

Trustees Scott Ruggles Liz Fessler Smith Andrea C Voorheis Michael Powell

SPECIAL TOWNSHIP BOARD MEETING LOCATION: 7527 HIGHLAND ROAD, WHITE LAKE - ANNEX BOARD ROOM

TUESDAY, JANUARY 25, 2022 - 6:00 PM

White Lake Township | 7525 Highland Rd | White Lake, MI 48383 | Phone: (248) 698-3300 | www.whitelaketwp.com

AGENDA

- 1. CALL TO ORDER
- 2. PLEDGE OF ALLEGIANCE
- 3. ROLL CALL
- 4. APPROVAL OF AGENDA
- 5. **NEW BUSINESS**
 - A. REQUEST TO HIRE OFFICER FOR SPECIAL OPERATIONS UNIT
- 6. PRESENTATIONS
 - A. SWEARING IN CEREMONY OF NEW OFFICERS
 - B. AWARD PRESENTATIONS
- 7. CLOSED SESSION
 - A. APPROVAL TO RECESS INTO CLOSED SESSION TO CONSIDER ATTORNEY/CLIENT PRIVILEGED COMMUNICATIONS, IN ACCORDANCE WITH MCL 15.268(h)
- 8. OLD BUSINESS
 - A. REQUEST TO RESCIND AND RECONSIDER PRELIMINARY SITE PLAN FOUR CORNERS OUT LOT
- 9. ADJOURNMENT

WHITE LAKE TOWNSHIP INTER-OFFICE MEMORANDUM

COMMUNITY DEVELOPMENT DEPARTMENT

DATE: December 13, 2021

TO: Rik Kowall, Supervisor

Township Board of Trustees

FROM: Sean O'Neil, AICP

Community Development Director

SUBJECT: 4 Corners Square Retail Outlot

Preliminary and Final Site Plan Approval

Property described under parcel number 12-36-476-032 (1449 Union Lake Road) located on the east side of Union Lake Road north of Cooley Lake Road, consisting of approximately 0.71 acres, and is currently zoned

Neighborhood Mixed Use (NMU).

The above request is now ready for Township Board Consideration. The matter was considered by the Planning Commission at their regular meeting of December 2, 2021 at which time the **Planning Commission recommended approval** of the proposed preliminary and final site plan. The matter was then considered by the Zoning Board of appeals at their regular meeting of December 9, 2021, at which time the **Zoning Board of Appeals approved** two of the four requested variances, modified one variance and denied the fourth variance.

Please find enclosed the following related documents:

- Draft minutes from the Planning Commission meeting held on December 2, 2021.
- Draft minutes from the Zoning Board of Appeals meeting held on December 9, 2021.
- □ Review letter prepared by the Township Engineering Consultant, Mr. Mike Leuffgen, dated November 22, 2021.
- □ Review letter prepared by Justin Quagliata, WLT Staff Planner, dated November 19, 2021.
- □ Email prepared by the White Lake Township Fire Chief dated November 5, 2021.
- Review letter prepared by the White Lake Township Assessing Department, dated October 26, 2021.
- □ 4 Corners Retail Center Construction/Site Plans prepared by Nowak & Fraus, dated June 25, 2021.
- □ Elevations prepared by GAV Associates, dated October 22, 2021.

Please place this matter on the next available Township Board agenda. Do not hesitate to contact me should you require additional information.

WHITE LAKE TOWNSHIP PLANNING COMMISSION

Township Annex, 7527 Highland Road White Lake, MI 48383 December 2, 2021 @ 7:00 p.m.

Chairperson Anderson called the meeting to order at 7:04 p.m. and led the Pledge of Allegiance. Roll was called.

ROLL CALL: Steve Anderson

Rhonda Grubb Matt Slicker Debbie Dehart Joe Seward Scott Ruggles Mark Fine

Absent: Merrie Carlock

Also Present: Sean O'Neil, Community Development Director

Michael Leuffgen, DLZ Ammar Al-Khafaji, 4 Corners

Hannah Micallef, Recording Secretary

Visitors: None

Approval of Agenda

Commissioner Seward moved to approve the agenda as presented. Commissioner Dehart supported and the MOTION CARRIED with a voice vote: 8 yes votes.

Approval of Minutes

a. November 18, 2021

Commissioner Fine moved to approve the minutes of November 18, 2021 as presented. Commissioner Grubb supported and the MOTION CARRIED with a voice vote: 7 yes votes.

Section 8. Item A.

Call to the Public (for items not on the agenda)

No members of the public were present.

Public Hearing:

None.

Continuing Business

None.

New Business

4 Corners Retail Outlot

Located on the northeast corner of Union Lake Road and Cooley Lake Road, currently zoned Neighborhood Mixed Use (NMU), identified as parcel number 12-36-476-032 consisting of approximately 1.02 acres.

Request:

i) Preliminary Site Plan Approval

ii) Final Site Plan Approval

Applicant: 4 Corners Square, LLC 29580 Northwestern Hwy, Suite 1000 Southfield, MI 48034

Mr. Leuffgen stated that his review covered the preliminary and final site plan. A lot of the engineering was already taken care of on the site when the apartments and strip center were constructed. The proposed patio area was to be over the sanitary sewer easement by 6' on the northern side. He mentioned a hold harmless letter would be needed so the sanitary sewer could repaired if needed in the future. The majority of the remaining comments were minor in nature and could be addressed at the pre-construction meeting.

He added there was clarification needed for a proposed external grease trap that could hold 1000 gallons for each food service provider. The trap was demonstrated on the site plan, but there needed to be clarification as the plans initially stated a retail use.

Commissioner Meagher asked if the grease trap was required. Mr. Leuffgen said the grease trap was required for food service uses.

Commissioner Slicker asked how old the sewer was in the area. Mr. Leuffgen said the sewer was put in around 2006. Commissioner Slicker asked if the parcel would be receiving an easement. Director O'Neil said easements were granted during the original construction on the site. The parking spaces were taken into account during the initial site plan process for 4 Corners. He added usually when the parking requirements are met, the Township wouldn't get involved further on how parking spaces are allocated; it would be the owner's responsibility.

Mr. Al-Khafaji said there was common ownership between the buildings, and there would not be common shared parking for the uses. There were some cross access easements.

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Trustee Ruggles asked what the minimum parking spaces were for the site. Director O'Neil said the requirement was 88 parking spaces, but a variance was received and the total parking spaces is 69. Commissioner Slicker said he would like to see the spaces for the retail out lot specified.

Director O'Neil said the Fire Department didn't have any issues, but would be looking at life safety requirements at time of occupancy. Many of the improvements to the site have already been made. He added that what was originally wanted for the site was a sit down restaurant, but due to the state of the world and restaurant industry right now, it was harder to find that occupant. In the future, the building could be altered. The tenants would be Detroit Wings, Beyond Juice, and another possible retail tenant. He added originally the building was to be shifted to the north for buffering purposes, and this proposed building would be in the same location. It would be a miniature version of the retail building next door.

The proposed building would only be a one-story building at 22' tall. The loading zone was not standard, but would still be acceptable as the tenants wouldn't be getting deliveries from a big truck. There will be a variance requested for a smaller sign on the east side of the building.

Mr. Al-Khafaji said there was efforts to try to get a sit-down restaurant at the site, but again, due to the world right now, it was hard to find that kind of food service tenant. He said he strived to find tenants that complimented the entire development, and wanted to add to the walkability of the site in regards to the commercial uses for the tenants in the residential building.

Planning Director O'Neil added that the outdoor eating that was previously desired would be included with this proposed site plan.

Commissioner Slicker asked if the outdoor seating was for only one of the food vendors. Mr. Al-Khafji said it would be a shared patio. The operator of both restaurants would be the same person. Director O'Neil added that this new development completes the corner of one of the gateway quadrants in the Township.

Commissioner Dehart asked if the restaurants had indoor seating. Mr. Al-Khafaji confirmed.

Commissioner Seward moved to approve the preliminary site plan for the 4 Corners Outlot subject to all the conditions of the consultants and staff. Commissioner Meagher supported, and the MOTION CARRIED with a roll call votes (8 yes votes):

(Meagher/yes, Anderson/yes, Fine/yes, Ruggles/yes, Seward/yes, Dehart/yes, Slicker/yes, Grubb/yes)

Commissioner Seward moved to approve the final site plan for the 4 Corners Outlot contingent on approval of the preliminary site plan by the Township Board and contingent on the applicant receiving the required variances by the Zoning Board of Appeals. Commissioner Fine supported, and the motion carried with a roll call vote (8 yes votes):

(Meagher/yes, Anderson/yes, Fine/yes, Ruggles/yes, Seward/yes, Dehart/yes, Slicker/yes, Grubb/yes).

Liaison's Report:

There was nothing to report from ZBA or Parks and Recreation.

Trustee Ruggles said there was a special Township Board meeting today and the Board approved the first amendment to the River Caddis' agreement. There will be a concept plan coming soon, along with a cost estimate and timelines for future updates. In June, the Township entered into a contract with River Caddis. River Caddis had a proposal where they would construct the Township buildings, and the

Section 8, Item A.

Township could lease it from them. That proposal was very expensive. River Caddis was now researching the benefits of the Township building their own buildings. The hope was to own the Township Building, and the Township could sell out lots to private buyers for mixed uses that would work with the vision of the Civic Center. Director O'Neil said River Caddis was working on a land use design.

Planning Consultant's Report

No report.

Director's Report:

Director O'Neil said that the grant for Stanley Park was ranking 14 out of 44 applications received. The Planning Department was waiting on preliminary results.

Communications:

There would most likely not be a December 16th Planning Commission meeting.

Next Meeting Dates: December 16, 2021

January 6, 2021

Adjournment:

Commissioner Dehart moved to adjourn the meeting at 8:15 p.m. Commissioner Meagher supported and the MOTION CARRIED with a voice vote: 8 yes votes.

D. Applicant: 4 Corners Square LLC

29580 Northwestern Hwy STE 100

Southfield, MI 48034

Location: 1449 Union Lake Road

White Lake, MI 48386 identified as 12-36-476-032

Request: The applicant requests to construct a building, requiring variances from

Article 3.1.13.D, Neighborhood Mixed Use Build-to-Line coverage and Minimum building height. A variance from Article 5.11.P.i, Off-Street Loading Requirements is required for the dimensions of the off-street loading space. A variance from Article 5.9.J.ii.b is required to exceed the

allowed number of wall signs.

Chairperson Spencer noted for the record 146 owners within 300 feet were notified. 0 letters were received in favor, 0 letters were received in opposition, and 0 letters were returned undeliverable from the U.S. Postal Service.

Staff Planner Quagliata presented his staff report.

Member Aseltyne asked staff why the previous variances were granted. Staff Planner Quagliata stated part of the issue at the time was contamination on the property. The Township created a Commercial Rehabilitation District to address the site issues. Member Aseltyne asked staff if there were remediation compliance documents for the site. Staff Planner Quagliata noted the State had such documentation.

Amar Alkhafaji was present to speak on behalf of the case. He said there was a vision for the subject site years ago when it was first being developed. There was the idea to create urban walkability in a suburban area. In regards to this project, there was originally hopes for a sit-down restaurant, but due to the COVID pandemic, he was unable to find a full-service restaurant tenant. The two proposed fast-food tenants were excited to come to the Township. He wanted to create a physical buffer for residents on the lake, which was why the building was proposed to be setback. To keep the building cohesive with the other shopping center, it would be one-story and use the same materials in construction.

Detroit Wing Company would be closest to Tim Horton's, and Beyond Juice would be closest to Union Lake Road. Detroit Wing Company would like a small sign on the east side of the building to capture customers. The "Welcome to White Lake" sign would be improved, and Mr. AlKhafaji was proposing to build a nicer sign with 4 Corners verbiage included.

The tenants would not receive deliveries from full semi-trucks in the loading area. The depth needed a variance, but the width of the area was wider than required.

Member Powell stated he was hoping to see a sit-down restaurant on the site. Mr. AlKhafaji said there would be indoor seating at both restaurants.

Member Powell asked Mr. AlKhafaji why the loading zone could not be extended west. Mr. AlKhafaji said there was a light pole, as well as landscaping.

Chairperson Spencer opened the public hearing at 8:45 P.M. Seeing no public comment, she closed the public hearing at 9:45 P.M.

WHITE LAKE TOWNSHIP
ZONING BOARD OF APPEALS REGULAR MEETING MINUTES
DECEMBER 9, 2021

Member Seiber asked staff if the Ordinance Officer would ticket a truck delivery at the site if a truck was sticking out of the loading area. Staff Planner Quagliata said it would be more of a Fire Department issue with blocking access.

Member Dehart said the Township Engineer discussed the depth of the loading area at the December 2, 2021 Planning Commission meeting.

Member Powell asked staff about the patio. Staff Planner Quagliata asked Mr. AlKhafaji about the patio surface. Mr. AlKhafaji said it would be concrete.

Member Powell asked Mr. AlKhafaji what signs would be on the south side of the building versus the proposed sign on the east side. Mr. AlKhafaji said the south side would have the three tenant signs, and the east side would have one Detroit Wing Company sign. The tenant was adamant about the sign on the east side.

Member Seiber said the tenants in the adjacent shopping center did not have corner signs, and because of the way the building was situated, the east side sign would not be visible from travelers on the road. He added the floor plan was inconsistent with the elevation as there was a door shown on the east side elevation, but not on the floor plan. Mr. AlKhafaji said a door was not proposed on the east side of the building and the elevation was incorrect.

The ZBA discussed the standards from Article 7, Section 37 of the ClearZoning Ordinance:

In regards to variance #1, regarding build- to-line coverage:

- A. Practical Difficulty
 - Chairperson Spencer said a similar variance for this site was granted before.
 - Member Powell said he liked the building being setback instead of up to the property line.
- B. Unique Situation
- C. Not Self-Created
 - Chairperson Spencer said the problem was not self-created.
- D. Substantial Justice
- E. Minimum Variance Necessary

In regards to variance #2, minimum building height:

- A. Practical Difficulty
 - Chairperson Spencer said none of the other commercial buildings on the site were two stories, so it would be in line with the existing commercial buildings.
- B. Unique Situation
- C. Not Self-Created
- D. Substantial Justice
- E. Minimum Variance Necessary

In regards to variance #3, off-street loading requirements:

- A. Practical Difficulty
 - Member Powell said he did not want a truck to stick out of the loading space.
 - Member Seiber said a 10–15-foot variance would allow a box truck and trash hauler.
- B. Unique Situation
 - Chairperson Spencer said she could see a practical difficulty if the length of the loading space was extended.
- C. Not Self-Created
- D. Substantial Justice
 - By increasing the length of the loading space, adverse impact would be reduced.
- E. Minimum Variance Necessary

In regards to variance #4, maximum number of signs.

- A. Practical Difficulty
 - Chairperson Spencer did not see a practical difficulty.
- B. Unique Situation
 - Member Powell said it was a corner lot, so a sign on the west facade was permitted. He
 added a sign on the east elevation was not needed.
- C. Not Self-Created
 - Chairperson Spencer said this problem was self-created by the applicant.
- D. Substantial Justice
- E. Minimum Variance Necessary
 - Chairperson Spencer said by eliminating the wall sign on the east elevation, the minimum variances necessary would be granted.

Member Powell MOVED to approve the variances requested by 4 Corners Square LLC from Article 3.1.13.D and Article 5.11.P.i of the Zoning Ordinance for Parcel Number 12-36-476-032, identified as 1449 Union Lake Road, in order to allow construction of a one-story, 22'-11" tall building with a zero (0) percent build-to-line, and a 10-foot variance from the required loading space length. This approval will have the following conditions:

- The exterior elevations be revised to remove the east side door.
- The Applicant shall obtain all necessary permits from the White Lake Township Building Department.
- The Applicant shall receive preliminary site plan approval from the Township Board.
- For the purpose of administrating the sign ordinance, signs on the subject property shall be treated as those in the RB (Restricted Business) zoning district and meet the requirements of Article 5, Section 9.J of the zoning ordinance.
- No additional signage shall be permitted on the building or site, except for the Township's "Welcome to White Lake" sign. The "Welcome to White Lake" sign is to be designed to meet the requirements of the ClearZoning Ordinance.
- Any future modification to signage on the building or site, except for eliminating signage, shall require approval of the Zoning Board of Appeals.

- The outdoor seating area (patio) shall at a minimum be stamped, stained, and sealed concrete.
- The site plan shall be revised to clearly show the outdoor seating area (patio) as accessible from the parking lot.
- There shall be a 14-foot minimum ceiling height inside the building.

Member Dehart SUPPORTED, and the motion CARRIED with a roll call vote (5 yes): (Powell/yes, Dehart/yes, Spencer/yes, Aseltyne/yes, Seiber/yes).

Member Powell MOVED to deny the variance requested by 4 Corners Square LLC from Article 5.9.J.ii.b the Zoning Ordinance for Parcel Number 12-36-476-032, identified as 1449 Union Lake Road, for one wall side on the east elevation of the building.

Member Dehart SUPPORTED and the motion CARRIED with a roll call vote (5 yes votes): (Powell/yes, Dehart/yes, Spencer/yes, Aseltyne/yes, Seiber/yes).

The Zoning Board of Appeals took a recess at 9:21 P.M. The ZBA returned from recess at 9:23 P.M.

OTHER BUSINESS

A. Zoning Ordinance Discussion

Member Powell said he brought up amending the zoning ordinance at the Township Board, and it was suggested the discussion begin at the ZBA before taking it up with the Planning Commission. He added Article 7.28.A, Repairs and Maintenance to Nonconforming Structures, was an ordinance section he would like to discuss.

Chairperson Spencer said it was rare for the ZBA to deny a case solely based on Article 7.28.A of the ordinance.

Member Powell mentioned the sign ordinance and would like to review the text and see if there was a more modern way to interpret signs. Member Dehart agreed.

Staff Planner Quagliata said there were other ordinance sections that should be revisited, and the ZBA could take its time and review them individually. He said he would prepare a summary of the cases over the past two-five years, and go from there.

ADJOURNMENT

MOVED by Member Aseltyne, SUPPORTED by Member Seiber to adjourn the meeting at 10:07 P.M. The motion CARRIED with a voice vote (5 yes votes).

NEXT MEETING DATE: January 27, 2022 Regular Meeting

November 22, 2021

Sean O' Neil Community Development Department Charter Township of White Lake 7525 Highland Road White Lake, Michigan 48383

RE: Four Corners Outlot- Preliminary Site Plan, Final Site Plan/Final Engineering Plan Review – 2nd **Review**

DLZ No. 2145-7233-17 Ref: Design Professional: Nowak & Fraus Engineers

Dear Mr. O' Neil,

Our office has performed the above mentioned Plan Reviews for the plan dated November 8, 2021. The plans were reviewed for feasibility based on general conformance with the Township Engineering Design Standards.

General Site Information

This site is located at the northeast corner of Cooley Lake and Union Lake Roads and is an outlot of the established and previously approved 4 Corners Square development. Total site acreage is 1.017 acres.

Site Improvement Information:

- Construction of a (1) one story building totaling 4,169 square feet.
- Associated paved and curbed parking including ADA accessible parking spaces and maneuvering aisles were established and built as part of the overall 4 Corners Square development.
- Associated loading space is proposed.
- Site to be serviced by watermain and sanitary sewer.
- Storm water runoff is proposed to be pretreated and detained in an existing underground detention facility.

4494 Elizabeth Lake Rd, Waterford, MI 48328 | OFFICE 248.681.7800 | ONLINE WWW.DLZ.COM



WLT-4 Corners Outlot- PSP, FSP/FEP Review.02 November 22, 2021 Page 2 of 5

We offer the following comments:

Note that comments from our review dated November 5, 2021 are in *italics*. Responses to those comments are in **bold**. New comments are in standard typeface.

The following items should be noted with respect to Planning Commission review:

- a) The plans indicate that the proposed transformer and pad will be screened by landscaping. Please note the slope of the ground in this area may make screening with the proposed ornamental grasses difficult. We defer further comment to the Planning Department if this meets the intent of Zoning Ordinance 5.19 N. ii. a. Comment addressed. The design engineer has noted that the transformer location has now been moved and the screening has been changed to Arborvitae.
- b) The proposed transformer location will conflict with the connection of the building to the existing water supply line for fire department use. Although it is indicated on the plan that this connection is not required, it should be considered as to whether a future change in the use of the building may require the connection of this line; this would not be feasible due to the current proposed transformer location. Comment addressed. The transformer location has been moved such that the conflict with the water supply line no longer exists.
- c) The proposed patio encroaches on the existing 33-foot-wide sanitary sewer easement (Liber 24814, Page 271). The original development plans showed the patio further away from the Right-of-Way and outside of this easement. Plans will need to be revised to show the patio outside of this easement or the Township would need to agree to modify the easement to accommodate this configuration. The owner intends to provide a hold harmless letter to the effect that the owner shall be responsible for removal and replacement of proposed patio and retaining wall in the event that maintenance and repair for the sanitary sewer are necessary. DLZ recommends the Township work with the Township Attorney to determine sufficient language for this agreement.

Final Site Plan/Final Engineering Plan Comments-

General

1. Plan shall contain notes per White Lake Township Engineering Design Standards Section A. 8. a.-d. Comment addressed.



INNOVATIVE IDEAS EXCEPTIONAL DESIGN UNMATCHED CLIENT SERVICE

WLT-4 Corners Outlot- PSP, FSP/FEP Review.02 November 22, 2021 Page 3 of 5

Paving/Grading

- 1. The topo survey shows existing asphalt pavement south of the proposed retail building; however, this pavement does not exist. The curbs have been poured but the pavement has not been placed, please update plans accordingly. Comment addressed. Design engineer has indicated that the area south of proposed building shall be asphalt paved per original construction plans.
- The existing grade of 946.17 shown adjacent to the southeast corner of the proposed building is shown on the as built plan for 4 Corners as 947.17. Please verify and adjust grade(s) as needed.
 Comment addressed. Design engineer notes that grade of 947.17 on as built plan for Four Corners Square appears to be in error.
- 3. Clarify the existing grades shown for the area adjacent to the northeast corner of the proposed building. The as built plan for 4 Corners shows what appears to be an existing ramp in this area with associated as built grades. Comment addressed. The design engineer states that the existing curb grades do not indicate that there is a curb height drop and thus no existing ramp.
- 4. Although a retaining wall is proposed around the outdoor seating area, it appears that the grades at the bottom of the wall to the north will greatly exceed the allowable grade of 33%. We note that the slopes in these areas will be difficult to maintain and request clarification regarding the proposed grading and ground cover in this area to minimize maintenance and to minimize potential soil erosion. Comment addressed. The landscape plan has been revised and indicates vegetation proposed in these areas that will minimize maintenance and erosion, per the design engineer.
- 5. The bollards for the dumpster enclosure shown on Sheet C7 will need to be 6" diameter instead of 4" diameter and also on Sheet A.502 where 5" diameter bollards are proposed. Comment partially addressed. The bollard diameter is now correct (6") on Sheet C8; note that we did not receive Sheet A.502 as part of this submittal. The diameter of the bollard shall be revised on Sheet A.502 as well.
- 6. The plans show stairs with a handrail extending out to the sidewalk along Union Lake Road. Please note the Road Commission for Oakland County may require these items not extend into the public Right-of-Way as shown on the plans. Comment addressed. Handrail and sidewalk have been pulled back to outside of ROW.

Watermain

1. We defer to the Fire Department with regard to items related to fire suppression and whether the proposed building will need to connect to the existing 6" fire suppression stub that was previously planned. Comment remains as a notation.



INNOVATIVE IDEAS EXCEPTIONAL DESIGN UNMATCHED CLIENT SERVICE

WLT-4 Corners Outlot- PSP, FSP/FEP Review.02 November 22, 2021 Page 4 of 5

2. The Estimated Quantities for watermain on Sheet C5 will need to be revised as the quantities shown do not match the utility plan. **Comment addressed.**

Sanitary Sewer

- 1. The Estimated Quantities for sanitary sewer on Sheet C5 will need to be revised as the quantities shown do not match the utility plan. **Comment addressed.**
- 2. The previous plan set indicated a proposed grease interceptor be installed for this outlot assuming that the use would include food service. The proposed grease interceptor was not installed which appears consistent with the proposed retail use as identified. Please not that if use changes to include food service an external grease interceptor would be required for each food service establishment.

Comment addressed. An external grease interceptor is now shown on the plans. Please note the previous review comment did not require the grease interceptor be added but indicated that one WOULD be required if the retail use were changed to food service for any of the units. DLZ did not receive any indication that food service is planned for this building, but the plans now indicate it will be possible to fit the required 1000-gallon grease interceptor if the intent changes.

Stormwater Management

- 1. The Estimated Quantities for storm sewer on Sheet C5 will need to be revised as the quantities shown do not match the utility plan. **Comment addressed.**
- 2. Verify the slope of the proposed downspout for the section that runs north/south; we calculate <1.00%. In addition, provide length and size for the section of unlabeled downspout on the Utility Plan. Comment addressed.
- 3. Provide the as built rim elevation for MH 29 (where the proposed downspout is connecting to).

 Comment outstanding. Please place the as built rim elevation of 945.36 for the above mentioned structure on the plan.
- 4. It appears there is storm sewer pipe proposed between MH29 and the catch basin to the east. Please clarify as the 4 Corners as built indicates there is 7' of 15" existing pipe in this area. Comment addressed.

Landscape Plan

1. It is not clear as to whether the two trees north of the proposed transformer location are proposed or existing. The trees as shown on the plan are too close to the proposed water and sanitary sewer lead extensions and will need to be relocated preferably at a distance of 10' horizontally from the proposed leads. Comment addressed.



WLT-4 Corners Outlot- PSP, FSP/FEP Review.02 November 22, 2021 Page 5 of 5

2. It should be verified with the easement owner of the pipeline as to whether trees are allowed within the easement. **Comment addressed.**

Recommendation

The majority of our previous comments have been addressed. A Hold Harmless agreement between the Applicant and the Township will be required for construction of the patio within the existing sanitary sewer easement. DLZ recommends approval of the Preliminary/Final Site Plans subject to this agreement and cleanup of any remaining items referenced in this letter.

Please feel free to contact our office should you have any questions.

Sincerely,

DLZ Michigan

Michael Leuffgen, P.E. Department Manager

Victoria Loemker, P.E. Senior Engineer

Cc: Justin Quagliata, Community Development, via email
Hannah Micallef, Community Development, via email

Hannah Micallef, Community Development, via email Aaron Potter, DPS Director, White Lake Township, via email John Holland, Fire Chief, White Lake Township, via email Jason Hanifen, Fire Marshal, White Lake Township, via email

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WHITE LAKE TOWNSHIP PLANNING COMMISSION

REPORT OF THE COMMUNITY DEVELOPMENT DEPARTMENT

TO: Planning Commission

FROM: Sean O'Neil, AICP, Planning Director

Justin Quagliata, Staff Planner

DATE: November 19, 2021

RE: Four Corners Square – Retail Center #2

Preliminary and Final Site Plan – Review #2

Staff reviewed the revised site plan prepared by Nowak & Fraus Engineers dated August 25, 2021 (revision date November 8, 2021). The following comments from the first review letter dated November 4, 2021 are listed below. Responses to those comments are provided in (red).

Veritas (Shakir W. Alkhafaji) has requested site plan approval to construct a retail center at 1449 Union Lake Road (Parcel Number 12-36-476-032), located on the east side of Union Lake Road, north of Cooley Lake Road. The approximate 0.714 acre (excluding road right-of-way) subject site is zoned NMU (Neighborhood Mixed Use) and contains 201.61 feet of total frontage on Cooley Lake Road and 220 feet of total frontage on Union Lake Road. A parking area and landscaping are located on the site.

The subject parcel is part of the Four Corners Square development, which consists of three other parcels containing an 81-unit, three-story apartment building with underground parking, 9,375 square foot five-tenant retail building with a drive-thru restaurant (Tim Hortons), and 2,139 square foot Taco Bell drive-thru restaurant. At its meeting on August 3, 2017 the Planning Commission approved the final site plan for the already constructed portion of the development. On May 4, 2017 the Planning Commission granted special land use approval for the Taco Bell and Tim Hortons drive-thrus, with conditions. At the same meeting, the Planning Commission also granted special land use approval for outdoor seating at Taco Bell, the retail plaza, and "the future restaurant pad." At its meeting on March 23, 2017 the Zoning Board of Appeals approved variances required for the already constructed portion of the project.

The final site plan approved by the Planning Commission showed a proposed 3,600 square foot full-service restaurant building with a 1,200 square foot patio on the subject property. The proposed one-story, three-tenant retail center would contain 4,169 square feet. The note stating 3,893 square feet of gross floor area on Sheet A.001 of the site plan (architectural plans) shall be revised to correctly indicate 4,169 square feet of gross floor area. (Comment outstanding. Revised architectural plans were not provided). The submitted plans show Beyond Juice is intended to occupy the westerly tenant space and Detroit Wings is intended to occupy the easterly tenant space. A prospective tenant for the middle unit has not been identified.

Master Plan

The Future Land Use Map from the Master Plan designates the subject site in the Planned Community category, and the property is located in the Four Towns Focus Area. Retail, dining, and personal service establishments are typical commercial uses within Planned Community. The Master Plan envisions the Four Towns area as a mixed-use core of activity for retail and residential utilizing pedestrian-oriented design. This Focus Area encourages ground floor retail and office with upper floor residential. The Master Plan states a corner feature at Union Lake Road and Cooley Lake Road is desired to define the area. At the March 23, 2017 Zoning Board of Appeals meeting, the applicant's representative at the time stated the "Welcome to White Lake" sign would be relocated to the corner of the property. The sign has not been relocated; any relocation of the sign would require approval by the Township.

FUTURE LAND USE MAP

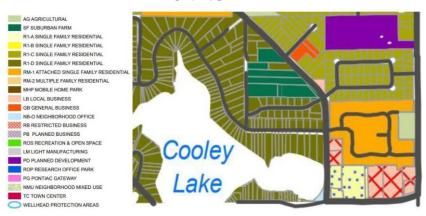


Zoning

At its meeting on October 18, 2016 the Township Board approved rezoning the parcels within the Four Corners Square development from Restricted Business (RB) to NMU (Neighborhood Mixed Use), which requires a minimum lot area of 5,000 square feet. There is not a minimum lot width requirement in the NMU district.

The parcels within Four Corners Square are the only properties in the Township zoned NMU. The intent of the NMU district is to create small centers of neighborhood life which encourage a mix of compatible retail, service, office, and residential uses in a walkable environment.

ZONING MAP



Physical Features

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) Wetland Map and the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map indicate neither wetlands nor floodplain are present on or near the site. Currently landscaping and parking associated with Four Corners Square occupies the site. American & Import, a vehicle service and repair facility, formerly occupied the site. Precipitated by a request for a Rehabilitation Exemption Certificate, the Township Board created a Commercial Rehabilitation District in 2016. Plumes of contamination were present and posed a potential adverse impact to water in the vicinity. After establishing the district, in 2018 the Township received a \$250,000 grant from the Michigan Economic Development Corporation (MEDC) to assist in funding the clean-up of the contaminated area. In 2019, the Township and the developer signed an agreement to transfer the grant funds to the developer to reimburse incurred costs associated with the remediation activities on the property.

In 2016 the Township Board approved the developer's Commercial Rehabilitation Exemption Certificate application for Four Corners Square. The seven-year tax abatement ends December 30, 2023. At its meeting on October 19, 2021 the Township Board approved a three-year extension of the tax abatement for only the subject parcel, with an ending date of December 30, 2026. This addition of three years allows the exemption for the maximum total of 10 years. The proportioned frozen taxable value on the certificate for the subject parcel is \$44,119.

Access

The retail center would be accessed from existing driveways on Wadi Boulevard (private drive) and Cooley Lake Road (this driveway is right-out only and serves the existing Four Corners Square retail center). The applicant will be required to dedicate (if not already completed) the additional portion of the future right-of-way at the east side of Union Lake Road to the Road Commission for Oakland County (RCOC). (Comment remains as a notation).

An existing eight-foot-wide pathway along Union Lake Road and six-foot-wide pathway along Cooley Lake Road border the property frontages. Internal sidewalks are five-feet-wide at the rear (north) and along the east side of the building. Along the front (south side) of the building, a seven-foot-wide sidewalk is shown on the plans. The note stating "Pr. 4" concrete sidewalk (TYP)" on Sheet C3 of the site plan appears to be an error and shall be revised to correctly indicate a seven-foot-wide concrete sidewalk (noted on Sheet C4 of the site plan). (Comment addressed. A note has been added to Sheet C3 indicating a seven-foot-wide sidewalk is proposed).

Utilities

Municipal water and sanitary sewer are available to serve the retail center. Utilities are located on the Four Corners Square property since installation to serve the already constructed portion of the development. The Township Engineering Consultant will perform an analysis of stormwater, utilities, and grading to ensure compliance with all applicable ordinances as well as the Township Engineering Design Standards.

Staff Analysis

The development standards for the NMU district allow for zero-foot front and side yard building setbacks, and a five-foot setback from a service drive located at the rear of the site. The ordinance also requires a building to occupy 60 percent of the front build-to-line of a site, which is defined as its front right-of-way line. Four Corners Square was not developed in this manner, and a variance from this requirement for the already constructed portion of the project was granted by the Zoning Board of Appeals on March 23, 2017, reducing the 60 percent requirement to 0 percent. The layout of the development is consistent with the variance granted. As the building would utilize traditional setbacks, a variance from this standard is required to construct the proposed retail center. (Comment outstanding; however, the applicant has filed a variance application and a public hearing is scheduled at the December 9, 2021 Zoning Board of Appeals meeting).

The NMU district requires a minimum building height of two stories, 25 feet, with a maximum height of three stories, 40 feet. A first floor must be at least 14 feet in height, and upper floors are required to be at least 10 feet in height. The previously constructed retail center and Taco Bell are one-story buildings, and a variance from the minimum height standard of the district was granted by the Zoning Board of Appeals on March 23, 2017. The proposed building is one-story and 22'-1" in height. A variance from the minimum building height standard is required to construct the proposed retail center. (Comment outstanding; however, the applicant has filed a variance application and a public hearing is scheduled at the December 9, 2021 Zoning Board of Appeals meeting).

