RD

NORTH RIDGEVILLE, OH 44039

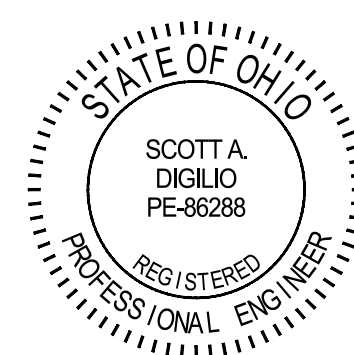
PLANNING

DEMOLITION

PLAN

X02.0

PANDA HOME R4



LORAIN ROAD (S.R. 10)
(WIDTH VARIES)
(PUBLIC ROADWAY)

PLACE OF BEGINNING

PRINCIPAL PLACE OF BEGINNING

COOK ROAD 60'
(PUBLIC ROADWAY)

ABBREVIATIONS

AFN.....	AUTOMATED FILING NO.
ASPH.....	ASPHALT
C. or CALC....	CALCULATED
CL.....	CENTER LINE
CONC.....	CONCRETE
C.D.R.....	COUNTY DEED RECORD
C.M.R.....	COUNTY MAP RECORD
D.....	DEED
EX.....	EXISTING
FD.....	FOUND
FF EL.....	FINISH FLOOR ELEVATION
INSTR.....	INSTRUMENT
L/A.....	LIMITED ACCESS
MON.....	MONUMENT
O. or OBS.....	OBSERVED
PG.....	PAGE
R. or P/L.....	PROPERTY LINE
PPN.....	PERMANENT PARCEL NO.
PVMT.....	PAVEMENT
R. or REC.....	RECORD
R/W.....	RIGHT OF WAY
U.....	USED
VOL.....	VOLUME
SAN.....	SANITARY
STM.....	STORM
WAT.....	WATER
INV.....	INVERT
VCP.....	VITRIFIED CLAY PIPE
RCP.....	REINFORCED CONCRETE PIPE
HDPE.....	HIGH DENSIT POLYETHYLENE

SYMBOL LEGEND
(EXISTING)

CL	CENTER LINE
PL	PROPERTY LINE
Z	CONSOLIDATED LOTS
IP	IRON PIN/PIPE FOUND
IP	IRON PIN SET
MB	MONUMENT BOX FOUND
DH	DRILL HOLE FOUND
DH	DRILL HOLE SET
IN	IRON NAIL FOUND
IN	IRON NAIL SET
EH	EXISTING FIRE HYDRANT
EWV	EXISTING WATER VALVE
EGV	EXISTING GAS VALVE
EC	EXISTING CLEAN OUT
EDS	EXISTING DOWNSPOUT
EWCS	EXISTING WATER CORP STOP
EGM	EXISTING GAS METER
EWMT	EXISTING WATER METER
EEM	EXISTING ELECTRIC METER
ESI	EXISTING SQUARE INLET BASIN
ERI	EXISTING ROUND INLET BASIN
EGI	EXISTING GUTTER INLET BASIN
EM	EXISTING MANHOLE
EWMM	EXISTING WATER MANHOLE
EP	EXISTING POWER POLE
EGA	EXISTING GUY ANCHOR
ELP	EXISTING LIGHT POLE
EGGL	EXISTING GROUND LIGHT
ETP	EXISTING TRAFFIC POLE
ET	EXISTING TRANSFORMER
EUB	EXISTING UTILITY BOX (ELEC, TELE)
ETB	EXISTING TRAFFIC BOX
EB	EXISTING BOLLARD
ET	EXISTING TRAFFIC SIGN
ES	EX. SANITARY SEWER
ES	EX. STORM SEWER
EW	EX. WATER LINE
EX	EX. FENCE
EL	EX. GAS LINE
UE	EX. UNDERGROUND ELECTRIC
UT	EX. UNDERGROUND TELEPHONE
OU	EX. OVERHEAD UTILITY LINE

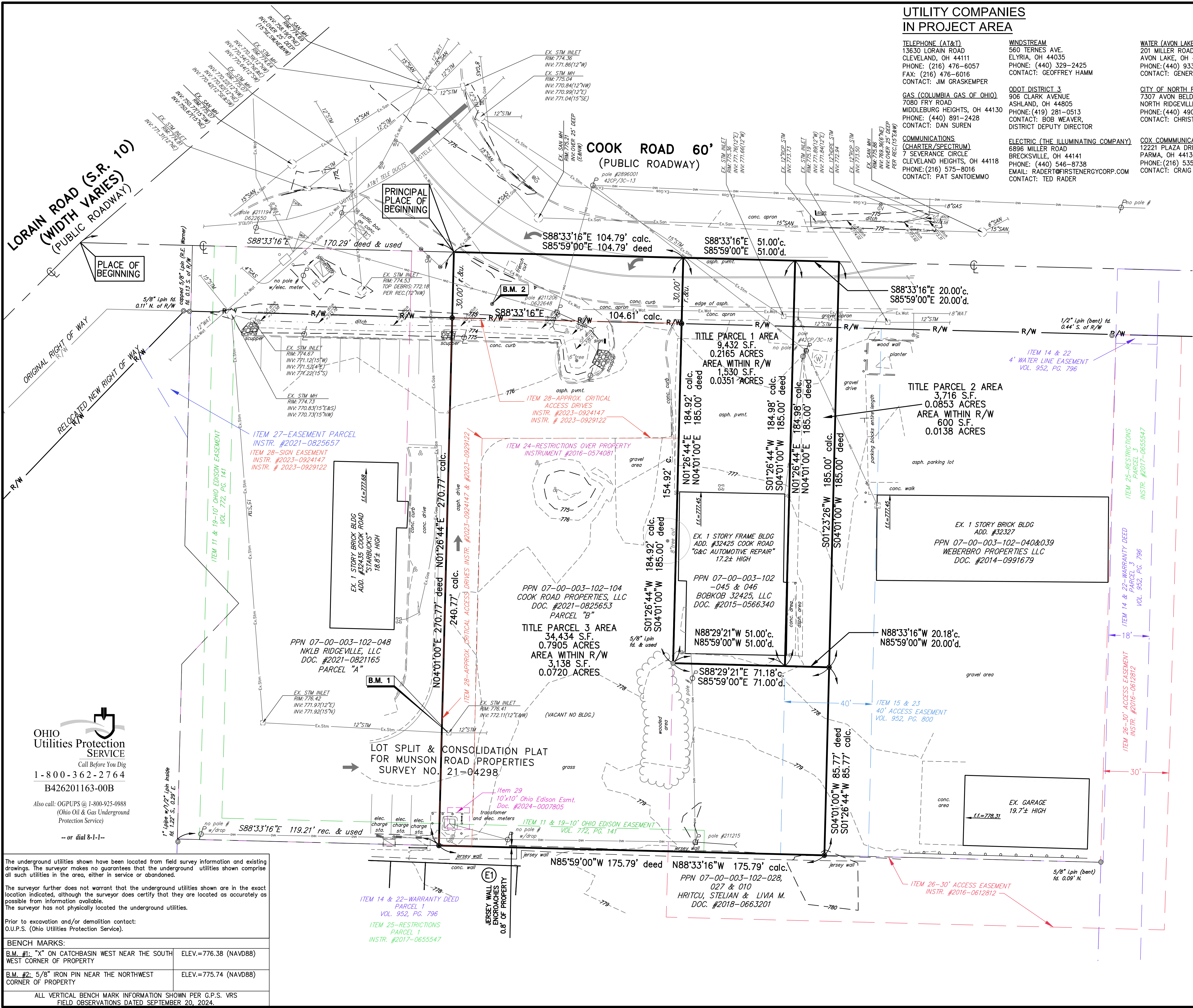
PANDA - COOK ROAD
ALTA/ NSPS LAND TITLE SURVEY
CITY OF NORTH RIDGEVILLE, COUNTY OF CUYAHOGA, STATE OF OHIO

NEFF
& ASSOCIATES
Civil Engineers & Surveyors
6485 W. Lakeside Blvd., Suite 100
North Ridgeville, OH 44039
Tel: 440.884.5100 Fax: 440.884.3104
www.neff-assoc.com

SHEET NO.
2 OF 3

REV NO	DATE	DESCRIPTION
12-06-24	Revs per Panda Attny. - item 28	
10-17-24	Submit to client	
DWG NAME	DRAWN BY	CHKD BY
15010-E	TEW/JFK	SJM
		JOB NO
		15010

N:\LAND DEVELOPMENT\Pro\15010-ALTA.dwg, 12/6/2024 12:35:56 PM, smetcoif



UTILITY COMPANIES
IN PROJECT AREA

TELEPHONE (AT&T)
13630 LORAIN ROAD
CLEVELAND, OH 44111
PHONE: (216) 476-6057
FAX: (216) 476-6016
CONTACT: JIM GRASKEMPER

GAS (COLUMBIA GAS OF OHIO)
7080 FRY ROAD
MIDDLEBURG HEIGHTS, OH 44130
PHONE: (440) 891-2428
CONTACT: DAN SUREN

COMMUNICATIONS
(CHARTER/SPECTRUM)
7 SEVERANCE CIRCLE
CLEVELAND HEIGHTS, OH 44118
PHONE: (216) 575-8016
CONTACT: PAT SANTOEMMO

WINDSTREAM
560 TERNES AVE.
ELYRIA, OH 44035
PHONE: (440) 329-2425
CONTACT: GEOFFREY HAMM

ODOT DISTRICT 3
906 CLARK AVENUE
ASHLAND, OH 44805
PHONE: (419) 281-0513
CONTACT: BOB WEAVER,
DISTRICT DEPUTY DIRECTOR

ELECTRIC (THE ILLUMINATING COMPANY)
6896 MILLER ROAD
BRECKSVILLE, OH 44141
PHONE: (440) 546-8738
EMAIL: RADERT@FIRSTENERGYCORP.COM
CONTACT: TED RADER

WATER (AVON LAKE REGIONAL WATER)
201 MILLER ROAD
AVON LAKE, OH 44012
PHONE: (440) 933-6266
CONTACT: GENERAL

CITY OF NORTH RIDGEVILLE
7307 AVON BELDEN RD
NORTH RIDGEVILLE, OH 44039
PHONE: (440) 490-2084
CONTACT: CHRISTINA EAVENSON, P.E.

COX COMMUNICATIONS
12221 PLAZA DRIVE
PARMA, OH 44130
PHONE: (216) 535-3356
CONTACT: CRAIG SMITH

ABBREVIATIONS

AFN.....	AUTOMATED FILING NO.
ASPH.....	ASPHALT
C. or CALC.....	CALCULATED
CL.....	CENTER LINE
CONC.....	CONCRETE
C.D.R.....	COUNTY DEED RECORD
C.M.R.....	COUNTY MAP RECORD
D.....	DEED
EX.....	EXISTING
FD.....	FOUND
FF EL.....	FINISH FLOOR ELEVATION
INSTR.....	INSTRUMENT
L/A.....	LIMITED ACCESS
MON.....	MONUMENT
O. or OBS.....	OBSERVED
PG.....	PAGE
R. or P/L.....	PROPERTY LINE
PPN.....	PERMANENT PARCEL NO.
PMT.....	PAVEMENT
R. or REC.....	RECORD
R/W.....	RIGHT OF WAY
U.....	USED
VOL.....	VOLUME
SAN.....	SANITARY
STM.....	STORM
WAT.....	WATER
INV.....	INVERT
VCP.....	VITRIFIED CLAY PIPE
RCP.....	REINFORCED CONCRETE PIPE
HDPE.....	HIGH DENSIT POLYETHYLENE

SYMBOL LEGEND
(EXISTING)

CL	CENTER LINE
PL	PROPERTY LINE
Z	CONSOLIDATED LOTS
IP	IRON PIN/PIPE FOUND
IP	IRON PIN SET
MB	MONUMENT BOX FOUND
DH	DRILL HOLE FOUND
DH	DRILL HOLE SET
IN	IRON NAIL FOUND
IN	IRON NAIL SET
EH	EXISTING FIRE HYDRANT
EW	EXISTING WATER VALVE
EG	EXISTING GAS VALVE
EC	EXISTING CLEAN OUT
ED	EXISTING DOWNSPOUT
EW	EXISTING WATER CORP STOP
EG	EXISTING GAS METER
EW	EXISTING WATER METER
EE	EXISTING ELECTRIC METER
EW	EXISTING SQUARE INLET BASIN
EW	EXISTING ROUND INLET BASIN
EW	EXISTING GUTTER INLET BASIN
EH	EXISTING MANHOLE
EW	EXISTING WATER MANHOLE
EP	EXISTING POWER POLE
EG	EXISTING GUY ANCHOR
EL	EXISTING LIGHT POLE
EG	EXISTING GROUND LIGHT
EP	EXISTING TRAFFIC POLE
ET	EXISTING TRANSFORMER
EW	EXISTING UTILITY BOX (ELEC, TELE)
ET	EXISTING TRAFFIC BOX
EB	EXISTING BOLLARD
ET	EXISTING TRAFFIC SIGN
ES	EX. SANITARY SEWER
ES	EX. STORM SEWER
EW	EX. WATER LINE
EX	EX. FENCE
EL	EX. GAS LINE
EU	EX. UNDERGROUND ELECTRIC
ET	EX. UNDERGROUND TELEPHONE
OU	EX. OVERHEAD UTILITY LINE

OHIO
Utilities Protection
SERVICE

Call Before You Dig
1-800-362-2764

B426201163-00B

Also call: OGPUPS @ 1-800-925-0988
(Ohio Oil & Gas Underground
Protection Service)

-- or dial 8-1-1 --

The underground utilities shown have been located from field survey information and existing drawings. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in service or abandoned.

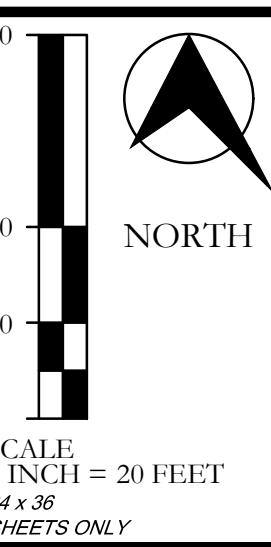
The surveyor further does not warrant that the underground utilities shown are in the exact location indicated, although the surveyor does certify that they are located as accurately as possible from information available.
The surveyor has not physically located the underground utilities.

Prior to excavation and/or demolition contact:
O.U.P.S. (Ohio Utilities Protection Service).

BENCH MARKS:

B.M. #1: "X" ON CATCHBASIN WEST NEAR THE SOUTH WEST CORNER OF PROPERTY	ELEV.=776.38 (NAVD88)
B.M. #2: 5/8" IRON PIN NEAR THE NORTHWEST CORNER OF PROPERTY	ELEV.=775.74 (NAVD88)

ALL VERTICAL BENCH MARK INFORMATION SHOWN PER G.P.S. VRS
FIELD OBSERVATIONS DATED SEPTEMBER 20, 2024.



ALTA/ NSPS LAND TITLE SURVEY w/ TOPO & UTILITIES
PANDA - COOK ROAD
CITY OF NORTH RIDGEVILLE, COUNTY OF CUYAHOGA, STATE OF OHIO

NEFF
& ASSOCIATES
Civil Engineers & Land Surveyors
6405 N. Lankford Avenue, Suite 100
Tulsa, Oklahoma 74116
Tel: 405.884.5100 | Fax: 405.884.3104
www.neff-assoc.com

SHEET NO.
3 OF 3

REV NO	DATE	DESCRIPTION
12-06-24	Revs per Panda Attny. - item 28	
10-17-24	Submit to client	
DWG NAME	DRAWN BY	CHKD BY
15010-E	TEW/JFK	SJM
	JOB NO	15010



All ideas, designs, arrangement and plans indicated or represented by this drawing are the property of Panda Express Inc. and were created for use on this specific project. None of these ideas, designs, arrangements or plans may be used by or disclosed to any person, firm, or corporation without the written permission of Panda Express Inc.

REVISIONS:

[illegible]

ISSUE DATE:

PLANNING	01-28-
PLANNING	03-13-

DRAWN BY: EDG

PANDA PROJECT #: D36943

PANDA STORE #:

ARCH PROJECT #: 24120



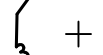
NORTH RIDGEVILLE, OH 44039

L01.0

LANDSCAPE PLAN

PANDA HOME R4



<u>SYMBOL</u>	<u>CODE</u>	<u>QTY</u>	<u>BOTANICAL / COMMON NAME</u>	<u>CONT</u>	<u>MIN. SIZE</u>
TREES					
	AA	2	Acer x freemanii 'Jeffersred' Autumn Blaze® Freeman Maple	Cont. or F.G.	2" CAL
	CC	1	Cercis canadensis 'Covey' Lavender Twist® Eastern Redbud	B&B	2" CAL
	GP	3	Ginkgo biloba 'PNI 2720' Princeton Sentry® Maidenhair Tree	2" Cal.	B&B
	JS	6	Juniperus chinensis 'Spartan' Spartan Juniper	Cont. or F.G.	6' HT

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	MIN. SIZE	SPACING
SHRUBS						
	BM	5	Buddleja x 'Miss Molly' Miss Molly Butterfly Bush	5 gal.	24" HT	60" o.c.
	IG	62	Ilex glabra 'Shamrock' Inkberry	3 gal.	18" HT	48" o.c.
	JB	4	Juniperus horizontalis 'Blue Chip' Blue Chip Juniper	5 gal.	24" SPD	60" o.c.
	SG	21	Spiraea japonica 'Goldmound' Goldmound Japanese Spirea	3 gal.	18" HT	36" o.c.
	SL	17	Spiraea japonica 'Little Princess' Little Princess Japanese Spirea	3 gal.	18" HT	36" o.c.
	TM	18	Taxus x media 'Densiformis' Dense Yew	5 gal.	24" HT	48" o.c.

<u>SYMBOL</u>	<u>CODE</u>	<u>BOTANICAL / COMMON NAME</u>	<u>CONT</u>	<u>MIN. SIZE</u>
GROUND COVERS				
	TURF	Poa pratensis Kentucky Bluegrass	sod	
ROCK / STONE				
	RR	1-1/2" River Rock River Rock mulch	4" depth	

LANDSCAPE CALCULATIONS

ZONING:	B3 - HIGHWAY COMMERCIAL
FRONT YARD LANDSCAPING	
10' MIN. PLANTING STRIP	PROVIDED
<i>PARKING LOT SCREENING IN FRONT YARD</i>	
ROW OF SHRUBS PROVIDED AS REQUIRED	
COMMERCIAL DISTRICT LANDSCAPING	
<i>TREES: 1 PER 50 LF OF BUILDING</i>	
TREES REQUIRED: 226/50=	5 TREES
TREES PROVIDED:	5 TREES

MULCHES

AFTER ALL PLANTING IS COMPLETE, CONTRACTOR SHALL INSTALL 4" THICK LAYER OF RIVER COBBLE, 1/2" DIA., OVER LANDSCAPE FABRIC (ANY APPROVED) IN ALL PLANTING AREAS (EXCEPT FOR TURF AND SEEDED AREAS). CONTRACTOR SHALL SUBMIT SAMPLES OF ALL MULCHES TO LANDSCAPE ARCHITECT AND OWNER FOR APPROVAL PRIOR TO CONSTRUCTION. ABSOLUTELY NO EXPOSED GROUND SHALL BE LEFT SHOWING ANYWHERE ON THE PROJECT AFTER MULCH HAS BEEN INSTALLED (SUBJECT TO THE CONDITIONS AND REQUIREMENTS OF THE "GENERAL GRADING AND PLANTING NOTES" AND SPECIFICATIONS).

GENERAL GRADING AND PLANTING NOTES

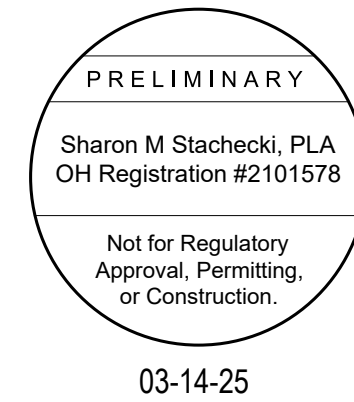
1. BY SUBMITTING A PROPOSAL FOR THE LANDSCAPE PLANTING SCOPE OF WORK, THE CONTRACTOR CONFIRMS THAT HE HAS READ, AND WILL COMPLY WITH, THE ASSOCIATED NOTES, SPECIFICATIONS, AND DETAILS WITH THIS PROJECT.
2. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL EXISTING VEGETATION (EXCEPT WHERE NOTED TO REMAIN).
3. IN THE CONTEXT OF THESE PLANS, NOTES, AND SPECIFICATIONS, "FINISH GRADE" REFERS TO THE FINAL ELEVATION OF THE SOIL SURFACE (NOT TOP OF MULCH) AS INDICATED ON THE GRADING OR PONDING PLANS.
 - a. BEFORE STARTING WORK, THE LANDSCAPE CONTRACTOR SHALL VERIFY THAT THE ROUGH GRADES OF ALL LANDSCAPE AREAS ARE WITHIN $\pm 0.1'$ OF FINISH GRADE. SEE SPECIFICATIONS FOR MORE DETAILED INSTRUCTION ON TURF AREA AND PLANTING BED PREPARATION.
 - b. CONSTRUCT AND MAINTAIN FINISH GRADES AS SHOWN ON GRADING PLANS, AND CONSTRUCT AND MAINTAIN SLOPES AS RECOMMENDED BY THE GEOTECHNICAL REPORT. ALL LANDSCAPE AREAS SHALL HAVE POSITIVE DRAINAGE AWAY FROM STRUCTURES AT THE MINIMUM SLOPE SPECIFIED IN THE REPORT AND ON THE GRADING PLANS, AND AREAS OF POTENTIAL PONDING SHALL BE REGRADED TO BE IN AND WITHIN THE SURROUNDING GRADES AND ELIMINATE PONDING POTENTIAL. THE LANDSCAPE CONTRACTOR SHALL DETERMINE WHETHER OR NOT THE EXPORT OF ANY SOIL WILL BE NEEDED, TAKING INTO ACCOUNT THE ROUGH GRADE PROVIDED, THE AMOUNT OF SOIL AMENDMENTS TO BE ADDED (**BASED ON A SOIL TEST**, PER SPECIFICATIONS), AND THE FINISH GRADES TO BE ESTABLISHED.
 - d. ENSURE THAT THE FINISH GRADE IN SHRUB AREAS IMMEDIATELY ADJACENT TO WALKS AND OTHER WALKING SURFACES, AFTER INSTALLING SOIL AMENDMENTS, IS 3" BELOW THE ADJACENT FINISH SURFACE, IN ORDER TO ALLOW FOR PROPER MULCH DEPTH. TAPER THE SOIL SURFACE TO MEET FINISH GRADE, AS SPECIFIED ON THE GRADING PLANS, AT APPROXIMATELY 18" AWAY FROM THE WALKS.
 - e. ENSURE THAT THE FINISH GRADE IN TURF AREAS IMMEDIATELY ADJACENT TO WALKS AND OTHER WALKING SURFACES, AFTER INSTALLING SOIL AMENDMENTS, IS 1" BELOW THE FINISH SURFACE OF THE WALKS. TAPER THE SOIL SURFACE TO MEET FINISH GRADE, AS SPECIFIED ON THE GRADING PLANS, AT APPROXIMATELY 18" AWAY FROM THE WALKS.
 - f. SHOULD ANY CONFLICTS AND/OR DISCREPANCIES ARISE BETWEEN THE GRADING PLANS, GEOTECHNICAL REPORT, THESE NOTES AND PLANS, AND ACTUAL CONDITIONS, THE CONTRACTOR SHALL IMMEDIATELY BRING SUCH ITEMS TO THE ATTENTION OF THE LANDSCAPE ARCHITECT, GENERAL CONTRACTOR, AND OWNER.
4. ALL PLANT LOCATIONS ARE DIAGRAMMATIC. ACTUAL LOCATIONS SHALL BE VERIFIED WITH THE LANDSCAPE ARCHITECT IMMEDIATELY PRIOR TO PLANTING. THE LANDSCAPE CONTRACTOR SHALL ENSURE THAT ALL REQUIREMENTS OF THE PERMITTING AUTHORITY ARE MET (I.E., MINIMUM PLANT QUANTITIES, PLANTING METHODS, TREE PROTECTION METHODS, ETC.).
 - a. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR DETERMINING PLANT QUANTITIES; PLANT QUANTITIES SHOWN ON LEGENDS AND CALLOUTS ARE FOR GENERAL INFORMATION ONLY. IN THE EVENT OF A DISCREPANCY BETWEEN THE PLAN AND THE PLANT LEGEND, THE PLANT QUANTITY AS SHOWN ON THE PLAN (FOR INDIVIDUAL SYMBOLS) OR CALLOUT (FOR GROUNDCOVER PATTERNS) SHALL TAKE PRECEDENCE.
 - b. **NO SUBSTITUTIONS OF PLANT MATERIALS SHALL BE ALLOWED WITHOUT THE WRITTEN PERMISSION OF THE LANDSCAPE ARCHITECT AND TOWNSHIP LANDSCAPE ARCHITECT.** IF SOME OF THE PLANTS ARE NOT AVAILABLE, THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT IN WRITING (VIA PROPER CHANNELS).
 - c. THE CONTRACTOR SHALL, AT A MINIMUM, PROVIDE REPRESENTATIVE PHOTOS OF ALL PLANTS PROPOSED FOR THE PROJECT. THE CONTRACTOR SHALL ALLOW THE LANDSCAPE ARCHITECT AND THE OWNER/OWNER'S REPRESENTATIVE TO INSPECT, AND APPROVE OR REJECT, ALL PLANTS DELIVERED TO THE JOBSITE. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FOR SUBMITTALS.
5. THE CONTRACTOR SHALL SUBMIT THE LANDSCAPE PROTECTION PLAN FOR 90 DAYS AFTER ACCEPTANCE BY THE OWNER. REFER TO SPECIFICATIONS FOR CONDITIONS OF ACCEPTANCE FOR THE START OF THE MAINTENANCE PERIOD, AND FOR FINAL ACCEPTANCE AT THE END OF THE MAINTENANCE PERIOD.
6. SEE SPECIFICATIONS AND DETAILS FOR FURTHER REQUIREMENTS.

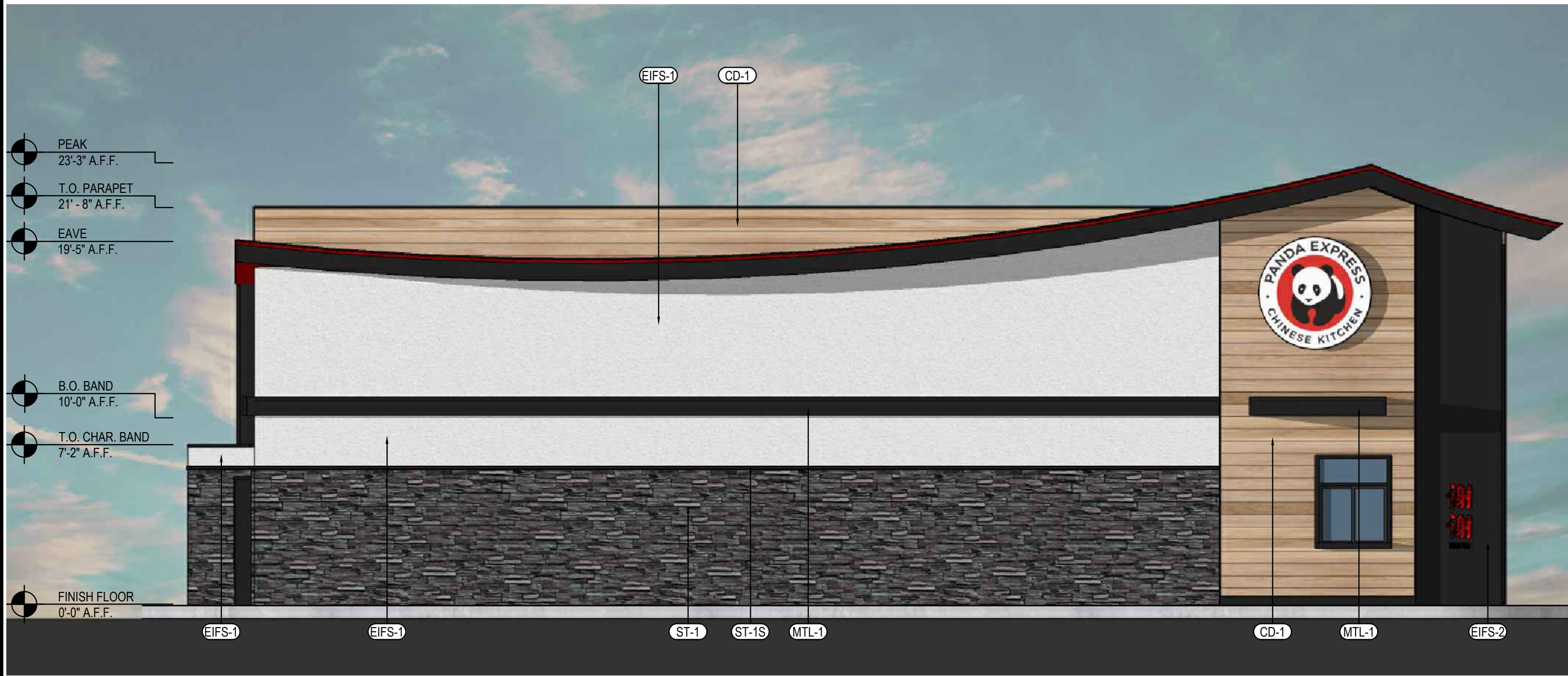
IRRIGATION CONCEPT

1. AN AUTOMATIC IRRIGATION SYSTEM SHALL BE INSTALLED AND OPERATIONAL BY THE TIME OF FINAL INSPECTION. THE ENTIRE IRRIGATION SYSTEM SHALL BE INSTALLED BY A LICENSED AND QUALIFIED IRRIGATION CONTRACTOR.
2. THE IRRIGATION SYSTEM WILL OPERATE ON POTABLE WATER, AND THE SYSTEM WILL HAVE APPROPRIATE BACKFLOW PREVENTION DEVICES INSTALLED TO PREVENT CONTAMINATION OF THE POTABLE SOURCE.
3. ALL NON-TURF PLANTED AREAS SHALL BE DRIP IRRIGATED. SODDED AND SEEDDED AREAS SHALL BE IRRIGATED WITH SPRAY OR ROTOR HEADS AT 100% HEAD-TO-HEAD COVERAGE.
4. ALL PLANTS SHARING SIMILAR HYDROZONE CHARACTERISTICS SHALL BE PLACED ON A VALVE DEDICATED TO PROVIDE THE NECESSARY WATER REQUIREMENTS SPECIFIC TO THAT HYDROZONE.
5. THE IRRIGATION SYSTEM SHALL BE DESIGNED AND INSTALLED, TO THE MAXIMUM EXTENT POSSIBLE, TO CONSERVE WATER BY USING THE FOLLOWING DEVICES AND SYSTEMS: MATCHED PRECIPITATION RATE TECHNOLOGY ON ROTOR AND SPRAY HEADS (WHEREVER POSSIBLE), RAIN SENSORS, AND MULTI-PROGRAM COMPUTERIZED IRRIGATION CONTROLLERS FEATURING SENSORY INPUT CAPABILITIES.

ROOT BARRIERS

THE CONTRACTOR SHALL INSTALL ROOT BARRIERS NEAR ALL NEWLY-PLANTED TREES THAT ARE LOCATED WITHIN FIVE (5) FEET OF PAVING OR CURBS. ROOT BARRIERS SHALL BE "CENTURY" OR "DEEP-ROOT" 24" DEEP PANELS (OR EQUAL). BARRIERS SHALL BE LOCATED IMMEDIATELY ADJACENT TO HARDSCAPE. INSTALL PANELS PER MANUFACTURER'S RECOMMENDATIONS. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR USE ROOT BARRIERS OF A TYPE THAT COMPLETELY ENCIRCLE THE ROOTBALL.





DRIVE THRU ELEVATION 5
Scale= 3/16" - 1'0" A-202



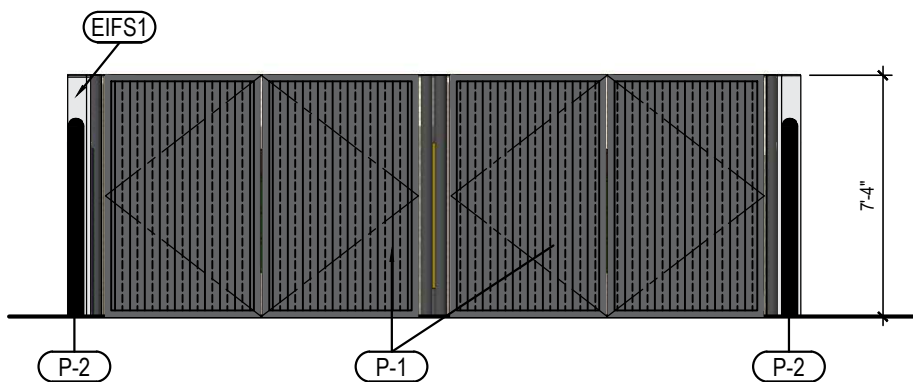
FRONT ELEVATION 2
Scale= 3/16" - 1'0" A-202



ENTRY ELEVATION 4
Scale= 3/16" - 1'0" A-202



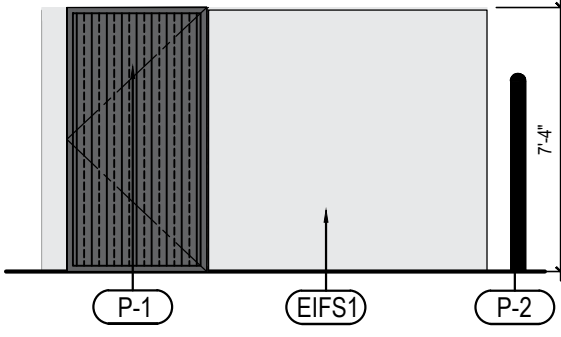
PERSPECTIVE RENDER 3
Scale= NTS A-202



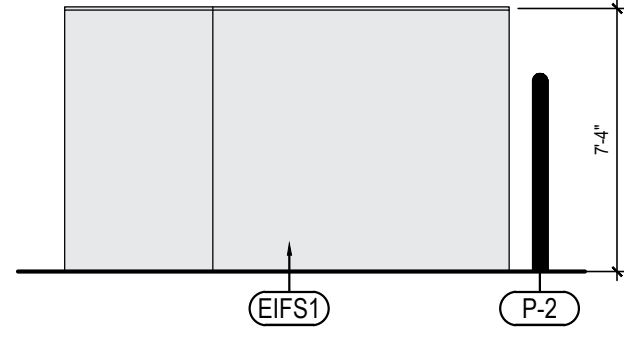
TRASH ENCLOSURE FRONT



TRASH ENCLOSURE BACK



TRASH ENCLOSURE SIDE



TRASH ENCLOSURE SIDE

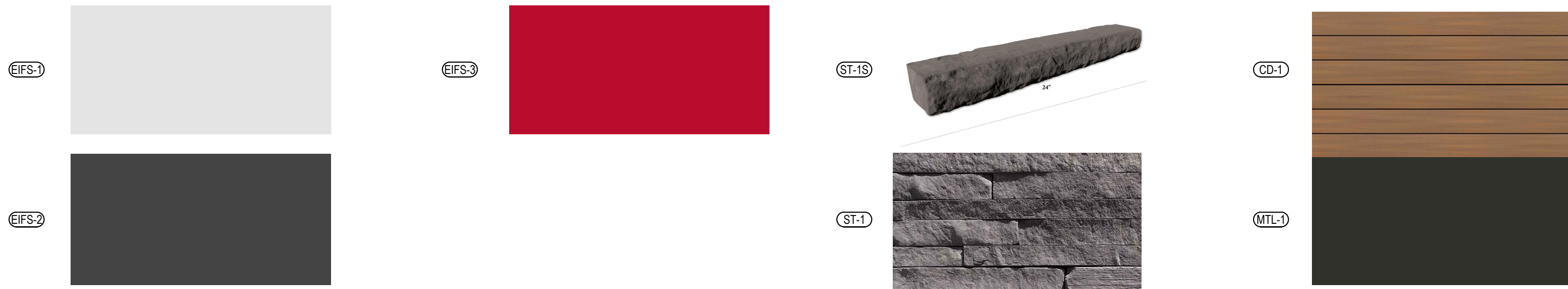
NO	MFG#	COLOR
EIFS-1	STOTHERM ESSENCE SYSTEM - EIFS	SW 7646 FIRST STAR
P-1	SW 7069 IRON ORE	
P-2	PAINT SAFETY YELLOW	

TRASH ENCLOSURE ELEVATIONS 3
Scale= NTS A-202

EXTERIOR FINISH SCHEDULE

NO	MANUFACTURER	MFG#	COLOR	FINISH	NOTES
EIFS-1	STO	STOTHERM ESSENCE SYSTEM - EIFS	SW 7646 FIRST STAR	FINE	BUILDING BODY
EIFS-2	STO	STOTHERM ESSENCE SYSTEM - EIFS	SW7069 IRON ORE	FINE	EIFS ACCENT BAND
EIFS-3	STO	STOTHERM ESSENCE SYSTEM - EIFS	PANTONE COLOR 200C-RED	-FINE	EIFS BEHIND TRELLIS
ST-1S	CORONADO STONE PRODUCTS	CHISELED STONE SILL	CHARCOAL	-	STONE CAP (3/8" VERTICAL JOINT - MORTAR TO MATCH STONE CAP)
ST-1	CORONADO STONE PRODUCTS	STRIP STONE	BLACKFOREST	-	WAINSCOT CONTACT: 864-962-1221 PROVIDE 3/8" MORTAR JOINTS MFG: ARGOS, COLOR: CHARCOAL
CD-1	FIBERON	WILDWOOD	BAMBOO	-	COMPOSITE CLADDING - CONTACT: MARIA SCHOLLER 419.704.5924 EMAIL: maria.scholler@fiberoncladding.com
MTL-2	PANDA VENDOR	ALLEN INDUSTRIES	PMS BLACK-7C	SATIN FINISH	CANOPY WITH LED WITH DOWN LIGHT AROUND BUILDING
MTL-1	EXCEPTIONAL METALS	-	"PANDA EXPRESS SW 7069IRON ORE"	-	CAP FLASHING

MATERIALS



PANDA EXPRESS, INC.
1683 Walnut Grove Ave.
Rosemead, California
91770
Telephone: 626.799.9898
Facsimile: 626.372.8288

All ideas, designs, arrangement and plans indicated or represented by this drawing are the property of Panda Express Inc. and were created for use on this specific project. None of these ideas, designs, arrangements or plans may be used by or disclosed to any person, firm, or corporation without the written permission of Panda Express Inc.

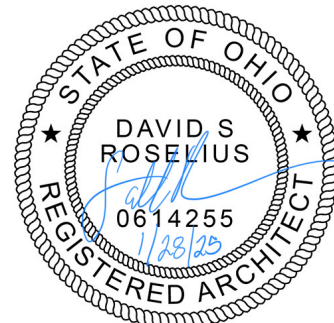
REVISIONS:

ISSUE DATE:

PLANNING SET	01-28-25

DRAWN BY:

PANDA PROJECT #: S8-26-D36943
PANDA STORE #: D36943
ARCH PROJECT #: 24120



Heights Venture
ARCHITECTURE • DESIGN

HOUSTON
1111 North Loop West, Suite 800
Houston, Texas 77005
281.854.6100

DALLAS
5741 Legacy Drive, Suite 320
Plano, Texas 75024
281.854.6100

CHICAGO
3333 Warrenville Road, Suite 200
Lisle, Illinois 60532
281.854.6100

PANDA EXPRESS
PANDA HOME R3
32425 COOK ROAD

N. RIDGEVILLE, OH 44039

A-202

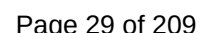
EXTERIOR
COLOR ELEVATIONS

PANDA HOME R4

PLUMBING										ELECTRICAL					DESCRIPTION														
FS - INDIRECT CONNECTION TO FLOOR SINK D - DIRECT CONNECTION RH - ROUGH-IN HEIGHT (TO CENTER OF CONNECTION)										D - DIRECTION CONNECTION C - OUTLET (REF. MFR FOR TYPE) FSO - FLOOR STUB OUT DC - DROPPED CORD					O - OWNER (PANDA EXPRESS, INC.) GC - GENERAL CONTRACTOR EC - ELECTRICAL CONTRACTOR KEC - KITCHEN EQUIPMENT COMPANY														
GAS		WASTE		COLD WATER		HOT WATER		CONNECTION		LOAD		PH		HP		VOLTS		REMARKS		DIMENSIONS		MANUFACTURER		MODEL NO.		DESCRIPTION		NO.	
KBTU	RH	SIZE	TYPE	SIZE	RH	SIZE	RH	SIZE	RH	TYPE	WATT							W x D x H" (O x H)											
SERVICE COUNTER TABLE ASSEMBLY, SEE ARCH. ELYS & DTLS																		SEE PLAN		KEC		PER MFG		SS 16 WELL SERVICE TABLE		1F31			
SPAIN, PART OF SERVICE COUNTER TABLE ASSEMBLY & INCLUDES SS FRAME, GLASS, HARDWARE, LIGHTS & HEATERS																		41x18x17"		KEC		PER MFG		4IN SNEEZE GUARD ASSEMBLY		152B			
LAPAN, PART OF SERVICE COUNTER TABLE ASSEMBLY & INCLUDES SS FRAME, GLASS, HARDWARE, LIGHTS & HEATERS																		58"x18"x17"		KEC		PER MFG		58IN SNEEZE GUARD ASSEMBLY		152B2			
BUILT-INTO SERVICE COUNTER TABLE ASSEMBLY, SEE ARCH. ELYS & DTLS																		SEE PLAN		KEC		PER MFG		SS BUILT-IN RICE WARMER HOLDER FRONT POSITION		133A			
BUILT-INTO SERVICE COUNTER TABLE ASSEMBLY, 17 QUART																		17x21.12"x24.12"		KEC		PER MFG		SS CASHIER UC DOUBLE POS		202			
BUILT-INTO SERVICE COUNTER TABLE ASSEMBLY, 17 QUART																		15.34" DIA		JO CONTROLS CORP		AGC-88-14		INDUCTION WELL WARMER 1IN		3F			
12.18" DIA																		JO CONTROLS CORP		AGC-88-10		INDUCTION WELL WARMER 1IN		28					
10 LATERAL DISPENSER, USE WITH 10K/10K1/1 ICE MACHINE																		30"x20"x38"		CONNELLYS		ENOURJ 250		BEVERAGE DISPENSER COUNTERTOP MOUNT		4A			
ON SS SHELF, 4.4 GAL TANK																		18"x17.12"x12"		VELBLIT		16-2172		WATER BOOSTER		483			
4 TIER, SODA SQUEEZE HOLDER AT 8TH"																		39"x20"x49"		VELBLIT		15-29034P		BEVERAGE BAG IN BOX RACK		454			
																		22" DIA		PER MFG		15-24W4H10F-TPL-CPK		CO2 TANK		401			
																		ESPRIGAS		PER MFG		CO2 TANK		401					
																		RAD-11024		CO2 MONITOR & DISPLAY		4051							
																		40.12x31.24"x12.42"		KEC		PER MFG		SS ICE BIN COLD PAN UC CABINET		5C			
																		38"x21"x7"		KEC		PER MFG		SS ICE BIN COLD PAN BOTTLE DISPLAY RACK		5C52			
																		78.12"x46"x14.12"		KEC		PER MFG		SS 10 WELL SERVICE TABLE DRIVE-THROUGH		6H			
																		33"x22"x36"		KEC		PER MFG		SS HAND SINK CABINET & COUNTERTOP		7G			
																		60"x30"x28"		KEC		PER MFG		SS PACKING STATION CABINET & COUNTERTOP		8J			
																		105"x39"x28.18"		KEC		PER MFG		SS CASHIER, BEV. CAB., HAND SINK, & COUNTERTOP-OT		9C			
																		12"x22"x34"		BUNN		TB3		ICE2 TIE BREWERY		9D			
																		22"x14"x26.5"		MANTOWOC		IBF820C-161		825 LB ICE CUBE MACHINE FOR BEVERAGE DISPENSER		10K			
																		24"x24.18"x25.34"		MANTOWOC		CVS09A00-261		REMOTE DISPENSER FOR BEVERAGE DISPENSER		10K51			
																		14" 24" GALLON (BL) BOWLS		CRATHCO		CSQ-68-19		BEVERAGE BUBBLER		13A			
																		SEE ARCH. DTLS, ATTACH TO WALL											
																		96"x42"		KEC		PER MFG		SS 96" CHINESE ENTREE WOK RANGE (L & R)		20N			
																		96"x42"		KEC		PER MFG		SS 96" CHINESE ENTREE WOK RANGE (L & R)		20N			
																		42"x42"		KEC		PER MFG		SS 42" CHINESE CHAF WOK RANGE (L & R)		20Q			
																		42"x42"		KEC		PER MFG		SS 42" CHINESE CHAF WOK RANGE (L & R)		20Q			
																		42"x42"		KEC		PER MFG		SS 42" CHINESE CHAF WOK RANGE (L & R)		20Q			
																		47"x33.18"x47.34"		FRYMASTER		2154G2		SS 84" CHINESE CHAF WOK RANGE (L & R)		20R			
																		13.34"x52.52"		CRYNAST		TNC-17002-AD201		1814 HIGH-PRODUCTION 2-FRYER POT		21F			
																		24"x1.12"x15.14"		VULCAN		MSA24-0100P		24" GAS GRIDDLE		23E			
																		10.4"x22.9"		VULCAN		VMCS-01		ELECTRIC GRIDDLE TOP		23E			
																		24"x19x17"		PANTIN		GZ-610 (N)		RICE COOKER SS CUP GAS		25A			
																		67"x35"x38"		RANDELL		S20Z-240P26		60" WORKTOP FREEZER NO SS BACK		30XN			
																		SEE PLAN		GRE		CUSTOM		WALK-IN-COOLER UNIT		31			
																		SEE ELEVATIONS		GRE		CUSTOM		GLASS DISPLAY DOORS WALK-IN-COOLER		31511			
																		SEE PLAN		GRE		CUSTOM		WALK-IN-COOLER CONDENSER		31S			
																		SEE PLAN		GRE		CUSTOM		WALK-IN-FREEZER UNIT		32			
																		SEE PLAN		GRE		CUSTOM		WALK-IN-FREEZER CONDENSER		32S1			
																		SEE PLAN		GRE		CUSTOM		WALK-IN-FREEZER DOOR HEATER		33S7			
																		34"x35.38"x1.45" TOP OF LID		RANDELL		PT46S-1054-1		84" REFRIG PREP TABLE NO SS BACK		3420N			
																		49"x32.75"x57.											



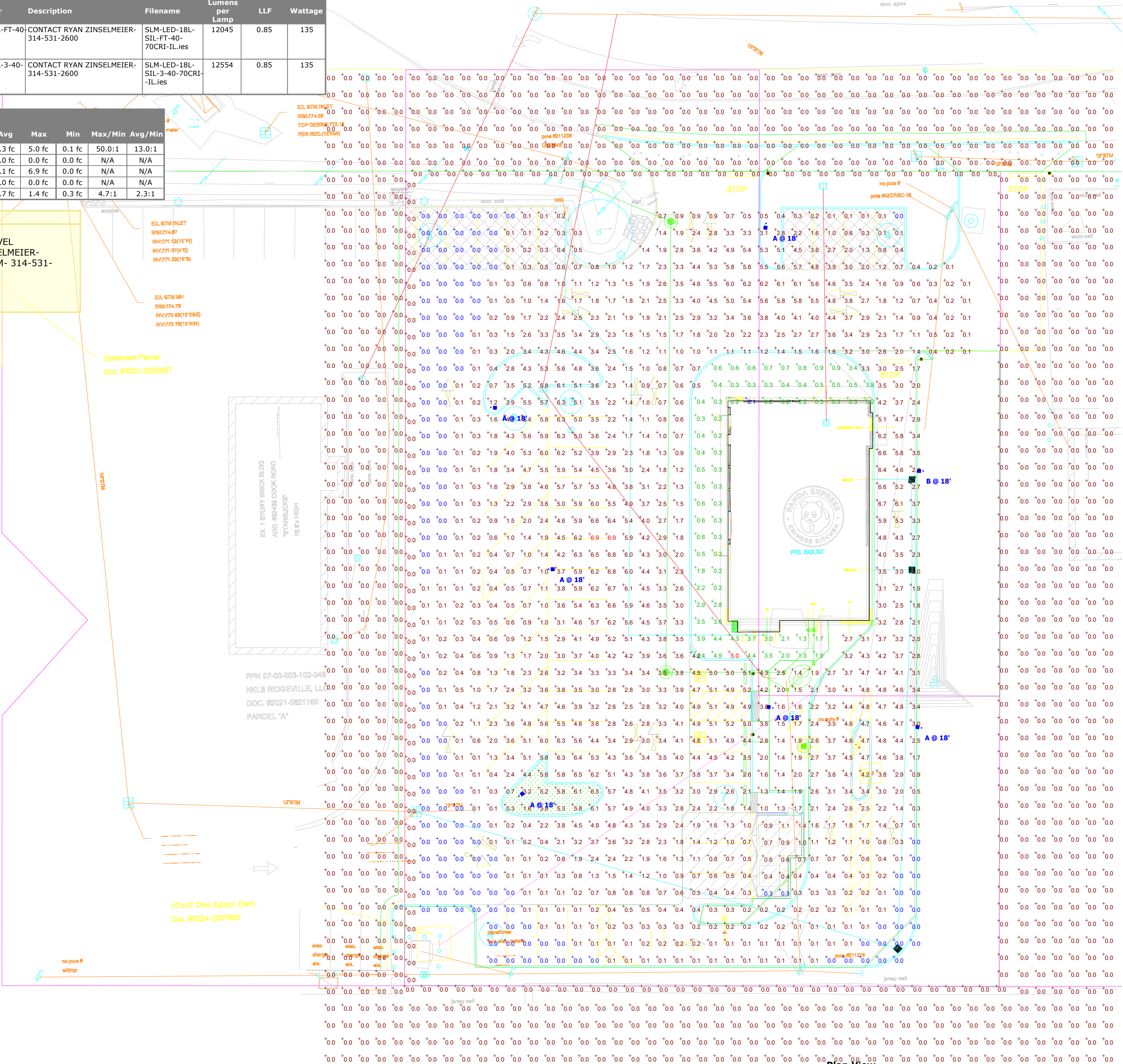
Scale= 1/4" = 1'-0" | A-101



Schedule								
Symbol	Label	QTY	Catalog Number	Description	Filename	Lumens per Lamp	LLF	Wattage
	A	6	SLM-LED-18L-SIL-FT-40-70CRI-IL	CONTACT RYAN ZINSELMEIER-314-531-2600	SLM-LED-18L-SIL-FT-40-70CRI-IL.ies	12045	0.85	135
	B	1	SLM-LED-18L-SIL-3-40-70CRI-IL	CONTACT RYAN ZINSELMEIER-314-531-2600	SLM-LED-18L-SIL-3-40-70CRI-IL.ies	12554	0.85	135

Statistics							
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	
CALC SUMMARY- AROUND BUILDING	+	1.3 fc	5.0 fc	0.1 fc	50.0:1	13.0:1	
CALC SUMMARY- OUTSIDE PROPERTY LINE	+	0.0 fc	0.0 fc	0.0 fc	N/A	N/A	
CALC SUMMARY- PAVED SURFACE	+	2.1 fc	6.9 fc	0.0 fc	N/A	N/A	
CALC SUMMARY- PROPERTY LINE	+	0.0 fc	0.0 fc	0.0 fc	N/A	N/A	
TRASH ENCLOSURE	+	0.7 fc	1.4 fc	0.3 fc	4.7:1	2.3:1	

Note
1. MOUNTING HEIGHT OF 18' (16'POLE)
2. CALCULATIONS TAKEN AT GROUND LEVEL
3. CONTACT VILLA LIGHTING- RYAN ZINSELMEIER- RYAN.ZINSELMEIER@VILLALIGHTING.COM- 314-531-2600
4. LAYOUT IS AN ESTIMATE

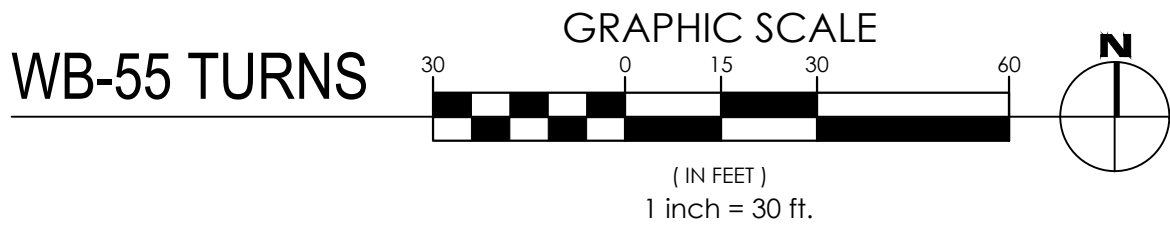
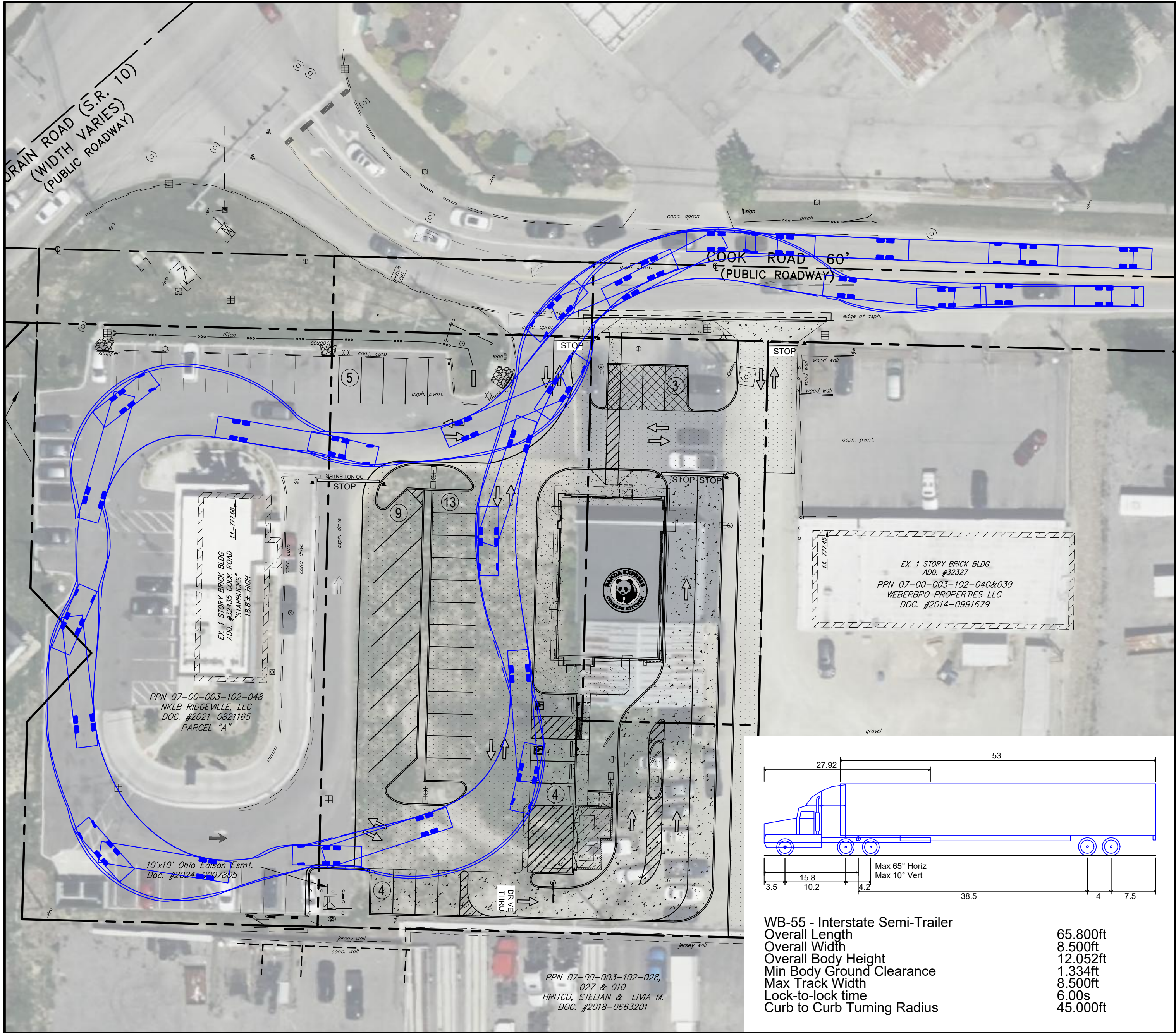
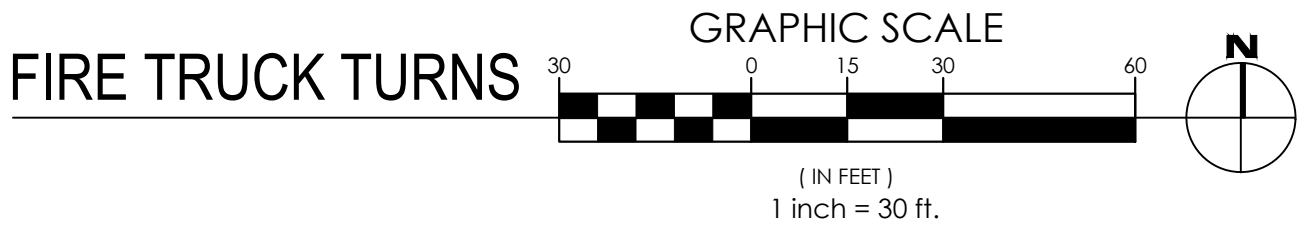
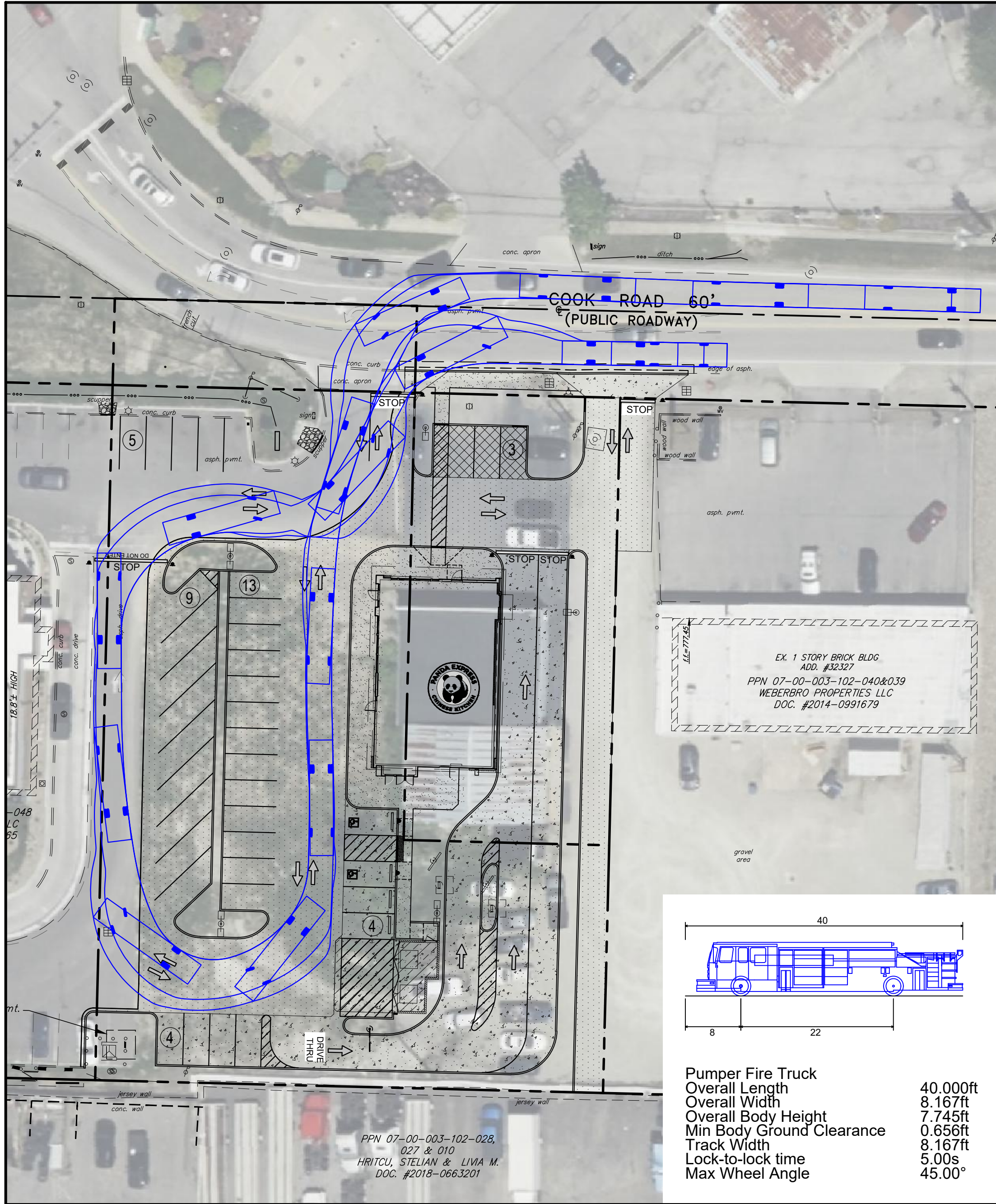


PANDA EXPRESS
NORTH RIDGEVILLE

Designer
R. ZINSELMEIER
Date
02/27/2025
Scale
NOTED
Drawing No.

Summary

User: lmarecchik File: C:\Users\lmarecchik\Documents\RTM Engineering Consultants LLC\0573.5115C-PX N Ridgeville OH\Project Files\03 DESIGN DRAWINGS\02 SHEET SET\X01.0-TRUCK TURNING EXHIBIT.dwg Time: Mon 14, 2025 - 5:54pm



PANDA EXPRESS, INC.
1683 Walnut Grove Ave.
Rosemead, California
91770
Telephone: 626.799.9898
Facsimile: 626.372.8288

All ideas, designs, arrangement and plans indicated or represented by this drawing are the property of Panda Express Inc. and were created for use on this specific project. None of these ideas, designs, arrangements or plans may be used by or disclosed to any person, firm, or corporation without the written permission of Panda Express Inc.

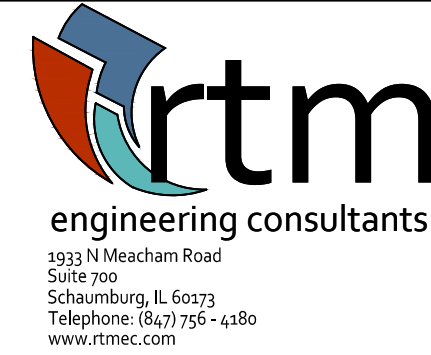
REVISIONS:

ISSUE DATE:

PLANNING	01-28-25
PLANNING	03-13-25

DRAWN BY: rtm

PANDA PROJECT #: D36943
PANDA STORE #: -
ARCH PROJECT #: 24120



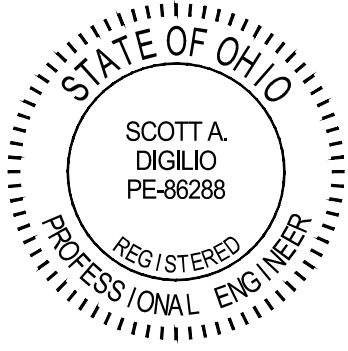
Heights Venture
ARCHITECTURE • DESIGN



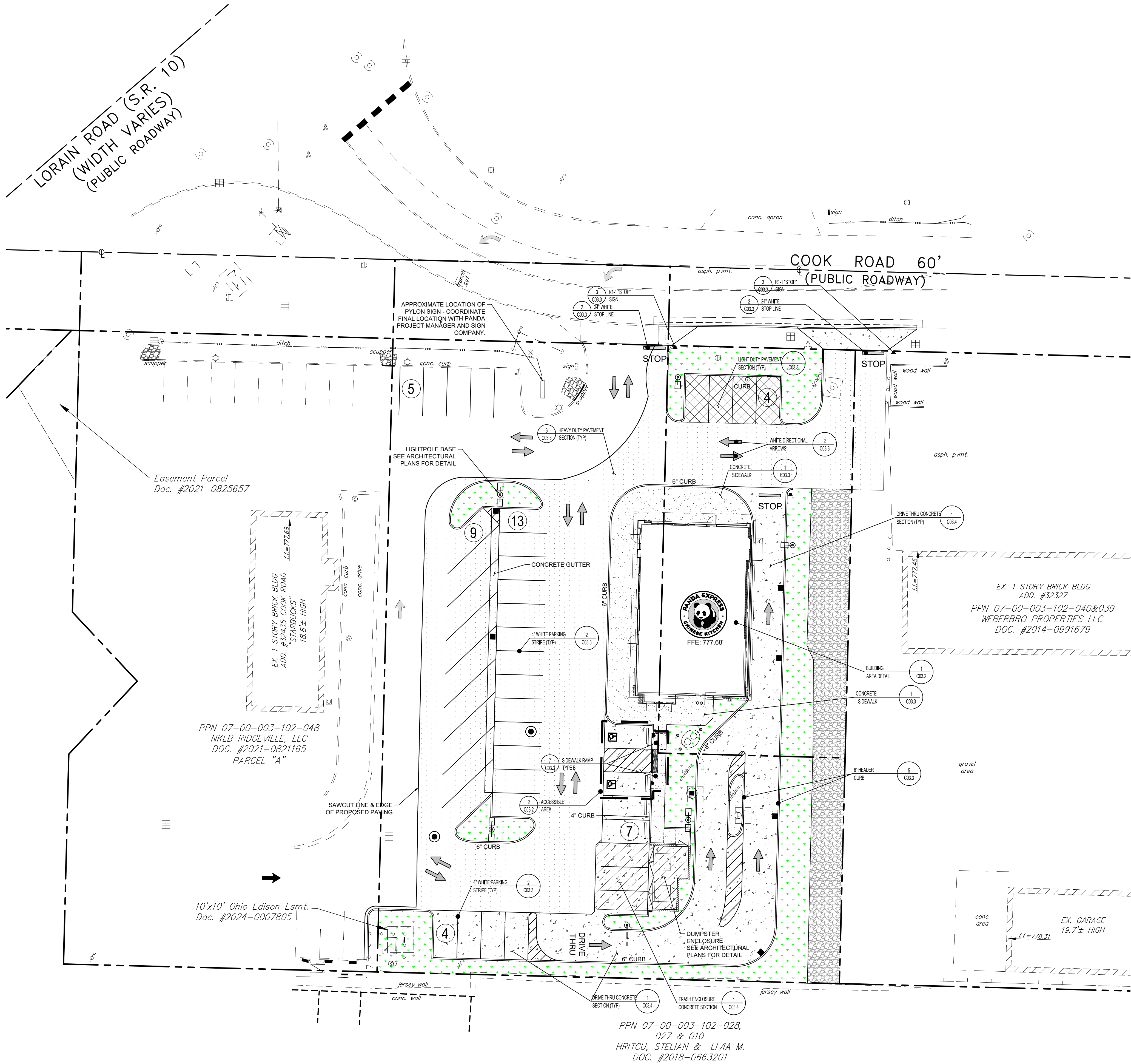
PANDA EXPRESS
PANDA HOME R4
32429 COOK RD

NORTH RIDGEVILLE, OH 44039

TRUCK TURNING
EXHIBIT
X01.0



User: julia.delaney File: C:\Users\julia.delaney\Documents\Drawings\02 SHEET SET\03.0-SITE PLAN 3.D36843.dwg Time: Jan 26, 2025 6:59pm



SITE INFORMATION

JURISDICTION: NORTH RIDGEVILLE, OHIO

PROPOSED PARKING
REGULAR 40
HANDICAP 2
TOTAL = 42
DRIVE AISLE WIDTH: 24'

PAVING NOTES

ALL GEOTECHNICAL PAVING SECTIONS ARE PER SEPARATE
GEOTECHNICAL ENGINEERING REPORT BY TERRACON.