Building Architecture and Design

Generally, exterior building materials should be composed primarily of high quality, durable, low maintenance material, such as masonry, stone, brick, glass, or equivalent materials. Buildings should be completed on all sides with acceptable materials. In the NMU district, the design of buildings should relate to and blend with the facades of adjacent buildings and complement streetscape improvements in the area. The proposed building materials for the project are a mix of light and dark four-inch brick veneer, and pre-finished burnished CMU (concrete masonry unit) veneer with a cast stone veneer accent band three feet up around the base of the building. The Material Legend on Sheet A.202 of the architectural plans shall be revised to relabel the CMU improperly identified as split face; burnished block is proposed. (Comment outstanding. Revised architectural plans were not provided). The dark brick veneer would wrap around the upper 3.5 feet of the building. Pre-finished metal (aluminum) coping would be located on top of the walls around the building. The address (street number) location shall be shown on the building. Six-inch-tall numbers visible from the street shall be required. The address location is subject to approval of the Township Fire Marshall. (Comment outstanding. Revised architectural plans were not provided). Two, 4'-4" tall, 25' wide steel trellises are proposed 34 feet apart on the roof of the building, fronting on the south elevation. Pre-finished metal (aluminum) canopies would be located on the front (south) and both sides of the building, using tension rods with turnbuckles anchored to wall plates to attach to the building. The light color brick veneer with a cast stone sill is proposed to cover the 6'-4" retaining wall below the patio.

While elevations of the building were submitted showing the different building materials for the project, finalized colors were not noted on the elevations. Staff requested a sample board of building materials to be displayed at the Planning Commission meeting. Elevations in color are also required by the ordinance and were not submitted. The applicant stated these items were not provided because the proposed materials match the existing retail building (light and dark gray materials). The Planning Commission should require these items to be submitted. (Comment outstanding. The Planning Commission may require these items be provided).

The outdoor patio is 12-feet-wide, approximately 660 square feet in size, and located on the west side of the building. It appears the western portion of the patio is located within an existing 33-foot-wide sanitary sewer easement. The Planning Department defers to the Director of Public Services and Township Engineering Consultant on this matter. (Comment outstanding. The response letter provided to the first review indicates the applicant would provide a letter to the effect the applicant would be responsible for removal and replacement of the proposed patio if removal was necessary for sanitary sewer maintenance/repair. Approval of the Director of Public Services is required to allow the patio to encroach on the existing sanitary sewer easement).

Accessory items such as railings, benches, trash receptacles, outdoor seating (such as tables and chairs), or sidewalk planters located in the vicinity of sidewalks and/or outdoor seating areas are required to be of commercial quality and complement the building design and style. submitted architectural plans show a 3.5-inch decorative cast iron guard rail with posts surrounding the patio. Details were not provided for the proposed concrete steps with handrails to the Union Lake Road sidewalk or the materials of items to be located on the patio; such details shall be provided for Planning Commission review and approval. Details shall also be provided for the patio surfacing; an ornamental paving treatment should be required by the Planning Commission. (Comment partially addressed. Stair details have been added to the landscape plan. However, the handrail detail shall be updated to specify the proposed color. The Township Engineering Consultant shall provide comment on the stairs' accessibility and compliance with the Americans and Disabilities Act. Furthermore, details were not provided for the items to be located on the patio, nor were details provided for the patio surfacing. Revised architectural plans were **not provided).** The paving treatment should be something either decorative or something to provide aesthetic quality to the patio. Potential options for ornamental paving treatments include, but are not limited to, CMU pavers; brick; stone; or stamped, stained, and sealed concrete.

Parking

The parking layout for this site was approved with the site plan for the already constructed portion of Four Corners Square. Parking calculations for the previously proposed full-service restaurant and patio indicated 80 spaces were required. In 2017 the Zoning Board of Appeals granted an 11-space variance to allow 69 parking spaces to serve the subject site. 42 of the 69 spaces are located on the subject site; the remaining 27 spaces are located on the adjoining property to the east. Two barrier-free parking spaces are shown along the front of the building. A barrier-free parking sign detail is provided on Sheet C3 of the site plan. (Comment partially addressed. While the response letter provided to the first review indicates a van accessible sign detail was added to Sheet C3, a boxed area was added to the previously supplied barrier free parking sign detail with a note stating a sign indicating "van accessibility" shall be provided. The requested "Van Accessible" sign detail was not provided).

Off-Street Loading Requirements

The zoning ordinance requires one loading space for a development of this size. Such loading and unloading space must be an area 10 feet by 50 feet, with a 15-foot height clearance. The proposed loading area is located at the rear (north side) of the building and 10 feet by 40 feet; therefore, a 10-foot variance from the required loading space length shall be required. Also, a note shall be added to the site plan indicating there will be a 15-foot height clearance for the loading space. As a condition of site plan approval, the proposed screen wall on the north and west sides of the loading area shall match the same brick veneer as the facade of the building. A wall detail shall be provided on Sheet C3 of the site plan to show a four-inch brick face on the outside walls of the enclosure. (Comment partially addressed. The applicant has filed a variance application and a public hearing is scheduled at the December 9, 2021 Zoning Board of Appeals meeting. The dumpster enclosure was relocated to the west end of the loading area. However, the applicant shall clarify the size of the loading area; Sheet C3 indicates the area is 31.3 feet by 17.8 feet and Sheet C4 indicates the area is 31 feet by 17 feet. The plans shall be revised for consistency. A 15-foot height clearance note has been added to Sheet C3, and the dumpster enclosure detail was revised on Sheet C8 to note brick veneer would be utilized on the outside walls).

Trash Receptacle Screening

The zoning ordinance requires dumpsters to be surrounded by a six-foot-tall wall on three sides and an obscuring wood gate on a steel frame on the fourth side, located on a six-inch concrete pad extending 10 feet in front of the gate, with six-inch concrete-filled steel bollards to protect the rear wall and gates. The proposed enclosure is located at the rear (north side) of the building. A six-foot-tall concrete screen wall is proposed around three sides of the dumpster enclosure, with a steel backed wood gate on the east side of the structure. The zoning ordinance states dumpsters and trash storage enclosures shall be constructed of the same decorative masonry materials as the buildings to which they are accessory. Brickform concrete (simulated brick pattern) or stained, decorative CMU block are not permitted where the principal building contains masonry. Plain CMU block is also prohibited. As a condition of site plan approval, the dumpster enclosure shall match the same brick veneer as the facade of the building with a steel backed wood gate painted a complementary color to the brick veneer. dumpster enclosure detail on Sheet C7 of the site plan shall be revised to show a four-inch brick face on the outside walls of the concrete enclosure and indicate the color of the gate. (Comment partially addressed. The dumpster enclosure detail was revised on Sheet C8 to note brick veneer would be utilized on the outside walls. While the plan notes the gate would be painted a complimentary color to the brick veneer, the color was not indicated as requested).

Landscaping and Screening

The landscape layout for this site was approved with the site plan for the already constructed portion of Four Corners Square. Variances were granted by the Zoning Board of Appeals in 2017 to reduce the required greenbelt for nonresidential parking areas abutting road right-ofway. A condition of such approval allowed the Planning Commission to retain the authority to require a 30-inch screen wall in conjunction with a five-foot greenbelt. A landscape plan was submitted showing the relocation of some of the existing plant material to screen the proposed transformer, dumpster enclosure, and loading area. If any plant materials required by site plan approval dies or becomes diseased during construction or from transplanting, the applicant shall be required to replace the plant materials. Additionally, all lawn areas shall be sodded. All applicable notes on the landscape plan, including the General Landscape Notes and General Seed Note, shall be revised accordingly to indicate the required installation of sod in lawn areas. (Comment addressed. The General Seed Note was replaced with a General Sod Note. Also, five trees planted as part of the original approval are proposed to be transplanted. The Plant Material Note indicates all existing plant material on-site shall be transplanted as shown or elsewhere on-site at the direction of the applicant. Any and all transplant locations, as well as a stockpile location, shall receive prior review and approval by the Township). The landscape plan notes five Spruce trees would be transplanted on-site at the direction of the owner. The landscape plan shall be revised to show where the five transplanted Spruce trees are proposed to be relocated. (Comment addressed. A note has been added to the landscape plan stating the Spruce trees were temporary landscape screening installed as a part of the original approval and would be removed to facilitate construction).

Signs

A variance was granted by the Zoning Board of Appeals in 2017 to permit nonresidential signs at Four Corners Square in accordance with the RB (Restricted Business) district standards. One wall sign is permitted per tenant; total sign area per tenant cannot exceed 10 percent of the front facade for the individual tenant space. The submitted building elevations show one wall sign per tenant on the front (south) facade of the building. A wall sign is shown on the west elevation, which would be permitted up to one-half the size of the primary sign for the westerly tenant since the building contains frontage on Union Lake Road. A wall sign is shown on the east elevation, which is not permitted and shall be removed from the plan. (Comment outstanding. Revised architectural plans were not provided. However, the applicant has filed a variance application and a public hearing is scheduled at the December 9, 2021 Zoning Board of Appeals meeting).

The site plan shows an unidentified object at the southwest corner of the site; this shall be labeled. Staff believes the symbol likely depicts the location of a sign. The applicant shall specify if this is the proposed location for the "Welcome to White Lake" sign. Comment outstanding. The response letter provided to the first review indicates the object appears to be the "Welcome to White Lake" sign. The applicant shall confirm and the plans revised to label accordingly).

Lighting

The applicant stated the proposed building would contain the same wall-mounted fixtures as the existing retail center. However, photometrics on the luminaries located on the existing retail building were not provided for review and approval in 2017. The submitted electrical plan shows luminaries on all sides of the building, with a note stating all light fixture selections and colors will be approved by the owner; light fixture selections and colors are subject to review and approval by the Township. No wall-mounted decorative or architectural lighting shall be installed on the north (rear) facade of the building. Up-lighting or outward shining lighting are also not permitted on the building. An outdoor lighting plan (photometric plan) shall be required specifying the type of fixtures to be used, light intensity, and method of shielding the fixtures so light does not project onto adjoining properties or on any public or private street or right-of-way. Catalog details (lighting fixture specification sheets) for all proposed fixtures shall be provided. Outdoor lights must meet the performance standards of Article 5, Section 18.G of the zoning ordinance. (Comment outstanding. Architectural plans are not acceptable for the purpose of reviewing outdoor lighting. A lighting (photometric) plan is required and was requested, along with lighting fixture specification sheets for all proposed fixtures. The requested information was not provided. Outdoor lighting cannot be installed on the building or site without prior review and approval by the Township).

Planning Commission Options / Recommendation

The applicant has requested preliminary and final site plan approval. As the site is considered part of Four Corners Square, and the general layout/engineering of the property was previously considered by the Township, proceeding in this manner would not compromise the review of development on the site. The Planning Commission may recommend approval, approval with conditions, or denial of the preliminary site plan to the Township Board; action on the final site plan is determined by the Planning Commission. **Staff recommends approval of the preliminary and final site plan, subject to the items identified in this memorandum being addressed prior to a pre-construction meeting, and the necessary variances being received.**

The following notations summarize the site plan review:

- Recommendation of approval is in accordance with the plans prepared by Nowak & Fraus Engineers dated August 25, 2021 (revision date October 14, 2021November 8, 2021), subject to revisions as required. The utility, grading, and storm drainage plans for the site are subject to the approval of the Township Engineer and shall be completed in accordance with the Township Engineering Design Standards.
- Recommendation of approval is in accordance with the plans prepared by G.A.V. & Associates, Inc. dated October 21, 2021, subject to revisions as required.

- Transformer and mechanical equipment (heating, ventilation, air conditioning, and similar systems) shall be screened in accordance with Article 5, Section 19.N.ii of the zoning ordinance. (Comment addressed. The transformer has been relocated and screened, and such relocation allows the existing arborvitae buffer to remain. Furthermore, five arborvitaes have been added to the west side to screen both the transformer and dumpster enclosure from Union Lake Road).
- Six-inch straight-faced (vertical) curb of concrete construction shall be used around landscape and parking areas. The standard Michigan Department of Transportation (MDOT) detail for six-inch straight-faced curb shall be provided on Sheet C7 of the site plan. (Comment partially addressed. Curb details have been added to Sheet C8. However, the standard MDOT detail was not provided as requested).

From: John Holland
To: Hannah Micallef

Cc: <u>Jason Hanifen; Sean O"Neil</u>

Subject: Four Corners

Date: Friday, November 5, 2021 11:22:10 AM

Hey Sean,

With regards to Four Corners - the Fire Department has no further comments until the construction plans are submitted. At that time the occupancy classification, use, and overall square footage will be reviewed as it pertains to the life safety requirements for the building.

If you need anything else, let me know,



John Holland Fire Chief (248) 698-3993 jholland@whitelaketwp.com

Assessing Department

Memo

To: Sean O'Neil, Planning

From: Jeanine A Smith

Date: October 26, 2021

Re: Project Name: 4 Corners Retail File No: Parcel Number: 12-36-476-032

Center

Comments: No comments

Owner / Developer

VERITAS

29580 Northwestern Hwy, Suite 1000 Southfield, Michigan 48075 Tel: (248) 559-5555

CONTACT: Shakir W. Alkhafaji, President

Architect

GAV & Associates 24001 Orchard Lake Rd., Suite 180A Farmington, MI 48336 Tel. (248) 985-9101

CONTACT: David Ganezer

Nowak & Fraus Engineers 46777 Woodward Ave. Pontiac, MI 48342-5032 Tel. (248) 332-7931 Fax. (248) 332-8257

Civil Engineer

CONTACT: Michael D. Peterson, P.E.

LEGAL DESCRIPTION

A PARCEL OF LAND BEING A PART OF THE EAST 1/2 OF THE SOUTHEAST 1/4 OF SECTION 36, T.3N, R.8E., WHITE LAKE TOWNSHIP, OAKLAND COUNTY MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS: COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 36; THENCE PROCEEDING ALONG THE SOUTH LINE OF SAID SECTION 36, AND THE NOMINAL CENTERLINE OF COOLEY LAKE ROAD, N 89° 57' 40" W, 726.90 FEET; THENCE N 00° 00' OO" E, 43.00 FEET TO A POINT ON THE NORTH LINE OF COOLEY LAKE ROAD AS DEDICATED TO THE ROAD COMMISSION OF OAKLAND COUNTY, RECORDED IN LIBER 4601 OF PLATS, PAGES 224 AND 225 O.C.R.; THENCE PROCEEDING ALONG THE 43' RIGHT OF WAY LINE, N 89° 57' 40" W., 403.00 FEET TO THE POINT OF BEGINNING; THENCE CONTINUING ALONG THE NORTH LINE OF COOLEY LAKE ROAD, N 89° 57' 40" W, 201.61 FEET TO A POINT ON THE WEST LINE OF THE EAST 1/2 OF THE SOUTHEAST 1/4 AND THE NOMINAL CENTERLINE OF UNION LAKE ROAD; THENCE PROCEEDING ALONG THE 'WEST LINE OF THE EAST 1/2 OF THE SOUTHEAST 1/4 AND THE NOMINAL CENTERLINE OF UNION LAKE ROAD N 00° 05' 45" E, 220.00 FEET; THENCE S 89° 57' 40" E, 201.24 FEET; THENCE S 00° 00' 00" W, 220.00 FEET TO THE POINT OF BEGINNING. CONTAINING 44,313 GROSS SQUARE FEET OR 1.017 GROSS ACRES OF LAND MORE OR LESS.

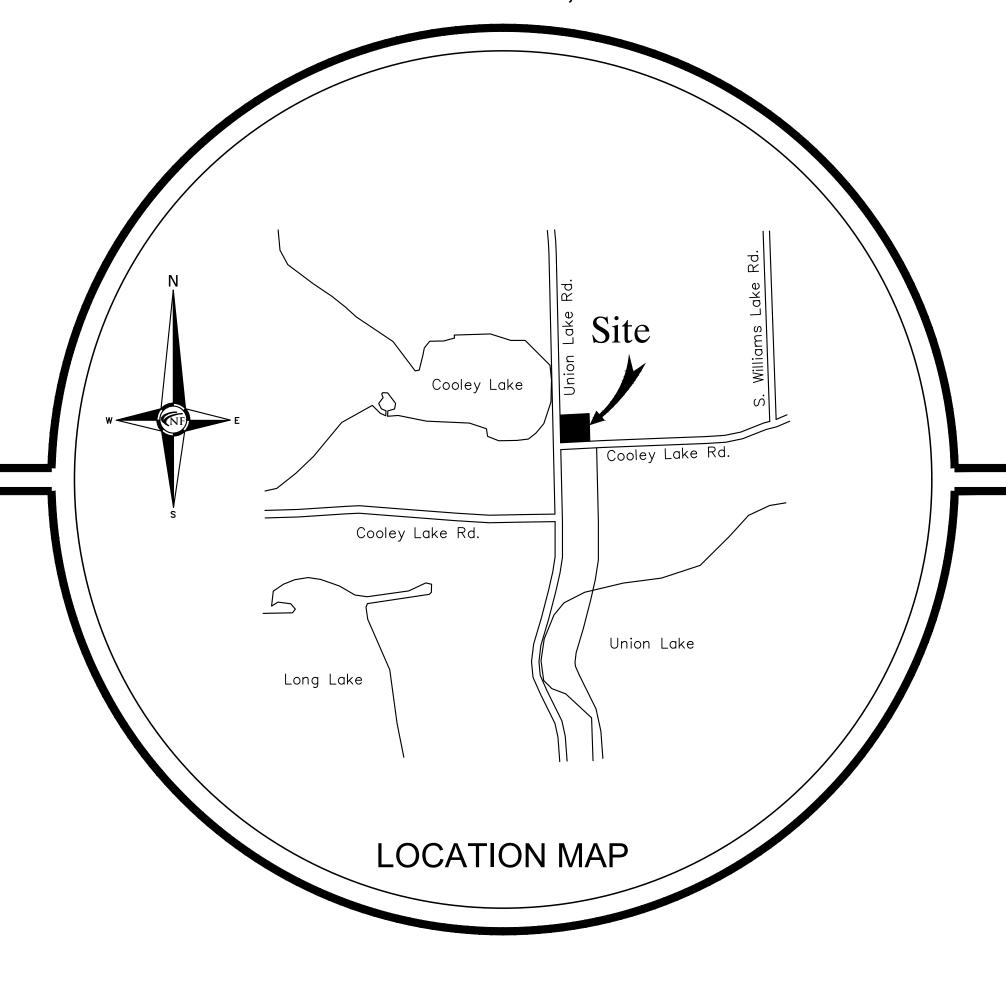
OR CONTAINING 31,113 NET SQUARE FEET, 0.714 NET (MINUS FUTURE 60' R.O.W.)

ALSO BEING SUBJECT TO THE RIGHTS OF THE PUBLIC AND OR ANY OTHER GOVERNMENTAL UNIT THEREOF IN THAT PART OF UNION LAKE ROAD, USED, TAKEN OR DEEDED FOR STREET, ROAD OR HIGHWAY PURPOSES, ALSO BEING SUBJECT TO ANY EASEMENTS, RESTRICTIONS OR CONDITIONS OF RECORD.

PARCEL NO.: 12-36-476-032

White Lake Township, Oakland County, Michigan CONSTRUCTION/SITE PLAN DOCUMENTS Prepared For 4 Corners Square LLC

PART OF THE SE 1/4 OF SECTION 36, WHITE LAKE TOWNSHIP, OAKLAND COUNTY, MICHIGAN



Project Name

4 Corners Retail Center

WHITE LAKE TOWNSHIP STANDARD SITE CONSTRUCTION NOTES

- 1. All construction shall be in accordance with the current standards and specifications of White Lake Charter Township.
- 2. The developer shall contact the Township Planning Department at (248) 698-3300 to schedule a pre-construction meeting. The developer's prime site contractor shall attend. A copy of all permits must be submitted to the Planning Department prior to scheduling the
- 3. The contractor shall contact the Township Engineer at (248) 681—7800 48 hours prior to the beginning of construction. The contractor shall keep the inspector apprised of the need for inspection on a day by day basis. Lacking specific scheduling with the inspector, the contractor shall give 48 hours notice to the Township Engineer prior to re-commencing work requiring inspection. Failure to inform the inspector or the Township Engineer of a work cancellation may result in a one half day inspection charge to the developer.
- 4. All water main or sanitary sewer work will require full time inspection. Full time inspection will generally be required for underground storm sewer construction with intermittent inspection for retaining walls, concrete curbing and paving operations. Site grading and detention basin construction will generally be inspected on an
- 5. The contractor shall contact MISS DIG at (800) 482-7171 72 hours in advance of construction to have existing underground facilities located. Contractor shall contact the White Lake Township Water Department at (248) 698-3300 (ext 8) a minimum of 72 hours in advance of construction to have water utilities located.

SHEET INDEX

- Cover Sheet
- C1 Topographic Survey
- **Demolition Plan**
- Stringer Dimension Plan Paving & Grading Plan
- Utility Plan
- Utility Details Plan
- Soil Erosion / Sedimentation Control Plan
- General Construction Requirements, Contractor's Duties, Notes and Details Plan
- Landscape Plan

Standard Details

White Lake Township Sanitary Sewer Standard Details

White Lake Township Storm Sewer Standard Details

White Lake Township Water Main Standard Details

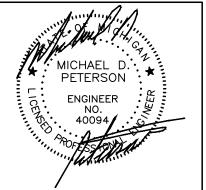
Oakland County WRC Soil Erosion & Sedimentation Control Details

REVISIONS:

10-14-21 ISSUED FOR SITE PLAN REVIEW

11-08-21 REVISED PER SITE PLAN REVIEW



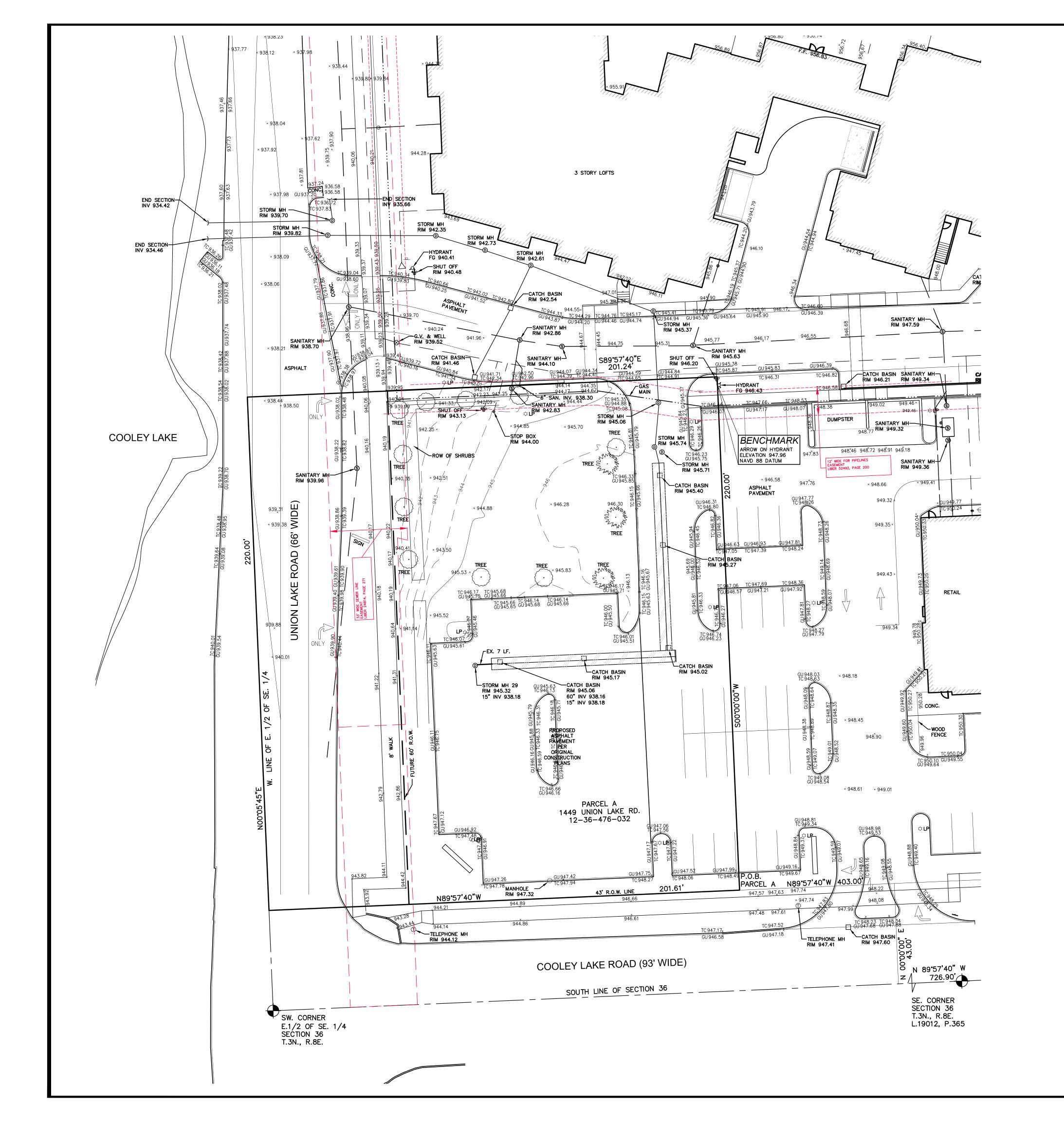


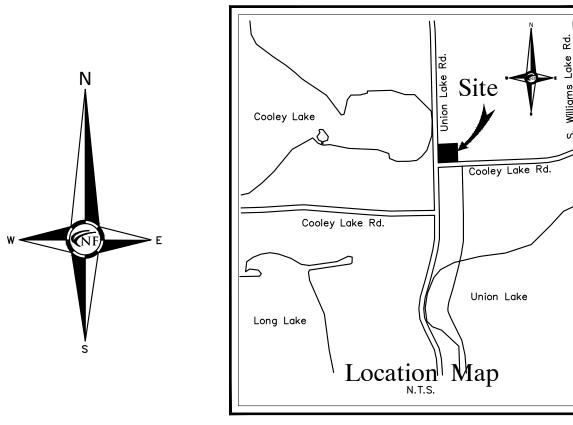
N & F JOB #J635-03

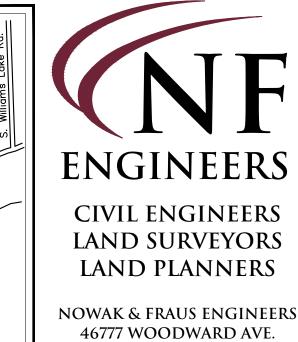
LAND PLANNERS **NOWAK & FRAUS ENGINEERS** 46777 WOODWARD AVE. PONTIAC, MI 48342-5032 TEL. (248) 332-7931 FAX. (248) 332-8257

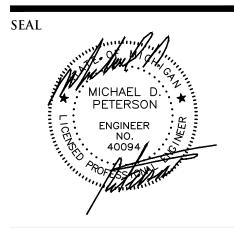
WWW.NOWAKFRAUS.COM











PONTIAC, MI 48342-5032

TEL. (248) 332-7931 FAX. (248) 332-8257

WWW.NOWAKFRAUS.COM

PROJECT 4 Corners Retail Center

CLIENT

1449 Union Lake Road White Lake Township

VERITAS 29580 Northwestern Hwy, **Suite 1000** Southfield, Michigan 48075

Contact: Shakir W. Alkhafaji, President Phone: (248) 559-5555

PROJECT LOCATION Part of the E. 1/2 of the SE. 1/4 of Section 8 T.3N., R.8E. White Lake Township, Oakland County, Michigan

Topographic Survey



DATE ISSUED/REVISED 10-14-21 ISSUED FOR SITE PLAN REVIEW 11-08-21 REVISED PER SITE PLAN REVIEW

DRAWN BY: N. Naoum

DESIGNED BY:

APPROVED BY: K. Navaroli

08-25-2021 SCALE: 1'' = 20'

NFE JOB NO. SHEET NO.

EXISTING GAS MAIN **J635-03**

LEGAL DESCRIPTION: PARCEL A A PARCEL OF LAND BEING A PART OF THE EAST 1/2 OF THE SOUTHEAST 1/4 OF SECTION 36, T.3N, R.8E., WHITE LAKE TOWNSHIP, OAKLAND COUNTY MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS:
COMMENCING AT THE SOUTHEAST CORNER OF SAID SECTION 36; THENCE PROCEEDING ALONG THE SOUTH LINE OF SAID SECTION 36, AND THE

NOMINAL CENTERLINE OF COOLEY LAKE ROAD, N 89° 57' 40" W, 726.90 FEET; THENCE N 00° 00' 00" E, 43.00 FEET TO A POINT ON THE NORTH LINE OF COOLEY LAKE ROAD AS DEDICATED TO THE ROAD COMMISSION OF OAKLAND COUNTY, RECORDED IN LIBER 4601 OF PLATS, PAGES 224 AND 225 O.C.R.; THENCE PROCEEDING ALONG THE 43' RIGHT OF WAY LINE, N 89' 57' 40" W., 403.00 FEET TO THE POINT OF BEGINNING; THENCE CONTINUING ALONG THE NORTH LINE OF COOLEY LAKE ROAD, N 89° 57' 40" W, 201.61 FEET TO A POINT ON THE WEST LINE OF THE EAST 1/2 OF THE SOUTHEAST 1/4 AND THE NOMINAL CENTERLINE OF UNION LAKE ROAD; THENCE PROCEEDING ALONG THE 'WEST LINE OF THE EAST 1/2 OF THE SOUTHEAST 1/4 AND THE NOMINAL CENTERLINE OF UNION LAKE ROAD N 00° 05' 45" E, 220.00 FEET; THENCE S 89° 57' 40" E, 201.24 FEET; THENCE S 00° 00' 00" W, 220.00 FEET TO THE POINT OF BEGINNING. CONTAINING 44,313 GROSS SQUARE FEET OR 1.017 GROSS ACRES OF LAND MORE OR LESS.

OR CONTAINING 31,113 NET SQUARE FEET, 0.714 NET (MINUS FUTURE 60'

ALSO BEING SUBJECT TO THE RIGHTS OF THE PUBLIC AND OR ANY OTHER GOVERNMENTAL UNIT THEREOF IN THAT PART OF UNION LAKE ROAD, USED, TAKEN OR DEEDED FOR STREET, ROAD OR HIGHWAY PURPOSES, ALSO BEING SUBJECT TO ANY EASEMENTS, RESTRICTIONS OR CONDITIONS OF RECORD.

COVID-19 PANDEMIC CONDITION

DUE TO THE UNPRECEDENTED COVID-19 PANDEMIC CONDITION AND RESTRICTIONS THE STANDARD DATA WHICH IS OBTAINED FROM MISS DIG / CALL 811 HAS BEEN RESTRICTED TO CRITICAL INFRASTRUCTURE ONLY. NFE WILL MAKE EVERY EFFORT TO OBTAIN CURRENT REFERENCE DATA FROM THE GOVERNING AGENCIES; HOWEVER, THIS DATA MAY BE PARTIAL OR INCOMPLETE. NFE WILL ISSUE THIS SURVEY WITH THE BEST AVAILABLE INFORMATION FROM OUR FIELD SURVEY AND OTHER AVAILABLE REFERENCE DATA. NFE WILL NOT BE RESPONSIBLE FOR INCOMPLETE OR PARTIAL DATA PROVIDED BY THIRD PARTY FACILITY OWNERS.

ALL SURVEYS BEING UTILIZED FOR DESIGN PURPOSES BY OTHERS; IT WILL BE THE CLIENT'S OBLIGATION TO UPDATE THE UTILITY INFORMATION AS IT BECOMES AVAILABLE. NFE IS NOT RESPONSIBLE FOR BURIED UTILITIES FOR WHICH PLANS WERE NOT FURNISHED OR CANNOT BE OBSERVED IN THE FIELD.

MISS DIG / UTILITY DISCLAIMER NOTE

A MISS DIG TICKET NUMBER ______, PURSUANT TO MICHIGAN PUBLIC ACT 174 WAS ENTERED FOR THE SURVEYED PROPERTY. DUE TO THE EXTENDED REPORTING PERIOD FOR UNDERGROUND FACILITY OWNERS TO PROVIDE THEIR RECORDS. THE SURVEY MAY NOT REFLECT ALL THE UTILITIES AT THE TIME THE SURVEY WAS ISSUED ON ______. THE SURVEY ONLY REFLECTS THOSE UTILITIES WHICH COULD BE OBSERVED BY THE SURVEYOR IN THE FIELD OR AS DEPICTED BY THE UTILITY COMPANY RECORDS FURNISH PRIOR TO THE DATE THIS SURVEY WAS ISSUED. THE CLIENT AND/OR THEIR AUTHORIZED AGENT SHALL VERIFY WITH THE FACILITY OWNERS AND/OR THEIR AUTHORIZED AGENTS, THE

TOPOGRAPHIC SURVEY NOTES

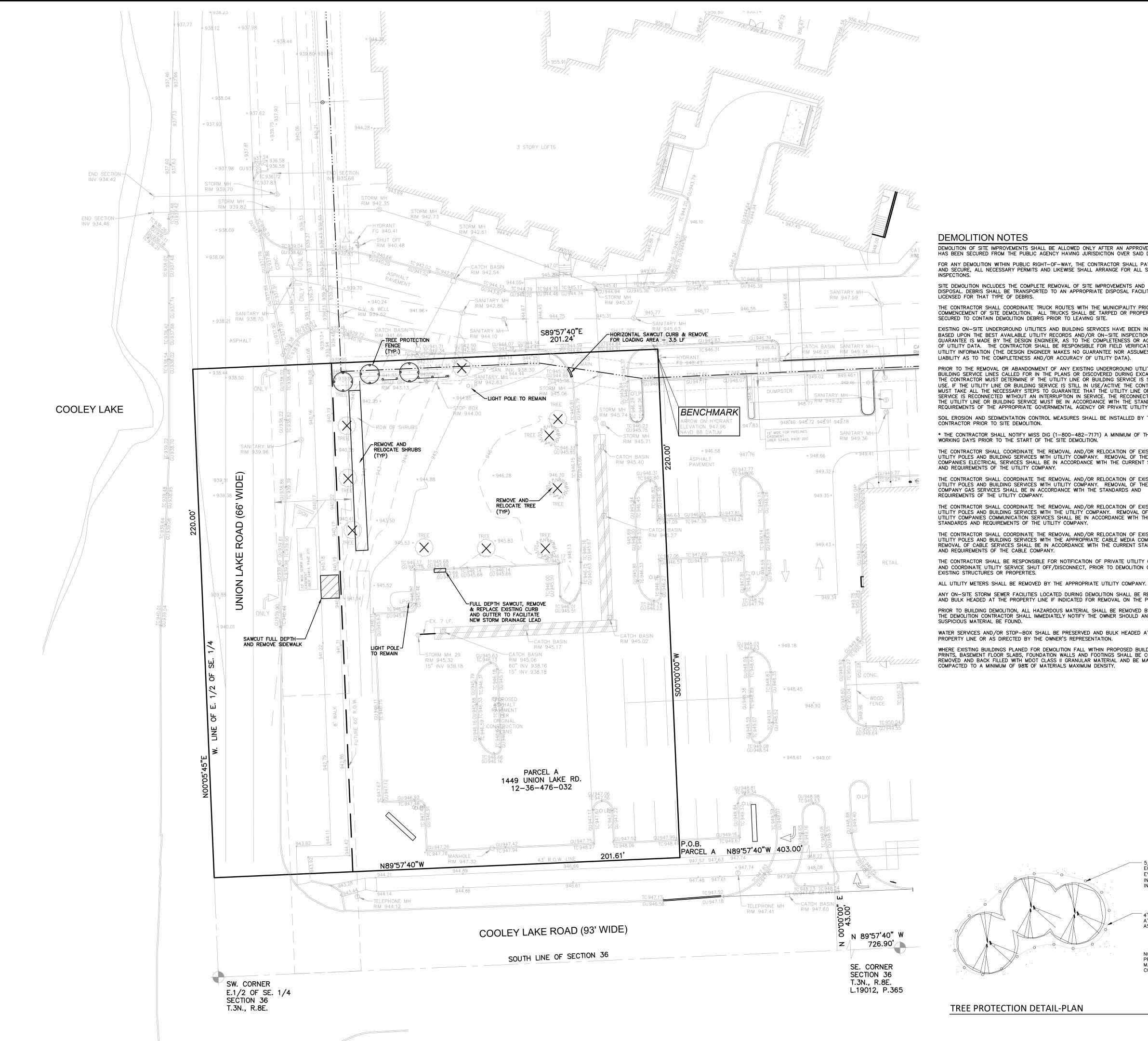
COMPLETENESS AND EXACTNESS OF THE UTILITIES LOCATION.

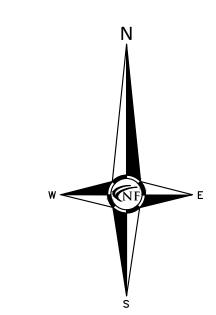
ALL ELEVATIONS ARE EXISTING ELEVATIONS, UNLESS OTHERWISE

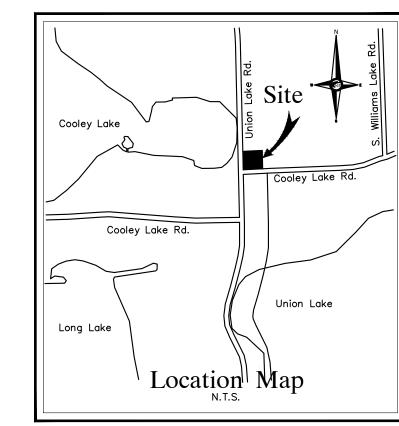
UTILITY LOCATIONS WERE OBTAINED FROM MUNICIPAL OFFICIALS AND RECORDS OF UTILITY COMPANIES, AND NO GUARANTEE CAN BE MADE TO THE COMPLETENESS, OR EXACTNESS OF LOCATION.

THIS SURVEY MAY NOT SHOW ALL EASEMENTS OF RECORD UNLESS AN UPDATED TITLE POLICY IS FURNISHED TO THE SURVEYOR BY LEGEND

MANHOLE	
<u> </u>	EXISTING SANITARY SEW
HYDRANT OATE WALVE	EXISTING SAN. CLEAN O
MANHOLE CATCH BASIN	EXISTING WATER MAIN
MANHOLE CATCH BASIN ———————————————————————————————————	EXISTING STORM SEWER
X	EX. R.Y. CATCH BASIN
UTILITY POLE GUY POLE	EXISTING BURIED CABLES
	OVERHEAD LINES
*	LIGHT POLE
d	SIGN







ENGINEERS

CIVIL ENGINEERS LAND SURVEYORS LAND PLANNERS

NOWAK & FRAUS ENGINEERS 46777 WOODWARD AVE. PONTIAC, MI 48342-5032 TEL. (248) 332-7931 FAX. (248) 332-8257 WWW.NOWAKFRAUS.COM

DEMOLITION NOTES

DEMOLITION OF SITE IMPROVEMENTS SHALL BE ALLOWED ONLY AFTER AN APPROVED PERMIT HAS BEEN SECURED FROM THE PUBLIC AGENCY HAVING JURISDICTION OVER SAID DEMOLITION. FOR ANY DEMOLITION WITHIN PUBLIC RIGHT-OF-WAY, THE CONTRACTOR SHALL PAY FOR, AND SECURE, ALL NECESSARY PERMITS AND LIKEWISE SHALL ARRANGE FOR ALL SITE

SITE DEMOLITION INCLUDES THE COMPLETE REMOVAL OF SITE IMPROVEMENTS AND OFF-SITE DISPOSAL DEBRIS SHALL BE TRANSPORTED TO AN APPROPRIATE DISPOSAL FACILITY THAT IS LICENSED FOR THAT TYPE OF DEBRIS. THE CONTRACTOR SHALL COORDINATE TRUCK ROUTES WITH THE MUNICIPALITY PRIOR TO COMMENCEMENT OF SITE DEMOLITION. ALL TRUCKS SHALL BE TARPED OR PROPERLY

SECURED TO CONTAIN DEMOLITION DEBRIS PRIOR TO LEAVING SITE. EXISTING ON-SITE UNDERGROUND UTILITIES AND BUILDING SERVICES HAVE BEEN INDICATED BASED UPON THE BEST AVAILABLE UTILITY RECORDS AND/OR ON-SITE INSPECTION. NO SUARANTEE IS MADE BY THE DESIGN ENGINEER, AS TO THE COMPLETENESS OR ACCURACY OF UTILITY DATA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF UTILITY INFORMATION (THE DESIGN ENGINEER MAKES NO GUARANTEE NOR ASSUMES ANY

PRIOR TO THE REMOVAL OR ABANDONMENT OF ANY EXISTING UNDERGROUND UTILITY OR BUILDING SERVICE LINES CALLED FOR IN THE PLANS OR DISCOVERED DURING EXCAVATION, THE CONTRACTOR MUST DETERMINE IF THE UTILITY LINE OR BUILDING SERVICE IS STILL IN USE. IF THE UTILITY LINE OR BUILDING SERVICE IS STILL IN USE/ACTIVE THE CONTRACTOR MUST TAKE ALL THE NECESSARY STEPS TO GUARANTEE THAT THE UTILITY LINE OR BUILDING SERVICE IS RECONNECTED WITHOUT AN INTERRUPTION IN SERVICE. THE RECONNECTION OF THE UTILITY LINE OR BUILDING SERVICE MUST BE IN ACCORDANCE WITH THE STANDARDS AND REQUIREMENTS OF THE APPROPRIATE GOVERNMENTAL AGENCY OR PRIVATE UTILITY COMPANY.

SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO SITE DEMOLITION.

* THE CONTRACTOR SHALL NOTIFY MISS DIG (1-800-482-7171) A MINIMUM OF THREE (3) WORKING DAYS PRIOR TO THE START OF THE SITE DEMOLITION.

THE CONTRACTOR SHALL COORDINATE THE REMOVAL AND/OR RELOCATION OF EXISTING UTILITY POLES AND BUILDING SERVICES WITH UTILITY COMPANY. REMOVAL OF THE UTILITY COMPANIES ELECTRICAL SERVICES SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND REQUIREMENTS OF THE UTILITY COMPANY.

THE CONTRACTOR SHALL COORDINATE THE REMOVAL AND/OR RELOCATION OF EXISTING UTILITY POLES AND BUILDING SERVICES WITH UTILITY COMPANY. REMOVAL OF THE UTILITY COMPANY GAS SERVICES SHALL BE IN ACCORDANCE WITH THE STANDARDS AND REQUIREMENTS OF THE UTILITY COMPANY.

THE CONTRACTOR SHALL COORDINATE THE REMOVAL AND/OR RELOCATION OF EXISTING UTILITY POLES AND BUILDING SERVICES WITH THE UTILITY COMPANY. REMOVAL OF THE UTILITY COMPANIES COMMUNICATION SERVICES SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND REQUIREMENTS OF THE UTILITY COMPANY.

THE CONTRACTOR SHALL COORDINATE THE REMOVAL AND/OR RELOCATION OF EXISTING UTILITY POLES AND BUILDING SERVICES WITH THE APPROPRIATE CABLE MEDIA COMPANY. REMOVAL OF CABLE SERVICES SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND REQUIREMENTS OF THE CABLE COMPANY.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION OF PRIVATE UTILITY COMPANIES AND COORDINATE UTILITY SERVICE SHUT OFF/DISCONNECT, PRIOR TO DEMOLITION OF EXISTING STRUCTURES OR PROPERTIES.

ANY ON-SITE STORM SEWER FACILITIES LOCATED DURING DEMOLITION SHALL BE REMOVED AND BULK HEADED AT THE PROPERTY LINE IF INDICATED FOR REMOVAL ON THE PLANS. PRIOR TO BUILDING DEMOLITION, ALL HAZARDOUS MATERIAL SHALL BE REMOVED BY OTHERS. THE DEMOLITION CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER SHOULD ANY SUSPICIOUS MATERIAL BE FOUND.

WATER SERVICES AND/OR STOP-BOX SHALL BE PRESERVED AND BULK HEADED AT THE PROPERTY LINE OR AS DIRECTED BY THE OWNER'S REPRESENTATION.

WHERE EXISTING BUILDINGS PLANED FOR DEMOLITION FALL WITHIN PROPOSED BUILDING FOOT PRINTS, BASEMENT FLOOR SLABS, FOUNDATION WALLS AND FOOTINGS SHALL BE COMPLETELY REMOVED AND BACK FILLED WITH MDOT CLASS II GRANULAR MATERIAL AND BE MACHINE COMPACTED TO A MINIMUM OF 98% OF MATERIALS MAXIMUM DENSITY.

GENERAL TREE PROTECTION NOTES

- APPROVED TREE PROTECTION SHALL BE ERECTED PRIOR TO THE START OF CONSTRUCTION ACTIVITIES, AND SHALL REMAIN IN PLACE UNTIL THE IN PLACE UNTIL CONSTRUCTION IS COMPLETE. ALL UNDERSTORY VEGETATION WITHIN THE LIMITS OF PROTECTIVE FENCING SHALL BE PRESERVED. NO PERSON MAY CONDUCT ANY ACTIVITY WITHIN THE DRIP LINE OF ANY TREE DESIGNATED TO REMAIN, INCLUDING BUT NOT LIMITED TO, PLACING SOLVENTS, BUILDING MATERIALS, CONSTRUCTION EQUIPMENT, OR SOIL DEPOSITS WITHIN THE DRIP LINE.
- THE LIMITS OF GRADING LINE. DURING CONSTRUCTION, NO PERSON SHALL ATTACH ANY DEVICE OR WIRE TO ANY TREE SCHEDULED TO REMAIN. ALL UTILITY SERVICE REQUESTS MUST INCLUDE NOTIFICATION TO THE INSTALLER THAT PROTECTED TREES MUST BE AVOIDED. ALL TRENCHING SHALL OCCUR OUTSIDE OF THE PROTECTIVE FENCING.

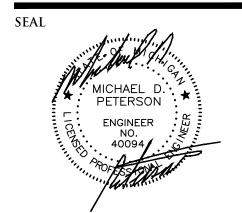
WHERE GROUPINGS OF TREES ARE TO REMAIN, TREE FENCING SHALL BE PLACED AT

- . SWALES SHALL BE ROUTED TO AVOID THE AREA WITHIN THE DRIP LINES OF PROTECTED 8. TREES LOCATED ON ADJACENT PROPERTIES THAT MAY BE AFFECTED BY CONSTRUCTION ACTIVITIES MUST BE PROTECTED.
 ROOT ZONES OF PROTECTED TREES SHOULD BE SURROUNDED WITH RIGIDLY STAKED
- THE PARKING OF IDLE AND RUNNING EQUIPMENT SHALL BE PROHIBITED UNDER THE DRIP LINE OF PROTECTED TREES.
 THE STRIPPING OF TOPSOIL FROM AROUND PROTECTED TREES SHALL BE PROHIBITED.
 ALL TREES TO BE REMOVED SHALL BE CUT AWAY FROM TREES TO REAMIN. THE GRUBBING OF UNDERSTORY VEGETATION WITHIN CONSTRUCTION AREAS SHOULD BE
- CLEARED BY CUTTING VEGETATION AT THE GROUND WITH A CHAIN SAW OR MINIMALLY WITH A HYDRO-AXE. THE CONTRACTOR IS RESPONSIBLE FOR THE REPLACEMENT PER ORDINANCE GUIDELINES, FOR THE DAMAGE OR REMOVAL OF ANY TREE DESIGNATED TO REMAIN. TREES TO BE REMOVED SHALL BE FIELD VERIFIED, EVALUATED AND FLAGGED FOR REMOVAL, BY THE LANDSCAPE ARCHITECT OR FORESTER, ONLY AS DIRECTED BY THE

OWNER OR OWNERS REPRESENTATIVE.

(X(X)(XMX)(XMX)(XMXX)(XMXX)

TREE PROTECTION DETAIL-SECTION



PROJECT

4 Corners Retail Center 1449 Union Lake Road White Lake Township

CLIENT **VERITAS** 29580 Northwestern Hwy, Suite 1000

Southfield, Michigan 48075 Contact: Shakir W.

Alkhafaji, President Phone: (248) 559-5555

PROJECT LOCATION Part of the E. 1/2 of the SE. 1/4 of Section 8 T.3N., R.8E. White Lake Township, Oakland County, Michigan

SHEET

DATE

Demolition Plan



10-14-21 ISSUED FOR SITE PLAN REVIEW

11-08-21 REVISED PER SITE PLAN REVIEW

ISSUED/REVISED

TOPOGRAPHIC SURVEY NOTES

ALL ELEVATIONS ARE EXISTING ELEVATIONS, UNLESS OTHERWISE

-4' HIGH PROTECTIVE FENCE PLACED AT TREE DRIPLINE

UTILITY LOCATIONS WERE OBTAINED FROM MUNICIPAL OFFICIALS AND RECORDS OF UTILITY COMPANIES, AND NO GUARANTEE CAN BE MADE TO THE COMPLETENESS, OR EXACTNESS OF LOCATION. THIS SURVEY MAY NOT SHOW ALL EASEMENTS OF RECORD AN UPDATED TITLE POLICY IS FURNISHED TO THE SURVEYO

	THE OWNER	
	LEGEND	
- 5/8" X 6'8" RE-ROD, OR EQUAL, SUPPORT POSTS EVERY 10' O.C. INSTALL POSTS A MIN. 24" INTO GROUND, TYPICAL	MANHOLE S HYDRANT GATE VALVE MANHOLE CATCH BASIN	EXISTING SANITARY SEWER EXISTING SAN. CLEAN OUT EXISTING WATER MAIN EXISTING STORM SEWER
⁻ 4' HIGH FENCING TO BE PLACED AT DRIP LINE OR LIMITS OF GRADING, AS INDICATED ON PLAN, TYPICAL	UTILITY POLE GUY POLE GUY WIRE	EX. R. Y. CATCH BASIN EXISTING BURIED CABLES OVERHEAD LINES LIGHT POLE
NOTE: PROTECTION FENCING TO BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD	·×·×·×·×·×·×·×·	SIGN EXISTING GAS MAIN EXISTING UTILITY TO BE REMOVED
NTS	· //· //· //· //·	EXISTING UTILITY TO BE ABANDONED INDICATES EXISTING TREE TO BE REMOVED INDICATES AREAS OF PAVEMENT, BUILDINGS,

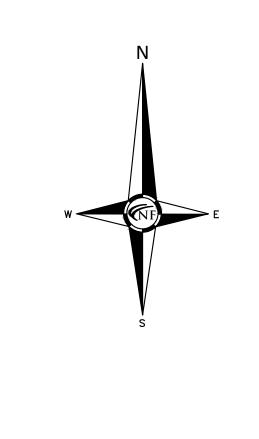
ETC. TO BE REMOVED

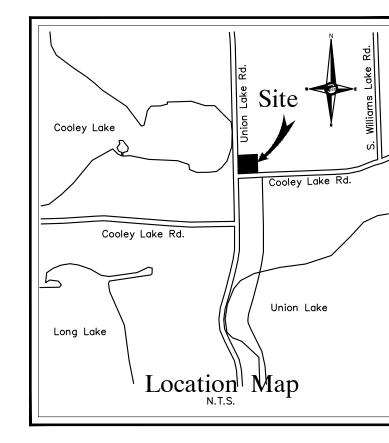
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	11. INAOUIII
	DESIGNED BY:
	M. Kurmas
	APPROVED BY:
	M. Peterson
	DATE:
	08-25-2021
	111 201
TREE	SCALE: $1'' = 20'$
	20 10 0 10 20

NFE JOB NO.

J635-03

SHEET NO.



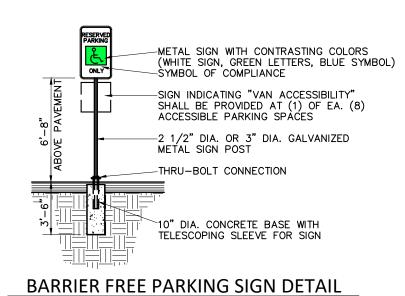




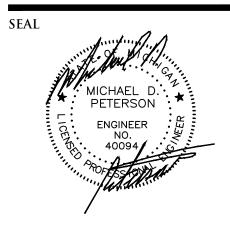
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LAND SURVEYORS

LAND PLANNERS



N.T.S.
Provide (1) for each accessible parking space



PROJECT 4 Corners Retail Center 1449 Union Lake Road White Lake Township

CLIENT **VERITAS** 29580 Northwestern Hwy, **Suite 1000** Southfield, Michigan 48075

Contact: Shakir W. Alkhafaji, President Phone: (248) 559-5555

PROJECT LOCATION Part of the E. 1/2 of the SE. 1/4 of Section 8 T.3N., R.8E. White Lake Township, Oakland County, Michigan

Stringer Dimension Plan



DATE ISSUED/REVISED

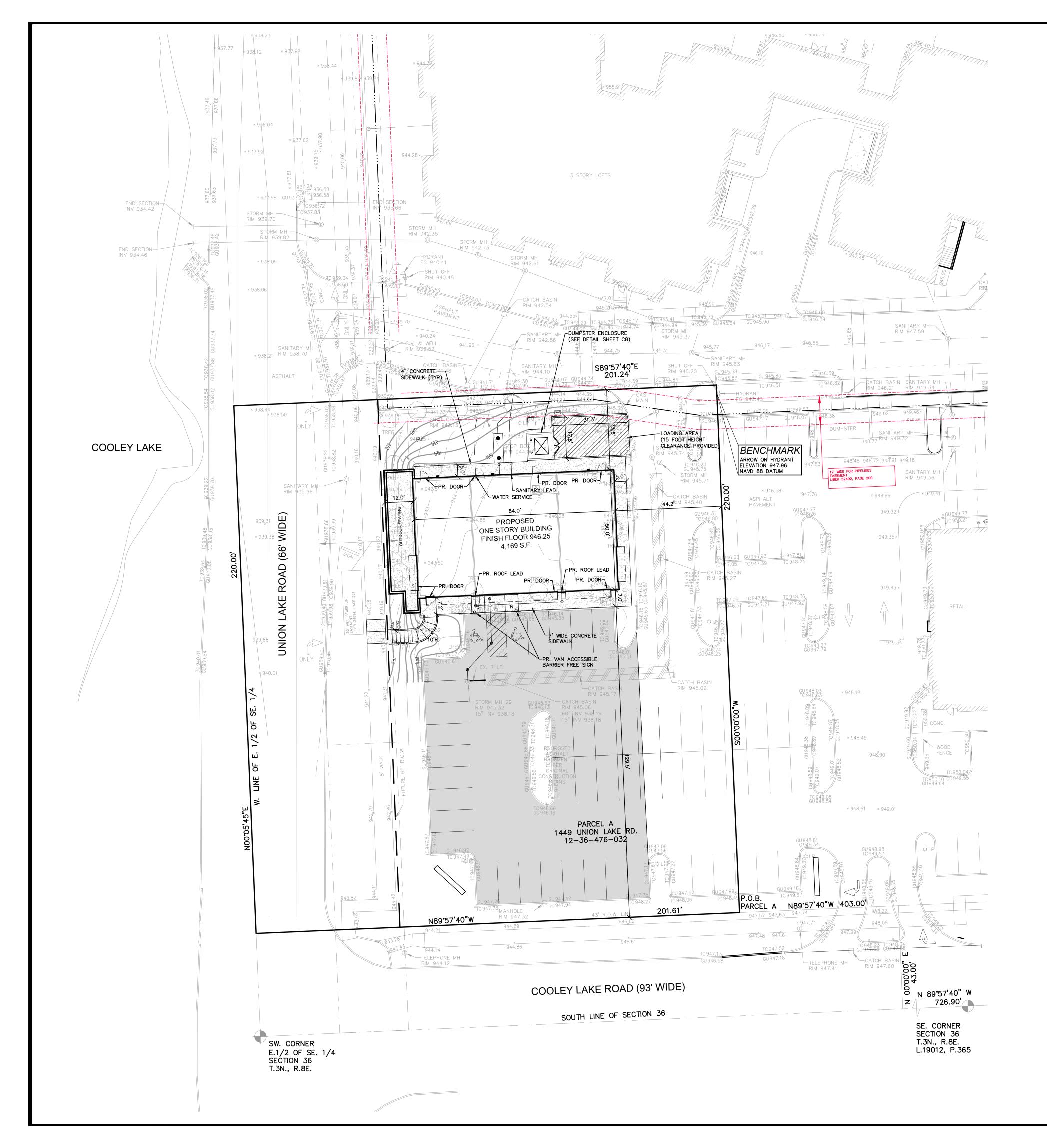
PAVING LEGEND 10-14-21 ISSUED FOR SITE PLAN REVIEW PROPOSED CONCRETE PAVEMENT PROPOSED ASPHALT PAVEMENT ---- EXISTING SANITARY SEWER GATE VALVE EXISTING WATERMAIN EXISTING STORM SEWER EX. R. Y. CATCH BASIN EXISTING BURIED CABLES < OVERHEAD LINES

11-08-21 REVISED PER SITE PLAN REVIEW DRAWN BY: N. Naoum **DESIGNED BY:** M. Kurmas APPROVED BY: M. Peterson DATE: 08-25-2021 SCALE: 1'' = 20'NFE JOB NO. SHEET NO.

C3

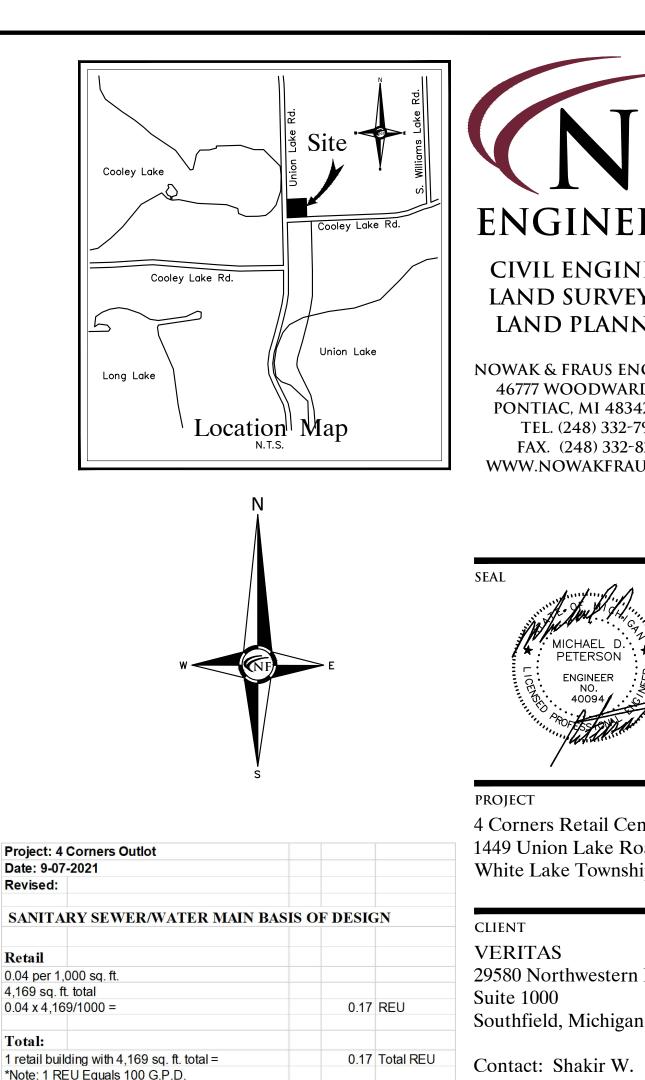
J635-03

LEGEND HYDRANT MANHOLE CATCH BASIN UTILITY POLE GUY POLE GUY WIRE GATE VALVE PR. SANITARY SEV PR. STORM SEWER - PR. R. Y. CATCH BASIN PROPOSED LIGHT POLE



Zoned: NMU Neighborhood Mixed Use Building Setbacks:

Front= 0' Sides= 0' Rear= 5'



Stores (other than specifically listed) = 0.04 REU per 1,000 sq. ft. **ESTIMATED QUANTITIES** STORM SEWER DESCRIPTION QUANTITY 6" PVC, SCH 40, SEWER PIPE CLEANOUT TAP/CONNECTION **SANITARY SEWER** 6" PVC, SDR 23.5, BUILDING LEAD 52 1,000 GALLON GREASE INTERCEPTOR

= 0.0004 cfs

= 1.00 %

= 0.56 cfs.

TAP/CONNECTION **WATER MAIN** QUANTITY

LEGEND] _
MANHOLE S	EXISTING SANITARY SEWER	
HYDRANT GATE VALVE MANHOLE CATCH BASIN	SAN. CLEAN OUT EXISTING WATER MAIN	_
	EXISTING STORM SEWER EX. R. Y. CATCH BASIN EXISTING BURIED CABLES	
UTILITY POLE GUY POLE GUY WIRE	OVERHEAD LINES LIGHT POLE	$\frac{\mathbf{D}}{\mathbf{N}}$
	SIGN EXISTING GAS MAIN	$\frac{M}{N}$
HYDRANT GATE VALVE	PR. SANITARY SEWER PR. WATER MAIN	$\frac{0}{0}$
* * * * * * * * * * * * * * * * * * *	PR. STORM SEWER PR. R. Y. CATCH BASIN SAND BACKFILL (95 % DENSITY)	10

PROPOSED LIGHT POLE

DRAWN BY:			
M. Kurmas			
DESIGNED BY:			
M. Kurmas			
APPROVED BY:			
M. Peterson			
DATE:			
08-25-2021			
SCALE: $1'' = 10'$			
3CALE: 1 – 10	5	10	5
10 5 0	3	10	
NIEE IOD NIO	CI	IFFT N	_
NFE JOB NO.	51	HEET NO	J.
□ J635-03		C5	

12' WDE F EASEMENT UBER 524 Date: 9.07 2004 Date: 9-07-2021 0.04 per 1,000 sq. ft. 4,169 sq. ft. total $0.04 \times 4,169/1000 =$ *Note: 1 REU Equals 100 G.P.D. 3.5 Persons per REU x Total REU AVE Q. = (100 GPD * 3.5 People * Total REU) = 6E-05 mgd Peaking = 18 + (# of Persons/1000) ^ 0.50 = 4.48 Factor 4 + (# of Persons/1000) ^ 0.50 PEAK Q = Ave Flow * Peaking Factor SIZE OF SANITARY SEWER PIPE SLOPE PIPE CAPACITY WRC REU Table Assumptions: CLEANOUT 2" 'K' COPPER BUILDING SERVICE WATER MAIN CONNECTION

GU 947.79

GU 348.63

GU 948.54

–1,000 GALLON ØREASE INTERCEPTOR BENCHMARK ARROW ON HYDRANT ELEVATION 947.96 NAVD 88 DATUM GU 945.75 PR. CLEANOUT RIM 946.20 RIM 945.71 6" SANITARY LEAD INV 940.25 L₆" GREASE TRAP LEAD INV 941.25 CATCH BASIN RIM 945.40 ASPHALT PAVEMENT 946.30 GU 946.31 TC 946.80 PROPOSED ONE STORY BUILDING FINISH FLOOR 946.25 4,169 S.F. RIM 945.27 TREE 6" ROOF LEAD \\
INV 942.8145.83 PR. CLEANOUT RIM 946.25 INV 942.50 TC 948.36 TC 947.69 PR. CLEANOUT 35 LF 6" PVC SCH 40 @ 1:00%5.66 ~6" INV. 942.46

GU 945.90

RIM 945.63

GU 946.23

.00,00.008

CATCH BASIN RIM 945.02

FG 946.43

SHUT OFF — RIM 946.20

TC 945.17

GU 944.46

RIM 945.17

RIM 945.06

60" INV 938.16

96948:63

PROPOSED

7 PER 75 ORIGINALS CONSTRUCTION

RIM 942.54

-SANITARY MH RIM 942.86

6"x6" WYE INV 938.65

734 LF 6" PVC, SDR 23.5 @ 5.83%

13 LF 6*2PVC, SDR-23.5 @ 18.88%

INSTALL CAP & THRUST BLOCK ON— EXISTING FIRE SERVICE STUB, NO FIRE SERVICE LINE REQUIRED FOR NEW BUILDING, SEE MER PLANS.

CONNECT TO EXISTING WATER— SERVICE STUB. ADJUST STOP BOX RIM TO PROPOSED CONTOURS AS NEEDED IN FIELD.

INSTALL 24 LF 2"-51TYPE 'K' COPPER WATER SERVICE

5 LF 6" PVC, SDR 23.5 @ 1.90%

945.53 INV 942.57

1) LF 6" PVC—— SCH 40 @ 1.00%

PR. CLEANOUT RIM 946.20

PR. CLEANOUT -RIM 945.40 INV 942.16

INV 942.11-/

-STORM MH 29

15" INV 938.18

RIM 945.32

CONNECT TO EXISTING STUB

10 634NV 938.30±. CONTRACTOR TO

VERIFY SIZE, DEPTH AND LOCATION

IN FIELD PRIOR TO CONSTRUCTION.

× 938.06

× 938.21

SANITARY MH RIM 938.70

RIM 939.96

WIDE)

6

9

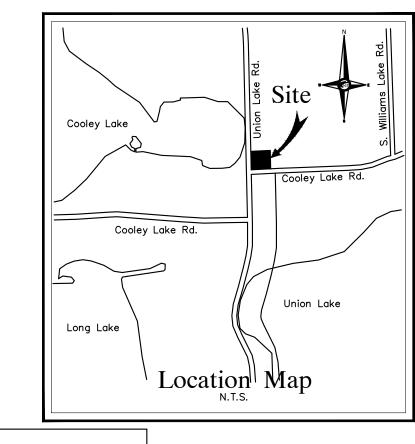
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NOWAK & FRAUS ENGINEERS 46777 WOODWARD AVE. PONTIAC, MI 48342-5032 TEL. (248) 332-7931 FAX. (248) 332-8257 WWW.NOWAKFRAUS.COM

Kennedy Solutions, Inc. 2111 Sage Lake Road Prescott, MI 48756 Phone: (989) 873-5280 Fax: (248) 375-8144 Email: sales@kennedysolutionsinc.com

Specializing in Storm Water Management and NPDES Phase II BMP's

Product Submittal Package For KSI HDPE GRAVITY GREASE/GRIT INTERCEPTOR

APPROVIED BY:

Kennedy Solutions Inc. General Specification HDPE Gravity Grease/Grit Interceptor

The KSI Gravity Grease/Grit Interceptor (GI) unit shall be as manufactured by KSI (Kennedy Solutions, Inc.) (800) 669-4046.

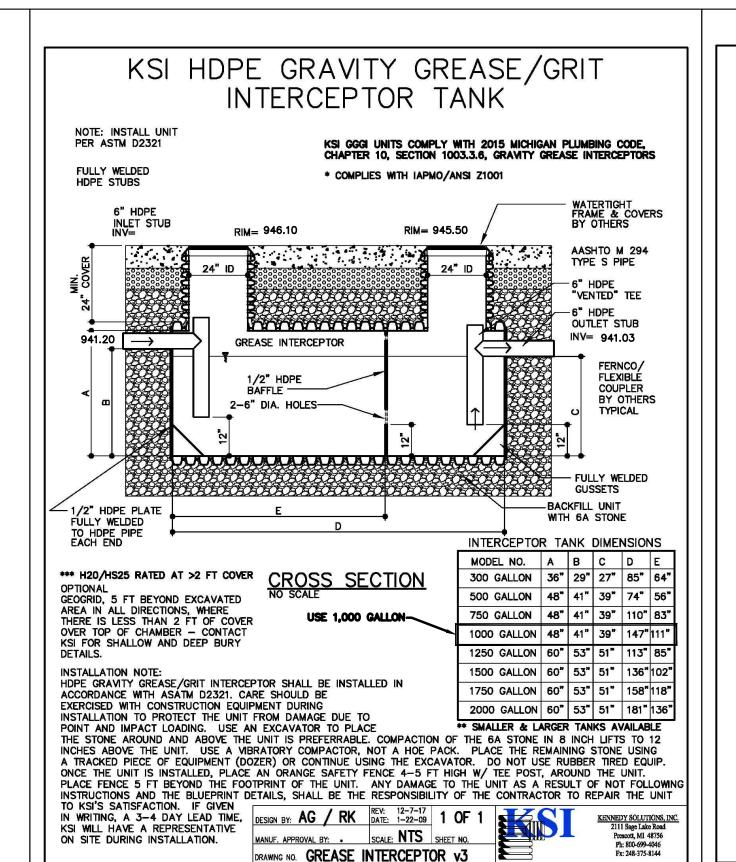
The GI shall remove oil and grease from the sanitary sewer line prior to discharge. The GI shall be installed underground as part of the sanitary sewer system and be structurally designed for (min. H-20) traffic loading at the surface. The GI shall be maintainable from the surface via access points.

The GI shall be circular and constructed from HDPE material. The GI shall be designed and manufactured by KSI. Applicable specifications are AASHTO M294, ASTM F2306, ASTM F2649 and ASTM F894. Fusion welded joints shall be oil resistance, virtually water tight and meet the design criteria of DVS 2207. The GI unit shall be tested hydrostatically or vacuum pressure for water tightness.

The difference between the inlet pipe elevation to the GI and the outlet pipe elevation from the GI should be minimized to allow installations into existing systems. The footprint of the GI shall be minimized to prevent conflicts with other piping and utilities.