SITE NOTES

1. SEE ARCHITECTURAL PLANS FOR ADDITIONAL SIGNING, STRIPING AND BUILDING DETAILS.
2. ALL STRIPING SHALL BE WHITE STRIPING APART FROM ADA.
3. WHEEL STOPS TO BE RUBBER, NOT CONCRETE.
4. STANDARD BOLLARDS SHALL BE PLACED AT BUILDING DT LANE BUILDING CORNER AND AT DT WINDOW. BOLLARDS SHALL HAVE THERMOPLASTIC COVER.
5. CONCRETE SHALL BE PLACED BETWEEN BACK OF CURB AND FACE OF BUILDING TO ENSURE POSITIVE DRAINAGE AWAY FROM BUILDING.

LEGEND

	HEAVY DUTY ASPHALT
	LIGHT DUTY ASPHALT
	CONCRETE DRIVE THRU AND PARKING AREA
	CONCRETE FOR TRASH ENCLOSURE
	CONCRETE SIDEWALK
	GRAVEL
	LANDSCAPE PERVIOUS AREA
	(E) PROPERTY LINE
	TRAFFIC FLOW DIRECTION/ STRIPING WHERE NOTED



PANDA EXPRESS, INC.
1683 Walnut Grove Ave.
Rosemead, California
91770
Telephone: 626.799.9898
Facsimile: 626.372.8288

All ideas, designs, arrangement and plans indicated or represented by this drawing are the property of Panda Express Inc. and were created for use on this specific project. None of these ideas, designs, arrangements or plans may be used by or disclosed to any person, firm, or corporation without the written permission of Panda Express Inc.

REVISIONS:

ISSUE DATE:

PLANNING	01-28-25

DRAWN BY: rtm

PANDA PROJECT #: D36943
PANDA STORE #: -
ARCH PROJECT #: 24120



Heights Venture
ARCHITECTURE • DESIGN



PANDA EXPRESS
PANDA HOME R4
LORAIN RD & COOK RD

NORTH RIDGEVILLE, OH 44039

SITE PLAN

C03.0



TMS Engineers, Inc



PANDA
EXPRESS.

Traffic Impact Study

Proposed Panda Express
North Ridgeville, Ohio

February 11, 2025

Prepared for:

RTM Engineering Consultants
5137 Utica Ridge Road
Davenport, Iowa 52807

TRAFFIC IMPACT STUDY

Proposed Panda Express

North Ridgeville, Ohio

February 11, 2025

Prepared For:

RTM Engineering Consultants
5137 Utica Ridge Road
Davenport, Iowa 52807

Prepared By:

TMS Engineers, Inc.
2112 Case Parkway South
Unit #7
Twinsburg, Ohio 44087



REGISTERED ENGINEER NO. E56982
CERTIFICATION NO. 2234

**"This document was prepared consistent with local agency requirements
and/or applicable guidelines contained in this report."**

Table of Contents

Executive Summary	vi-viii
Chapter 1 Introduction	1-7
1.1 Purpose of the Report	1
1.2 Study Objectives	2
1.3 Intersection Capacity & Levels-of-Services	3
1.4 Intersection Turn Lanes	5
1.5 References	7
Chapter 2 Area Conditions	8-15
2.1 Transportation Network Study Area	8
2.2 Functional Classification.....	11
2.3 Traffic.....	13
Chapter 3 Projected Traffic Conditions	15-28
3.1 Site Traffic	15
3.2 Non-Site Traffic	22
3.3 Future Traffic	27
Chapter 4 Traffic Analysis.....	29-47
4.1 Capacity & LOS at Study Area Intersection	29
4.2 Improvements for Capacity & LOS at Study Area Intersections.....	38
4.3 Auxiliary Turn Lane Warrant Analysis	43
4.4 Turn Lane Length Analysis	44
4.5 Improvements to Accommodate Study Area Traffic	47
Chapter 5 Conclusions	48-47

Appendices

Appendix A - Traffic Volume Figures

Appendix B - ODOT Turn Lane Design Criteria

Appendix C - Existing Traffic Signal Timing

Appendix D - Traffic Count Data

Appendix E - Trip Generation Data

Appendix F - ODOT Historical Data & Calculations

Appendix G - ODOT Peak Hour to Design Hour Charts

Appendix H - Background Traffic Volume Forecast Calculations

Appendix I - No-Build Capacity Analysis Worksheets - 2026

Appendix J - Build Capacity Analysis Worksheets - 2026

Appendix K - No-Build Capacity Analysis Worksheets - 2036

Appendix L - Build Capacity Analysis Worksheets - 2036

Appendix M - Improved Capacity Analysis Worksheets - 2036

Appendix N - ODOT Turn Lane Warrant Graphs

List of Figures

Appendix

Figure 1.1 Location Map	A
Figure 1.2 Site Plan	A
Figure 2.1 Aerial View	A
Figure 2.2 Base Conditions Lane Use & Traffic Control	A
Figure 2.3 Functional Classification (ODOT TIMS)	A
Figure 2.4 2025 Existing Weekday Peak Hour Traffic Volumes	A
Figure 3.1 Directional Distribution Non-Pass-by Trips.....	A
Figure 3.2 Directional Distribution Pass-by Trips.....	A
Figure 3.3 Site Generated Non-Pass-by Trips	A
Figure 3.4 Site Generated Pass-by Trips	A
Figure 3.5 Total Generated Trips	A
Figure 3.6 2026 No-Build Weekday Peak Hour Traffic Volumes	A
Figure 3.7 2036 No-Build Weekday Peak Hour Traffic Volumes	A
Figure 3.8 2026 Build Weekday Peak Hour Traffic Volumes.....	A
Figure 3.9 2036 Build Weekday Peak Hour Traffic Volumes.....	A
Figure 4.1 Recommended Lane Use and Traffic Control	A

List of Tables

Table-1.1 Intersection Levels-of-Service.....	3
Table-1.2 Intersection Operational Goals	4
Table-2.1 Roadway Characteristics.....	10
Table-2.2 Functional Classification	12
Table-2.3 Mid-day Peak Hour Traffic Volumes	14
Table-2.4 PM Peak Hour Traffic Volumes	14
Table-3.1 ITE Land Use Code	15
Table-3.2 Peak Hour Pass-by Rates.....	17
Table-3.3 Trip Generation Summary	18
Table-3.4 Mid-day Non-Pass-By Trip Origins and Destinations	19
Table-3.5 PM Non-Pass-By Trip Origins and Destinations	19
Table-3.6 PM Pass-By Trip Origins and Destinations	20
Table-3.7 Growth Rate & Factors.....	23
Table-3.8 Peak Hour to Design Hour Factors.....	25
Table-3.9 Intersection Peak Hour Factors	26
Table-4.1 2026 Mid-day Peak Hour Traffic Analysis Comparison (Lorain Rd. & Cook Rd.).....	30
Table-4.2 2026 PM Peak Hour Traffic Analysis Comparison (Lorain Rd. & Cook Rd.).....	30
Table-4.3 2026 Mid-day Peak Hour Traffic Analysis Comparison (Cook Rd. & Starbucks DW)	32
Table-4.4 2026 PM Peak Hour Traffic Analysis Comparison (Cook Rd. & Starbucks DW)	32
Table-4.5 2036 Mid-day Peak Hour Traffic Analysis Comparison (Lorain Rd. & Cook Rd.).....	34
Table-4.6 2036 PM Peak Hour Traffic Analysis Comparison (Lorain Rd. & Cook Rd.).....	34
Table-4.7 2036 Mid-day Peak Hour Traffic Analysis Comparison (Cook Rd. & Starbucks DW)	36
Table-4.8 2036 PM Peak Hour Traffic Analysis Comparison (Cook Rd. & Starbucks DW)	36

List of Tables

Table-4.9 2036 IMP No-Build Peak Hour Traffic Analysis Comparison (Lorain Rd. & Cook Rd.) . . .	38
Table-4.10 2036 IMP Build Peak Hour Traffic Analysis Comparison (Lorain Rd. & Cook Rd.)	40
Table-4.11 Turn Lane Warrants	42
Table-4.12 Turn Lane Length Analysis (Cook Rd. & Starbucks DW)	43
Table-4.13 Turn Lane Length Analysis (Lorain Rd. & Cook Rd.)	44

Executive Summary

This Traffic Impact Study (TIS) has been prepared at the request of RTM Engineering Consultants for a proposed Panda Express. The development is located in the City of North Ridgeville, Lorain County, Ohio. The project site is located on the southwest quadrant of the Lorain Road and Lear Nagle Road / Cook Road intersection. **Figure 1.1, Appendix A** shows the proposed location of the development.

The development is expected to consist of a 2,700 square foot restaurant.

The site plan indicates the development will be accessed via the existing Starbucks Driveway on the south side of Cook Road. The driveway is a full access location that permits all ingress and egress turn movements.

Figure 1.2, Appendix A shows the proposed site plan for the development.

The development is expected to be open by 2026.

The future design year for the proposed project will be based on the expected volume of new site generated traffic under the expected full build conditions with the development of the proposed Panda Express. The design year will be forecasted from the 2026 opening year.

The Panda Express restaurant is not open for breakfast, therefore the Mid-day and PM peak hours were evaluated for this report.

The weekday Mid-Day peak hour of traffic was determined to be 11:45 AM to 12:45 PM. The weekday PM peak hour of traffic was found to be 4:30 PM to 5:30 PM. These periods were used to forecast expected and future traffic volumes since they reflect the period of the highest volume of vehicular traffic flow for the study area roadways.

The development is expected to generate the following hourly traffic volumes during the peak periods as shown in the table below:

ITE TRIP GENERATION			WEEKDAY TRIP ENDS			
ITE CODE	DESCRIPTION	SIZE	Mid-day Peak Hour of Generator (AM values) (Enter/Exit)		PM Peak Hour of Generator (Enter/Exit)	
934	Fast Food Restaurant with Drive-through Window	2,700 SF	71	66	70	68
Pass-by Trips (Mid-day Not Available, PM 55%)			-	-	-37	-37
TOTAL NON-PASS-BY TRIPS			71	66	33	31
			137		64	

It was determined that the development would generate 137 trips in the Mid-day peak period and 138 trips in the PM peak period. The years 2026 (Opening Year) and 2036 (Design Year) will be analyzed for the proposed development as the peak hour site generated traffic volumes are less than 500 trips.

Recommended Improvements to Serve Future Conditions without the Development

No improvements were recommended to accommodate the forecasted 2026 No-Build conditions at the study area intersections

The following intersection improvements are recommended to accommodate the 2036 No-Build traffic at the intersection of Lorain Road and Cook Road / Lear Nagle Road:

- Extend the westbound right turn lane to a length of 800 feet including a 50 foot taper.
- Construct a 400 foot northbound right turn lane and provide a northbound right turn overlap with the westbound left turn phase.
- Construct a 425 foot southbound right turn lane and provide a southbound right turn overlap with the eastbound left turn phase.

Recommended Improvements to Mitigate the Traffic Associated with the Development

No additional improvements were recommended to accommodate the forecasted 2026 and 2036 Build conditions at the study area intersections.

Development Access Recommendations

The following lane use and traffic control is recommended at the site access location under the Build conditions:

Cook Road and Starbucks Driveway

- Install stop sign control for the northbound driveway approach.
- Construct a 100 foot eastbound right turn lane.

The recommended lane use and traffic control for the study area to accommodate expected Build traffic volumes can be seen in **Figure 4.1, Appendix A**.

Based upon the results of the analysis in this study and the corresponding recommendations, it can be seen that the development traffic can be accommodated without adversely impacting the area roadway network.

Chapter 1

Introduction

1.1 Purpose of Report

This Traffic Impact Study (TIS) has been prepared at the request of RTM Engineering Consultants for a proposed Panda Express. The development is located in the City of North Ridgeville, Lorain County, Ohio. The project site is located on the southwest quadrant of the Lorain Road and Lear Nagle Road / Cook Road intersection. **Figure 1.1, Appendix A** shows the proposed location of the development.

The development is expected to consist of a 2,700 square foot restaurant.

The site plan indicates the development will be accessed via the existing Starbucks Driveway on the south side of Cook Road. The driveway is a full access location that permits all ingress and egress turn movements.

Figure 1.2, Appendix A shows the proposed site plan for the development.

The development is expected to be open by 2026.

The future design year for the proposed project will be based on the expected volume of new site generated traffic under the expected full build conditions with the development of the proposed Panda Express. The design year will be forecasted from the 2026 opening year.

1.2 Study Objectives

This study is structured for the following purposes;

- to adequately assess the traffic impacts associated with the proposed development, and identify the level of off-site access and traffic,
- to provide a comprehensive study which evaluates and documents the traffic impacts and off-site improvements, where warranted,
- and to provide a technically sound basis to identify mitigation requirements to off-site traffic impacts.

This study documents the methodologies, findings and conclusions of the analysis, including the basis for all assumptions, traffic parameters utilized and conclusions reached.

The development of future traffic volumes will be based on the forecasting guidelines and methodology found in the Ohio Department of Transportation's **Ohio Traffic Forecasting Manual, Volume 1** ⁽⁴⁾ & **Volume 2** ⁽⁵⁾.

The traffic impacts will be determined by comparing the existing intersection levels-of-service, delay or density, volume to capacity ratio and queue storage ratio before the construction of the proposed development to the anticipated measures after the development is completed. Traffic analyses for the study area and access intersections will be calculated using the computerized version of the Transportation Research Board's **Highway Capacity Manual 7TH Edition** ⁽¹⁾, (**HCS2025, Release 8.4**). Data inputs for the HCS software program will be based on the guidance found in the Ohio Department of Transportation's **Analysis & Traffic Simulation Manual (OATS)** ⁽⁶⁾.

The justification for any changes in the intersections will be determined by comparing data collected of the existing traffic conditions to the criteria established by the **Ohio Manual of Uniform Traffic Control Devices** ⁽²⁾ and professional engineering judgment from an on-site field review.

Intersection geometric design guidelines will be based in the information and procedures found in the Ohio Department of Transportation's **Location & Design Manual, Volume 1** ⁽³⁾.

1.3 Intersection Capacity & Levels-of-Service

Intersection capacity analyses will be performed at the development access intersection using the procedures outlined in the computerized version of the Transportation Research Board's **Highway Capacity Manual** ⁽¹⁾.

The **HCM** ⁽¹⁾ is the most widely used document in the transportation industry. It contains a set of methodologies and application procedures for evaluating the capacity and quality of service of various transportation facilities. The **HCM** ⁽¹⁾ is built from more than 60 years of research work and represents a body of expert transportation consensus.

The capacity analysis procedures provide a calculated "average vehicle delay", which is based on traffic volumes, number of lanes, type of traffic control, channelization, grade, and percentage of large vehicles in the traffic stream at each intersection. The average delay calculated at an intersection is then assigned a "grade" or level of service (LOS) ranging from LOS A, the best, to LOS F, the worst based upon driver expectation. The intersection LOS "grades" as defined by the Transportation Research Board are as follows:

Table 1.1 Intersection Levels-of-Service

LOS	UNSIGNALIZED AVERAGE DELAY PER VEHICLE (seconds/vehicle)	SIGNALIZED AVERAGE DELAY PER VEHICLE (seconds/vehicle)
A	≤ 10.0	≤ 10.0
B	10.1 to 15.0	10.1 to 20.0
C	15.1 to 25.0	20.1 to 35.0
D	25.1 to 35.0	35.1 to 55.0
E	35.1 to 50.0	55.1 to 80.0
F	> 50	> 80

Intersection capacity analyses will be performed in order to estimate the maximum amount of traffic that can be accommodated by the intersection while maintaining recommended operational qualities. No-Build and Build peak hour traffic volumes will be analyzed to determine the level-of-service (LOS) at the study area intersections.

The selection of the design level-of-service is most frequently chosen from Section 5.9 of the Ohio Department of Transportation's **OATS Manual** ⁽⁶⁾. In most cases, a level-of-service E is considered the maximum delay threshold after which improvements should be investigated to determine if the delay can be reduced to a level of E or better. For the intersection as a whole, LOS D is normally considered to be the maximum threshold. The following table from Section 5.9 details the operation goals for intersection analyses (All-Way Stop Control, Two-Way Stop Control, Signalized, & Roundabout).

Table 1.2 Intersection Operational Goals

RESULT	INSIDE AN MPO	OUTSIDE AN MPO
Intersection LOS	D or BETTER	C or BETTER
Approach LOS	E or BETTER	
Control LOS	E or BETTER	
v/c	All movements < 1.0 (<= 0.93 preferred)	
QSR	All movements <1.0 from HCS analysis, TransModeler may be needed to determine if queuing impacts upstream intersections.	

MPO = Metropolitan Planning Organization

v/c = Volume to Capacity Ratio

QSR = Queue Storage Ratio

The city of North Ridgeville is located within the boundaries of the Northeast Ohio Areawide Coordinating Agency (NOACA) metropolitan planning organization (MPO). It will be determined from the capacity analyses if there are any locations, approaches or movements in which the delay, v/c, and/or QSR exceed the operational goals shown in *Table 1.2* for a location inside an MPO.

All intersections will be analyzed using the computerized version of the Transportation Research Board's **Highway Capacity Manual 7TH Edition** ⁽¹⁾, (**HCS2025, Release 8.4**). The capacity analyses for signalized intersections will be based on the process detailed in *Section 6.2.2.1* of the ODOT **OATS Manual** ⁽⁶⁾. The optimization of any traffic signal timings will be based on the delay minimization function with the objective of Balanced Delay.

It should be noted that any values for queue length, shown in the HCS analysis summary sheets that are displayed in red, indicate that the movement is expected to experience a "spillback" condition where the queue may exceed the existing length of the turn lane and extend into the adjacent through lane. These instances, if they occur, will be investigated for mitigation.

1.4 Intersection Turn Lanes

Turn Lane Warrants

The ODOT **Location and Design Manual, Volume 1** ⁽³⁾ and the **State Highway Access Management Manual** ⁽⁷⁾ describes the need for auxiliary turn lanes at unsignalized intersections. *Section 401.6.3* of the ODOT **Location and Design Manual** ⁽⁴⁾ states that:

“To determine the number and use of left (right) turn lanes, intersection capacity analysis procedures of the current edition of the Highway Capacity Manual should be used. For unsignalized intersections, left (right) turn lanes may also be needed if they meet warrants provided in Figures 401-5(6)a, b, c and d. The warrants apply only to the free-flow approach of the unsignalized intersection.”

The Auxiliary Lane Graphs found in *Section 401-6* of the **Location and Design Manual, Volume 1** ⁽⁴⁾ are used for this determination. This applies to the free-flow approaches at unsignalized intersections.

Section 401-6 of the **Location and Design Manual, Volume 1** ⁽⁴⁾ specifies the current edition of the **Highway Capacity Manual** ⁽¹⁾ should be used for signalized intersections.

It is the intent of this report to evaluate the need for exclusive deceleration and turn lanes at the development access location on Cook Road.

Turn Lane Length

Existing turn lanes found to be deficient per the QSR results from the capacity analysis and any recommended turn lanes will be analyzed to determine the necessary storage length in accordance with the procedure found in the Ohio Department of Transportation's **Location and Design Manual, Volume 1** ⁽³⁾, *Section 401*. The ODOT criteria and procedures are furnished in **Appendix B**.

The ODOT **Location and Design Manual** ⁽⁴⁾ provides the following guidance regarding maximum and minimum turn lane lengths:

- *"It is recommended that left turn lanes be at least 100 feet long, and the maximum storage length be no more than 600 feet."*
- *"The recommended maximum length of right turn lanes at signalized intersections is 800 feet, with 100 feet being the minimum length."*

Design Speed

The procedure for determining the necessary turn lane storage length found in the Ohio Department of Transportation's **Location and Design Manual, Volume 1** ⁽³⁾, *Section 401*, is in part based on the design speed of the roadway.

The AASHTO publication, **A Policy on Geometric Design of Highway Streets (Green Book)** ⁽¹¹⁾, defines design speed as a selected speed used to determine the various geometric design features of the roadway. The assumed design speed should be a logical one with respect to the topography, anticipated operating speed, the adjacent land use and the functional classification of highway.

The ODOT **Location and Design Manual, Volume 1** ⁽³⁾ provides guidance for determining the design speed of a roadway. *Section 104.2* of the ODOT **Location and Design Manual** ⁽³⁾ states that:

"The design speed should be at least the legal speed for facilities with a legal speed of 35 mph or less. For facilities with a legal speed of 40 or 45 mph the design speed shall either match the legal speed, or be 5 mph greater than the legal speed, depending on the context of the area. For facilities with a legal speed 50 mph or greater, the design speed shall be 5 mph greater than the legal speed."

1.5 References

The following list of references will be utilized for this report and the analysis contained within it:

1. *Highway Capacity Manual*, 7th Edition. Transportation Research Board of the National Academies, Washington, D.C.
2. *Ohio Manual of Uniform Traffic Control Devices for Streets and Highways*, 2012 Edition. Ohio Department of Transportation, Office of Traffic Engineering, Columbus, Ohio.
3. *Location and Design Manual*, Volume 1, Roadway Design. Ohio Department of Transportation, Office of Roadway Engineering, Columbus, Ohio.
4. *Ohio Traffic Forecasting Manual*, Volume 1, Traffic Forecasting Background. Ohio Department of Transportation, Office of Statewide Planning & Research, Columbus, Ohio.
5. *Ohio Traffic Forecasting Manual*, Volume 2, Traffic Forecasting Methodologies. Ohio Department of Transportation, Office of Statewide Planning & Research, Columbus, Ohio.
6. *ODOT Analysis and Traffic Simulation Manual (OATS)*, Ohio Department of Transportation, Office of Roadway Engineering, Columbus, Ohio.
7. *State Highway Access Management Manual*, Ohio Department of Transportation, Office of Roadway Engineering, Columbus, Ohio.
8. *Trip Generation Manual*, 11th Edition, September 2021, Institute of Transportation Engineers, (ITE), Washington, D.C.
9. *Trip Generation Handbook*, 3rd Edition, September 2017, Institute of Transportation Engineers, (ITE), Washington, D.C.
10. *Traffic Engineering Manual*, October 23, 2002 Edition (Revised January 15, 2021), Ohio Department of Transportation, Office of Roadway Engineering, Columbus, Ohio.
11. *Highway Functional Classification Concepts, Criteria and Procedures*, 2013 Edition, Federal Highway Administration.

Chapter 2

Area Conditions

2.1 Transportation Network Study Area

The study area that will be analyzed for the proposed development includes the following intersections:

1. **Lorain Road & Cook Road / Lear Nagle Road**
2. **Cook Road & Starbucks Driveway**

These intersections will be enumerated and referenced as listed above throughout the report and the analyses contained within it. An aerial view of the of the study area can be seen in **Figure 2.1 Appendix A**.

The following section details the lane use and traffic control for the intersections under study for this report.

Roadway & Intersection Characteristics

The following section details the lane use and traffic control for the intersections within the study area for this report.

Lorain Road has a northeast / southwest orientation. Lorain Road will be considered to have a eastbound / westbound orientation for this report and all analysis within it .

1. Lorain Road & Cook Road / Lear Nagle Road

Lorain Road West Approach

- 1 Exclusive Left Turn Lane
- 1 Exclusive Through Lane
- 1 Shared Through / Right Turn Lane

Lorain Road East Approach

- 1 Exclusive Left Turn Lane
- 2 Exclusive Through Lanes
- 1 Exclusive Right Turn Lane

Lear Nagle Road North Approach

- 2 Exclusive Left Turn Lanes
- 1 Shared Through / Right Turn Lane

Cook Road South Approach

- 1 Exclusive Left Turn Lane
- 1 Shared Through / Right Turn Lane

The intersection is controlled by a traffic signal. The signal sequence can operate with eight (8) “phases” which assign the right-of-way to specific movements and displays yellow and all-red clearances. The first two phases are all eastbound and westbound left turn movements with the turn movement made during the green arrow indication (protected movement). The next two phases are all eastbound and westbound movements where the left turn movements are made during a green ball indication when there is a gap in the opposing through traffic movements (permissive movement). The next two signal phases are all northbound and southbound left turn movements with the turn movement made during the green arrow indication (protected movement). The next two phases are all northbound and southbound movements where the left turn movements are made during a green ball indication when there is a gap in the opposing through traffic movements (permissive movement). During the southbound protected left turn movement there is a westbound right turn overlap.

A copy of the existing intersection signal timing can be found in **Appendix C**.

2. Cook Road & Starbucks Driveway

Cook Road West Approach

-1 Shared Through / Right Turn Lane

Cook Road East Approach

-1 Exclusive Left Turn Lane

-1 Exclusive Through Lane

Starbucks Driveway South Approach

-1 Shared Left / Right Turn Lane

The intersection functions as a one-way stop controlled intersection. The Cook Road approaches operate under free-flow conditions with the westbound left turn movement yielding to the opposing eastbound through and right turn movements.

Figure 2.2, Appendix A shows the existing lane use and traffic control conditions in the study area. These will be considered the existing base conditions for this report.

The following table details and summarizes the primary characteristics of the study area intersections and roadways:

Table 2.1 Roadway Characteristics

INTERSECTION		APPROACH	LANE USE		SPEED LIMIT	TRAFFIC CONTROL
#	ROADWAYS		THROUGH & SHARED LANES	TURN LANES		
1	Lorain Road	East	2	1 LT, 1 RT	35	Traffic Signal
	Lorain Road	West	2	1 LT	35	
	Cook Road	South	1	1 LT	35	
	Lear Nagle Road	North	1	2 LT	35	
2	Cook Road	East	1	1 LT	35	One-Way Stop Controlled
	Cook Road	West	1	-	35	
	Starbucks Driveway	West	1*	-	NP	

***Shared Left/Right Turn Lane**

NP-Not Posted

2.2 Functional Classification

The Ohio Department of Transportation functionally classifies roadways to help define a roadway's characteristics as well as identify roadways that are eligible for federal funds. Functional classification is the grouping of roads, streets, and highways in a hierarchy based on the type of highway service they provide. Generally, streets and highways perform two types of service. They provide either traffic mobility or land access and can be ranked in terms of the proportion of service they provide.

The functional classification as determined by ODOT will be used in this report to apply growth and design hour factors to the study area roadways for use in forecasting the future traffic volumes in the study area. These factors are determined using data, guidelines, and methodology supplied by ODOT. The methods and the corresponding data are based on the roadways assigned functional classification. The ODOT methods for forecasting future traffic volumes are a recognized traffic engineering standard in the State of Ohio.

Roadways that are not listed as having a functional classification can be assigned into one of two categories. The first category is a local roadway and the second category is that of an access drive.

The roadway functional classifications are assigned either an urban or rural designation.

The ODOT the urban/rural designation and functional classification of the roadways in the study area can currently be found using the ODOT Transportation Information Mapping System (TIMS). TIMS is ODOT's web-mapping portal where information about Ohio's transportation system can be found. TIMS can currently be found at the following web address:

<https://gis.dot.state.oh.us/tims/>

The urban and rural designation for the study area roadways can be found under the Boundaries tab and the selection of the "Census Urban Areas" layer.

The roadway functional classification can be found under the Roadway Information tab and the selection of the "Functional Classification" layer.

The following table lists the study area roadways that have an assigned functional classification as determined by ODOT and local government entities.

Table 2.2 Functional Classification

INTERSECTION		AREA	FC#	CLASSIFICATION
#	ROADWAYS			
1	Lorain Road	Urban	4	Minor Arterial
	Lear Nagle Road		5	Major Collector
	Cook Road		5	Major Collector
2	Cook Road	Urban	5	Major Collector
	Starbucks Driveway		7	Local Access

Figure 2.3, Appendix A illustrates the section of the functional classification map for the study area. The map was created using the ODOT Transportation Information Mapping System (TIMS) web-mapping portal.

2.3 Traffic

Weekday Peak Hours

Weekday nine hour turning movement counts were performed on the listed dates at the following locations:

1. **Lorain Road & Cook Road / Lear Nagle Road (01-29-2025)**
2. **Cook Road & Starbucks Driveway (01-30-2025)**

The 2025 weekday traffic count was conducted in fifteen (15) minute intervals between the hours of 7 AM - 10 AM, 11 AM - 2 PM, and 3 PM - 6 PM, then hourly totals were calculated. Average daily traffic was calculated for the roadways using expansion factors to account for daily and seasonal variations according to the recommendations and latest data from the Ohio Department of Transportation. Copies of the intersection turn movement counts are included in **Appendix D**.

This Panda Express restaurant will not be open during breakfast hours, therefore a Mid-day peak hour will be used in place of an AM peak hour for this study.

The Mid-day and PM intersection peak hours are selected by reviewing data in 15-minute intervals. When there is more than one intersection within the study area, a consistent time period should be used for all intersections within the study area in order to develop an existing conditions traffic volume set, the system peak hour.

The following questions should be considered when choosing the peak hours for a study area with multiple intersections:

- What are the individual intersection peak hours?
- Are the individual peak hours the same time or close to each other?
- Would it result in significantly fewer vehicles to use a different peak hour for intersections that are not the same?
- What is the peak hour for intersections with the highest overall volume?
- What peak hour contributes the highest volume to the entire system?

Summaries tables which illustrate the entering traffic volumes during the Mid-day and PM time periods are used to evaluate the previously discussed questions, to identify the peak hours for each intersection, and to determine the peak hour of the system.

The following tables detail a breakdown of the hourly volumes during the Mid-day and PM hours that were determined to experience the highest traffic volumes at the study area intersections. The data shown in the tables will be used in the determination of the Mid-day and PM peak hours for the study area intersections.

Table 2.3 Mid-day Peak Hour Traffic Volumes
(Total Entering Volume - Vehicles per Hour)

INTERSECTION	HOUR BEGINS								
	11:00	11:15	11:30	11:45	12:00	12:15	12:30	12:45	1:00
1	1515	1647	1744	1943	1883	1857	1795	1748	1682
2	521	553	602	631	642	620	587	589	594
TOTAL	2036	2200	2346	2574	2525	2477	2382	2337	2276

Table 2.4 PM Peak Hour Traffic Volumes
(Total Entering Volume - Vehicles per Hour)

INTERSECTION	HOUR BEGINS								
	3:00	3:15	3:30	3:45	4:00	4:15	4:30	4:45	5:00
1	2258	2329	2350	2582	2833	2991	3064	2921	2696
2	682	744	785	775	800	786	815	815	773
TOTAL	2940	3073	3135	3357	3633	3777	3879	3736	3469

The peak hours for the study area were determined based on the Mid-day and PM hour experiencing the highest total volumes. The weekday Mid-day peak hour of traffic was determined to be 11:45 AM to 12:45 PM. The weekday PM peak hour of traffic was found to be 4:30 PM to 5:30 PM. These periods will be used to forecast expected and future traffic volumes since they reflect the period of the highest volume of vehicular traffic flow for the study area roadways.

The existing weekday Mid-day and PM peak hour traffic volumes are shown in **Figure 2.4, Appendix A**.

Chapter 3

Projected Traffic Conditions

3.1 Site Traffic

Trip Generation

Calculating future total driveway trips requires an estimate of the traffic generated by the proposed development. The most widely accepted method of determining the amount of traffic that the proposed development will generate is to compare the proposed land use with existing facilities of the same use. The Institute of Transportation Engineers (ITE) has prepared a manual titled “**Trip Generation Manual**”⁽⁸⁾, which is a compilation of similar traffic generation studies to aide in making such a comparison. The most recent update of this manual is the 11TH edition and was utilized for this study.

The development is expected to consist of a 2,700 square foot restaurant.

The following table details the development land use from the site plan (**Figure 1.2**) and the corresponding **Trip Generation Manual**⁽⁸⁾ land use that will be used to forecast the site generated traffic volumes for the Build conditions:

Table 3.1 ITE Land Use Code

SITE PLAN	SIZE	ITE CODE	ITE DESCRIPTION
Panda Express	2,700 SF	934	Fast Food Restaurant with Drive-Through Window

The Institute of Transportation Engineers (ITE) provides a web-based application (**ITETripGen**) that will be used to calculate the expected future driveway trips using the data from the **Trip Generation Manual** ⁽⁸⁾. The **ITETripGen** web-based app can be accessed through a subscription at the following address:

<https://itetripgen.org/>

An independent variable is used in trip generation calculations, which consists of a physical, measurable and predictable characteristic that describes the study site. This has a direct relationship to the variation in the number of trips generated by the land use. For a fast food restaurant with drive-through window, the gross floor area will be used. The gross floor area variable is entered to a precision of two decimal places when using the **ITETripGen** web-based app to calculate the number of driveway trips. For the purpose of this report the independent variable generating a higher volume of site generated trips will be used in the forecasting of the future study area traffic volumes.

Vehicle trips generated by a site can be separated into two major categories: non pass-by trips and pass-by trips. Non-pass-by trips can be further subdivided into primary trips and diverted trips. Pass-by and diverted trips may be part of a multiple-stop chain of trips.

A **pass-by trip** is made as an intermediate stop on the way from an origin to a primary trip destination. Pass-by trips are attracted from traffic passing the site on an adjacent street or roadway that offers direct access to the generator (i.e. motorists who are already on the road and stop to get food on their way to work from home).

A **non-pass-by trip** is simply any trip generated by a site that is not a pass-by trip. Non-pass-by trips are sometimes used when diverted trips are not calculated separately from primary trips in the analysis process.

A **diverted trip** is attracted from the traffic volume on roadways within the vicinity of the generator but without direct access to the site. A diverted trip requires a diversion from a roadway not adjacent to the site to another roadway to gain direct access to the site (i.e. motorists who are on the interstate and exit to get something to eat and then re-enter the interstate).

A **primary trip** is made for the specific purpose of visiting the generator. The stop at the generator is the primary reason for the trip.

The site generated traffic for the proposed development will be categorized as pass-by and non-pass-by trips for the purpose of this report and all analysis contained within.

The ITE **Trip Generation Manual** ⁽⁸⁾ provides PM peak hour pass-by trip data for land use #934 - Fast Food Restaurant with Drive-Through Window. It does not provide data for Mid-day peak hours. Therefore no pass-by rate will be used for the Mid-day peak hour generated trips. The average pass-by percentages will be used to provide a conservative estimate of the site generated pass-by traffic. Copies of the ITE **Trip Generation Manual** ⁽⁸⁾ pass-by rate tables used in this report are provided in **Appendix E**.

The following tables details the PM peak hour pass-by trip rates that will be used in the forecasting of the expected site generated traffic volumes:

Table 3.2 Peak Hour Pass-by Trip Rates

ITE LAND USE DESCRIPTION	ITE CODE	PEAK HOUR	PASS-BY RATES		
			LOWEST	HIGHEST	AVERAGE
Fast Food Restaurant with Drive-Through Window	934	PM	31%	71%	55%

Trip Generation Summary

Trip generation calculations for the development were performed utilizing data contained in the **Trip Generation Manual** ⁽⁸⁾ and the methods outlined in the **Trip Generation Handbook** ⁽⁹⁾ including the application of pass-by rates. The following table details the expected generated weekday peak hour traffic volumes based on the gross floor area as the independent variable. Copies of the trip generation worksheets can be found in **Appendix E**.

Table 3.3 Trip Generation Summary

ITE TRIP GENERATION			WEEKDAY TRIP ENDS			
ITE CODE	DESCRIPTION	SIZE	Mid-day Peak Hour of Generator (AM values) (Enter/Exit)		PM Peak Hour of Generator (Enter/Exit)	
934	Fast Food Restaurant with Drive-through Window	2,700 SF	71	66	70	68
Pass-by Trips (Mid-day Not Available, PM 55%)			-	-	-37	-37
TOTAL NON-PASS-BY TRIPS			71	66	33	31
			137		64	

Distribution of Non-Pass-by Generated Traffic

The directional distribution for the non-pass-by generated traffic is a function of the prevailing operating conditions on the existing roadways. The distribution pattern that was assumed is shown in the tables that follow and is based upon the existing traffic volumes entering and exiting the study area at the intersection of Lorain Road and Cook Road / Lear Nagle Road during the Mid-day and PM peak hours shown in **Figure 2.4, Appendix A**.

The following tables detail the distribution of the site generated non-pass-by trips for the proposed development land use under the opening and design year conditions.

Table 3.4 Mid-day Non-Pass-By Trip Origins and Destinations

ORIGIN/ DESTINATION	ROUTE	FROM (ENTER)	%* TOTAL	TRIPS*	TO (EXIT)	%* TOTAL	TRIPS*
North	Lear Nagle Road	599	30.8%	22	558	28.7%	19
South	Cook Road	298	15.3%	11	248	12.8%	8
East	Lorain Road	553	28.5%	20	641	33.0%	22
West	Lorain Road	493	25.4%	18	496	25.5%	17
TOTALS		1943	100.0%	71	1943	100.0%	66

* Rounded

Table 3.5 PM Non-Pass-By Origins and Destinations

ORIGIN/ DESTINATION	ROUTE	FROM (ENTER)	%* TOTAL	TRIPS*	TO (EXIT)	%* TOTAL	TRIPS*
North	Lear Nagle Road	775	25.3%	9	1129	36.9%	11
South	Cook Road	401	13.1%	4	372	12.1%	4
East	Lorain Road	1145	37.4%	12	821	26.8%	8
West	Lorain Road	743	24.2%	8	742	24.2%	8
TOTALS		3064	100.0%	33	3064	100.0%	31

* Rounded

Distribution of Pass-by Generated Traffic

The directional distribution for the pass-by generated traffic is a function of the prevailing operating conditions on the existing roadways. The distribution pattern that was assumed is shown in the tables that follow and is based upon the existing through traffic volumes at the intersection of Cook Road and Starbucks Driveway during the PM peak hour shown in **Figure 2.4, Appendix A**.

The following tables detail the distribution of the site generated pass-by trips for the proposed development land use under the opening and design year conditions.

Table 3.6 PM Pass-By Origins and Destinations

ORIGIN/ DESTINATION	ROUTE	FROM (ENTER)	%* TOTAL	TRIPS*	TO (EXIT)	%* TOTAL	TRIPS*
East	Cook Road	384	51.5%	19	361	48.5%	18
West	Cook Road	361	48.5%	18	384	51.5%	19
TOTALS		745	100.0%	37	745	100.0%	37

Directional Distribution of Site Generated Non-Pass-By Traffic

The directional distribution for the non-pass-by Mid-day and PM peak hour generated traffic is shown graphically in **Figure 3.1, Appendix A** for the proposed development.

Directional Distribution of Site Generated Pass-By Traffic

The directional distribution for the pass-by PM peak hour generated traffic is shown graphically in **Figure 3.2, Appendix A** for the proposed development.

Assignment of Non-Pass-By Site Generated Traffic

Based upon the distribution pattern shown in **Figure 3.1, Appendix A**, the non-pass-by Mid-day and PM peak site generated traffic was assigned to the study intersections for the proposed development. The assignment of the estimated site generated non-pass-by traffic for the opening and design year conditions is shown graphically in **Figure 3.3, Appendix A**.

Assignment of Pass-By Site Generated Traffic

Based upon the distribution pattern shown in **Figure 3.2, Appendix A**, the PM peak site generated pass-by traffic was assigned to the study intersections for the proposed development. The assignment of the estimated site generated pass-by traffic for the opening and design year conditions is shown graphically in **Figure 3.4, Appendix A**.

Total Site Generated Traffic

The total site generated traffic was found by adding together the estimated site generated non-pass-by and pass-by trips shown in **Figures 3.3 and 3.4, Appendix A**. The total site generated traffic is shown in **Figure 3.5, Appendix A**.

3.2 Non-Site Traffic

Background Traffic Growth

Design of new roadways or improvements to existing roadways should not usually be based on current traffic volumes alone, but should consider future traffic volumes expected to make use of the facilities. Roadways should be designed to accommodate the traffic volume that is likely to occur within the design life of the facility. In a practical sense, this design volume should be a value that can be estimated with reasonable accuracy. It is believed that the maximum design period is in the range of 15 to 24 years. Traffic cannot usually be forecasted accurately beyond this period on a specific facility because of probable changes in the general regional economy, population, and land development along the roadway.

The ODOT **State Highway Access Management Manual** ⁽⁷⁾ requires that ten year design hour traffic volumes be analyzed for a proposed development when the number of generated trips is below 500 in the peak hour and twenty year design hour traffic volumes when the number of generated trips is greater than 500 in the peak hour.

The years 2026 (Opening Year) and 2036 (Design Year) will be analyzed for the proposed development as the peak hour site generated traffic volumes are less than 500 trips. Therefore, it is necessary to estimate historical growth rates in order to establish the future traffic on the study area roadways due to non-site related conditions.

Roadways like Lorain Road, Cook Road, and Lear Nagle Road carry a significant amount of through traffic due to their functional characteristics. This through traffic component generally increases as regional growth occurs. Therefore, it is anticipated that existing traffic on these roadways will increase in future years.

The Starbucks Driveway is classified as local access drive. The Ohio Department of Transportation, in their document **ODOT Highway Functional Classification System Concepts, Procedures and Instructions** ⁽¹¹⁾, has identified the following characteristics for access drives:

- Provide direct access to adjacent land & to higher systems
- Carry no through traffic movement
- Constitute the mileage not classified as part of the Arterial and Collector systems

The ODOT Traffic Monitoring Management System (TMMS) was consulted to determine past historical trends on the study area roadways. The ODOT Traffic Monitoring Management System (TMMS) can be currently accessed at the following web address:

<http://www.dot.state.oh.us/Divisions/Planning/TechServ/traffic/Pages/TMMS.aspx>

The procedure detailed in *Section 4.2* of the **Ohio Traffic Forecasting Manual, Volume 2** ⁽⁵⁾ recommends at least five separate years of collected traffic data be available in order to calculate a growth rate. The TMMS provided data at the following location that was suitable to determine a study area growth rate:

1. Lorain Road (Northeast of Ohio Turnpike) - Location ID 7147

A linear regression equation was developed for this location based on the available historical data. The growth rate for this location was then calculated based on the procedure detailed in *Section 4.2* of the **Ohio Traffic Forecasting Manual, Volume 2** ⁽⁵⁾. A copy of the ODOT historical traffic data analysis and the growth rate calculations can be seen in **Appendix F**.

A positive growth rate of 0.5991%. This growth rate will be used in the forecast of future traffic conditions based on the historical traffic data and the functional classification of the study area roadways in order to provide a conservative forecast for the study area.

The growth rate and factors for study area can be seen in the following table:

Table 3.7 - Growth Rate & Factors

GROWTH RATE (Annual Growth)	2026 GROWTH FACTOR*	2036 GROWTH FACTOR*
0.5991%	1.006	1.066

*** Rounded**

The Starbucks Driveway will not have a growth rate applied to the existing traffic volumes as it is intended to provide access. This will also apply to turn movements from Cook Road to the driveway.

Design Hour Traffic

The traffic patterns on any roadway typically show considerable variation in the traffic volumes experienced during the various hours of the day and in the hourly volumes experienced throughout the year. A key decision in the design process involves determining which of these hourly traffic volumes should be used as the basis for the design.

It would be wasteful to predicate a design on the maximum peak hour traffic that occurs during the year and the use of the average hourly traffic would result in an inadequate design. The hourly traffic volumes used in a design should not be exceeded very often or by very much. However, the hourly traffic volumes should not be so high that traffic would rarely be sufficient to make full use of the designed facility.

Normal design policy in the State of Ohio is based upon a review of curves that depict the variation in hourly traffic volumes during the year. The Ohio Department of Transportation recommends using the 30TH highest hour as a design control for urban streets. There is typically very little difference between the volumes in this range. The Ohio Department of Transportation provides factors or a methodology to determine factors that are applied to counted daily traffic volumes to determine appropriate design hour traffic volumes.

All analyses will examine the design hour volume for the adjacent roadway and peak hour traffic volume of the proposed development following guidelines set forth in the ODOT **State Highway Access Management Manual** ⁽⁷⁾. The **Ohio Traffic Forecasting Manual** ^(4&5) will be used to determine peak hour factors for the study area roadways.

The design hour volumes are determined by multiplying the Mid-day and PM peak hour volumes by the appropriate factors from the ODOT Peak Hour to Design Hour Factor Report based on the functional classification of the roadway, the day of the week and the month that the traffic data was collected. A copy of the ODOT's Peak Hour to Design Hour Factor Report can be seen in **Appendix G**.

The following table details the peak hour to design hour factors for the study area roadways.

Table 3.8 - Peak Hour to Design Hour Factors

INTERSECTION	ROADWAYS	MONTH	DAY	URBAN CLASSIFICATION	DHV FACTOR*
1	Lorain Rd.	January	Wed.	Minor Arterial	1.25
	Lear Nagle Rd.	January	Wed.	Major Collector	1.25
	Cook Rd.	January	Wed.	Major Collector	1.25
2	Lorain Rd.	January	Thu.	Minor Arterial	1.23
	Starbucks DW	January	Thu.	Local Access	1.0

* Rounded

The peak hour to design hour factors detailed in *Table 3.8* will be used in the forthcoming future traffic volume calculations in *Chapter 3, Section 3.3* of this report.

Peak Hour Factors

The intersection peak hour factor (PHF) is used to convert the hourly traffic volume into the flow rate that represents the busiest 15 minutes of the peak hour. The PHF is the sum of the traffic entering the intersection during the peak hour divided by four times the highest 15 minute volume during the peak hour. A PHF of 1 indicates that the traffic volume in each 15 minute volume is the same and therefore traffic flow is consistent throughout the hour. A lower PHF indicates a more variable traffic flow and that traffic volume has a spike during the peak 15 minute interval. PHF's under 0.80 occur in locations with highly peaked demand, such as at schools and factories during shift changes.

The ODOT **Analysis and Traffic Simulation Manual, (OATS)**⁽⁶⁾ provides guidance to use the existing year PHF for all intersections from traffic counts collected for the project. The PHF is calculated for the intersection as a whole and not individual approaches or movements. A minimum of 0.80 for the PHF is required to be utilized unless justified by highly peaked demands such as for schools and factories noted above. If project specific counts are not available, a default value of 0.92 is to be utilized.

It is assumed for this report that the PHF for the design year analysis are the same as the calculated PHF from the collected existing year traffic counts. The intersection PHF's are included in **Appendix D**.

The following table shows the PHF's calculated for the study area intersection during the Mid-day and PM peak hours:

Table 3.9 - Intersection Peak Hour Factors

ROADWAY/INTERSECTION	Mid-day PHF	PM PHF
Lorain Road & Cook Road / Lear Nagle Road	0.94	0.96
Cook Road & Starbucks Driveway	0.92	0.91

The peak hour factors detailed in *Table 3.9* will be used in the forthcoming intersection capacity calculations in *Chapter 4* of this report.

3.3 Future Traffic

No-Build Conditions

The previously discussed peak hour to design hour factors and growth factors for each movement were applied to the traffic volumes shown in **Figure 2.4** in order to estimate the future traffic considering non-project traffic conditions. This condition will be referred to as the “**No-Build**” condition as it will reference the calculated future study area volumes **without** the development of the Panda Express at the site.

Printouts of our Excel spreadsheet detailing the use of the design hour factors, growth rates and the resulting expected 2026 and 2036 No-Build traffic volumes can be found in **Appendix H**.

The peak hour traffic volumes previously detailed in **Figure 2.4, Appendix A** and shown in **Appendix H** were determined to have variations between the adjacent count locations. The volume difference between intersections should be zero as there are no intersecting roadways or driveways to gain or lose vehicles.

The volumes between the study area intersections were “balanced” using a combination of the “methods described in *Section 2.6.3 of ODOT's Ohio Traffic Forecasting Manual, Volume 2* ⁽⁵⁾ in order to eliminate the difference in volumes. The Cook Road through volumes at the Starbucks Driveway intersection were determined based on the northbound volume entering and the southbound volume leaving the Lorain Road and Cook Road / Lear Nagle Road intersection. The turning movements at the Starbucks Driveway intersection were not adjusted.

The estimated 2026 and 2036 No-Build traffic volumes for the study area are shown graphically in **Figures 3.6 and 3.7, Appendix A**. This traffic is the expected traffic if proposed development **is not** constructed, the “**No-Build**” condition.

The No-Build traffic volumes have been rounded to the nearest 10 to adhere to preferred ODOT practices.

Build Condition

The 2026 No-Build volumes, shown in **Figure 3.6, Appendix A**, were added to the total site generated traffic (**Figure 3.5, Appendix A**) to equal the future Build peak hour volumes in order to estimate the future opening year traffic considering project traffic conditions.

The estimated 2026 Build traffic volumes for the study area are shown graphically in **Figure 3.8, Appendix A**. These traffic volumes are the expected volumes if the proposed development is constructed the “**Build**” condition.

The 2036 No-Build volumes, shown in **Figure 3.7, Appendix A**, were added to the total site generated traffic (**Figure 3.5, Appendix A**) to equal the future Build peak hour volumes in order to estimate the future design year traffic considering project traffic conditions.

The estimated 2036 Build traffic volumes for the study area are shown graphically in **Figure 3.9, Appendix A**. These traffic volumes are the expected volumes if the proposed development is constructed the “**Build**” condition.

Chapter 4

Traffic Analysis

4.1 Capacity & LOS at Study Area Intersection

2026 Traffic Analysis - No-Build & Build Conditions

Traffic analyses were performed for the projected 2026 conditions under the No-Build and Build scenarios so:

1. any existing roadway/intersection deficiencies can be identified in the No-Build scenario which would not be attributable to the development, and;
2. a comparison can be made to determine the changes in the traffic operations which may be attributed to the development.

The traffic volumes used in the 2026 No-Build analyses can be seen in **Figure 3.6, Appendix A**. Copies of the capacity worksheets for the 2026 No-Build analyses are included in **Appendix I**.

The traffic volumes used in the 2026 Build analyses can be seen in **Figure 3.8, Appendix A**. Copies of the capacity worksheets for the 2026 Build analyses are included in **Appendix J**.

1. Lorain Road & Cook Road / Lear Nagle Road

The peak hour traffic analysis results of the 2026 No-Build versus Build conditions for the signalized intersection of Lorain Road and Cook Road / Lear Nagle Road is shown in the following tables:

**Table 4.1 - 2026 Mid-day Peak Hour Traffic Analysis Comparison
(Lorain Road & Cook Road / Lear Nagle Road)**

Int #1	2026 Mid-Day (Signal, 110s) No-Build					Int #1	2026 Mid-Day (Signal, 110s) Build				
Lorain Rd. & Cook Rd./Lear Nagle Rd.	LOS	Delay (sec/veh)	v/c	QSR	95th %tile Queue (ft)	Lorain Rd. & Cook Rd./Lear Nagle Rd.	LOS	Delay (sec/veh)	v/c	QSR	95th %tile Queue (ft)
EBL	B	17.6	0.442	0.30	145	EBL	B	19.4	0.464	0.31	152
EBT	C	22.0	0.284	0.15	152	EBT	C	24.6	0.320	0.17	167
EBR	C	22.1	0.289	0.15	142	EBR	C	24.8	0.327	0.16	155
EB Approach	C	20.4	-	-	-	EB Approach	C	22.8	-	-	-
WBL	B	19.3	0.158	0.21	52	WBL	C	21.4	0.219	0.29	72
WBT	C	24.9	0.263	0.13	128	WBT	C	27.4	0.286	0.13	134
WBR	B	15.3	0.271	0.24	128	WBR	B	17.3	0.287	0.25	136
WB Approach	C	20.9	-	-	-	WB Approach	C	23.1	-	-	-
NBL	D	37.7	0.612	0.79	135	NBL	D	36.7	0.636	0.86	146
NBT	D	47.1	0.851	0.24	244	NBT	D	45.7	0.870	0.28	278
NB Approach	D	43.7	-	-	-	NB Approach	D	42.5	-	-	-
SBL	D	46.4	0.844	0.43	221	SBL	D	46.4	0.844	0.43	221
SBT	D	42.1	0.857	0.31	314	SBT	D	39.9	0.833	0.33	325
SB Approach	D	44.5	-	-	-	SB Approach	D	43.5	-	-	-
Intersection	C	32.0	-	-	-	Intersection	C	32.8	-	-	-

**Table 4.2 - 2026 PM Peak Hour Traffic Analysis Comparison
(Lorain Road & Cook Road / Lear Nagle Road)**

Int #1	2026 PM (Signal, 120s) No-Build					Int #1	2026 PM (Signal, 120s) Build				
Lorain Rd. & Cook Rd./Lear Nagle Rd.	LOS	Delay (sec/veh)	v/c	QSR	95th %tile Queue (ft)	Lorain Rd. & Cook Rd./Lear Nagle Rd.	LOS	Delay (sec/veh)	v/c	QSR	95th %tile Queue (ft)
EBL	D	42.9	0.845	0.61	297	EBL	D	52.1	0.884	0.43	211
EBT	C	33.5	0.490	0.27	266	EBT	D	35.6	0.520	0.28	278
EBR	C	33.8	0.494	0.25	249	EBR	D	35.9	0.525	0.26	260
EB Approach	D	37.1	-	-	-	EB Approach	D	41.7	-	-	-
WBL	C	27.6	0.395	0.44	111	WBL	C	27.8	0.444	0.48	119
WBT	D	37.5	0.520	0.24	240	WBT	D	37.5	0.520	0.24	240
WBR	E	64.8	0.996	1.49	806	WBR	E	64.8	0.996	1.49	806
WB Approach	D	50.7	-	-	-	WB Approach	D	50.5	-	-	-
NBL	D	38.2	0.664	0.79	134	NBL	D	38.2	0.676	0.82	140
NBT	E	60.2	0.905	0.42	416	NBT	E	61.6	0.912	0.44	442
NB Approach	D	54.2	-	-	-	NB Approach	E	55.2	-	-	-
SBL	D	52.7	0.871	0.51	267	SBL	D	52.7	0.871	0.51	267
SBT	D	53.9	0.914	0.52	520	SBT	D	53.0	0.907	0.53	525
SB Approach	D	53.3	-	-	-	SB Approach	D	52.9	-	-	-
Intersection	D	48.5	-	-	-	Intersection	D	49.6	-	-	-

It was determined that conditions at the intersection of Lorain Road and Cook Road / Lear Nagle Road during the Mid-day and PM peak hours will operate with level-of-service E or better under the forecasted 2026 No-Build and Build conditions.

The Mid-day and PM peak hour comparison tables indicate that the movement, approach, and intersection LOS remain unchanged from the No-Build to the Build condition with the exception of the following:

- Westbound left turn movement degrades from a LOS B to a LOS C in the Mid-day peak hour.
- Eastbound through and right turn movements degrade from a LOS C to a LOS D in the PM peak hour.
- Northbound approach degrades from a LOS D to a LOS E in the PM peak hour.

The 2026 Mid-day and PM peak hour comparison tables for the intersection of Lorain Road and Cook Road / Lear Nagle Road shown previously, indicate that the levels-of-service are within the acceptable range shown in *Table 1.2, Page 4* as stated in the **ODOT OATS Manual** ⁽⁶⁾.

A QSR greater than 1.0 indicates the storage length of the lane may not be adequate for the forecasted conditions. The QSR of the following lanes are greater than 1.0 in both the No-Build and Build condition in the PM peak hour:

- Westbound right turn lane.

An analysis will be performed in a later section of this report to determine the queue length needed to mitigate the effect or any other improvement that could reduce the queue storage length for westbound right turn lane.

2. Cook Road and Starbucks Driveway

The peak hour traffic analysis results of the 2026 No-Build versus Build conditions for the stop controlled intersection of Cook Road and Starbucks Driveway are shown in the following tables:

**Table 4.3 - 2026 Mid-day Peak Hour Traffic Analysis Comparison
(Cook Road & Starbucks Driveway)**

INT #2	2026 No-Build Mid-Day Peak		One-Way Stop		INT #2	2026 Build Mid-Day Peak		One-Way Stop	
Cook Rd. & Starbucks Driveway	LOS	Delay (sec/veh)	v/c	95th %tile Queue (Feet)	Cook Rd. & Starbucks Driveway	LOS	Delay (sec/veh)	v/c	95th %tile Queue (Feet)
EBL	A	8.0	0.01	0.0	EBL	A	8.2	0.02	2.5
EB Approach	A	0.2	-	-	EB Approach	A	0.5	-	-
NBT	B	13.5	0.15	12.5	NBT	C	18.0	0.35	37.5
NB Approach	B	13.5	-	-	NB Approach	C	18.0	-	-

**Table 4.4 - 2026 PM Peak Hour Traffic Analysis Comparison
(Cook Road & Starbucks Driveway)**

INT #2	2026 No-Build PM Peak		One-Way Stop		INT #2	2026 Build PM Peak		One-Way Stop	
Cook Rd. & Starbucks Driveway	LOS	Delay (sec/veh)	v/c	95th %tile Queue (Feet)	Cook Rd. & Starbucks Driveway	LOS	Delay (sec/veh)	v/c	95th %tile Queue (Feet)
EBL	A	8.5	0.01	0.0	EBL	A	8.7	0.04	2.5
EB Approach	A	0.2	-	-	EB Approach	A	0.6	-	-
NBT	C	16.9	0.13	10.0	NBT	C	24.7	0.40	45.0
NB Approach	C	16.9	-	-	NB Approach	C	24.7	-	-

It was determined that conditions at the intersection of Cook Road and Starbucks Driveway during the Mid-day and PM peak hours will operate with level-of-service C or better under the forecasted 2026 No-Build and Build conditions.

The Mid-day and PM peak hour comparison tables indicate that the movement, and approach LOS remain unchanged from the No-Build to the Build condition with the exception of the following:

- Northbound through movement and approach degrade from a LOS B to a LOS C in the Mid-day peak hour.

The 2026 AM and PM peak hour comparison tables for the intersection of Cook Road and Starbucks Driveway shown previously, indicate that the levels-of-service are within the acceptable range shown in *Table 1.2, Page 4* as stated in the **ODOT OATS Manual** ⁽⁶⁾.

No improvements were found to be necessary to accommodate the site generated traffic volumes under the forecasted 2026 conditions at the intersection of Cook Road and Starbucks Driveway.

2036 Traffic Analysis - No-Build & Build Conditions

Traffic analyses were performed for the projected 2036 conditions under the No-Build and Build scenarios so:

1. any existing roadway/intersection deficiencies can be identified in the No-Build scenario which would not be attributable to the development, and;
2. a comparison can be made to determine the changes in the traffic operations which may be attributed to the development.

The traffic volumes used in the 2036 No-Build analyses can be seen in **Figure 3.7, Appendix A**. Copies of the capacity worksheets for the 2036 No-Build analyses are included in **Appendix K**.

The traffic volumes used in the 2036 Build analyses can be seen in **Figure 3.9, Appendix A**. Copies of the capacity worksheets for the 2036 Build analyses are included in **Appendix L**.

1. Lorain Road & Cook Road / Lear Nagle Road

The peak hour traffic analysis results of the 2036 No-Build versus Build conditions for the signalized intersection of Lorain Road and Cook Road / Lear Nagle Road is shown in the following tables:

**Table 4.5 - 2036 Mid-day Peak Hour Traffic Analysis Comparison
(Lorain Road & Cook Road / Lear Nagle Road)**

Int #1	2036 Mid-Day (Signal, 110s) No-Build					Int #1	2036 Mid-Day (Signal, 110s) Build				
Lorain Rd. & Cook Rd./Lear Nagle Rd.	LOS	Delay (sec/veh)	v/c	QSR	95th %tile Queue (ft)	Lorain Rd. & Cook Rd./Lear Nagle Rd.	LOS	Delay (sec/veh)	v/c	QSR	95th %tile Queue (ft)
EBL	B	18.5	0.479	0.31	154	EBL	C	20.3	0.504	0.33	162
EBT	C	23.2	0.301	0.16	159	EBT	C	25.8	0.340	0.18	175
EBR	C	23.4	0.307	0.15	149	EBR	C	26.1	0.347	0.17	162
EB Approach	C	21.5	-	-	-	EB Approach	C	23.9	-	-	-
WBL	C	20.5	0.187	0.25	62	WBL	C	22.8	0.254	0.33	82
WBT	C	26.6	0.294	0.14	139	WBT	C	29.2	0.322	0.15	145
WBR	B	16.5	0.304	0.27	144	WBR	B	18.6	0.322	0.28	153
WB Approach	C	22.3	-	-	-	WB Approach	C	24.6	-	-	-
NBL	D	39.1	0.650	0.86	146	NBL	D	38.2	0.677	0.92	157
NBT	D	46.7	0.854	0.25	252	NBT	D	45.3	0.872	0.29	286
NB Approach	D	43.8	-	-	-	NB Approach	D	42.7	-	-	-
SBL	D	46.0	0.849	0.44	230	SBL	D	46.0	0.849	0.44	230
SBT	D	42.0	0.877	0.33	332	SBT	D	39.6	0.840	0.34	342
SB Approach	D	44.3	-	-	-	SB Approach	D	43.1	-	-	-
Intersection	C	32.6	-	-	-	Intersection	C	33.4	-	-	-

**Table 4.6 - 2036 PM Peak Hour Traffic Analysis Comparison
(Lorain Road & Cook Road / Lear Nagle Road)**

Int #1	2036 PM (Signal, 120s) No-Build					Int #1	2036 PM (Signal, 120s) Build				
Lorain Rd. & Cook Rd./Lear Nagle Rd.	LOS	Delay (sec/veh)	v/c	QSR	95th %tile Queue (ft)	Lorain Rd. & Cook Rd./Lear Nagle Rd.	LOS	Delay (sec/veh)	v/c	QSR	95th %tile Queue (ft)
EBL	E	74.3	0.975	0.63	309	EBL	F	86.8	1.012	0.71	349
EBT	D	36.5	0.551	0.30	295	EBT	D	38.5	0.581	0.31	307
EBR	D	36.9	0.555	0.28	276	EBR	D	39.0	0.586	0.29	286
EB Approach	D	50.4	-	-	-	EB Approach	E	56.1	-	-	-
WBL	C	28.1	0.457	0.47	118	WBL	C	28.3	0.507	0.50	126
WBT	D	38.1	0.550	0.26	255	WBT	D	38.1	0.550	0.26	255
WBR	F	80.2	1.054	1.74	939	WBR	F	80.2	1.054	1.74	939
WB Approach	E	59.0	-	-	-	WB Approach	E	58.8	-	-	-
NBL	D	42.0	0.727	0.87	148	NBL	D	43.5	0.748	0.92	156
NBT	E	60.4	0.901	0.43	428	NBT	E	63.3	0.918	0.46	458
NB Approach	E	55.2	-	-	-	NB Approach	E	57.7	-	-	-
SBL	D	53.1	0.875	0.53	278	SBL	D	53.1	0.875	0.53	278
SBT	E	59.6	0.944	0.58	576	SBT	E	59.9	0.944	0.59	587
SB Approach	E	56.4	-	-	-	SB Approach	E	56.5	-	-	-
Intersection	E	55.7	-	-	-	Intersection	E	57.4	-	-	-

It was determined that conditions at the intersection of Lorain Road and Cook Road / Lear Nagle Road during the Mid-day and PM peak hours will operate with level-of-service F or better under the forecasted 2036 No-Build and Build conditions.