The GI is capable of containing floatable substances such as free oil (FOG) and settable solids (grit) and not be compromised by temporary backwater conditions. The capabilities of the selected GI must be documented with scientific studies and reports.

KSI will provide a manufacturers certificate of compliance for each KSI Gravity Grease/Grit Interceptor (owner, design engineer & municipal engineer/inspectors).



KSI HDPE GRAVITY GREASE/GRIT INTERCEPTOR (GGGI)

INSTALLATION AND MAINTENANCE GUIDELINES

INSTALLATION GUIDELINES

1. EXCAVATE AREA FOR KSI HDPE GGGI AND PREPARE TANK/TRENCH BOTTOM PER ASTM D2321, SECTIONS 6 & 7.

2. THE KSI HDPE GGGI TANK SHALL BE INSTALLED ON A BED OF NO LESS THAN 12" CLASS I, CRUSHED STONE BEDDING MATERIAL COMPACTED TO 95% PROCTOR DENSITY

3. BACKFILL GGGI UNIT WITH CLASS I, II OR III MATERIALS PER ASTM D 2321. CLASS I MATERIAL IS RECOMMENDED. BACKFILL SHALL BE COMPACTED TO 95% PROCTOR DENSITY.

4. THE HDPE ACCESS RISERS SHALL BE FIELD CUT TO FINISH GRADE BY THE CONTRACTOR. SEE RISER INSTALLATION OPTIONS PAGE.

5. KSI RECOMMENDS FILLING THE GGGI UNIT WITH WATER UPON COMPLETION OF INSTALLATION UP TO THE OUTLET HEIGHT.

MAINTENANCE GUIDELINES

ALL GREASE INTERCEPTOR TANKS WILL REQUIRE PERIODIC MAINTENANCE DEPENDING ON SPECIFIC SITE CONDITIONS.

BE REMOVED BY A LICENSED WASTE MANAGEMENT COMPANY.

2. KSI RECOMMENDS FREQUENT CLEANING THE GREASE INTERCEPTOR. WEEKLY, MONTHLY, QUARTERLY. ETC, AS DICTATED BY THE ESTABLISHMENTS NEEDS. THIS WILL BE BASED ON THE BUILDING WASTE EFFLUENT DISCHARGE CAPACITY AND CONCENTRATION. MATERIAL IS EASIER TO REMOVE WHEN IT IS REMOVED ON A REGULAR BASIS.

3. DISPOSAL OF MATERIAL FROM THE KSI GREASE INTERCEPTOR ARE SIMILAR TO THAT OF ANY OTHER BEST MANAGEMENT PRACTICES (BMP).
LOCAL GUIDELINES SHOULD BE CONSULTED PRIOR TO DISPOSAL
OF THE GREASE INTERCEPTOR CONTENTS. WASTE PRODUCTS SHOULD

4. AFTER CLEANING THE UNIT - KSI RECOMMENDS REFILLING THE GGGI UNIT WITH WATER.

DESIGN BY: AG / RK | REV: 6-8-16 | DATE: 9-24-09 | 1 OF 1 MANUF. APPROVAL BY: . SCALE: NTS SHEET NO. DRAWING NO. GGGI INSTALL & MAINT.

PETERSON ENGINEER

PROJECT

4 Corners Retail Center 1449 Union Lake Road White Lake Township

CLIENT VERITAS 29580 Northwestern Hwy, Suite 1000

Contact: Shakir W. Alkhafaji, President Phone: (248) 559-5555

Southfield, Michigan 48075

PROJECT LOCATION Part of the E. 1/2 of the SE. 1/4 of Section 8 T.3N., R.8E. White Lake Township,

Oakland County, Michigan

Utility Details Plan



DATE ISSUED/REVISED 10-14-21 ISSUED FOR SITE PLAN REVIEW 11-08-21 REVISED PER SITE PLAN REVIEW

DRAWN BY: M. Kurmas **DESIGNED BY:** M. Kurmas APPROVED BY: M. Peterson DATE:

08-25-2021 SCALE: N.T.S.

NFE JOB NO. SHEET NO. **J635-03 C6**

KSI TANK INSTALLATION NOTES:
1. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE

CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH A FOUNDATION OF CLASS I, II OR III MATERIAL AS DEFINED IN ASTM D2321, LATEST EDITION; AS AN ALTERNATIVE TRENCH BOTTOM MAY BE STABILIZED USING A WOVEN GEOTEXTILE FABRIC 2. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.

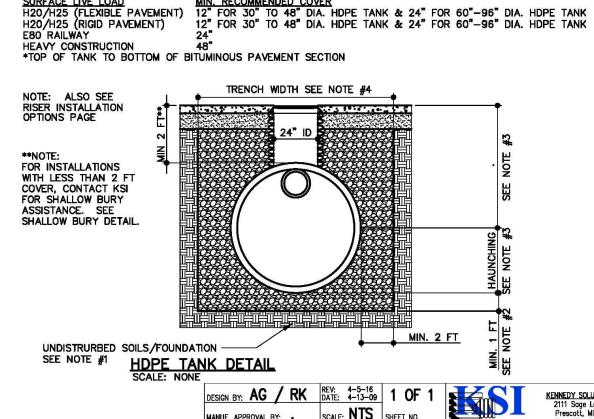
UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 12" FOR 36"-60" DIA. HDPE CHAMBER. 3. HAUNCHING AND INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION. CLASS I & II MATERIAL IS RECOMMENDED.

UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MIN. TRENCH WIDTHS ARE AS FOLLOWS NOMINAL I.D. NOMINAL O.D. MINIMUM RECOMM. TRENCH WIDTH

5. MINIMUM COVER: MINIMUM RECOMMENDED COVER FOR VARIOUS LIVE LOADING CONDITIONS ARE AS SUMMARIZED IN THE FOLLOWING TABLE. UNLESS OTHERWIESE NOTED, ALL DIMENSIONS ARE TAKEN FROM THE TOP OF THE HDPE TANK SURFACE LIVE LOAD
H20/H25 (FLEXIBLE PAVEMENT)
H20/H25 (RIGID PAVEMENT)
E80 RAILWAY

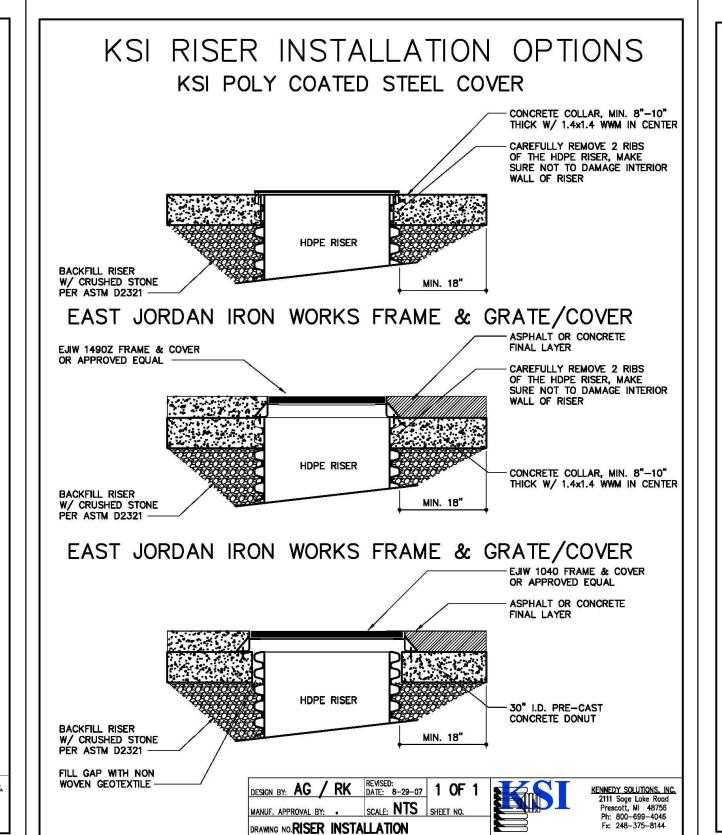
MIN. RECOMMENDED COVER
12" FOR 30" TO 48" DIA. HDPE TANK & 24" FOR 60"-96" DIA. HDPE TANK
24"

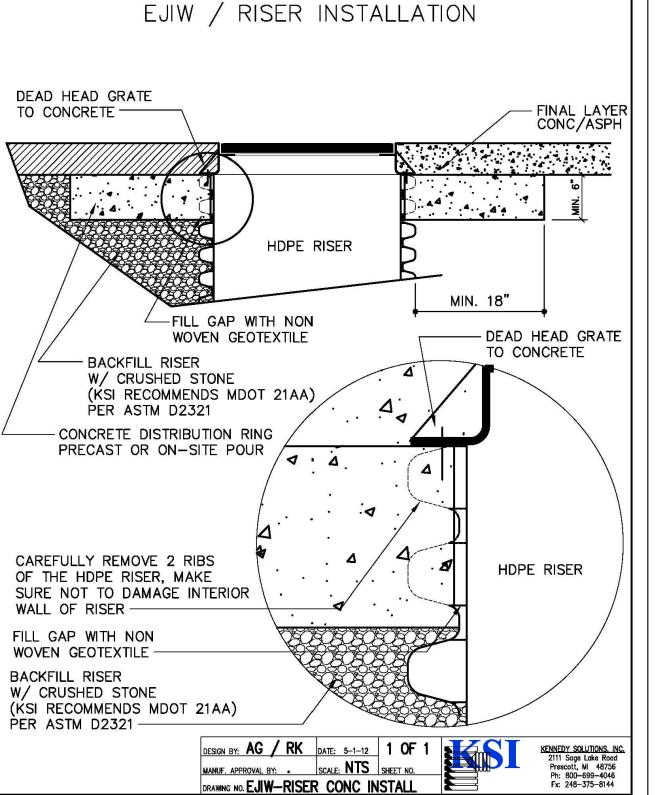
MIN. RECOMMENDED COVER
12" FOR 30" TO 48" DIA. HDPE TANK & 24" FOR 60"-96" DIA. HDPE TANK
24"

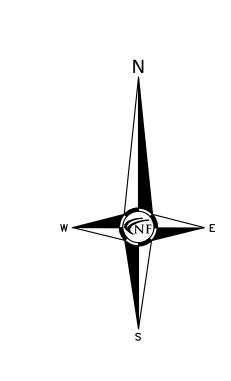


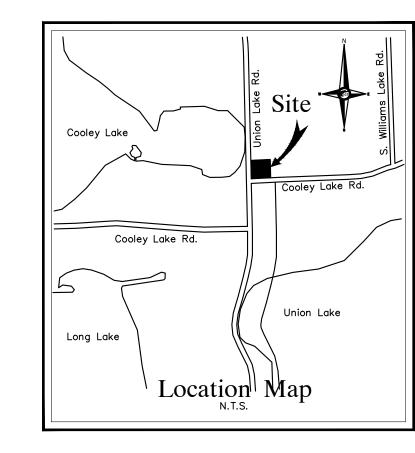
MANUF. APPROVAL BY: • SCALE: NTS SHEET NO.

RAWING NO. TANK INSTALLATION DETAIL









REFER TO THE WRC SOIL EROSION AND SEDIMENTATION CONTROL DETAIL SHEET FOR ALL ADDITIONAL NOTES & DETAILS (TYP)

A DISTANCE OF 66' TO THE NEAREST BODY OF WATER IS COOLEY

THE SOIL EROSION CONTROLS WILL BE MAINTAINED WEEKLY AND AFTER EVERY STORM EVENT BY THE CONTRACTOR

A SOIL EROSION PERMIT IS REQUIRED FROM THE OAKLAND COUNTY

BASED ON DATA PROVIDED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE.

199

105

INDICATES LIMITS OF SILT

INDICATES LIMITS OF SOIL

INDICATES LOW POINT INLET FILTER OR PROPOSED

DRAINAGE STRUCTURE

EQUAL ON EXISTING. DRAINAGE STRUCTURE

INDICATES DRAINAGE

DISTRICT AREA

INDICATES SILT SACK OR

FABRIC FENCE

DISRUPTION

THE TOTAL AREA OF EARTH DISRUPTION IS 0.22 ACRES.

15C—SPINKS LOAMY SAND, 6 TO 12 PERCENT SLOPES

ESTIMATED QUANTITIES

SOIL DATA

59—URBAN LAND

SOIL EROSION

SILT FABRIC FENCING

SILT SACK OR EQUAL

LEGEND

SOIL EROSION CONTROL BLANKET

AREA A

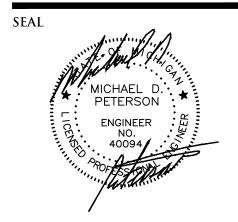
0.00 ACRE

THIS SITE CONSISTS OF



CIVIL ENGINEERS LAND SURVEYORS LAND PLANNERS

NOWAK & FRAUS ENGINEERS 46777 WOODWARD AVE. PONTIAC, MI 48342-5032 TEL. (248) 332-7931 FAX. (248) 332-8257 WWW.NOWAKFRAUS.COM



PROJECT 4 Corners Retail Center 1449 Union Lake Road White Lake Township

CLIENT **VERITAS** 29580 Northwestern Hwy, **Suite 1000** Southfield, Michigan 48075

Contact: Shakir W. Alkhafaji, President Phone: (248) 559-5555

PROJECT LOCATION Part of the E. 1/2 of the SE. 1/4 of Section 8 T.3N., R.8E. White Lake Township, Oakland County, Michigan

Soil Erosion Control / Drainage Area Plan



DATE	ISSUED/REVISED
10-14-21	ISSUED FOR SITE PLAN REVIEW
11-08-21	REVISED PER SITE PLAN REVIEW

DRAWN BY:	
N. Naoum	
DESIGNED BY:	

M. Kurmas _____ INDICATES LIMITS OF DRAINAGE APPROVED BY: M. Peterson DATE:

08-25-2021

NFE JOB NO. SHEET NO.

J635-03

SEE OAKLAND COUNTY WRC SOIL EROSION AND SEDIMENTATION CONTROL STANDARD DETAILS

COI	NSTRUCTION SEQUENCE / TIMING SCHEDULE	
1. I	NSTALL PERIMETER FILTER FABRIC FENCING AND STONE FILTER WHERE REQUIRED.	OCTOBER 2021
2.	MASS GRADE SITE.	OCTOBER 2021
3.	COMMENCE UNDERGROUND UTILITY WORK.	NOVEMBER 2021
4.	INSTALL INLET FILTERS ON PROPOSED DRAINAGE STRUCTURES.	NOVEMBER 2021
5.	FILL IN SEDIMENTATION TRAPS AND PAVE SITE.	MARCH 2022
6.	COMPLETE ALL BUILDINGS AND LANDSCAPE ACTIVITY.	MARCH 2022
7.	JET VAC NEW STORM SEWER SYSTEM AS REQUIRED.	MAY 2022
8.	REMOVE ALL TEMPORARY SOIL EROSION MEASURES.	MAY 2022

SOIL EROSION CONTROL

SE. CORNER

SECTION 36

T.3N., R.8E.

L.19012, P.365

REQUIREMENTS OF THIS ORDINANCE.

TEMPORARY AND PERMANENT SOIL EROSION CONTROL MEASURES DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF WATER AROUND, THROUGH, OR AWAY FROM THE SITE SHALL BE DESIGNED TO LIMIT THE WATER FLOW TO A NON-EROSIVE VELOCITY.

TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE REMOVED AFTER PERMANENT SOIL EROSION CONTROL MEASURES HAVE BEEN IMPLEMENTED. ALL SITES SHALL BE STABILIZED WITH

IF LAKES, PONDS, CREEKS, STREAMS, OR WETLANDS ARE LOCATED ON OR NEAR THE SITE, EROSION CONTROL MEASURES WHICH DIVERT RUNOFF AND TRAP SEDIMENT MUST BE PROVIDED AT STRATEGIC LOCATIONS. STRAW BALE BERMS MAY BE USED AS TEMPORARY STORMWATER DIVERSION STRUCTURES, BUT WILL NOT BE CONSIDERED SUFFICIENT FOR TRAPPING SEDIMENT. THE USE OF SEDIMENT BASINS, FILTER FABRIC, VEGETATED BUFFER STRIPS, AND ROCK FILTERS IN LIEU OF STRAW BALE BERMS SHALL BE STRONGLY ENCOURAGED. OTHER MEASURES MAY BE REQUIRED IF REASONABLY DETERMINED TO BE NECESSARY TO PROTECT A WATERCOURSE OR

TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE INSTALLED.

VEGETATED BUFFER STRIPS SHALL BE CREATED OR RETAINED ALONG THE EDGES OF ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL RECEIVE REGULAR MAINTENANCE TO ASSURE PROPER FUNCTIONING.

ALL GRADING PLANS AND SPECIFICATIONS, INCLUDING EXTENSIONS OF PREVIOUSLY APPROVED PLANS, SHALL INCLUDE PROVISIONS FOR EROSION AND SEDIMENT CONTROL IN ACCORDANCE WITH, BUT NOT LIMITED TO, THE STANDARDS CONTAINED IN THE "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", PUBLISHED BY THE OAKLAND SOIL CONSERVATION DISTRICT.

CUTTING, FILLING AND GRADING SHALL BE MINIMIZED AND THE NATURAL TOPOGRAPHY OF THE SITE SHALL BE PRESERVED TO THE MAXIMUM POSSIBLE EXTENT, EXCEPT WHERE SPECIFIC FINDINGS DEMONSTRATE THAT MAJOR ALTERATIONS WILL STILL MEET THE PURPOSES AND

DEVELOPMENT SHALL BE STAGED TO KEEP THE EXPOSED AREAS OF SOIL AS SMALL AS PRACTICABLE.

SOIL EROSION CONTROL MEASURES SHALL BE INSTALLED BETWEEN THE DISTURBED AREA AND ANY WATERCOURSES, INCLUDING RIVERS, STREAMS, CREEKS, LAKES, PONDS AND OTHER WATERCOURSES; WETLANDS; OR ROADWAYS ON OR NEAR THE SITE.

SEDIMENT RESULTING FROM ACCELERATED SOIL EROSION SHALL BE REMOVES FROM RUNOFF WATER BEFORE THAT WATER LEAVES THE SITE.

PERMANENT SOIL EROSION CONTROL MEASURES.

WHEN IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE A DISTURBED AREA AFTER AN EARTH CHANGE HAS BEEN COMPLETED OR WHEN SIGNIFICANT EARTH CHANGE ACTIVITY CEASES,

PERMANENT EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 15 (FIFTEEN) CALENDAR DAYS AFTER FINAL GRADING OR THE FINAL EARTH CHANGE HAS BEEN COMPLETED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL

LAKES, PONDS, CREEKS, STREAMS, OTHER WATERCOURSES, OR WETLANDS.

COOLEY LAKE BENCHMARK INSTALL SOIL EROSION CONTROL BLANKET NO STEEP SLOPE AREAS (TYP) ARROW ON HYDRANT ELEVATION 947.96 NAVD 88 DATUM 948.46 948.72 948.91 949.18 STORM MH RIM 945.71 WIDE) PROPOSED ONE STORY BUILDING FINISH FLOOR 946.25 4,169 S.F. INSTALL SOIL EROSION-CONTROL BLANKET IN -CATCH BASIN RIM 945.02 STEEP SLOPE AREAS (TYP)
45 SYD STRUCTURE 15" INV 938.18 × 948.61 × 949.01 1449 UNION LAKE RD. 12-36-476-032 N89°57'40"W 403.00 N89°57'40"W TELEPHONE MH RIM 947.60 RIM 947.41 COOLEY LAKE ROAD (93' WIDE) N 89'57'40" W 726.90' SOUTH LINE OF SECTION 36

3 STORY LOFTS

END SECTION—INV 934.42

END SECTION-INV 934.46

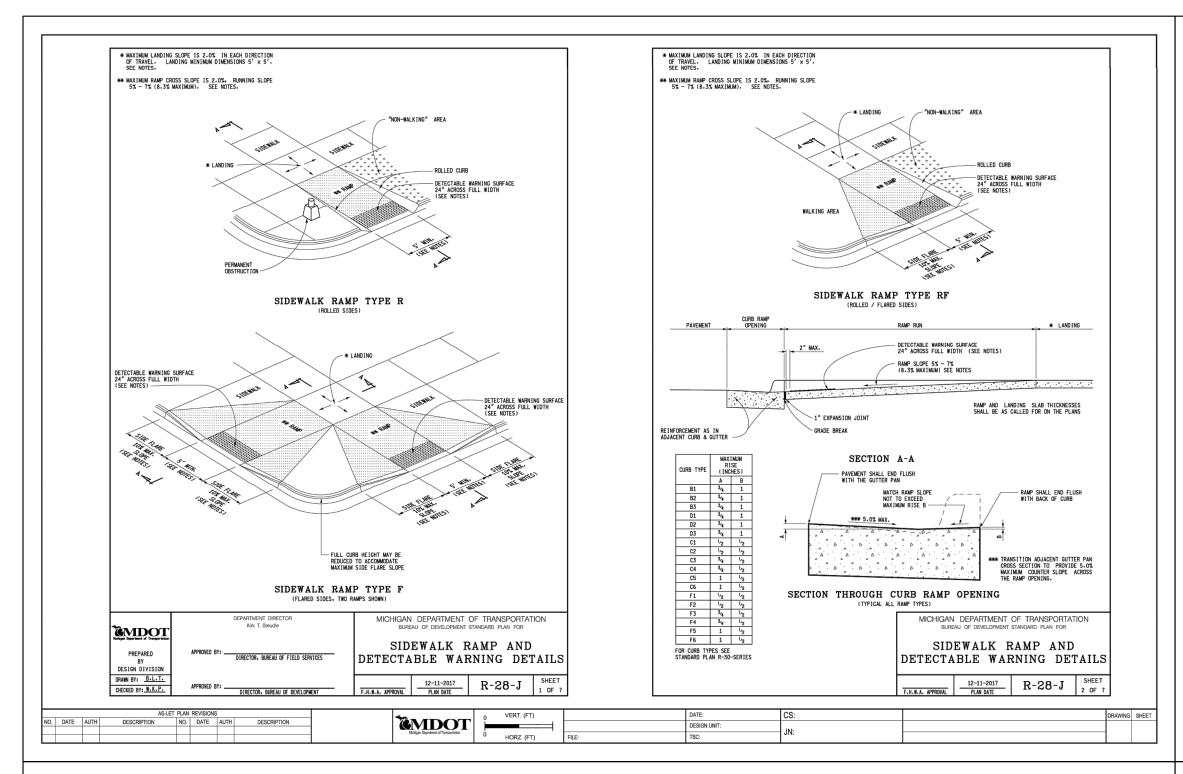
STORM MH — RIM 939.70

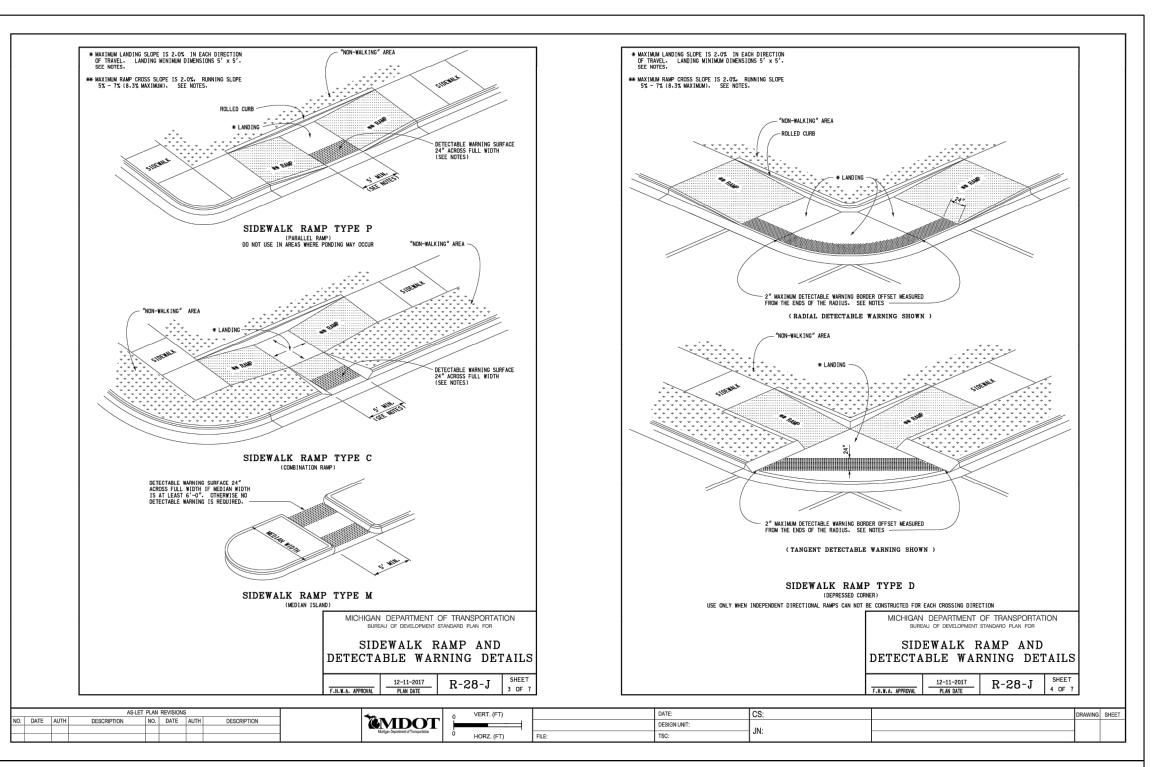
SW. CORNER

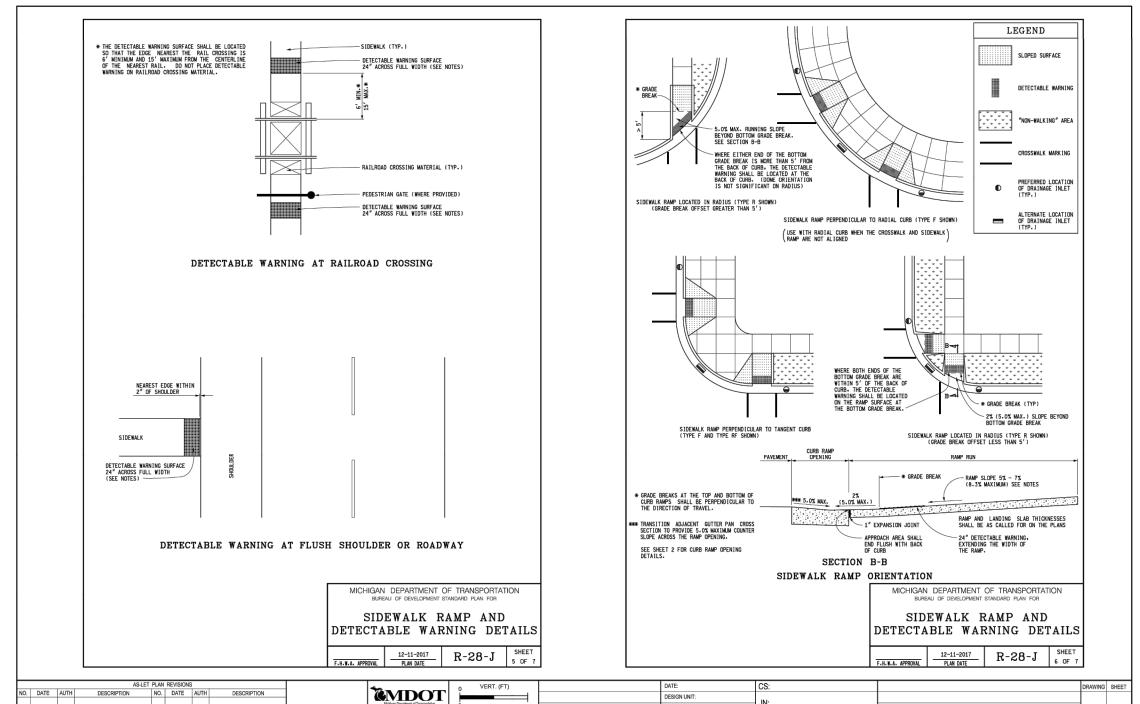
SECTION 36

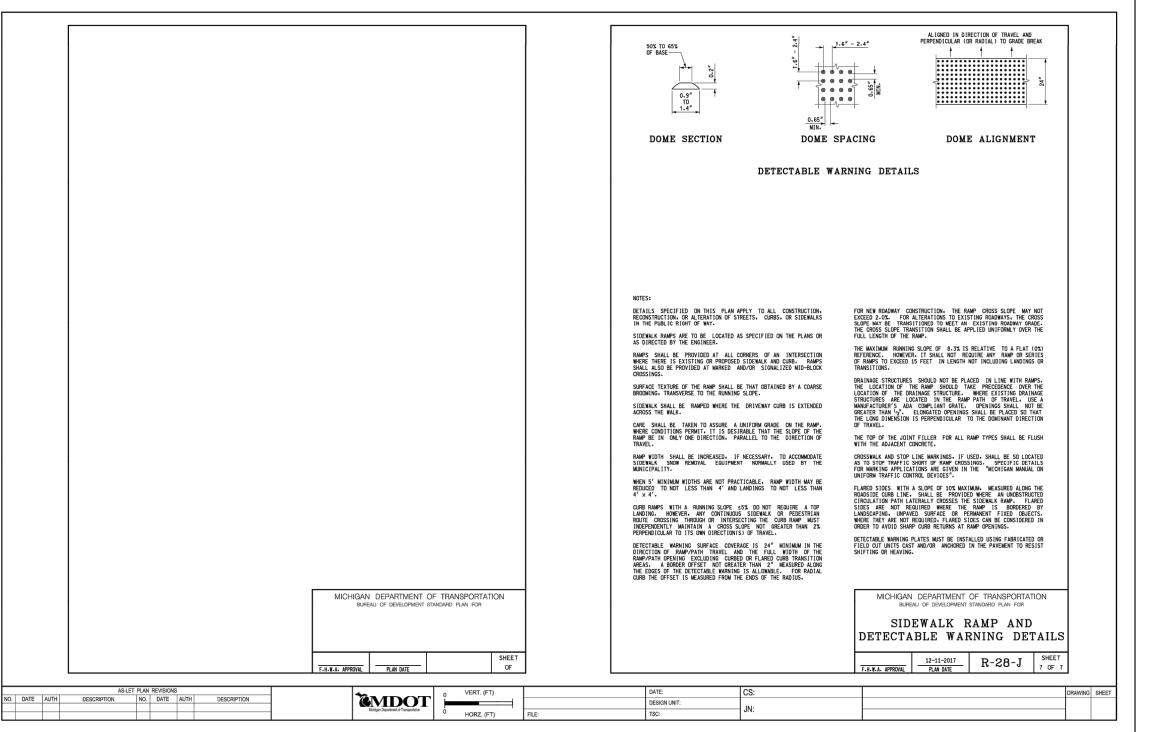
T.3N., R.8E.

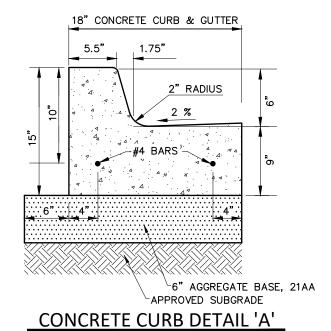
E.1/2 OF SE. 1/4

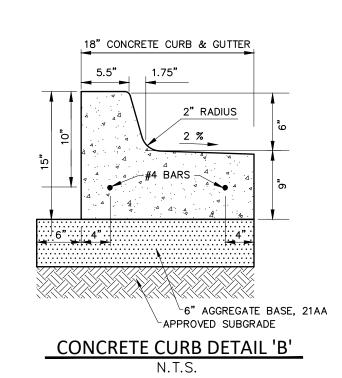


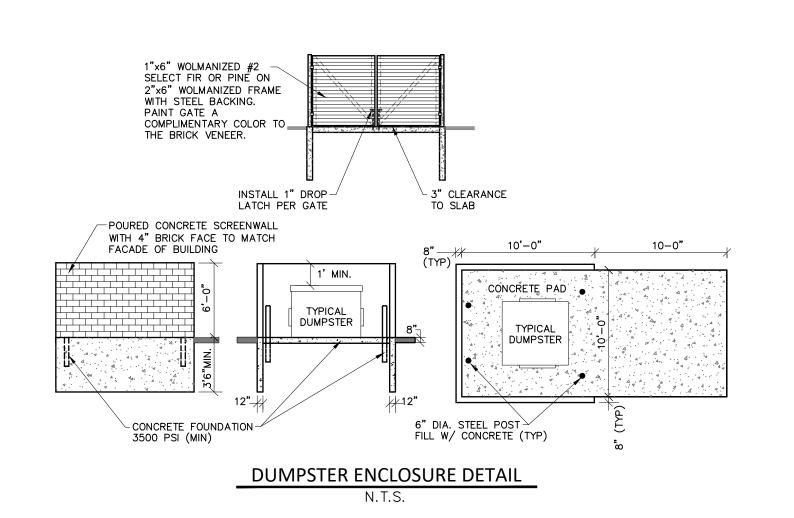














AT LEAST 72 HOURS (3 WORKING DAYS) PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY MISS DIG AND THE LOCAL COMMUNITY (WHERE APPLICABLE) TO STAKE LOCATIONS OF EXISTING UTILITIES.

THE CONTRACTOR SHALL EXPOSE AND VERIFY EXISTING UTILITIES FOR LOCATION, SIZE, DEPTH, MATERIAL AND CONFIGURATION PRIOR TO CONSTRUCTION. COSTS FOR EXPLORATORY EXCAVATION IS AN INCIDENTAL COST AND SHALL NOT BE CONSIDERED AN EXTRA TO THE

THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY EXISTING UTILITIES WHICH DO NOT MATCH THE PLANS AND SPECIFICATIONS PRIOR TO COMMENCING WORK. ANY FIELD CHANGES OF THE PROPOSED UTILITIES SHALL BE APPROVED BY THE OWNER AND ENGINEER BEFORE THE WORK IS DONE.

THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES FROM DAMAGE. ANY SERVICE OR UTILITY DAMAGED OR REMOVED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT THE EXPENSE OF THE CONTRACTOR, IN CONFORMANCE WITH THE REQUIREMENTS OF THE UTILITY COMPANY PROVIDER.

DAMAGE TO PRIVATE PROPERTY

ALL SIDEWALKS, DRIVEWAYS, LAWNS, FENCING, TREES, SHRUBS, SPRINKLERS, LANDSCAPING, ETC., THAT ARE DAMAGED DURING CONSTRUCTION MUST BE REPAIRED OR REPLACED, IN KIND OR BETTER, BY THE CONTRACTOR. ALL STREET SIGNS, MAIL BOXES, ETC., REMOVED SHALL BE REPLACED IN KIND OR BETTER, BY THE CONTRACTOR. ALL THE REPAIRS OR REPLACEMENTS DUE TO THE CONTRACTOR'S WORK ARE TO BE INCLUDED IN THE CONTRACT PRICE(S) AND SHALL NOT BE AN EXTRA TO THE CONTRACT.

THE CONTRACTOR SHALL SECURE PERMISSION IN WRITING FROM ADJACENT PROPERTY OWNERS PRIOR TO ENTERING UPON ANY ADJOINING PROPERTIES, UNLESS OFFSITE PERMITS HAVE ALREADY BEEN OBTAINED BY THE OWNER AND ARE PART OF THE CONTRACT DOCUMENTS.

DEWATERING OF TRENCH AND EXCAVATIONS

IF NOT SPECIFICALLY PROVIDED FOR IN THE CONSTRUCTION DESIGN DOCUMENTS, THE DESIGN OR QUALITATIVE ANALYSIS OF GROUND WATER DEWATERING SYSTEMS IS BEYOND THE SCOPE OF DESIGN FOR THESE DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTING AND PROVIDING APPROPRIATE EXCAVATION DEWATERING SYSTEMS FOR USE DURING CONSTRUCTION.

THE DEWATERING METHOD SELECTED BY THE CONTRACTOR WILL NOT ADVERSELY AFFECT ADJACENT PAVEMENTS OR STRUCTURES PRIOR TO BEGINNING DEWATERING CONDITIONS. MEANS AND METHODS OF DEWATERING ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. THE COST OF DEWATERING WILL BE CONSIDERED INCLUDED IN THE WORK OF CONSTRUCTING THE UNDERGROUND UTILITIES UNLESS SPECIFICALLY INDICATED OTHERWISE.

BY-PASS PUMPING

FROM TIME TO TIME IT MAY BE NECESSARY FOR THE CONTRACTOR TO BY-PASS PUMP TO COMPLETE THE WORK INDICATED ON THE PLANS. THE COST OF BY-PASS PUMPING, THE METHODS, EQUIPMENT AND MEANS OF PROVIDING THAT WORK ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE CONSIDERED PART OF THE WORK WHETHER SPECIFICALLY CALLED OUT ON THE PLANS OR NOT.

MEANS AND METHODS FOR PIPE CONSTRUCTION

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE MEANS AND METHODS FOR CONSTRUCTING THE UNDERGROUND PIPE SYSTEMS PROPOSED ON THE PLANS, INCLUDING BUT NOT LIMITED TO THE NEED FOR SHORING/BRACING OF TRENCHES, DEWATERING OF TRENCHES, SCHEDULING THE WORK AT OFF PEAK HOURS, AND/OR MAINTAINING EXISTING FLOWS THAT MAY BE ENCOUNTERED VIA PUMPING, BY-PASS PIPING OR OTHER MEANS. THE CONTRACTOR SHALL NOT BE PAID ANY ADDITIONAL COMPENSATION TO IMPLEMENT ANY MEANS AND METHODS TO SATISFACTORILY COMPLETE THE CONSTRUCTION.

PAVEMENT REMOVAL

THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE THICKNESS OF THE PAVEMENT REMOVAL. PAVEMENT CORE SAMPLES ARE FOR INFORMATIONAL PURPOSES ONLY AS TO THE THICKNESS OF THE PAVEMENT AT THE LOCATION OF THE SAMPLE. THE OWNER AND ENGINEER MAKE NO REPRESENTATION, WARRANTY OR GUARANTY THAT THE SAMPLES ACCURATELY REFLECT THE PAVEMENT THICKNESS ON THE PROJECT.

MAINTENANCE OF TRAFFIC

DURING THE PROGRESS OF THE WORK THE CONTRACTOR SHALL ACCOMMODATE BOTH VEHICULAR AND PEDESTRIAN TRAFFIC IN THE ROAD RIGHTS OF WAY. THE CONTRACTOR'S EQUIPMENT AND OPERATIONS ON PUBLIC STREETS SHALL BE GOVERNED BY ALL APPLICABLE LOCAL, COUNTY AND STATE ORDINANCES, REGULATIONS AND LAWS. THE CONTRACTOR SHALL OBTAIN AND SATISFY ANY AND ALL PERMIT REQUIREMENTS BY THE LOCAL, COUNTY AND STATE GOVERNMENTAL AGENCIES.

IN ADDITION, WHERE THE WORK REQUIRES THE CLOSURE OF ONE OR MORE LANES OR IS WITHIN THE INFLUENCE OF THE ROAD OR PEDESTRIAN RIGHT OF WAY, THE CONTRACTOR SHALL PROVIDE ALL SIGNS, BARRICADES, FLAG PERSONS AND OTHER TRAFFIC CONTROL MEASURES AS REQUIRED BY MDOT, THE COUNTY, OR THE COMMUNITY HAVING JURISDICTION OF THE ROAD AND IN CONFORMANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

COMPENSATION FOR TRAFFIC CONTROL SHALL BE CONSIDERED INCLUDED IN THE CONTRACT

IRRIGATION

THE CONTRACTOR SHALL MAINTAIN OR REPAIR ANY EXISTING IRRIGATION SYSTEMS WITHIN THE PROJECT AREA UNLESS THE DRAWINGS CALL FOR THE IRRIGATION SYSTEM TO BE REMOVED. THE OWNER AND NFE MAKE NO REPRESENTATIONS, WARRANTY OR GUARANTY AS TO THE LOCATION OF THE IRRIGATION SYSTEM. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PROTECT THE IRRIGATION SYSTEM DURING CONSTRUCTION ACTIVITIES. COMPENSATION FOR MAINTAINING OR REPAIRING EXISTING IRRIGATIONS SYSTEMS SHALL BE CONSIDERED INCLUDED IN THE CONTRACT PRICE(S) UNLESS SPECIFIC IRRIGATION SYSTEM REPAIR ITEMS ARE INCLUDED IN THE ACCEPTED BID PROPOSAL.

PRICE(S) UNLESS SPECIFIC TRAFFIC CONTROL ITEMS ARE INCLUDED IN THE ACCEPTED BID

SUB-SOIL CONDITIONS

ANY SOIL BORING PROVIDED BY THE OWNER AND/OR ENGINEER IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. THIS INFORMATION IS NOT OFFERED AS EVIDENCE OF GROUND CONDITIONS THROUGHOUT THE PROJECT AND ONLY REFLECT THE GROUND CONDITIONS AT THE LOCATION OF THE BORING ON THE DATE THEY WERE TAKEN.

THE ACCURACY AND RELIABILITY OF THE SOIL LOGS AND REPORT ARE NOT WARRANTED OR GUARANTEED IN ANY WAY BY THE OWNER OR ENGINEER AS TO THE SUB—SOIL CONDITIONS FOUND ON THE SITE. THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION AND SUB—SOIL INVESTIGATION AND SECURE OTHER SUCH INFORMATION AS THE CONTRACTOR CONSIDERS NECESSARY TO DO THE WORK PROPOSED AND IN PREPARATION OF THEIR BID.

SUBGRADE UNDERCUTTING AND PREPARATION

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE ANY AND ALL SOILS WHICH DO NOT CONFORM TO THE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE A SUBGRADE IN CONFORMANCE WITH THE PROJECT PLANS AND/OR SPECIFICATIONS. THE MEANS AND METHODS USED TO ACHIEVE THE REQUIRED RESULT SHALL REST SOLELY WITH THE CONTRACTOR.

ANY AREAS OF UNDERCUTTING THAT RESULT IN ADDITIONAL OR EXTRA WORK BECAUSE THEY COULD NOT BE IDENTIFIED BY THE CONTRACTOR'S PRE—BID SITE OBSERVATION OR ARE NOT SET FORTH IN THE PLANS AND SPECIFICATIONS, SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER BEFORE ANY EXTRA WORK IS PERFORMED. THE CONTRACTOR SHALL MAKE A REQUEST FOR ANY ADDITIONAL COMPENSATION FOR THE UNDERCUTTING IN WRITING AND THE REQUEST SHALL CONFORM TO THE CONTRACT'S CHANGE ORDER PROVISIONS.

STRUCTURE BACKFILL

STRUCTURAL BACKFILL SHALL BE PLACED IN CONFORMANCE WITH THE PROJECT PLANS, SPECIFICATIONS OR AS REQUIRED BY THE COMMUNITY, GOVERNMENT AGENCY OR UTILITY THAT HAS JURISDICTION OVER THE WORK.

TRENCH BACKFILL

TRENCH BACKFILL SHALL BE PLACED IN CONFORMANCE WITH THE PLANS AND/OR SPECIFICATIONS. TRENCH BACKFILL SHALL ALSO BE INSTALLED IN CONFORMANCE WITH THE COMMUNITY REQUIREMENTS OR AGENCY/UTILITY GOVERNING SAID TRENCH CONSTRUCTION. IN THE CASE OF CONFLICTING REQUIREMENTS, THE MORE STRINGENT SHALL APPLY.

EARTH BALANCE / GRADING

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE WHETHER THE SITE EARTHWORK BALANCES OR NOT. ANY EXCESS CUT MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR. IN A LIKE MANNER, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO IMPORT APPROVED FILL MATERIAL AND PLACE IT AS REQUIRED TO ATTAIN THE SITE GRADE AND COMPACTION REQUIREMENTS PER THE ENGINEER'S PLAN AND ALL APPLICABLE GOVERNMENTAL STANDARDS. THE ENGINEER AND OWNER MAKE NO REPRESENTATION AS TO THE QUANTITIES THAT MAY BE NEEDED TO CREATE A BALANCED EARTHWORK CONDITION OR THAT THE SITE EARTHWORK IS BALANCED.

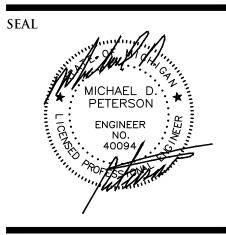
SOIL EROSION / SEDIMENTATION CONTROL

THE CONTRACTOR SHALL OBTAIN THE REQUIRED SOIL EROSION PERMIT AND SATISFY ALL REGULATORY REQUIREMENTS FOR CONTROLLING SOIL EROSION AND SEDIMENT TRANSPORT. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS. THE ENGINEER AND OWNER ARE NOT RESPONSIBLE FOR INSPECTION OR APPROVAL OF THE CONTRACTOR'S WORK IN CONNECTION WITH SATISFYING THE SOIL EROSION PERMIT REQUIREMENTS UNLESS SPECIFICALLY STATED IN THE CONTRACT DOCUMENTS.



CIVIL ENGINEERS Land Surveyors Land Planners

NOWAK & FRAUS ENGINEERS 46777 WOODWARD AVE. PONTIAC, MI 48342-5032 TEL. (248) 332-7931 FAX. (248) 332-8257 WWW.NOWAKFRAUS.COM



PROJECT

CLIENT

4 Corners Retail Center 1449 Union Lake Road White Lake Township

VERITAS
29580 Northwestern Hwy,
Suite 1000
Southfield, Michigan 48075

Contact: Shakir W. Alkhafaji, President Phone: (248) 559-5555

PROJECT LOCATION

Part of the E. 1/2

of the SE. 1/4 of Section 8

T.3N., R.8E.

White Lake Township,

Oakland County, Michigan

General Construction
Requirements, Contractor's
Duties, Notes and Details



DATE ISSUED/REVISED

10-14-21 ISSUED FOR SITE PLAN REVIEW

11-08-21 REVISED PER SITE PLAN REVIEW

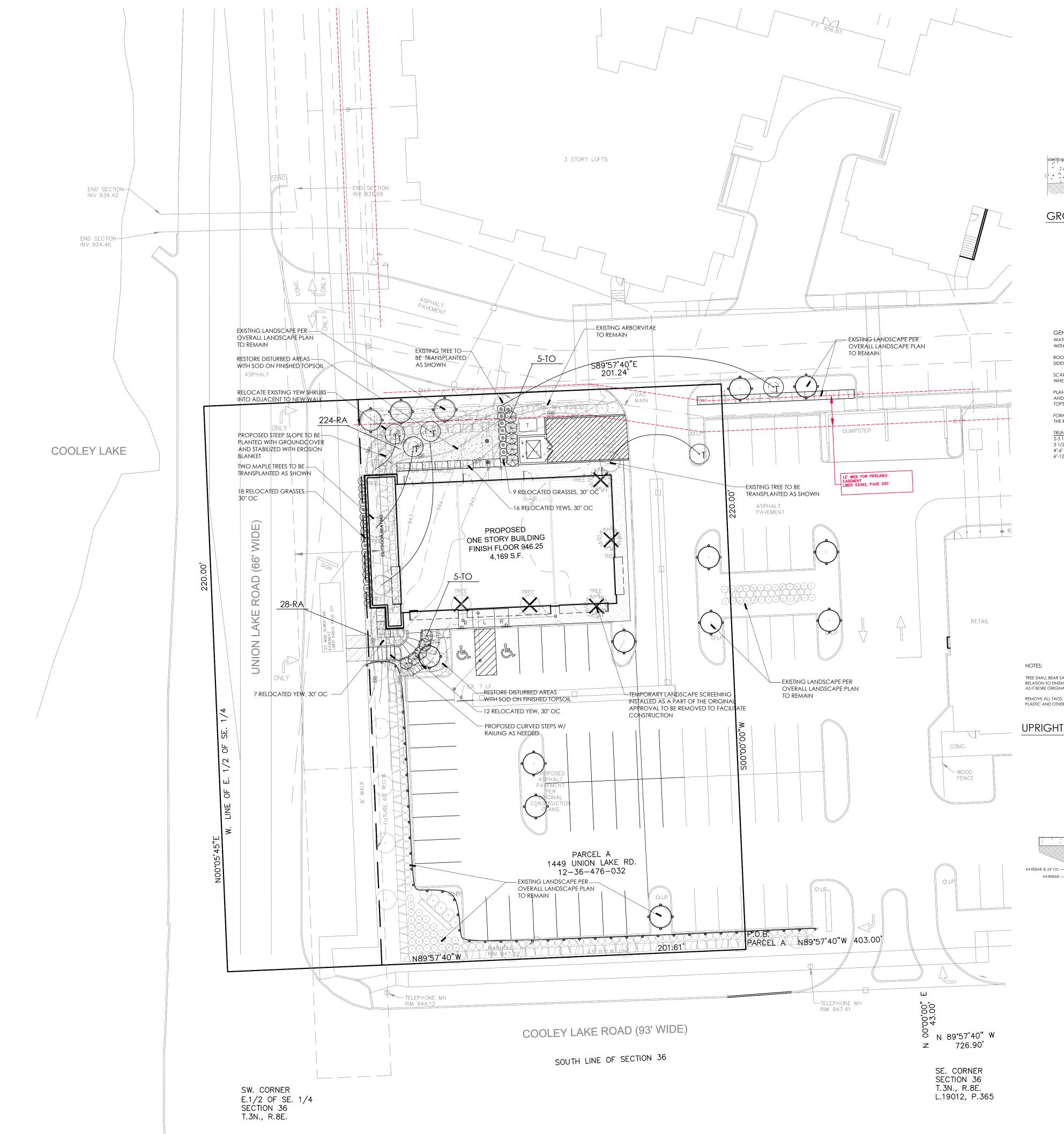
DRAWN BY:
M. Kurmas
DESIGNED BY:
M. Kurmas
APPROVED BY:
M. Peterson
DATE:

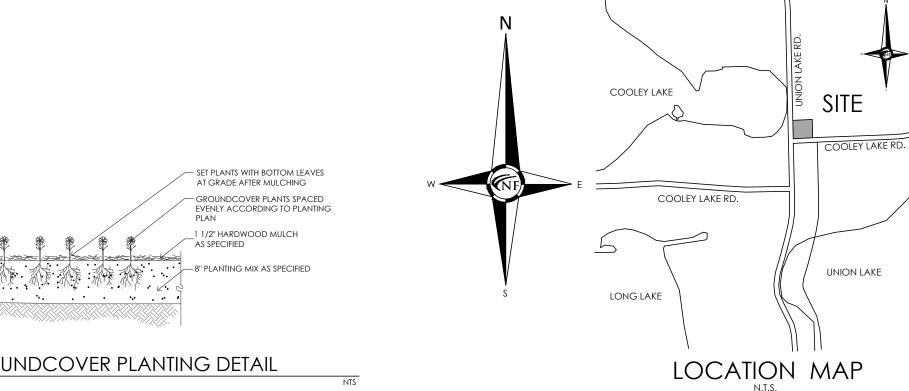
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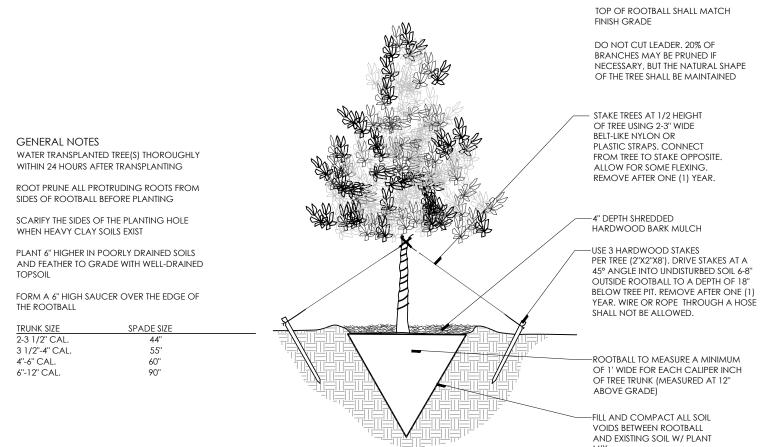
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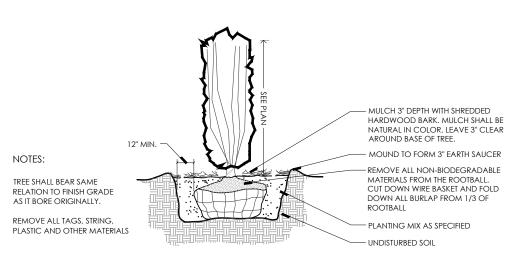




GROUNDCOVER PLANTING DETAIL



TREE TRANSPLANTING DETAIL



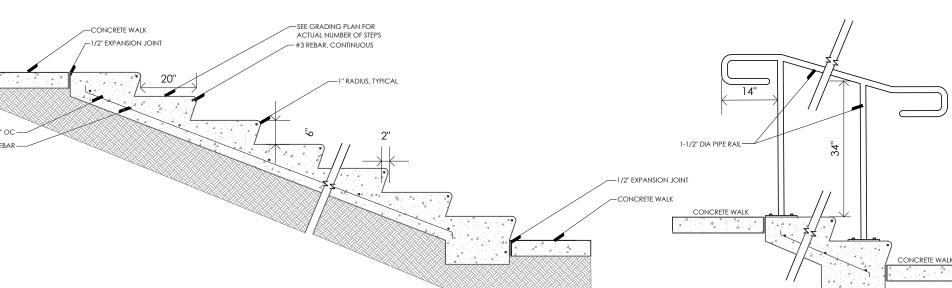
UPRIGHT EVERGREEN SHRUB PLANTING DETAIL

GENERAL SOD NOTE:

ALL LAWN AREAS DESIGNATED TO BE SODDED, SHALL BE SODDED WITH A BLENDED DURABLE BLUEGRASS SOD, TYPICALLY GROWN IN THE REGION. ALL TURF SHALL BE PLACED ON A MINIMUM 3" PREPARED TOPSOIL, AND WATERED DAILY UNTIL ESTABLISHMENT. IN AREAS SUBJECT TO EROSION, SODDED LAWN SHALL BE STABILIZED WHERE NECESSARY, AND LAID PERPENDICULAR TO SLOPES SOD INSTALLATION SHALL OCCUR ONLY: SPRING: APRIL1 TO JUNE1 FALL: AUGUST 15 TO OCTOBER 15

PLANT MATERIAL NOTE:

ALL EXISTING PLANT MATERIAL ON-SITE SHALL BE TRANSPLANTED AS SHOWN OR ELSEWHERE ON-SITE AT THE DIRECTION OF OWNER OR OWNER'S REPRESENTATIVE. WHERE EXISTING PLANT MATERIAL IS IN GOOD CONDITION AND DIES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING THE MATERIAL IN-KIND. THE CONTRACTOR SHALL FAMILIARIZE HIM/HERSELF WITH SITE AND PROPOSED LOCATIONS, AND PLAN AND COORDINATE A STOCKPILE LOCATION WITH THE GENERAL CONTRACTOR.

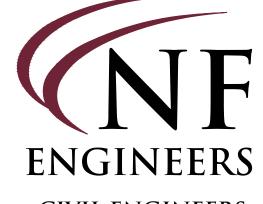


PROPOSED CONCRETE STEP DETAIL

PROPOSED HANDRAIL DETAIL

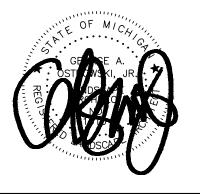
$DI \Delta NIT$	SCHEDULE	
	JOHLDULL	

KEY	QTY	BOTANICAL/COMMON NAME	SIZE	SPACING	ROOT	COMMENT
SHRUBS						
ТО	10	Thuja occidentalis 'Smaragrd' Emerald Green Arborvitae	6' HT	30" OC	B&B	
GROUN	DCOVER					
RA	252	Rhus aromatica 'Low-Grow' Low Grow Fragrant Sumac	3 GAL	24" OC	CONT	TRIANGULAR SPACING



CIVIL ENGINEERS LAND SURVEYORS LAND PLANNERS

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PROJECT 4 Corners Square LLC 1449 Union Lake Road White Lake Township

CLIENT **VERITAS** 29580 Northwestern Hwy, **Suite 1000** Southfield, Michigan 48075

Contact: Shakir W. Alkhafaji, President Phone: (248) 559-5555

PROJECT LOCATION Part of the E. 1/2 of the SE. 1/4 of Section 8 T.3N., R.8E. White Lake Township, Oakland County, Michigan

SHEET Landscape Plan

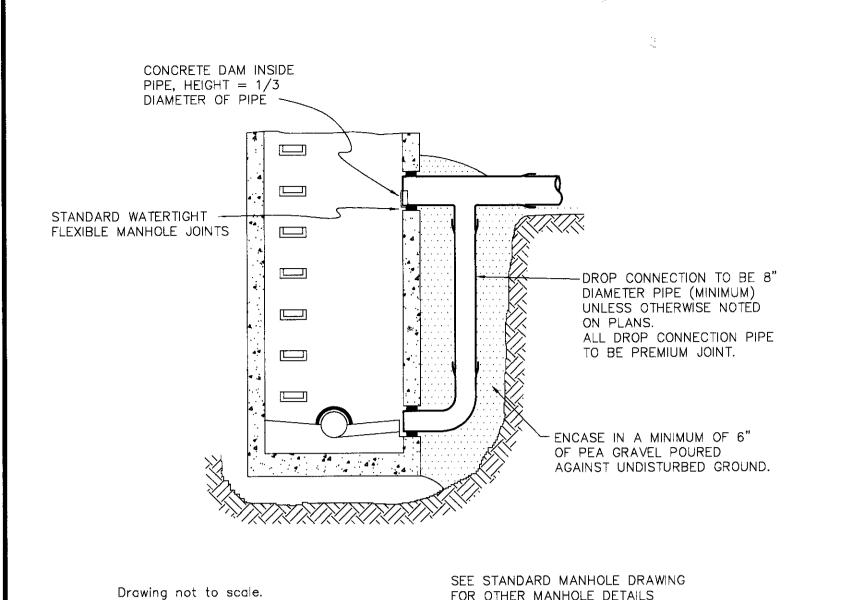


DATE ISSUED/REVISED 10-14-21 ISSUED FOR SITE PLAN REVIEW 11-08-21 REVISED PER SITE PLAN REVIEW

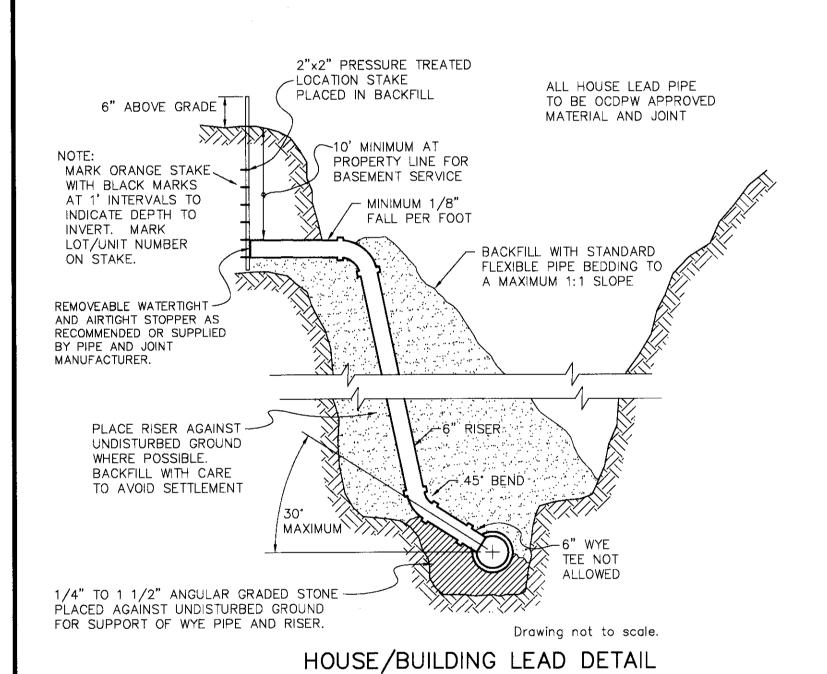
DRAWN BY:
G. Ostrowski
DESIGNED BY:
G. Ostrowski
APPROVED BY:
G. Ostrowski
DATE.

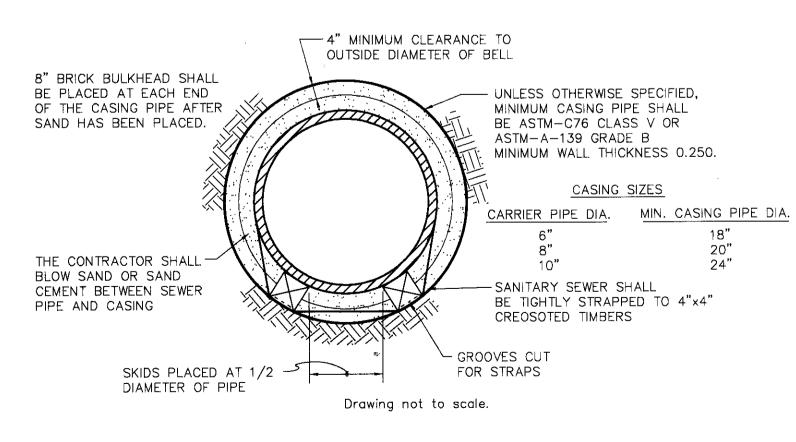
08-25-2021 SCALE: 1'' = 20'NFE JOB NO. SHEET NO. J635-03 **L1**

DESIGN: OA

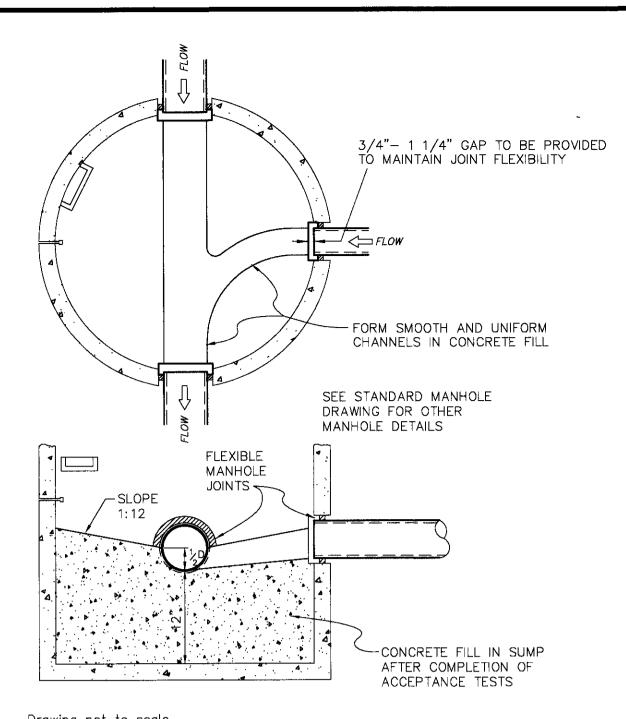


EXTERIOR DROP CONNECTION

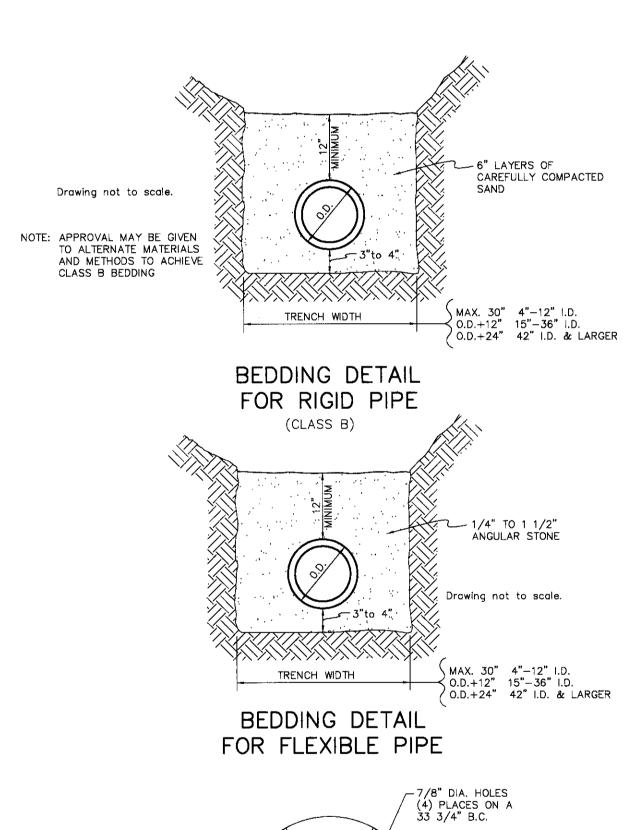


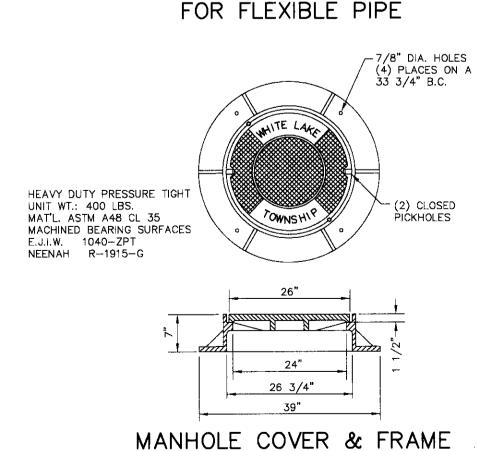


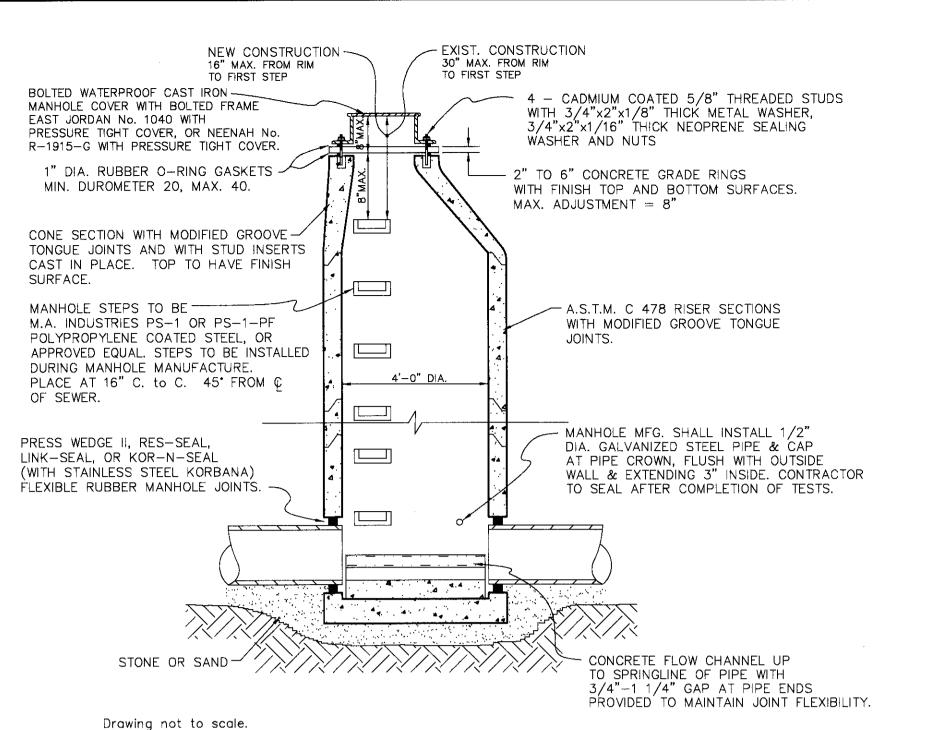
PIPE BARREL SUPPORT FOR SEWER



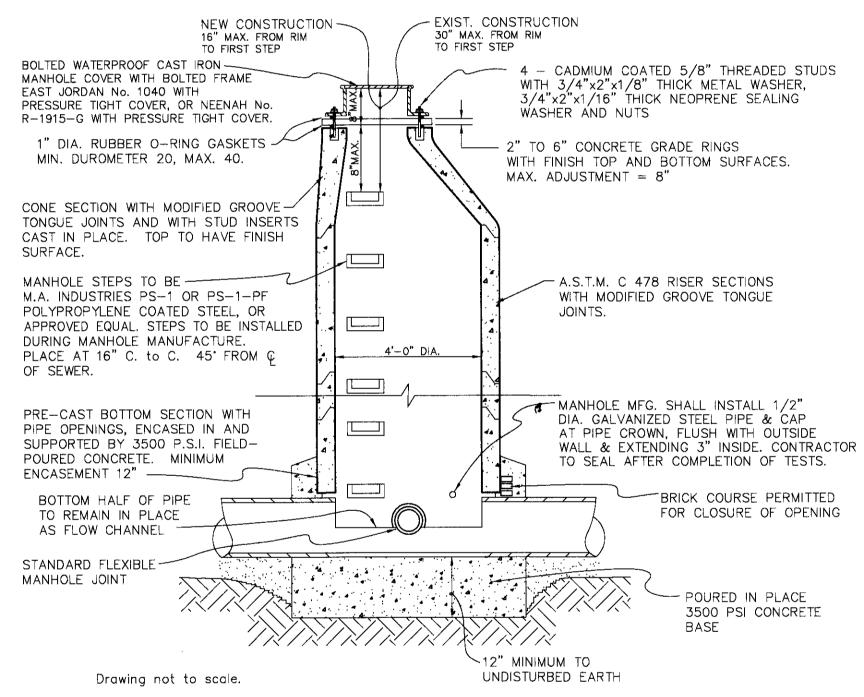
Drawing not to scale. SUMP MANHOLE FOR TESTING, CLEANING, AND DEWATERING