The Mid-day and PM peak hour comparison tables indicate that the movement, approach, and intersection LOS remain unchanged from the No-Build to the Build condition with the exception of the following:

- Eastbound left turn movement degrades from a LOS B to a LOS C in the Mid-day peak hour.
- Eastbound left turn movement degrades from a LOS E to a LOS F in the PM peak hour.
- Eastbound approach degrades from a LOS D to a LOS E in the PM peak hour

The 2036 Mid-day and PM peak hour comparison tables for the intersection of Lorain Road and Cook Road / Lear Nagle Road shown previously, indicate that the levels-of-service are not within the acceptable range shown in *Table 1.2, Page 4* as stated in the **ODOT OATS Manual** ⁽⁶⁾.

Analysis will be performed in a later section of this report to determine what improvements will provide a level-of-service in the No-Build and Build peak periods that will adhere to the acceptable ranges shown in *Table 1.2* and as stated in the **ODOT OATS Manual** ⁽⁶⁾.

A QSR greater than 1.0 indicates the storage length of the lane may not be adequate for the forecasted conditions. The QSR of the following lanes are greater than 1.0 in both the No-Build and Build condition in the PM peak hour:

- Westbound right turn lane.
- Eastbound left turn lane.

An analysis will be performed in a later section of this report to determine the queue length needed to mitigate the effect or any other improvement that could reduce the queue storage length for westbound right turn lane and eastbound left turn lane.

2. Cook Road and Starbucks Driveway

The peak hour traffic analysis results of the 2036 No-Build versus Build conditions for the stop controlled intersection of Cook Road and Starbucks Driveway are shown in the following tables:

**Table 4.7 - 2036 Mid-day Peak Hour Traffic Analysis Comparison
(Cook Road & Starbucks Driveway)**

INT #2	2036 No-Build Mid-Day Peak		One-Way Stop		INT #2	2036 Build Mid-Day Peak		One-Way Stop	
Cook Rd. & Starbucks Driveway	LOS	Delay (sec/veh)	v/c	95th %tile Queue (Feet)	Cook Rd. & Starbucks Driveway	LOS	Delay (sec/veh)	v/c	95th %tile Queue (Feet)
EBL	A	8.0	0.01	0.0	EBL	A	8.2	0.02	2.5
EB Approach	A	0.2	-	-	EB Approach	A	0.5	-	-
NBT	B	14.1	0.16	15.0	NBT	C	19.1	0.37	42.5
NB Approach	B	14.1	-	-	NB Approach	C	19.1	-	-

**Table 4.8 - 2036 PM Peak Hour Traffic Analysis Comparison
(Cook Road & Starbucks Driveway)**

INT #2	2036 No-Build PM Peak		One-Way Stop		INT #2	2036 Build PM Peak		One-Way Stop	
Cook Rd. & Starbucks Driveway	LOS	Delay (sec/veh)	v/c	95th %tile Queue (Feet)	Cook Rd. & Starbucks Driveway	LOS	Delay (sec/veh)	v/c	95th %tile Queue (Feet)
EBL	A	8.6	0.01	0.0	EBL	A	8.8	0.04	2.5
EB Approach	A	0.2	-	-	EB Approach	A	0.6	-	-
NBT	C	17.8	0.14	12.5	NBT	D	27.1	0.43	50.0
NB Approach	C	17.8	-	-	NB Approach	D	27.1	-	-

It was determined that conditions at the intersection of Cook Road and Starbucks Driveway during the Mid-day and PM peak hours will operate with level-of-service D or better under the forecasted 2036 No-Build and Build conditions.

The Mid-day and PM peak hour comparison tables indicate that the movement, and approach LOS remain unchanged from the No-Build to the Build condition with the exception of the following:

- Northbound through movement and approach degrade from a LOS B to a LOS C in the Mid-day peak hour.
- Northbound through movement and approach degrade from a LOS C to a LOS D in the PM peak hour.

The 2036 AM and PM peak hour comparison tables for the intersection of Cook Road and Starbucks Driveway shown previously, indicate that the levels-of-service are within the acceptable range shown in *Table 1.2, Page 4* as stated in the **ODOT OATS Manual** ⁽⁶⁾.

No improvements were found to be necessary to accommodate the site generated traffic volumes under the forecasted 2036 conditions at the intersection of Cook Road and Starbucks Driveway.

4.2 Improvements for Capacity & LOS at Study Area Intersections

2036 Traffic Analysis - Improvements

Issues were revealed in the traffic analyses for the 2036 No-Build and Build conditions during the PM peak hour at the following location where the movement levels-of-service failed to meet the operational goals shown in *Table 1.2, Page 4*:

2036 No-Build Condition

1. Lorain Road and Cook Road / Lear Nagle Road

- The westbound right turn movement has a LOS F in the 2036 during the PM peak hour.

The following improvements were found to raise the LOS to a satisfactory grade:

- Construct a southbound right turn lane and provide a southbound right turn overlap with the eastbound left turn phase.
- Construct a northbound right turn lane and provide a northbound right turn overlap with the westbound left turn phase.

1. Lorain Road & Cook Road / Lear Nagle Road

The following table shows the capacity analysis results of the 2036 No-Build traffic signal improvement at the intersection of Lorain Road and Cook Road / Lear Nagle Road during the expected design year conditions. Copies of the capacity worksheets for the intersection are included in **Appendix M**.

**Table 4.9 - 2036 Improved No-Build Mid-day & PM Peak Hour Traffic Analysis
(Lorain Road & Cook Road / Lear Nagle Road)**

Int #1	2036 Mid-Day (Signal, 110s) No-Build					Int #1	2036 PM (Signal, 120s) No-Build				
Lorain Rd. & Cook Rd./Lear Nagle Rd.	LOS	Delay (sec/veh)	v/c	QSR	95th %tile Queue (ft)	Lorain Rd. & Cook Rd./Lear Nagle Rd.	LOS	Delay (sec/veh)	v/c	QSR	95th %tile Queue (ft)
EBL	B	16.1	0.445	0.29	144	EBL	D	48.0	0.876	0.52	254
EBT	C	20.2	0.275	0.15	148	EBT	C	29.2	0.463	0.26	264
EBR	C	20.3	0.280	0.14	138	EBR	C	29.5	0.466	0.25	247
EB Approach	B	18.7	-	-	-	EB Approach	D	36.1	-	-	-
WBL	B	17.5	0.171	0.23	56	WBL	C	22.4	0.394	0.42	105
WBT	C	23.0	0.260	0.13	130	WBT	C	29.9	0.437	0.23	226
WBR	B	13.5	0.279	0.24	130	WBR	D	40.8	0.912	1.28	693
WB Approach	B	19.0	-	-	-	WB Approach	C	34.8	-	-	-
NBL	D	36.9	0.464	0.84	143	NBL	C	34.9	0.403	0.83	141
NBT	D	48.5	0.805	0.20	200	NBT	E	64.7	0.886	0.35	354
NBR	D	37.4	0.205	0.00	65	NBR	D	35.2	0.203	0.00	84
NB Approach	D	42.5	-	-	-	NB Approach	D	51.9	-	-	-
SBL	D	46.0	0.849	0.44	230	SBL	E	58.9	0.889	0.56	292
SBT	D	38.7	0.493	0.17	173	SBT	D	36.8	0.469	0.21	211
SBR	C	29.2	0.356	0.00	141	SBR	C	30.3	0.518	0.00	237
SB Approach	D	40.8	-	-	-	SB Approach	D	45.9	-	-	-
Intersection	C	29.7	-	-	-	Intersection	D	40.3	-	-	-

It was determined that conditions at the intersection of Lorain Road and Cook Road / Lear Nagle Road during the Mid-day and PM peak hours will operate with level-of-service E or better under the forecasted 2036 No-Build improved conditions.

The 2036 AM and PM peak hour comparison tables for the intersection of Lorain Road and Cook Road / Lear Nagle Road shown previously, indicate that the levels-of-service are within the acceptable range shown in *Table 1.2, Page 4* as stated in the ODOT OATS Manual.

A QSR greater than 1.0 indicates the storage length of the lane may not be adequate for the forecasted conditions. The QSR of the following lanes are greater than 1.0 in the No-Build condition in the PM peak hour:

-Westbound right turn lane.

An analysis will be performed in a later section of this report to determine the queue length needed to mitigate the effect or any other improvement that could reduce the queue storage length for westbound right turn lane.

2036 Build Condition

It was determined in the PM peak hour analysis that the following levels-of-service issues for the 2036 Build conditions are no within the acceptable range shown in *Table 1.2, Page 4* as stated in the **ODOT OATS Manual**⁽⁶⁾.

1. Lorain Road and Cook Road / Lear Nagle Road

- The westbound right turn movement is a LOS F in the during the PM peak hour.
- The eastbound left turn movement degrades to a LOS F in the 2036 Build condition during the PM peak hour.

An analysis was performed to determine if the improvements recommended for the No-Build condition would raise the LOS to a satisfactory grade.

1. Lorain Road & Cook Road / Lear Nagle Road

The following table shows the capacity analysis results for the 2036 Build condition utilizes the traffic signal improvement recommended for the 2036 No-Build conditions. Copies of the capacity worksheets for the intersection are included in **Appendix M**.

**Table 4.10 - 2036 Improved Build Mid-day / PM Peak Hour Traffic Analysis
(Lorain Road & Cook Road / Lear Nagle Road)**

Int #1	2036 Mid-day (Signal, 110s) Build					Int #1	2036 PM (Signal, 120s) Build				
Lorain Rd. & Cook Rd./Lear Nagle Rd.	LOS	Delay (sec/veh)	v/c	QSR	95th %tile Queue (ft)	Lorain Rd. & Cook Rd./Lear Nagle Rd.	LOS	Delay (sec/veh)	v/c	QSR	95th %tile Queue (ft)
EBL	B	16.9	0.455	0.30	147	EBL	D	52.6	0.896	0.57	281
EBT	C	21.4	0.297	0.16	159	EBT	C	30.4	0.482	0.27	273
EBR	C	21.6	0.303	0.15	148	EBR	C	30.7	0.485	0.26	254
EB Approach	B	19.8	-	-	-	EB Approach	D	38.5	-	-	-
WBL	B	18.6	0.223	0.29	73	WBL	C	22.6	0.434	0.45	112
WBT	C	24.1	0.270	0.13	132	WBT	C	29.9	0.437	0.23	226
WBR	B	14.4	0.286	0.25	134	WBR	D	40.8	0.912	1.28	693
WB Approach	B	19.9	-	-	-	WB Approach	C	34.7	-	-	-
NBL	D	36.6	0.520	0.92	156	NBL	C	34.4	0.423	0.86	146
NBT	D	47.8	0.815	0.22	216	NBT	E	66.1	0.894	0.37	370
NBR	D	36.7	0.262	0.00	85	NBR	C	34.4	0.215	0.00	90
NB Approach	D	41.7	-	-	-	NB Approach	D	52.1	-	-	-
SBL	D	46.0	0.849	0.44	230	SBL	E	58.9	0.889	0.56	292
SBT	D	38.1	0.524	0.19	190	SBT	D	36.8	0.484	0.22	218
SBR	C	28.0	0.341	0.00	138	SBR	C	30.6	0.522	0.00	238
SB Approach	D	40.4	-	-	-	SB Approach	D	45.9	-	-	-
Intersection	C	30.1	-	-	-	Intersection	D	40.9	-	-	-

It was determined that conditions at the intersection of Lorain Road and Cook Road / Lear Nagle Road during the Mid-day and PM peak hours will operate with level-of-service E or better under the forecasted 2036 Build improved conditions.

The 2036 AM and PM peak hour comparison tables for the intersection of Lorain Road and Cook Road / Lear Nagle Road shown previously, indicate that the levels-of-service are within the acceptable range shown in *Table 1.2, Page 4* as stated in the ODOT OATS Manual.

The previous QSR issue of the eastbound left turn lane in the 2036 Build conditions PM peak was mitigated through the improved condition.

A QSR greater than 1.0 indicates the storage length of the lane may not be adequate for the forecasted conditions. The QSR of the following lanes are greater than 1.0 in both the No-Build and Build condition in the PM peak hour:

-Westbound right turn lane.

An analysis will be performed in a later section of this report to determine the queue length needed to mitigate the effect or any other improvement that could reduce the queue storage length for westbound right turn lane.

4.3 Auxiliary Turning Lane Warrant Analysis

It is the intent of this section of the report to evaluate the need for exclusive deceleration and turning lanes at the Cook Road and Starbucks Driveway intersection. The turn lane warrants will be evaluated based on the following conditions:

Cook Road

- Two-lane roadway
- Speed Limit = 35 miles per hour

The following table shows the results of the analysis of the need for exclusive left and right turn lanes at the site access driveway along Cook Road under the forecasted Build conditions. Copies of the ODOT turn lane warrant graphs can be seen in **Appendix N**.

Table 4.11 Turning Lane Warrants

LOCATION	TURN LANE	CONDITIONS			
		2026 Opening Year		2036 Design Year	
		Mid-day	PM	Mid-day	PM
Cook Road and Starbucks Driveway	WB Left Turn Lane	NO	YES	NO	YES
	EB Right Turn Lane	NO	YES	NO	YES

The results of the turn lane analyses indicate exclusive westbound left and eastbound right turn lanes on Cook Road at the Starbucks Driveway **ARE** warranted under the expected 2026 opening year and 2036 design year Build conditions.

Under the current conditions, the northbound left turn lane from the Lorain Road and Cook Road / Lear Nagle intersection extends through the Starbucks Driveway effectively functioning as a dedicated left turn lane for both intersections. A turn lane length analysis will be used to determine the total turn lane length needed to accommodate the westbound left turn movements into the Starbucks Driveway.

4.4 Turn Lane Length Analysis

Analyses were performed to determine the necessary turn lane storage length in order to accommodate the westbound left turn and eastbound right turn lanes at the Starbucks Driveway that were determined to be warranted during the 2026 and 2036 Build conditions.

The turn lane calculations at the Starbucks Driveway will be based on the following conditions:

- Unsignalized Through Road
- 35 MPH Design Speed
- Condition A

The following table details the results of the turn lane length analyses based upon the highest anticipated turn volumes at the intersection under the expected 2036 Build conditions.

**Table 4.12 Turn Lane Length Analysis
(Cook Road & Starbucks Driveway)**

Movement Direction	DHV	No. of Lanes	Cycles / Hour	Average Veh/ Cycle/ Lane	Design Speed (mph)	Figure 401-10 Queue Length (ft)	Fig. 401-9 Condition	Turn Lane Length (ft)
							A	
WB LT	33	1	60	0.55	35	50	50	50
EB RT	110	1	60	1.83	35	100	100	100

The turn lane length analysis concluded that the westbound left turn lane should be have a storage length of 50 feet. The 50 feet of storage length is already present within the existing left turn lane, therefore, no additional storage is needed.

The turn lane length analysis concluded that the eastbound right turn lane should be constructed with a storage length of 100 feet.

It was determined with the review of the QSR for the westbound right turn lane at the intersection of Lorain Road and Cook Road / Lear Nagle Road that the storage length of the turn lane may be inadequate for the future No-Build and Build conditions. Analyses were performed to determine the necessary turn lane storage length for this lane.

The improved 2036 condition includes the addition of right turn lanes on the northbound and southbound approaches . Analyses were performed to determine the necessary turn lane storage length for this lane.

The turn lane calculations will be based on year 2036 Build traffic volumes and the following conditions:

- Traffic Control =Signalized (120s cycle length)
- Design Speed =35 Miles Per Hour
- Condition A

The following tables details the results of the turn lane length analyses based upon the highest anticipated turn volumes at the intersections under the expected 2036 Build peak hour conditions.

**Table 4.13 Turn Lane Length Analysis
(Lorain Road & Cook Road / Lear Nagle Road)**

Movement Direction	DHV	No. of Lanes	Cycles / Hour	Average Veh/ Cycle/ Lane	Design Speed (mph)	Figure 401-10 Queue Length (ft)	Fig. 401-9 Condition	Backup Length (ft)	Turn Lane Length (ft)
							A		
NB RT	167	1	30	5.56	35	250	250		400
NB T	311	1	30	10.36	35	400		400	
SB RT	290	1	30	9.67	35	375	375		375
SB T	239	1	30	7.96	35	325		325	
WB RT	840	1	30	28.00	35	925	925		800
WB T	550	2	30	9.16	35	375		375	

The turn lane length analysis concluded that the northbound right turn lane should be constructed with a storage length of 400 feet.

The turn lane length analysis concluded that the southbound right turn lane should be constructed with a storage length of 375 feet.

The turn lane length analysis concluded that the westbound right turn lane should be extended to a storage length of 800 feet.

4.5 Improvements to Accommodate Study Area Traffic

Recommended Improvements to Serve Future Conditions without the Development

No improvements were recommended to accommodate the forecasted 2026 No-Build conditions at the study area intersections

The following intersection improvements are recommended to accommodate the 2036 No-Build traffic at the intersection of Lorain Road and Cook Road / Lear Nagle Road:

- Extend the westbound right turn lane to a length of 800 feet including a 50 foot taper.
- Construct a 400 foot northbound right turn lane and provide a northbound right turn overlap with the westbound left turn phase.
- Construct a 425 foot southbound right turn lane and provide a southbound right turn overlap with the eastbound left turn phase.

Recommended Improvements to Mitigate the Traffic Associated with the Development

No additional improvements were recommended to accommodate the forecasted 2026 and 2036 Build conditions at the study area intersections.

Development Access Recommendations

The following lane use and traffic control is recommended at the site access location under the Build conditions:

Cook Road and Starbucks Driveway

- Install stop sign control for the northbound driveway approach.
- Construct a 100 foot eastbound right turn lane.

The recommended lane use and traffic control for the study area to accommodate expected Build traffic volumes can be seen in **Figure 4.1, Appendix A**.

Chapter 5

Conclusions

Based on the results of the analyses, we offer the following conclusions and recommendations:

- 5.1 This Traffic Impact Study (TIS) has been prepared at the request of RTM Engineering Consultants for a proposed Panda Express. The development is located in the City of North Ridgeville, Lorain County, Ohio. The project site is located on the southwest quadrant of the Lorain Road and Lear Nagle Road / Cook Road intersection. **Figure 1.1, Appendix A** shows the proposed location of the development.
- 5.2 The development is expected to consist of a 2,700 square foot restaurant.
- 5.3 The site plan indicates the development will be accessed via the existing Starbucks Driveway on the south side of Cook Road. The driveway is a full access location that permits all ingress and egress turn movements.
- 5.4 The development is expected to be open by 2026.
- 5.5 The Panda Express restaurant is not open for breakfast, therefore the Mid-day and PM peak hours were evaluated for this report.
- 5.6 The weekday Mid-Day peak hour of traffic was determined to be 11:45 AM to 12:45 PM. The weekday PM peak hour of traffic was found to be 4:30 PM to 5:30 PM. These periods were used to forecast expected and future traffic volumes since they reflect the period of the highest volume of vehicular traffic flow for the study area roadways.

5.7 The development is expected to generate the following hourly traffic volumes during the peak periods as shown in the table below:

ITE TRIP GENERATION			WEEKDAY TRIP ENDS			
ITE CODE	DESCRIPTION	SIZE	Mid-day Peak Hour of Generator (AM values) (Enter/Exit)		PM Peak Hour of Generator (Enter/Exit)	
934	Fast Food Restaurant with Drive-through Window	2,700 SF	71	66	70	68
Pass-by Trips (Mid-day Not Available, PM 55%)			-	-	-37	-37
TOTAL NON-PASS-BY TRIPS			71	66	33	31
			137		64	

5.8 The development is expected to generate 137 trips in the Mid-day peak period and 138 trips in the PM peak period. The years 2026 (Opening Year) and 2036 (Design Year) will be analyzed for the proposed development as the peak hour site generated traffic volumes are less than 500 trips.

5.9 No improvements were recommended to accommodate the forecasted 2026 No-Build conditions at the study area intersections

5.10 The following intersection improvements are recommended to accommodate the 2036 No-Build traffic at the intersection of Lorain Road and Cook Road / Lear Nagle Road:

- Extend the westbound right turn lane to a length of 800 feet including a 50 foot taper.
- Construct a 400 foot northbound right turn lane and provide a northbound right turn overlap with the westbound left turn phase.
- Construct a 425 foot southbound right turn lane and provide a southbound right turn overlap with the eastbound left turn phase.

5.11 No additional improvements were recommended to accommodate the forecasted 2026 and 2036 Build conditions at the study area intersections.

- 5.12 The following lane use and traffic control is recommended at the site access location under the Build conditions:

Cook Road and Starbucks Driveway

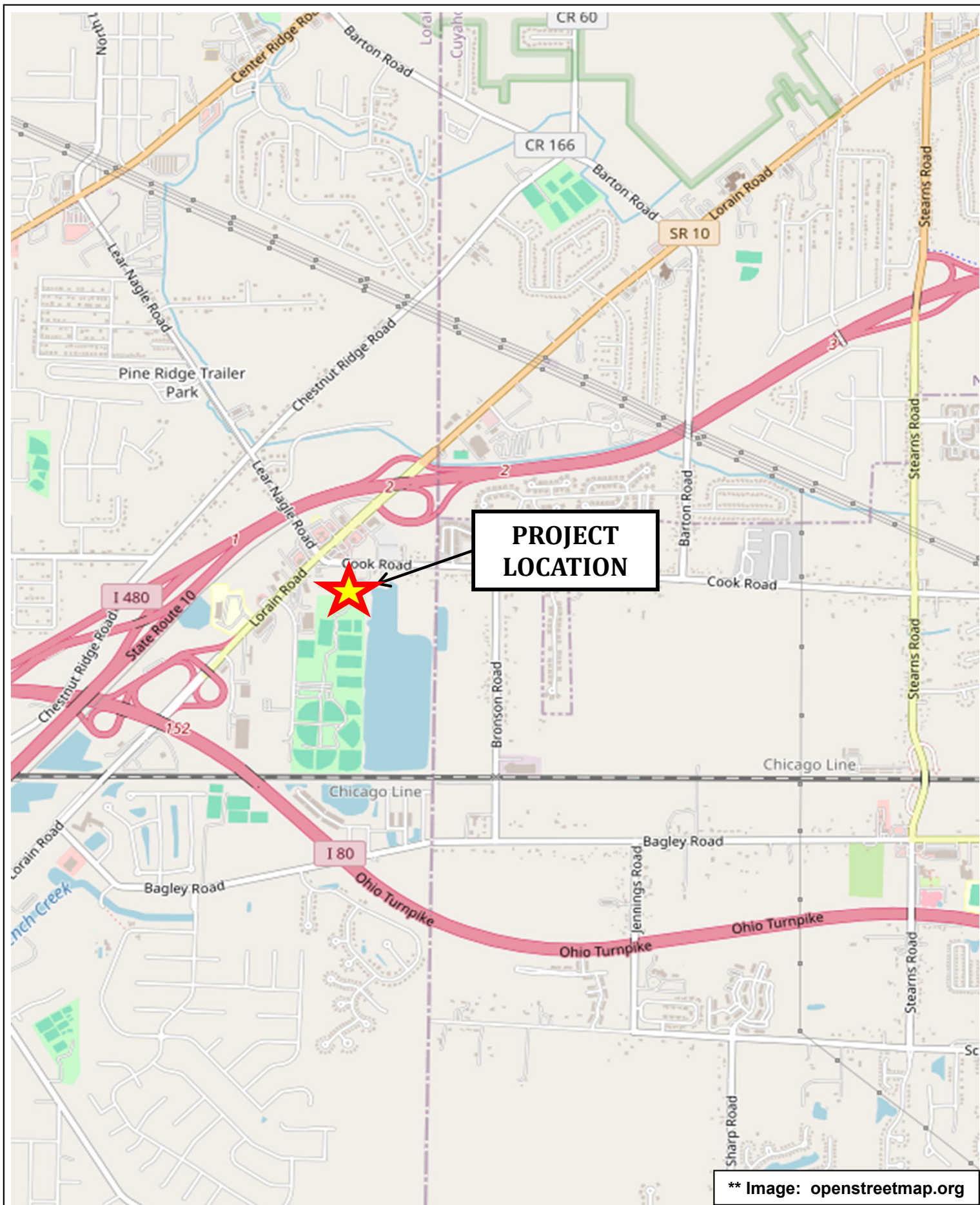
- Install stop sign control for the northbound driveway approach.
- Construct a 100 foot eastbound right turn lane.

- 5.13 The recommended lane use and traffic control for the study area to accommodate expected Build traffic volumes can be seen in **Figure 4.1, Appendix A**.

- 5.14 Based upon the results of the analysis in this study and the corresponding recommendations, it can be seen that the development traffic can be accommodated without adversely impacting the area roadway network.

Appendix A

Figures



TMS Engineers, Inc.

2112 Case Parkway S., Unit 7,
Twinsburg, Ohio 44087
www.TMSEngineers.com

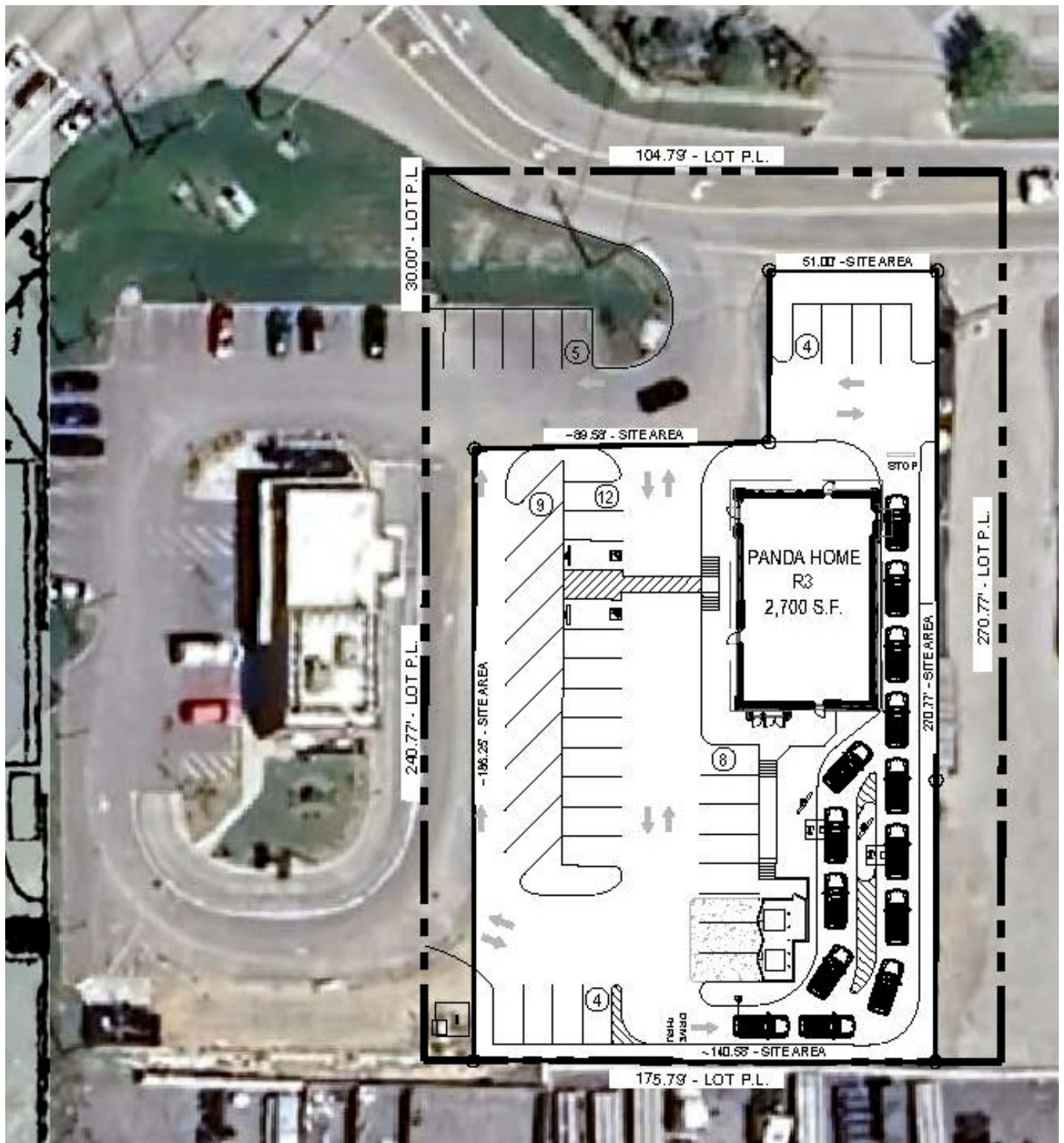
**Panda Express
North Ridgeville, OH
Traffic Volume Forecast**

Location Map

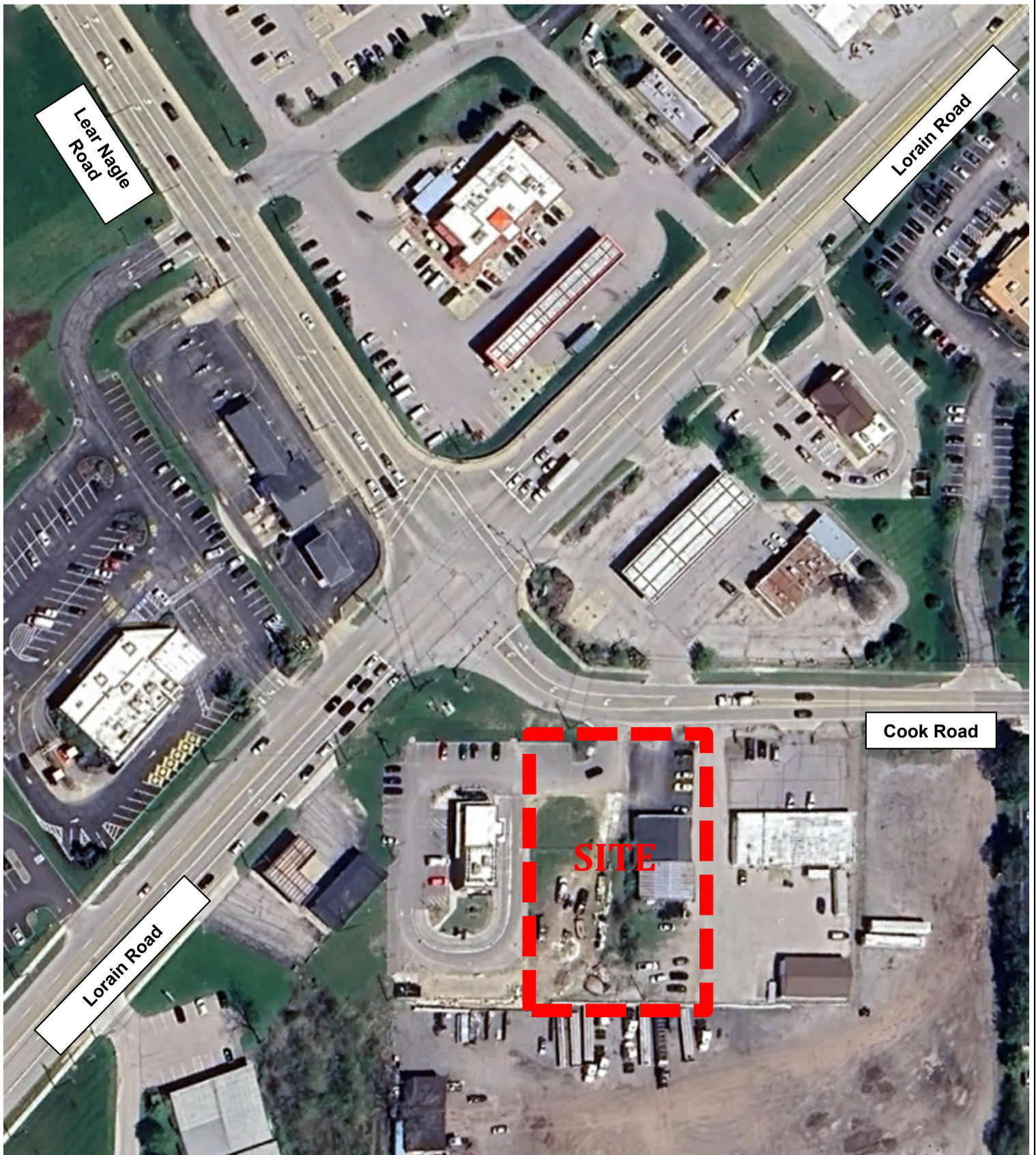
NORTH
NOT TO
SCALE

Figure: 1.1

Appendix A



** Image: Google Earth



TMS Engineers, Inc.

2112 Case Parkway S., Unit 7,
Twinsburg, Ohio 44087
www.TMSEngineers.com

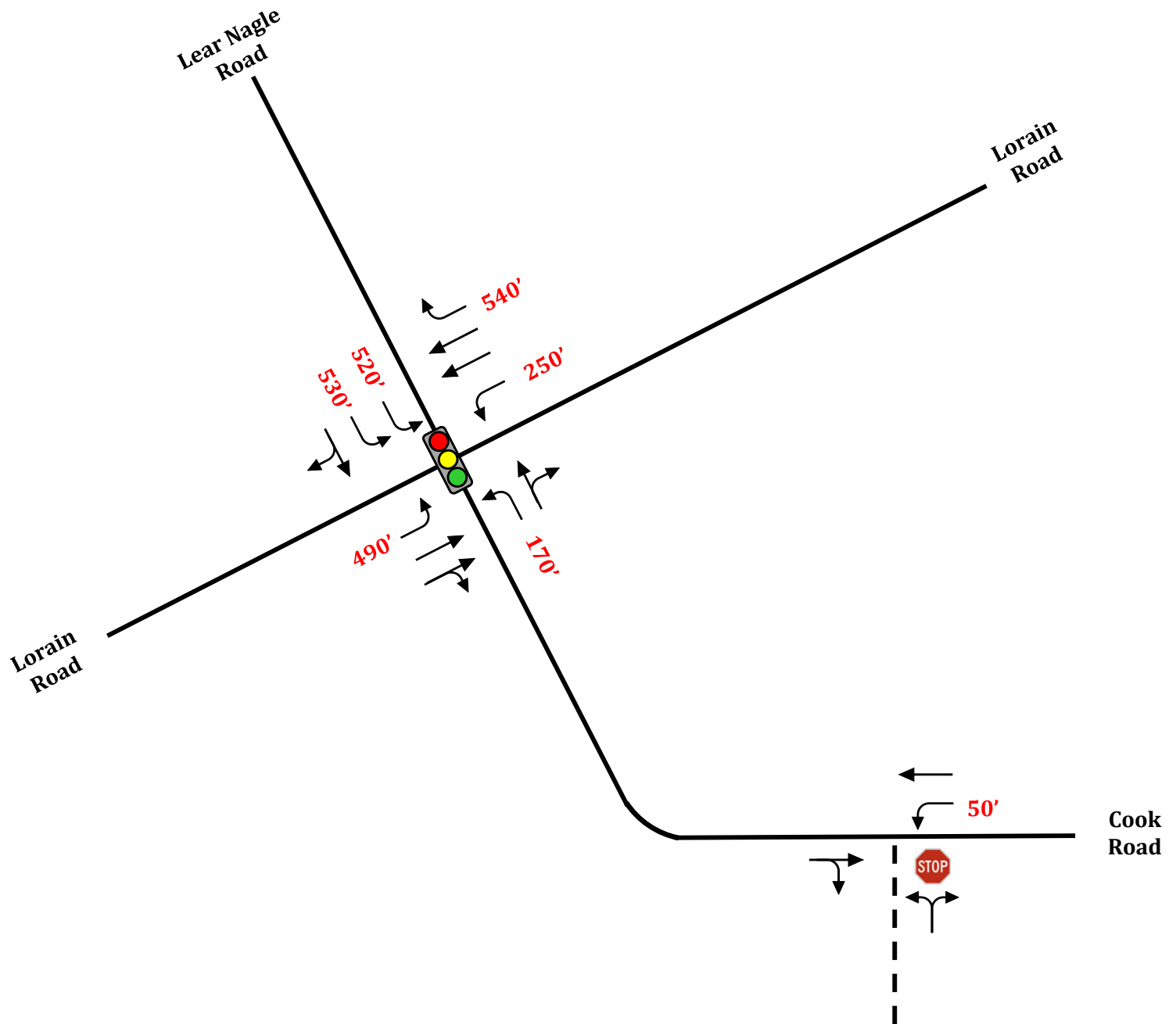
**Panda Express
North Ridgeville, OH
Traffic Volume Forecast**

Aerial View

↑
NORTH
NOT TO
SCALE

Figure: 2.1

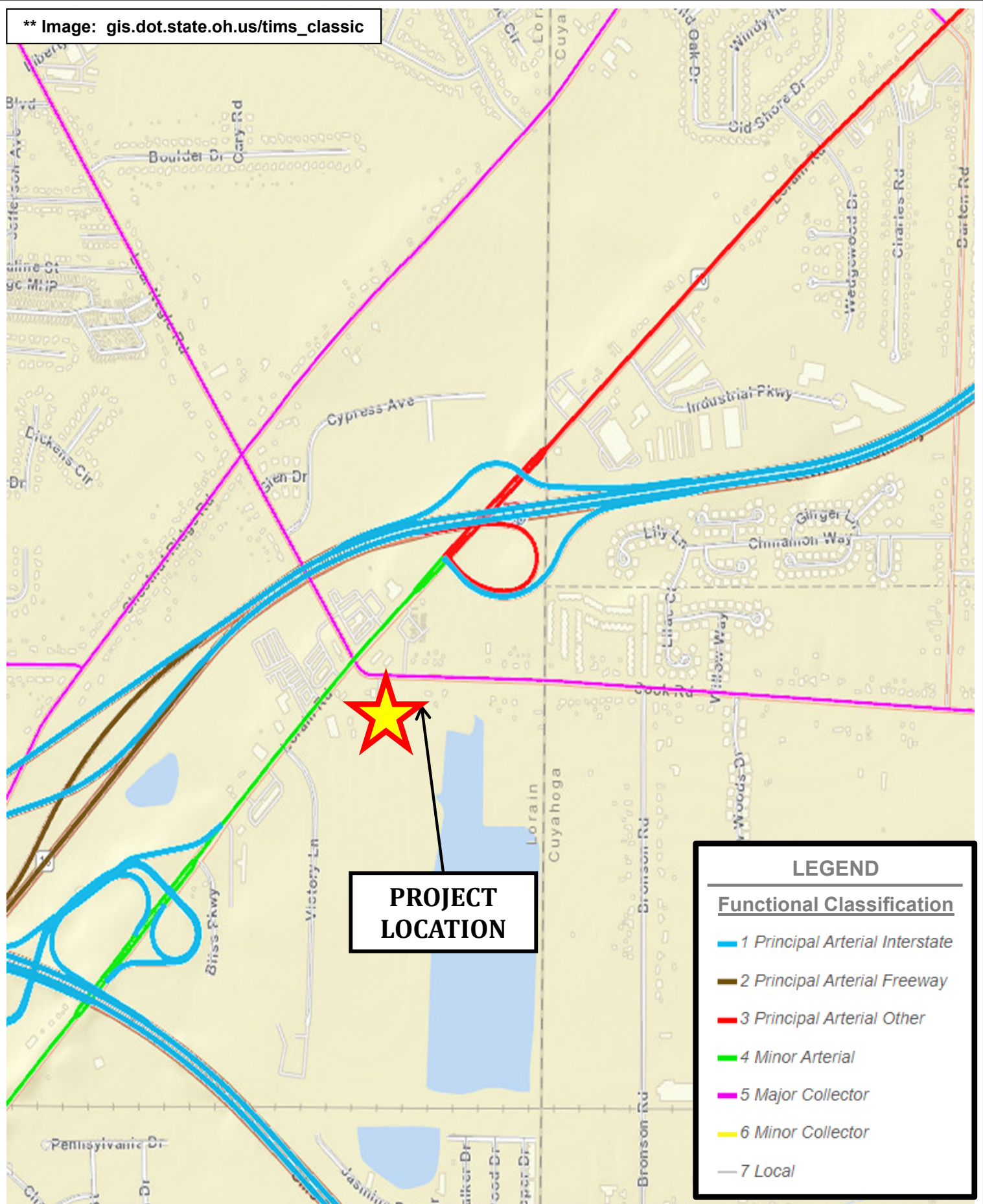
Appendix A



LEGEND

- Existing Lane Use
- Existing Roadway
- - Existing Driveway
- XXX' Turn Lane Storage Length
-  Existing Traffic Signal
-  Existing Stop Sign

** Image: gis.dot.state.oh.us/tims_classic



TMS Engineers, Inc.

2112 Case Parkway S., Unit 7,
Twinsburg, Ohio 44087
www.TMSEngineers.com

**Panda Express
North Ridgeville, OH
Traffic Volume Forecast**

**Functional Classification
(ODOT TIMS)**

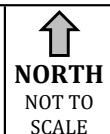
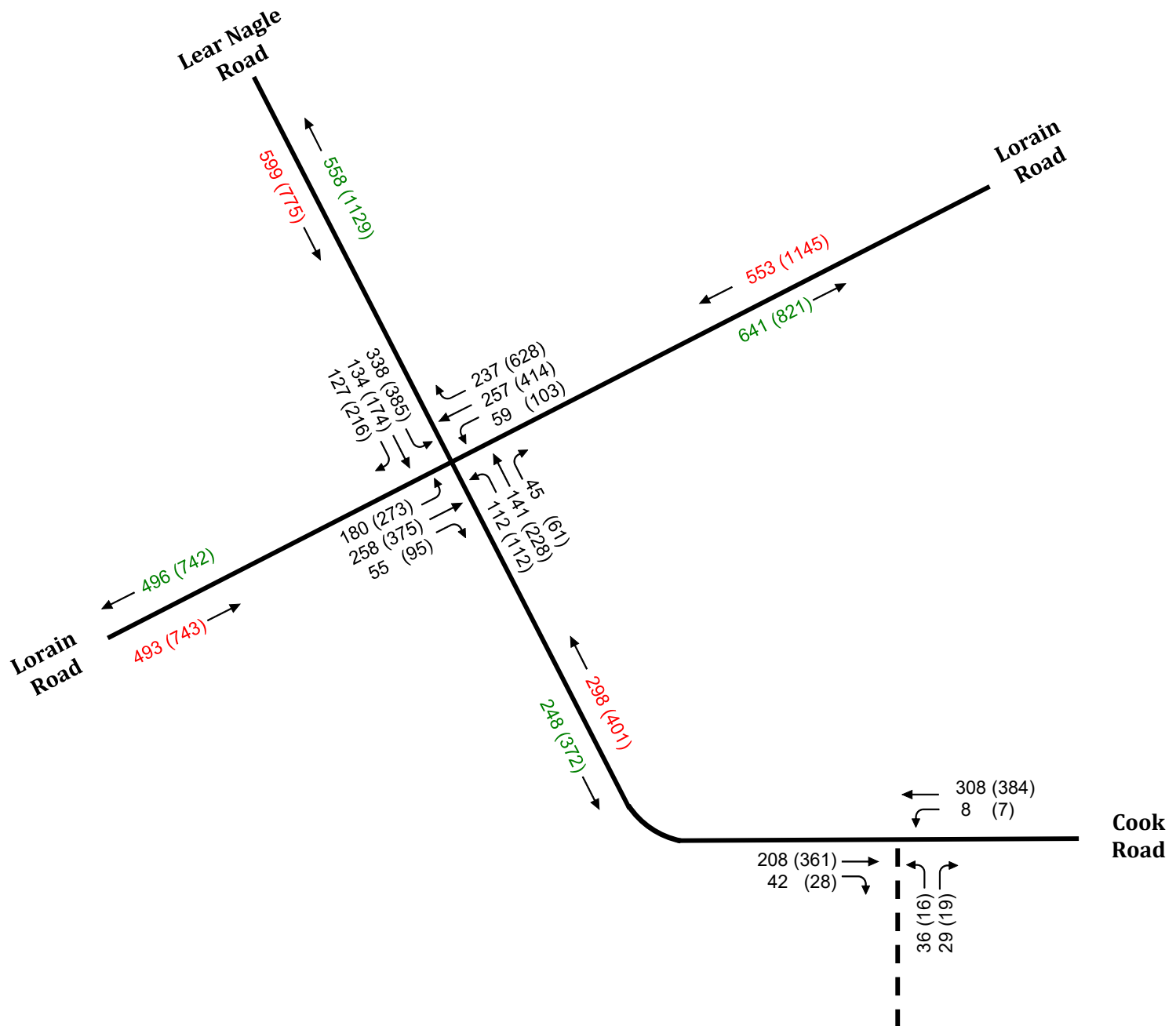
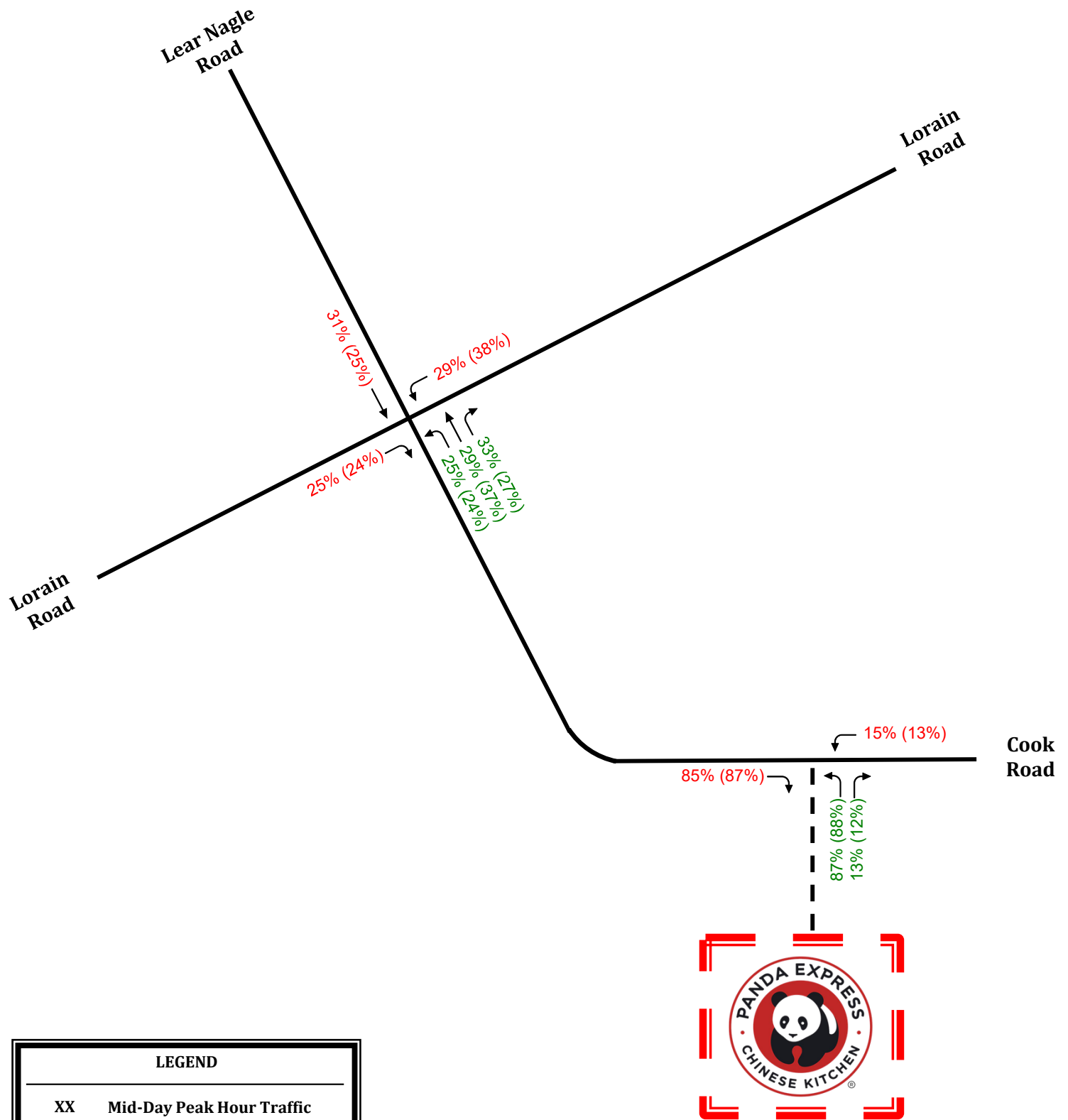
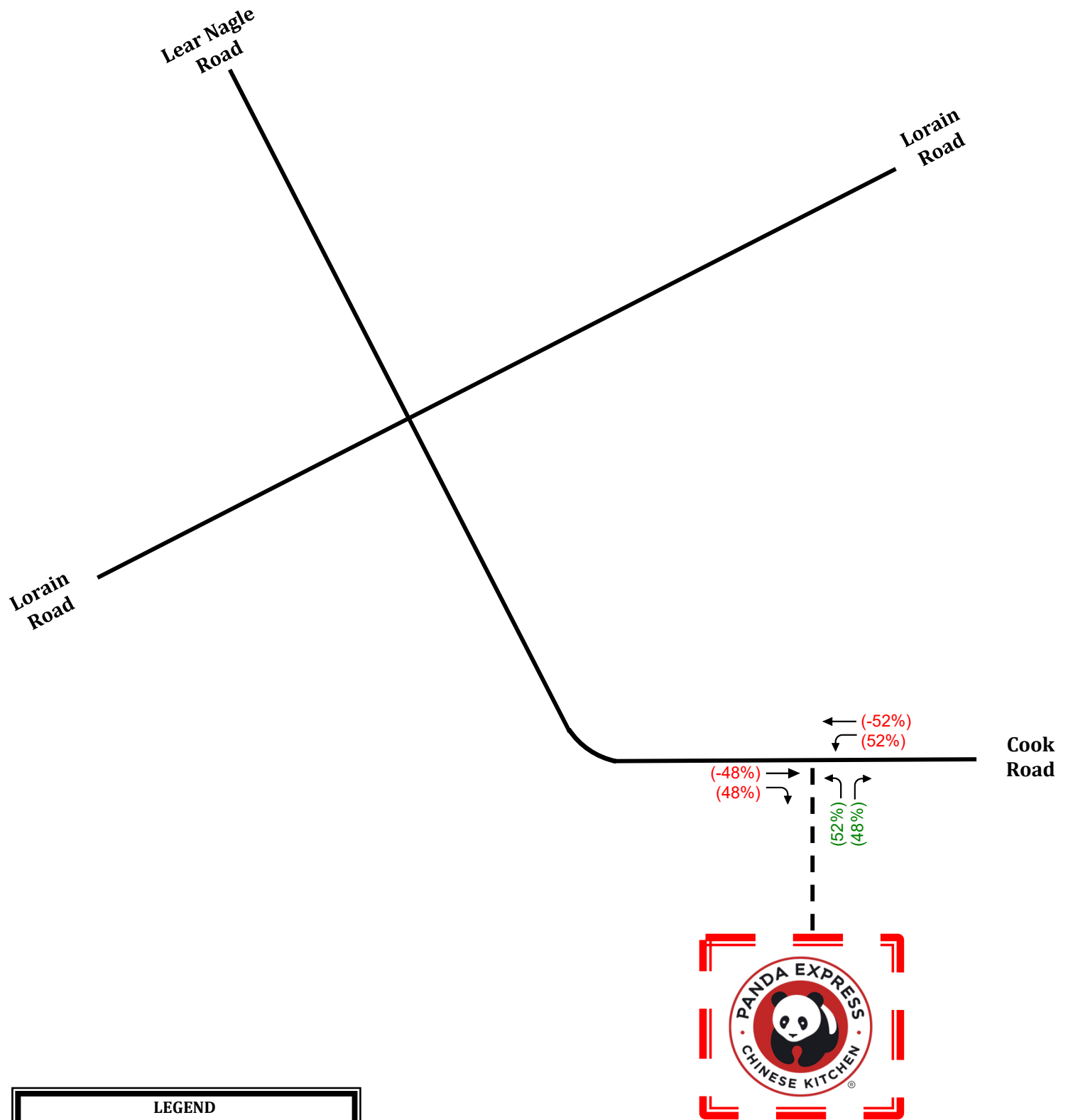


Figure: 2.3

Appendix A







LEGEND

(XX)

PM Peak Hour Traffic

—

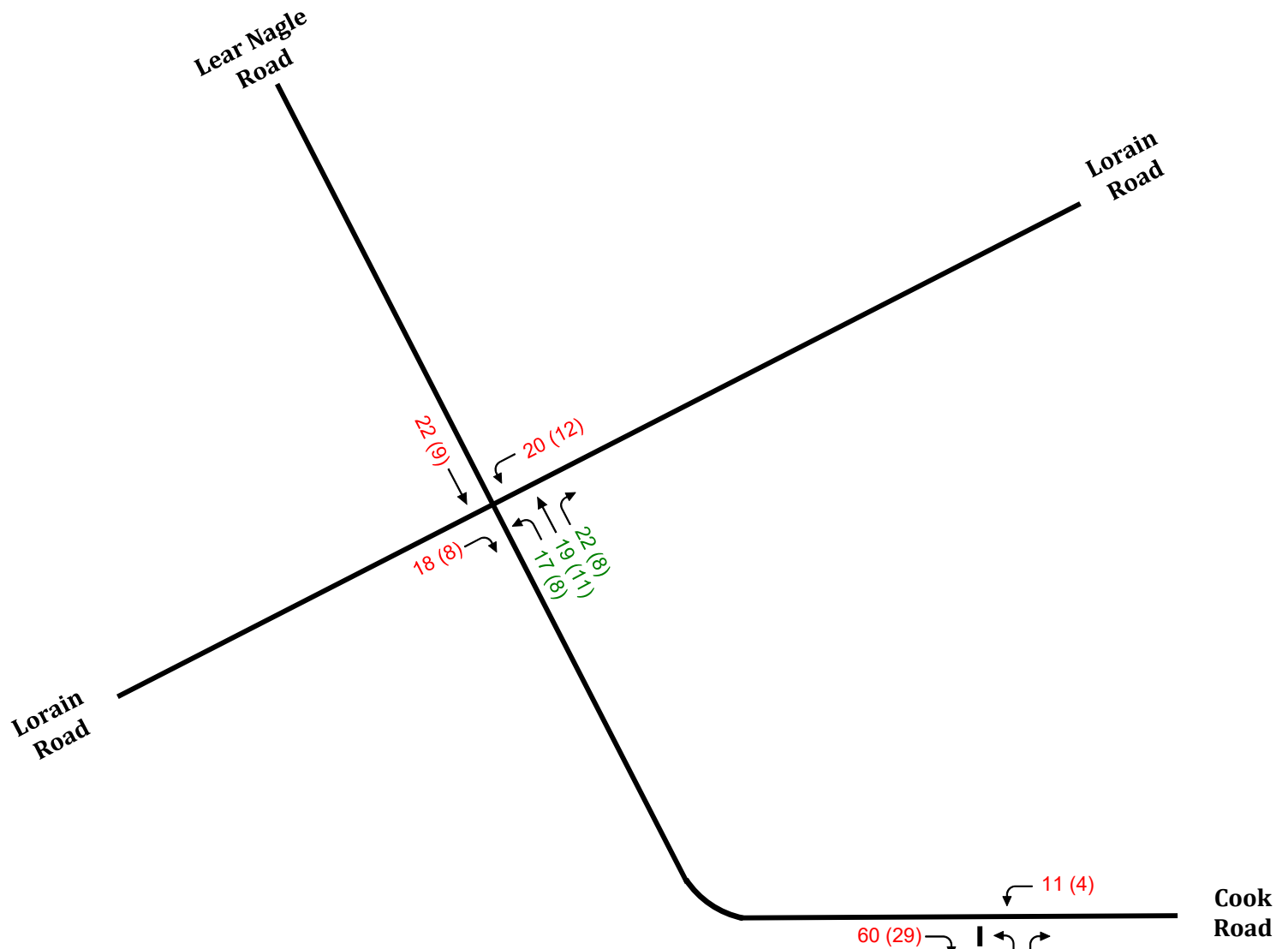
Existing Roadway

- -

Existing Driveway

RED = Entering Volumes
For Trip Distributions

GREEN = Exiting Volumes
For Trip Distributions



NON-PASS-BY TRIPS

	Mid-Day	PM
TOTAL	137	64
ENTER	71	33
EXIT	66	31

LEGEND

- XX Mid-Day Peak Hour Traffic
- (XX) PM Peak Hour Traffic
- Existing Roadway
- - Existing Driveway
- RED = Entering Volumes
For Trip Distributions
- GREEN = Exiting Volumes
For Trip Distributions



TMS Engineers, Inc.

2112 Case Parkway S., Unit 7,
Twinsburg, Ohio 44087
www.TMSEngineers.com

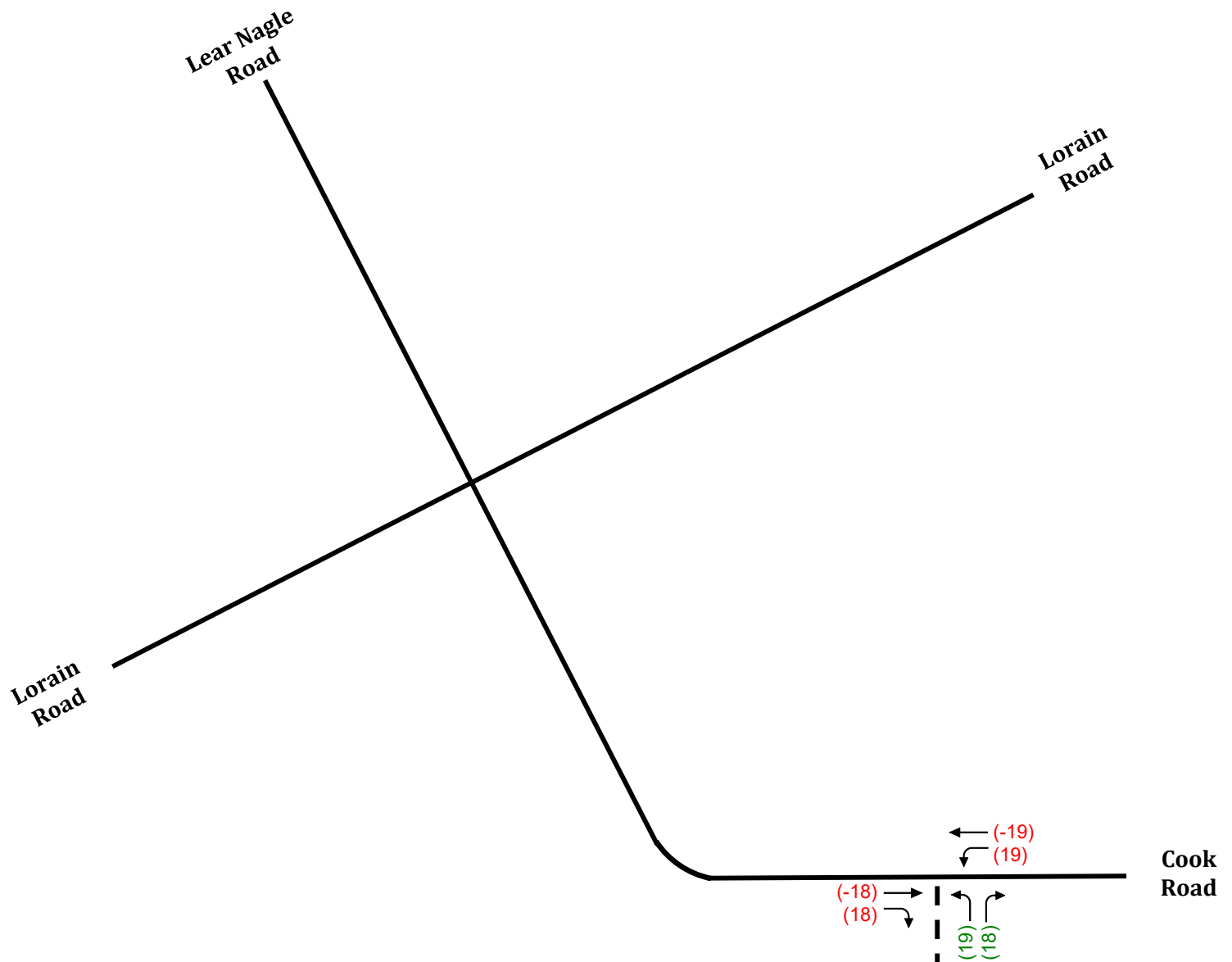
**Panda Express
North Ridgeville, OH
Traffic Volume Forecast**

**Site Generated
Non-Pass-By Trips**

NORTH
↑
NOT TO
SCALE

Figure: 3.3

Appendix A



PASS-BY TRIPS

	PM
TOTAL	74
ENTER	37
EXIT	37

LEGEND

(XX) PM Peak Hour Traffic

— Existing Roadway

- - Existing Driveway

RED = Entering Volumes
For Trip Distributions

GREEN = Exiting Volumes
For Trip Distributions



TMS Engineers, Inc.