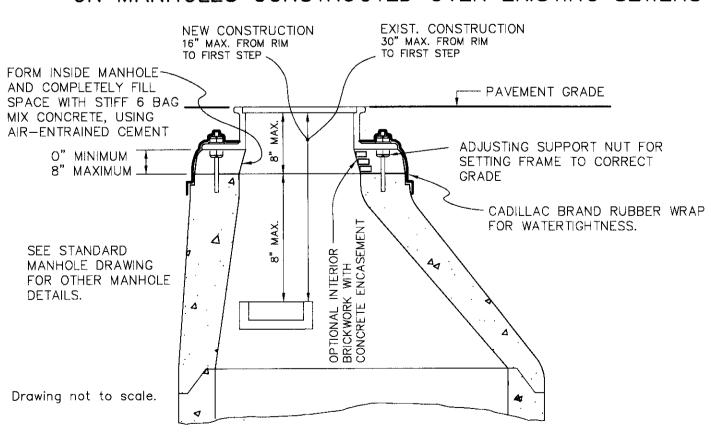




STANDARD MANHOLE ON 8" THROUGH 24" DIAMETER SEWERS



SKETCH OF MINIMUM MANHOLE REQUIREMENTS ON MANHOLES CONSTRUCTED OVER EXISTING SEWERS



OPTIONAL CONSTRUCTION DETAILS

SANITARY SEWER CONSTRUCTION NOTES

- 1. All construction shall conform to the current standards and specifications of the local unit of government and the Oakland County Drain Commissioner (O.C.D.C.). All sanitary sewer construction shall have full time inspection supervised by a professional engineer provided by or caused to be provided by the local unit of government.
- 2. At all connections to Oakland County Drain Commissioner's sewers or extensions, and before start of construction, the Contractor must obtain a Sewer Inspection Permit issued by the O.C.D.C. Gravity sewer permit charges are \$150.00 for each connection plus \$15.00 for each manhole constructed. Pressure sewer permit charges are \$250.00 per 2460 l.f. of force main with a minimum permit fee of \$250.00. Failure to pass any test segment will result in an additional charge to the Contractor for each retest in accordance with the above price schedule. The Contractor shall also have posted with the O.C.D.C. a \$5,000.00 surety bond and \$500.00 cash deposit. The Contractor shall notify the local unit of government and the O.C.D.C. 24 hours prior to the beginning of any construction. Final air tests must be witnessed by County personnel and must be scheduled in advance.
- 3. No sewer installation shall have an infiltration exceeding 200 gallons per inch diameter per mile of pipe in a 24 hour period, and no single run of sewer between manholes shall exceed 250 gallons per inch diameter per mile. Air tests in lieu of infiltration tests shall be as specified in the O.C.D.P.W. "Acceptance Tests", dated September, 1972. Only pipe and pipe joints approved by the Oakland County Drain Commissioner may be used for sanitary sewer construction.
- 4. At all connections to an existing Oakland County Drain Commissioner sewer or extension thereto a watertight bulkhead with a capped 1-inch diameter pipe to permit measuring infiltration shall be provided. A temporary 12-inch deep sump shall also be provided in the first manhole above the connection which will be filled in after such successful completion of any infiltration test up to the standard fillet provided for the flow channel.
- 5. All building leads and risers shall be 6-inch S.D.R. 23.5 ABS OR PVC pipe with chemically fused joints, or an approved equal pipe and joint. Sewer pipe wye or tee openings shall contain factory installed premium joint material of an approved type compatible with that of the building lead pipe used. Building leads to be furnished with removable air tight and water—tight
- 6. All rigid sewer pipe shall be installed in Class "B" bedding or better. All flexible, semi-flexible or composite sewer pipe shall be installed in conformance to the Oakland County Drain Commissioner specifications.
- 7. All new manholes shall have Oakland County Drain Commissioner approved flexible, water—tight seals where pipes pass through walls. Manholes shall be of precast sections with modified groove tongue and rubber gasket type joints. Precast manhole cone sections shall be Oakland County Drain Commissioner approved modified eccentric cone type. All manholes shall be provided with bolted, water-tight covers
- 8. At all connections to manholes on Oakland County Drain Commissioner's sewers or extensions thereto drop connections will be required when the difference in invert elevations exceeds 18-inches. Outside drop connections only will be approved.
- 9. Taps to existing manholes shall be made by coring. The Contractor shall place a KOR-N-SEAL boot (or O.C.D.C. approved equal) after coring is completed. Blind drilling will not be permitted in lieu of coring.
- 10. New manholes constructed directly on Oakland County Drain Commissioner's sewers shall be provided with covers reading "Oakland County — Sanitary" in raised letters. New manholes built over an existing sanitary sewer shall have monolithic poured bottoms.
- 11. No ground water, storm water, construction water, downspout drainage or weep tile drainage shall be allowed to enter any sanitary sewer installation.
- 12. Prior to excavation, the Contractor shall telephone MISS DIG (647—7344) for the location of underground pipeline and cable facilities, and shall also notify representatives of other utilities located in the vicinity of the work.
- 13. 18" minimum vertical separation and 10' minimum horizontal separation must be maintained between sanitary sewer and water
- 14. Manhole frame and cover shall be as follows: East Jordan heavy manhole cover, base flange type #1040 or Neenah Foundry heavy duty #R-1642 manhole frame. Solid lid cover shall be non-rocking and marked "WHITE LAKE TOWNSHIP SEWER DEPARTMENT."

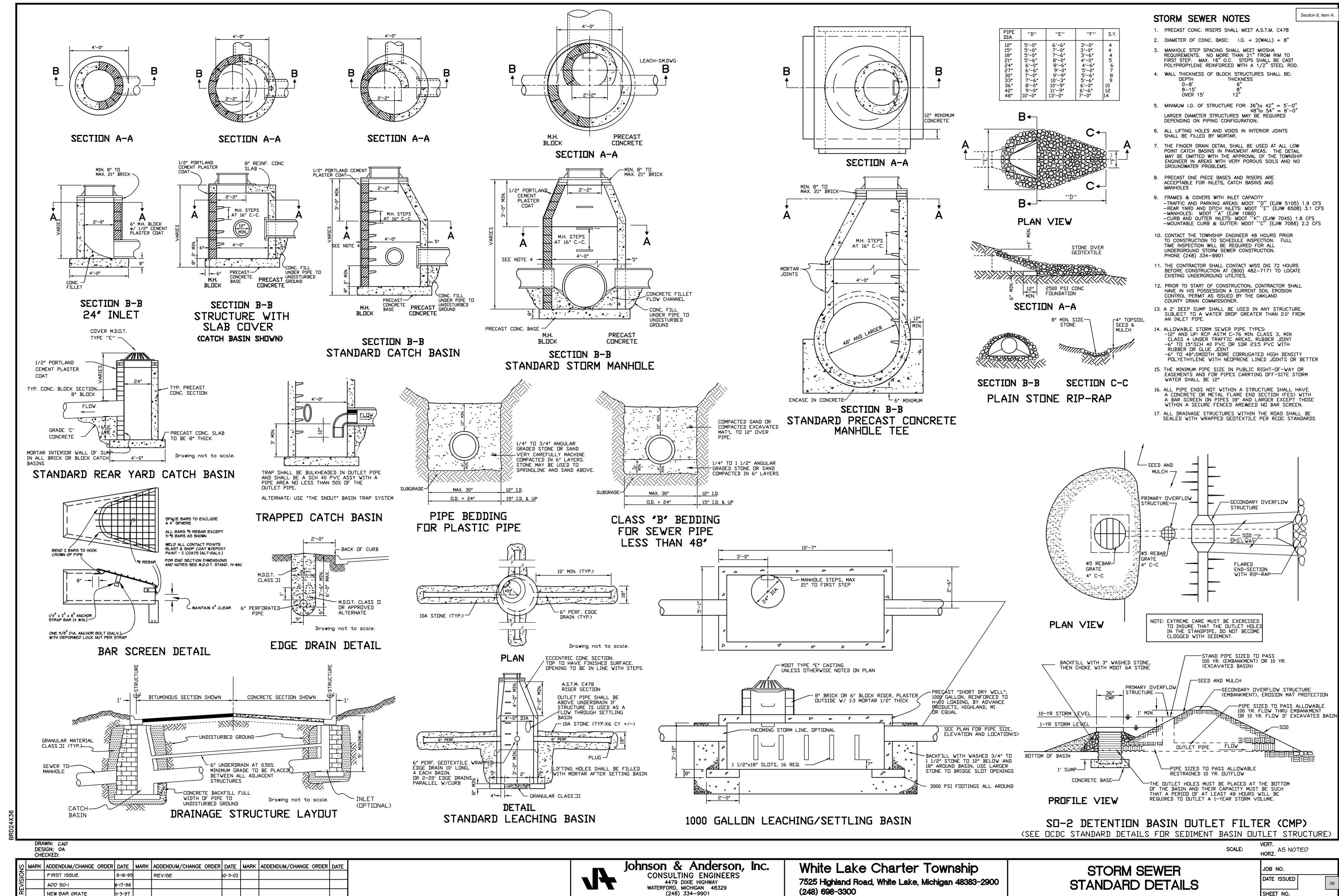
HORZ. AS NOTED SCALE:

JOB NO.

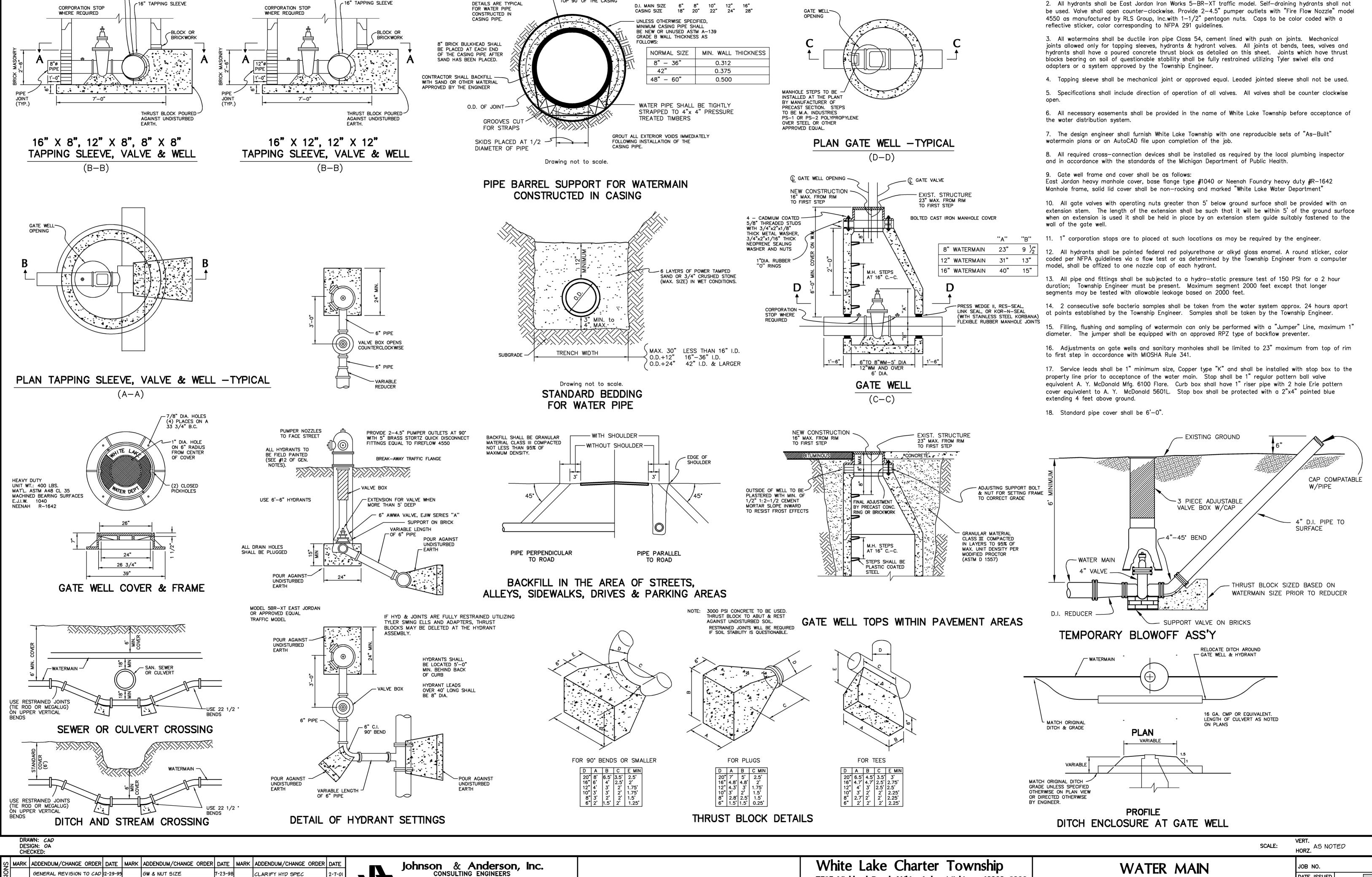
9-11-97

CHECKED: MARK ADDENDUM/CHANGE ORDER DATE MARK ADDENDUM/CHANGE ORDER DATE MARK ADDENDUM/CHANGE ORDER DATE Johnson & Anderson, Inc. CONSULTING ENGINEERS FIRST ISSUE 9-11-97 4479 DIXIE HIGHWAY WATERFORD, MICHIGAN 48329 (248) — 334—9901

White Lake Charter Township 7525 Highland Road, White Lake, Michigan 48383-2900 (248) 698-3300



SHEET NO.



--- 4" MIN. CLEARANCE BETWEEN MAX. O.D.

AT A JOINT OF THE PIPE AND THE I.D. OF THE CASING PIPE FOR THE TOP 90° OF THE CASING

DETAILS ARE TYPICAL

ADD NOTE 17

REVISE HYD & THRUSTING 5-18-98

-8" TAPPING SLEEVE

12" TAPPING SLEEVE

16" TAPPING SLEEVE

PIPE COVER & FLANGE TAPE 5-12-99

7-6-99

ADD BLOWOFF

5-BR HYD, WS STAKE

MECHANICAL JOINT TAPPING

─12" TAPPING SLEEVE -16" TAPPING SLEEVE

SLEEVE ONLY, LEAD JOINT SLEEVE NOT ACCEPTABLE

MECHANICAL JOINT TAPPING

SLEEVE ONLY, LEAD JOINT SLEEVE NOT ACCEPTABLE

4479 DIXIE HIGHWAY WATERFORD, MICHIGAN 48329 (248) — 334—9901

7525 Highland Road, White Lake, Michigan 48383-2900 (248) 698-3300

STANDARD DETAILS

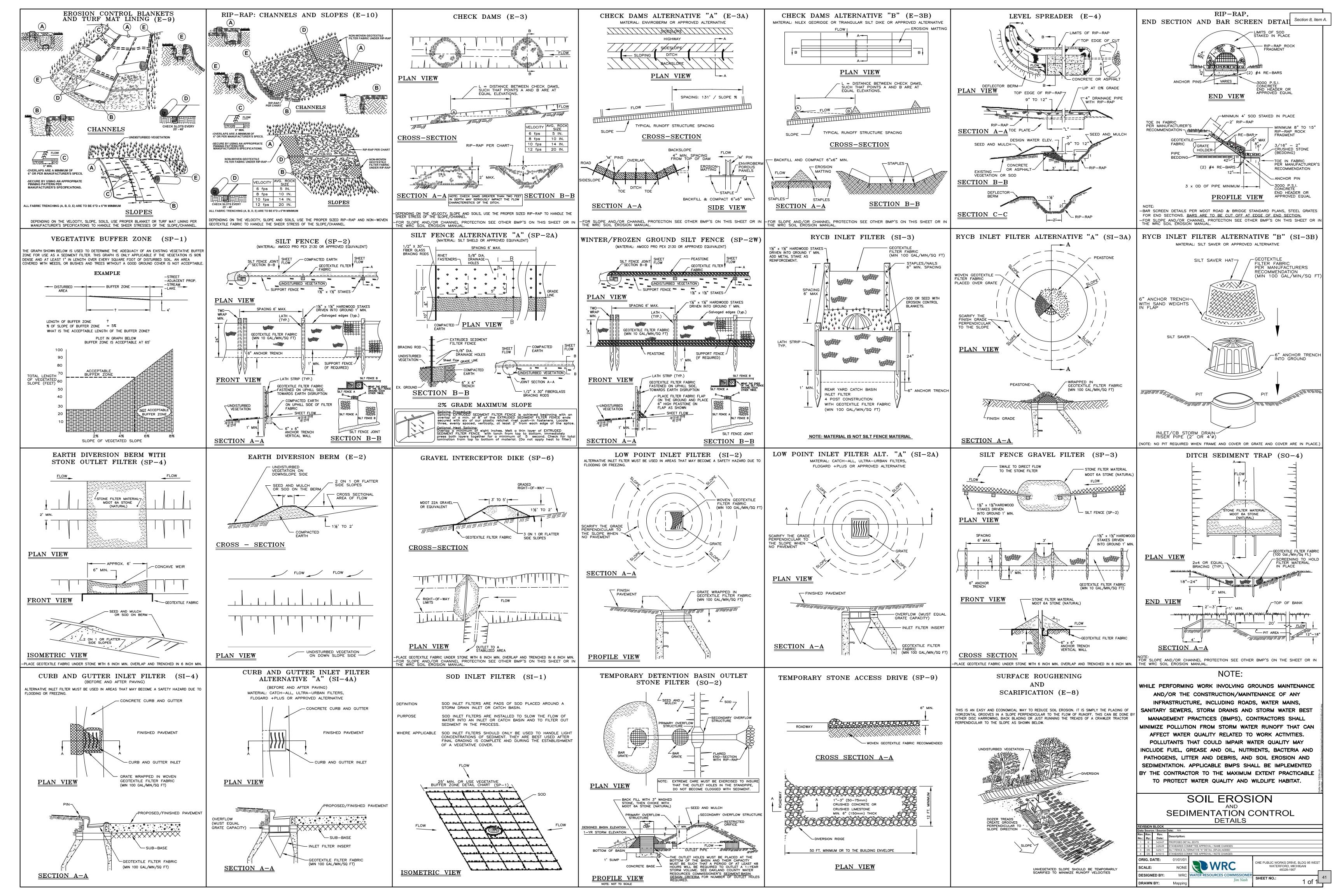
WATER MAIN NOTES

current standards and specifications

1. All construction procedures and materials used on this project shall conform to White Lake Township

DATE ISSUED SHEET NO.

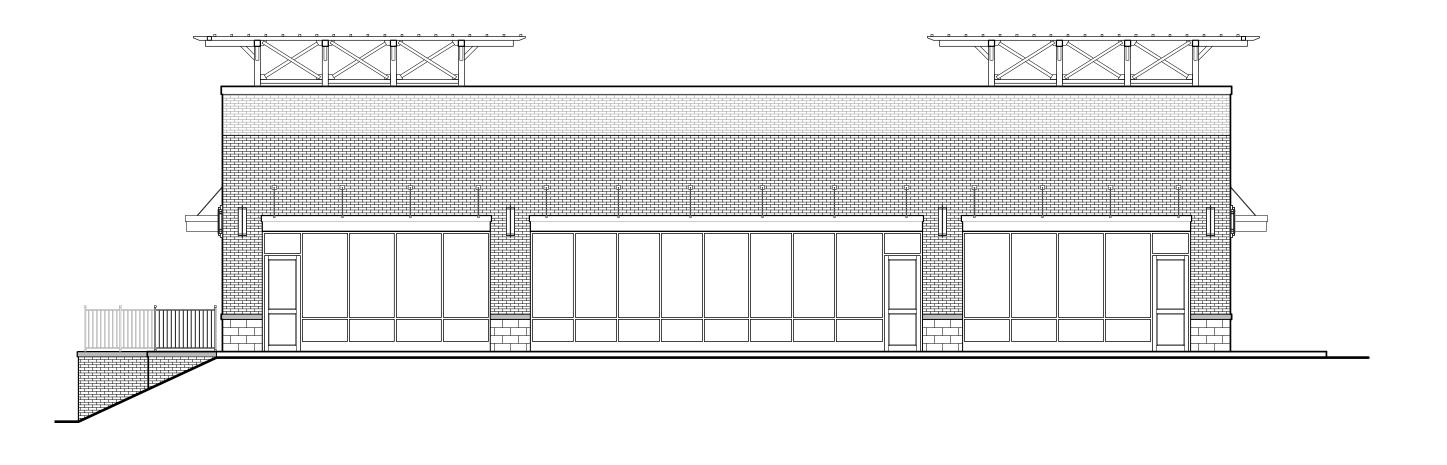
Section 8, Item A.



NEW RETAIL CENTER SHELL FOR:

WHITE LAKE DEVELOPMENT

COOLEY LAKE AND UNION LAKE ROADS WHITE LAKE, MICHIGAN PHASE 3 PERMITS



CIVIL



Nowak & Fraus Engineers 46777 Woodward Ave. Pontiac, MI 48342-5032 Tel. (248) 332-7931 Fax. (248) 332-8257



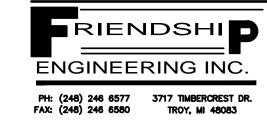
ASSOCIATES

SHEET INDEX

DESIGN RESIDENTIAL COMMERCIAL INDUSTRIAL

24001 ORCHARD LAKE RD., SUITE #180A FARMINGTON, MICHIGAN 48336 PHONE (248) 985-9101

STRUCTURAL



CONSULTING ENGINEER STRUCTURE

Friendship Engineering 3717 TIMBERCREST DRIVE TROY, MICHIGAN, 48083 PHONE (248) 246-6577 FAX (248) 246-6580

PROJECT INFORMATION

PROJECT NUMBER: 21096

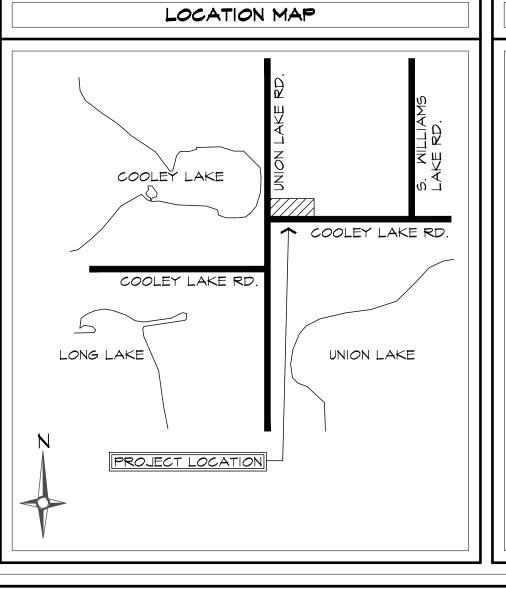
PROJECT LOCATION: COOLEY LAKE & UNION LAKE ROADS WHITE LAKE, MICHIGAN

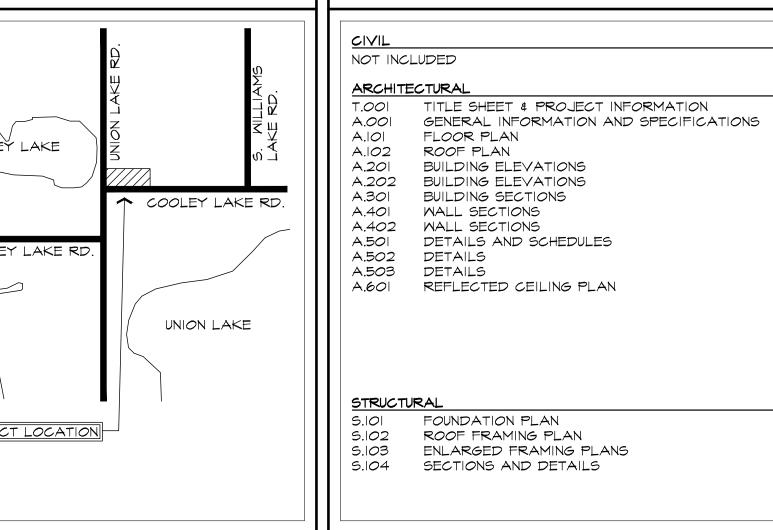
DESIGN FIRM:

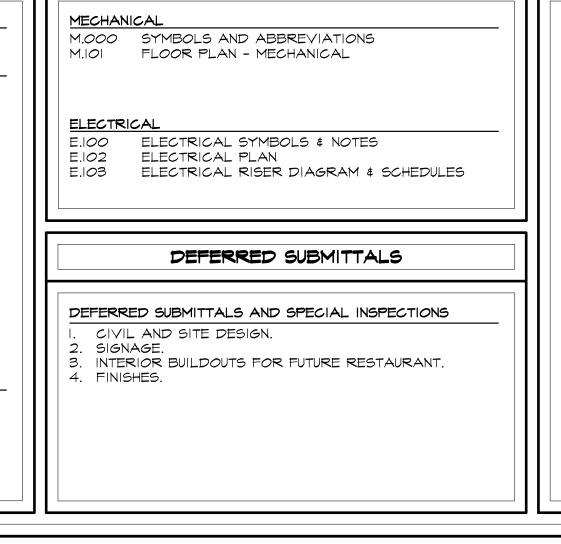
AND APPROVAL.

GAV \$ ASSOCIATES, INC. 24001 ORCHARD LAKE RD FARMINGTON, MI 48336 PHONE: (248) 985-9101

- THE DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE: SAMIR M. KARIM, MI LIC. #1301038452 2. THESE CONSTRUCTION DOCUMENTS WERE PREPARED FOR COMPLIANCE WITH THE MICHIGAN CONSTRUCTION CODES IN EFFECT AT THE TIME OF PERMIT SUBMITTAL. ALL ENGINEERS, CONTRACTORS AND SUPPLIERS
- INVOLVED WITH THIS PROJECT SHALL COMPLY WITH THE SAME CODES, ISSUED AND APPROVED CODE MODIFICATIONS AND/OR WHITE LAKE TOWNSHIP / STATE OF MICHIGAN CONSTRUCTION BOARDS OF APPEALS RULINGS AND WHENEVER REQUIRED SHALL PROVIDE SHOP DRAWINGS AND SUBMITTALS CLEARLY DESCRIBING COMPLIANCE TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE FOR REVIEW
- 3. ALL APPLICABLE GOVERNMENTAL AGENCIES, SUCH AS MDOT, OAKLAND COUNTY, UTILITY SERVICES, ETC. SHALL HAVE DRAWINGS SUBMITTED FOR REVIEW FOR ENGINEERING APPROVAL AT THE TIME OF PERMIT SUBMITTAL.



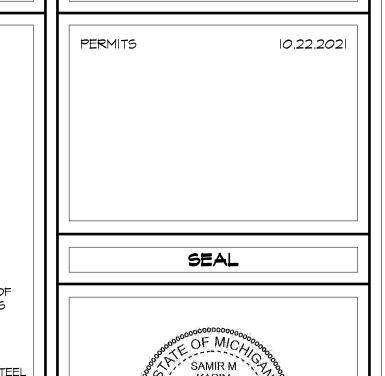




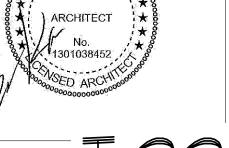
SHEET INDEX (CONTINUED)

AFF	ABOVE FINISH FLOOR	DN	DOWN	INSUL.	INSULATION	TC	TOP CHORD
ALUM	ALUMINUM	DS	DOWN SPOUT	JST	JOIST	T & B	TOP AND BOTTOM
ANOD	ANODIZED	DMG	DRAWING	JT	JOINT	TBL	TOP OF BRICK LEDGE
ACT	ACOUSTICAL TILE	EA	EACH	LD	LIVE LOAD	T.O.S.	TOP OF TOP OF STEEL
BC	BOTTOM CHORD	E.C.	ELEC. CONTRACTOR	LP	LIGHT POLE	T.O.P.	TOP OF PIER
BRD	BOARD	EF	EACH FACE	MAS	MASONRY	T.O.M.	TOP OF WALL
BFF	BELOW FINISH FLOOR	E.J.	EXPANSION JOINT	MAX	MAXIMUM	TYP	TYPICAL
BLK	BLOCK	ELEC	ELECTRICAL	MCM	METAL COMPOSITE	U.N.O.	UNLESS NOTED
BM	BEAM	ELEV	ELEVATION		MATERIAL		OTHERWISE
B.O.	BOTTOM OF	EXH	EXHAUST	MECH.	MECHANICAL	VIF	VERIFY IN FIELD
BOF	BOTTOM OF FOOTING	EX/EXIS	ST EXISTING	MIN	MINIMUM	W/	MITH
B.U.	BUILT UP	EXT	EXTERIOR	MTL.	METAL	MD	MOOD
CAB	CABINET	EM	EACH WAY	0.D.	ON CENTER	MME	WELDED WIRE FABRIC
C.B.	CATCH BASINS	F&I	FURNISH AND INSTALL	OPH	OPPOSITE HAND		
C	COLD	FD	FLOOR DRAIN	NIC	NOT IN CONTRACT		
CER	CERAMIC	FFE	FINISH FLOOR	NTS	NOT TO SCALE		
C.J.	CONTROL JOINT		ELEVATION	PL	PLATE		
C.L.	CENTER LINE	FND.	FOUNDATION	PSF	POUNDS PER SQUARE	AASHO	AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS
CLG	CEILING	FO	FINISHED OPENING		FOOT	A.I.A	AMERICAN INSTITUTE FOR
CLOS	CLOSET	FOF	FACE OF FINISH	PSI	POUNDS PER SQUARE	A.I.A	ARCHITECTS
C.O.	CLEAN OUT	FOG	FACE OF GYPSUM		INCH	ASTM	AMERICAN SOCIETY FOR
CM	CONSTRUCTION	FOM	FACE OF MASONRY	PT	PAINT		TESTING MATERIALS
	MANAGER	FTG	FOOTING	RA	RETURN AIR	AISC	AMERICAN INSTITUTE OF STEEL
COL	COLUMN	FS	FLOOR SINK	RD	ROOF DRAIN		CONSTRUCTION
CONC	CONCRETE	GALV	GALVANIZED	REINF	REINFORCMENT	CRSI	CONCRETE REINFORCING
CONT	CONTINUOUS	GC	GENERAL	REQ	REQUIRED	MBC	SOCIETY INSTITUTE. MICHIGAN BUILDING CODE
DEFS	DIRECT APPLIED		CONTRACTOR	RO	ROUGH OPENING	MMC	MICHIGAN MECHANICAL CODE
	FINISH SYSTEM	GL	<i>G</i> LASS	SA	SUPPLY AIR	MPC	MICHIGAN PLUMPING CODE
DET	DETAIL	<i>G</i> ₿	GRAB BAR	SIM	SIMILAR	MEC	MICHIGAN ELECTRICAL CODE
DIM	DIMENSION	GYP	GYPSUM	STL	STEEL	NFPA	NATIONAL FIRE PROTECTION
DIA	DIAMETER	HM	HOLLOWED METAL	STOR	STORAGE		ASSOCIATION
DL	DEAD LOAD	HVAC	HEATING & VENT.	TB	TOMEL BAR	UL	UNDERWRITERS LABORATORIES

ABBREVIATIONS:



ISSUED FOR



SITE REQUIREMENTS

MAXIMUM BUILDING HEIGHT 25'-0" 22'-1" PROPOSED BUILDING HEIGHT

BUILDING DATA

GROSS FLOOR AREA 3,893 GSF

CODE REVIEW & BUILDING ANALYSIS:

 THESE BUILDING PLANS ARE BEING SUBMITTED FOR THE PROPOSED ONE STORY RETAIL SHELL BUILDING ONLY. INTERIOR BUILD OUT SHALL BE SUBMITTED IN FUTURE SUBMITTALS. COORDINATE WITH OWNER ANY FUTURE BUILD OUT (S) BASED ON USE GROUPS AND AS PERMITTED PER CURRENT APPLICABLE LOCAL AND STATE CODES. THIS INCLUDES, BUT NOT LIMITED TO, THE CONSTRUCTION OF THE TENANT DEMISING WALLS

GENERAL CONTRACTOR TO COMPLY WITH ALL FEDERAL, STATE, CITY AND LOCAL CODES WHERE APPLICABLE. ALL NEW CONSTRUCTION SHALL COMPLY TO THE FOLLOWING .:

- 2015 MICHIGAN BUILDING CODE (MBC).
- 2015 MICHIGAN MECHANICAL CODE (MMC).
- 2015 MICHIGAN PLUMBING CODE (MPC).
- 2014 MICHIGAN ELECTRICAL CODE PT8 (NEC) 2017 NATIONAL ELECTRICAL CODE (NEC).
- 2009 ICC/ANSI AII7.I AND MICHIGAN BARRIER FREE DESIGN LAW P.A. I OF
- 2015 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) WITH 2013 ASHRAE STANDARD 90.1 STANDARD INCLUDING AMENDMENTS.
- 2015 MICHIGAN UNIFORM ENERGY CODE, PART 10a (MEC
- 2010 FIRE SUPPRESSION NFPA 13
- 2013 FIRE ALARM CODE NFPA 72
- 2012 INTERNATIONAL FIRE CODE (IFC) 2015 INTERNATIONAL FUEL GAS CODE (IFGC)
- PROJECT SHALL COMPLY WITH MBC 2015 CHAPTER 35 REFERENCE STANDARDS.
- WHITE LAKE TOWNSHIP ZONING ORDINANCE AND CODES

SITE WORK

REFER TO CIVIL DRAWINGS FOR ALL SITE INFORMATION. CIVIL DRAWINGS SHALL OVERRIDE THE SITE NOTES IN THIS SECTION.