2112 Case Parkway S., Unit 7,
Twinsburg, Ohio 44087
www.TMSEngineers.com

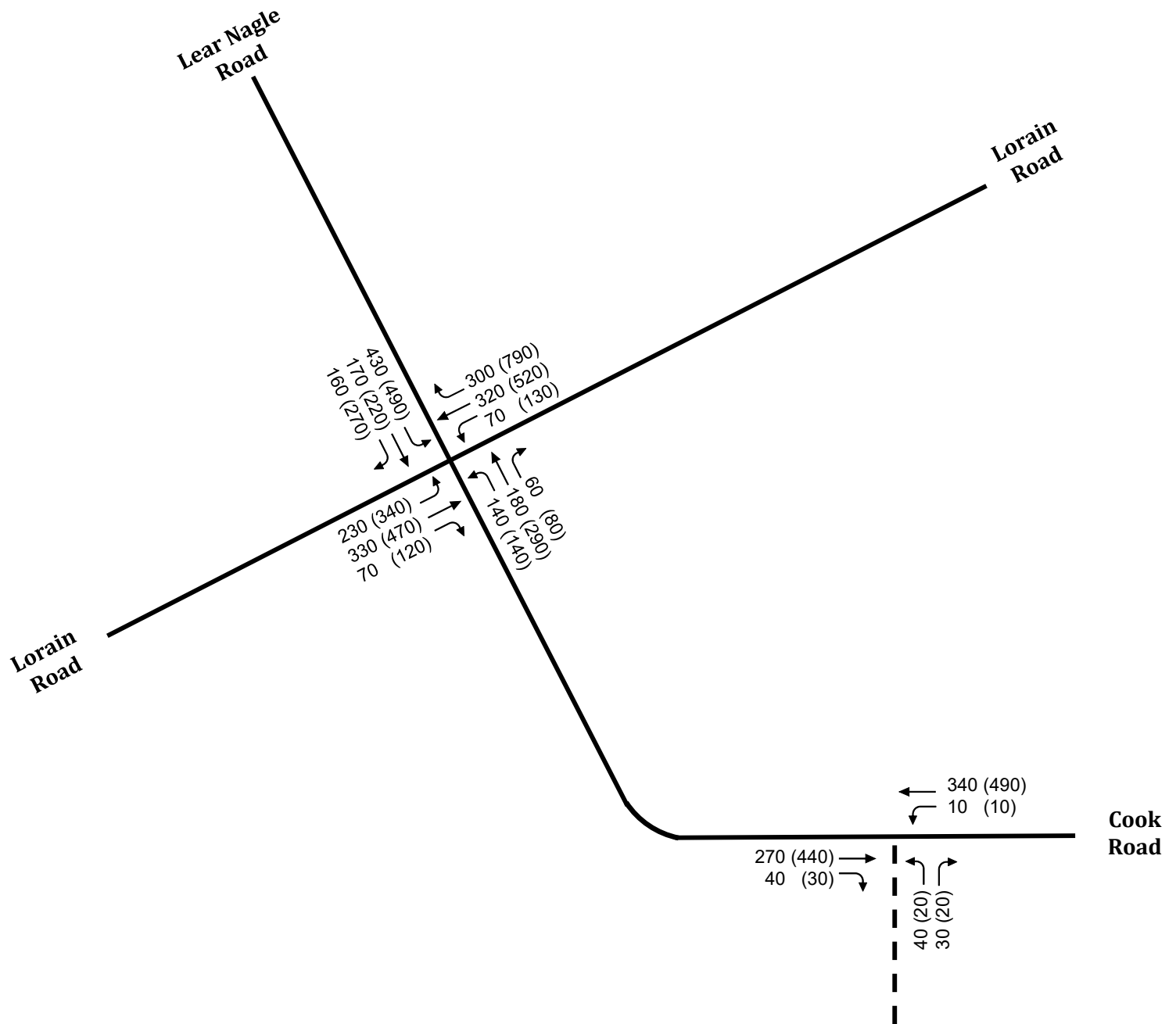
**Panda Express
North Ridgeville, OH
Traffic Volume Forecast**

**Site Generated
Pass-by Trips**

NORTH
↑
NOT TO
SCALE

Figure: 3.4

Appendix A



LEGEND

XX

Mid-Day Peak Hour Traffic

(XX)

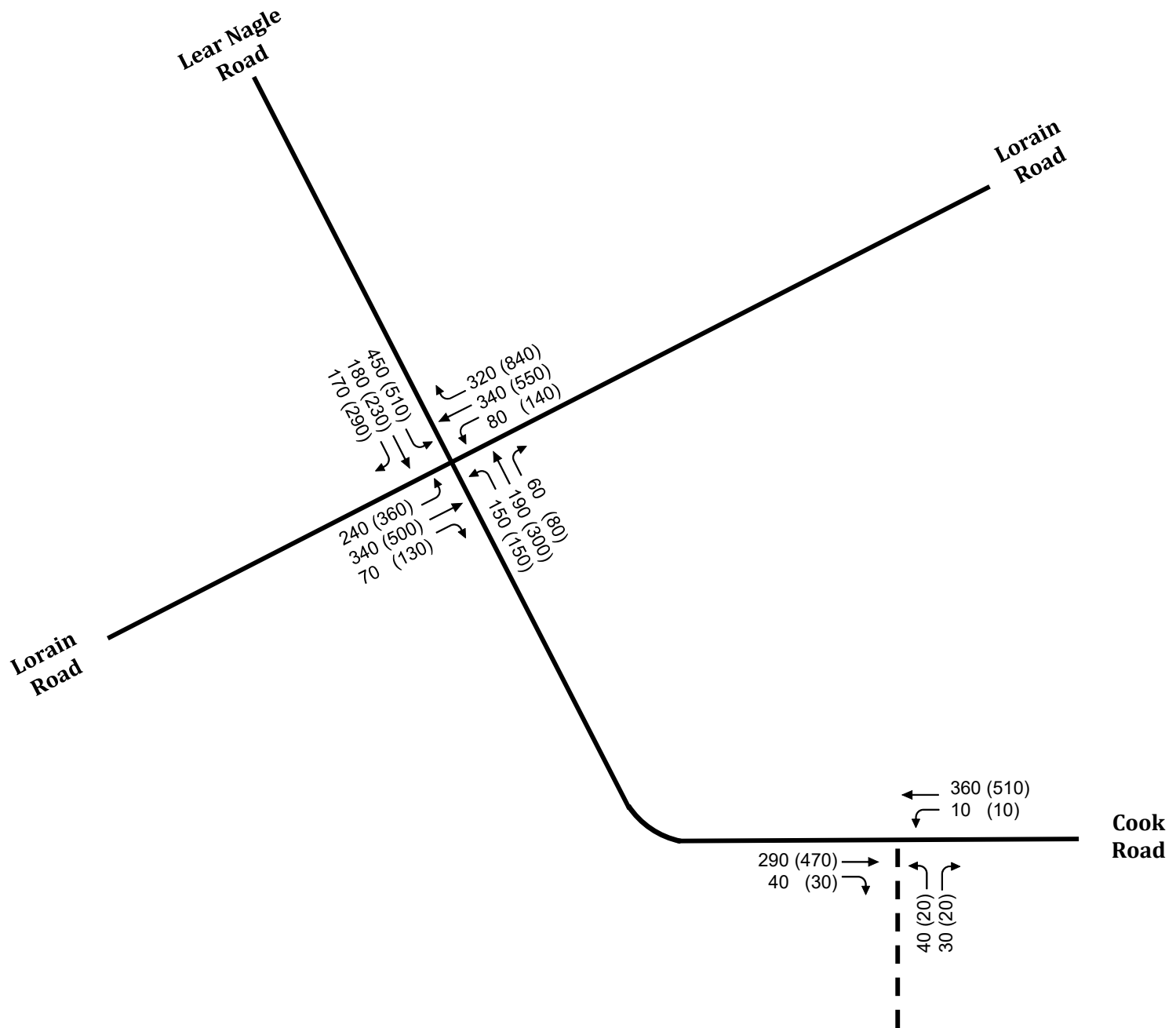
PM Peak Hour Traffic

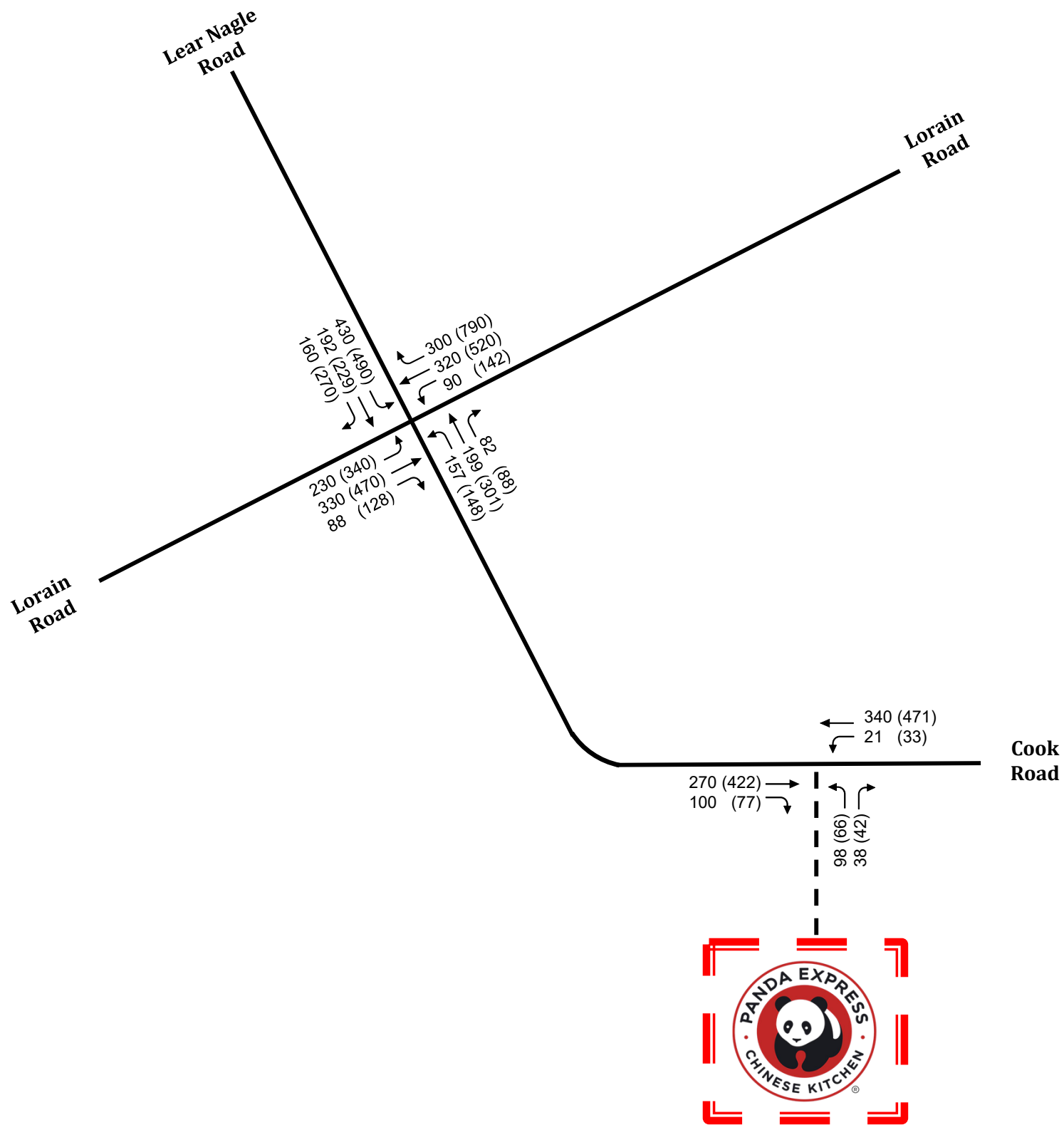
—

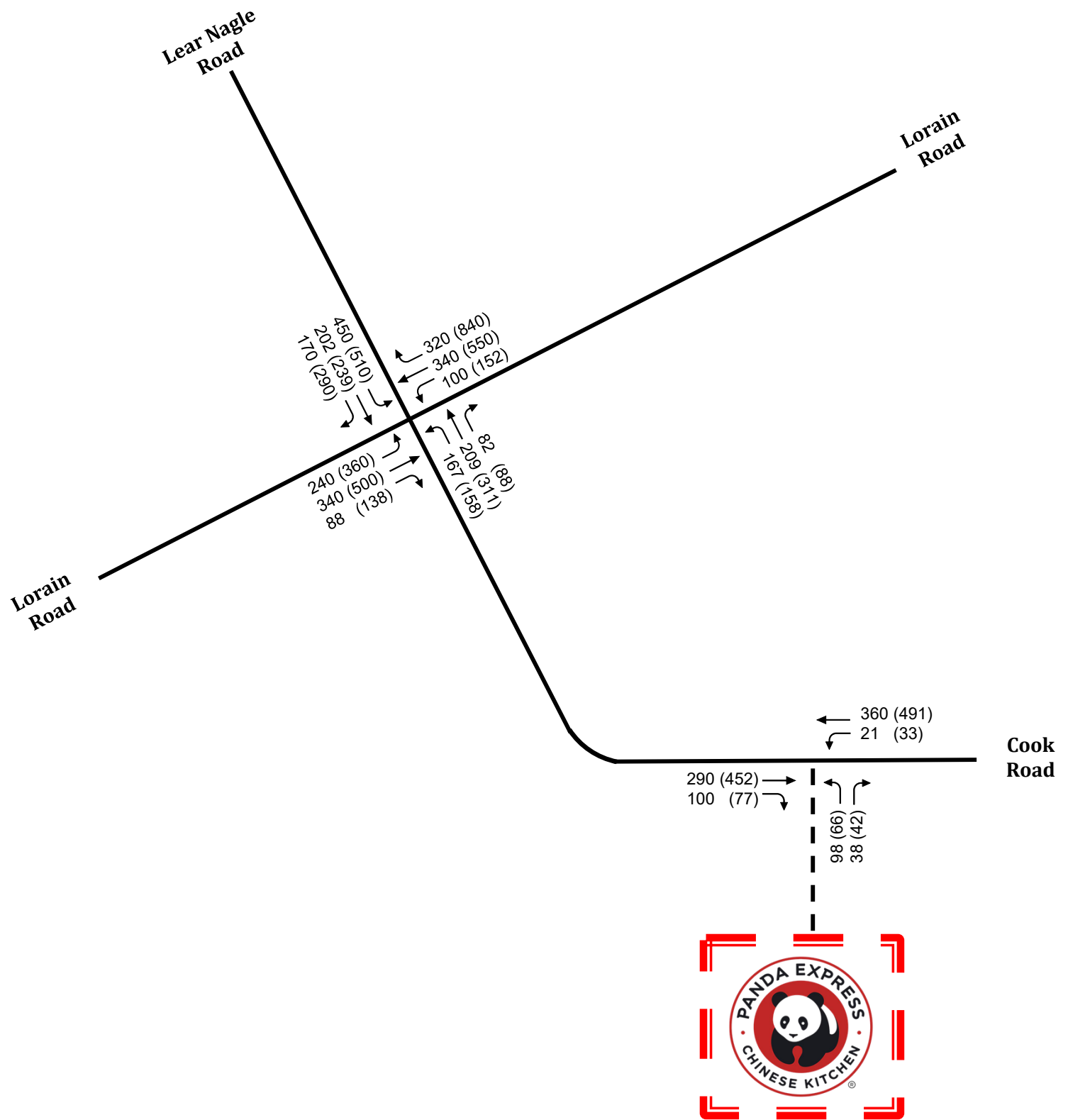
Existing Roadway

- -

Existing Driveway







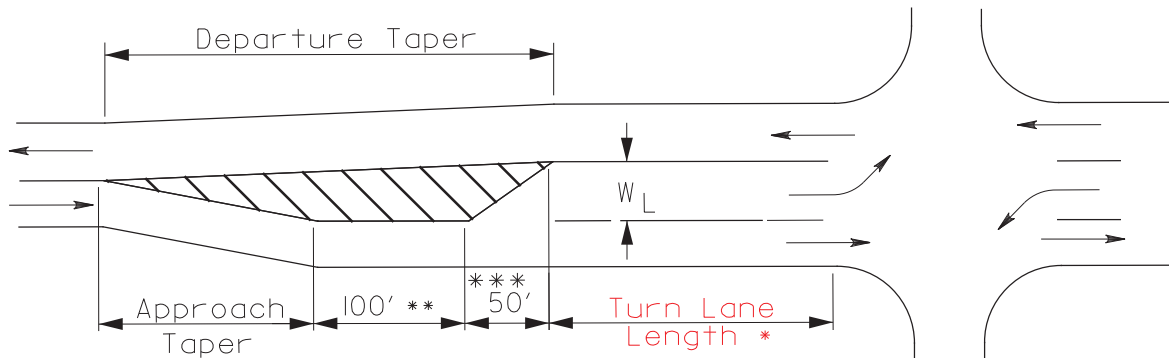
Appendix B

ODOT Turn Lane Design Criteria

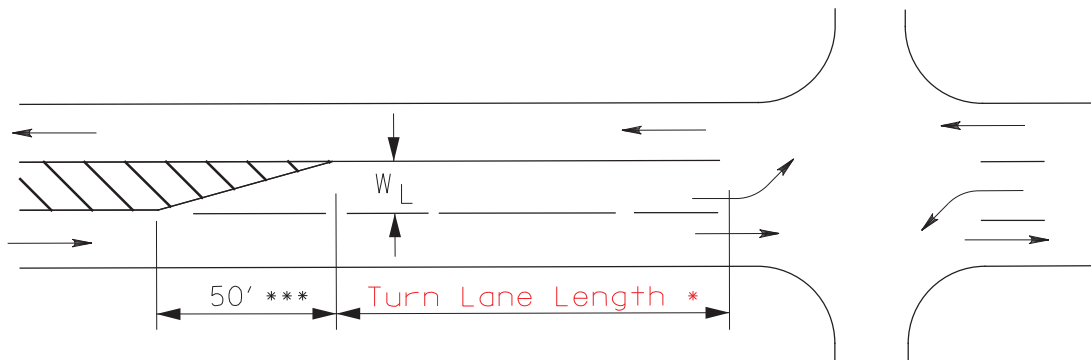
TURNING LANE DESIGN

401-7

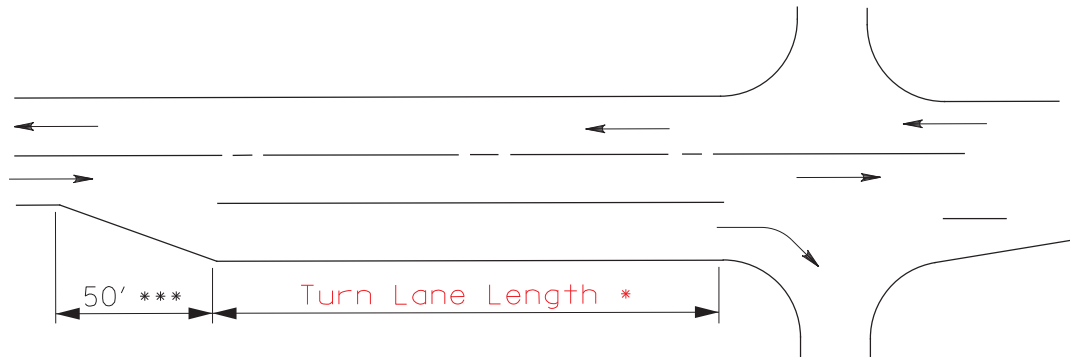
REFERENCE SECTIONS
401.6.1, 401.6.3



LEFT TURN LANE - NO MEDIAN OR MEDIAN WIDTH $< W_L$



LEFT TURN LANE - MEDIAN WIDTH $\geq W_L$



RIGHT TURN LANE

* Turn Lane Length = Queue + Deceleration

See Figures 401-9 and 401-10 to compute turn lane length.

** May be reduced or eliminated in urban areas if intersection spacing or storage is constraining

*** Diverging taper

W_L = Turn Lane Width

January 2025

BASIS FOR COMPUTING LENGTH OF TURN LANES

401-9

REFERENCE SECTIONS
401.6.1 & 401.6.3

Type of Traffic Control	Design Speed		
	30-35	40-65	
	Turn Demand Volume		
	All	Low*	High
Signalized	A	B ** or C	B ** or C
Unsignalized Stopped Crossroad	A	A	A
Unsignalized Through Road	A	B	B ** or C

* Low is considered 10% or less of approach traffic volume

** Whichever is greater

CONDITION A	QUEUE ONLY
Length = Queue Length (Figure 401-10)	

CONDITION B	HIGH SPEED DECELERATION ONLY
Design Speed	Length (feet)
40	75
45	125
50	175
55	250
60	300
65	375

CONDITION C	MODERATE SPEED DECELERATION AND QUEUE
Design Speed	Length (feet)
40	75 + Queue Length (Figure 401-10)
45	75 "
50	100 "
55	125 "
60	150 "
65	175 "

For explanation, see Turn Lane Design Example

QUEUE LENGTH AT INTERSECTIONS

401-10

REFERENCE SECTIONS
401.6.1 & 401.6.3

*Average # of Vehicles/Cycle	Queue Length (feet)
1	50
2	100
3	150
4	175
5	200
6	250
7	275
8	325
9	350
10	375
11	400
12	450
13	475
14	500
15	525
16	550
17	600
18	625
19	650
20	675
21	725
22	750
23	775
24	800
25	825
26	875
27	900
28	925
29	950
30	975

*Average # of Vehicles/Cycle	Queue Length (feet)
31	1025
32	1050
33	1075
34	1100
35	1125
36	1150
37	1175
38	1200
39	1225
40	1250
41	1300
42	1325
43	1350
44	1375
45	1400
46	1450
47	1475
48	1500
49	1525
50	1550
51	1600
52	1625
53	1650
54	1675
55	1700
56	1750
57	1775
58	1800
59	1825
60	1850

NOTE: ADDITIONAL TURN LANE STORAGE MAY BE REQUIRED WHEN THE AVERAGE VEHICLES PER CYCLE ≥ 10 AND THE HEAVY VEHICLES ARE $\geq 10\%$.

$$* \text{ AVERAGE VEHICLES PER CYCLE} = \frac{\text{DHV (TURNING LANE)}}{\text{CYCLES/HOUR}}$$

IF CYCLES ARE UNKNOWN ASSUME:

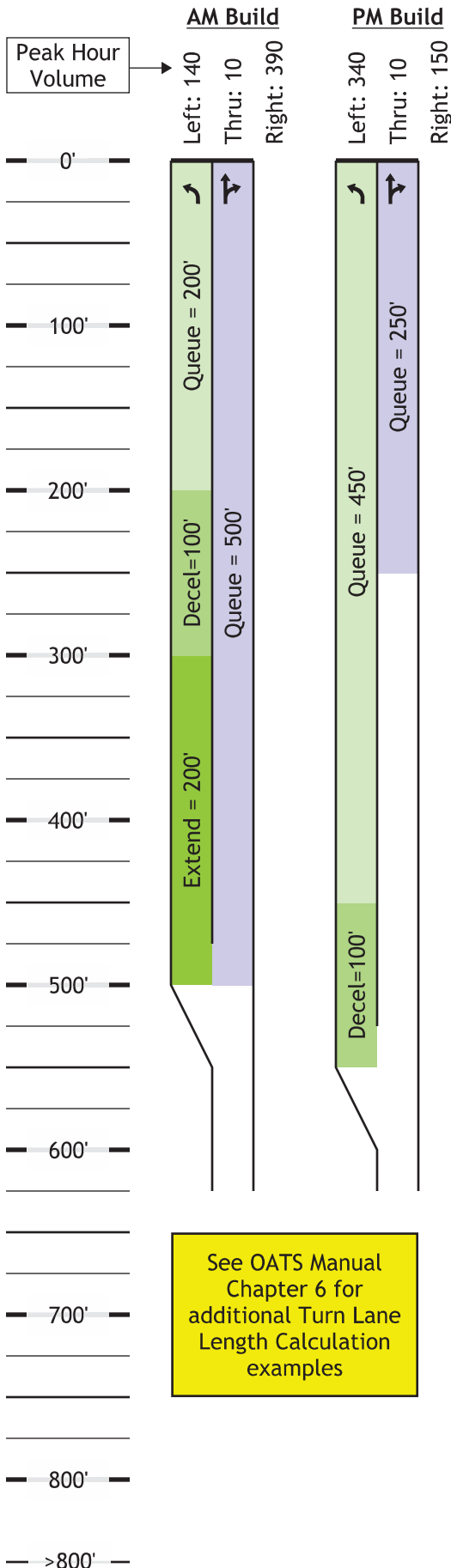
UNSIGNALIZED OR

2 PHASE = 60 CYCLES/HOUR

3 PHASE = 40 CYCLES/HOUR

4 PHASE = 30 CYCLES/HOUR

Required Turn Lane Length Example Using Figures 401-9 and 401-10



Traffic Control: Signalized  Design Speed: 50 mph
Cycle Length(s) = 120s (AM/PM)

Determine Required Turn Lane Length (Queue + Deceleration)

The required turn lane length is being calculated at a signalized intersection with a design speed of 50 mph; therefore, the storage will be based on Figure 401-9 Condition B or Condition C, whichever is greater.

Calculate Required Turn Lane Length for AM Peak Hour

- 1) Condition B = High speed deceleration only = 175 feet
- 2) Condition C = Queue Length (see calculations below) + Moderate Speed Deceleration = 200 feet + 100 feet = 300 feet.
- 3) Determine the left turn queue. Calculate the average number of vehicles per cycle for the turn lane. Round the answer up to the next whole number and determine the queue length per Figure 401-10. This length is shown in figure to the left in green. $[(140 \text{ veh/hr}) \cdot (120 \text{ s/cyc})] / 3600 \text{ s/hr} = 4.7 \text{ veh/cyc} > 5 \text{ veh/cyc} > \underline{200 \text{ feet}}$.
- 4) Determine thru/adjacent lane queue. Calculate the average number of vehicles per cycle for the thru/adjacent lane. Round the answer up to the next whole number and determine the queue length per Figure 401-10. This length is shown in figure to the left in blue. $[(400 \text{ veh/hr}) \cdot (120 \text{ s/cyc})] / 3600 \text{ s/hr} = 13.3 \text{ veh/cyc} > 14 \text{ veh/cyc} > \underline{500 \text{ feet}}$.
- 5) Compare the calculated lengths from Step 3 and Step 4. For this example the thru/adjacent lane queue (500 feet) is longer than the required left turn storage (300 feet); therefore, the left turn lane must be extended an additional 200 feet so left turning vehicles can enter the turn lane without being blocked by the thru/adjacent lane.
- 6) The required turn lane length of the left turn lane for the AM peak hour is **500 feet**.

Calculate Required Turn Lane Length for PM Peak Hour

- 1) Condition B = High speed deceleration only = 175 feet
- 2) Required turn lane storage for Condition C = Queue Length (see calculations below) + Moderate Speed Deceleration = 450 feet + 100 feet = 550 feet.
- 3) Determine the left turn queue. Calculate the average number of vehicles per cycle for the turn lane. Round the answer up to the next whole number and determine the queue length per Figure 401-10. This length is shown in figure to the left in green. $[(340 \text{ veh/hr}) \cdot (120 \text{ s/cyc})] / 3600 \text{ s/hr} = 11.3 \text{ veh/cyc} > 12 \text{ veh/cyc} > \underline{450 \text{ feet}}$.
- 4) Determine thru/adjacent lane queue. Calculate the average number of vehicles per cycle for the thru/adjacent lane. Round the answer up to the next whole number and determine the queue length per Figure 401-10. This length is shown in figure to the left in blue. $[(160 \text{ veh/hr}) \cdot (120 \text{ s/cyc})] / 3600 \text{ s/hr} = 5.3 \text{ veh/cyc} > 6 \text{ veh/cyc} > \underline{250 \text{ feet}}$.
- 5) Compare the calculated lengths from Step 3 and Step 4. For this example the thru/adjacent lane queue (250 feet) is shorter than the required left turn storage (550 feet); therefore, the left turn lane does not need to be extended so left turning vehicles can enter the turn lane without being blocked by the thru/adjacent lane.
- 6) The required turn lane length of the left turn lane for the PM peak hour is **550 feet**.

Determine Required Storage of Turn Lane

- 1) Per the AM and PM peak hour calculations the required turn lane length for the left turn lane is 500 feet and 550 feet, respectively.
- 2) The required turn lane length for the left turn lane is **550 feet**.
- 3) See PM Build figure to the left for the Final Design.

Appendix C

Existing Traffic Signal Timing

DRAWN BY		DATE	APPVD BY	CITY & LOCATION	PAGE NO.
ORIGINAL				North Ridgeville	
REVISED		DF 11-20-08		Lorain & Clear Lake	
INTERSECTION# 01		TIMING PLAN #		BRAND Econ.	MMU
				MODEL: ABL13+2100	(TS1) TS2

CONTROLLER TIMING

PHASE DESCRIPTION			EBLT	WB	WBLT	SB	WBLT	EB	SBLT	NB
INTERVAL			01	02	03	04	05	06	07	08
1	INITIAL / MIN GREEN	0-255	7	20	7	10	7	20	7	10
2	PASSAGE / VEHICLE EXT	0-25.5	2.5	4.0	2.5	4.0	2.5	4.0	2.5	4.0
3	YELLOW	0-25.5	3.2	4.1	3.2	4.1	3.2	4.1	3.2	4.1
4	RED CLEAR	0-25.5	3.2	1.1	2.0	1.3	2.8	1.1	2.0	1.3
5	MAXIMUM 1	0-255	15	36	15	45	15	36	40	40
6	MAXIMUM 2	0-255	15	36	15	45	15	36	40	40
7	ADVANCE WALK	0-255								11
8	WALK	0-255		9						29
9	PED CLEAR	7-255		17				1		
10	MIN. RECALL	0 OR 1		1						
11	MAX. RECALL	0 OR 1								
12	PED RECALL	0 OR 1								
13	NONLOCK	0 OR 1	1	1	1	1	1	1		1
14	CNA 1	0 OR 1		1						
15	CNA 2	0 OR 1								
16	FLASH WALK	0 OR 1								
17	PHASE OMIT	0 OR 1								
18	PED OMIT	0 OR 1								
25	SOFT RECALL	0 OR 1								
26	VOLUME DENSITY ACTIVE	0 OR 1								
27	ADD INITIAL	0-12.7								
28	MAX INITIAL	0-12.7								
29	TIME TO REDUCE	0-12.7								
30	TIME BEFORE REDUCTION	0-12.7								
31	MINIMUM GAP	0-12.7								

SPECIAL FEATURES

- SIGNAL OPERATES IN FREE MODE ☒
- LEADING ARROW BACK-UP PROTECTION ☒
- 28 VOLUME DENSITY ACTIVE ☒
- 29 START PHASE(S) AFTER U.C.F. ☒
- 30 NORMAL START PHASE(S) ☒
- 31 PHASE(S) PRIOR TO U.C.F. ☒
- 95 SIMULTANEOUS GAP ☒
- 96 SEG. TIMING INITIAL & PASSAGE ☒
- HOLD PHASES ☒
- LEFT TURN SIGNALS: EXCLUSIVE CLUSTER ☒

SPEED LIMIT: N.B. 35 S.B. 35 E.B. 35 W.B. 35

OVERLAP PROGRAM

OLA= 7
OLB=
OLC=
OLD=

RECORD OF TRAFFIC SIGNAL OPERATION

FLASH OR MAX II TIMES

none

FLASH OR MAX II DAYS

FLASH COLORS

PHASE 01	PHASE 05
PHASE 02 ☒	PHASE 06 ☒
PHASE 03 ☒	PHASE 07 ☒
PHASE 04 ☒	PHASE 08 ☒

PEDS. N & S O.N.S. ☒ E & W O.N.S. ☒
N & S O.N.W.S. ☒ E & W O.N.S.S. ☒

LOOP DETECTOR DELAYS

EBLT-0	SB-0
WBLT-0	SBLT-0
WB-0	LB-5
EB-0	NBLT-5

Appendix D

Traffic Count Data

VEHICULAR TRAFFIC COUNT SUMMARY

Municipality:	North Ridgerville								At Intersection of:							Lorain Road (SR 10)	and	Lear Nagle Road / Cook Road								
Date:	1/29/2025	Dag:	Wed.						Comments:										Project:							
Weather:	Clear	Recorder(s):			DJ.S & KP.B					Data entry by:					J.U.O	Date entered:					Jan. 30, 2025	24-153 Lorain Rd & Lear Nagle Cook Rdt 01/29/25				

TIME BEGINS	Lear Nagle Rd. FROM NORTH				Cook Rd. FROM SOUTH				TOTAL NORTH SOUTH	Lorain Rd. (SR 10) FROM EAST				Lorain Rd. (SR 10) FROM WEST				TOTAL EAST WEST	TOTAL ALL DIREC.	PEAK HOUR FACTOR											
	Left	Thru	Right	Total	Trk	Bus	Left	Thru	Right	Total	Trk	Bus	Left	Thru	Right	Total	Trk	Bus	North	South	East	West									
06:00																															
07:00	554	220	196	970	8	1	91	162	70	323	8	1	1293	87	246	177	510	19	0	178	407	71	656	33	3	1166	2459	0.955	0.868	0.787	0.948
08:00	438	108	143	689	12	2	114	155	65	334	6	0	1023	59	186	163	408	21	0	200	340	78	618	32	3	1026	2049	0.801	0.971	0.887	0.898
09:00	272	100	97	469	11	0	62	127	46	235	10	0	704	43	173	181	397	41	1	124	277	64	465	34	2	862	1566	0.814	0.805	0.886	0.953
10:00																															
11:00	216	106	108	430	15	3	96	101	53	250	5	0	680	52	207	179	438	20	0	154	199	44	397	13	1	835	1515	0.779	0.762	0.890	0.769
12:00	324	127	134	585	9	2	91	133	42	266	2	2	851	56	257	240	553	23	1	175	249	55	479	29	1	1032	1883	0.897	0.811	0.869	0.936
1:00	342	131	139	612	16	1	60	109	42	211	4	0	823	58	233	226	517	20	0	128	177	37	342	27	2	859	1682	0.944	0.713	0.930	0.743
2:00																															
3:00	307	159	177	643	9	4	98	209	42	349	4	2	992	60	283	375	718	24	0	210	245	93	548	13	4	1266	2258	0.792	0.881	0.859	0.945
4:00	374	192	187	753	9	3	100	175	43	318	3	1	1071	75	435	589	1099	15	0	247	328	88	663	17	1	1762	2833	0.876	0.820	0.883	0.877
5:00	349	150	192	691	3	0	122	235	54	411	2	0	1102	94	349	513	956	4	0	237	330	71	638	15	0	1594	2696	0.890	0.893	0.912	0.802
6:00																															
7:00																															
8:00																															
9:00																															
TOTALS	3176	1293	1373	5842	92	16	834	1406	457	2697	44	6	8539	584	2369	2643	5596	187	2	1653	2552	601	4806	213	17	10402	18941				
ADT	4849	1974	2096	8920		1.8%	1273	2147																							

City: North Ridgeville

Intersection: Lorain Rd & Lear Nagle + Cook Rd

Counter: DJS & KPB

Day of the Week: Wednesday

File Name : Lorain Rd and Lear Nagle Rd + Cook Rd 012925

Site Code : 00000000

Start Date : 1/29/2025

Page No : 1

Groups Printed- Cars - Trucks - Busses																							
LEAR NAGLE ROAD						LORAIN ROAD (SR 10)						COOK ROAD						LORAIN ROAD (SR 10)					
From North						From East						From South						From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total		
07:00 AM	45	57	141	0	243	40	48	11	0	99	24	41	25	0	90	13	107	31	0	151	583		
07:15 AM	49	54	143	0	246	43	58	28	0	129	20	38	22	0	80	21	96	42	0	159	614		
07:30 AM	51	47	156	0	254	50	84	28	0	162	14	48	31	0	93	17	107	49	0	173	682		
07:45 AM	51	62	114	0	227	44	56	20	0	120	12	35	13	0	60	20	97	56	0	173	580		
Total	196	220	554	0	970	177	246	87	0	510	70	162	91	0	323	71	407	178	0	656	2459		
08:00 AM	29	28	94	0	151	51	51	10	0	112	16	44	25	0	85	16	95	61	0	172	520		
08:15 AM	47	29	139	0	215	30	43	20	0	93	17	46	23	0	86	22	78	38	0	138	532		
08:30 AM	36	29	127	0	192	47	53	15	0	115	16	31	35	0	82	25	88	40	0	153	542		
08:45 AM	31	22	78	0	131	35	39	14	0	88	16	34	31	0	81	15	79	61	0	155	455		
Total	143	108	438	0	689	163	186	59	0	408	65	155	114	0	334	78	340	200	0	618	2049		
09:00 AM	34	28	82	0	144	46	38	15	0	99	7	33	15	0	55	13	68	32	0	113	411		
09:15 AM	25	24	69	0	118	37	35	9	0	81	9	27	19	0	55	14	69	31	0	114	368		
09:30 AM	20	20	55	0	95	55	51	6	0	112	18	39	16	1	74	7	76	33	0	116	397		
09:45 AM	18	28	66	0	112	43	49	13	0	105	12	28	12	0	52	30	64	28	0	122	391		
Total	97	100	272	0	469	181	173	43	0	397	46	127	62	1	236	64	277	124	0	465	1567		
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

File Name : Lorain Rd and Lear Nagle Rd + Cook Rd 012925
Site Code : 00000000
Start Date : 1/29/2025
Page No : 2

Groups Printed- Cars - Trucks - Busses

Start Time	LEAR NAGLE ROAD From North						LORAIN ROAD (SR 10) From East						COOK ROAD From South						LORAIN ROAD (SR 10) From West					
	Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total	Int. Total
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	25	26	52	0	103		43	52	14	0	109		9	19	18	0	46		12	38	28	0	78	336
11:15 AM	31	21	49	0	101		50	50	15	0	115		18	27	31	0	76		13	53	31	0	97	389
11:30 AM	25	24	39	0	88		28	54	9	0	91		11	24	11	0	46		5	42	46	0	93	318
11:45 AM	27	35	76	0	138		58	51	14	0	123		15	31	36	0	82		14	66	49	0	129	472
Total	108	106	216	0	430		179	207	52	0	438		53	101	96	0	250		44	199	154	0	397	1515
12:00 PM	30	33	72	0	135		53	66	15	0	134		9	44	29	0	82		13	60	44	0	117	468
12:15 PM	34	31	98	0	163		52	65	20	0	137		13	26	28	0	67		15	58	46	0	119	486
12:30 PM	36	35	92	0	163		74	75	10	0	159		8	40	19	0	67		13	74	41	0	128	517
12:45 PM	34	28	62	0	124		61	51	11	0	123		12	23	15	0	50		14	57	44	0	115	412
Total	134	127	324	0	585		240	257	56	0	553		42	133	91	0	266		55	249	175	0	479	1883
01:00 PM	33	30	84	0	147		64	61	14	1	140		9	30	21	0	60		14	50	32	0	96	443
01:15 PM	30	34	78	0	142		47	51	9	1	108		18	26	16	0	60		9	55	51	0	115	425
01:30 PM	41	25	96	1	163		61	58	18	0	137		13	42	19	0	74		10	54	33	0	97	471
01:45 PM	35	42	84	0	161		54	63	17	0	134		2	11	4	0	17		4	18	12	0	34	346
Total	139	131	342	1	613		226	233	58	2	519		42	109	60	0	211		37	177	128	0	342	1685
02:00 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0
02:15 PM	0	0	0	1	1		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	1
02:30 PM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0

File Name : Lorain Rd and Lear Nagle Rd + Cook Rd 012925
Site Code : 00000000
Start Date : 1/29/2025
Page No : 3

Groups Printed- Cars - Trucks - Busses

	LEAR NAGLE ROAD From North					LORAIN ROAD (SR 10) From East					COOK ROAD From South					LORAIN ROAD (SR 10) From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00 PM	47	40	83	0	170	90	54	13	0	157	8	40	19	0	67	21	58	49	1	129	523
03:15 PM	59	52	92	0	203	108	84	17	1	210	11	51	35	0	97	26	60	54	0	140	650
03:30 PM	37	31	69	0	137	96	70	17	0	183	12	64	23	0	99	26	59	60	0	145	564
03:45 PM	34	36	63	0	133	81	75	13	0	169	11	54	21	0	86	20	68	47	0	135	523
Total	177	159	307	0	643	375	283	60	1	719	42	209	98	0	349	93	245	210	1	549	2260
04:00 PM	38	45	99	0	182	97	74	8	0	179	6	40	29	0	75	18	78	61	0	157	593
04:15 PM	44	43	84	0	171	137	131	15	0	283	8	38	23	0	69	22	70	55	0	147	670
04:30 PM	52	60	103	0	215	178	113	24	0	315	12	41	24	0	77	28	98	63	0	189	796
04:45 PM	53	44	88	0	185	177	117	28	0	322	17	56	24	0	97	20	82	68	0	170	774
Total	187	192	374	0	753	589	435	75	0	1099	43	175	100	0	318	88	328	247	0	663	2833
05:00 PM	58	34	102	0	194	130	96	20	0	246	13	70	29	0	112	26	111	62	0	199	751
05:15 PM	53	36	92	0	181	143	88	31	0	262	19	61	35	0	115	21	84	80	0	185	743
05:30 PM	45	47	87	0	179	130	83	26	0	239	10	51	33	0	94	12	72	57	0	141	653
05:45 PM	36	33	68	0	137	110	82	17	0	209	12	53	25	0	90	12	63	38	0	113	549
Total	192	150	349	0	691	513	349	94	0	956	54	235	122	0	411	71	330	237	0	638	2696
Grand Total	1373	1293	3176	2	5844	2643	2369	584	3	5599	457	1406	834	1	2698	601	2552	1653	1	4807	18948
Approch %	23.5	22.1	54.3	0		47.2	42.3	10.4	0.1		16.9	52.1	30.9	0		12.5	53.1	34.4	0		
Total %	7.2	6.8	16.8	0	30.8	13.9	12.5	3.1	0	29.5	2.4	7.4	4.4	0	14.2	3.2	13.5	8.7	0	25.4	
Cars	1333	1277	3124	2	5736	2598	2238	571	3	5410	444	1382	821	1	2648	587	2391	1598	1	4577	18371
% Cars	97.1	98.8	98.4	100	98.2	98.3	94.5	97.8	100	96.6	97.2	98.3	98.4	100	98.1	97.7	93.7	96.7	100	95.2	97
Trucks	31	11	50	0	92	44	130	13	0	187	12	20	12	0	44	13	158	42	0	213	536
% Trucks	2.3	0.9	1.6	0	1.6	1.7	5.5	2.2	0	3.3	2.6	1.4	1.4	0	1.6	2.2	6.2	2.5	0	4.4	2.8
Busses	9	5	2	0	16	1	1	0	0	2	1	4	1	0	6	1	3	13	0	17	41

TMS Engineers, Inc.

2112 Case Pkwy. S. #7
Twinsburg, Ohio 44087

Transportation Management Services

% Busses	0.7	0.4	0.1	0	0.3	0	0	0	0	0	0.2	0.3	0.1	0.8	0	0.4	0.2
----------	-----	-----	-----	---	-----	---	---	---	---	---	-----	-----	-----	-----	---	-----	-----

	LEAR NAGLE ROAD From North						LORAIN ROAD (SR 10) From East						COOK ROAD From South						LORAIN ROAD (SR 10) From West					
Start Time	Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total		
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																								
Peak Hour for Entire Intersection Begins at 07:00 AM																								
07:00 AM	45	57	141	0	243		40	48	11	0	99	24	41	25	0	90	13	107	31	0	151	583		
07:15 AM	49	54	143	0	246		43	58	28	0	129	20	38	22	0	80	21	96	42	0	159	614		
07:30 AM	51	47	156	0	254		50	84	28	0	162	14	48	31	0	93	17	107	49	0	173	682		
07:45 AM	51	62	114	0	227		44	56	20	0	120	12	35	13	0	60	20	97	56	0	173	580		
Total Volume	196	220	554	0	970		177	246	87	0	510	70	162	91	0	323	71	407	178	0	656	2459		
% App. Total	20.2	22.7	57.1	0			34.7	48.2	17.1	0		21.7	50.2	28.2	0		10.8	62	27.1	0				
PHF	.961	.887	.888	.000	.955		.885	.732	.777	.000	.787	.729	.844	.734	.000	.868	.845	.951	.795	.000	.948	.901		
Cars	195	217	549	0	961		175	231	85	0	491	67	159	88	0	314	70	381	169	0	620	2386		
% Cars	99.5	98.6	99.1	0	99.1		98.9	93.9	97.7	0	96.3	95.7	98.1	96.7	0	97.2	98.6	93.6	94.9	0	94.5	97.0		
Trucks	1	2	5	0	8		2	15	2	0	19	3	2	3	0	8	1	26	6	0	33	68		
% Trucks	0.5	0.9	0.9	0	0.8		1.1	6.1	2.3	0	3.7	4.3	1.2	3.3	0	2.5	1.4	6.4	3.4	0	5.0	2.8		
Busses	0	1	0	0	1		0	0	0	0	0	0	1	0	0	1	0	0	3	0	3	5		
% Busses	0	0.5	0	0	0.1		0	0	0	0	0	0	0.6	0	0	0.3	0	0	1.7	0	0.5	0.2		

Peak Hour Analysis From 11:45 AM to 12:30 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 11:45 AM

11:45 AM	27	35	76	0	138	58	51	14	0	123	15	31	36	0	82	14	66	49	0	129	472
12:00 PM	30	33	72	0	135	53	66	15	0	134	9	44	29	0	82	13	60	44	0	117	468
12:15 PM	34	31	98	0	163	52	65	20	0	137	13	26	28	0	67	15	58	46	0	119	486
12:30 PM	36	35	92	0	163	74	75	10	0	159	8	40	19	0	67	13	74	41	0	128	517
Total Volume	127	134	338	0	599	237	257	59	0	553	45	141	112	0	298	55	258	180	0	493	1943
% App. Total	21.2	22.4	56.4	0		42.9	46.5	10.7	0		15.1	47.3	37.6	0		11.2	52.3	36.5	0		
PHF	.882	.957	.862	.000	.919	.801	.857	.738	.000	.869	.750	.801	.778	.000	.909	.917	.872	.918	.000	.955	.940
Cars	120	131	333	0	584	233	245	58	0	536	44	139	110	0	293	54	241	174	0	469	1882
% Cars	94.5	97.8	98.5	0	97.5	98.3	95.3	98.3	0	96.9	97.8	98.6	98.2	0	98.3	98.2	93.4	96.7	0	95.1	96.9
Trucks	5	2	5	0	12	3	12	1	0	16	1	2	1	0	4	1	17	4	0	22	54
% Trucks	3.9	1.5	1.5	0	2.0	1.3	4.7	1.7	0	2.9	2.2	1.4	0.9	0	1.3	1.8	6.6	2.2	0	4.5	2.8
Busses	2	1	0	0	3	1	0	0	0	1	0	0	1	0	1	0	0	2	0	2	7
% Busses	1.6	0.7	0	0	0.5	0.4	0	0	0	0.2	0	0	0.9	0	0.3	0	0	1.1	0	0.4	0.4

File Name : Lorain Rd and Lear Nagle Rd + Cook Rd 012925
Site Code : 00000000
Start Date : 1/29/2025
Page No : 5

	LEAR NAGLE ROAD						LORAIN ROAD (SR 10)						COOK ROAD						LORAIN ROAD (SR 10)					
	From North						From East						From South						From West					
Start Time	Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																								
Peak Hour for Entire Intersection Begins at 04:30 PM																								
04:30 PM	52	60	103	0	215		178	113	24	0	315		12	41	24	0	77		28	98	63	0	189	796
04:45 PM	53	44	88	0	185		177	117	28	0	322		17	56	24	0	97		20	82	68	0	170	774
05:00 PM	58	34	102	0	194		130	96	20	0	246		13	70	29	0	112		26	111	62	0	199	751
05:15 PM	53	36	92	0	181		143	88	31	0	262		19	61	35	0	115		21	84	80	0	185	743
Total Volume	216	174	385	0	775		628	414	103	0	1145		61	228	112	0	401		95	375	273	0	743	3064
% App. Total	27.9	22.5	49.7	0			54.8	36.2	9	0			15.2	56.9	27.9	0			12.8	50.5	36.7	0		
PHF	.931	.725	.934	.000	.901		.882	.885	.831	.000	.889		.803	.814	.800	.000	.872		.848	.845	.853	.000	.933	.962
Cars	214	173	380	0	767		626	407	102	0	1135		61	226	111	0	398		94	365	268	0	727	3027
% Cars	99.1	99.4	98.7	0	99.0		99.7	98.3	99.0	0	99.1		100	99.1	99.1	0	99.3		98.9	97.3	98.2	0	97.8	98.8
Trucks	1	0	4	0	5		2	7	1	0	10		0	1	1	0	2		1	10	5	0	16	33
% Trucks	0.5	0	1.0	0	0.6		0.3	1.7	1.0	0	0.9		0	0.4	0.9	0	0.5		1.1	2.7	1.8	0	2.2	1.1
Busses	1	1	1	0	3		0	0	0	0	0		0	1	0	0	1		0	0	0	0	0	4
% Busses	0.5	0.6	0.3	0	0.4		0	0	0	0	0		0	0.4	0	0	0.2		0	0	0	0	0	0.1

VEHICULAR TRAFFIC COUNT SUMMARY

Municipality: North Ridgeville At Intersection of: Cook Road and Starbuck's
 Date: 1/30/2025 Day: Thu. Comments: _____ Project: 24-153
 Weather: Clear Recorder(s): DJS Date entry by: JUO Date entered: Jan. 31, 2025 Cook Rd. & Starbuck's 01/30/25

TIME BEGIN	FROM NORTH						Starbuck's FROM SOUTH						TOTAL NORTH SOUTH	Cook Rd. FROM EAST						Cook Rd. FROM WEST						TOTAL EAST WEST	TOTAL ALL DIREC.	PEAK HOUR FACTOR					
	Left	Thru	Right	Total	Trk	Bus	Left	Thru	Right	Total	Trk	Bus		Left	Thru	Right	Total	Trk	Bus	North	South	East	West										
06:00																																	
07:00							105	0	45	150	0	0	150	26	250	0	276	2	0	0	206	103	309	7	0	585	735	0.000	0.815	0.841	0.743		
08:00							87	0	42	129	0	0	129	23	263	0	286	5	1	0	224	100	324	2	1	610	739	0.000	0.827	0.917	0.942		
09:00							56	0	15	71	1	0	71	12	165	0	177	7	0	0	154	66	220	8	0	397	468	0.000	0.710	0.763	0.932		
10:00																																	
11:00							40	0	15	55	0	0	55	9	245	0	254	2	0	0	161	51	212	4	0	466	521	0.000	0.764	0.934	0.981		
12:00							34	0	27	61	0	0	61	7	310	0	317	3	0	0	227	37	264	4	0	581	642	0.000	0.663	0.932	0.880		
1:00							34	0	17	51	0	0	51	18	266	0	284	6	0	0	224	35	259	4	0	543	594	0.000	0.797	0.910	0.925		
2:00																																	
3:00							36	0	23	59	0	0	59	15	289	0	304	3	2	0	274	45	319	5	1	623	682	0.000	0.819	0.916	0.732		
4:00							31	0	18	49	0	0	49	8	372	0	380	3	1	0	332	39	371	1	1	751	800	0.000	0.817	0.779	0.918		
5:00							21	0	10	31	0	0	31	4	398	0	402	4	0	0	310	30	340	1	0	742	773	0.000	0.861	0.859	0.833		
6:00																																	
7:00																																	
8:00																																	
9:00																																	
TOTALS							444	0	212	656	1	0	656	122	2558	0	2680	35	4	0	2112	506	2618	36	3	5298	5954						
ADT							613	0	293	906	0.2%		906	165	3458	0	3623	1.5%	0	2855	684	3539	1.5%		7162	8068							

N Log Hourly Factor:	0.00	E Log Hourly Factor:	1.54	N Log Combined Factor:	1.38	E Log Combined Factor:	1.35
S Log Hourly Factor:	1.57	W Log Hourly Factor:	1.54	S Log Combined Factor:	1.38	W Log Combined Factor:	1.35
E Log Monthly Factor:	0.00	E Log Monthly Factor:	0.88				
S Log Monthly Factor:	0.88	W Log Monthly Factor:	0.88				

TMS ENGINEERS, INC.

2112 Case Parkway South #7

Twinsburg, Ohio 44037

(330) 686-6402 FAX: (330) 686-6417

Figure #:

Page #:

City: North Ridgeville

Intersection: Cook Rd & Starbucks's

Counter: DJS

Day of the Week: Thursday

File Name : TC 2 Cook Rd and Starbuck Driveway 013025

Site Code : 00000000

Start Date : 1/30/2025

Page No : 1

Groups Printed- Cars - Trucks - Buses

	STARBUCK DRIVEWAY From North						COOK ROAD From East						STARBUCK DRIVEWAY From South						COOK ROAD From West						
Start Time	Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Right	Thru	Left	Peds	App. Total		Int. Total
07:00 AM	0	0	0	0	0		0	52	3	0	55		7	0	23	0	30		21	40	0	0	61		146
07:15 AM	0	0	0	0	0		0	68	6	0	74		9	0	27	0	36		26	39	0	0	65		175
07:30 AM	0	0	0	0	0		0	71	11	0	82		17	0	21	0	38		31	73	0	1	105		225
07:45 AM	0	0	0	0	0		0	59	6	0	65		12	0	34	0	46		25	54	0	0	79		190
Total	0	0	0	0	0		0	250	26	0	276		45	0	105	0	150		103	206	0	1	310		736
08:00 AM	0	0	0	0	0		0	70	8	0	78		9	0	19	0	28		23	63	0	0	86		192
08:15 AM	0	0	0	0	0		0	63	6	0	69		11	0	17	0	28		32	51	0	0	83		180
08:30 AM	0	0	0	0	0		0	74	4	0	78		11	0	28	0	39		26	53	0	0	79		196
08:45 AM	0	0	0	0	0		0	56	5	0	61		11	0	23	0	34		19	57	0	0	76		171
Total	0	0	0	0	0		0	263	23	0	286		42	0	87	0	129		100	224	0	0	324		739
09:00 AM	0	0	0	0	0		0	57	1	0	58		2	0	16	0	18		17	42	0	0	59		135
09:15 AM	0	0	0	0	0		0	44	6	0	50		4	0	9	0	13		16	38	0	0	54		117
09:30 AM	0	0	0	0	0		0	33	2	0	35		5	0	20	0	25		19	39	0	0	58		118
09:45 AM	0	0	0	0	0		0	31	3	0	34		4	0	11	0	15		14	35	0	0	49		98
Total	0	0	0	0	0		0	165	12	0	177		15	0	56	0	71		66	154	0	0	220		468
10:00 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0
10:15 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0
10:30 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0

File Name : TC 2 Cook Rd and Starbuck Driveway 013025
Site Code : 00000000
Start Date : 1/30/2025
Page No : 2

Groups Printed- Cars - Trucks - Buses																							
STARBUCK DRIVEWAY From North						COOK ROAD From East						STARBUCK DRIVEWAY From South						COOK ROAD From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total		
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:00 AM	0	0	0	0	0	0	64	4	0	68	4	0	14	0	18	12	42	0	0	54	140		
11:15 AM	0	0	0	0	0	0	61	0	0	61	1	0	8	0	9	16	35	0	0	51	121		
11:30 AM	0	0	0	0	0	0	56	1	0	57	5	0	9	0	14	10	44	0	0	54	125		
11:45 AM	0	0	0	0	0	0	64	4	0	68	5	0	9	0	14	13	40	0	0	53	135		
Total	0	0	0	0	0	0	245	9	0	254	15	0	40	0	55	51	161	0	0	212	521		
12:00 PM	0	0	0	0	0	0	85	0	0	85	13	0	10	0	23	11	53	0	0	64	172		
12:15 PM	0	0	0	0	0	0	81	0	0	81	5	0	9	0	14	12	63	0	0	75	170		
12:30 PM	0	0	0	0	0	0	78	4	0	82	6	0	8	0	14	6	52	0	0	58	154		
12:45 PM	0	0	0	0	0	0	66	3	0	69	3	0	7	0	10	8	59	0	0	67	146		
Total	0	0	0	0	0	0	310	7	0	317	27	0	34	0	61	37	227	0	0	264	642		
01:00 PM	0	0	0	0	0	0	64	5	0	69	2	0	9	0	11	13	57	0	0	70	150		
01:15 PM	0	0	0	0	0	0	64	3	0	67	3	0	7	0	10	5	55	0	0	60	137		
01:30 PM	0	0	0	0	0	0	74	4	0	78	4	0	12	0	16	9	53	0	2	64	158		
01:45 PM	0	0	0	0	0	0	64	6	0	70	8	0	6	0	14	8	59	0	0	67	151		
Total	0	0	0	0	0	0	266	18	0	284	17	0	34	0	51	35	224	0	2	261	596		
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

File Name : TC 2 Cook Rd and Starbuck Driveway 013025
Site Code : 00000000
Start Date : 1/30/2025
Page No : 3

Groups Printed- Cars - Trucks - Buses																							
STARBUCK DRIVEWAY From North						COOK ROAD From East						STARBUCK DRIVEWAY From South						COOK ROAD From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total		
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
03:00 PM	0	0	0	0	0	0	68	5	0	73	5	0	13	0	18	10	47	0	0	57	148		
03:15 PM	0	0	0	0	0	0	72	0	0	72	6	0	6	0	12	9	51	0	0	60	144		
03:30 PM	0	0	0	0	0	0	74	9	0	83	7	0	8	0	15	14	79	0	0	93	191		
03:45 PM	0	0	0	0	0	0	75	1	0	76	5	0	9	0	14	12	97	0	0	109	199		
Total	0	0	0	0	0	0	289	15	0	304	23	0	36	0	59	45	274	0	0	319	682		
04:00 PM	0	0	0	0	0	0	99	0	0	99	3	0	11	0	14	16	81	0	0	97	210		
04:15 PM	0	0	0	0	0	0	83	4	0	87	5	0	10	0	15	9	74	0	0	83	185		
04:30 PM	0	0	0	0	0	0	69	3	0	72	4	0	4	0	8	4	97	0	0	101	181		
04:45 PM	0	0	0	0	0	0	121	1	0	122	6	0	6	0	12	10	80	0	0	90	224		
Total	0	0	0	0	0	0	372	8	0	380	18	0	31	0	49	39	332	0	0	371	800		
05:00 PM	0	0	0	0	0	0	93	1	0	94	4	0	2	0	6	7	89	0	0	96	196		
05:15 PM	0	0	0	0	0	0	101	2	0	103	5	0	4	0	9	7	95	0	0	102	214		
05:30 PM	0	0	0	0	0	0	88	0	0	88	1	0	8	0	9	9	75	0	0	84	181		
05:45 PM	0	0	0	0	0	0	116	1	0	117	0	0	7	0	7	7	51	0	0	58	182		
Total	0	0	0	0	0	0	398	4	0	402	10	0	21	0	31	30	310	0	0	340	773		
Grand Total	0	0	0	0	0	0	2558	122	0	2680	212	0	444	0	656	506	2112	0	3	2621	5957		
Approch %	0	0	0	0	0	0	95.4	4.6	0	98.5	32.3	0	67.7	0	99.8	19.3	80.6	0	0.1	98.5	98.7		
Total %	0	0	0	0	0	0	42.9	2	0	45	3.6	0	7.5	0	11	8.5	35.5	0	0.1	44			
Cars	0	0	0	0	0	0	2519	122	0	2641	211	0	444	0	655	504	2075	0	3	2582	5878		
% Cars	0	0	0	0	0	0	98.5	100	0	98.5	99.5	0	100	0	99.8	99.6	98.2	0	100	98.5	98.7		
Trucks	0	0	0	0	0	0	35	0	0	35	1	0	0	0	1	2	34	0	0	36	72		
% Trucks	0	0	0	0	0	0	1.4	0	0	1.3	0.5	0	0	0	0.2	0.4	1.6	0	0	1.4	1.2		
Buses	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	7		

Page 128 of 209

File Name : TC 2 Cook Rd and Starbuck Driveway 013025
Site Code : 00000000
Start Date : 1/30/2025
Page No : 5

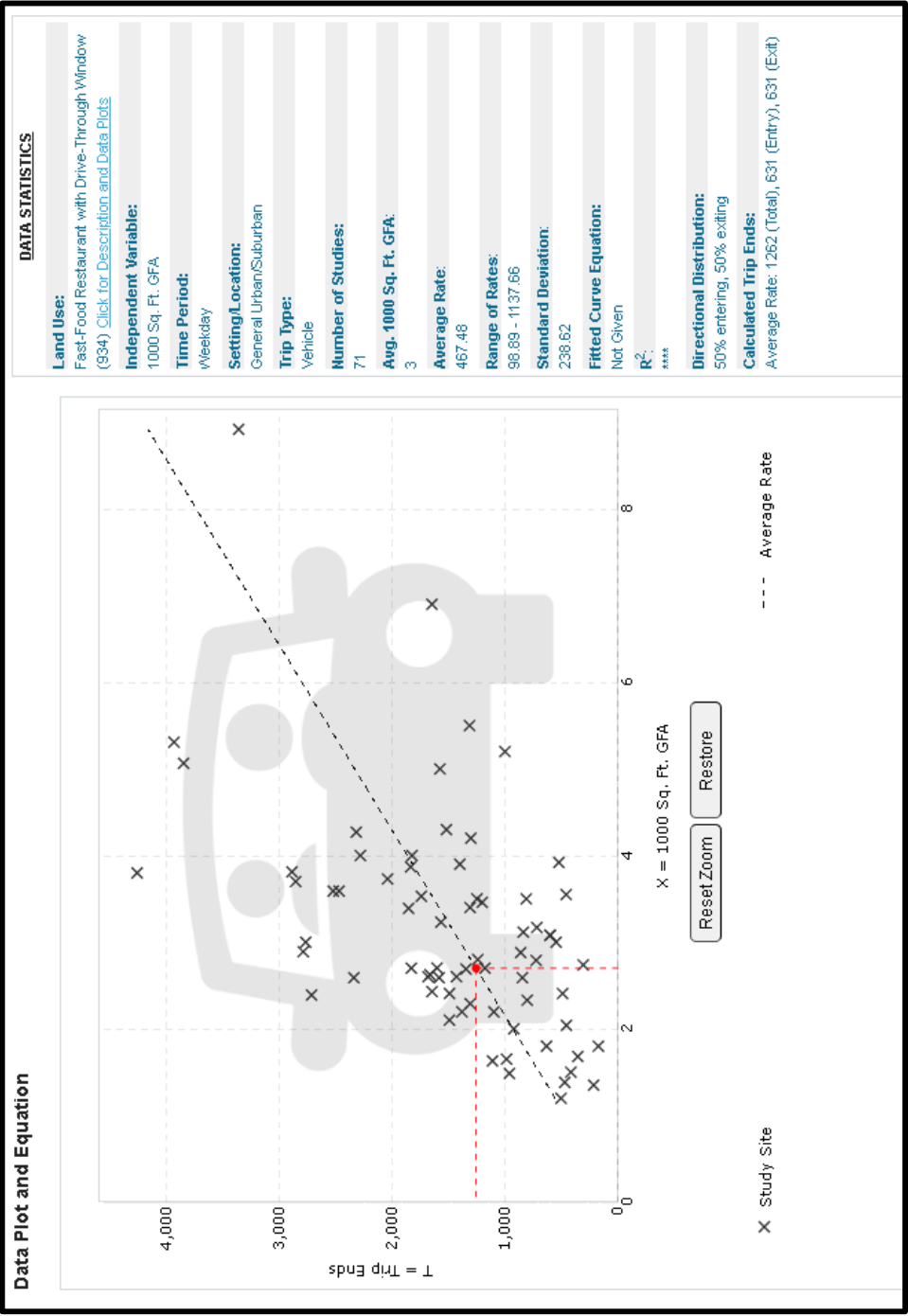
	STARBUCK DRIVEWAY From North					COOK ROAD From East					STARBUCK DRIVEWAY From South					COOK ROAD From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	0	69	3	0	72	4	0	4	0	8	4	97	0	0	101	181
04:45 PM	0	0	0	0	0	0	121	1	0	122	6	0	6	0	12	10	80	0	0	90	224
05:00 PM	0	0	0	0	0	0	93	1	0	94	4	0	2	0	6	7	89	0	0	96	196
05:15 PM	0	0	0	0	0	0	101	2	0	103	5	0	4	0	9	7	95	0	0	102	214
Total Volume	0	0	0	0	0	0	384	7	0	391	19	0	16	0	35	28	361	0	0	389	815
% App. Total	0	0	0	0	0	0	98.2	1.8	0		54.3	0	45.7	0		7.2	92.8	0	0		
PHF	.000	.000	.000	.000	.000	.000	.793	.583	.000	.801	.792	.000	.667	.000	.729	.700	.930	.000	.000	.953	.910
Cars	0	0	0	0	0	0	378	7	0	385	19	0	16	0	35	28	358	0	0	386	806
% Cars	0	0	0	0	0	0	98.4	100	0	98.5	100	0	100	0	100	100	99.2	0	0	99.2	98.9
Trucks	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	7
% Trucks	0	0	0	0	0	0	1.3	0	0	1.3	0	0	0	0	0	0	0.6	0	0	0.5	0.9
Buses	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
% Buses	0	0	0	0	0	0	0.3	0	0	0.3	0	0	0	0	0	0	0.3	0	0	0.3	0.2

Appendix E

Trip Generation Data

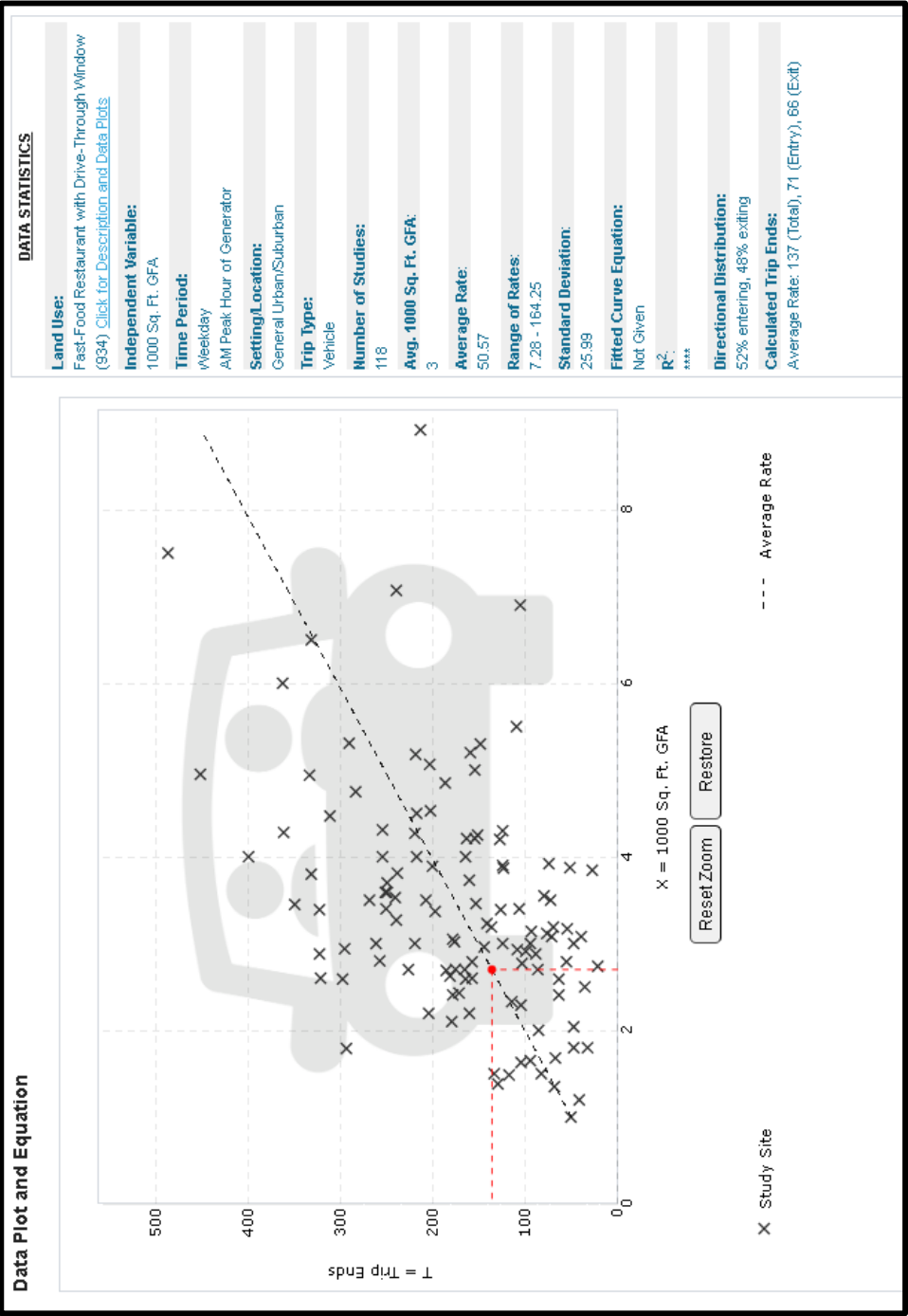
Fast Food Restaurant with Drive-Through Window
ITE Code #934
Size: 2,700 SQFT

WEEKDAY
Weekday



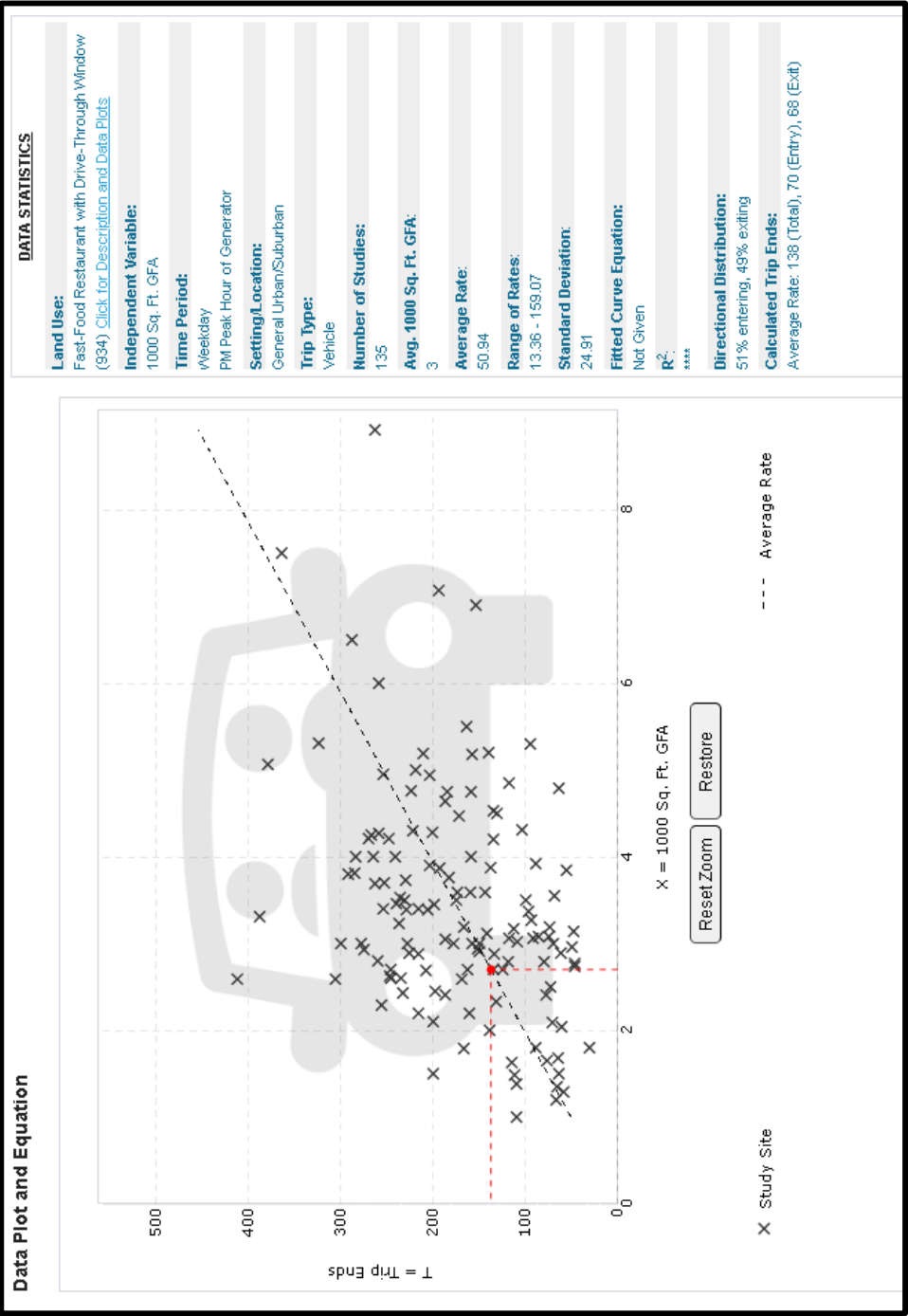
Fast Food Restaurant with Drive-Through Window
ITE Code #934
Size: 2,700 SQFT

WEEKDAY
AM Peak Hour of Generator



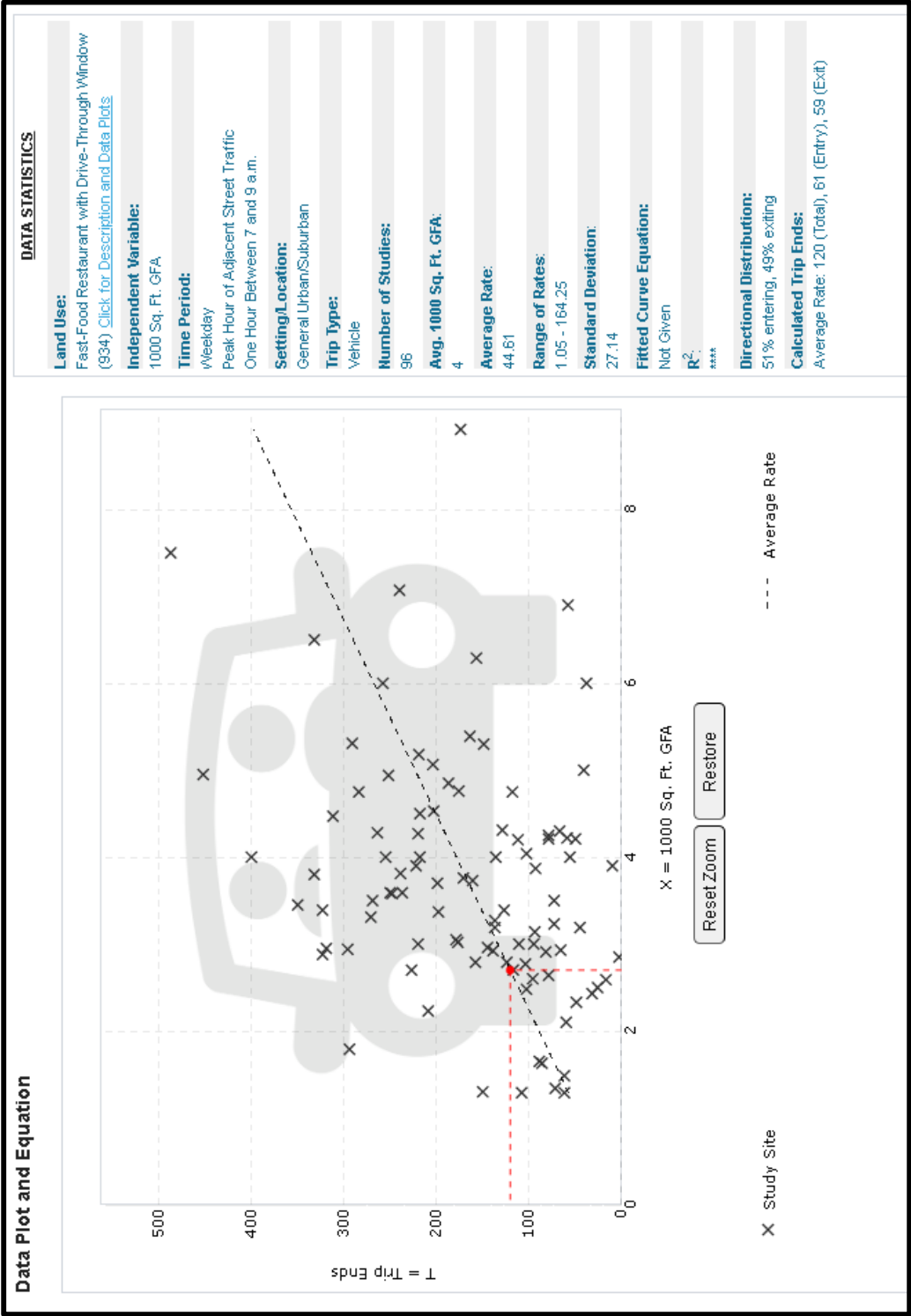
Fast Food Restaurant with Drive-Through Window
ITE Code #934
Size: 2,700 SQFT

WEEKDAY
PM Peak Hour of Generator



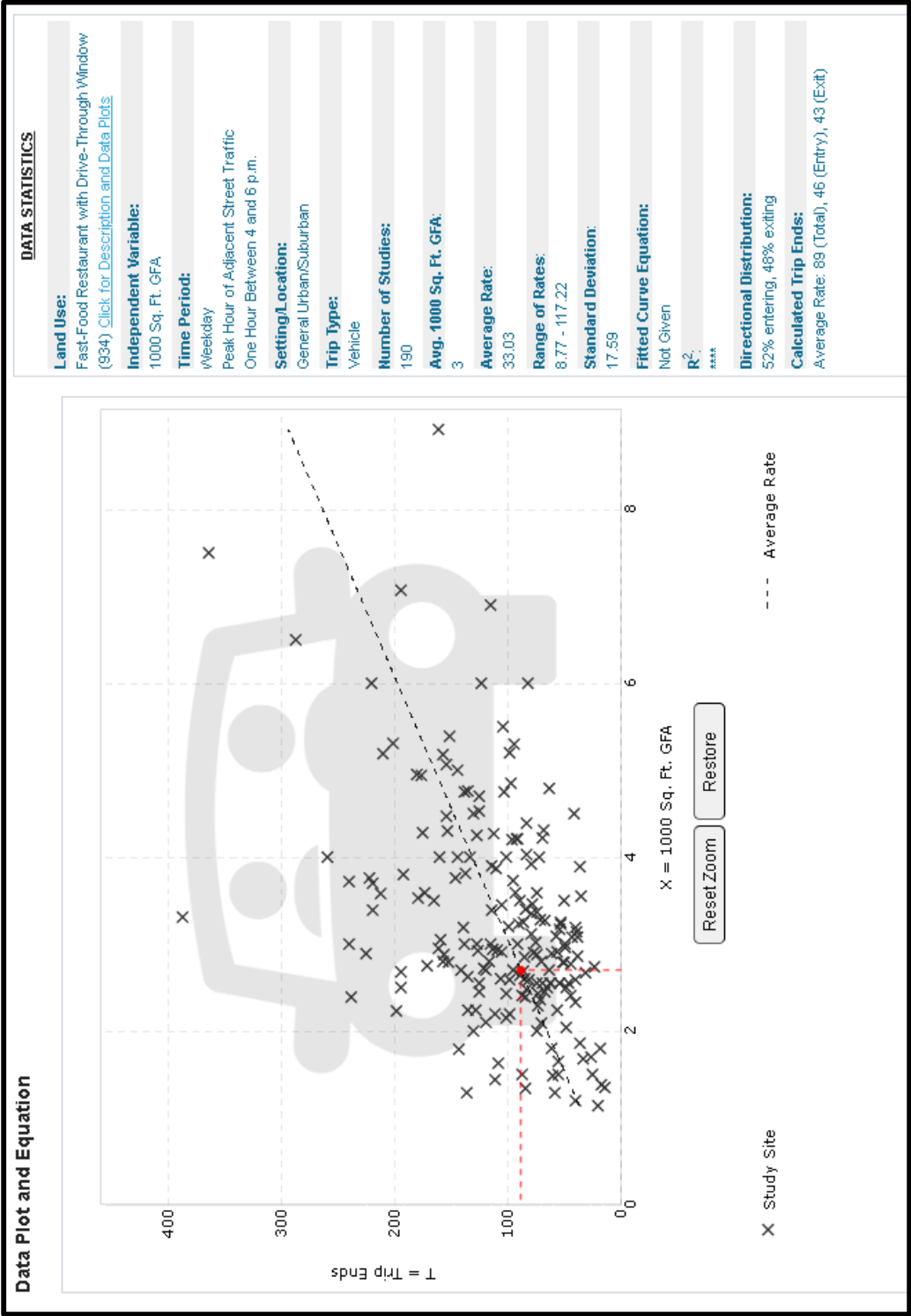
Fast Food Restaurant with Drive-Through Window
ITE Code #934
Size: 2,700 SQFT

WEEKDAY
Peak Hour of Adjacent Street Traffic: 7-9 AM



Fast Food Restaurant with Drive-Through Window
ITE Code #934
Size: 2,700 SQFT

WEEKDAY
Peak Hour of Adjacent Street Traffic: 4-6 PM



Vehicle Pass-By Rates by Land Use

Source: ITE *Trip Generation Manual*, 11th Edition

934
Fast-Food Restaurant with Drive-Through Window

General Urban/Suburban

Weekday PM Peak Period

11

55%

Pass-By Characteristics for Individual Sites

GFA (000)	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
					Primary (%)	Diverted (%)	Total (%)		
1.3	Kentucky	1993	—	68	22	10	32	2055	2
1.9	Kentucky	1993	33	67	24	9	33	2447	2
2.8	Florida	1995	47	66	—	—	34	—	30
2.9	Florida	1996	271	41	41	18	59	—	30
3	Kentucky	1993	—	31	31	38	69	4250	2
3.1	Florida	1995	28	71	—	—	29	—	30
3.1	Florida	1996	29	38	—	—	62	—	30
3.2	Florida	1996	202	40	39	21	60	—	30
3.3	—	1996	—	62	—	—	38	—	21
4.2	Indiana	1993	—	56	25	19	44	1632	2
4.3	Florida	1994	304	62	—	—	38	—	30

Appendix F

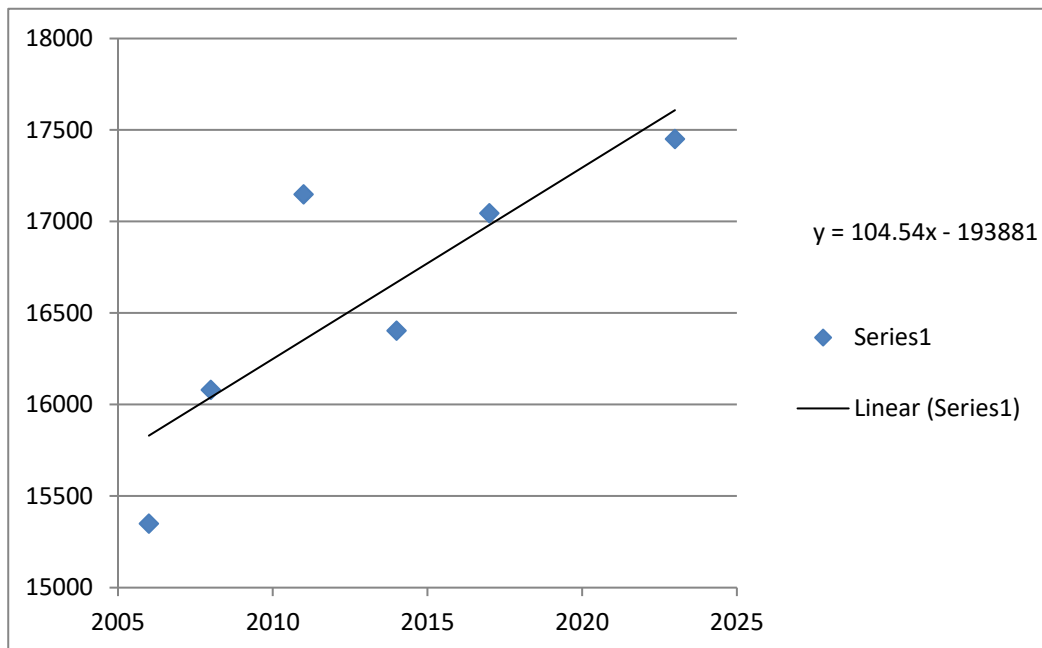
ODOT Historical Data & Calculations

WORKSHEET FOR E-W GROWTH RATES

LORAIN ROAD ID 7147 - COUNT DATA FROM ODOT WEBSITE
SR 10 SPUR NORTHEAST OF OHIO TURNPIKE, IN NORTH RIDGEVILLE

Year	Volume	% Diff per Yr to Prev Yr Count	% Diff per Yr Since 2023	AVG/YEAR Since 2006
2023	17451	0.40%		
2017	17045	1.30%	0.40%	0.805%
2014	16404	-1.45%	0.71%	
2011	17148	2.21%	0.15%	AVG/YEAR Since 2011
2008	16080	2.38%	0.57%	
2006	15350		1.00%	0.15%
				AVG/YEAR Since 2017
				0.40%

Coefficient (b) of Regression Equation:	104.542
Growth Rate =	b / Most Recent Count x 100%
Growth Rate =	104.542 / 17451 X 100%
Growth Rate =	0.5991%



Appendix G

ODOT Peak Hour to Design Hour Charts

PEAK HOUR to DESIGN HOUR FACTORS
FUNCTIONAL CLASSIFICATION = 03, 04, 05u
 (Urban Principal Arterial, Urban Minor Arterial, & Urban Minor Collector)

Day Month		Monthly Average by Day-of-Week							
		WEEKDAY MON-THUR	Sun	Mon	Tue	Wed	Thu	Fri	Sat
		0	1	2	3	4	5	6	7
January	1	1.25	1.81	1.27	1.25	1.25	1.23	1.18	1.61
February	2	1.23	1.78	1.26	1.23	1.23	1.19	1.17	1.58
March	3	1.18	1.63	1.20	1.18	1.17	1.17	1.12	1.47
April	4	1.13	1.57	1.15	1.14	1.12	1.11	1.08	1.42
May	5	1.10	1.47	1.12	1.10	1.10	1.07	1.06	1.35
June	6	1.14	1.51	1.16	1.14	1.14	1.11	1.10	1.40
July	7	1.14	1.54	1.16	1.14	1.13	1.14	1.11	1.45
August	8	1.12	1.49	1.14	1.14	1.12	1.10	1.06	1.41
September	9	1.12	1.53	1.15	1.13	1.13	1.09	1.05	1.42
October	10	1.12	1.54	1.15	1.12	1.11	1.10	1.05	1.42
November	11	1.16	1.63	1.17	1.15	1.15	1.15	1.08	1.52
December	12	1.16	1.61	1.18	1.16	1.16	1.13	1.10	1.50

peak hour volume * factor = design hour volume

source: year 2018, 2019, & 2021 Automatic Traffic Recorders (ATR) Data

ATR Stations:

2018: 15 Stations

2019: 21 Stations

2021: 22 Stations

Ohio Department of Transportation

Modeling & Forecasting Section

Nov-22

NOTE: These are NOT seasonal adjustment factors!!!

NOTE: Factors shown rounded to 2 decimal places. Unrounded value will be used in calculations.

Note: Insufficient data exists to produce factors for functional classes 06 and 07 Urban.

Appendix H

Background Traffic Volume Forecast Calculations

WORKSHEET FOR NO BUILD VEHICULAR TRAFFIC VOLUME CALCULATIONS

Lorain Rd & Lear Nagle Cook Rd 012925

		Lear Nagle Rd. FROM NORTH						Cook Rd. FROM SOUTH						TOTAL NORTH SOUTH		Lorain Rd. (SR 10) FROM EAST						Lorain Rd. (SR 10) FROM WEST						TOTAL EAST WEST		TOTAL ALL DIREC.					
		Thru			Right			Total			Trk			Bus			Left			Thru			Right			Total			Trk			Bus			
		Left	Thru	Right	Total	Trk	Bus	Left	Thru	Right	Total	Trk	Bus	Left	Thru	Right	Total	Trk	Bus	Left	Thru	Right	Total	Trk	Bus	Left	Thru	Right	Total		Trk	Bus			
2025	Raw		338	134	127	599											897			59	257	237	553			180	258	55	493			1046	1943		
	DNV 2025	Feeder	1,2525	1,2525	1,2525																														
		No Build	423	168	159	750												1123			1,2525	1,2525	1,2525			1,2525	1,2525	1,2525							
2026	Growth	Feeder	0.0060	0.0060	0.0060															0.0060	0.0060	0.0060			0.0060	0.0060	0.0060								
	Opening Year	Adj +Growth+DNV	426	169	160	755																													
		Round	430	170	160	760												1140			74	324	299	697			227	325	69	621			1318	2449	
2036	Design Year	Adj +Growth+DNV	451	179	170	800																													
		Round	450	180	170	800												1200			79	343	316	738			240	344	73	657			1395	2593	
	2025	Raw		385	174	216	775																												
PM PEAK	DNV 2025	Feeder	1,2525	1,2525	1,2525																														
		No Build	482	218	271	971												1473			1,2525	1,2525	1,2525			1,2525	1,2525	1,2525							
	Growth	Feeder	0.0060	0.0060	0.0060																														
2026	Opening Year	Adj +Growth+DNV	485	219	272	976																													
		Round	490	220	270	980												1481			130	522	791	1443			344	472	120	936			2379	3860	
	2036	Adj +Growth+DNV	514	232	288	1034																													
		Round	510	230	290	1030																													

Mid-Day Peak

PM Peak

TMS Engineers, Inc.

2112 Case Parkway S.

Unit #7

Twinsburg, Ohio 44097

WORKSHEET FOR NO BUILD VEHICULAR TRAFFIC VOLUME CALCULATIONS

Cook Rd & Starbucks 013025

			FROM NORTH				Starbuck's FROM SOUTH				TOTAL NORTH SOUTH	Cook Rd. FROM EAST				Cook Rd. FROM WEST				TOTAL EAST WEST	TOTAL ALL DIREC.			
			Thru		Total		Trk		Bue			Thru		Total		Trk		Bue						
			Left	Right	Thru	Total	Left	Right	Thru	Total		Left	Right	Thru	Total	Left	Right	Thru	Total					
Mid-Day PEAK	2025	Raw	0	0	0	0	36	0	29	65		65	8	308	0	316		0	208	42	250		566	631
	DHW 2025	Factor	1.0000	1.0000			1.0000	1.0000	1.0000				1.0000	1.2286	1.2286		1.0000	1.2286	1.0000					
		No Build	0	0	0	0	36	0	29	65		65	8	378	0	386		0	256	42	298		684	749
	Growth	Factor	0.0000	0.0000			0.0000	0.0000	0.0000				0.0000	0.0060	0.0000			0.0000	0.0060	0.0000				
PM PEAK	2026	Adj +Growth+DHW Round	0	0	0	0	36	0	29	65		65	8	381	0	389		0	257	42	299		688	753
	Opening Year		0	0	0	0	40	0	30	70		70	10	380	0	390		0	260	40	300		690	760
	2036	Adj +Growth+DHW Round	0	0	0	0	36	0	29	65		65	8	403	0	411		0	272	42	314		725	790
	Design Year		0	0	0	0	40	0	30	70		70	10	400	0	410		0	270	40	310		720	790
	2025	Raw	0	0	0	0	16	0	19	35		35	7	384	0	391		0	361	28	389		780	815
DHW 2025	Factor	1.0000	1.0000			1.0000	1.0000	1.0000				1.0000	1.2286	1.0000			1.0000	1.2286	1.0000					
	No Build	0	0	0	0	16	0	19	35		35	7	472	0	479		0	444	28	472		951	986	
Growth	Factor	0.0000	0.0000			0.0000	0.0000	0.0000				0.0000	0.0060	0.0000			0.0000	0.0060	0.0000					
2026	Adj +Growth+DHW Round	0	0	0	0	16	0	19	35		35	7	475	0	482		0	446	28	474		956	991	
Opening Year		0	0	0	0	20	0	20	40		40	10	470	0	480		0	450	30	480		960	1000	
2036	Adj +Growth+DHW Round	0	0	0	0	16	0	19	35		35	7	503	0	510		0	473	28	501		1011	1046	
Design Year		0	0	0	0	20	0	20	40		40	10	500	0	510		0	470	30	500		1010	1050	

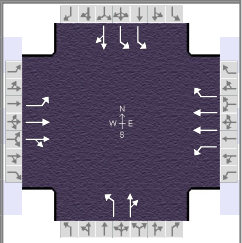
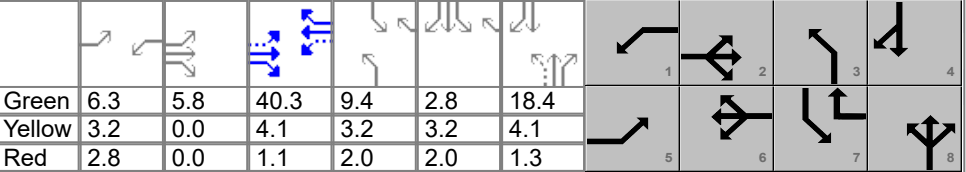
Page 143 of 209

TMS Engineers, Inc.
2112 Case Parkway S.
Unit #7
Twinsburg, Ohio 44087

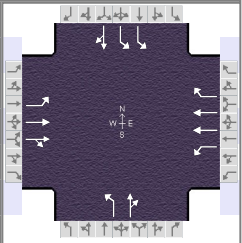
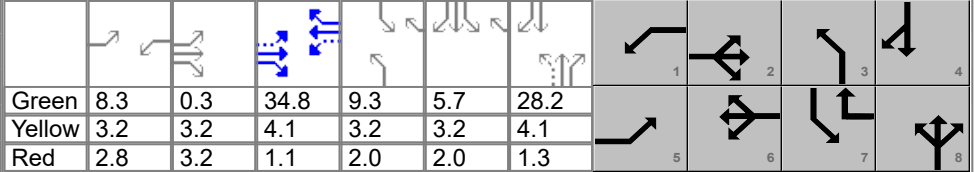
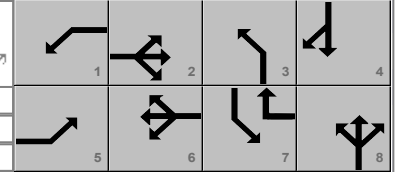
Appendix I

No-Build Capacity Analysis Worksheets - 2026

HCS Signalized Intersection Results Summary

General Information						Intersection Information													
Agency		TMS Engineers, Inc.				Duration, h		0.250											
Analyst		KMC		Analysis Date		Feb 7, 2025		Area Type		Other									
Jurisdiction		North Ridgeville		Time Period		Mid-Day Peak		PHF		0.94									
Urban Street		Lorain Road		Analysis Year		2026		Analysis Period		1> 7:00									
Intersection		Lorain Road & Lear Nag...		File Name		1. Mid-Day 2026 Lorain Rd. & Cook Rd. NB.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				230	330	70	70	320	300	140	180	60	430	170	160				
Signal Information																			
Cycle, s	110.0	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	5.8	40.3	9.4	2.8	18.4									
				Yellow	3.2	0.0	4.1	3.2	3.2	4.1									
				Red	2.8	0.0	1.1	2.0	2.0	1.3									
Timer Results				EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT	
Assigned Phase				5		2		1		6		3		8		7		4	
Case Number				1.1		4.0		1.1		3.0		1.1		4.0		2.0		4.0	
Phase Duration, s				18.1		51.3		12.3		45.5		14.6		23.8		22.6		31.8	
Change Period, (Y+R c), s				6.4		5.2		6.0		5.2		5.2		5.4		5.2		5.4	
Max Allow Headway (MAH), s				3.1		0.0		3.1		0.0		3.1		3.2		3.1		3.2	
Queue Clearance Time (g s), s				11.3				4.8				9.5		17.2		16.2		23.7	
Green Extension Time (g e), s				0.4		0.0		0.1		0.0		0.0		1.2		1.1		1.2	
Phase Call Probability				1.00				0.90				0.99		1.00		1.00		1.00	
Max Out Probability				0.00				0.00				1.00		0.00		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				245	217	208	74	340	223	149	255		457	351					
Adjusted Saturation Flow Rate (s), veh/h/ln				1739	1826	1715	1767	1766	1572	1781	1790		1716	1707					
Queue Service Time (g s), s				9.3	8.6	8.8	2.8	7.4	8.7	7.5	15.2		14.2	21.7					
Cycle Queue Clearance Time (g c), s				9.3	8.6	8.8	2.8	7.4	8.7	7.5	15.2		14.2	21.7					
Green Ratio (g/C)				0.49	0.42	0.42	0.42	0.37	0.52	0.25	0.17		0.16	0.24					
Capacity (c), veh/h				554	766	719	473	1295	825	243	300		542	410					
Volume-to-Capacity Ratio (X)				0.442	0.284	0.289	0.158	0.263	0.271	0.612	0.851		0.844	0.857					
Back of Queue (Q), ft/ln (85 th percentile)				145	152	142	52	128	128	135	244		221	314					
Back of Queue (Q), veh/ln (85 th percentile)				5.6	5.8	5.7	2.0	5.0	5.0	5.3	9.6		8.6	12.3					
Queue Storage Ratio (RQ) (85 th percentile)				0.30	0.15	0.15	0.21	0.13	0.24	0.79	0.24		0.43	0.31					
Uniform Delay (d 1), s/veh				17.4	21.1	21.1	19.2	24.4	14.5	34.8	44.5		45.0	40.0					
Incremental Delay (d 2), s/veh				0.2	0.9	1.0	0.1	0.5	0.8	2.9	2.7		1.4	2.1					
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				17.6	22.0	22.1	19.3	24.9	15.3	37.7	47.1		46.4	42.1					
Level of Service (LOS)				B	C	C	B	C	B	D	D		D	D					
Approach Delay, s/veh / LOS				20.4		C		20.9		C		43.7		D		44.5		D	
Intersection Delay, s/veh / LOS				32.0						C									
Multimodal Results				EB			WB			NB			SB						
Pedestrian LOS Score / LOS																			
Bicycle LOS Score / LOS																			

HCS Signalized Intersection Results Summary

General Information						Intersection Information									
Agency		TMS Engineers, Inc.				Duration, h		0.250							
Analyst		KMC		Analysis Date		Feb 7, 2025		Area Type		Other					
Jurisdiction		North Ridgeville		Time Period		PM Peak		PHF		0.96					
Urban Street		Lorain Road		Analysis Year		2026		Analysis Period		1> 7:00					
Intersection		Lorain Road & Lear Nag...		File Name		1. PM 2026 Lorain Rd. & Cook Rd. NB.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				340	470	120	130	520	790	140	290	80	490	220	270
Signal Information															
Cycle, s	120.0	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	8.3	0.3	34.8	9.3	5.7	28.2									
Yellow	3.2	3.2	4.1	3.2	3.2	4.1									
Red	2.8	3.2	1.1	2.0	2.0	1.3									
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase				5	2	1	6	3	8	7	4				
Case Number				1.1	4.0	1.1	3.0	1.1	4.0	2.0	4.0				
Phase Duration, s				21.0	46.7	14.3	40.0	14.5	33.6	25.4	44.5				
Change Period, (Y+R c), s				6.4	5.2	6.0	5.2	5.2	5.4	5.2	5.4				
Max Allow Headway (MAH), s				3.1	0.0	3.1	0.0	3.1	3.2	3.1	3.2				
Queue Clearance Time (g s), s				16.6		8.3		9.3	26.8	19.1	36.3				
Green Extension Time (g e), s				0.0	0.0	0.1	0.0	0.0	1.4	1.1	1.5				
Phase Call Probability				1.00		0.99		0.99	1.00	1.00	1.00				
Max Out Probability				1.00		0.00		1.00	0.21	0.00	0.13				
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				354	317	298	135	542	729	146	385		510	510	
Adjusted Saturation Flow Rate (s), veh/h/ln				1781	1870	1739	1795	1795	1598	1795	1815		1743	1715	
Queue Service Time (g s), s				14.6	16.0	16.2	6.3	15.1	34.8	7.3	24.8		17.1	34.3	
Cycle Queue Clearance Time (g c), s				14.6	16.0	16.2	6.3	15.1	34.8	7.3	24.8		17.1	34.3	
Green Ratio (g/C)				0.43	0.35	0.35	0.36	0.29	0.46	0.31	0.23		0.17	0.33	
Capacity (c), veh/h				419	648	602	343	1041	732	220	426		586	559	
Volume-to-Capacity Ratio (X)				0.845	0.490	0.494	0.395	0.520	0.996	0.664	0.905		0.871	0.914	
Back of Queue (Q), ft/ln (85 th percentile)				297	266	249	111	240	806	134	416		267	520	
Back of Queue (Q), veh/ln (85 th percentile)				11.7	10.5	10.0	4.4	9.5	32.0	5.3	16.5		10.6	20.6	
Queue Storage Ratio (RQ) (85 th percentile)				0.61	0.27	0.25	0.44	0.24	1.49	0.79	0.42		0.51	0.52	
Uniform Delay (d 1), s/veh				29.0	30.9	30.9	27.3	35.6	32.4	34.0	44.6		48.6	38.8	
Incremental Delay (d 2), s/veh				13.9	2.6	2.9	0.3	1.9	32.4	4.2	15.6		4.1	15.1	
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				42.9	33.5	33.8	27.6	37.5	64.8	38.2	60.2		52.7	53.9	
Level of Service (LOS)				D	C	C	C	D	E	D	E		D	D	
Approach Delay, s/veh / LOS				37.1		D	50.7		D	54.2		D	53.3		D
Intersection Delay, s/veh / LOS				48.5						D					
Multimodal Results				EB			WB			NB			SB		
Pedestrian LOS Score / LOS															
Bicycle LOS Score / LOS															

HCS Two-Way Stop-Control Report

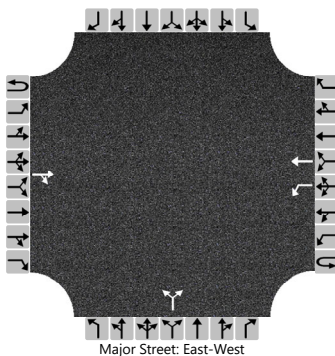
General Information

Analyst	KMC
Agency/Co.	TMS Engineers, Inc.
Date Performed	1/31/2025
Analysis Year	2026
Time Analyzed	Mid-Day Peak
Intersection Orientation	East-West
Project Description	No-Build

Site Information

Intersection	Cook Road & Starbucks Driveway
Jurisdiction	North Ridgeville
East/West Street	Cook Road
North/South Street	Starbucks Driveway
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

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	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			270	40		10	340			40		30				
Percent Heavy Vehicles (%)						1				0		0				
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)						4.11					6.40		6.20			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.21					3.50		3.30			

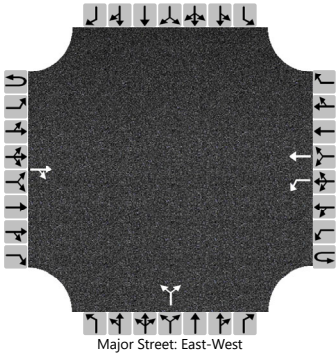
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						11						76				
Capacity, c (veh/h)						1228						497				
v/c Ratio						0.01						0.15				
95% Queue Length, Q ₉₅ (veh)						0.0						0.5				
95% Queue Length, Q ₉₅ (ft)						0.0						12.5				
Control Delay (s/veh)						8.0						13.5				
Level of Service (LOS)						A						B				
Approach Delay (s/veh)					0.2				13.5							
Approach LOS					A				B							

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	KMC	Intersection	Cook Road & Starbucks Driveway
Agency/Co.	TMS Engineers, Inc.	Jurisdiction	North Ridgeville
Date Performed	1/31/2025	East/West Street	Cook Road
Analysis Year	2026	North/South Street	Starbucks Driveway
Time Analyzed	PM Peak	Peak Hour Factor	0.91
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	0	1	0	0	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			440	30		10	490			20		20				
Percent Heavy Vehicles (%)						2				0		0				
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)						4.12					6.40		6.20			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.22					3.50		3.30			

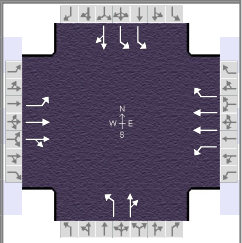
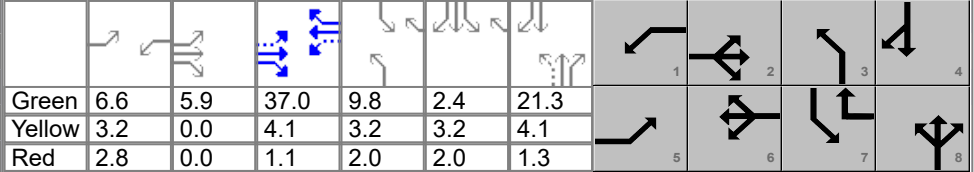
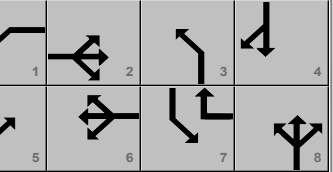
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						11						44				
Capacity, c (veh/h)						1049						346				
v/c Ratio						0.01						0.13				
95% Queue Length, Q ₉₅ (veh)						0.0						0.4				
95% Queue Length, Q ₉₅ (ft)						0.0						10.0				
Control Delay (s/veh)						8.5						16.9				
Level of Service (LOS)						A						C				
Approach Delay (s/veh)					0.2				16.9							
Approach LOS					A				C							

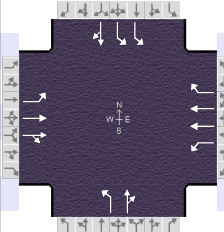
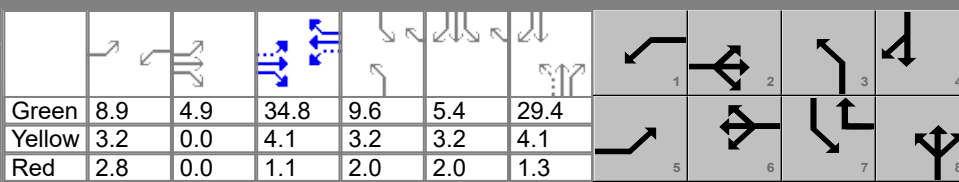
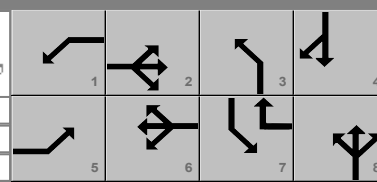
Appendix J

Build Capacity Analysis Worksheets - 2026

HCS Signalized Intersection Results Summary

General Information						Intersection Information													
Agency		TMS Engineers, Inc.				Duration, h		0.250											
Analyst		KMC		Analysis Date		Feb 7, 2025		Area Type		Other									
Jurisdiction		North Ridgeville		Time Period		Mid-Day Peak		PHF		0.94									
Urban Street		Lorain Road		Analysis Year		2026		Analysis Period		1> 7:00									
Intersection		Lorain Road & Lear Nag...		File Name		1. Mid-Day 2026 Lorain Rd. & Cook Rd..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				230	330	88	90	320	300	157	199	82	430	192	160				
Signal Information																			
Cycle, s	110.0	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	5.9	37.0	9.8	2.4	21.3													
Yellow	3.2	0.0	4.1	3.2	3.2	4.1													
Red	2.8	0.0	1.1	2.0	2.0	1.3													
Timer Results				EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT	
Assigned Phase				5		2		1		6		3		8		7		4	
Case Number				1.1		4.0		1.1		3.0		1.1		4.0		2.0		4.0	
Phase Duration, s				18.5		48.1		12.6		42.2		15.0		26.7		22.6		34.2	
Change Period, (Y+R c), s				6.4		5.2		6.0		5.2		5.2		5.4		5.2		5.4	
Max Allow Headway (MAH), s				3.1		0.0		3.1		0.0		3.1		3.2		3.1		3.2	
Queue Clearance Time (g s), s				11.7				5.8				10.2		19.9		16.2		24.7	
Green Extension Time (g e), s				0.4		0.0		0.1		0.0		0.0		1.3		1.1		1.3	
Phase Call Probability				1.00				0.95				0.99		1.00		1.00		1.00	
Max Out Probability				0.00				0.00				1.00		0.00		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				245	228	216	96	340	223	167	299		457	374					
Adjusted Saturation Flow Rate (s), veh/h/ln				1739	1826	1694	1767	1766	1572	1781	1777		1716	1715					
Queue Service Time (g s), s				9.7	9.6	9.8	3.8	7.8	9.2	8.2	17.9		14.2	22.7					
Cycle Queue Clearance Time (g c), s				9.7	9.6	9.8	3.8	7.8	9.2	8.2	17.9		14.2	22.7					
Green Ratio (g/C)				0.46	0.39	0.39	0.40	0.34	0.49	0.28	0.19		0.16	0.26					
Capacity (c), veh/h				527	713	661	437	1190	778	262	344		542	450					
Volume-to-Capacity Ratio (X)				0.464	0.320	0.327	0.219	0.286	0.287	0.636	0.870		0.844	0.833					
Back of Queue (Q), ft/ln (85 th percentile)				152	167	155	72	134	136	146	278		221	325					
Back of Queue (Q), veh/ln (85 th percentile)				5.9	6.4	6.2	2.8	5.2	5.3	5.8	10.9		8.6	12.7					
Queue Storage Ratio (RQ) (85 th percentile)				0.31	0.17	0.16	0.29	0.13	0.25	0.86	0.28		0.43	0.33					
Uniform Delay (d 1), s/veh				19.2	23.4	23.4	21.3	26.8	16.4	32.8	43.0		45.0	38.3					
Incremental Delay (d 2), s/veh				0.2	1.2	1.3	0.1	0.6	0.9	3.9	2.7		1.4	1.6					
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				19.4	24.6	24.8	21.4	27.4	17.3	36.7	45.7		46.4	39.9					
Level of Service (LOS)				B	C	C	C	C	B	D	D		D	D					
Approach Delay, s/veh / LOS				22.8		C		23.1		C		42.5		D		43.5		D	
Intersection Delay, s/veh / LOS				32.8						C									
Multimodal Results				EB			WB			NB			SB						
Pedestrian LOS Score / LOS																			
Bicycle LOS Score / LOS																			

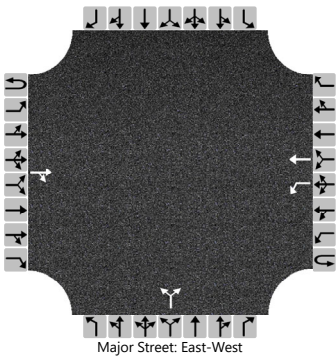
HCS Signalized Intersection Results Summary

General Information						Intersection Information									
Agency		TMS Engineers, Inc.				Duration, h		0.250							
Analyst		KMC		Analysis Date		Feb 7, 2025		Area Type		Other					
Jurisdiction		North Ridgeville		Time Period		PM Peak		PHF		0.96					
Urban Street		Lorain Road		Analysis Year		2026		Analysis Period		1> 7:00					
Intersection		Lorain Road & Lear Nag...		File Name		1. PM 2026 Lorain Rd. & Cook Rd..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				340	470	128	142	520	790	148	301	88	490	229	270
Signal Information															
Cycle, s	120.0	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	8.9	4.9	34.8	9.6	5.4	29.4									
Yellow	3.2	0.0	4.1	3.2	3.2	4.1									
Red	2.8	0.0	1.1	2.0	2.0	1.3									
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase				5	2	1	6	3	8	7	4				
Case Number				1.1	4.0	1.1	3.0	1.1	4.0	2.0	4.0				
Phase Duration, s				19.8	44.9	14.9	40.0	14.8	34.8	25.4	45.4				
Change Period, (Y+R c), s				6.4	5.2	6.0	5.2	5.2	5.4	5.2	5.4				
Max Allow Headway (MAH), s				3.1	0.0	3.1	0.0	3.1	3.2	3.1	3.2				
Queue Clearance Time (g s), s				15.4		8.9		9.6	28.1	19.1	36.7				
Green Extension Time (g e), s				0.0	0.0	0.1	0.0	0.0	1.3	1.1	1.5				
Phase Call Probability				1.00		0.99		0.99	1.00	1.00	1.00				
Max Out Probability				1.00		0.04		1.00	0.36	0.00	0.18				
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				354	322	301	148	542	729	154	405		510	520	
Adjusted Saturation Flow Rate (s), veh/h/ln				1781	1870	1732	1795	1795	1598	1795	1811		1743	1718	
Queue Service Time (g s), s				13.4	16.7	16.9	6.9	15.1	34.8	7.6	26.1		17.1	34.7	
Cycle Queue Clearance Time (g c), s				13.4	16.7	16.9	6.9	15.1	34.8	7.6	26.1		17.1	34.7	
Green Ratio (g/C)				0.41	0.33	0.33	0.36	0.29	0.46	0.33	0.25		0.17	0.33	
Capacity (c), veh/h				401	619	573	333	1041	732	228	444		586	573	
Volume-to-Capacity Ratio (X)				0.884	0.520	0.525	0.444	0.520	0.996	0.676	0.912		0.871	0.907	
Back of Queue (Q), ft/ln (85 th percentile)				211	278	260	119	240	806	140	442		267	525	
Back of Queue (Q), veh/ln (85 th percentile)				8.3	10.9	10.4	4.7	9.5	32.0	5.5	17.5		10.6	20.8	
Queue Storage Ratio (RQ) (85 th percentile)				0.43	0.28	0.26	0.48	0.24	1.49	0.82	0.44		0.51	0.53	
Uniform Delay (d 1), s/veh				32.5	32.5	32.5	27.4	35.6	32.4	33.2	44.0		48.6	38.2	
Incremental Delay (d 2), s/veh				19.6	3.1	3.4	0.3	1.9	32.4	5.0	17.6		4.1	14.8	
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				52.1	35.6	35.9	27.8	37.5	64.8	38.2	61.6		52.7	53.0	
Level of Service (LOS)				D	D	D	C	D	E	D	E		D	D	
Approach Delay, s/veh / LOS				41.7		D	50.5		D	55.2		E	52.9		D
Intersection Delay, s/veh / LOS				49.6						D					
Multimodal Results				EB			WB			NB			SB		
Pedestrian LOS Score / LOS															
Bicycle LOS Score / LOS															

HCS Two-Way Stop-Control Report

General Information		Site Information	
Analyst	KMC	Intersection	Cook Road & Starbucks Driveway
Agency/Co.	TMS Engineers, Inc.	Jurisdiction	North Ridgeville
Date Performed	1/31/2025	East/West Street	Cook Road
Analysis Year	2026	North/South Street	Starbucks Driveway
Time Analyzed	Mid-Day Peak	Peak Hour Factor	0.92
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	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			270	100		21	340			98		38				
Percent Heavy Vehicles (%)						1				0		0				
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)						4.11				6.40		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.21				3.50		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						23					148					
Capacity, c (veh/h)						1162					424					
v/c Ratio						0.02					0.35					
95% Queue Length, Q ₉₅ (veh)						0.1					1.5					
95% Queue Length, Q ₉₅ (ft)						2.5					37.5					
Control Delay (s/veh)						8.2					18.0					
Level of Service (LOS)						A					C					
Approach Delay (s/veh)					0.5				18.0							
Approach LOS					A				C							

HCS Two-Way Stop-Control Report

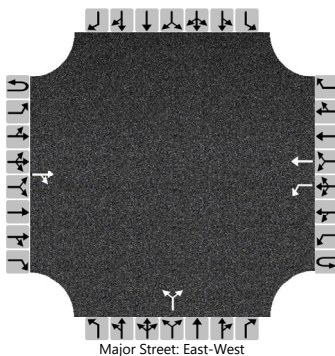
General Information

Analyst	KMC
Agency/Co.	TMS Engineers, Inc.
Date Performed	1/31/2025
Analysis Year	2026
Time Analyzed	PM Peak
Intersection Orientation	East-West
Project Description	Build

Site Information

Intersection	Cook Road & Starbucks Driveway
Jurisdiction	North Ridgeville
East/West Street	Cook Road
North/South Street	Starbucks Driveway
Peak Hour Factor	0.91
Analysis Time Period (hrs)	0.25

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	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			422	77		33	471			66		42				
Percent Heavy Vehicles (%)						2				0		0				
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)						4.12				6.40		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.50		3.30				

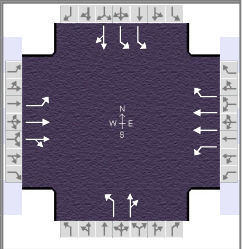
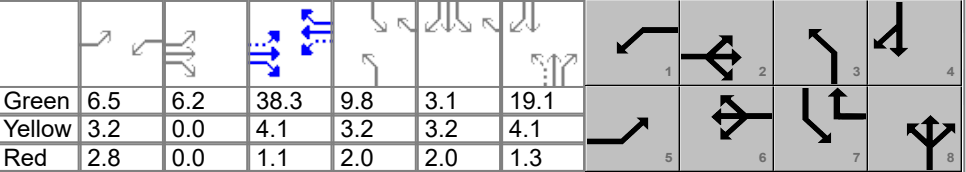
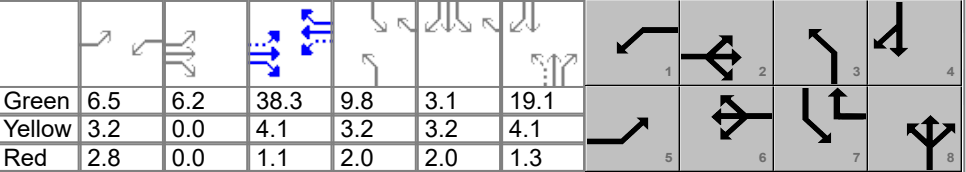
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						36					119					
Capacity, c (veh/h)						1021					299					
v/c Ratio						0.04					0.40					
95% Queue Length, Q ₉₅ (veh)						0.1					1.8					
95% Queue Length, Q ₉₅ (ft)						2.5					45.0					
Control Delay (s/veh)						8.7					24.7					
Level of Service (LOS)						A					C					
Approach Delay (s/veh)					0.6				24.7							
Approach LOS					A				C							

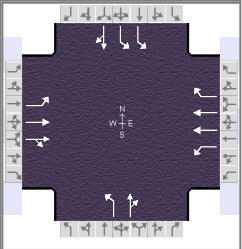
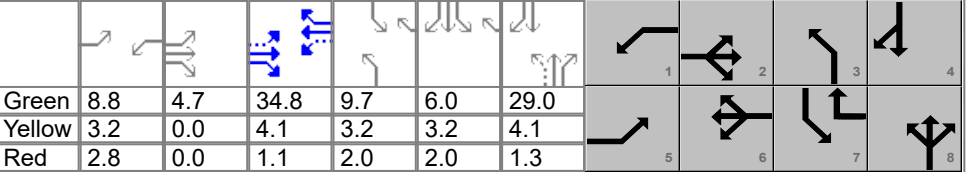
Appendix K

No-Build Capacity Analysis Worksheets - 2036

HCS Signalized Intersection Results Summary

General Information						Intersection Information													
Agency		TMS Engineers, Inc.				Duration, h		0.250											
Analyst		KMC		Analysis Date		Feb 7, 2025		Area Type		Other									
Jurisdiction		North Ridgeville		Time Period		Mid-Day Peak		PHF		0.94									
Urban Street		Lorain Road		Analysis Year		2036		Analysis Period		1> 7:00									
Intersection		Lorain Road & Lear Nag...		File Name		1. Mid-Day 2036 Lorain Rd. & Cook Rd. NB.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				240	340	70	80	340	320	150	190	60	450	180	170				
Signal Information																			
Cycle, s	110.0	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	6.2	38.3	9.8	3.1	19.1													
Yellow	3.2	0.0	4.1	3.2	3.2	4.1													
Red	2.8	0.0	1.1	2.0	2.0	1.3													
Timer Results				EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT	
Assigned Phase				5		2		1		6		3		8		7		4	
Case Number				1.1		4.0		1.1		3.0		1.1		4.0		2.0		4.0	
Phase Duration, s				18.7		49.7		12.5		43.5		15.0		24.5		23.3		32.8	
Change Period, (Y+R c), s				6.4		5.2		6.0		5.2		5.2		5.4		5.2		5.4	
Max Allow Headway (MAH), s				3.1		0.0		3.1		0.0		3.1		3.2		3.1		3.2	
Queue Clearance Time (g s), s				11.9				5.3				10.0		17.8		16.9		25.1	
Green Extension Time (g e), s				0.4		0.0		0.1		0.0		0.0		1.3		1.2		1.3	
Phase Call Probability				1.00				0.93				0.99		1.00		1.00		1.00	
Max Out Probability				0.00				0.00				1.00		0.00		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				255	223	213	85	362	245	160	266		479	372					
Adjusted Saturation Flow Rate (s), veh/h/ln				1739	1826	1718	1767	1766	1572	1781	1793		1716	1706					
Queue Service Time (g s), s				9.9	9.1	9.3	3.3	8.2	9.9	8.0	15.8		14.9	23.1					
Cycle Queue Clearance Time (g c), s				9.9	9.1	9.3	3.3	8.2	9.9	8.0	15.8		14.9	23.1					
Green Ratio (g/C)				0.48	0.40	0.40	0.41	0.35	0.51	0.26	0.17		0.16	0.25					
Capacity (c), veh/h				533	739	696	455	1230	806	245	311		564	425					
Volume-to-Capacity Ratio (X)				0.479	0.301	0.307	0.187	0.294	0.304	0.650	0.854		0.849	0.877					
Back of Queue (Q), ft/ln (85 th percentile)				154	159	149	62	139	144	146	252		230	332					
Back of Queue (Q), veh/ln (85 th percentile)				5.9	6.1	5.9	2.4	5.4	5.6	5.7	9.9		9.0	13.0					
Queue Storage Ratio (RQ) (85 th percentile)				0.31	0.16	0.15	0.25	0.14	0.27	0.86	0.25		0.44	0.33					
Uniform Delay (d 1), s/veh				18.2	22.2	22.2	20.4	26.0	15.5	34.3	44.1		44.6	39.7					
Incremental Delay (d 2), s/veh				0.2	1.0	1.1	0.1	0.6	1.0	4.7	2.6		1.4	2.3					
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				18.5	23.2	23.4	20.5	26.6	16.5	39.1	46.7		46.0	42.0					
Level of Service (LOS)				B	C	C	C	C	B	D	D		D	D					
Approach Delay, s/veh / LOS				21.5		C		22.3		C		43.8		D		44.3		D	
Intersection Delay, s/veh / LOS				32.6									C						
Multimodal Results				EB			WB			NB			SB						
Pedestrian LOS Score / LOS																			
Bicycle LOS Score / LOS																			

HCS Signalized Intersection Results Summary

General Information					Intersection Information											
Agency	TMS Engineers, Inc.				Duration, h	0.250										
Analyst	KMC	Analysis Date	10/20/2020		Area Type	Other										
Jurisdiction	North Ridgeville	Time Period	PM Peak		PHF	0.96										
Urban Street	Lorain Road	Analysis Year	2036		Analysis Period	1> 7:00										
Intersection	Lorain Road & Lear Nag...	File Name	1. PM 2036 Lorain Rd. & Cook Rd. NB.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					360	500	130	140	550	840	150	300	80	510	230	290
Signal Information																
Cycle, s	120.0	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	8.8	4.7	34.8	9.7	6.0	29.0										
Yellow	3.2	0.0	4.1	3.2	3.2	4.1										
Red	2.8	0.0	1.1	2.0	2.0	1.3										
Timer Results					EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase					5	2	1	6	3	8	7	4				
Case Number					1.1	4.0	1.1	3.0	1.1	4.0	2.0	4.0				
Phase Duration, s					19.5	44.7	14.8	40.0	14.9	34.4	26.1	45.6				
Change Period, (Y+R c), s					6.4	5.2	6.0	5.2	5.2	5.4	5.2	5.4				
Max Allow Headway (MAH), s					3.1	0.0	3.1	0.0	3.1	3.2	3.1	3.2				
Queue Clearance Time (g s), s					15.1		8.8		9.7	27.4	19.8	38.9				
Green Extension Time (g e), s					0.0	0.0	0.1	0.0	0.0	1.4	1.1	1.3				
Phase Call Probability					1.00		0.99		0.99	1.00	1.00	1.00				
Max Out Probability					1.00		0.05		1.00	0.36	0.01	0.41				
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					375	339	317	146	573	781	156	396		531	542	
Adjusted Saturation Flow Rate (s), veh/h/ln					1781	1870	1737	1795	1795	1598	1795	1816		1743	1713	
Queue Service Time (g s), s					13.1	17.8	18.0	6.8	16.2	34.8	7.7	25.4		17.8	36.9	
Cycle Queue Clearance Time (g c), s					13.1	17.8	18.0	6.8	16.2	34.8	7.7	25.4		17.8	36.9	
Green Ratio (g/C)					0.40	0.33	0.33	0.36	0.29	0.46	0.32	0.24		0.17	0.34	
Capacity (c), veh/h					384	615	571	319	1041	742	215	439		607	574	
Volume-to-Capacity Ratio (X)					0.975	0.551	0.555	0.457	0.550	1.054	0.727	0.901		0.875	0.944	
Back of Queue (Q), ft/ln (85 th percentile)					309	295	276	118	255	939	148	428		278	576	
Back of Queue (Q), veh/ln (85 th percentile)					12.2	11.6	11.1	4.7	10.1	37.3	5.9	17.0		11.0	22.9	
Queue Storage Ratio (RQ) (85 th percentile)					0.63	0.30	0.28	0.47	0.26	1.74	0.87	0.43		0.53	0.58	
Uniform Delay (d 1), s/veh					35.2	33.0	33.0	27.7	36.0	32.2	33.6	44.1		48.3	38.8	
Incremental Delay (d 2), s/veh					39.1	3.5	3.9	0.4	2.1	48.1	8.4	16.3		4.8	20.8	
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					74.3	36.5	36.9	28.1	38.1	80.2	42.0	60.4		53.1	59.6	
Level of Service (LOS)					E	D	D	C	D	F	D	E		D	E	
Approach Delay, s/veh / LOS					50.4	D		59.0	E		55.2	E		56.4	E	
Intersection Delay, s/veh / LOS					55.7							E				
Multimodal Results					EB			WB			NB			SB		
Pedestrian LOS Score / LOS																
Bicycle LOS Score / LOS																

HCS Two-Way Stop-Control Report

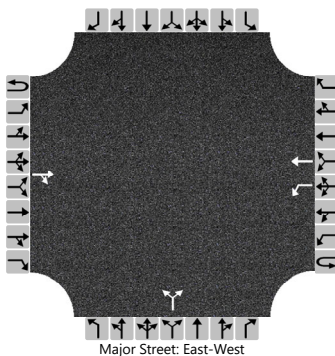
General Information

Analyst	KMC
Agency/Co.	TMS Engineers, Inc.
Date Performed	1/31/2025
Analysis Year	2036
Time Analyzed	Mid-Day Peak
Intersection Orientation	East-West
Project Description	No-Build

Site Information

Intersection	Cook Road & Starbucks Driveway
Jurisdiction	North Ridgeville
East/West Street	Cook Road
North/South Street	Starbucks Driveway
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

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	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			290	40		10	360			40		30				
Percent Heavy Vehicles (%)						1				0		0				
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)						4.11				6.40		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.21				3.50		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						11					76					
Capacity, c (veh/h)						1206					473					
v/c Ratio						0.01					0.16					
95% Queue Length, Q ₉₅ (veh)						0.0					0.6					
95% Queue Length, Q ₉₅ (ft)						0.0					15.0					
Control Delay (s/veh)						8.0					14.1					
Level of Service (LOS)						A					B					
Approach Delay (s/veh)					0.2				14.1							
Approach LOS					A				B							

HCS Two-Way Stop-Control Report

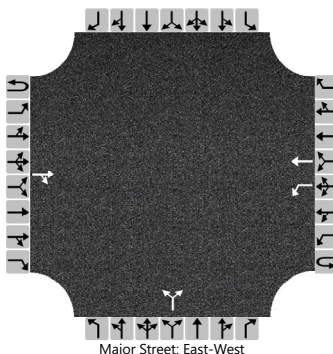
General Information

Analyst	KMC
Agency/Co.	TMS Engineers, Inc.
Date Performed	1/31/2025
Analysis Year	2036
Time Analyzed	PM Peak
Intersection Orientation	East-West
Project Description	No-Build

Site Information

Intersection	Cook Road & Starbucks Driveway
Jurisdiction	North Ridgeville
East/West Street	Cook Road
North/South Street	Starbucks Driveway
Peak Hour Factor	0.91
Analysis Time Period (hrs)	0.25

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	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			470	30		10	510			20		20				
Percent Heavy Vehicles (%)						2				0		0				
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)						4.12					6.40		6.20			
Base Follow-Up Headway (sec)						2.2					3.5		3.3			
Follow-Up Headway (sec)						2.22					3.50		3.30			

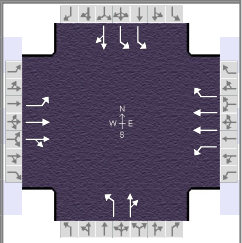
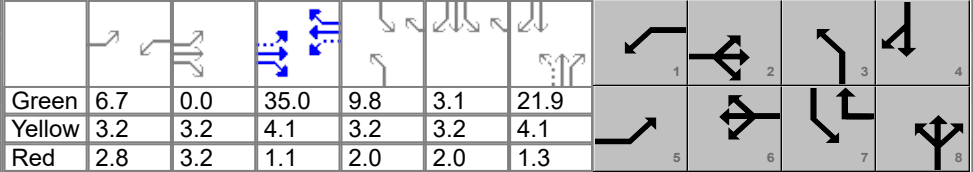
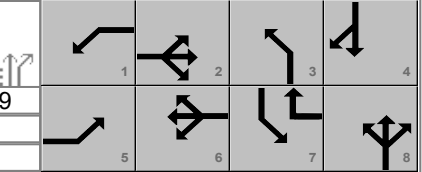
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						11						44				
Capacity, c (veh/h)						1020						324				
v/c Ratio						0.01						0.14				
95% Queue Length, Q ₉₅ (veh)						0.0						0.5				
95% Queue Length, Q ₉₅ (ft)						0.0						12.5				
Control Delay (s/veh)						8.6						17.8				
Level of Service (LOS)						A						C				
Approach Delay (s/veh)					0.2				17.8							
Approach LOS					A				C							

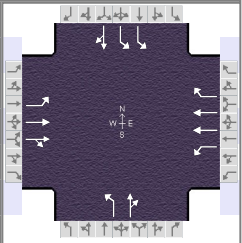
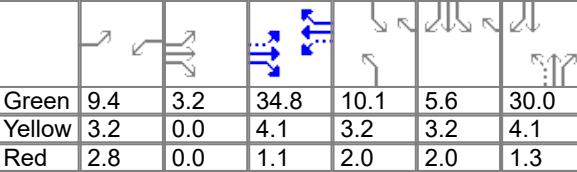
Appendix L

Build Capacity Analysis Worksheets - 2036

HCS Signalized Intersection Results Summary

General Information						Intersection Information													
Agency		TMS Engineers, Inc.				Duration, h		0.250											
Analyst		KMC		Analysis Date		Feb 7, 2025		Area Type		Other									
Jurisdiction		North Ridgeville		Time Period		Mid-Day Peak		PHF		0.94									
Urban Street		Lorain Road		Analysis Year		2036		Analysis Period		1> 7:00									
Intersection		Lorain Road & Lear Nag...		File Name		1. Mid-Day 2036 Lorain Rd. & Cook Rd..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				240	340	88	100	340	320	167	209	82	450	202	170				
Signal Information																			
Cycle, s	110.0	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	6.7	0.0	35.0	9.8	3.1	21.9													
Yellow	3.2	3.2	4.1	3.2	3.2	4.1													
Red	2.8	3.2	1.1	2.0	2.0	1.3													
Timer Results				EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT	
Assigned Phase				5		2		1		6		3		8		7		4	
Case Number				1.1		4.0		1.1		3.0		1.1		4.0		2.0		4.0	
Phase Duration, s				19.2		46.7		12.7		40.2		15.0		27.3		23.3		35.6	
Change Period, (Y+R c), s				6.4		5.2		6.0		5.2		5.2		5.4		5.2		5.4	
Max Allow Headway (MAH), s				3.1		0.0		3.1		0.0		3.1		3.2		3.1		3.2	
Queue Clearance Time (g s), s				12.4				6.4				10.7		20.5		16.9		25.9	
Green Extension Time (g e), s				0.4		0.0		0.2		0.0		0.0		1.4		1.2		1.4	
Phase Call Probability				1.00				0.96				1.00		1.00		1.00		1.00	
Max Out Probability				0.00				0.00				1.00		0.00		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				255	234	222	106	362	245	178	310		479	396					
Adjusted Saturation Flow Rate (s), veh/h/ln				1739	1826	1697	1767	1766	1572	1781	1780		1716	1715					
Queue Service Time (g s), s				10.4	10.1	10.3	4.4	8.6	10.5	8.7	18.5		14.9	23.9					
Cycle Queue Clearance Time (g c), s				10.4	10.1	10.3	4.4	8.6	10.5	8.7	18.5		14.9	23.9					
Green Ratio (g/C)				0.45	0.38	0.38	0.38	0.32	0.48	0.29	0.20		0.16	0.27					
Capacity (c), veh/h				507	688	639	420	1125	759	263	355		564	471					
Volume-to-Capacity Ratio (X)				0.504	0.340	0.347	0.254	0.322	0.322	0.677	0.872		0.849	0.840					
Back of Queue (Q), ft/ln (85 th percentile)				162	175	162	82	145	153	157	286		230	342					
Back of Queue (Q), veh/ln (85 th percentile)				6.2	6.7	6.5	3.2	5.7	6.0	6.2	11.2		9.0	13.4					
Queue Storage Ratio (RQ) (85 th percentile)				0.33	0.18	0.17	0.33	0.15	0.28	0.92	0.29		0.44	0.34					
Uniform Delay (d 1), s/veh				20.0	24.5	24.6	22.7	28.5	17.4	32.7	42.7		44.6	37.6					
Incremental Delay (d 2), s/veh				0.3	1.3	1.5	0.1	0.8	1.1	5.6	2.6		1.4	2.0					
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				20.3	25.8	26.1	22.8	29.2	18.6	38.2	45.3		46.0	39.6					
Level of Service (LOS)				C	C	C	C	C	B	D	D		D	D					
Approach Delay, s/veh / LOS				23.9		C		24.6		C		42.7		D		43.1		D	
Intersection Delay, s/veh / LOS				33.4						C									
Multimodal Results				EB			WB			NB			SB						
Pedestrian LOS Score / LOS																			
Bicycle LOS Score / LOS																			