GENERAL SITE NOTES:

- "OWNER AGREES TO SEASONAL MAINTENANCE PROGRAM AND WILL REPLACE ALL DISEASED, DEAD OR DAMAGED PLANTS, REPLENISH MULCH, CONTROL WEEDS FERTILIZE AND PRUNE, BEGINNING UPON COMPLETION OF CONSTRUCTION OF LANDSCAPING.
- 2. "ANY HAZARDOUS MATERIALS PRODUCED, STORED OR OTHERWISE ON PREMISE WILL BE HANDLED PER APPLICABLE RULES AND REGULATIONS.
- 3. OWNER AGREES TO PICK-UP DEBRIS WITHIN PROPERTY LIMITS WEEKLY OR AS
- 4. PAVED SURFACES, WALK WAYS, SIGNS, LIGHTING AND OTHER STRUCTURES AND SURFACES SHALL BE MAINTAINED IN A SAFE ATTRACTIVE CONDITION AS ORIGINALLY DESIGNED AND CONSTRUCTED. PARKING LOT STRIPING AND MARKINGS SHALL BE MAINTAINED IN A CLEARLY VISIBLE MANNER.
- 5. THERE WILL BE NO OUTDOOR STORAGE.
- 6. THERE ARE NO EXISTING WETLANDS ON-SITE.
- 7. ALL LIGHTING ON THE SITE SHALL BE SHIELDED AND NOT ENCROACH UPON ABUTTING PROPERTIES OR RIGHT-OF-WAYS. THE LIGHT POLES SHALL BE NO HIGHER THAT 20 FEET. ALL GLARE SHALL BE ELIMINATED FROM ALL LIGHT FIXTURES. UPWARD DIRECTED LIGHTING SHALL NOT BE PERMITTED.
- 8. ALL LANDSCAPED AREAS SHALL BE AUTOMATICALLY IRRIGATED.
- FIRE ACCESS TO BE MAINTAINED DURING CONSTRUCTION. 10. ON-SITE HYDRANT LOCATIONS SHALL BE APPROVED BY THE FIRE MARSHALL
- PRIOR TO ENGINEERING APPROVAL. ON-SITE HYDRANTS MAY BE REQUIRED.
- II. PROPOSED BUILDING TO COMPLY WITH MBC 2015 SECTION 309. 12. ALL BARBED WIRE AND SUPPORTS FOR BARBED WIRE ARE PROHIBITED ON THE
- SITE.
- 13. ALL OUTDOOR RETAIL SALES OF ITEMS SHALL BE PROHIBITED ON THE SITE.

GENERAL CONDITIONS:

- . THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERALLY THE LOCATIONS OF MATERIAL AND EQUIPMENT. THESE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE. CONSTRUCTION MANAGER IS RESPONSIBLE FOR REVIEWING, COORDINATING AND APPROVING ALL WORK TO BE DONE BY CONTRACTORS. ANY SUBMITTAL TO ARCHITECT / ENGINEER SHALL BE REVIEWED BY THE C.M. BEFORE SUBMITTING TO ARCHITECT / ENGINEER.
- 2. BUILDING SHALL HAVE A NEW FIRE ALARM SYSTEM PER ELECTRICAL DRAWINGS AND THE SYSTEM SHALL COMPLY WITH 2015 MBC AND ALL APPLICABLE CODES. 3. ALL EXTERIOR WOOD, PLYWOOD, ETC. SHALL BE PRESERVATIVE TREATED.
- 4. CONSTRUCTION MANAGER AND THE CONTRACTORS SHALL COMPLY WITH ALL CODES CURRENTLY IN EFFECT IN THE CITY OF AUBURN HILLS AND THE STATE OF
- 5. CONFORM TO A.I.A. DOCUMENT NO. A-201, LATEST EDITION, AND COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES, LAWS, RULES AND REGULATIONS.
- 6. ALL CONTRACTORS SHALL CARRY ADEQUATE INSURANCE OR OTHERWISE SECURE, PROTECT AND HOLD HARMLESS THE OWNER AND ITS AGENTS AND THE ARCHITECT/ENGINEER FROM ANY LIABILITY OR DAMAGE WHATSOEVER, FOR INJURY (INCLUDING DEATH) TO ANY PERSON OR PROPERTY.
- 7. SUSPENDED ACOUSTICAL CEILING TILES AND GRID SYSTEM SHALL COMPLY NFPA 101 2012 AND MBC 2015.
- 8. GRID WORK SHALL BE SUPPORTED WITH A MINIMUM OF 2-12 GA. HANGER WIRES TO STRUCTURE ABOVE. 9. PROVIDE A KNOX BOX FOR FIRE DEPARTMENT ACCESS. LOCATE ON BUILDING. AS
- PER FIRE MARSHALL IO.INSTALL 6" HIGH ADDRESS NUMBERS WHICH ARE VISIBLE FROM THE STREET
- VERIFY LOCATION WITH FIRE MARSHAL. II. ALL WALLS SHALL EXTEND UP TO AND BE SEALED TO THE UNDERSIDE OF FLOOR /
- ROOF DECK. 12. CONTRACTOR SHALL PROVIDE ALL NECESSARY SIGNAGE PER SECTION 1109 OF
- THE 2015 MBC AND SECTION 703 OF THE ANSI A117.1.
- 13. ALL PROTRUDING OBJECTS ON CIRCULATION PATHS SHALL COMPLY WITH SECTION 307 OF THE ANSI A117.1-2009
- 14. ANY RATED WALL THAT HAS PROTECTED OPENINGS OR PENETRATIONS SHALL BE PERMANENTLY IDENTIFIED ABOVE CEILING WITH SIGNS OR STENCILING @ NOT LESS THAN 30'-0" O.C. ALONG THE HORIZONTAL DIMENSION. LETTERS SHALL NOT BE LESS THAN 0.5" IN HT. AND CONTAIN THE WORDS "FIRE & SMOKE
- BARRIER-PROTECT ALL OPENINGS".ALL PENETRATIONS IN WALLS FOR PIPING. 15.15. ALL PENETRATIONS IN RATED WALLS SHALL BE SEALED W/ APPLICABLE FIRE RATED SEALANT, STOP, OR OTHER APPROVED METHOD PER I.F.C. 2012 ANY PENETRATIONS SHALL BE SEALED WITH FIRE RATING EQUIVALENT TO PENETRATED SYSTEM.

GENERAL CONDITIONS (CONTINUED)

- 16. A PORTABLE FIRE EXTINGUISHER MUST BE PRESENT DURING CONSTRUCTION. PERMANENT PORTABLE FIRE EXTINGUISHER LOCATIONS TO BE DETERMINED PER I.F.C. AND FIELD BUILDING INSPECTOR.
- 17. FIRESTOPPING SHALL BE TESTED IN ACCORDANCE WITH ASTM E-814 TEST STANDARDS, CONTRACTOR TO SUBMIT TEST REPORT ATTACHED WITH THE SUBMITTAL COVER SHEET FOR EACH APPLICATION, I.E., FOR EACH KIND OF CONSTRUCTION (RATED FLOOR./CEILING RATED WALLS,ETC.) BEFORE INSTALLATION. FIRESTOPPING INSTALLATION SHALL NOT BE CONCEALED
- WITH FINAL CONSTRUCTION UNTIL APPROVED BY BUILDING INSPECTOR. 18. ALL HAZARDOUS ROOMS TO HAVE DOOR CLOSURE AND SHALL BE SMOKE TIGHT ENCLOSURES IN JANITOR CLOSETS, MECHANICAL / ELECTRICAL ROOMS AND STORAGE ROOMS
- 19. DO NOT SCALE DRAWINGS. USE GIVEN DIMENSIONS ONLY. DIMENSIONS ARE TO THE FACE OF FINISH, U.N.O. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERALLY THE LOCATIONS OF MATERIAL AND EQUIPMENT. THESE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE. GENERAL CONTRACTOR IS RESPONSIBLE FOR REVIEWING, COORDINATING AND APPROVING ALL WORK TO BE DONE BY SUB CONTRACTORS. ANY SUBMITTAL TO ARCHITECT / ENGINEER SHALL BE REVIEWED BY THE G.C. BEFORE SUBMITTING TO ARCHITECT / ENGINEER. IF DIMENSIONS ARE IN QUESTION THE CONTRACTOR IS RESPONSIBLE FOR CONSULTING WITH THE TENANT AND OWNER BEFORE CONTINUING WITH THE WORK FOR POSSIBLE REDESIGN
- 20. VERIFY LOCATION OF ALL EQUIPMENT AND VERIFY SIZES, WALL OPENINGS, AND SUPPORT REQUIREMENTS WITH MANUFACTURER. PROVIDE OPENINGS, BRACING AND REINFORCEMENT AS REQUIRED BY MANUFACTURER.
- 21. CONSTRUCTION MANAGER WILL SUPPLY SECURED STAGING AREA AND OFFICE TRAILER.
- 22. CONSTRUCTION MANAGER WILL COMPLY WITH ENVIRONMENTAL AGENCIES. 23. CONSTRUCTION MANAGER WILL SUPPLY TOILET FACILITIES FOR ALL TRADES.
- 24. CONSTRUCTION MANAGER WILL COMPLY WITH DEWATERING AS NECESSARY 25. CONSTRUCTION MANAGER WILL BE RESPONSIBLE TO KEEP A CLEAN SITE AT
- 26. TEMPORARY BRACING, GUYING AND TIE DOWNS OF THE STRUCTURE DURING ERECTION SHALL BE THE RESPONSIBILITY OF THE ERECTOR AND CONTRACTOR(S). THE ENGINEER AND ARCHITECT ASSUME NO RESPONSIBILITY FOR THE ABSENCE, PRESENCE OR ADEQUACY OF ANY TEMPORARY BRACING. ALL EXISTING STRUCTURES THAT MAY BE AFFECTED BY THE NEW CONSTRUCTION SHALL BE BRACED AND PROTECTED AS REQUIRED.
- 27. WHERE A DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS (UNLESS NOTED OTHERWISE).
- 28. ALL FURRED/ STUDDED WALLS SHALL HAVE FIRE BLOCKING AS REQUIRED BY CODE.
- 29. VERIFY ALL EXISTING FIELD CONDITIONS PRIOR TO COMMENCEMENT OF ANY WORK. VERIFY ALL DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS. IN THE EVENT OF DISCREPANCY, NOTIFY THE G.C. AND/OR THE ARCHITECT AND OBTAIN RESOLUTION BEFORE PROCEEDING. FAILURE TO NOTIFY THE ARCHITECT WILL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO PERFORM THE WORK AS INTENDED BY THE CONTRACT DOCUMENTS. CONTRACTOR(S) SHALL BE RESPONSIBLE FOR ANY AND ALL WORK ARISING FROM SUCH FAILURE TO COORDINATE DISCREPANCIES TO THE SATISFACTION OF THE ARCHITECT
- 31. ALIGN PARTITIONS WITH FACE OF OTHER PARTITIONS OR COLUMNS, UNLESS NOTED OTHERWISE. THE FACE OF EVERY PARTITION SHALL BE FLUSH WITHOUT OFFSETS. CHANGES IN PARTITION THICKNESS SHALL OCCUR AT CORNERS, PARTITION INTERSECTIONS OR OTHER FEATURES WHICH INTERRUPT THE PLANE OF THE PARTITION. FACE OF CORRIDOR PARTITIONS SHALL BE FLUSH FOR THE ENTIRE LENGTH OF THE CORRIDOR REGARDLESS OF CHANGES IN PARTITION THICKNESS, ALL ADJUSTMENTS SHALL BE MADE TO THE ROOM SIDE OF THE CORRIDOR PARTITION AND AT CORNERS.
- 32. ALL GYPSUM BOARD MATERIALS AND ACCESSORIES SHALL CONFORM TO THE APPROPRIATE STANDARDS IN ACCORDANCE WITH TABLE 2506.2 MBC
- 33. REFER TO INTERIOR FINISHES REQUIREMENT ON LIFE SAFETY SHEET A.091 ALL INTERIOR FINISHES SHALL HAVE A CLASS C FLAME SPREAD OF 76 TO 200 AND A SMOKE DEVELOPMENT INDEX NOT GREATER THAN 450 IN ACCORDANCE WITH ASTM E84 OR UL 723. ALL INTERIOR CARPET INCLUDING THOSE IN EXIT ENCLOSURES SHALL COMPLY WITH MBC SECTION 804, DOC FF-I "PILL TEST" (CPSC I6 CFR, PART I630) CONTRACTOR TO PROVIDE COMPLETE DOCUMENTATION TO FIELD INSPECTOR. FLOOR FINISH SHALL MEET A MIN. OF CLASS II FOR THE MIN. CRITICAL RADIANT FLUX INCLUDING THOSE IN EXIT ENCLOSURES. ALL FLOOR FINISHES SHALL BE IN ACCORDANCE WITH NFPA 253.
- 34. ALL EXPOSED INSULATION SHALL HAVE A CLASS A FLAME SPREAD NOT GREATER THAN 25 AND A SMOKE DEVELOPMENT NOT GREATER THAN 450 IN ACCORDANCE WITH ASTM E84 REQUIREMENTS. OWNER TO PROVIDE DOCUMENTATION.
- 35. ALL PLYWOOD, WOOD BLOCKING & NAILERS TO BE NON COMBUSTIBLE. 36. INFILL AROUND ALL EXTERIOR WALL PENETRATIONS. FLASH WITH METAL \$ RUBBER AND SEAL TIGHT AT WALL
- 37. "EXIT" SIGNS SHALL HAVE RED LETTERS AT LEAST 6" HIGH AND THE MINIMUM WIDTH OF EACH STROKE SHALL BE 3/4" ON A WHITE BACKGROUND OR IN OTHER APPROVED DISTINGUISHABLE COLOR. THE WORD "EXIT" EXCEPT THE LETTER "I" SHALL HAVE LETTERS HAVING A MIDTH NOT LESS THEN 2 INCHES AND THE MINIMUM SPACING BETWEEN LETTERS SHALL NOT BE LESS THAN 3/8" OF AN INCH. SIGNS LARGER THAN THE MINIMUM SIZE REQUIRED SHALL HAVE LETTERS WIDTH AND SPACING IN THE SAME PROPORTION TO THE HEIGHT AS INDICATED IN THIS CODE. IF AN ARROW IS PROVIDED AS PART OF AN "EXIT" SIGN, THE CONSTRUCTION SHALL BE SUCH THAT THE ARROW CANNOT BE READILY CHANGED. THE WORD "EXIT" SHALL BE CLEARLY DISCERNIBLE WHEN THE SIGN IS ILLUMINATION MEANS IS NOT ENERGIZED.
- 38. MIN. AVERAGE ILLUMINATION OF 10 FOOTCANDLES IS REQUIRED AT A HEIGHT OF 30" AFF OVER THE AREA OF ALL ROOMS
- DRAWINGS. 40. ALL EXIT DOORS & MEANS OF EGRESS DOORS SHALL BE SIDE HINGED,

39. PROVIDE TYVEK DRAINWRAP SHEET FOR ALL E.F.I.S. WORK INDICATED ON

- NON-LOCKING & SWING IN DIRECTION OF EGRESS. 41. ALL DOORS TO COMPLY WITH THE 2015 EDITION OF THE MICHIGAN BUILDING CODE SECTION 1008 AND ICC/ANSI AII7.I-2009 SECTION 404.2.
- 42. DOOR HANDLES, PLUS LATCH, LOCKS AND OTHER OPERATING MAXIMUM HEIGHT OF 34"-48" ABOVE FINISH FLOOR. OPERATING DEVICES SHALL BE CAPABLE OF OPERATION WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING OR TWISTING OF THE WRIST TO OPERATE. ALL MEANS OF EGRESS WHERE SERVING AN OCCUPANT LOAD OF 50 OR MORE PERSONS. THE OPENING FORCE FOR INTERIOR SIDE-SMING DOORS MITH- OUT CLOSERS SHALL NOT EXCEED 5-POUND FORCE. FOR ALL OTHER SIDE-SWING, SLIDING AND FOLDING DOORS, THE DOOR LATCH SHALL RELEASE WHEN SUBJECT TO A 15-POUND FORCE. THE DOOR SHALL SWING TO A FULL-OPEN POSITION WHEN SUBJECTED TO A 15 POUND FORCE. FORCES SHALL BE APPLIED TO THE LATCHSIDE.
- 43. ALL MEANS OF EGRESS DOORS SHALL BE READILY OPERABLE FROM THE SIDE FROM WHICH EGRESS IS TO BE MADE WITHOUT THE USE OF A KEY, SPECIAL KNOWLEDGE, OR EFFORT.
- 44. ALL EXIT DOORS & MEANS OF EGRESS DOORS SHALL BE SIDE HINGED,
- NON-LOCKING & SWING IN DIRECTION OF EGRESS. 45. ALL GLASS SHALL BE SAFETY GLASS AS REQ'D PER SECTION 2406.2
- AND SHALL PASS THE TEST REQ'MTS. OF CPSC 16 CFR, PART 1201 46. ALL EXIT DISCHARGE DOORS TO CONTAIN A RAISED CHARACTER SIGN STATING "EXIT" COMPLYING WITH ICC AIIT.I SECTION 703.3 AS REQ'D BY
- MBC 2015 SECTIONS 1110.4 (ITEM #2) AND 1011.4. 47. NO COMBUSTIBLES MATERIAL SHALL BE USED IN PLENUM SPACES,

DESIGN LOADS:

BUILDING OCCUPANCY CATEGORY:

THE STRUCTURE IS DESIGN FOR THE FOLLOWING LIVE LOADS, IN ADDITION TO THE LATERAL LOADS AND SUPERIMPOSED DEAD LOADS AND SELF-WEIGHT OF THE STRUCTURE.

LIVE LOADS:

- I. ROOF SNOW LOAD A. GROUND SNOW LOAD: 25 PSF
- B. FLAT ROOF SNOW LOAD (PI): (MIN ROOF LOAD): 20 PSF
- C. SNOW EXPOSURE FACTOR (Ce): 1.0
- D. SNOW LOAD IMPORTANCE FACTOR (1): 1.0 E. THERMAL FACTOR (Ct): 1.0
- ADDITIONAL LOADING DUE TO DRIFTING AT CHANGES IN ROOF ELEVATIONS AND ICE AT OVERHANGS PER APPLICABLE CODE.

TOTAL ROOF DESIGN LOAD: 35 PSF

WIND LOAD:

- BASIC WIND SPEED (3-SECOND GUST): 115 MPH
- RISK CATEGORY FACTOR: I
- EXPOSURE CATEGORY: A INTERNAL PRESSURE COEFFICIENT: +/- 0.18
- MAIN FORCE RESISTING STRUCTURAL SYS (EQUIVALENT STATIC FORCE): MIN UNIFORM: 16 PSF

EARTHQUAKE DATA:

- OCCUPANCY CATEGORY: II MAPPED SPECTRAL RESPONSE ACCELERATION Ss=0.085g & SI=0.044g
- SPECTRAL RESPONSE COEFFICIENTS SDs=0.091g & SDI=0.071g SEISMIC DESIGN CATEGORY A
- SECTION II.7 (ASCET-10) DESIGN REQUIREMENT FOR SDC A
- DESIGN BASE SHEER FX=0.01WX Cs=SDs / (R/I)RESPONSE MODIFICATION FACTOR R=5
- 10. SECTION II.7 (ASCET-10) DESIGN REQUIREMENT FOR SDC A

FOUNDATION & EARTH WORK

- FOOTINGS SHALL BEAR ON THE FIRM UNDISTURBED SOIL WITH A SAFE NET CAPACITY OF 2,000 PSF. IF SOIL OF THIS CAPACITY IS NOT FOUND AT THE ELEVATIONS INDICATED, FOOTINGS SHALL BE ENLARGED OR LOWERED AT THE DIRECTION OF THE ENGINEER. VERIFY FOUNDATION SOIL BEARING PRESSURE IN FIELD BY SOILS ENGINEER.
- EXCAVATION OF FILLS, ORGANIC MATERIALS AND OTHER UNSUITABLE MATERIAL IS TO BE REMOVED UNTIL THE MIN. SOIL BEARING IS OBTAINED PER AN ONSITE SOILS ENGINEER. PAD FOOTING IS TO EXTEND TO THAT POINT. IF WATER IS ENCOUNTERED DOING EXCAVATION, CONTRACTOR TO CONSULT WITH DEWATERING CONTRACTOR FOR RECOMMENDATIONS.
- 3. ALL FOOTINGS SHALL BE PLACED ONTO COMPACTED SUB GRADE OR ENGINEERED FILL (95% MINIMUM DENSITY AT OPTIMUM MOISTURE CONTENT) FOOTING ELEVATIONS SHOWN DESIGNATE A MINIMUM DEPTH OF FOOTINGS WHERE A SAFE SOIL BEARING PRESSURE OF 2,000 PSF FOR COLUMNS AND WALL FOOTINGS IS EXPECTED. UNDERCUT AND PROVIDE ENGINEERED FILL AS NECESSARY TO ACHIEVE BEARING CAPACITY INDICATED
- ALL FOUNDATION EXCAVATIONS SHALL BE INSPECTED AND CERTIFIED. CONTRACTOR TO SUBMIT TESTING REPORT TO CITY.
- NO FOOTINGS SHALL BE PLACED ONTO OR AGAINST SUB GRADES CONTAINING FROST OR ICE. CROSS REFERENCE ARCHITECTURAL AND STRUCTURAL DRAWINGS TO ASSURE PROPER DIMENSIONS AND PLACEMENT OF ALL ANCHORS BOLTS, INSERTS, ETC.
- AFTER EXCAVATING FOR ALL EARTH-SUPPORTED FLOOR AND STAIR SLABS. THE EXPOSED NATURAL SOIL SHALL BE THOROUGHLY COMPACTED PRIOR TO PLACING FILL.

- ALL PROVISIONS OF THE RECOMMENDED CODE OF STANDARD PRACTICE FOR STEEL JOISTS AS ADOPTED BY THE STEEL JOIST INSTITUTE SHALL BE ADHERED TO.
- STEEL WITH 2" LONG PER "SJI". EXTEND BOTTOM CHORDS OF JOISTS AT COLUMNS TO A STABILIZER TAB. IF NO JOIST OCCURS AT COLUMNS, EXTEND BOTTOM CHORDS OF EACH ADJACENT JOIST AND CONNECT. STEEL JOISTS OR JOIST GIRDERS ARE TO BE FABRICATED BY A MEMBER

STEEL JOIST BEARING ON STEEL BEAMS OR PLATES TO BE WELDED TO

- OF THE STEEL JOIST INSTITUTE AND BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST SPECIFICATIONS OF THE STEEL JOIST INSTITUTE.
- 4. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS THAT CONFORM TO THE STANDARDS OF THE STEEL JOIST INSTITUTE (SJI) SPECIFICATIONS.
- PROVIDE X-BRACING AND BOTTOM CHORD BRACING AT LOCATIONS INDICATED BY MANUFACTURER AND SHALL COMPLY WITH SJI STANDARDS.
- COLD FORMED CHORDS ARE NOT PERMITTED 7. ALL HANGERS FOR CEILINGS, DUCTWORK, ELECTRICAL CONDUIT, PIPING, ETC. SHALL BE HUNG DIRECTLY OR SUPPORTED FROM OR AT THE PANEL POINTS
- OF THE JOIST. JOISTS SHALL HAVE ONE SHOP COAT OF PAINT. CHECK WITH ARCHITECT FOR COLOR.
- MECHANICAL FRAMING, OPENINGS AND STRUCTURE IN ANY WAY RELATED TO MECHANICAL REQUIREMENTS ARE SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL OBTAIN APPROVAL OF MECHANICAL AND OTHER TRADES BEFORE PROCEEDING WITH SUCH PORTION OF THE WORK. EXCESS COST RELATED TO VARIATION IN MECHANICAL REQUIREMENTS TO BE BORNE BY MECHANICAL CONTRACTOR.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND COORDINATING ALL UNITS AND ANY ROOF / FLOOR OPENINGS SUPPORTS WITH STEEL JOISTS FABRICATOR FOR FINAL SELECTION OF UNITS / EQUIPMENTS. UNITS SPECIFICATION SHEETS SHALL BE SUBMITTED TO ARCHITECT AND JOISTS MANUFACTURER PRIOR TO JOIST FABRICATION.

REINFORCING STEEL

- DETAILING AND PLACING OF REINFORCING SHALL CONFORM TO AIC MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE
- 2. SECURE REBAR AND HOLD IN PLACE WITH GALVANIZED METAL
- ACCESSORIES, OR PLASTIC BOOTED CHAIRS. ALL RE-STEEL SHALL BE INTERMEDIATE GRADE NEW BILLET STEEL, ASTM 15. PLACE (2) #5 BARS CONTINUOUS IN TOP AND BOTTOM OF ALL WALL

FOOTINGS, GRADE BEAMS, AND AT THE SIDES OF ALL OPENINGS, UNLESS

- NOTED OTHERWISE ON THE DRAWINGS. UNLESS NOTED OTHERWISE ON THE DRAWINGS, ALL CONCRETE WALLS 12" THICK SHALL BE REINFORCED WITH #4 @ 12" EACH WAY, AT EACH VERTICAL
- 6. ANCHOR BOLT SIZE AND LOCATION SHALL BE FURNISHED BY BUILDING OR EQUIPMENT MANUFACTURER, AND SHALL BE INSTALLED BY THIS CONTRACTOR FROM APPROVED SHOP DRAWINGS.

STRUCTURAL STEEL

- THE STRUCTURAL INTEGRITY OF THE BUILDING SHOWN ON THESE PLANS IS DEPENDENT UPON COMPLETION ACCORDING TO THE PLANS AND SPECIFICATIONS. STRUCTURAL MEMBERS ARE NOT SELF-BRACING UNTIL PERMANENTLY AFFIXED TO THE STRUCTURE AS DIRECTED. THE ARCHITECT/STRUCTURAL ENGINEERS ASSUME NO LIABILITY FOR THE STRUCTURE DURING CONSTRUCTION. MEANS AND METHODS OF CONSTRUCTION AND JOB SITE SAFETY ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR'S.
- ALL STRUCTURAL STEEL CONSTRUCTION TO CONFORM TO AISC-360 "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" AND AISC CODE OF STANDARD PRACTICE, UNLESS MODIFIED.
- ALL DETAILING FABRICATION AND ERECTION SHALL CONFORM TO MBC SECTION 2204 CODE, THE LATEST EDITION OF "AISC SPECIFICATION FOR
- STRUCTURAL FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS AND BRIDGES. CONTRACTOR TO USE AISC SPECIFICATIONS FOR THE MANUFACTURE OF ALL STRUCTURAL STEEL MEMBERS WITH TENSILE YIELD STRENGTH FY = 50 KSI. AND WHICH SHALL CONFORM TO ASTM A-992 STANDARDS, AND SHALL
- (UNLESS NOTED OTHERWISE) HAVING Fy=50,000 PSI. STRUCTURAL TUBING SHALL CONFORM TO ASTM A500, GRADE B OR ASTM A501. SEE DRAWING FOR EACH APPLICATION.

SUBMIT SHOP DRAWINGS. ALL STRUCTURAL STEEL SHALL BE ASTM A-992

- ALL DRAWINGS SHOW THE INTENT AND CONCEPT OF THE CONNECTIONS BUT NOT THE DETAIL OF BOLTS AND WELDS. ALL CONNECTIONS NOT DETAILED SHALL BE DESIGNED, DETAILED AND MANUFACTURED BY THE FABRICATOR
- SHOP CONNECTIONS SHALL BE WELDED FIELD CONNECTIONS USE ETOXX ELECTRODES, RUN PARALLEL TO THE TENSION MEMBERS, AND USE HIGH STRENGTH BOLTS WITH WASHER AND NUT.
- FIELD BOLT CONNECTIONS WITH ASTM A-325 OR ASTM A-490.
- PROVIDED PERIMETER STEEL. ANGLES FOR METAL. ROOF DECK SUPPORT AS REQUIRED., INCLUDING AROUND ALL ELEVATORS, STAIRS, AND OPENINGS IN FLOOR OR ROOF

10. ALL WELDING TO CONFORM TO AWS DI.I "STRUCTURAL WELDING CODE". E 70

- XX LOW HYDROGEN ELECTRODES CONFORMING TO AWS SPECIFICATION A5.1 SHALL BE USED FOR WELDING. ALL WELDING SHALL BE DONE BY CERTIFIED WELDERS USING ELECTRIC ARC METHODS IN ACCORDANCE WITH LATEST EDITION OF "AWS CODE FOR
- WELDING IN BUILDING CONSTRUCTION". ETOXX ELECTRODES TO BE USED 12. UNLESS OTHERWISE NOTED, ALL FIELD CONNECTIONS SHALL BE FASTENED WITH 3/4 INCH DIAMETER ASTM A325-X, BEARING TYPE (WITH THREADS
- EXCLUDED FROM SHEAR PLANE) BOLTS 13. UNLESS OTHERWISE SHOWN, ALL BEAM END CONNECTIONS SHALL BE DESIGNED TO SUPPORT ONE-HALF THE TOTAL UNIFORM LOAD CAPACITY SHOWN IN AISC MANUAL FOR GIVEN BEAM, SPAN AND AND GRADE OF STEEL SPECIFIED. FOR COMPOSITE BEAM CONNECTIONS SHALL BE DESIGNED FOR
- THREE-FOURTH OF THE TOTAL UNIFORM LOAD CAPACITY. 14. ALL ANCHOR BOLTS SHALL CONFORM TO ASTM A-307-00.
- MINIMUM CONNECTION SHALL BE 3/4 INCH DIAMETER BOLTS OR A WELD DEVELOPING A FORCE OF 10 KIPS.
- 16. PAINT ONE COAT OF PRIMER ON ALL EXPOSED SURFACES EXCEPT FOR THE FOLLOWING SURFACES WHICH WILL NOT BE PAINTED
- A. SURFACES THAT ARE IN CONTACT WITH CONCRETE. B. CONTACT SURFACES IN FRICTION TYPE CONNECTIONS.
- C. SURFACES WHICH METAL FLOOR DECK AND/OR SHEAR STUDS ARE TO
- D. SURFACES TO BE WELDED SHALL NOT BE PAINTED WITHIN THREE INCHES OF THE WELD.
- 17. THE CONTRACTOR SHALL FURNISH AND INSTALL STEEL. ANGLES WITH ANCHORS AT MECHANICAL CURBS WHERE INDICATED.
- 18. FLOOR AND ROOF OPENINGS ARE TO BE FRAMED WITH STEEL. ANGLES AS INDICATED. FRAMES TO BE CONNECTED TO THE PANEL POINTS OF BAR JOISTS OR GIRDERS AND TRUSSES. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL ANGLES, PLATES

BARS, CLIPS, ETC., ATTACHED TO STRUCTURAL STEEL. VERIFY EXACT SIZE

AND LOCATION OF ALL FLOOR AND ROOF OPENINGS WITH CONTRACTOR

INVOLVED. 20. PROVIDE "DUR-O-WALL" RE-STEEL: USE No. 8 LADDER TYPE ONLY, BLOCKWORK - EVERY 24" STEEL FABRICATOR TO PROVIDE SHOP DRAWINGS FOR ARCHITECTS APPROVAL PRIOR TO FABRICATION. THE SHOP DRAWINGS SHALL INCLUDE CONNECTION DETAILS FOR ALL STRUCTURAL STEEL MEMBERS. SPECIFY THAT STEEL JOIST AND JOIST GIRDER

CONCRETE WORK:

VERTICAL BULKHEAD.

STRUCTURAL.

- CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 318-14 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, AND ACI STANDARD 301-99
- BY AMERICAN CONCRETE INSTITUTE, AND CRSI STANDARD FOR PLACING DETAILS AND DETAILING OF CONCRETE REINFORCEMENT SHALL CONFORM TO ACI 315-99 STANDARDS AND ALSO TO THE MANUAL OF STANDARD
- PRACTICES AS PUBLISHED BY CRSI UNLESS OTHERWISE NOTED ALL CONCRETE SHALL BE NORMAL WEIGHT AND SHALL DEVELOP MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS AS
- FOLLOWS: TRENCH AND PAD FOOTINGS3,000 PSI
- FOUNDATION WALLS AND PIERS3,000 PSI INTERIOR SLAB-ON-GRADE3,000 PSI EXTERIOR SLAB ON GRADE3,500 PSI (AIR ENTRAINED)
- CONCRETE OVER METAL DECK FOR SUPPORTED FLOORS AS INDICATED ON THE PLANS SHALL BE 145 PCF AND SHALL DEVELOP MINIMUM COMPRESSIVE
- STRENGTH OF MIN. 2,500 PSI AT 28 DAYS. CONCRETE EXPOSED TO WEATHER SHALL BE AIR -ENTRAINED. AIR CONTENT TO BE 6% +/- | %
- CONFORMING TO THE LATEST EDITION OF ASTM A-615/A 615M-00 OR ASTM-616 AND HAVE A MINIMUM YIELD STRENGTH OF 60000 PSI WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185-85 USING COLD

ALL REINFORCING STEEL SHALL BE DEFORMED BARS GRADE 60

- DRAWN WIRE CONFORMING TO ASTM A82-01. 8. UNLESS OTHERWISE NOTED, MINIMUM CONCRETE COVER FOR REINFORCING STEEL SHALL BE 3/4 INCH FOR SLABS, I.5 INCH FOR BEAMS, COLUMNS AND PIERS, AND I INCH FOR WALLS. ALL CONCRETE EXPOSED TO WEATHER OR EARTHFILL SHALL HAVE A MINIMUM COVER OF 1.5 INCHES FOR #5 BARS OR SMALLER, 2 INCH FOR BARS LARGER THAN #5 AND 3 INCH FOR CONCRETE
- PLACED AGAINST EARTH. VERIFY LOCATION AND DIMENSION OF ALL OPENINGS AND ALL EMBEDDED SLEEVES, FLOOR DRAINS, ROOF SUMPS, ETC., AS REQUIRED FOR DIFFERENT TRADES PRIOR TO POURING OF CONCRETE.
- 10. UNLESS OTHERWISE NOTED, PROVIDE VERTICAL DOWELS FROM FOOTINGS TO PIERS AND TO WALLS OF SAME SIZE AND SPACING AS VERTICAL REINFORCING. OFFSET FOR DOWELS AS REQUIRED. DOWELS TO EXTEND 24 BAR DIAMETERS INTO EACH MEMBER AT THE JOINT.
 - 13. PROVIDE HORIZONTAL BENT BARS AT ALL CORNERS AND INTERSECTIONS OF CONCRETE WALL OR GRADE BEAMS OF SAME SIZE AND SPACING AS HORIZONTAL WALL OR BEAM REINFORCING. USE BENT DOWELS TO DEVELOP ANCHORAGE, IF NECESSARY. DOWELS TO EXTEND 24 BAR DIAMETERS INTO EACH MEMBER.