HCS Signalized Intersection Results Summary

General Information						Intersection Information									
Agency		TMS Engineers, Inc.				Duration, h		0.250							
Analyst		KMC		Analysis Date		Feb 7, 2025		Area Type		Other					
Jurisdiction		North Ridgeville		Time Period		PM Peak		PHF		0.96					
Urban Street		Lorain Road		Analysis Year		2036		Analysis Period		1> 7:00					
Intersection		Lorain Road & Lear Nag...		File Name		1. PM 2036 Lorain Rd. & Cook Rd..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				360	500	138	152	550	840	158	311	88	510	239	290
Signal Information															
Cycle, s	120.0	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	9.4	3.2	34.8	10.1	5.6	30.0									
Yellow	3.2	0.0	4.1	3.2	3.2	4.1									
Red	2.8	0.0	1.1	2.0	2.0	1.3									
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase				5	2	1	6	3	8	7	4				
Case Number				1.1	4.0	1.1	3.0	1.1	4.0	2.0	4.0				
Phase Duration, s				18.5	43.2	15.4	40.0	15.3	35.4	26.1	46.2				
Change Period, (Y+R c), s				6.4	5.2	6.0	5.2	5.2	5.4	5.2	5.4				
Max Allow Headway (MAH), s				3.1	0.0	3.1	0.0	3.1	3.2	3.1	3.2				
Queue Clearance Time (g s), s				14.1		9.3		10.1	28.8	19.8	39.5				
Green Extension Time (g e), s				0.0	0.0	0.1	0.0	0.0	1.2	1.1	1.2				
Phase Call Probability				1.00		0.99		1.00	1.00	1.00	1.00				
Max Out Probability				1.00		0.30		1.00	0.59	0.01	0.56				
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				375	344	321	158	573	781	165	416		531	551	
Adjusted Saturation Flow Rate (s), veh/h/ln				1781	1870	1731	1795	1795	1598	1795	1813		1743	1716	
Queue Service Time (g s), s				12.1	18.5	18.7	7.3	16.2	34.8	8.1	26.8		17.8	37.5	
Cycle Queue Clearance Time (g c), s				12.1	18.5	18.7	7.3	16.2	34.8	8.1	26.8		17.8	37.5	
Green Ratio (g/C)				0.39	0.32	0.32	0.37	0.29	0.46	0.33	0.25		0.17	0.34	
Capacity (c), veh/h				370	592	547	312	1041	742	220	453		607	584	
Volume-to-Capacity Ratio (X)				1.012	0.581	0.586	0.507	0.550	1.054	0.748	0.918		0.875	0.944	
Back of Queue (Q), ft/ln (85 th percentile)				349	307	286	126	255	939	156	458		278	587	
Back of Queue (Q), veh/ln (85 th percentile)				13.8	12.1	11.5	5.0	10.1	37.3	6.2	18.2		11.0	23.3	
Queue Storage Ratio (RQ) (85 th percentile)				0.71	0.31	0.29	0.50	0.26	1.74	0.92	0.46		0.53	0.59	
Uniform Delay (d 1), s/veh				36.9	34.4	34.4	27.9	36.0	32.2	33.0	43.8		48.3	38.5	
Incremental Delay (d 2), s/veh				49.9	4.1	4.5	0.5	2.1	48.1	10.4	19.5		4.8	21.4	
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				86.8	38.5	39.0	28.3	38.1	80.2	43.5	63.3		53.1	59.9	
Level of Service (LOS)				F	D	D	C	D	F	D	E		D	E	
Approach Delay, s/veh / LOS				56.1		E	58.8		E	57.7		E	56.5		E
Intersection Delay, s/veh / LOS				57.4						E					
Multimodal Results				EB			WB			NB			SB		
Pedestrian LOS Score / LOS															
Bicycle LOS Score / LOS															

HCS Two-Way Stop-Control Report

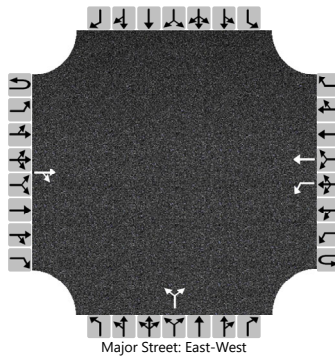
General Information

Analyst	KMC
Agency/Co.	TMS Engineers, Inc.
Date Performed	1/31/2025
Analysis Year	2036
Time Analyzed	Mid-Day Peak
Intersection Orientation	East-West
Project Description	Build

Site Information

Intersection	Cook Road & Starbucks Driveway
Jurisdiction	North Ridgeville
East/West Street	Cook Road
North/South Street	Starbucks Driveway
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

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	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			290	100		21	360			98		38				
Percent Heavy Vehicles (%)						1				0		0				
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)						4.11				6.40		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.21				3.50		3.30				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						23					148					
Capacity, c (veh/h)						1141					402					
v/c Ratio						0.02					0.37					
95% Queue Length, Q ₉₅ (veh)						0.1					1.7					
95% Queue Length, Q ₉₅ (ft)						2.5					42.5					
Control Delay (s/veh)						8.2					19.1					
Level of Service (LOS)						A					C					
Approach Delay (s/veh)					0.5				19.1							
Approach LOS					A				C							

HCS Two-Way Stop-Control Report

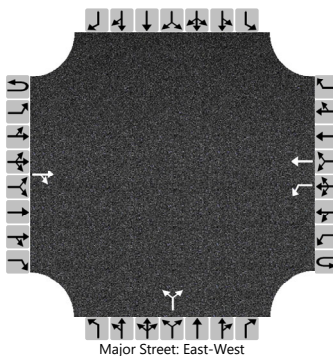
General Information

Analyst	KMC
Agency/Co.	TMS Engineers, Inc.
Date Performed	1/31/2025
Analysis Year	2036
Time Analyzed	PM Peak
Intersection Orientation	East-West
Project Description	Build

Site Information

Intersection	Cook Road & Starbucks Driveway
Jurisdiction	North Ridgeville
East/West Street	Cook Road
North/South Street	Starbucks Driveway
Peak Hour Factor	0.91
Analysis Time Period (hrs)	0.25

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	1	1	0		0	1	0		0	0	0
Configuration				TR		L	T				LR					
Volume (veh/h)			452	77		33	491			66		42				
Percent Heavy Vehicles (%)						2				0		0				
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)						4.12				6.40		6.20				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.22				3.50		3.30				

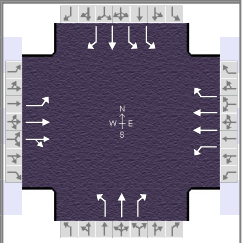
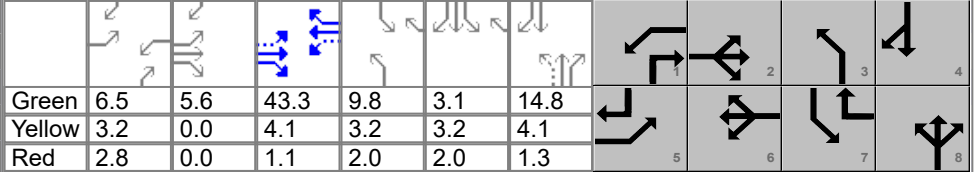
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)					36					119						
Capacity, c (veh/h)					993					279						
v/c Ratio					0.04					0.43						
95% Queue Length, Q ₉₅ (veh)					0.1					2.0						
95% Queue Length, Q ₉₅ (ft)					2.5					50.0						
Control Delay (s/veh)					8.8					27.1						
Level of Service (LOS)					A					D						
Approach Delay (s/veh)					0.6				27.1							
Approach LOS					A				D							

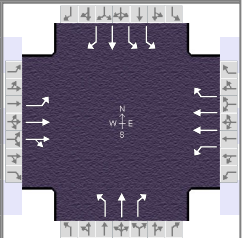
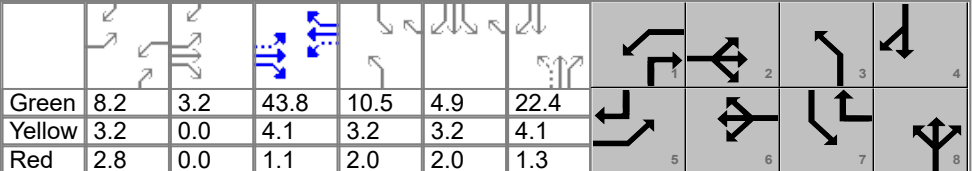
Appendix M

Improved Capacity Analysis Worksheets - 2036

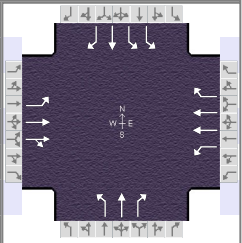
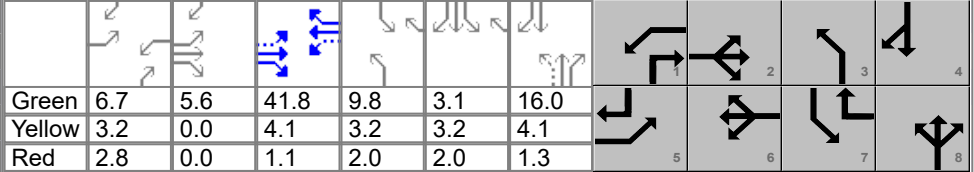
HCS Signalized Intersection Results Summary

General Information						Intersection Information													
Agency		TMS Engineers, Inc.				Duration, h		0.250											
Analyst		KMC		Analysis Date		Feb 7, 2025		Area Type		Other									
Jurisdiction		North Ridgeville		Time Period		Mid-Day Peak		PHF		0.94									
Urban Street		Lorain Road		Analysis Year		2036		Analysis Period		1> 7:00									
Intersection		Lorain Road & Lear Nag...		File Name		1. Improved Mid-Day 2036 Lorain Rd. & Cook Rd....													
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				240	340	70	80	340	320	150	190	60	450	180	170				
Signal Information																			
Cycle, s	110.0	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	5.6	43.3	9.8	3.1	14.8										
Yellow				3.2	0.0	4.1	3.2	3.2	4.1										
Red				2.8	0.0	1.1	2.0	2.0	1.3										
Timer Results				EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT	
Assigned Phase				5		2		1		6		3		8		7		4	
Case Number				1.1		4.0		1.1		3.0		1.1		3.0		2.0		3.0	
Phase Duration, s				18.1		54.1		12.5		48.5		15.0		20.2		23.3		28.4	
Change Period, (Y+R c), s				6.4		5.2		6.0		5.2		5.2		5.4		5.2		5.4	
Max Allow Headway (MAH), s				3.1		0.0		3.1		0.0		3.1		3.2		3.1		3.2	
Queue Clearance Time (g s), s				11.3				5.0				10.4		13.5		16.9		12.0	
Green Extension Time (g e), s				0.5		0.0		0.1		0.0		0.0		1.2		1.2		1.2	
Phase Call Probability				1.00				0.93				0.99		1.00		1.00		1.00	
Max Out Probability				0.00				0.00				1.00		0.00		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				255	223	213	85	362	245	160	202	64	479	191	181				
Adjusted Saturation Flow Rate (s), veh/h/ln				1739	1826	1718	1767	1766	1572	1781	1870	1610	1716	1856	1610				
Queue Service Time (g s), s				9.3	8.5	8.7	3.0	7.6	9.0	8.4	11.5	3.7	14.9	10.0	9.5				
Cycle Queue Clearance Time (g c), s				9.3	8.5	8.7	3.0	7.6	9.0	8.4	11.5	3.7	14.9	10.0	9.5				
Green Ratio (g/C)				0.51	0.44	0.44	0.45	0.39	0.56	0.22	0.13	0.19	0.16	0.21	0.32				
Capacity (c), veh/h				573	811	763	498	1389	877	344	251	311	564	389	509				
Volume-to-Capacity Ratio (X)				0.445	0.275	0.280	0.171	0.260	0.279	0.464	0.805	0.205	0.849	0.493	0.356				
Back of Queue (Q), ft/ln (85 th percentile)				144	148	138	56	130	130	143	200	65	230	173	141				
Back of Queue (Q), veh/ln (85 th percentile)				5.5	5.7	5.5	2.2	5.1	5.1	5.6	7.9	2.6	9.0	6.7	5.6				
Queue Storage Ratio (RQ) (85 th percentile)				0.29	0.15	0.14	0.23	0.13	0.24	0.84	0.20	0.00	0.44	0.17	0.00				
Uniform Delay (d 1), s/veh				15.9	19.3	19.4	17.5	22.6	12.8	36.5	46.2	37.3	44.6	38.3	29.0				
Incremental Delay (d 2), s/veh				0.2	0.8	0.9	0.1	0.5	0.8	0.4	2.3	0.1	1.4	0.4	0.2				
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	0.0	0.0				
Control Delay (d), s/veh				16.1	20.2	20.3	17.5	23.0	13.5	36.9	48.5	37.4	46.0	38.7	29.2				
Level of Service (LOS)				B	C	C	B	C	B	D	D	D	D	D	C				
Approach Delay, s/veh / LOS				18.7		B		19.0		B		42.5		D		40.8		D	
Intersection Delay, s/veh / LOS				29.7						C									
Multimodal Results				EB			WB			NB			SB						
Pedestrian LOS Score / LOS																			
Bicycle LOS Score / LOS																			

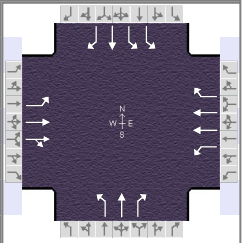
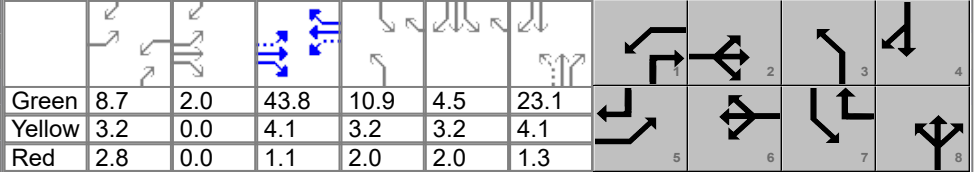
HCS Signalized Intersection Results Summary

General Information						Intersection Information													
Agency		TMS Engineers, Inc.				Duration, h		0.250											
Analyst		KMC		Analysis Date		Feb 7, 2025		Area Type		Other									
Jurisdiction		North Ridgeville		Time Period		PM Peak		PHF		0.96									
Urban Street		Lorain Road		Analysis Year		2036		Analysis Period		1> 7:00									
Intersection		Lorain Road & Lear Nag...		File Name		1. Improved PM 2036 Lorain Rd. & Cook Rd. NB....													
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				360	500	130	140	550	840	150	300	80	510	230	290				
Signal Information																			
Cycle, s	120.0	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	8.2	3.2	43.8	10.5	4.9	22.4	5		6		7		8						
Yellow	3.2	0.0	4.1	3.2	3.2	4.1													
Red	2.8	0.0	1.1	2.0	2.0	1.3													
Timer Results				EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT	
Assigned Phase				5		2		1		6		3		8		7		4	
Case Number				1.1		4.0		1.1		3.0		1.1		3.0		2.0		3.0	
Phase Duration, s				17.4		52.2		14.2		49.0		15.7		27.8		25.8		37.9	
Change Period, (Y+R c), s				6.4		5.2		6.0		5.2		5.2		5.4		5.2		5.4	
Max Allow Headway (MAH), s				3.1		0.0		3.1		0.0		3.1		3.2		3.1		3.2	
Queue Clearance Time (g s), s				13.0				8.0				10.3		21.4		19.9		19.7	
Green Extension Time (g e), s				0.0		0.0		0.2		0.0		0.3		1.1		0.7		1.8	
Phase Call Probability				1.00				0.99				0.99		1.00		1.00		1.00	
Max Out Probability				1.00				0.00				0.00		0.64		0.31		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				375	339	317	146	573	781	156	313	83	531	240	302				
Adjusted Saturation Flow Rate (s), veh/h/ln				1781	1870	1737	1795	1795	1598	1795	1885	1610	1743	1885	1610				
Queue Service Time (g s), s				11.0	16.2	16.3	6.0	14.5	43.8	8.3	19.4	4.9	17.9	12.7	17.7				
Cycle Queue Clearance Time (g c), s				11.0	16.2	16.3	6.0	14.5	43.8	8.3	19.4	4.9	17.9	12.7	17.7				
Green Ratio (g/C)				0.46	0.39	0.39	0.43	0.36	0.54	0.27	0.19	0.26	0.17	0.27	0.36				
Capacity (c), veh/h				428	732	680	370	1310	857	387	353	411	598	511	584				
Volume-to-Capacity Ratio (X)				0.876	0.463	0.466	0.394	0.437	0.912	0.403	0.886	0.203	0.889	0.469	0.518				
Back of Queue (Q), ft/ln (85 th percentile)				254	264	247	105	226	693	141	354	84	292	211	237				
Back of Queue (Q), veh/ln (85 th percentile)				10.0	10.4	9.9	4.2	9.0	27.5	5.6	14.1	3.4	11.6	8.4	9.5				
Queue Storage Ratio (RQ) (85 th percentile)				0.52	0.26	0.25	0.42	0.23	1.28	0.83	0.35	0.00	0.56	0.21	0.00				
Uniform Delay (d 1), s/veh				30.5	27.1	27.2	22.1	28.8	25.2	34.7	47.5	35.1	48.6	36.5	30.0				
Incremental Delay (d 2), s/veh				17.4	2.1	2.3	0.3	1.1	15.6	0.3	17.2	0.1	10.3	0.2	0.3				
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	0.0	0.0				
Control Delay (d), s/veh				48.0	29.2	29.5	22.4	29.9	40.8	34.9	64.7	35.2	58.9	36.8	30.3				
Level of Service (LOS)				D	C	C	C	C	D	C	E	D	E	D	C				
Approach Delay, s/veh / LOS				36.1		D		34.8		C		51.9		D		45.9		D	
Intersection Delay, s/veh / LOS				40.3						D									
Multimodal Results				EB			WB			NB			SB						
Pedestrian LOS Score / LOS																			
Bicycle LOS Score / LOS																			

HCS Signalized Intersection Results Summary

General Information						Intersection Information															
Agency		TMS Engineers, Inc.				Duration, h		0.250													
Analyst		KMC		Analysis Date		Feb 7, 2025		Area Type		Other											
Jurisdiction		North Ridgeville		Time Period		Mid-Day Peak		PHF		0.94											
Urban Street		Lorain Road		Analysis Year		2036		Analysis Period		1> 7:00											
Intersection		Lorain Road & Lear Nag...		File Name		1. Improved Mid-Day 2036 Lorain Rd. & Cook Rd....															
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						240	340	88	100	340	320	167	209	82	450	202	170				
Signal Information																					
Cycle, s	110.0	Reference Phase	2																		
Offset, s	0	Reference Point	End																		
Uncoordinated	No	Simult. Gap E/W	On																		
Force Mode	Fixed	Simult. Gap N/S	On																		
Red						2.8	0.0	1.1	2.0	2.0	1.3	5		6		7		8			
Timer Results						EBL		EBT		WBL		WBT		NBL		NBT		SBL		SBT	
Assigned Phase						5		2		1		6		3		8		7		4	
Case Number						1.1		4.0		1.1		3.0		1.1		3.0		2.0		3.0	
Phase Duration, s						18.3		52.6		12.7		47.0		15.0		21.4		23.3		29.7	
Change Period, (Y+R c), s						6.4		5.2		6.0		5.2		5.2		5.4		5.2		5.4	
Max Allow Headway (MAH), s						3.1		0.0		3.1		0.0		3.1		3.2		3.1		3.2	
Queue Clearance Time (g s), s						11.5				5.9				11.3		14.7		16.9		13.2	
Green Extension Time (g e), s						0.4		0.0		0.2		0.0		0.0		1.4		1.2		1.4	
Phase Call Probability						1.00				0.96				1.00		1.00		1.00		1.00	
Max Out Probability						0.00				0.00				1.00		0.00		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						255	234	222	106	362	245	178	222	87	479	215	181				
Adjusted Saturation Flow Rate (s), veh/h/ln						1739	1826	1697	1767	1766	1572	1781	1870	1610	1716	1856	1610				
Queue Service Time (g s), s						9.5	9.2	9.4	3.9	7.8	9.2	9.3	12.7	5.0	14.9	11.2	9.3				
Cycle Queue Clearance Time (g c), s						9.5	9.2	9.4	3.9	7.8	9.2	9.3	12.7	5.0	14.9	11.2	9.3				
Green Ratio (g/C)						0.50	0.43	0.43	0.44	0.38	0.54	0.23	0.15	0.21	0.16	0.22	0.33				
Capacity (c), veh/h						562	786	731	477	1341	855	342	273	333	564	410	530				
Volume-to-Capacity Ratio (X)						0.455	0.297	0.303	0.223	0.270	0.286	0.520	0.815	0.262	0.849	0.524	0.341				
Back of Queue (Q), ft/ln (85 th percentile)						147	159	148	73	132	134	156	216	85	230	190	138				
Back of Queue (Q), veh/ln (85 th percentile)						5.7	6.1	5.9	2.9	5.2	5.2	6.1	8.5	3.4	9.0	7.4	5.5				
Queue Storage Ratio (RQ) (85 th percentile)						0.30	0.16	0.15	0.29	0.13	0.25	0.92	0.22	0.00	0.44	0.19	0.00				
Uniform Delay (d 1), s/veh						16.7	20.5	20.5	18.5	23.6	13.5	35.9	45.5	36.6	44.6	37.7	27.9				
Incremental Delay (d 2), s/veh						0.2	1.0	1.1	0.1	0.5	0.8	0.7	2.3	0.2	1.4	0.4	0.1				
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	0.0	0.0				
Control Delay (d), s/veh						16.9	21.4	21.6	18.6	24.1	14.4	36.6	47.8	36.7	46.0	38.1	28.0				
Level of Service (LOS)						B	C	C	B	C	B	D	D	D	D	D	C				
Approach Delay, s/veh / LOS						19.8		B		19.9		B		41.7		D		40.4		D	
Intersection Delay, s/veh / LOS						30.1						C									
Multimodal Results						EB			WB			NB			SB						
Pedestrian LOS Score / LOS																					
Bicycle LOS Score / LOS																					

HCS Signalized Intersection Results Summary

General Information						Intersection Information									
Agency		TMS Engineers, Inc.				Duration, h		0.250							
Analyst		KMC		Analysis Date		Feb 7, 2025		Area Type		Other					
Jurisdiction		North Ridgeville		Time Period		PM Peak		PHF		0.96					
Urban Street		Lorain Road		Analysis Year		2036		Analysis Period		1> 7:00					
Intersection		Lorain Road & Lear Nag...		File Name		1. Improved PM 2036 Lorain Rd. & Cook Rd..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				360	500	138	152	550	840	158	311	88	510	239	290
Signal Information															
Cycle, s	120.0	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	8.7	2.0	43.8	10.9	4.5	23.1	1		2		3		4		
Yellow	3.2	0.0	4.1	3.2	3.2	4.1	5		6		7		8		
Red	2.8	0.0	1.1	2.0	2.0	1.3									
Timer Results				EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT				
Assigned Phase				5	2	1	6	3	8	7	4				
Case Number				1.1	4.0	1.1	3.0	1.1	3.0	2.0	3.0				
Phase Duration, s				16.7	51.0	14.7	49.0	16.1	28.5	25.8	38.1				
Change Period, (Y+R c), s				6.4	5.2	6.0	5.2	5.2	5.4	5.2	5.4				
Max Allow Headway (MAH), s				3.1	0.0	3.1	0.0	3.1	3.2	3.1	3.2				
Queue Clearance Time (g s), s				12.3		8.5		10.7	22.1	19.9	19.8				
Green Extension Time (g e), s				0.0	0.0	0.3	0.0	0.3	1.0	0.7	1.9				
Phase Call Probability				1.00		0.99		1.00	1.00	1.00	1.00				
Max Out Probability				1.00		0.00		0.00	0.83	0.31	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				375	344	321	158	573	781	165	324	92	531	249	302
Adjusted Saturation Flow Rate (s), veh/h/ln				1781	1870	1731	1795	1795	1598	1795	1885	1610	1743	1885	1610
Queue Service Time (g s), s				10.3	16.7	16.9	6.5	14.5	43.8	8.7	20.1	5.3	17.9	13.3	17.8
Cycle Queue Clearance Time (g c), s				10.3	16.7	16.9	6.5	14.5	43.8	8.7	20.1	5.3	17.9	13.3	17.8
Green Ratio (g/C)				0.45	0.38	0.38	0.44	0.36	0.54	0.28	0.19	0.27	0.17	0.27	0.36
Capacity (c), veh/h				419	714	661	365	1310	857	389	363	427	598	514	578
Volume-to-Capacity Ratio (X)				0.896	0.482	0.485	0.434	0.437	0.912	0.423	0.894	0.215	0.889	0.484	0.522
Back of Queue (Q), ft/ln (85 th percentile)				281	273	254	112	226	693	146	370	90	292	218	238
Back of Queue (Q), veh/ln (85 th percentile)				11.1	10.7	10.2	4.5	9.0	27.5	5.8	14.7	3.6	11.6	8.7	9.5
Queue Storage Ratio (RQ) (85 th percentile)				0.57	0.27	0.26	0.45	0.23	1.28	0.86	0.37	0.00	0.56	0.22	0.00
Uniform Delay (d 1), s/veh				31.9	28.1	28.2	22.3	28.8	25.2	34.1	47.3	34.4	48.6	36.6	30.3
Incremental Delay (d 2), s/veh				20.7	2.3	2.5	0.3	1.1	15.6	0.3	18.8	0.1	10.3	0.3	0.3
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	0.0	0.0
Control Delay (d), s/veh				52.6	30.4	30.7	22.6	29.9	40.8	34.4	66.1	34.4	58.9	36.8	30.6
Level of Service (LOS)				D	C	C	C	C	D	C	E	C	E	D	C
Approach Delay, s/veh / LOS				38.5		D	34.7		C	52.1		D	45.9		D
Intersection Delay, s/veh / LOS				40.9						D					
Multimodal Results				EB			WB			NB			SB		
Pedestrian LOS Score / LOS															
Bicycle LOS Score / LOS															

Appendix N

ODOT Turn Lane Warrant Graphs

Cook Road & Starbucks Driveway

2026 Build

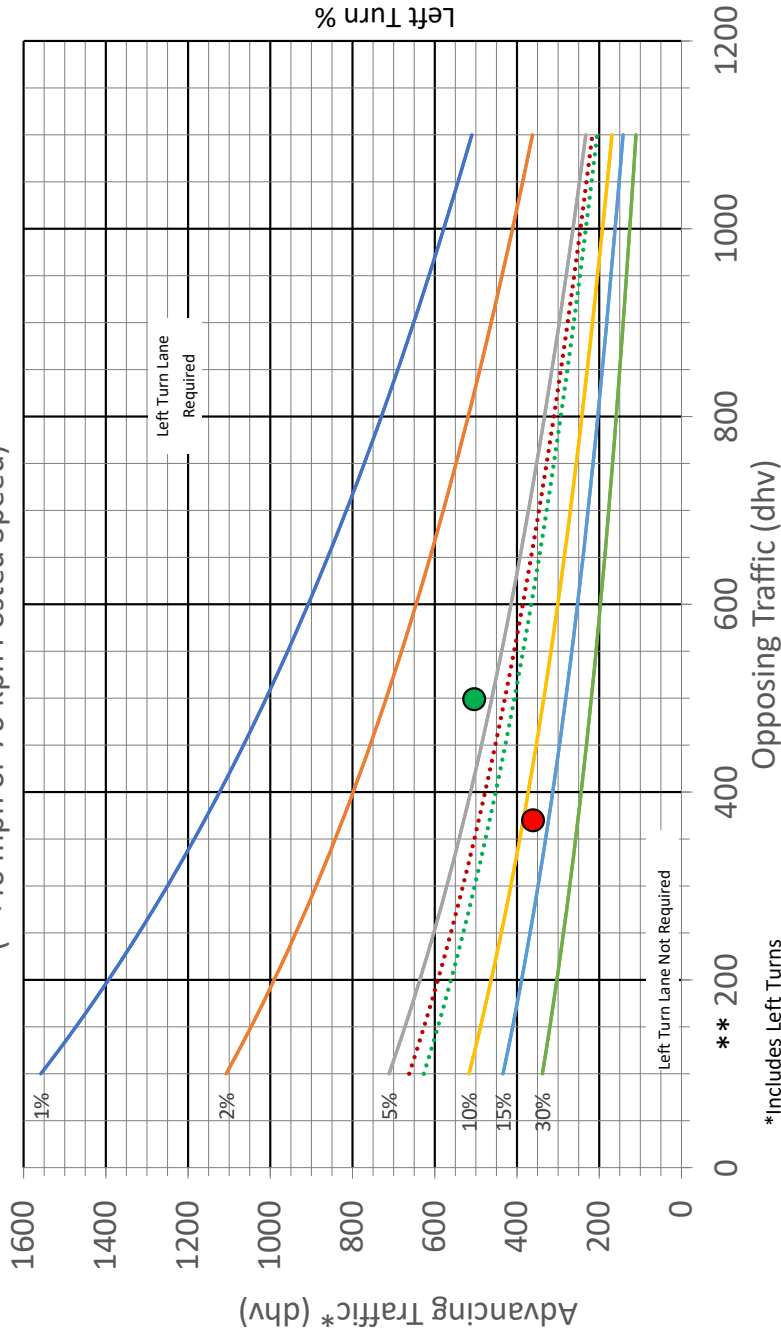
WARRANT IS MET

Left turn lane is warranted in the Mid-day when the red dot is located on or above the dotted red line.

Left turn lane is warranted in the PM when the green dot is located on or above the dotted green line.

2-Lane Highway Left Turn Lane Warrant

(=<40 mph or 70 kph Posted Speed)



*Includes Left Turns

**There is no minimum number of turns

TIME	WESTBOUND		EASTBOUND		ADVANCING	OPPOSING	LT%	WARRANT?
	LEFT	THRU	THRU	RIGHT				
Mid-Day	21	340	270	100	361	370	5.8%	NO
PM	33	471	422	77	504	499	6.5%	YES

2-LANE LEFT TURN LANE WARRANT (LOW SPEED)

401-5aM

REFERENCE SECTION
401.6.1

2-LANE RIGHT TURN LANE WARRANT (LOW SPEED)

401-6aM

REFERENCE SECTION
401.6.3

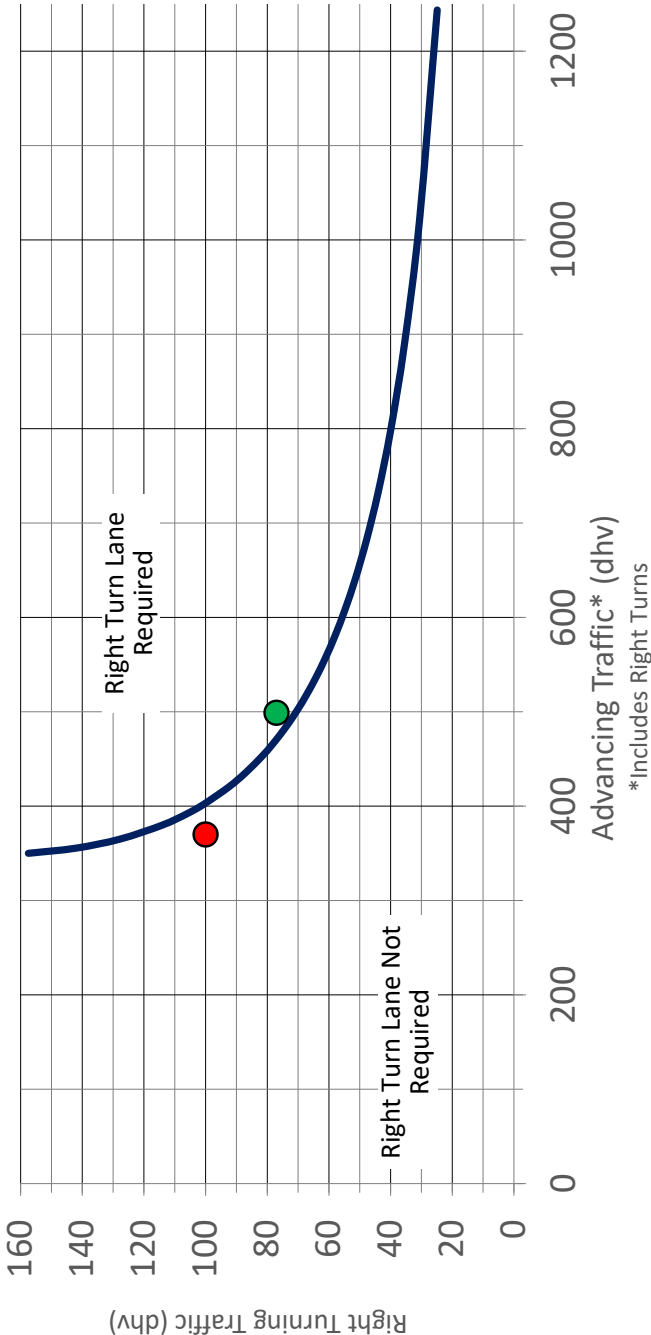
Cook Road & Starbucks Driveway

2026 Build

WARRANT IS MET

2-Lane Highway Right Turn Lane Warranty

(=<40 mph or 70 kph Posted Speed)



TIME	EASTBOUND			WARRANT?
	THRU	RIGHT	ADVANCING	
Mid-day	270	100	370	NO
PM	422	77	499	YES

Cook Road & Starbucks Driveway

2036 Build

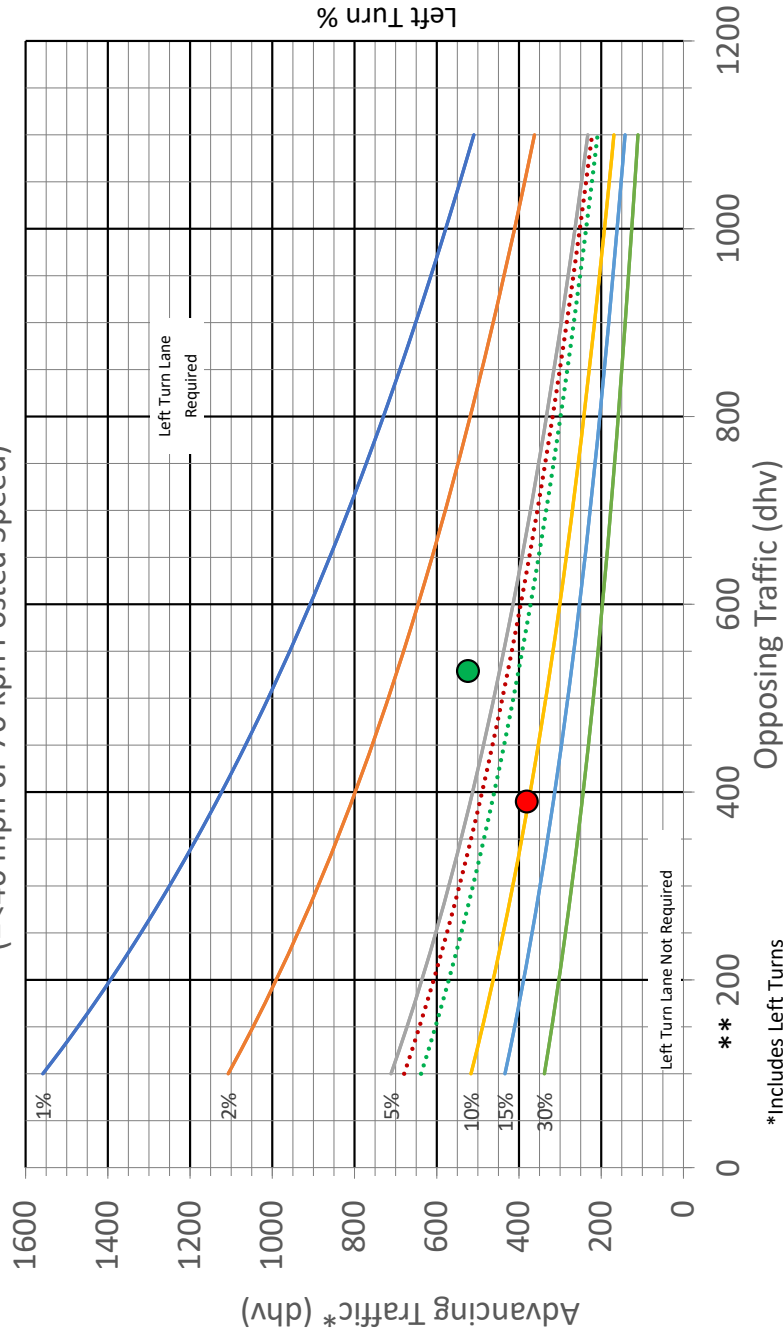
WARRANT IS MET

Left turn lane is warranted in the Mid-day when the red dot is located on or above the dotted red line.

Left turn lane is warranted in the PM when the green dot is located on or above the dotted green line.

2-Lane Highway Left Turn Lane Warrant

(=<40 mph or 70 kph Posted Speed)



TIME	WESTBOUND		EASTBOUND		ADVANCING	OPPOSING	LT%	WARRANT?
	LEFT	THRU	THRU	RIGHT				
Mid-day	21	360	290	100	381	390	5.5%	NO
PM	33	491	452	77	524	529	6.3%	YES

2-LANE LEFT TURN LANE WARRANT (LOW SPEED)

401-5aM

REFERENCE SECTION
401.6.1

2-LANE RIGHT TURN LANE WARRANT (LOW SPEED)

401-6aM

REFERENCE SECTION
401.6.3

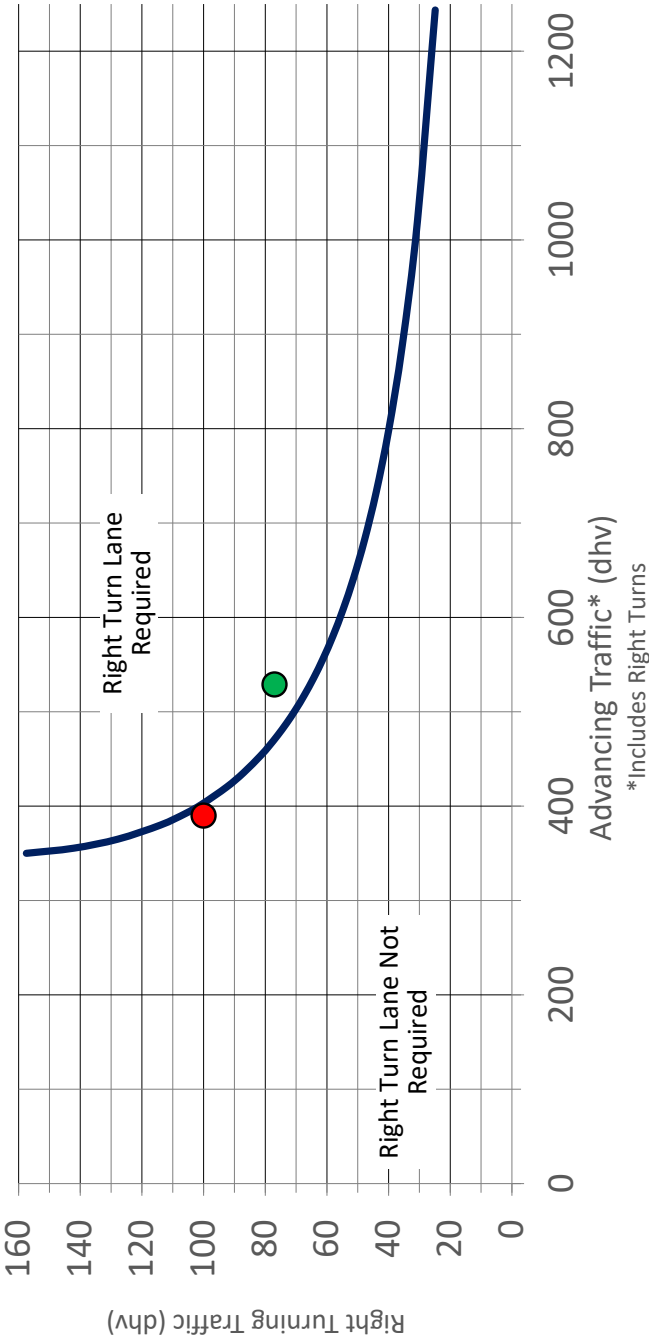
Cook Road & Starbucks Driveway

2036 Build

WARRANT IS MET

2-Lane Highway Right Turn Lane Warrant

(=<40 mph or 70 kph Posted Speed)



TIME	EASTBOUND			WARRANT?
	THRU	RIGHT	ADVANCING	
Mid-day	290	100	390	NO
PM	452	77	529	YES



Memo

To: Kim Lieber, AICP; Director of Planning & Development – City of North Ridgeville, OH

From: Woolpert, Inc.

Date: March 24, 2025

Subject: North Ridgeville Traffic GES – Panda Express TIS Review

Background

This memo outlines the findings of Woolpert’s review of the Proposed Panda Express Traffic Impact Study (TIS) dated February 2025 produced by TMS Engineers on behalf of Panda Express, Inc. and RTM Engineering Consultants. The subject TIS and associated site plan is part of an application submitted for approval in February 2025 by Panda Express, Inc. to the City of North Ridgeville Planning Commission.



Figure 1 - Project Location and Approximate Property Area

The project site will be accessed via two shared driveways, a west driveway shared between the project site and an existing Starbucks coffee shop, and an east driveway shared between the project site and a commercial strip plaza. Both accesses are side street stop-controlled and will remain stop-controlled in the proposed condition.

Woolpert finds the methodologies and standards used in the provided traffic impact study to be acceptable and in accordance with accepted industry standards, including relevant ITE and ODOT standards. The following exceptions are noted:

- All signalized HCS reports show an 85th percentile queue rather than the industry standard 95th percentile
- It is not apparent that lane utilization factors were adjusted to account for an existing lane imbalance in the southbound dual left turn lanes at Lorain Rd/Cook Rd/Lear Nagle Rd, which may significantly impact the analysis results at this signal

Review of TIS Recommendations

The TIS recommended the following improvements to the Lorain Rd/Lear Nagle Rd/Cook Rd intersection to accommodate 2036 No-Build traffic:

- Extend existing Lorain Rd westbound right turn lane to 800 ft in length
- Construct a 400 ft northbound right turn lane on Cook Rd
- Construct a 425 ft southbound right turn lane on Lear Nagle Rd

The TIS recommended the following improvements to the Starbucks/Cook Rd intersection to accommodate 2036 Build condition traffic at the project site:

- Construct a 100 ft eastbound right turn lane on Cook Rd (**not shown on 1/28/25 site plan, or revised 3/13/25 site plan**) (3/13/25 site plan is attached to this memo)

The TIS concludes that the proposed site traffic will not impact the existing roadway network. Woolpert reviewed this assumption, based on the TIS growth analysis and proposed recommendations and offers the following comments:

TIS Growth Analysis

The TIS applied a global linear annual growth rate of 0.5991% from 2026 to 2036 for the analysis of the proposed condition. The TIS growth rates are based on ODOT traffic count data from Lorain Rd, along with ODOT growth forecasts. Woolpert previously obtained daily and peak hour growth information from the Northeast Ohio Area Coordinating Agency (NOACA) for years 2024 and 2050 as part of the Lorain Rd at Lear Nagle Rd Traffic Study, unrelated to the proposed development. Table 1 shows both NOACA and TIS growth rates for the study area.

Table 1 - Cook Rd Growth Rates

Period	Linear Annual Growth Rate
2024 to 2050 AM Peak (NOACA)	0.861 %*
2024 to 2050 PM Peak (NOACA)	0.684 %*
2026 to 2036 Daily Total (Panda Express Study)	0.599 %
2024 to 2050 Daily Total (NOACA)	0.551 %*

* = Growth Rate Represents Eastbound Cook Road from Lorain Rd to the Cuyahoga County Line

NOACA's growth rates indicate variation between peak hour growth and daily growth. The TIS growth rate is in line with the NOACA daily growth rate but is lower than the AM and PM Peak Hour growth rates. Because the TIS specifically evaluates PM peak hour growth between 2026 and 2036, **Woolpert finds that the global growth rate applied to the analysis likely underestimates 2036 Weekday PM Peak Hour volumes by a moderate amount.**

Access and Circulation

The proposed access plan shows a shared full access drive on the west side of the property, and a shared full access drive on the east side of the property, separated by approximately 50 ft. The presence of multiple closely spaced full access drives introduces additional conflict points which can result in higher frequencies of crashes in the project area.

While the access points in question are existing accesses, they currently serve separate entities as opposed to being shared drives. Current North Ridgeville Codified Ordinances require 120 ft spacing between adjacent curb cuts on Collector roadways (NRCO 1285.06). Where acceptable minimum driveway spacing is not feasible due to property configuration, the Planning Commission may determine an alternative minimum spacing and/or directional restriction for driveway access.

Given that existing queueing (**Figure 2**) on Cook Rd can extend from Lorain Rd beyond the project site and as far as the Lorain County Community College (LCCC) drive, multiple full access stop-controlled drives will perform inefficiently during peak periods. Additionally, queueing on Cook Rd at the Lorain Rd/Lear Nagle Rd/Cook Rd signalized intersection will frequently block access to the project site during peak periods creating temporary gridlock conditions that may impact the adjacent public roadway network.



Figure 2 - Existing PM Peak Queuing on Cook Rd Approaching Lorain Rd

Woolpert recommends consideration of the following two access schemes to address potential blocking of project site drives, and to address potential concerns relating to minimum driveway spacing on Cook Rd:

1. Convert the west access to right-in, right out only to move left turn exiting project site traffic as far downstream from the adjacent signal as possible; full access would be provided at the east access.
2. Convert the west access to **entrance only** and the east access to **exit only**, streamlining internal circulation, and moving all exiting traffic as far downstream from the adjacent signal as possible.

The provided site plan shows two-way traffic on all internal roadways within the Panda Express site; this can cause temporary internal roadway gridlock, leading to blocked driveway throats and spillbacks onto Cook Rd. In conjunction with the access modifications mentioned above, Woolpert recommends consideration of a one-way circulation pattern within the site to streamline traffic flow, as shown in **Figure 3**. As part of this consideration, the straight parking shown across from the west side of the proposed building should be converted to angled parking in line with the one-way circulatory movement.

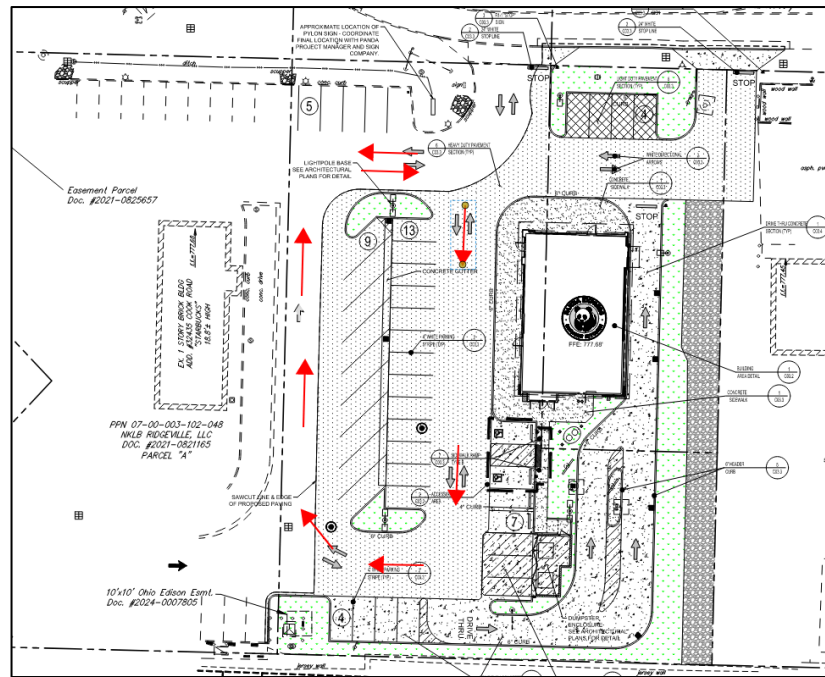


Figure 3 - Potential Circulation Alternative

Conclusions

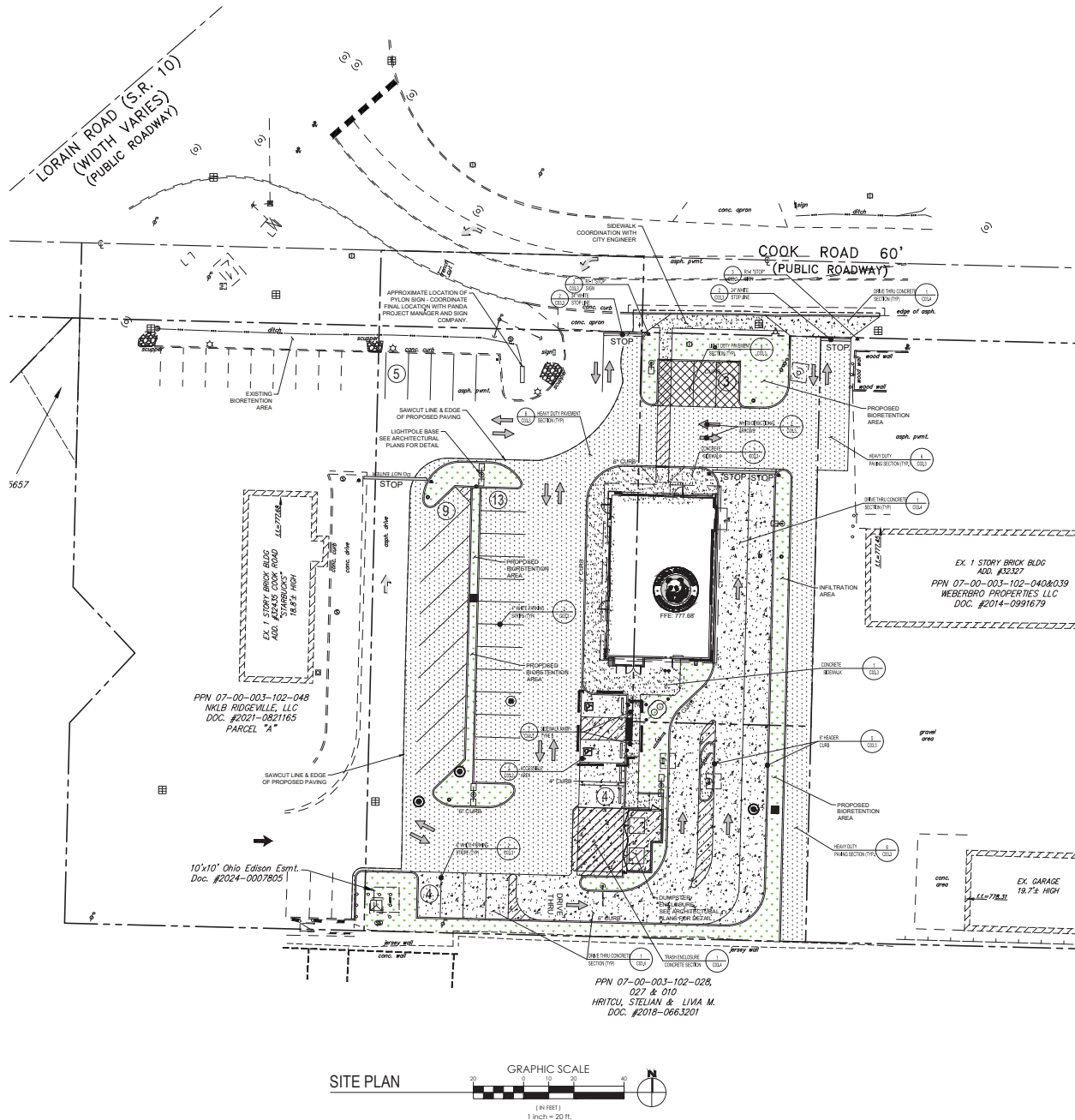
- Woolpert finds that the global growth rate applied to the analysis likely underestimates 2036 Weekday PM Peak Hour volumes by a moderate amount.
- The TIS accurately identifies capacity issues at the signal of Lorain Rd and Lear Nagle/Cook prior to the addition of Panda Express traffic.
- Proposed driveway spacing does not meet current City standards, and the presence of multiple full access drives near a congested signalized creates additional traffic/safety concerns.
- Overall, the proposed Panda Express adds minimal traffic and does not materially impact the Lorain Rd/Lear Nagle Rd/Cook Rd signalized intersection, but future growth unrelated to the development may render access to the project site challenging without future modifications to the adjacent public roadway network.

Considerations for Panda Express Project

- Consider modifying the project site access at the west drive to right-in, right-out only, or convert the project site access to west entry only, and east exit only to address driveway spacing concerns.
- Consider modifications to the proposed circulation plan to provide one way circulation as shown in **Figure 3**, to avoid potential internal gridlock during high demand periods.

Considerations for the City of North Ridgeville

- Continue evaluating capacity and safety improvements at the intersection of Lorain Rd and Lear Nagle/Cook



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 RIDGERD

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

January 7, 2025

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

Council has approved rezoning of the subject property from I-3 Heavy Industrial District to 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.

The submittal shows some changes to the south elevation of the building; however, the drawings lacked detail at the time of this report. 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. Detail has been provided.

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. Based on the proposed seating, parking is adequate. A total of 50 spaces are provided, which satisfies the 39 required for the lounge/restaurant plus salon. It is recommended the parking lot be patched, sealed and restriped.

Some landscaping has been provided. The applicant proposes landscape planters adjacent to the building and west of the ingress drive. Raised beds are shown around the ground sign and along the ADA ramp. More detail and definition of the site landscaping is needed.

Comments:

- Provide more detail on the elevations to include proposed colors, materials and construction detail.
- Improve landscaping detail.
- Ensure railing is provided around entire patio portions above grade.
- Photometric plan and light fixtures are needed for review.

Staff Meeting Bulletin

Meeting Date: January 3, 2025

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
Guy Fursdon, Chief Building Official
Toni Morgan, Assistant Law Director
Tina Wieber, Deputy Clerk of Council
Stephen Joseph, Owner
Geoffrey Smith, Attorney

Staff Comments

- Kim stated that in the last meeting they had discussed the parking lot and the need to create better definition of the drive aprons and remove some of the striping that went into the right-of-way, and it appeared that that was done. She mentioned that the parking lot widths and spaces were all properly sized.
- Kim discussed that regarding parking, it was noted that it would be resealed and restriped but asked if he could add patching prior to resealing to even out spots and note it as repair, reseal and restripe. Kim stated that regarding parking it looked like they needed 39 and they were showing 50, so that would be plenty, even with the salon.
- Kim asked if the landscaped areas along the frontage were going to be cut in. Stephen stated there would be a raised bed around the main sign and a flower bed adjacent to the patio. For the rest of it he wanted concrete pots with potted plants in the front of the building. Kim asked if there would be curbing or he would be defining the ins and outs with pots. She asked for the specs on the pots and Stephen stated that they would be 30 inches in diameter and 20 inches tall and would have an evergreen in each of them. He mentioned that he would plant Winter Gems in front of the building. Christina asked if they would be structural concrete pots that would be out all year or were they something that would be out only in the summer. Stephen stated that it would be year-round. Christina discussed that the pots were a concern if someone were to leave the right-of-way as they would be non-breakaway.
- Stephen mentioned that he would mark the ins and outs with signs. Kim stated that they would need a detail on those signs because of where they would be located being really close to the entrance drive and explained that there were requirements regarding the max height and area location.
- Kim asked if the front left area would be striped with the containers on top and Stephen stated that was correct. Kim asked about the east of the exit drive, all of that area, but not where the flower bed would be, would be striped off and then that would be landscaping along the building part with a flower bed along the ramp. Stephen stated that was correct. Kim asked about the back of the lot regarding landscaping, the area that would be cut out and asked if that was topsoil or if it would be plants as well. Stephen stated that it was stone and at the edge of the driveway he would plant Winter Gems there so that no one could get back in that triangular corner. Kim asked how he would prevent it from having weeds growing up through the gravel. Stephen stated that he was going to dig it out about three feet wide and put a weed barrier down and then plant the Winter Gems and mulch. Kim asked about the area in the point of the triangle behind that being maintained. Stephen stated that most of that area back there was telephone poles, but he would maintain it. Kim asked about the

triangle right next to the railroad tracks halfway up the parking lot and if that was going to be grass. Stephen stated that it was.

- Christina mentioned that regarding the telephone poles to check for easements because he may be limited to vertical landscaping and not to put anything under an aerial.
- Kim recapped that where those parking spaces were labeled 35 to 40, that area to the west would be grass and then the landscaped area with the winter gem shown just to the north of spaces 41 to 44, that would be topsoil and would be planted and mulched with those evergreens and then, further north beyond in that point that would be graveled and maintained as gravel. She asked if they could add clarification around what the intent was for each of those areas, so noting that the area would be changed into grass and maintained gravel and adding soil and plants.
- Kim stated that he showed proposed lighting on the site plan but didn't provide a photometric plan or any lighting cut sheets and those would be needed to determine if the lighting levels met the code requirements.
- Kim asked regarding the elevations, there wasn't any notations or detail about what was happening and asked if he was showing the intent to maintain existing brick as is. Stephen stated that was correct. She stated that she didn't understand what was happening with the south façade and asked if he was proposing some kind of plaster or stucco. She stated that typically an architectural elevation would label materials and colors and have a little bit of construction detail. She explained that she wasn't sure if those were new canopies over the windows or were existing and suggested less art and more detail.
- Christina asked about the raised patio and commented that it looked like it was going to be pretty steep up the back end and asked if he intended to put in a fence or a rail. Stephen stated that there was a rail but that it didn't show up in the drawing. Christina stated that he had the elevation for the patio floor but didn't show what the elevation was of the parking lot. Stephen stated that he wasn't sure but thought it was 60 inches from the parking lot up and that he only did 7-inch risers on the drawing. Christina stated that it needed to be clear as to all sides
- Christina asked if he was ever able to investigate the inlet catch basin on the northern area of the parking lot just to ensure the integrity of it and to ensure that the outlet had a clear discharge area. Stephen stated that he did not but that he would get a camera down there.

Next Steps

- The applicant will provide updated plans by Friday, January 10 for the January 14 meeting.

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

(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.

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.

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

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

From: **Alisha Blaylock** <ablaylock@elyrialaw.com>
Date: Mon, Nov 11, 2024, 11:28 AM
Subject: Re: 39462 CenterRidge Rd
To: Stephen Joseph <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

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.

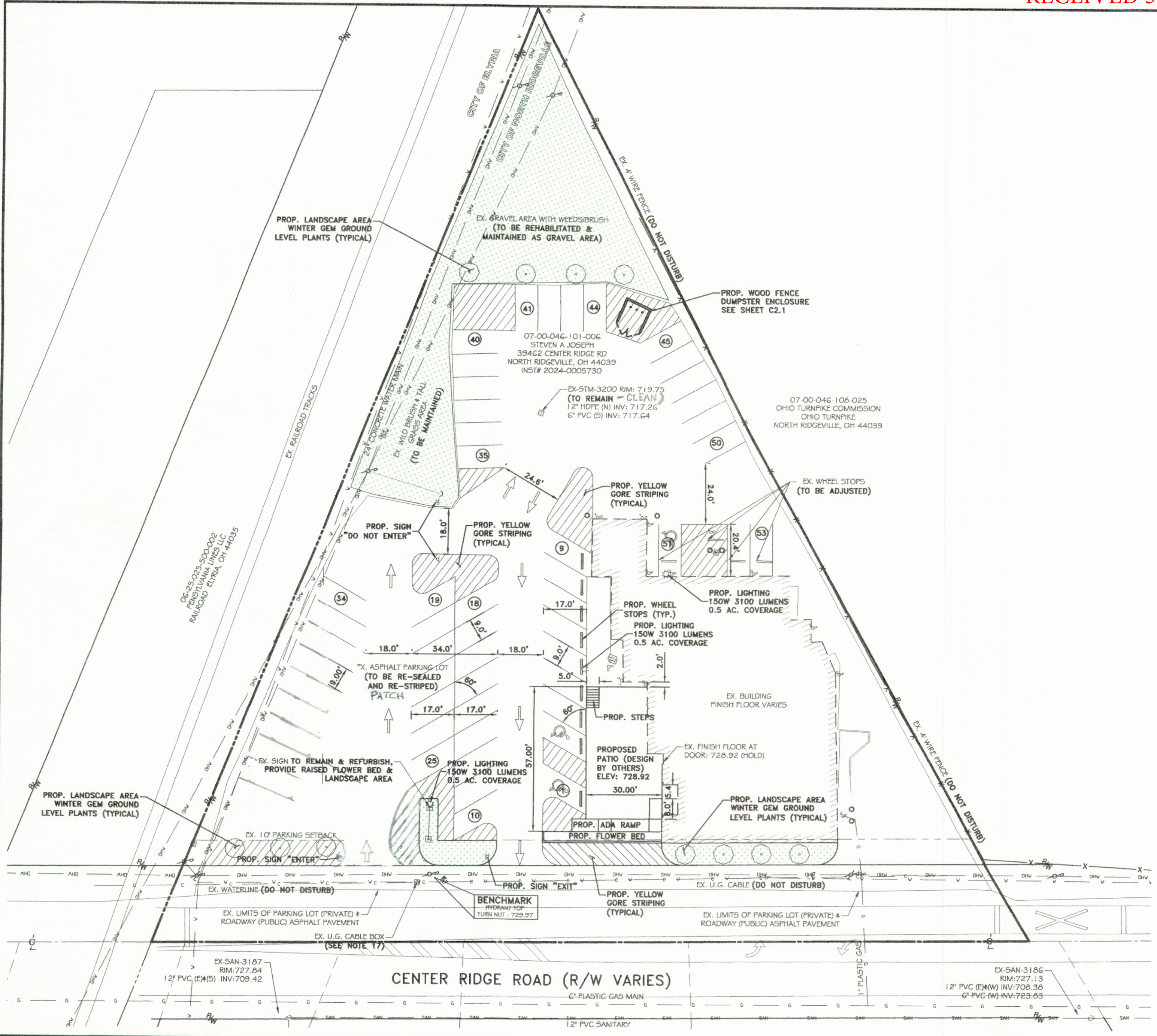
On Mon, Nov 11, 2024 at 11:17 AM Alisha Blaylock <ablaylock@elyrialaw.com> wrote:
Call the office please.

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

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> 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



- NOTES:**
1. ALL DIMENSIONS TO THE FACE OF CURB, FACE OF BUILDING, & FACE OF WALL UNLESS OTHERWISE STATED.
 2. FOR EXACT BUILDING DIMENSIONS & DETAILS SEE ARCHITECTURAL PLANS.
 3. CONTRACTOR MUST SECURE ALL NECESSARY PERMITS PRIOR TO STARTING WORK.
 4. IF THE CONTRACTOR, IN THE COURSE OF THE WORK, FINDS ANY DISCREPANCIES BETWEEN THE PLANS AND THE PHYSICAL CONDITIONS OF THE SITE, OR ANY ERRORS OR OMISSIONS IN THE PLANS OR IN THE LAYOUT AS GIVEN BY THE ENGINEER, IT SHALL BE HIS DUTY TO IMMEDIATELY INFORM THE ENGINEER, IN WRITING, AND THE ENGINEER WILL PROMPTLY VERIFY THE SAME. ANY WORK DONE AFTER SUCH A DISCOVERY, UNTIL AUTHORIZED, WILL BE AT THE CONTRACTOR'S RISK.
 5. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE TO THE STATE AND LOCAL GOVERNMENT AGENCY LATEST CONSTRUCTION SPECIFICATIONS AND DETAILS.
 6. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL SETBACKS, EASEMENTS, AND DIMENSIONS SHOWN HEREON PRIOR TO CONSTRUCTION.
 7. CONTRACTOR TO NOTIFY THE INSPECTOR A MINIMUM OF FORTY-EIGHT (48) HOURS BEFORE BEGINNING EACH PHASE OF CONSTRUCTION.
 8. THE CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND PUBLIC SHALL BE PROTECTED FROM INJURY, AND ADJOINING PROPERTY BOTH PRIVATE & PUBLIC PROTECTED FROM DAMAGE.
 9. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO ANY EXISTING ITEMS AND/OR MATERIALS INSIDE OR OUTSIDE CONTRACT LIMITS DUE TO CONSTRUCTION OPERATIONS.
 10. ALL STREET SURFACES, DRIVEWAYS, CULVERTS, CURB AND GUTTERS, ROADSIDE DRAINAGE DITCHES AND OTHER STRUCTURES THAT ARE MAY BE DISTURBED OR DAMAGED IN ANY MANNER AS A RESULT OF CONSTRUCTION SHALL BE REPLACED OR REPAIRED IN ACCORDANCE WITH THE APPROPRIATE SPECIFICATIONS.
 11. THE CONTRACTOR SHALL FOLLOW ALL RULES & REGULATIONS THAT APPLY PER THE OHIO DEPARTMENT OF NATURAL RESOURCES RAINWATER & LAND DEVELOPMENT MANUAL FOR LAND DISTURBING ACTIVITIES.
 12. LANDSCAPING DESIGN PLAN /TREE PLANTING PLAN IS REQUIRED PER ORDINANCE No. 4699-2009 CNRO SECTION 1032.09.
 13. SUBGRADE SHALL BE COMPACTED AND SHAPED PER GEOTECHNICAL SPECIFICATIONS PRIOR TO APPLICATION OF BASE MATERIAL. ALL COMPACTION SHALL BE PERFORMED AS SET FORTH IN THE LATEST EDITION OF THE ODOT CMS SECTION 203 ROADWAY EXCAVATION AND EMBANKMENT. BEARING CAPACITY OF FOUNDATION SHALL BE DETERMINED AND SPECIFIED BY DESIGNING ARCHITECT.
 14. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD LOCATE ANY AND ALL UTILITIES PRIOR TO PERFORMING ANY WORK. CONTACT THE UTILITIES PROTECTION SERVICE (1-800-362-2764) 48 HOURS IN ADVANCE OF WORK TO BE DONE NEAR ANY EXISTING UTILITY MAIN. NON-MEMBERS MUST BE CONTACTED DIRECTLY. NOTIFY ENGINEER IMMEDIATELY IF UTILITIES ARE LOCATED DIFFERENTLY THAN SHOWN. THE CONTRACTOR SHALL COORDINATE WITH EACH RESPECTIVE UTILITY COMPANY IN ORDER TO RELOCATE IF NEEDED IN CONFORMANCE WITH THEIR GUIDELINES.
 15. CONTRACTOR SHALL PERFORM ALL WORK IN A MANNER THAT DOES NOT IMPEDE TRAFFIC ON CENTER RIDGE ROAD AND SHALL NOT IMPEDE ACCESS/USE OF THE NEIGHBORING PROPERTIES.
 16. PARKING LOT SURFACE SHALL BE BITUMINOUS OR DUST FREE PER 1284.02.
 17. CONTRACTOR SHALL VERIFY EX. U.G. CABLE BOX UTILITY THAT IS CONTAINED WITHIN. CONTRACTOR SHALL VERIFY THAT BOX IS/HAS TRAFFIC BEARING CAPABILITIES AND SHALL COORDINATE REMOVAL/REPLACEMENT WITH UTILITY COMPANY AS NEEDED.

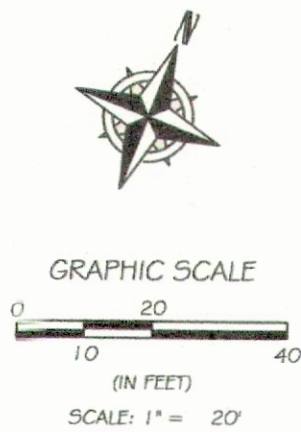
SURVEY NOTES:
A BOUNDARY SURVEY PER OAC 4733-37 HAS NOT BEEN PERFORMED BY RAFTER A, LTD.

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

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
4	RAF	12-19-2024	REVISED FOR PLANNING COMMISSION

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

JOSEPH CONTRACTING
38821 SUGAR RIDGE ROAD
NORTH RIDGEVILLE, OH 44039

SITE PLAN
CITY LIMITS RESTAURANT & LOUNGE
PATIO & PARKING LOT IMPROVEMENTS

DRAWN BY: BDA
CHECKED BY: RAF
RAF JOB No: 3361-24

SHEET: C2.0

Photometric Calculations for parking

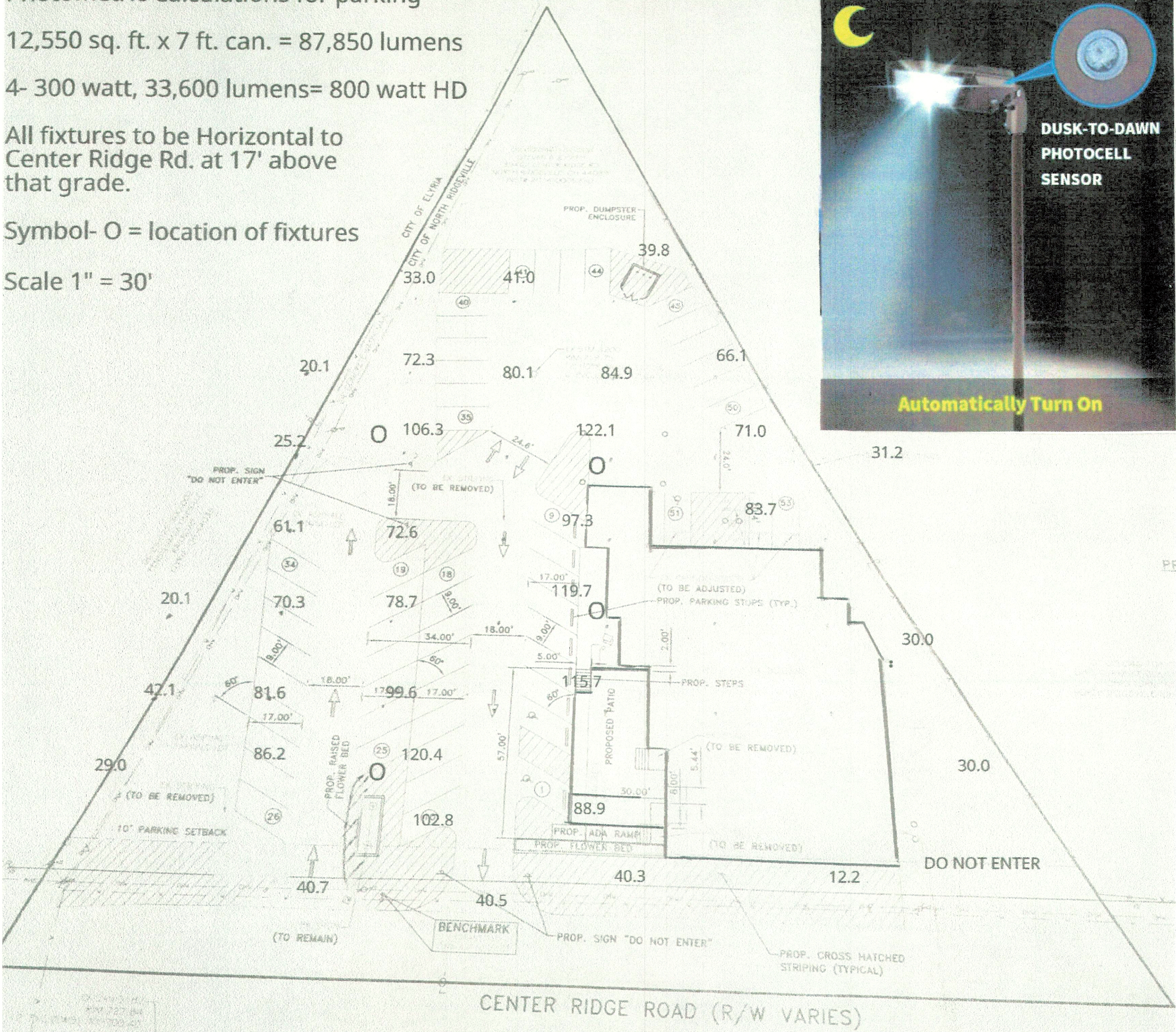
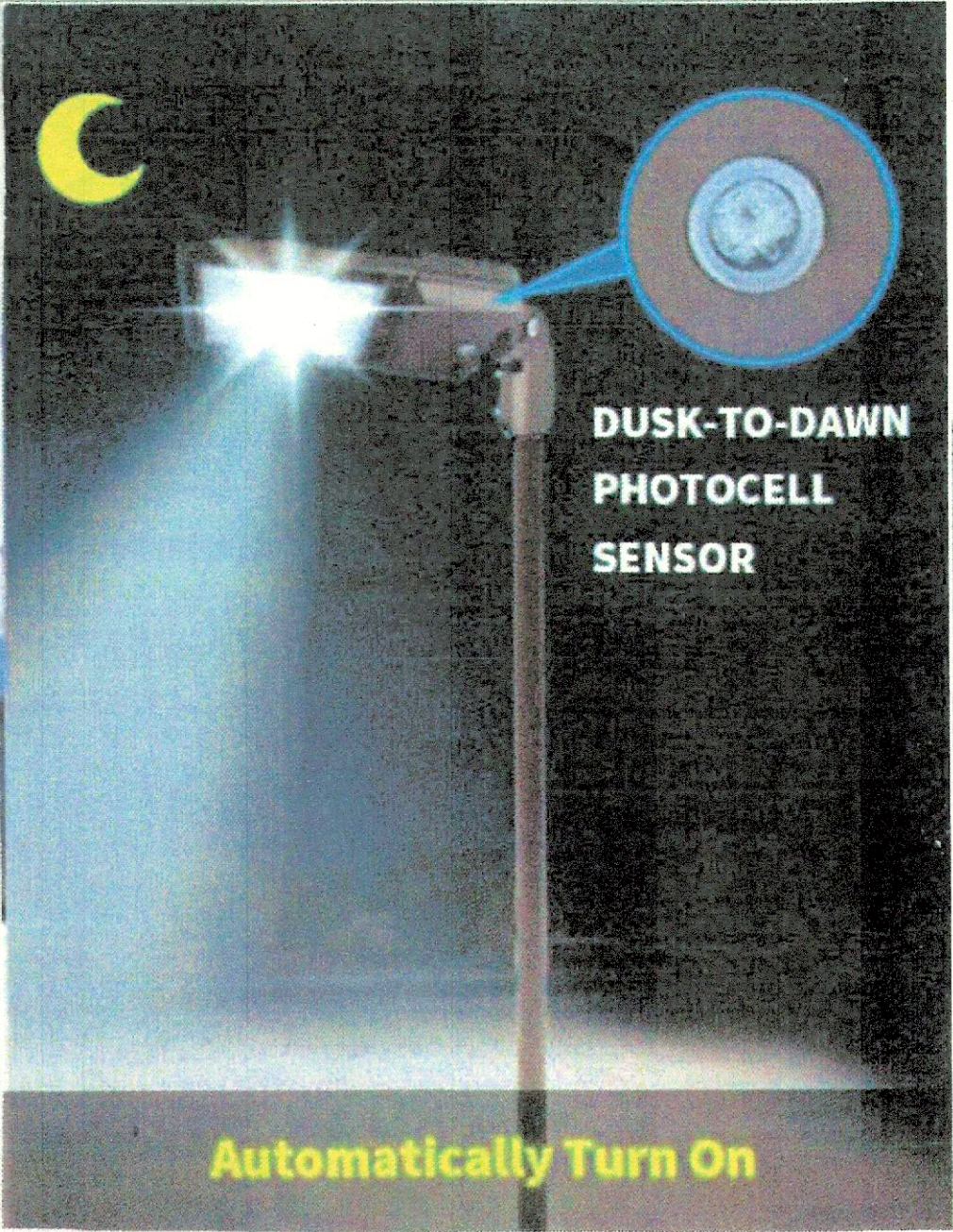
12,550 sq. ft. x 7 ft. can. = 87,850 lumens

4- 300 watt, 33,600 lumens= 800 watt HD

All fixtures to be Horizontal to Center Ridge Rd. at 17' above that grade.

Symbol- O = location of fixtures

Scale 1" = 30'

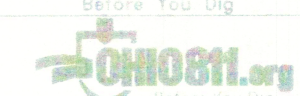


RECEIVED
MAR 26 2025

**4- 300Watt ,33600 LUMENS, EQUALS 800WATTHD, Height
20 ft. COVERAGE 57FEET**

All Fixtures to be Horizontal to pavement at 17' above Center Ridge Grade.

PROPOSED ADA RAMP SIDE VIEW



OHIO811 8-1-1 or 1-800-362-2764



RAFTER A, LTD.
LAND SURVEYING • ENGINEERING • TESTING
42653 Oberlin-Elyria Road, Oberlin, Ohio 44074
440.763.4014 • www.raftera.com • info@raftera.com

Cape Coral ▾



Search



1500-Watt Equivalence Bronze 300-Watt Integrated LED Parking Lot Area Light, 5000K White, Outdoor Lighting Features



Home



Shop



Stephen

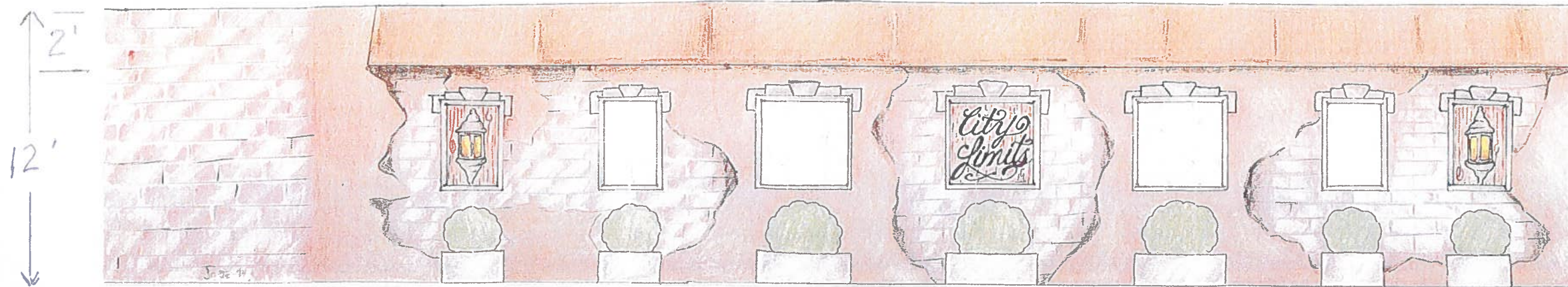


Store Mode

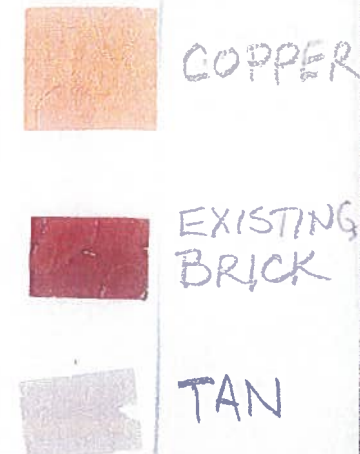


Cart

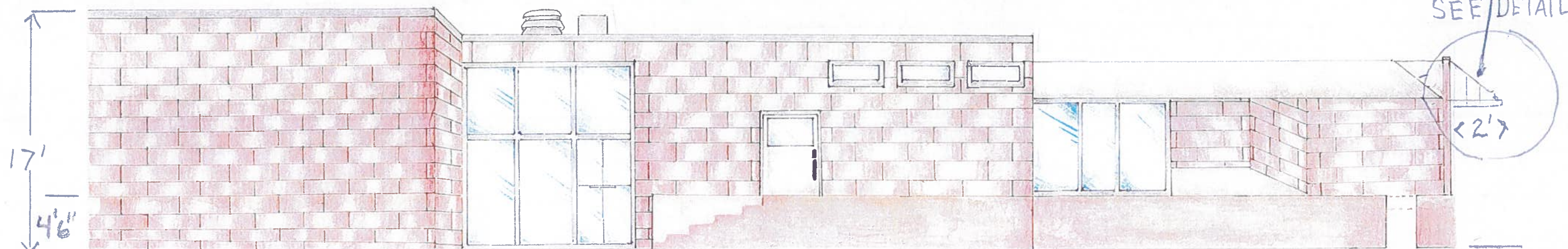




COLOR
CHART



EXISTING SOUTH ELEVATION NOT TO SCALE



EXISTING WEST ELEVATION NOT TO SCALE

RECEIVED
MAR 26 2025

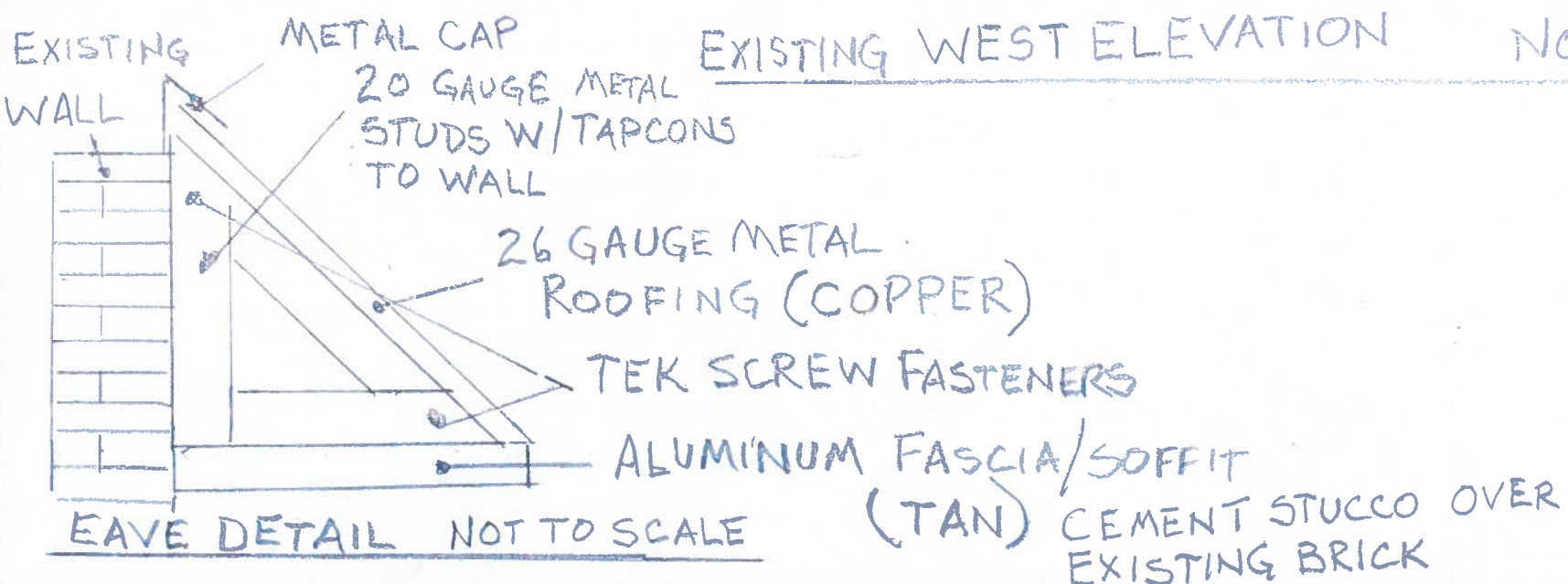


ELI MAHLER - ASSOCIATES
ARCHITECTS & PLANNERS

3947 WEST ASH LANE
CLEVELAND, OHIO 44122
TEL. (216) 831-3947

DRAWN
CHECKED
ELEVATION
DATE
AUG. 28, 2024

CITY LIMITS BAR AND GRILL
RESTAURANT PLANS
39462 CENTER RIDGE ROAD
NORTH RIDGEVILLE, OHIO



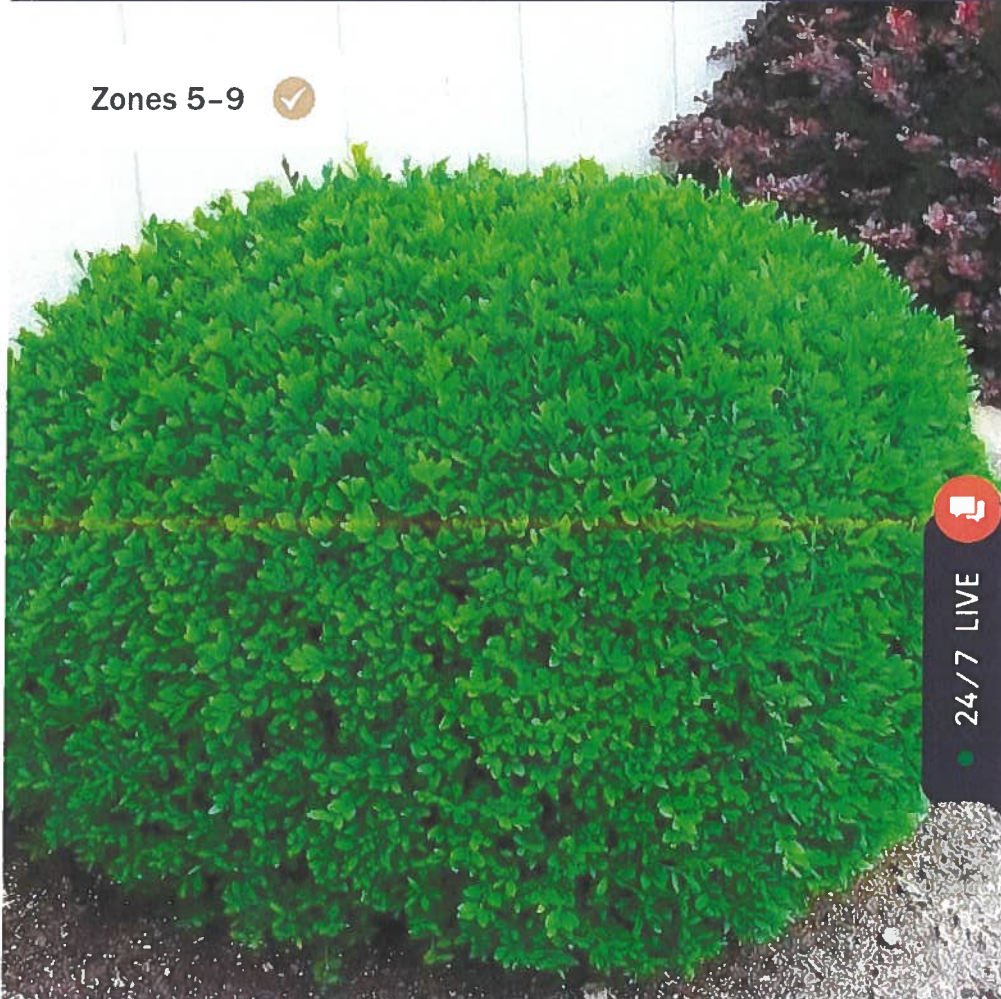
EXAMPLE OF
COLOR SCHEME





10% OFF ENTIRE SPRING ORDER! CODE: SPRING10

Zones 5-9



View more from [Boxwood Shrubs](#)

Winter Gem Boxwood



Buxus microphylla var. japonica 'Winter Gem'

★★★★★ 36275 reviews

RECEIVED

MAR 26 2025

\$39.50

☑ Ships Now or Choose Later Date at Checkout



Brunello Rolled-Rim Planters

Texture Detail



Caviar Black

		dimensions				volume gals.	planter ref.#	saucer ref.#
								
A	Brunello Rolled-Rim 12" Planter	11.40"	6.50"	9.68"	9.25"	2.25	A2630XX	A9908XXT
B	Brunello Rolled-Rim 14" Planter	13.50"	8.00"	11.40"	10.75"	3.50	A2635XX	A9908XXT
C	Brunello Rolled-Rim 16" Planter	16.00"	9.50"	13.50"	12.50"	5.75	A2640XX	A9910XXT
D	Brunello Rolled-Rim 20" Planter	20.00"	12.00"	17.70"	15.75"	11.75	A2650XX	A9913XXT
E	Brunello Rolled-Rim 27" Planter	27.36"	16.00"	23.70"	21.50"	41.50	A2668XX	A9918XXT
F	 Brunello Rolled-Rim 31" Planter	31.50"	17.75"	27.40"	25.00"	44.50	A2680XX	A9985XXT
G	 Brunello Rolled-Rim 35" Planter	35.00"	20.25"	31.20"	28.75"	69.00	A2690XX	A9990XXT
H	 Brunello Rolled-Rim Wide Bottom Commercial 37" Planter*	37.00"	24.25"	34.20"	28.75"	84.00	A2695XX	N/A
I	 Brunello Rolled-Rim Wide Bottom Commercial 44" Planter*	44.00"	28.25"	40.47"	34.00"	139.25	A26110XX	N/A

* Please note that the 37" and 44" planters are only available in stock in Weathered Terracotta and Caviar Black, but can be special ordered in any of our finishes.



QUICK SHIP COLORS - IN-STOCK AND READY TO SHIP



Caviar Black Ref: 94



Weathered Concrete Ref: 92



Weathered Stone Ref: 17



Rust Ref: 33



Weathered Terracotta Ref: 34

11:50 m

55%



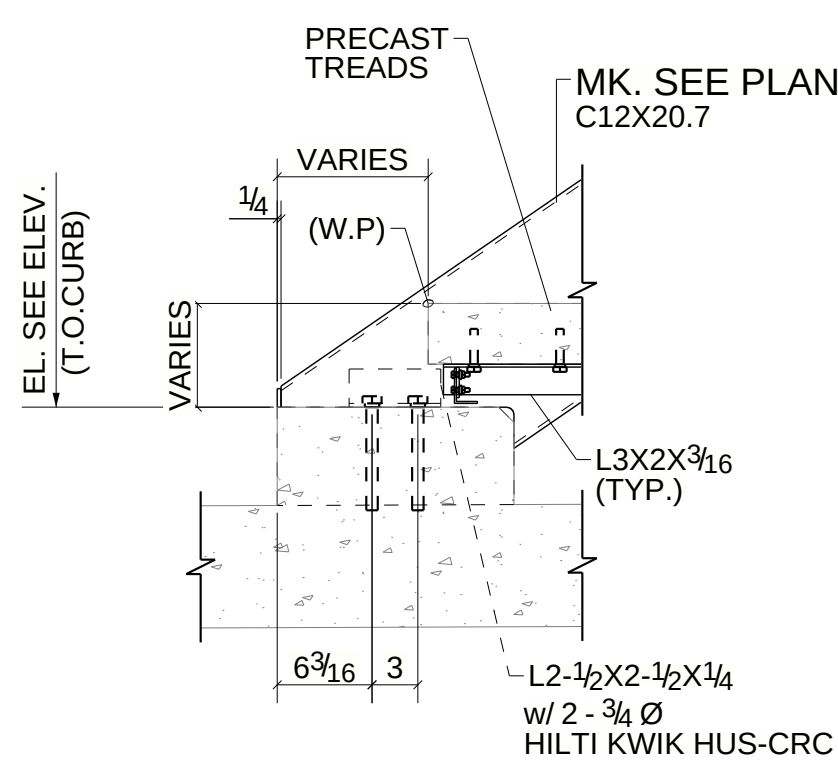
Metal Railings — Badg...

badgerrailing.com

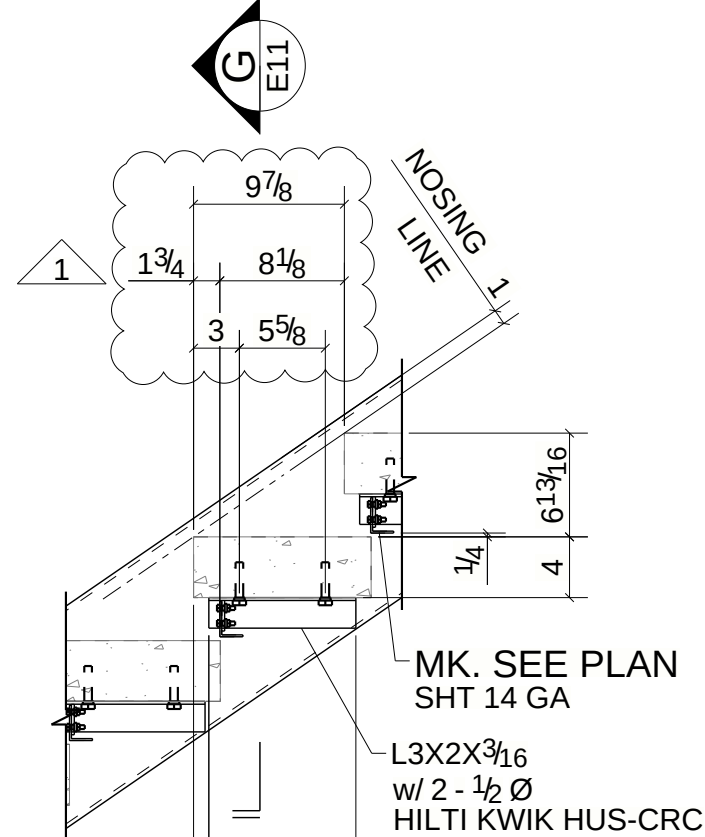


RECEIVED
MAR 26 2025

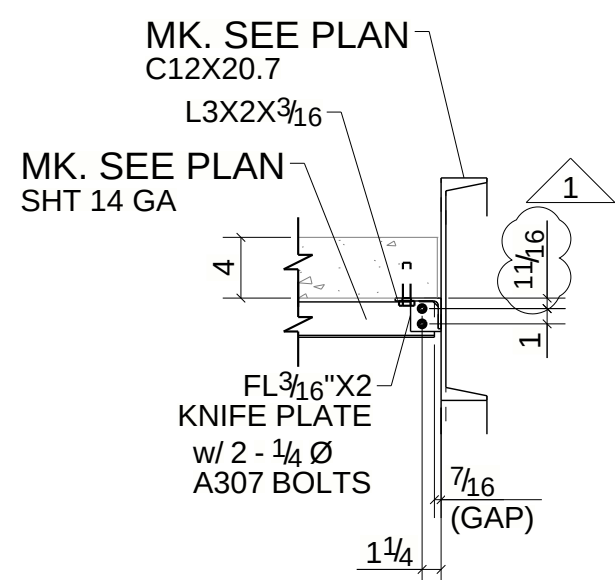




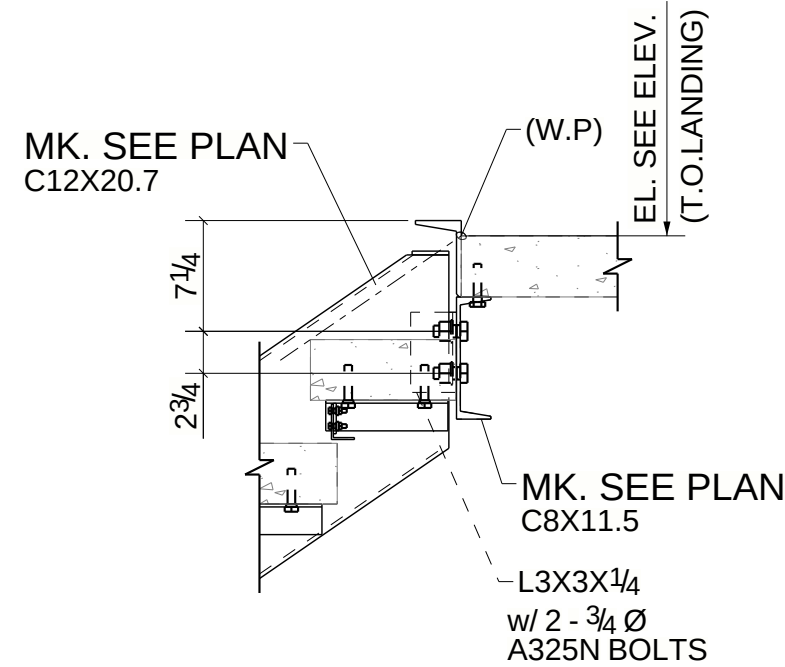
DETAIL 11
E5



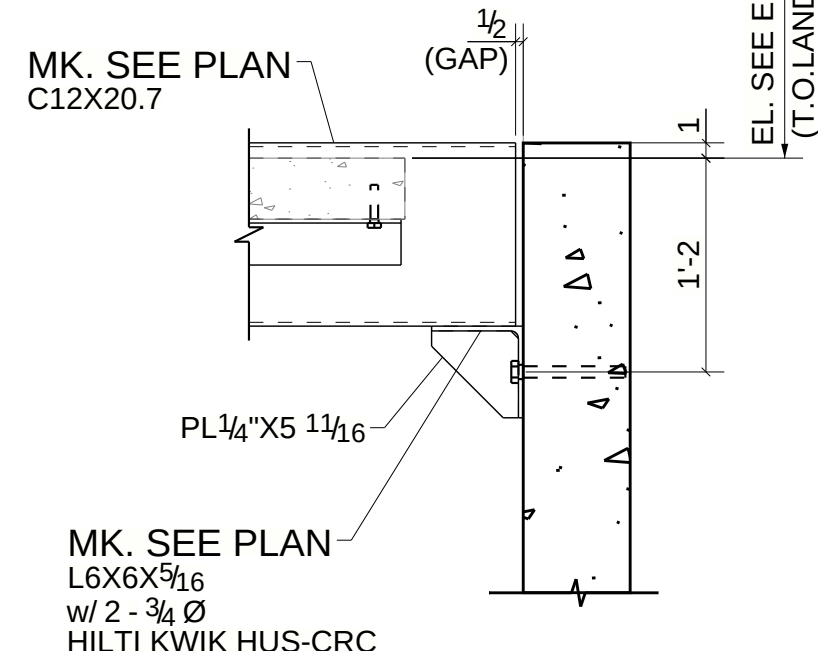
DETAIL 12
E5



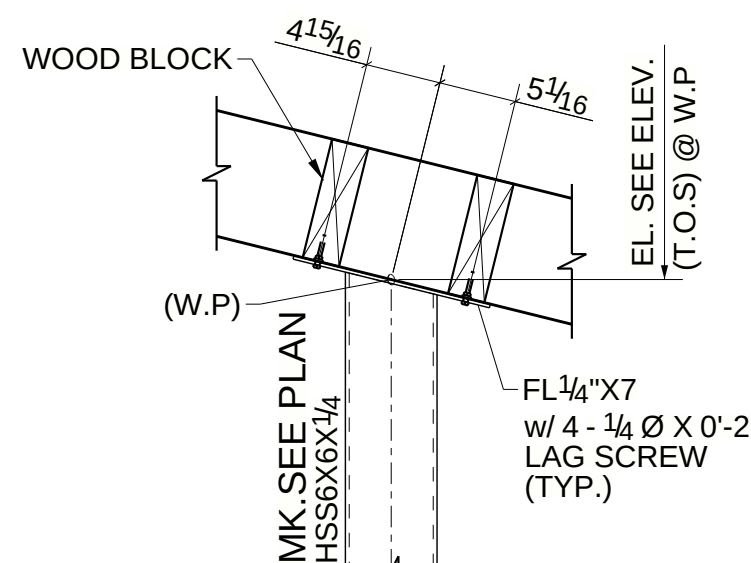
SECTION
E11



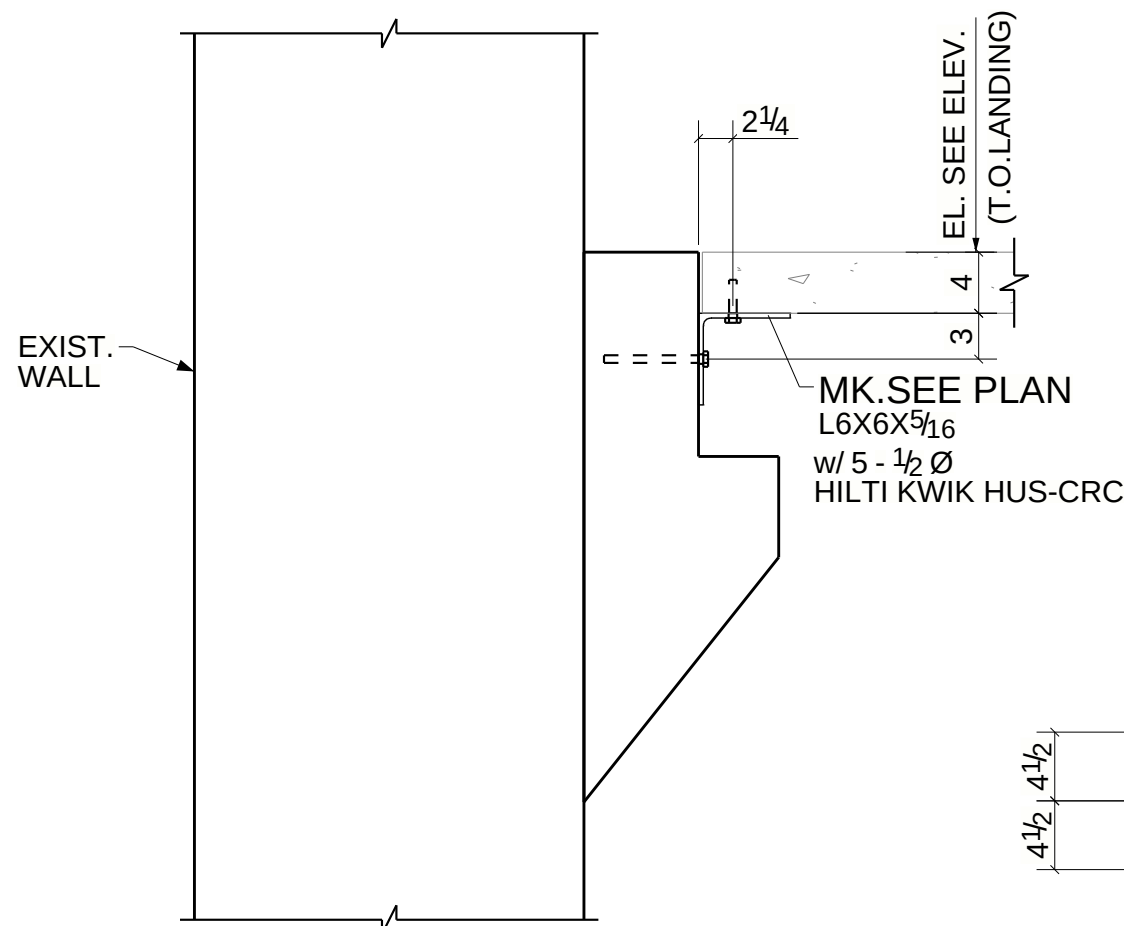
DETAIL 13
E5



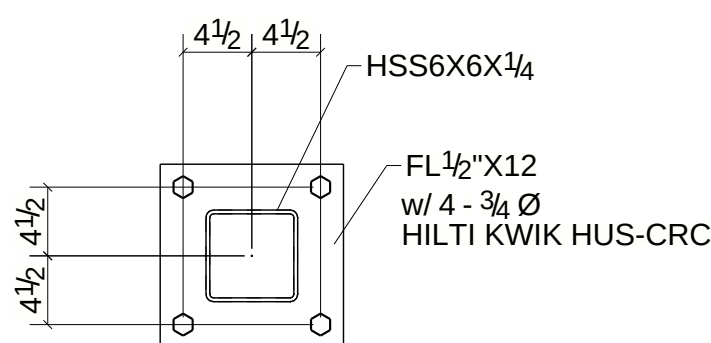
DETAIL 14
E5



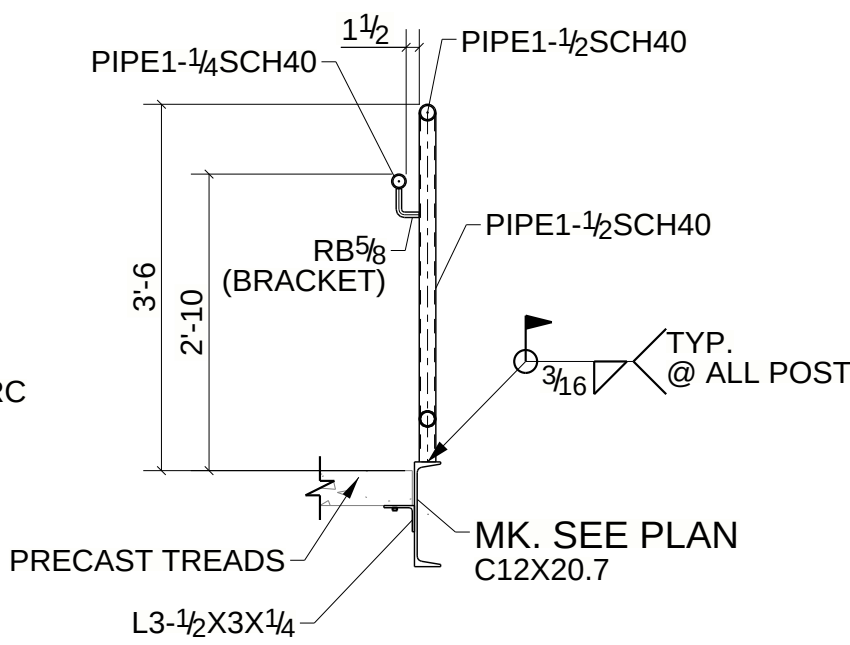
DETAIL 15
E5



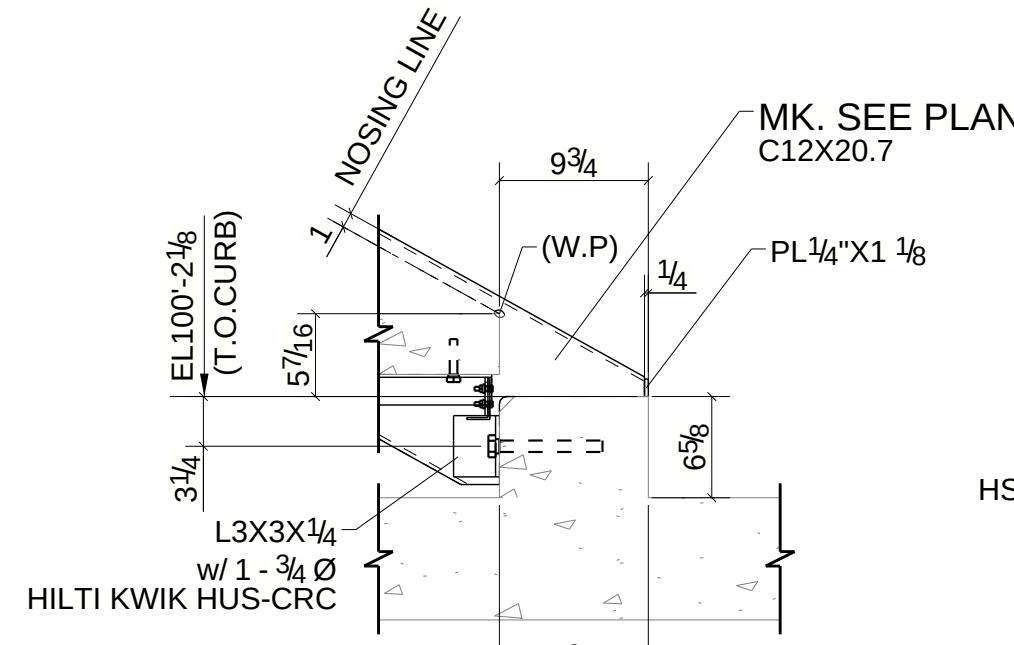
SECTION
E5



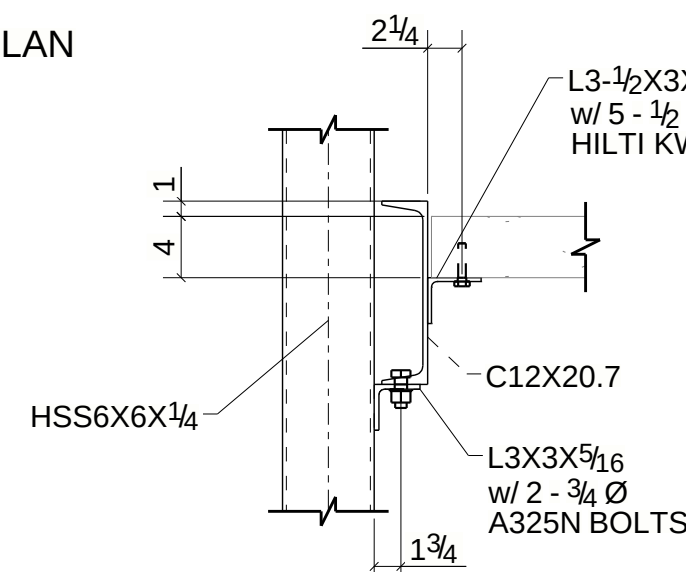
SECTION
E5



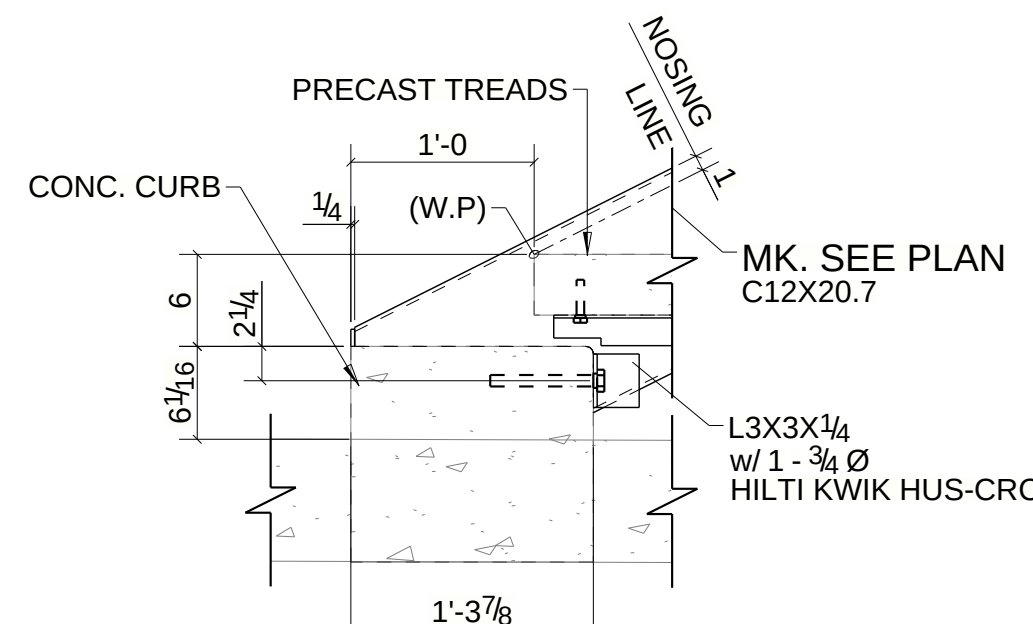
SECTION
E5



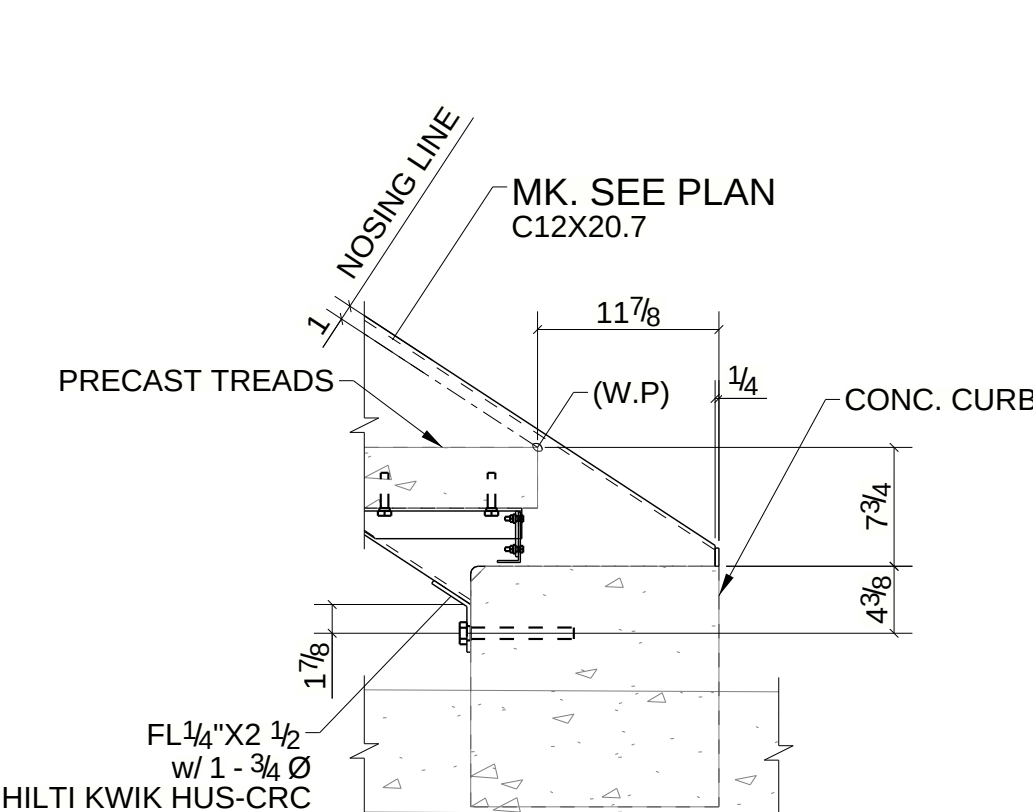
DETAIL 16
E8



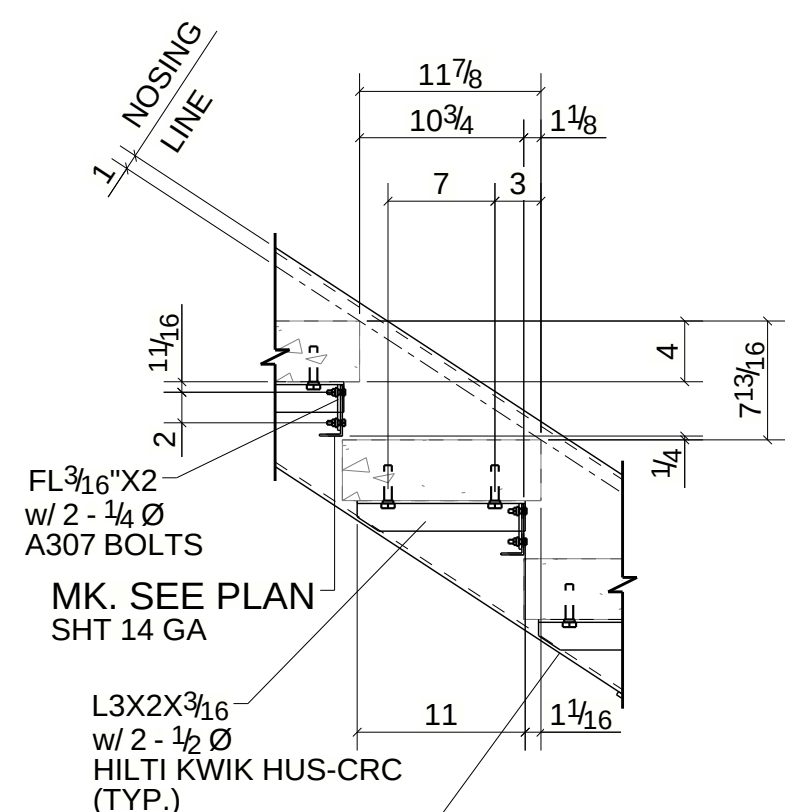
DETAIL 17
E8



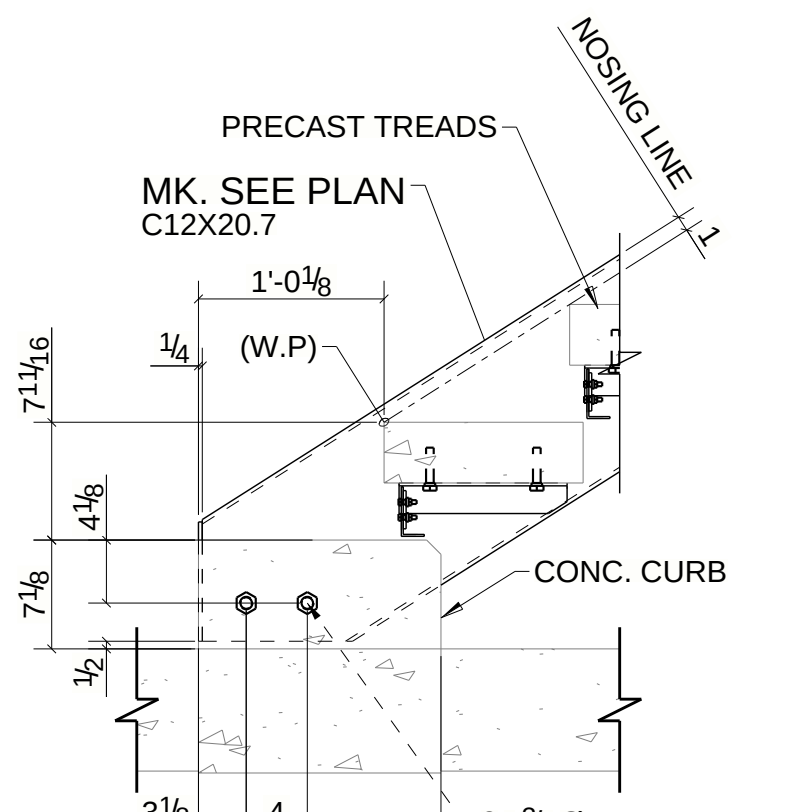
DETAIL 18
E9



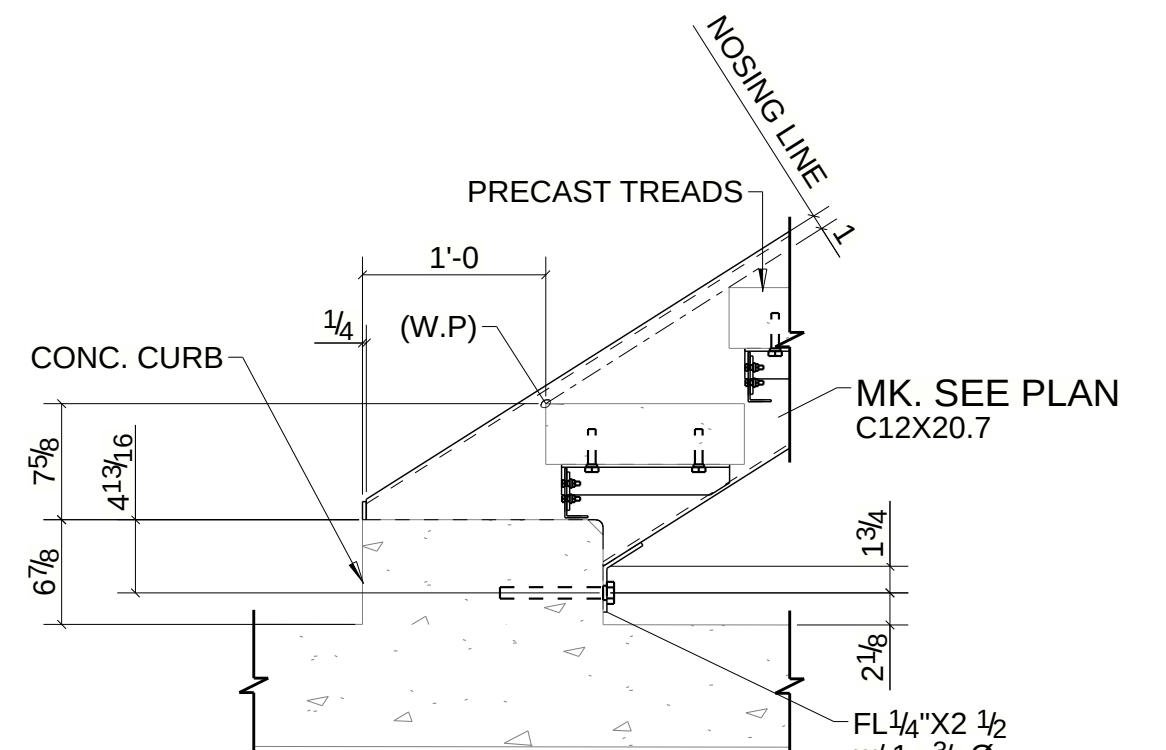
DETAIL 19
E7



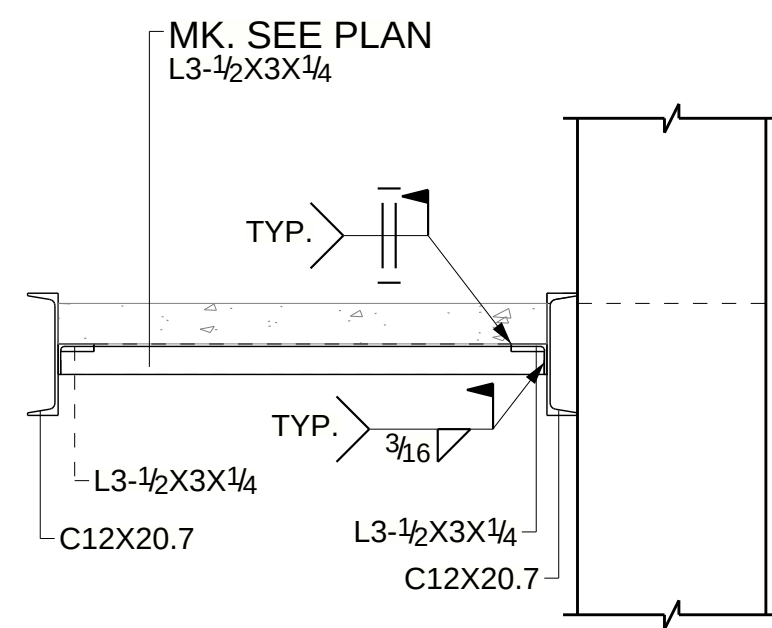
DETAIL 20
E7



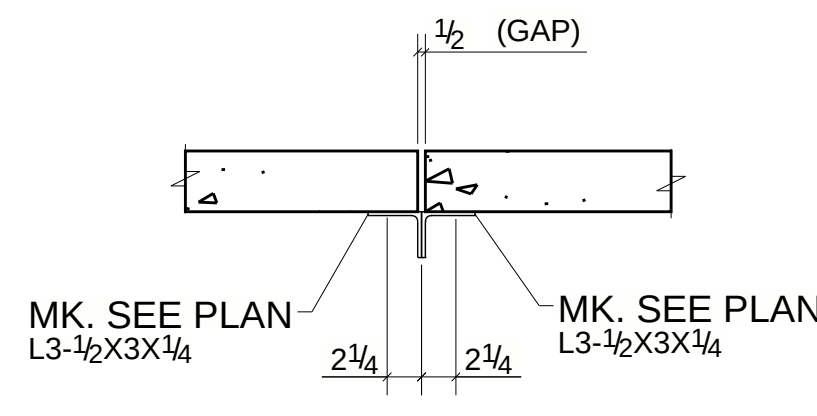
DETAIL 21
E4



DETAIL 22
E3



SECTION
E7



SECTION
E7

REF DWGS:

ALL MAT'L ASTM					
OPEN HLS					
WELDING ELECTRODE					
SURFACE PREP:	1	06/28/2023	RS	Revised As Mid.	
PAINT:	0	06/16/2023	KK	For Field Use	
	A	01/17/2023	KK	For Approval	

AZTEC STEEL		Aztec Steel, 800 Taylor st. Elyria, OH 4			
REV	DATE	BY	DESCRIPTION	JOB	CARVER PARK PHASE III
				LOCATION	EAST 55TH STREET, CLEVELAND, OH 44104
				CUSTOMER	
				ARCH	RDL
				CONTRACTOR	Aztec Steel, 800 Taylor st. Elyria, OH 4
				DRAWN	SL DATE 01/06/2023 CHK'D SS DATE 01/16/2023
				JOB NO:	
				DWG NO:	E11



FABTECH CONSULTANT

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

LEGEND OF LINETYPES

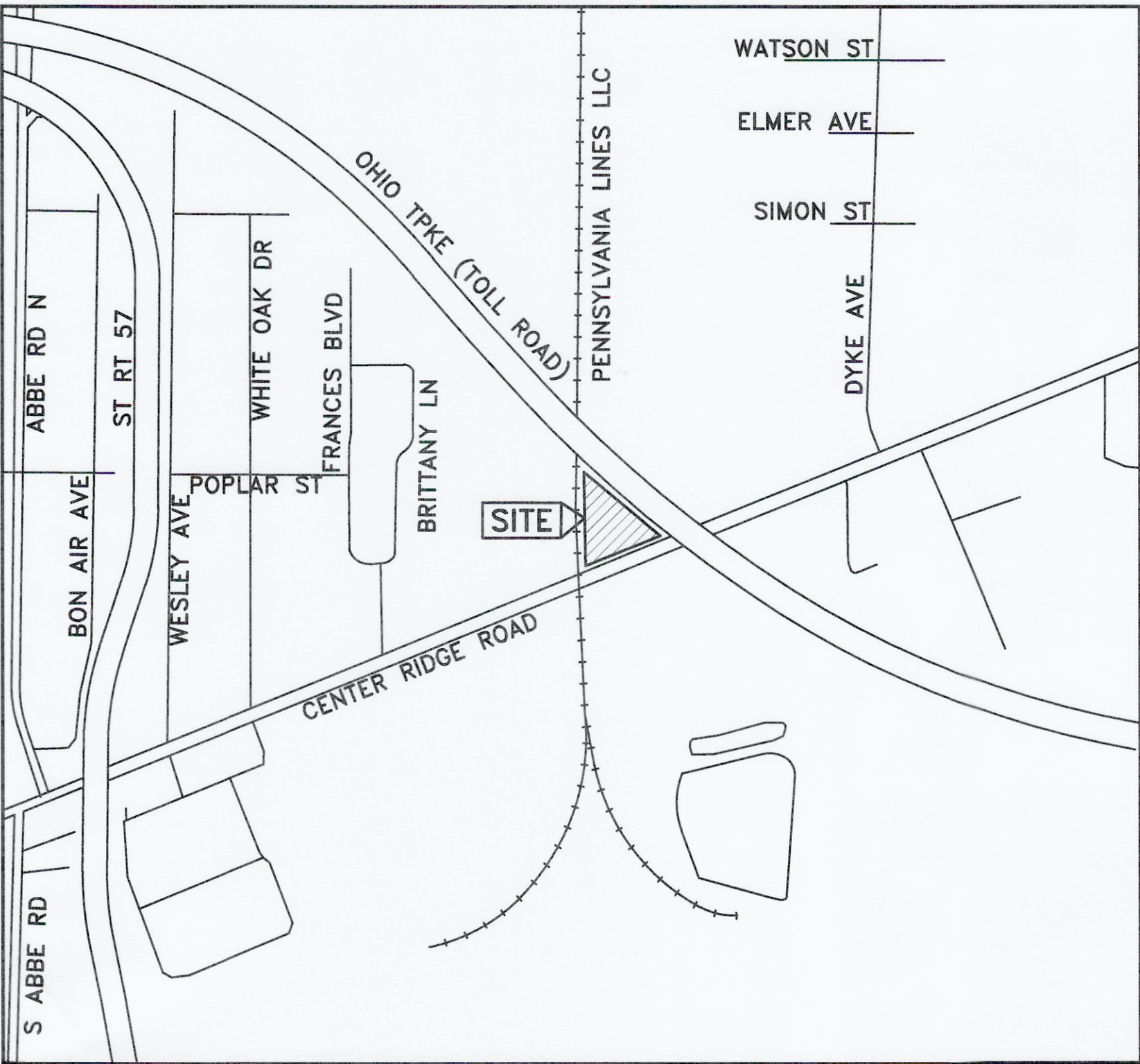
---	CENTERLINE
---	EX. PAVEMENT
---	DITCH/CREEK/SWALE
---	EX. SETBACK LINES
---	EX. MINOR CONTOUR
---	EX. MAJOR CONTOUR
---	EX. STORM
---	EX. SANITARY
---	EX. WATER
---	EX. GAS
---	EX. OVERHEAD UTILITIES
---	EX. TELEPHONE
---	EX. U.G. ELECTRIC
---	CONSTRUCTION LIMITS
---	SILT FENCE

LEGEND OF SYMBOLS

	CLEAN OUT
	DOWNSPOUT
	YARD DRAIN
	STORM MANHOLE
	SANITARY MANHOLE
	CATCH BASIN
	HYDRANT
	WATER VALVE
	GAS REG/METER
	WATER REG/METER
	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

LIST OF UTILITY COMPANIES IN THE AREA

COMPANY NAME	DESCRIPTION	TELEPHONE	ADDRESS
WIDE OPEN WEST (WOW)	CABLE/INTERNET	(866) 496-9669	105 BLAZE INDUSTRIAL PKWY, BEREA, OH 44017
COLUMBIA GAS OF OHIO	GAS	(800) 344-4077	3101 NORTH RIDGE RD, ELYRIA, OH 44035
SPECTRUM / TIME WARNER	CABLE/INTERNET	(866) 874-2389	576 TERNES AVE, ELYRIA, OH 44035
CENTURYLINK	CABLE/INTERNET	(440) 244-8400	203 W 9TH STREET, LORAIN, OHIO 44052
OHIO EDISON	ELECTRIC	(440) 326-3319	6326 LAKE AVENUE, ELYRIA, OHIO 44035
CITY OF NORTH RIDGEVILLE	WATER, SEWER	(440) 353-0841	7307 AVON BELDEN ROAD, NORTH RIDGEVILLE, OHIO 44039



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)

DESIGN ENGINEER:

Richard A. Fredrickson
RICHARD A. FREDRICKSON, P.E., P.S.
OHIO ENGINEER - 61668
OHIO SURVEYOR - 8285
DATE: 12-19-2024

CIVIL SITE DESIGN SHEET LEGEND

TITLE SHEET.....	C0.0
EXISTING CONDITIONS & DEMOLITION PLAN.....	C1.0
SITE PLAN.....	C2.0
MISCELLANEOUS SITE DETAILS.....	C2.1

SCOPE OF WORK

IMPROVEMENTS TO THE SITE TO MODIFY THE EXISTING PARKING AND BUILDING FOR USE AS A BAR AND RESTAURANT. SITE IMPROVEMENTS SHALL INCLUDE RE-SEALING & RE-STRIPPING THE PARKING LOT, INCLUSION OF LANDSCAPE AREAS, AND CONSTRUCTION OF A HANDICAP ACCESSIBLE ENTRANCE RAMP WITH A PATIO. EXISTING UTILITIES (PUBLIC & PRIVATE) SHALL BE UTILIZED AS THEY EXIST.

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 DEPARTMENT.

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

CITY LIMITS RESTAURANT & LOUNGE
PATIO & PARKING LOT IMPROVEMENTS

TITLE SHEET

39462 CENTER RIDGE ROAD
NORTH RIDGEVILLE, OH 44039

JOSEPH CONTRACTING
36821 SUGAR RIDGE ROAD
NORTH RIDGEVILLE, OH 44039

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

RICHARD A. FREDRICKSON
REGISTERED PROFESSIONAL ENGINEER
E-61668

DESCRIPTION

DATE

BY

REV.

1

2

3

4

PRELIMINARY ISSUE FOR REVIEW

PRELIMINARY ISSUE FOR REVIEW

UPDATED PARKING ISSUE TO CLIENT

REVISED FOR PLANNING COMMISSION

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

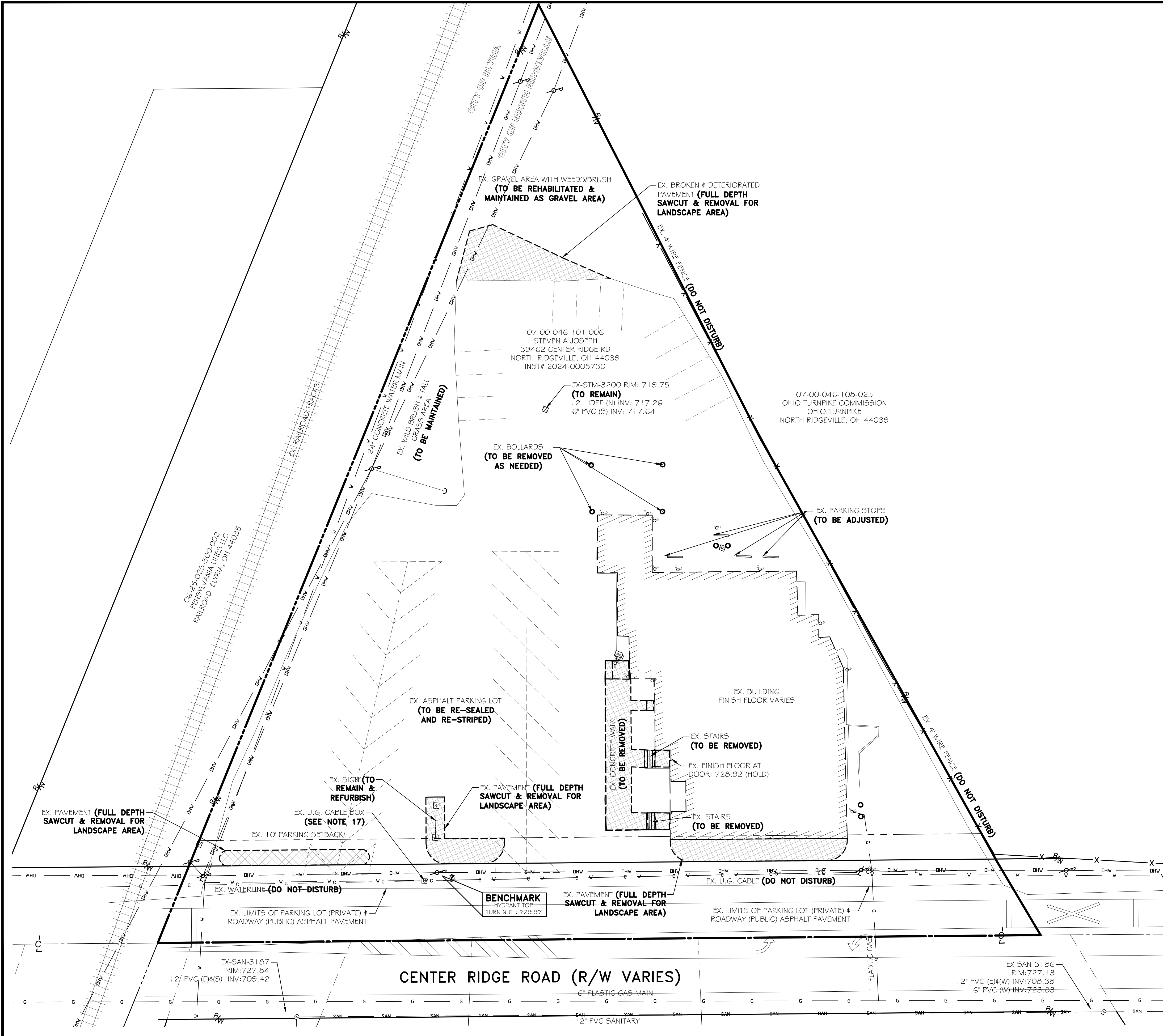
DATE

DATE

DATE

DRAWN BY: BDA
CHECKED BY: RAF
RAF JOB No: 3361-24

SHEET: C0.0



NOTES:

- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD LOCATE ANY AND ALL UTILITIES PRIOR TO PERFORMING ANY WORK. CONTACT THE UTILITIES PROTECTION SERVICE (811) OR (1-800-362-2764) 48 HOURS IN ADVANCE OF WORK TO BE DONE NEAR ANY EXISTING UTILITY MAIN. NONMEMBERS MUST BE CONTACTED DIRECTLY.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES THAT ARE INTENDED TO CONTINUE TO PROVIDE SERVICE WHETHER THESE UTILITIES ARE SHOWN ON THE PLAN OR NOT.
- THE CONTRACTOR SHALL CAREFULLY PRESERVE BENCHMARKS, PROPERTY CORNERS, REFERENCE POINTS, AND STAKES.
- ANY DAMAGE CAUSED TO THE PAVEMENT, DRIVES, DRAINAGE SYSTEMS, UNDERGROUND OR OVERHEAD UTILITIES, PIPE LINES OR LANDSCAPING, EITHER WITHIN THE RIGHT OF WAY OR ON ADJACENT PROPERTIES, SHALL BE FULLY RESTORED PROMPTLY BY THE CONTRACTOR WITH ALL RELATED COSTS BEING THE FULL RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL CONTACT RESPECTIVE UTILITY COMPANIES PRIOR TO DEMOLITION TO COORDINATE DISCONNECTION AND REMOVAL OF EXISTING UTILITIES WITHIN THE AREA OF WORK.
- ITEMS DESIGNATED FOR DEMOLITION SHALL NOT BE DISTURBED BY THE CONTRACTOR UNTIL FURNISHED WITH NOTICE TO PROCEED BY THE OWNER. AS SOON AS SUCH NOTICE HAS BEEN GIVEN, THE CONTRACTOR SHALL PERFORM THE DEMOLITION UNDER THE DIRECTION OF THE OWNER'S REPRESENTATIVE.
- ALL COMPACTION SHALL BE PERFORMED AS SET FORTH IN THE LATEST EDITION OF THE ODOT CM5 SECTION 203 ROADWAY EXCAVATION AND EMBANKMENT. BEARING CAPACITY OF FOUNDATION SHALL BE DETERMINED AND SPECIFIED BY DESIGNING ARCHITECT.
- DEBRIS SHALL NOT BE BURIED ON THE SITE. ALL UNSUITABLE MATERIAL AND DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH ALL CITY, STATE, AND FEDERAL LAWS AND ORDINANCES.
- THE USE OF EXPLOSIVES SHALL NOT BE PERMITTED.
- IF NOT SPECIFICALLY PROVIDED HEREON, CONTRACTOR SHALL REFER TO THE LOCAL JURISDICTIONAL STANDARD CONSTRUCTION DETAILS AND/OR THE OHIO DEPARTMENT OF TRANSPORTATION STANDARD CONSTRUCTION DETAILS FOR ALL PROJECT DETAILS.
- WHERE NECESSARY TO REMOVE PAVEMENTS OR DRIVES, THE PAVEMENT SHALL BE FULL DEPTH SAW CUT IN NEAT, STRAIGHT LINES, WHERE REMOVED IN WALK AREAS, SHALL BE FULL DEPTH SAWCUT AT NEAREST JOINT.
- ALL MATERIAL, EXCEPT THAT BELONGING TO A PUBLIC UTILITY COMPANY OR DENOTED FOR SALVAGE, SHALL BECOME THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE OWNER OF WATER, ELECTRIC, OR GAS METERS WHEN THE METERS ARE READY FOR REMOVAL, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISCONNECTING ALL UTILITIES IN COMPLIANCE WITH LOCAL REQUIREMENTS.
- THE DEMOLITION PLAN IS INDENTED TO SHOW REMOVAL OF KNOWN SITE FEATURES AND UTILITIES AS SHOWN ON THE SURVEY. THERE MAY BE OTHER SITE FEATURES, UTILITIES, STRUCTURES, VEGETATION, AND MISCELLANEOUS ITEMS BOTH BURIED AND ABOVE GROUND THAT ARE WITHIN THE LIMITS OF WORK THAT MAY NEED TO BE REMOVED FOR THE PROPOSED PROJECT THAT ARE NOT SHOWN HEREON. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF SUCH ITEMS AT NO ADDITIONAL COST TO THE OWNER.
- EROSION & SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND MAINTAINED DURING DEMOLITION ACTIVITIES.
- THE PURPOSE OF THIS DRAWING IS TO CONVEY THE OVERALL SCOPE OF WORK AND IT IS NOT INTENDED TO COVER ALL DETAILS OR SPECIFICATIONS REQUIRED TO COMPLY WITH GENERALLY ACCEPTED DEMOLITION PRACTICES. THE CONTRACTOR SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH THE SITE, SCOPE OF WORK, AND ALL EXISTING CONDITIONS AT THE SITE PRIOR TO BIDDING AND COMMENCING THE WORK. THE DEMOLITION CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MEANS, METHODS, TECHNIQUES, OR PROCEDURES USED TO COMPLETE THE WORK IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND IS LIABLE FOR THE SAFETY OF THE PUBLIC AND CONTRACTOR'S EMPLOYEES DURING THE COURSE OF THE PROJECT.
- EXISTING ABANDONED UTILITIES WITHIN THE PROPOSED WORK LIMITS SHALL BE REMOVED IF POSSIBLE. IF SUCH UTILITIES ARE PRESENT, THEY SHOULD BE REMOVED AND RELOCATED OR ABANDONED IN PLACE. IF ABANDONED IN PLACE, IT IS RECOMMENDED THAT THE UTILITIES BE FILLED WITH CEMENT GROUT TO AVOID POTENTIAL COLLAPSE IN THE FUTURE. SHOULD THE UTILITIES LINES BE REMOVED FROM THE SITE, THE RESULTANT TRENCH EXCAVATIONS SHOULD BE BACKFILLED AND COMPACTED TO 95 PERCENT OF MAX DRY DENSITY PER MODIFIED STANDARD PROCTOR. BEARING CAPACITY OF FOUNDATION SHALL BE DETERMINED AND SPECIFIED BY DESIGNING ARCHITECT.
- CONTRACTOR SHALL VERIFY EX. U.G. CABLE BOX UTILITY THAT IS CONTAINED WITHIN. CONTRACTOR SHALL VERIFY THAT BOX IS/HAS TRAFFIC BEARING CAPABILITIES AND SHALL COORDINATE REMOVAL/REPLACEMENT WITH UTILITY COMPANY AS NEEDED.

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:

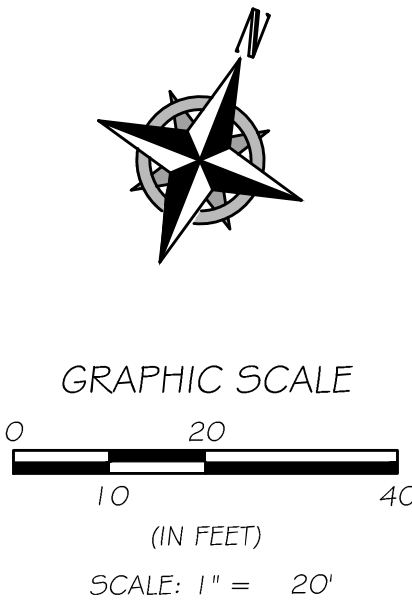
THE SIZE & LOCATION, BOTH HORIZONTAL AND VERTICAL, OF THE UNDERGROUND UTILITIES SHOWN HEREON, HAVE BEEN OBTAINED BY A SEARCH OF AVAILABLE RECORDS. VERIFICATION BY FIELD OBSERVATION HAS BEEN CONDUCTED WHERE PRACTICAL. HOWEVER, RAFTER A., LTD DOES NOT GUARANTEE THE COMPLETENESS NOR ACCURACY THEREOF.

UNDERGROUND UTILITIES
Contact Two Working Days
Before You Dig


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
4	RAF	12-19-2024	REVISED FOR PLANNING COMMISSION

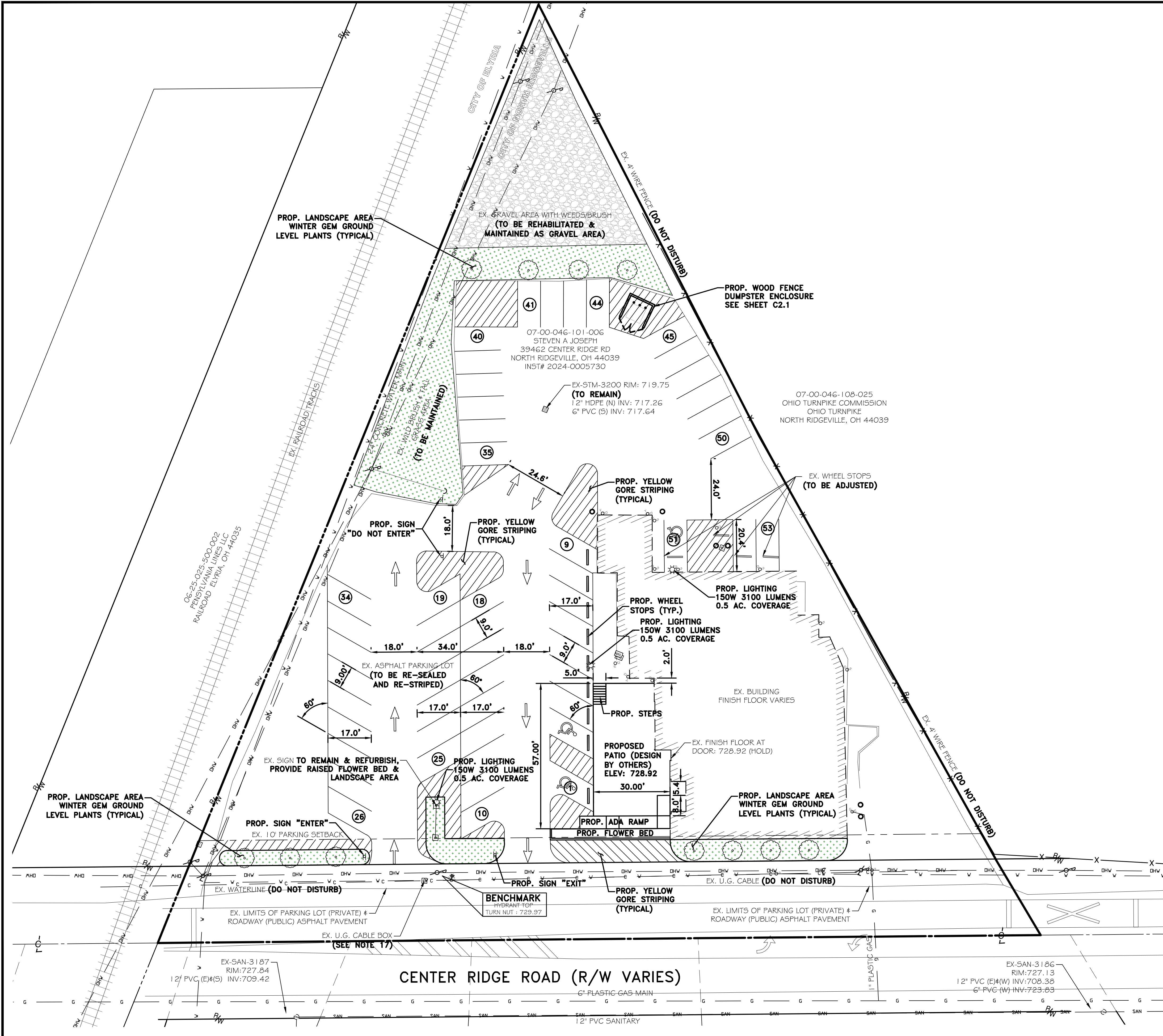
RAFTER A, LTD
LAND SURVEYING • ENGINEERING • TESTING
42653 Oberlin-Elyria Road, Oberlin, Ohio 44074
440-707-4014 • www.raftera.com • info@raftera.com

JOSEPH CONTRACTING
36821 SUGAR RIDGE ROAD
NORTH RIDGEVILLE, OH 44039

CITY LIMITS RESTAURANT & LOUNGE
PATIO & PARKING LOT IMPROVEMENTS
**EXISTING CONDITIONS
& DEMOLITION PLAN**
39462 CENTER RIDGE ROAD
NORTH RIDGEVILLE, OH 44039

DRAWN BY: BDA
CHECKED BY: RAF
RAF JOB NO: 3361-24

SHEET: **C1.0**



NOTES:

- ALL DIMENSIONS TO THE FACE OF CURB, FACE OF BUILDING, & FACE OF WALL UNLESS OTHERWISE STATED.
- FOR EXACT BUILDING DIMENSIONS & DETAILS SEE ARCHITECTURAL PLANS.
- CONTRACTOR MUST SECURE ALL NECESSARY PERMITS PRIOR TO STARTING WORK.
- IF THE CONTRACTOR, IN THE COURSE OF THE WORK, FINDS ANY DISCREPANCIES BETWEEN THE PLANS AND THE PHYSICAL CONDITIONS OF THE SITE, OR ANY ERRORS OR OMISSIONS IN THE PLANS OR IN THE LAYOUT AS GIVEN BY THE ENGINEER, IT SHALL BE HIS DUTY TO IMMEDIATELY INFORM THE ENGINEER, IN WRITING, AND THE ENGINEER WILL PROMPTLY VERIFY THE SAME. ANY WORK DONE AFTER SUCH A DISCOVERY, UNTIL AUTHORIZED, WILL BE AT THE CONTRACTOR'S RISK.
- ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE TO THE STATE AND LOCAL GOVERNMENT AGENCY LATEST CONSTRUCTION SPECIFICATIONS AND DETAILS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL SETBACKS, EASEMENTS, AND DIMENSIONS SHOWN HEREON PRIOR TO CONSTRUCTION.
- CONTRACTOR TO NOTIFY THE INSPECTOR A MINIMUM OF FORTY-EIGHT (48) HOURS BEFORE BEGINNING EACH PHASE OF CONSTRUCTION.
- THE CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND PUBLIC SHALL BE PROTECTED FROM INJURY, AND ADJOINING PROPERTY BOTH PRIVATE & PUBLIC PROTECTED FROM DAMAGE.
- CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO ANY EXISTING ITEMS AND/OR MATERIALS INSIDE OR OUTSIDE CONTRACT LIMITS DUE TO CONSTRUCTION OPERATIONS.
- THE CONTRACTOR SHALL FOLLOW ALL RULES & REGULATIONS THAT APPLY PER THE OHIO DEPARTMENT OF NATURAL RESOURCES RAINWATER & LAND DEVELOPMENT MANUAL FOR LAND DISTURBING ACTIVITIES.
- LANDSCAPING DESIGN PLAN / TREE PLANTING PLAN IS REQUIRED PER ORDINANCE No. 4699-2009 CNRO SECTION 1032.09. .
- SUBGRADE SHALL BE COMPACTED AND SHAPED PER GEOTECHNICAL SPECIFICATIONS PRIOR TO APPLICATION OF BASE MATERIAL. ALL COMPACTION SHALL BE PERFORMED AS SET FORTH IN THE LATEST EDITION OF THE ODOT CM5 SECTION 203 ROADWAY EXCAVATION AND EMBANKMENT. BEARING CAPACITY OF FOUNDATION SHALL BE DETERMINED AND SPECIFIED BY DESIGNING ARCHITECT.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD LOCATE ANY AND ALL UTILITIES PRIOR TO PERFORMING ANY WORK. CONTACT THE UTILITIES PROTECTION SERVICE (1-800-362-2764) 48 HOURS IN ADVANCE OF WORK TO BE DONE NEAR ANY EXISTING UTILITY MAIN. NON-MEMBERS MUST BE CONTACTED DIRECTLY. NOTIFY ENGINEER IMMEDIATELY IF UTILITIES ARE LOCATED DIFFERENTLY THAN SHOWN. THE CONTRACTOR SHALL COORDINATE WITH EACH RESPECTIVE UTILITY COMPANY IN ORDER TO RELOCATE IF NEEDED IN CONFORMANCE WITH THEIR GUIDELINES.
- CONTRACTOR SHALL PERFORM ALL WORK IN A MANNER THAT DOES NOT IMPEDE TRAFFIC ON CENTER RIDGE ROAD AND SHALL NOT IMPEDE ACCESS/USE OF THE NEIGHBORING PROPERTIES.
- PARKING LOT SURFACE SHALL BE BITUMINOUS OR DUST FREE PER 1284.02.
- CONTRACTOR SHALL VERIFY EX. U.G. CABLE BOX UTILITY THAT IS CONTAINED WITHIN. CONTRACTOR SHALL VERIFY THAT BOX IS/HAS TRAFFIC BEARING CAPABILITIES AND SHALL COORDINATE REMOVAL/REPLACEMENT WITH UTILITY COMPANY AS NEEDED.

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:

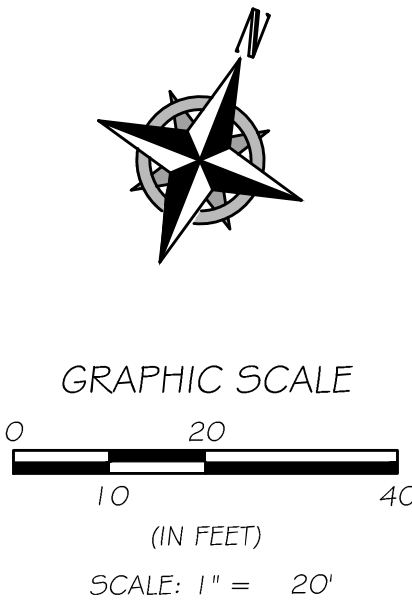
THE SIZE & LOCATION, BOTH HORIZONTAL AND VERTICAL, OF THE UNDERGROUND UTILITIES SHOWN HEREON, HAVE BEEN OBTAINED BY A SEARCH OF AVAILABLE RECORDS. VERIFICATION BY FIELD OBSERVATION HAS BEEN CONDUCTED WHERE PRACTICAL. HOWEVER, RAFTER A., LTD DOES NOT GUARANTEE THE COMPLETENESS NOR ACCURACY THEREOF.

UNDERGROUND UTILITIES
Contact Two Working Days
Before You Dig

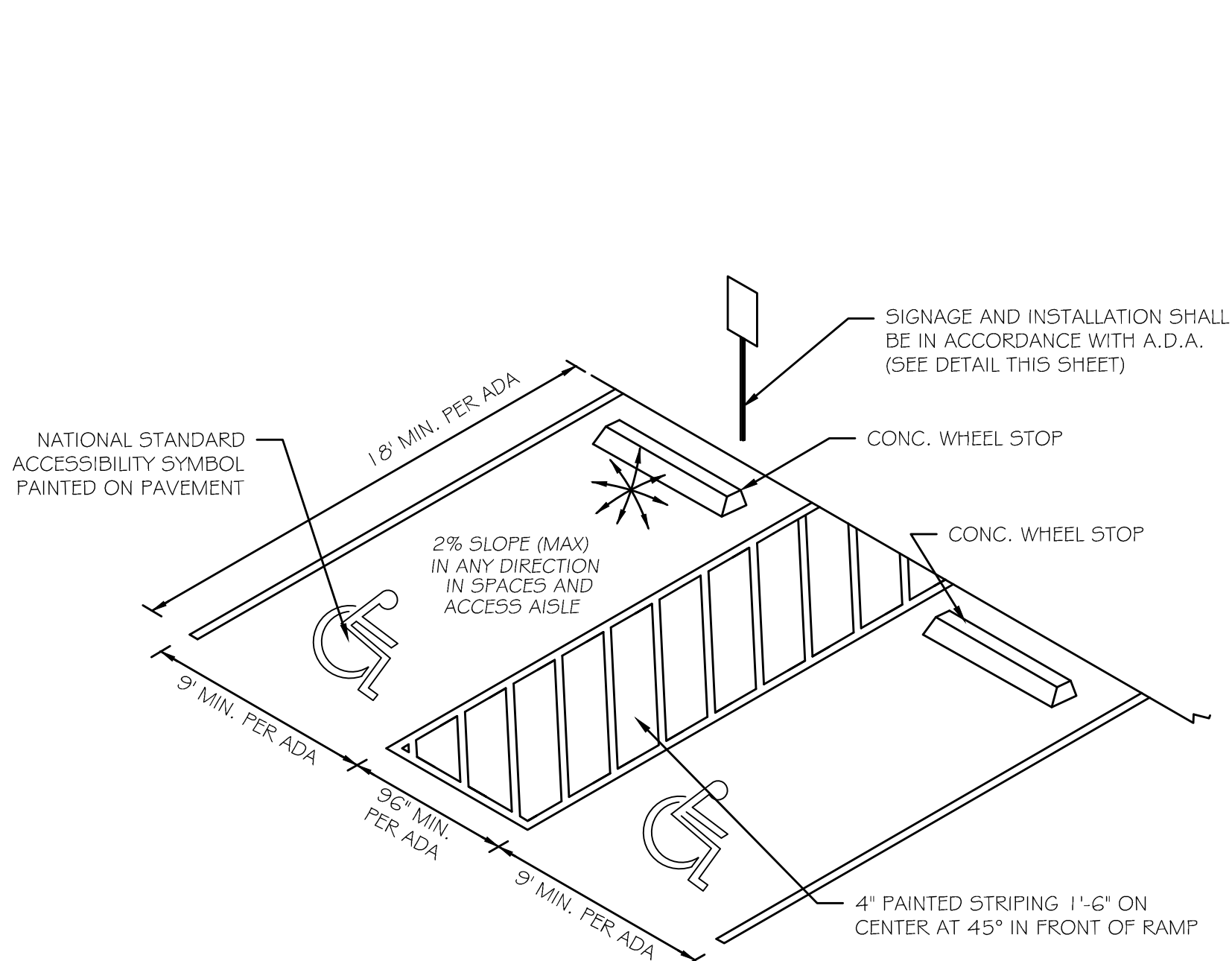
Before You Dig

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

A400302521-00A & B400301242-00A

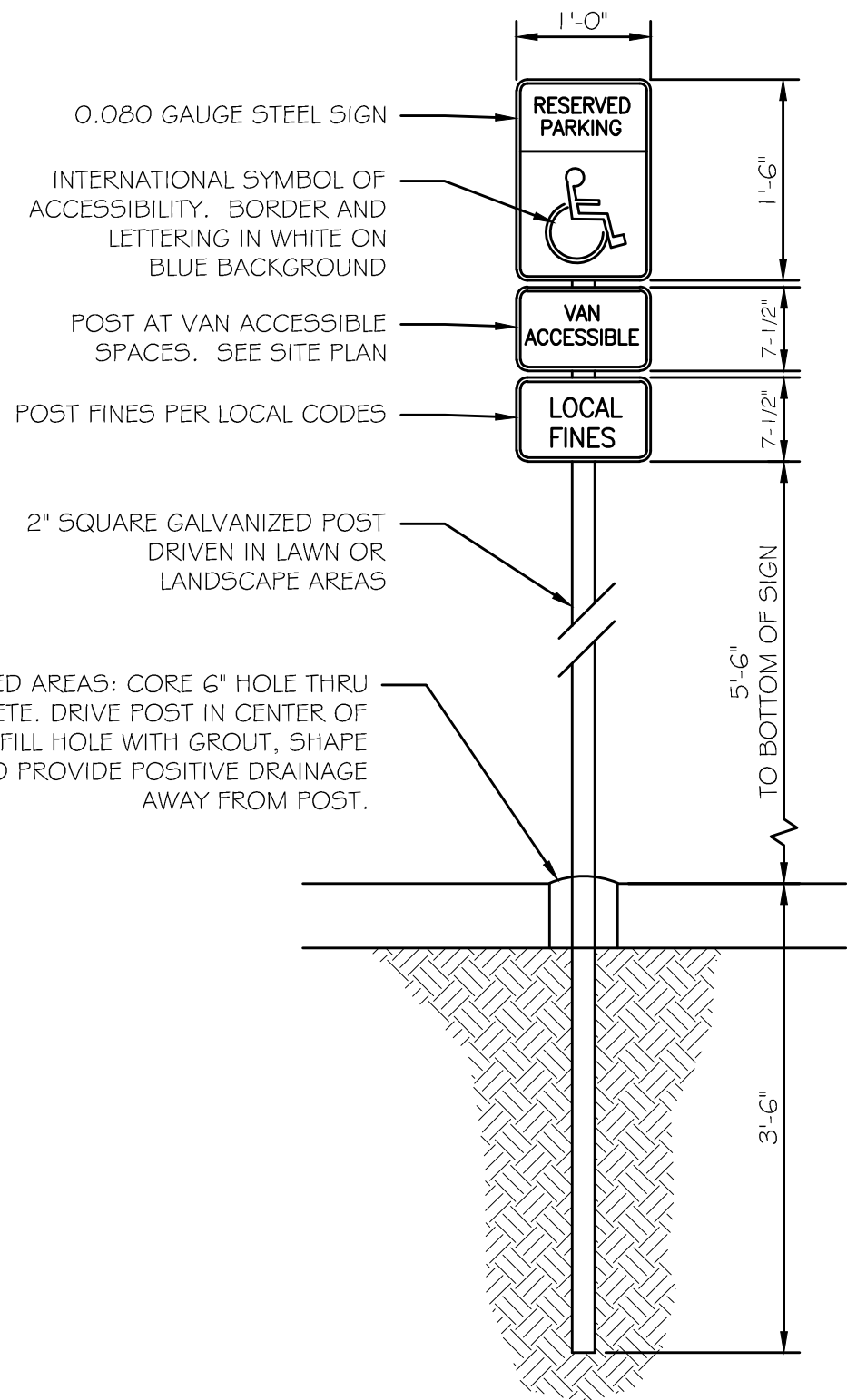


CITY OF ELYRIA CITY OF NORTH RIDGEVILLE	DESCRIPTION	DATE	BY	REV.
	PRELIMINARY ISSUE FOR REVIEW	03-28-2024	RAF	1
	PRELIMINARY ISSUE FOR REVIEW	04-11-2024	RAF	2
	UPDATED PARKING ISSUE TO CLIENT	06-12-2024	RAF	3
	REVISED FOR PLANNING COMMISSION	12-19-2024	RAF	4
RAFTER A., LTD LAND SURVEYING • ENGINEERING • TESTING 42653 Oberlin-Elyria Road, Oberlin, Ohio 44074 440-707-4014 • www.raftera.com • info@raftera.com				
JOSEPH CONTRACTING 36821 SUGAR RIDGE ROAD NORTH RIDGEVILLE, OH 44039				
SITE PLAN CITY LIMITS RESTAURANT & LOUNGE PATIO & PARKING LOT IMPROVEMENTS 39462 CENTER RIDGE ROAD NORTH RIDGEVILLE, OH 44039				
DRAWN BY: BDA CHECKED BY: RAF RAF JOB NO: 3361-24				
SHEET: C2.0				



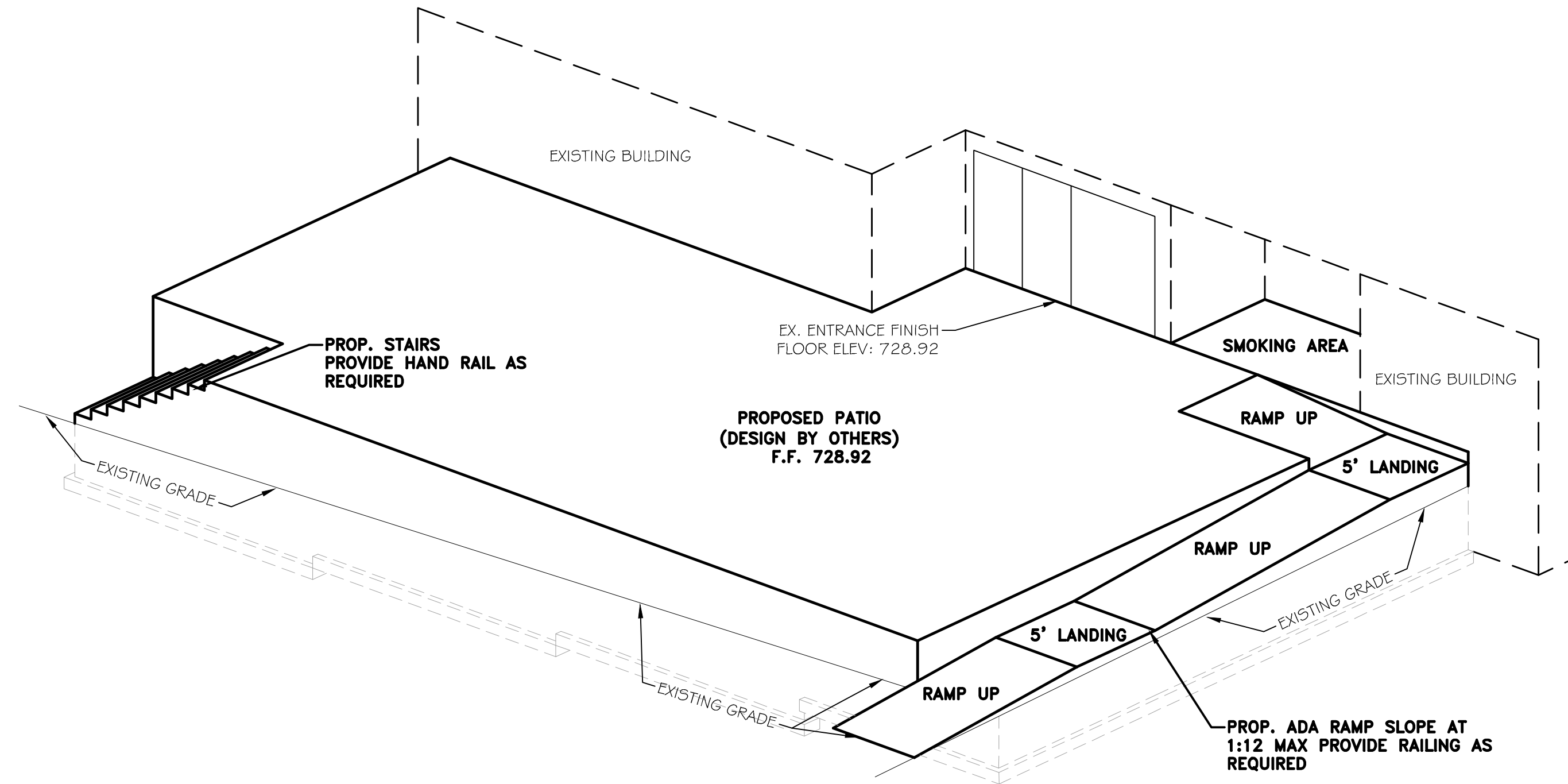
ACCESSIBLE PARKING DETAIL

- NOT TO SCALE -



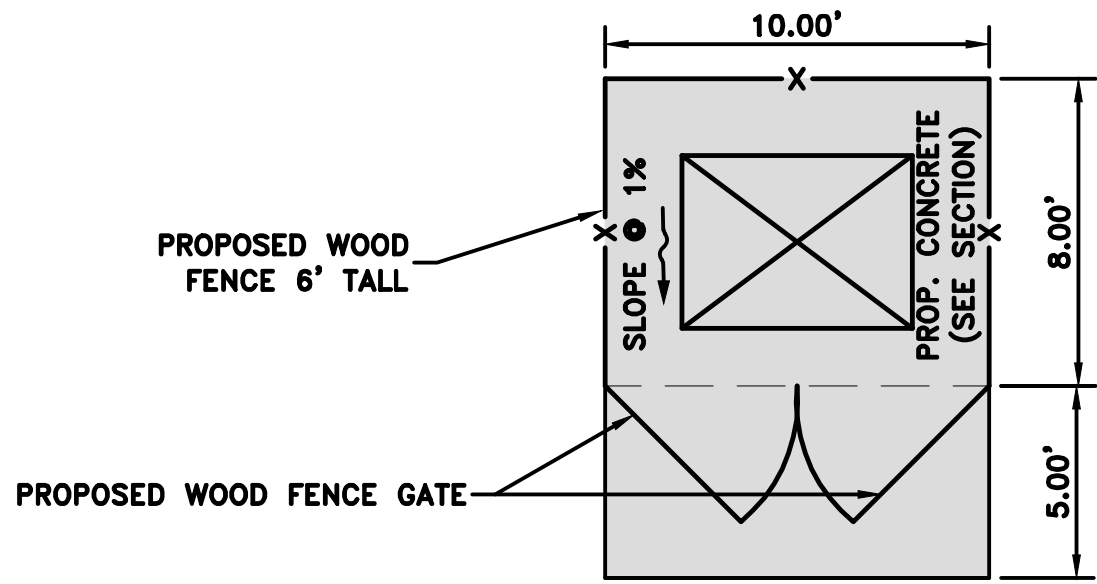
HANDICAP PARKING SIGN POST DETAIL

- NOT TO SCALE -



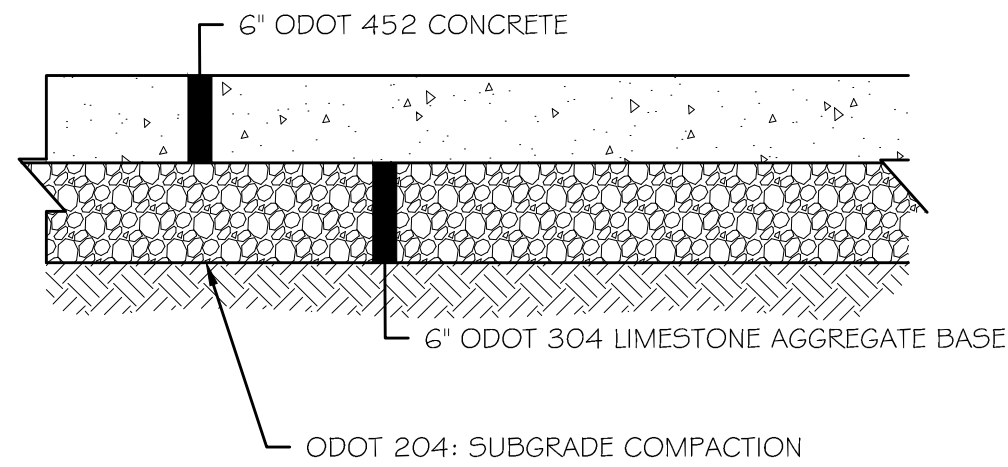
PROPOSED ADA RAMP OVERALL VIEW

NOT TO SCALE
SCHEMATIC VIEW FOR REFERENCE PURPOSES ONLY.
RAILINGS & FINAL ARCHITECTURAL DESIGN BY OTHERS



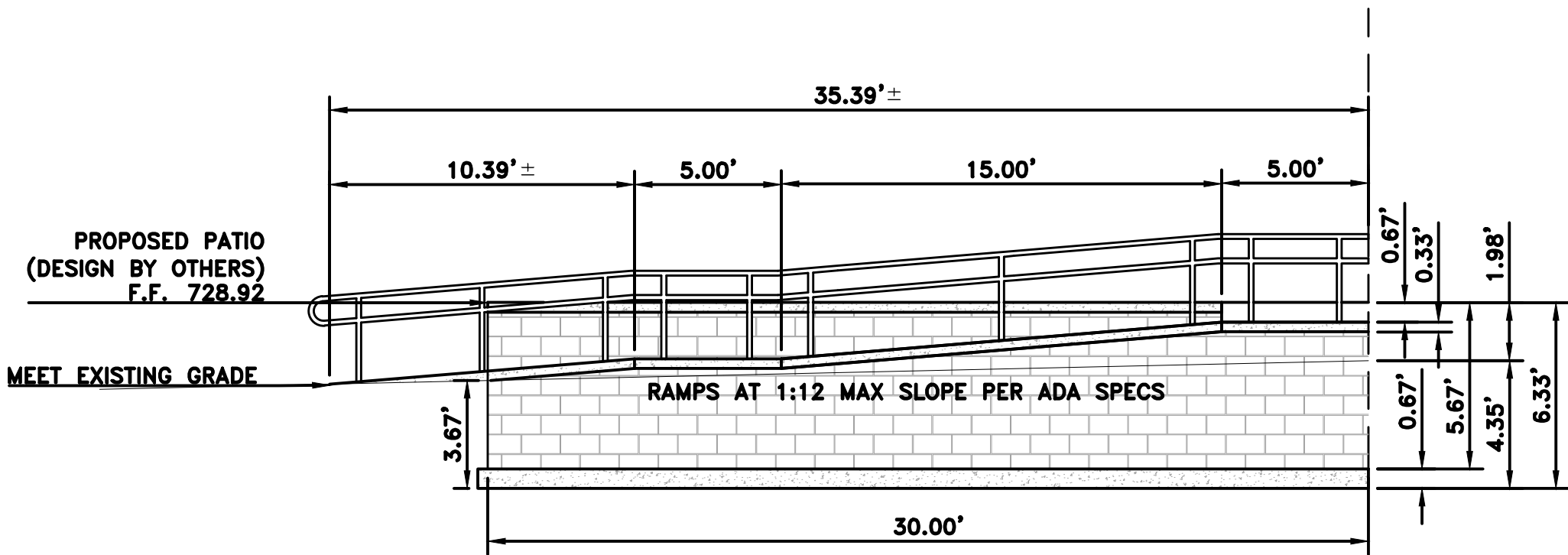
DUMPSTER ENCLOSURE

SCALE 1"=5'



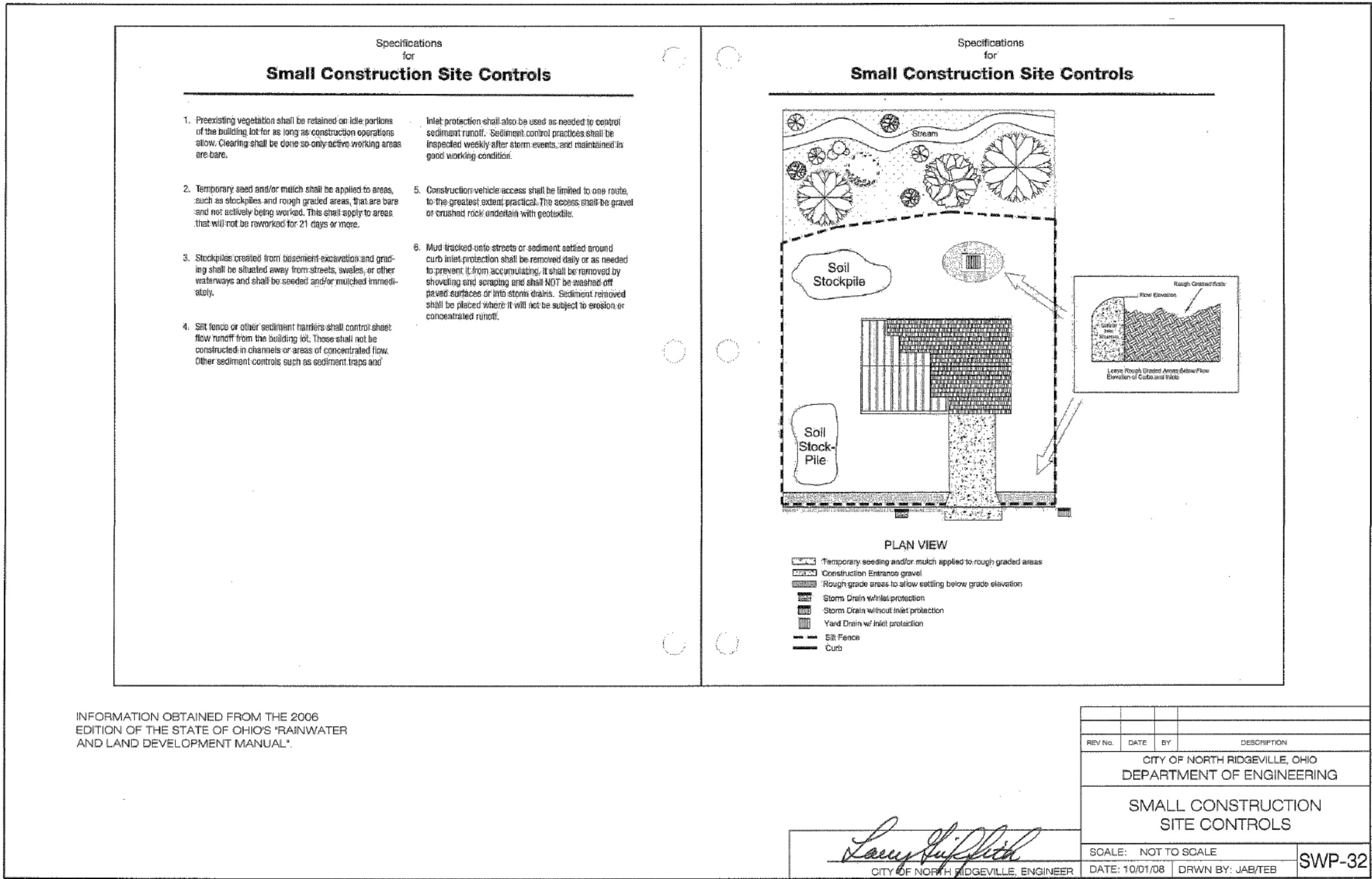
PROPOSED DUMPSTER CONCRETE SECTION

- NOT TO SCALE -
OR AS APPROVED BY GEOTECHNICAL ENGINEER



PROPOSED ADA RAMP SECTION VIEW

NOT TO SCALE
SECTION VIEW FOR REFERENCE PURPOSES ONLY.
RAILINGS & FINAL ARCHITECTURAL DESIGN BY OTHERS



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.org
Before You Dig
OHIO811, 8-1-1, or 1-800-362-2764
(Non-members must be called directly)
A400302521-00A & B400301242-00A

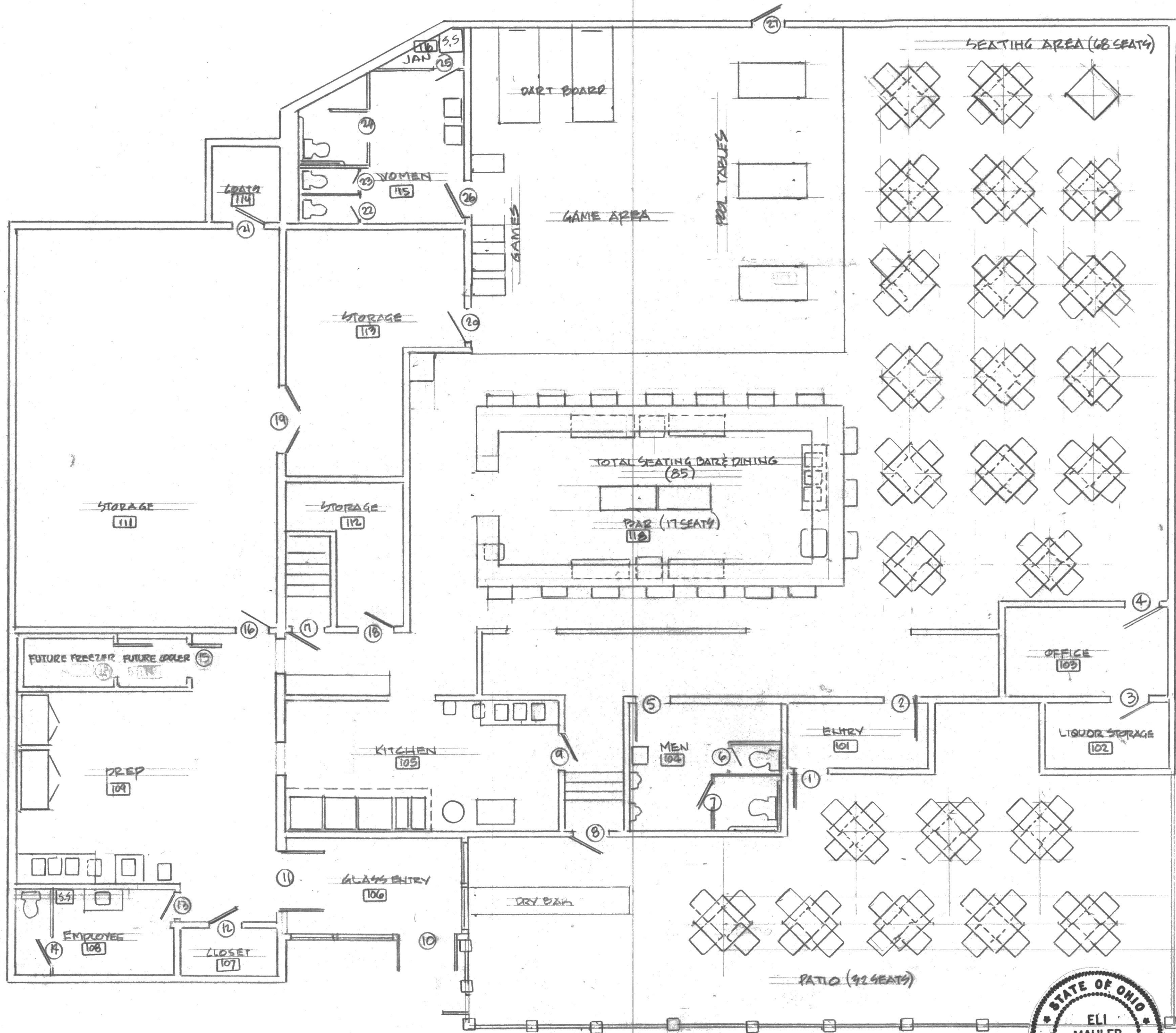
RAFTER A, LTD
LAND SURVEYING • ENGINEERING • TESTING
42653 Oberlin-Elyria Road, Oberlin, Ohio 44074
440-707-4014 • www.raftera.com • info@raftera.com

JOSEPH CONTRACTING
36821 SUGAR RIDGE ROAD
NORTH RIDGEVILLE, OH 44039

CITY LIMITS RESTAURANT & LOUNGE
PATIO & PARKING LOT IMPROVEMENTS
MISCELLANEOUS SITE DETAILS
39462 CENTER RIDGE ROAD
NORTH RIDGEVILLE, OH 44039

DRAWN BY: BDA
CHECKED BY: RAF
RAF JOB No: 3361-24

SHEET: C2.1



REVISIONS	BY
12.3.2024	
RESTAURANT SEATING (68)	

CITY LIMITS BAR AND GRILL

RESTAURANT PLANS

39462 CENTER RIDGE ROAD

NORTH RIDGEVILLE, OHIO

ELI MAHLER - ASSOCIATES

ARCHITECTS & PLANNERS

3947 WEST ASH LANE

TEL. (216) 831-3947

CLEVELAND, OHIO 44122

DRAWN
CHECKED
DATE AUG. 23, 2024
SCALE
JOB NO.
SHEET A-2
OF SHEETS



Sponsored



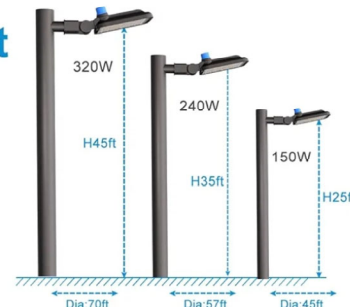
Lightdot
Visit the Store

4.6 (31)

240W(240x1W LED) LED Parking Lot Lighting 33600Lm
LED Parking Lot Lights Commercial with Photocell, LED
Pole Light Outdoor with SlipFitter Mount-
4Pack(Coverage: 66~88Ft at Height:30~40Ft)

Typical Height Installation

illuminated
coverage



Parameters

Power	LM Output	Equivaient	Typical height installation	Illuminated coverage
150W	21000lm	500W HID	15~25ft	Dia 45ft
240W	33600lm	800W HID	25~35ft	Dia 57ft
320W	44800lm	1200W HID	35~45ft	Dia 70ft



RECEIVED
NOV 14 2024

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

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.

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

	CENTERLINE
_____	EX. PAVEMENT
_____	DITCH/CREEK/SWALE
_____	EX. SETBACK LINES
---000---	EX. MINOR CONTOUR
---000---	EX. MAJOR CONTOUR
STH ◀	EX. STORM
SAN ◀	EX. SANITARY
W ◀	EX. WATER
G	EX. GAS
OVH	EX. OVERHEAD UTILITIES
T	EX. TELEPHONE
E	EX. U. G. ELECTRIC
000	PROP. MINOR CONTOUR
000	PROP. MAJOR CONTOUR
STH ◀	PROP. STORM
SAN ◀	PROP. SANITARY
W ◀	PROP. WATER
G	PROP. GAS
OVH	PROP. OVERHEAD UTILITIES
T	PROP. TELEPHONE
E	PROP. U. G. ELECTRIC
W/L	CONSTRUCTION LIMITS
SF	SILT FENCE

 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 PINPIPE FOUND AS INDICATED
 IRON PINPIPE FOUND IN MONUMENT BOX AS INDICATED
 INLET PROTECTION
 DEMOLITION AREA

VICINITY MAP
-NOT TO SCALE-

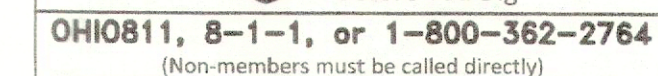
SITE ADDRESS: 39462 CENTER RIDGE ROAD, NORTH RIDGEVILLE, OHIO 44035
COORDINATES: N: 632042 E: 2044876 (NAD83 OHIO NORTH ZONE)
LAT: N 42° 22' 50" LONG: W 82° 04' 05" (WGS 84)

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.

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.

Contact Two Working Days
Before You Dig



A40030252|-00A & B40030|242-00A

CITY LIMITS RESTAURANT & LOUNGE

TITLE SHEET

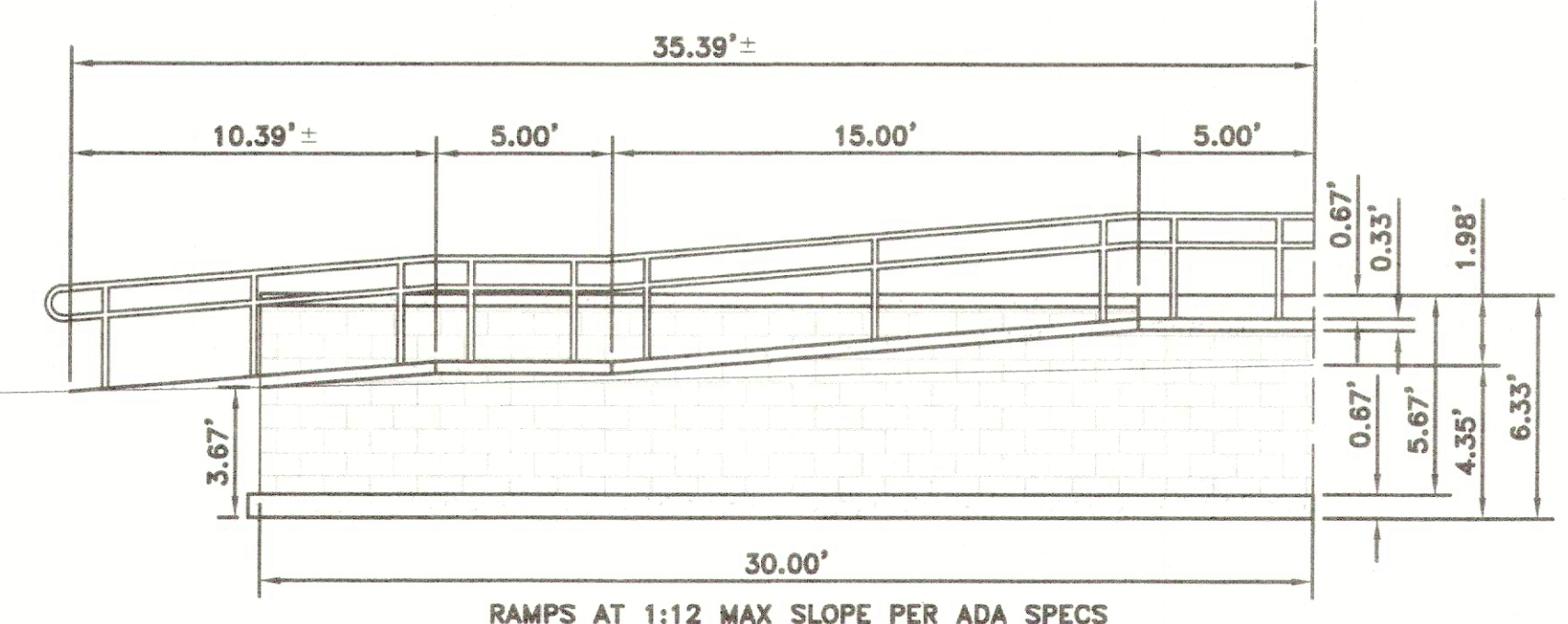
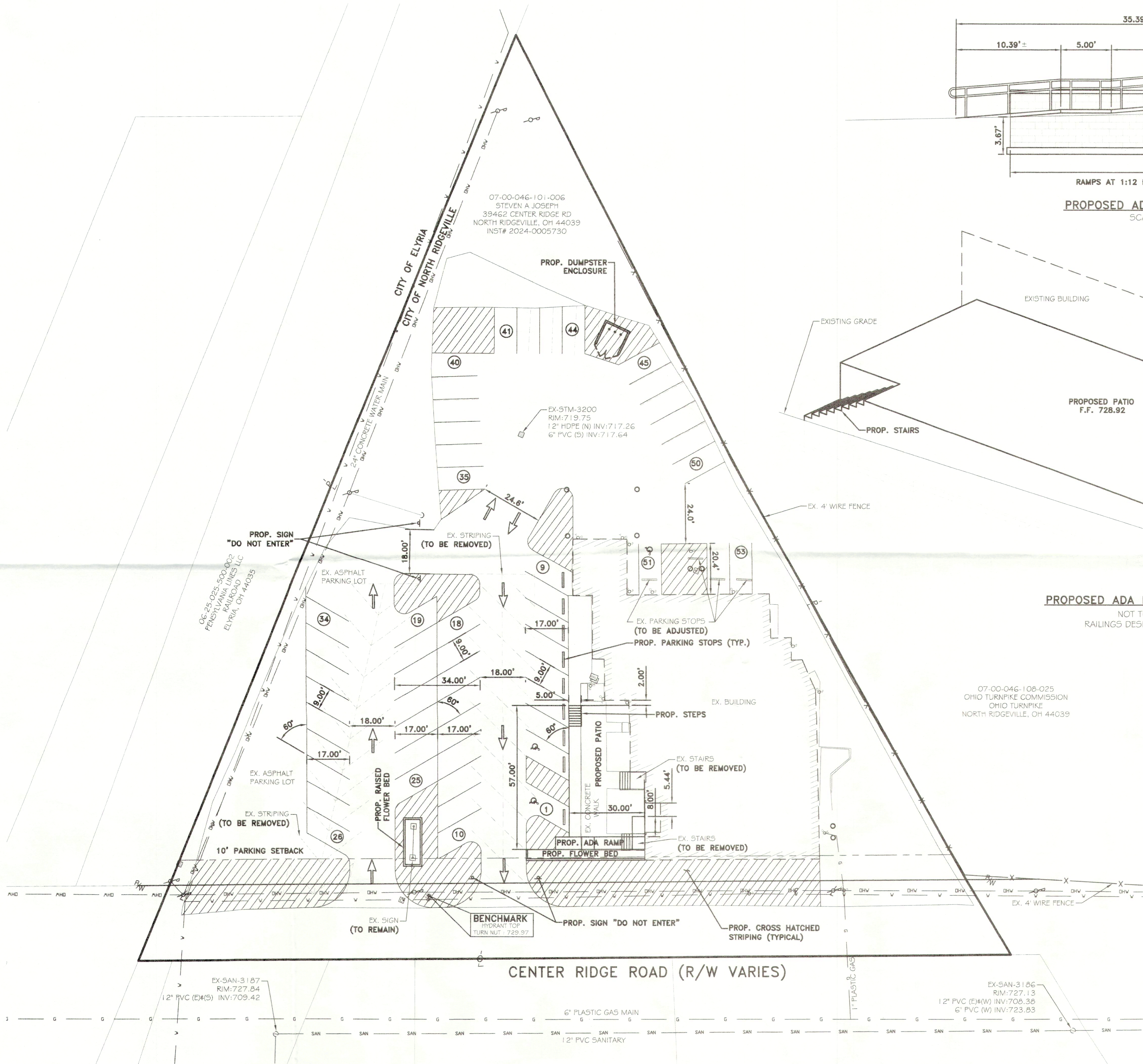
39462 CENTER RIDGE ROAD
NORTH RIDGEVILLE, OH 44039

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

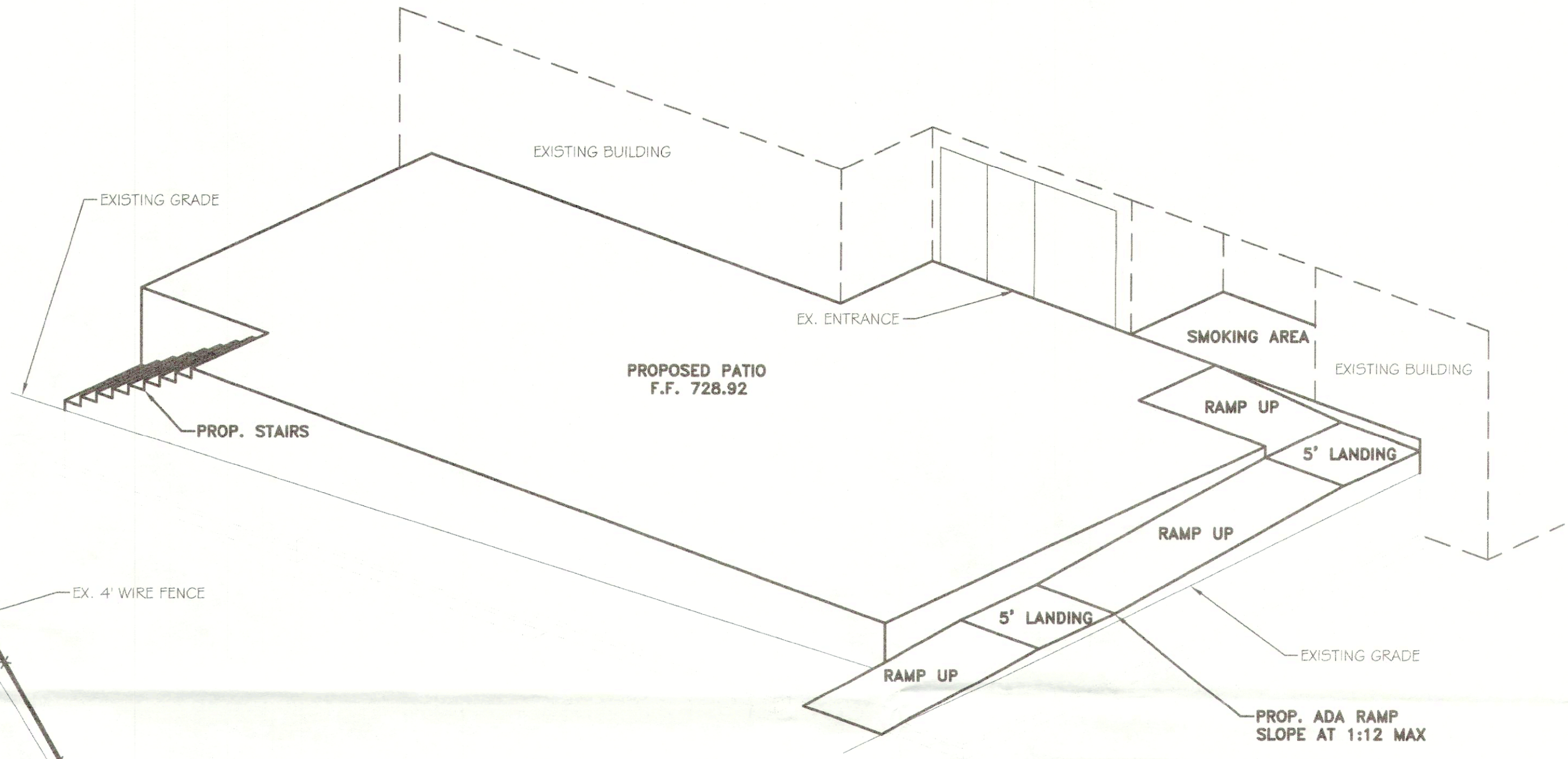
JOSEPH CONTRACTING
36821 SUGAR RIDGE ROAD
NORTH RIDGEVILLE, OH 44039

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:

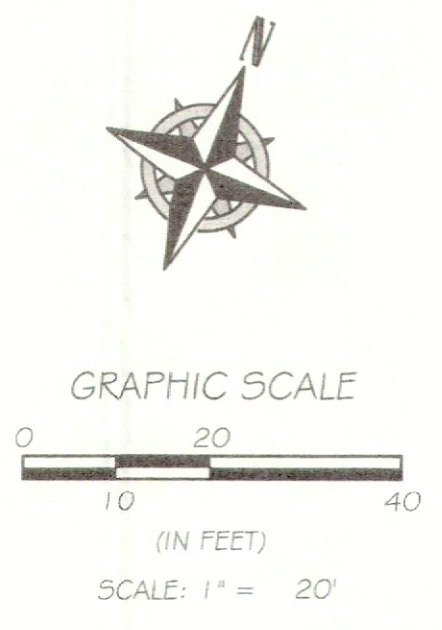
A BOUNDARY SURVEY PER OAC 4733-37 HAS NOT BEEN PERFORMED BY RAFTER A, LTD.
TOPOGRAPHIC SURVEY IS BASED UPON A FIELD SURVEY PERFORMED BY RAFTER A, LTD. IN JANUARY AND FEBRUARY OF 2024 AND SUPPLEMENTED WITH AERIAL DATA.

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



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 LAND SURVEYING • ENGINEERING • TESTING 42653 Oberlin-Elyria Road, Oberlin, Ohio 44074 440-707-4014 • www.raftera.com • info@raftera.com
JOSEPH CONTRACTING 36821 SUGAR RIDGE ROAD NORTH RIDGEVILLE, OH 44039
CITY LIMITS RESTAURANT & LOUNGE SITE PLAN 39462 CENTER RIDGE ROAD NORTH RIDGEVILLE, OH 44039
DRAWN BY: JNY CHECKED BY: RAF RAF JOB No: 3361-23
SHEET: 2.0