12. SLABS, BEAMS AND FOOTINGS SHALL BE PLACED WITH OUT HORIZONTAL

II. CONSTRUCTION JOINTS SHALL BE PLACED AT THE CENTER OF SPANS WITH A

METAL DECK:

- METAL DECK SHALL CONFORM TO ALL REQUIREMENTS OF "BASIC DESIGN
- SPECIFICATION" AS ADOPTED BY THE STEEL DECK INSTITUTE (S.D.I.) ALL METAL DECK WORK SHALL COMPLY WITH APPLICABLE REQUIREMENTS
- OF AISI, SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS, AWS-STRUCTURAL WELDING CODE DI-I, STEEL DECK

3. UNLESS NOTED, ROOF DECK SHALL BE MANUFACTURED FROM STEEL

CONFORMING TO ASTM A1008, 33 KSI.

LOADS SHALL NOT BE HUNG FROM ROOF DECK

- METAL DECK TO BE CONNECTED TO SUPPORTING MEMBERS AS PER RECOMMENDATION BY SDI OR AS SPECIFIED.
- THE CONTRACTOR SHALL FURNISH ALL ACCESSORIES INCLUDING CLOSURES, "Z" CLOSURES, COLUMN CLOSURES, SCREED ANGLES AND GIRDER FILLERS, AS REQUIRED.
- ROOF DECK SHALL HAVE MANUFACTURER'S STANDARD RUST INHIBITIVE
- METAL DECK SHALL BE CONTINUOUS OVER THREE SPANS WHEREVER INDICATED. SINGLE AND DOUBLE SPANS SHALL COMPLY WITH "STEEL DECK INSTITUTE" REQUIREMENT
- ALL METAL DECKING SHALL BE WELDED TO THE STEEL BEAM WITH A 3/4 INCH PLUG WELD AT THE FLUTES NOT EXCEEDING 12 INCHES APART.
- 10. ALL INTERIOR ROOF SUMPS SHALL HAVE AN OVER FLOW 3" ABOVE ROOF

MASONRY WORK:

- MATCH EXISTING BRICK FOR THE ADDITION AND VERIFY WITH OWNER.
- PROVIDE MASONRY CONTROL JOINTS FOR ALL MASONRY WALLS AT A MAXIMUM 20'-0" APART AND MAXIMUM OF 5'-0" FROM EACH WALL CORNER. BOND BEAM STEEL TO CONTINUE THROUGH JOINTS.
- MASONRY CONSTRUCTION/ DESIGN STANDARD TO COMPLY WITH ACL 530-II/ ASCE 5-11 / TMS 402 "AMERICAN STANDARD BUILDING CODE REQUIREMENT FOR MASONRY" BY US DEPARTMENT OF COMMERCE, MISC.PUB. 211 AND ASA
- THE REFERENCE MATERIAL STANDARD FOR EACH MASONRY CONSTRUCTION MATERIAL USED ON THIS PROJECT INCLUDING MASONRY UNITS, MORTAR AND

METAL ACCESSORIES. MASONRY: ASTM C90-01a FOR CONCRETE BLOCK ASTM C62-OI FOR BRICK

- REINF WIRE: ASTM A82-01 BLOCK - GRADE A, LOAD BEARING UNITS ASTM-C90-01a, IN ACCORD WITH CONCRETE MASONRY ASSOCIATION SPECIFICATIONS.
- ALL MASONRY BEARING STEEL BEAMS AND LINTELS TO BEAR 8" MINIMUM ON THREE COURSES SOLID MASONRY, WITH 2 - 3/4" BOLTS EACH END, UNLESS OTHERWISE NOTED.

ASTM C270-Ola FOR MORTAR

PROVIDE BULLNOSE EDGE FOR ALL EXPOSED CMU EDGES. SEE TYPICAL MASONRY DETAILS. UNLESS OTHERWISE NOTED, PROVIDE 4" x 4" x 5/16" ANGLE (L.L.V.) LINTEL

FOR EACH 4" OF MASONRY FOR SPANS UP TO 5'-O" MAXIMUM.

- 9. ALL DOUBLE ANGLE LINTELS SHALL BE WELDED BACK TO BACK WITH A 3/16" FILLER WELD WITH MINIMUM 2 INCH STITCH WELD EVERY & INCHES MASONRY COMPRESSIVE STRENGTH F'm TO BE 1,500 PSI (MINIMUM) ALL BLOCK SHALL CONFORM WITH ASTM C90-OIG AND CI45, TYPE I, GRADE N.
- MORTAR- TYPE M OR S, 1,900 PSI. MORTAR TYPE TO CONFORM TO ASTM
- UNLESS OTHERWISE NOTED, PROVIDE 4" x 3 1/2" x 5/16" ANGLE (L.L.V.) LINTEL FOR EACH 4" OF MASONRY FOR SPANS UP TO 5'-0" MAXIMUM. ALL MASONRY BEARING STEEL BEAMS AND LINTELS TO BEAR 8' MINIMUM ON THREE COURSES SOLID MASONRY, WITH 2 - 3/4" BOLTS
- EACH END, UNLESS OTHERWISE NOTED. PROVIDE "DUR-O-WALL" REINFORCEMENT STAGGERED AT 16" O.C. USE LADDER TYPE WITH ADJUSTABLE VENEER TIES FOR ALL BLOCK AND BRICK VENEER WALLS.

SPECIAL INSPECTIONS:

BUILDER SHALL BE SELECT AND PROVIDE A THIRD PARTY TESTING AGENCY - PER SECTION. 1705 MBC 2015. THE SPECIAL INSPECTIONS SHALL INCLUDE SECTION 1705.2 STEEL CONSTRUCTION SECTION 1705.3 CONCRETE CONSTRUCTION

SECTION 1705.4 MASONRY CONSTRUCTION

SECTION 1705.13 TESTING FOR SEISMIC RESISTANCE.

SECTION 1705.6 SOILS SECTION 1705.8 CAST IN PLACE DEEP FOUNDATIONS SECTION 1705.11 SPECIAL INSPECTIONS FOR WIND RESISTANCE SECTION 1705.12 SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE

SECTION 1705.16 EXTERIOR INSULATION AND FINISH SYSTEM SYSTEM (EIFS).

REQUIRED IF DRAINWRAP SHEET IS NOT PROVIDED.

ARCHITECTURAL DESIGN

ISSUED

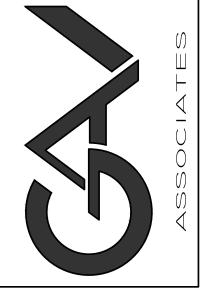
Section 8. Item A.

10.22.2021

RESIDENTIAL COMMERCIAL INDUSTRIAL

G.A.V. ASSOCIATES, INC 24001 ORCHARD LAKE RD., STE. 180/ FARMINGTON, MICHIGAN 48336

WEB: WWW.GAVASSOCIATES.COM



DESIGNED: CHECKED: DRAWN:

GA

GA

SCALE: FILE NAME : 21096_A001

JOB #: 21096 SHEET TITLE GENERAL

SAMIR M

KARIM

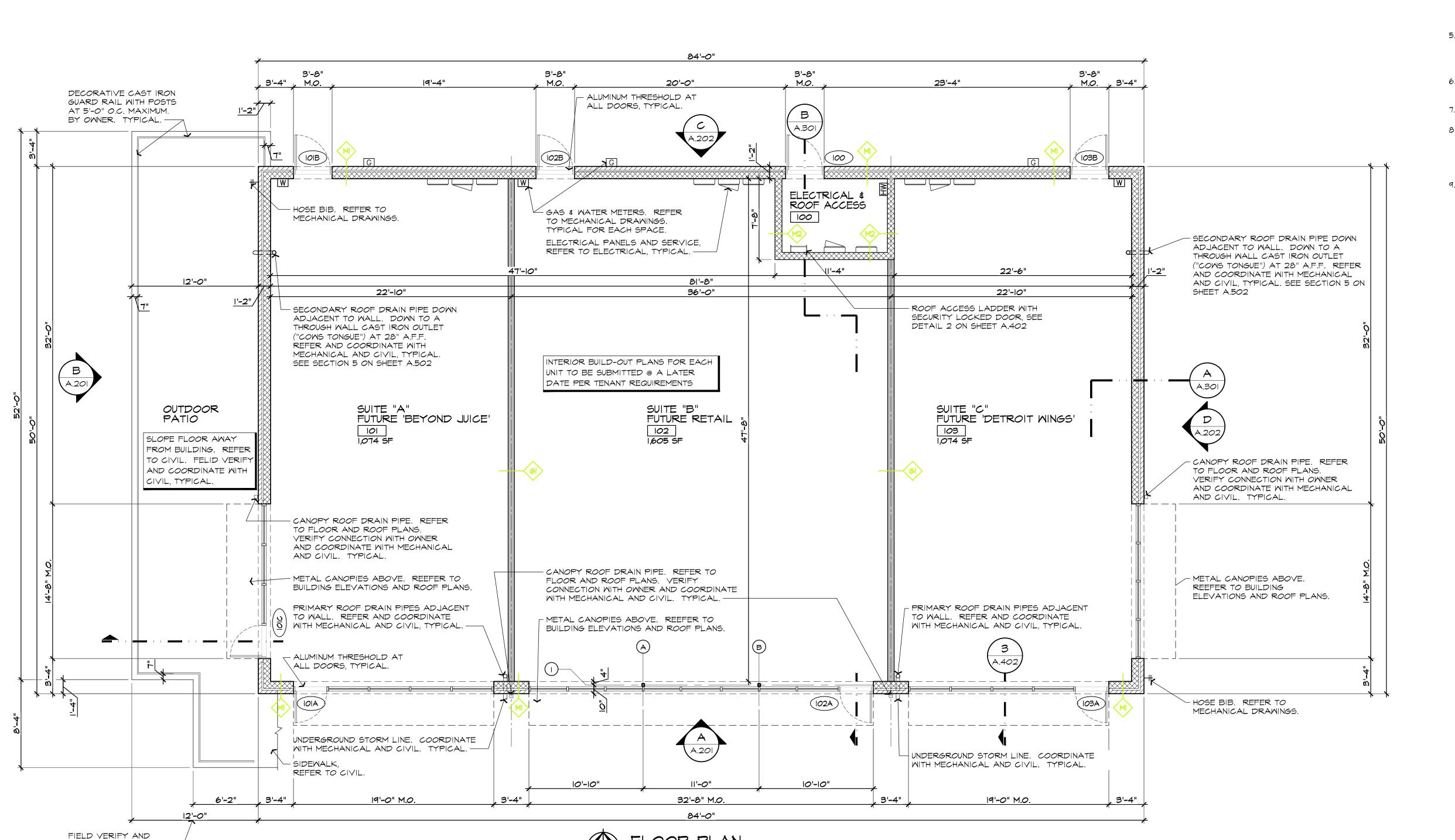
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SHEET #

NOTES AND

SPECIFICATIONS



SCALE: 3/16"= 1'-0"

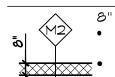
COORDINATE WITH CIVIL -

MALL LEGEND:

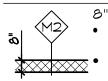
• 4" BRICK & 4" PRE-FINISHED BURNISHED FACE CMU VENEER • 2 3/4" CAVITY WITH I-I/2" HIGH R VALUE XPS RIGID BOARD INSULATION (RII MINIMUM) AND AIR BARRIER

• 8" C.M.U. WALL • REFER TO BUILDING ELEVATION FOR COURSING AND MATERIAL.

• REINFORCEMENT: #5 VERTICAL @ 48" O.C. DOWELS TO BE



8" C.M.U. WALL WITH: #5 VERTICAL @ 48" O.C. DOWELS TO BE 2'-O" INTO



FOOTING AND 3'-O" ABOVE. CORES FILLED W/ FOAM INSULATION

2'-0" INTO FOOTING AND 3'-0" ABOVE.



6"-18 GA METAL STUD FRAMING AT 16" O.C WITH 5/8' GYPSUM BOARD ON BOTH SIDES: • (COMPOSITE) STUD TYPE CS3-6005200-43 (18) OR APPROVED EQUAL TO MEET WALL SPAN AT 10 PSF

AND L/360. • EXTEND STUDS AND GYPSUM TO UNDERSIDE OF FLOOR / ROOF DECK U.N.O. • DEFLECTION TRACK AT FLOOR DECK TO WALL

CONNECTION. • DIAGONAL BRACING TO STRUCTURE ABOVE AT

WALL LEGEND NOTES:

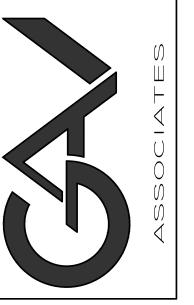
- I. PROVIDE 9 GA. LADDER TYPE HORIZONTAL JOINT REINFORCEMENT WITH CROSS WIRES @ 16" O.C. SPACED VERTICALLY FOR ALL CMU
- 2. PROVIDE 9 GA LADDER TYPE HORIZONTAL JOINT REINFORGEMENT WITH CROSS WIRES @ 16" O.C. WITH ADJUSTABLE VENEER TIES AT 16" O.C. STAGGERED FOR ALL CMU WITH BRICK, STONE OR CMU VENEER
- 3. PROVIDE STONE ANCHORS AT TOP AND SIDES FOR EVERY PIECE AND PER STONE FABRICATOR.
- 4. WEEP HOLES: PROVIDE ONE PIECE SINGLE-PLY FLASHING (MINIMUM OF I CMU COURSE WITH END DAMS) AND ONE PIECE METAL FLASHING WITH HEMMED DRIP EDGE. PROVIDE PARTIALLY OPEN HEAD JOINT WEEP HOLES @ 24" O.C. MINIMUM OF TWO HOLES OVER WINDOWS AND DOORS. GROUT AIR SPACE SOLID UNDER FLASHING. PROVIDE WASHED PEA STONE FOR PROPER DRAINAGE.
- 5. EXTEND ALL WALLS TO UNDER SIDE OF FLOOR / ROOF METAL DECK FOR SMOKE TIGHT CONSTRUCTION. CLOSE ALL OPENINGS WITH GROUT MATERIAL TO MEET CODE REQUIREMENTS FOR A SMOKE TIGHT CONSTRUCTION OR FIRE RATE CONSTRUCTION AS INDICATED. SEE PLANS FOR LOCATIONS OF SMOKE / FIRE WALLS.
- 6. GROUT ALL CMU WALLS SOLID AT RE-BARS AND FIRST TWO COURSES OVER EXISTING MASONRY OR FOUNDATIONS. DOWEL INTO EXISTING MASONRY.
- 7. PROVIDE A MASONRY CONTROL / EXPANSION JOINTS FOR ALL NEW WALLS OVER 20'-0" IN RUN OR MORE. MAXIMUM SPACING OF 25'-0" 8. PROVIDE CONTINUOUS 8"/12" BOND BEAM (B.B.) W/ (2) #5 BARS.
- VERTICAL WALL BARS TO CONTINUE THRU B.B. & HOOK TO B.B. STEEL FOR UPLIFT CONTINUITY. GROUT ONE COURSE ABOVE AND ONE BELOW B.B. PROVIDE METAL LATH OR WIRE SCREEN UNDER B.B. TO CONFINE GROUT. LAPPED B.B. MINIMUM OF 48" TO ACCOMMODATE ELEVATION CHANGES FOR THE CORRIDOR WALLS.
- 9. REFER TO BUILDING ELEVATIONS AND SECTIONS FOR COURSING AND OTHER MATERIALS.

Section 8, Item A. ISSUED OWNER REVIEW 08.27.202 PERMITS 10.22.2021

ARCHITECTURAL DESIGN

RESIDENTIAL COMMERCIAL INDUSTRIAL

G.A.V. ASSOCIATES, INC 24001 ORCHARD LAKE RD., STE. 186A FARMINGTON, MICHIGAN 48336 WEB: WWW.GAVASSOCIATES.COM



GA

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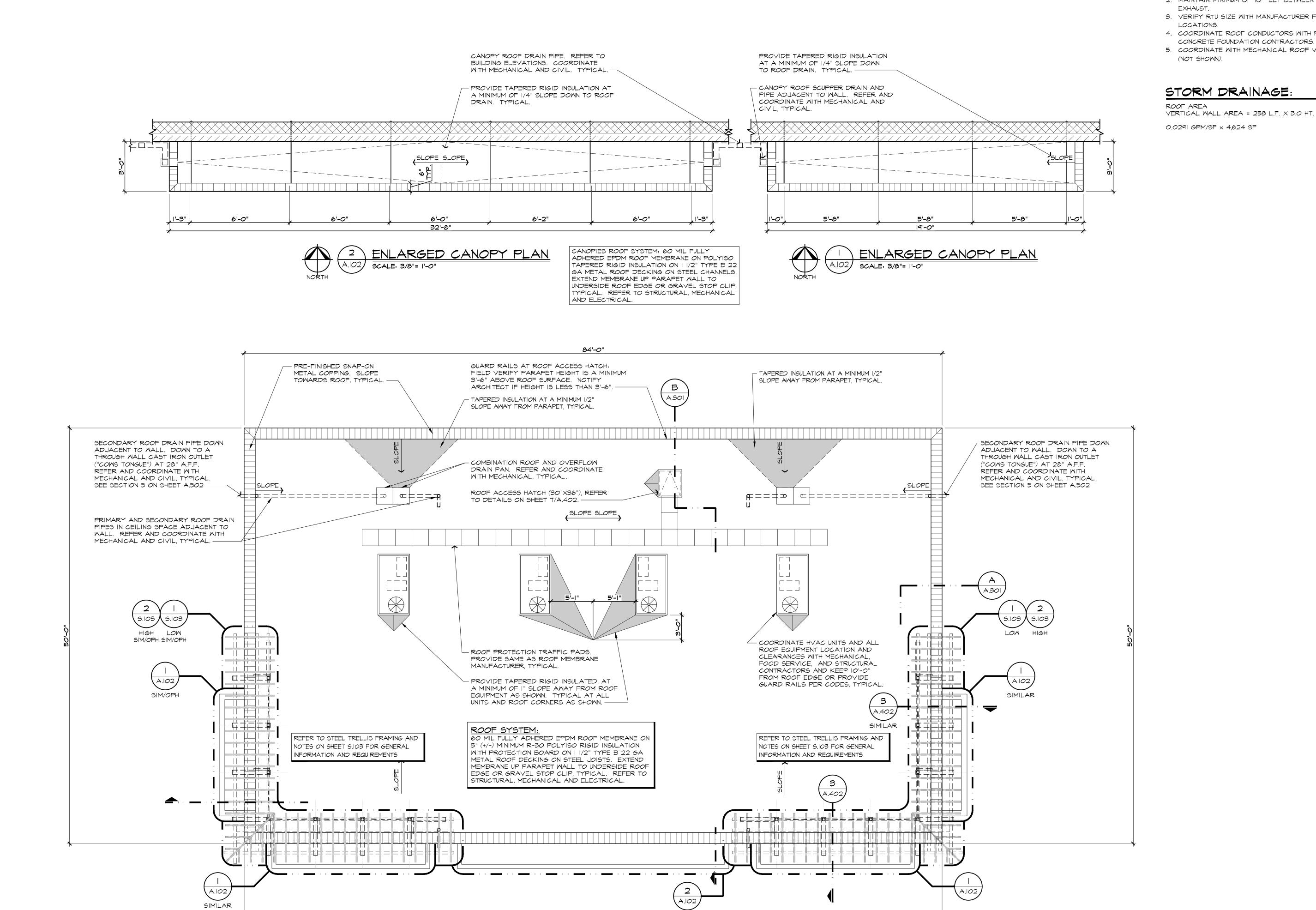
JOB #: 21096

ARCHITECT

SHEET TITLE FLOOR PLAN

DRAWN: DESIGNED: CHECKED:





FLOOR PLAN

SCALE: 3/16"= 1'-0"

ROOF PLAN GENERAL NOTES:

- I. SEE MECHANICAL DRAWINGS FOR ALL ROOF EQUIPMENT 2. MAINTAIN MINIMUM OF 10 FEET BETWEEN RTU'S INTAKES AND
- 3. VERIFY RTU SIZE WITH MANUFACTURER FOR CURB SIZES AND
- 4. COORDINATE ROOF CONDUCTORS WITH PLUMBING, STEEL AND
- 5. COORDINATE WITH MECHANICAL ROOF VENT PIPE LOCATIONS

STORM DRAINAGE:

ROOF ARE	A				
VERTICAL	MALL	AREA	=	258	\perp

L.F. X 3.0 HT.

= 3,850 SF = 774 SF = 4,624 SF = 135 GPM **ARCHITECTURAL** DESIGN

ISSUED

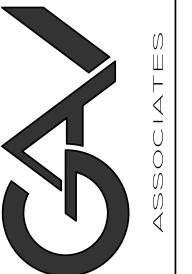
Section 8, Item A.

10.22.2021

RESIDENTIAL

COMMERCIAL INDUSTRIAL

G.A.V. ASSOCIATES, INC 24001 ORCHARD LAKE RD., STE. 180A FARMINGTON, MICHIGAN 48336 WEB: WWW.GAVASSOCIATES.COM



DRAWN: DESIGNED: CHECKED: GA

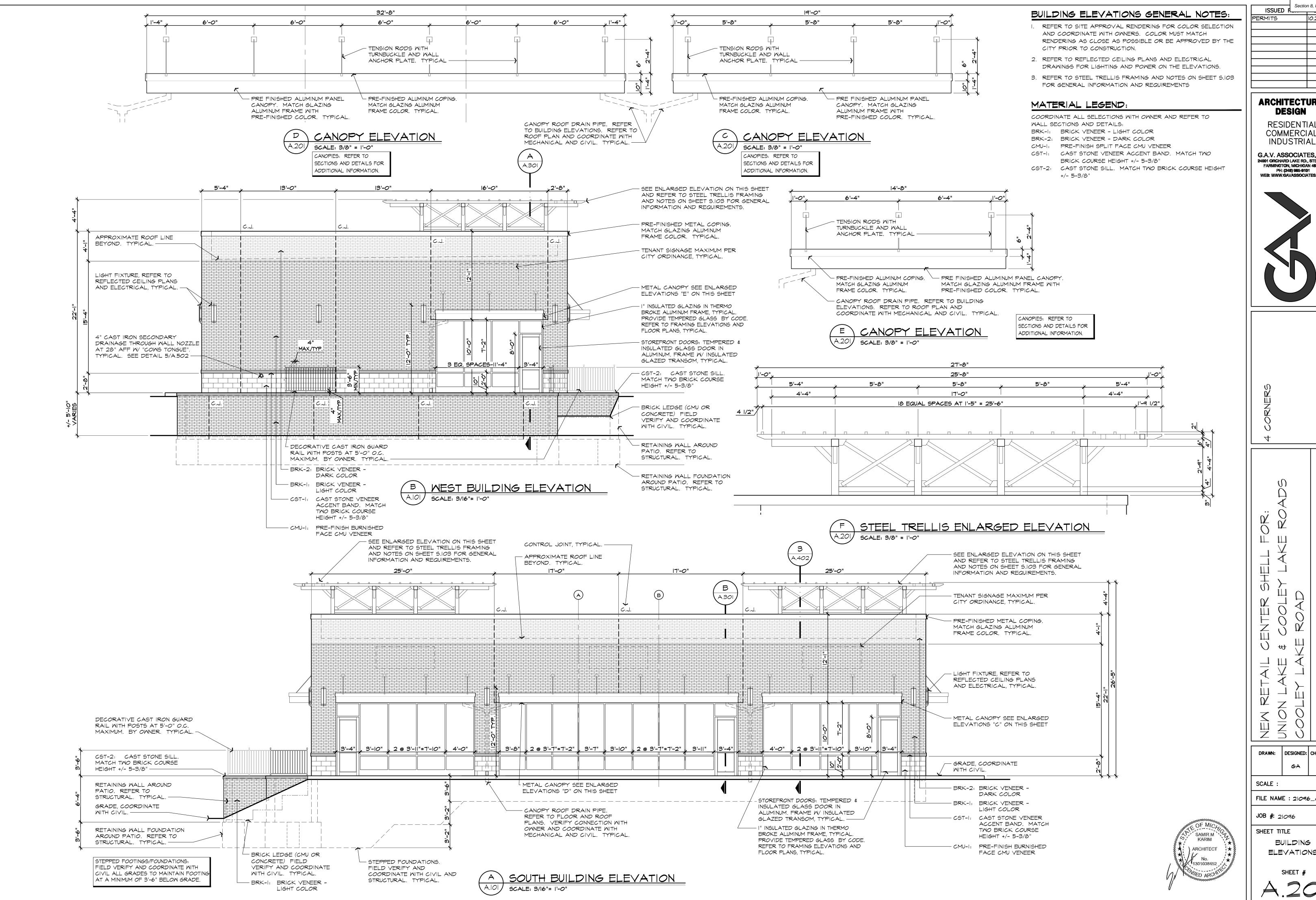
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FILE NAME : 21096_A102

JOB #: 21096

ARCHITECT

SHEET TITLE ROOF PLAN



Section 8, Item A. ISSUED 10.22.202

> **ARCHITECTURAL** DESIGN

RESIDENTIAL COMMERCIAL

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FILE NAME : 21096_A201

GA

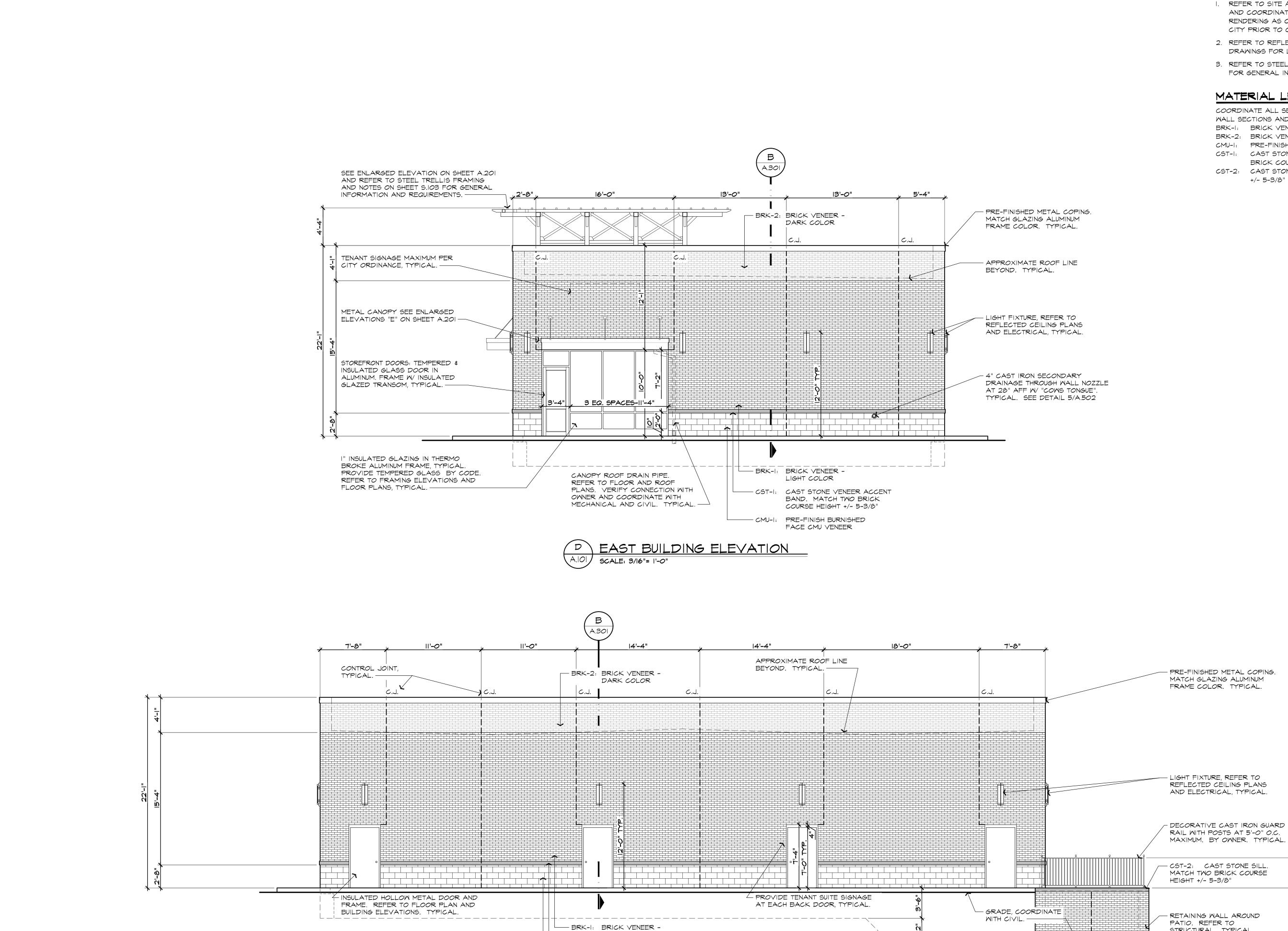
DESIGNED: CHECKED:

JOB #: 21096

SHEET TITLE

ELEVATIONS

BUILDING



LIGHT COLOR

- CMU-I: PRE-FINISH BURNISHED

- CST-I: CAST STONE VENEER ACCENT

FACE CMU VENEER

SCALE: 3/16"= 1'-0"

BAND. MATCH TWO BRICK

NORTH BUILDING ELEVATION

COURSE HEIGHT +/- 5-3/8"

STEPPED FOUNDATIONS. FIELD VERIFY AND COORDINATE WITH

CIVIL AND STRUCTURAL. TYPICAL. -

STEPPED FOOTINGS/FOUNDATIONS:

FIELD VERIFY AND COORDINATE WITH

AT A MINIMUM OF 3'-6" BELOW GRADE.

CIVIL ALL GRADES TO MAINTAIN FOOTING

BUILDING ELEVATIONS GENERAL NOTES:

I. REFER TO SITE APPROVAL RENDERING FOR COLOR SELECTION AND COORDINATE WITH OWNERS. COLOR MUST MATCH RENDERING AS CLOSE AS POSSIBLE OR BE APPROVED BY THE CITY PRIOR TO CONSTRUCTION.

2. REFER TO REFLECTED CEILING PLANS AND ELECTRICAL DRAWINGS FOR LIGHTING AND POWER ON THE ELEVATIONS.

3. REFER TO STEEL TRELLIS FRAMING AND NOTES ON SHEET S.103 FOR GENERAL INFORMATION AND REQUIREMENTS

MATERIAL LEGEND:

COORDINATE ALL SELECTIONS WITH OWNER AND REFER TO

WALL SECTIONS AND DETAILS:

BRK-I: BRICK VENEER - LIGHT COLOR BRK-2: BRICK VENEER - DARK COLOR

CMU-I: PRE-FINISH SPLIT FACE CMU VENEER

CST-I: CAST STONE VENEER ACCENT BAND. MATCH TWO BRICK COURSE HEIGHT +/- 5-3/8"

CST-2: CAST STONE SILL. MATCH TWO BRICK COURSE HEIGHT

+/- 5-3/8"

STRUCTURAL. TYPICAL.

STRUCTURAL. TYPICAL.

-BRK-I: BRICK VENEER -

LIGHT COLOR

BRICK LEDGE (CMU OR CONCRETE) FIELD

VERIFY AND COORDINATE

WITH CIVIL. TYPICAL. --

- RETAINING WALL FOUNDATION AROUND PATIO. REFER TO

ISSUED

Section 8, Item A.

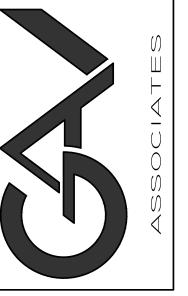
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JOB #: 21096

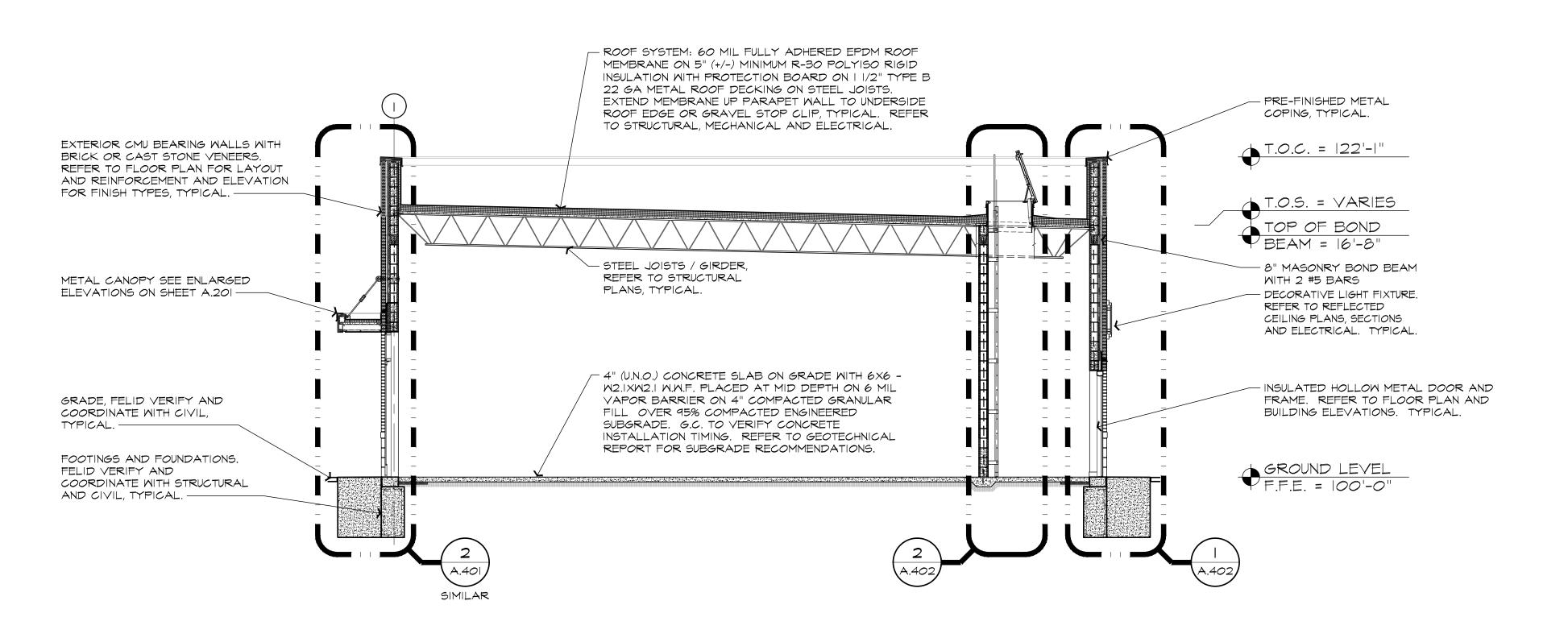
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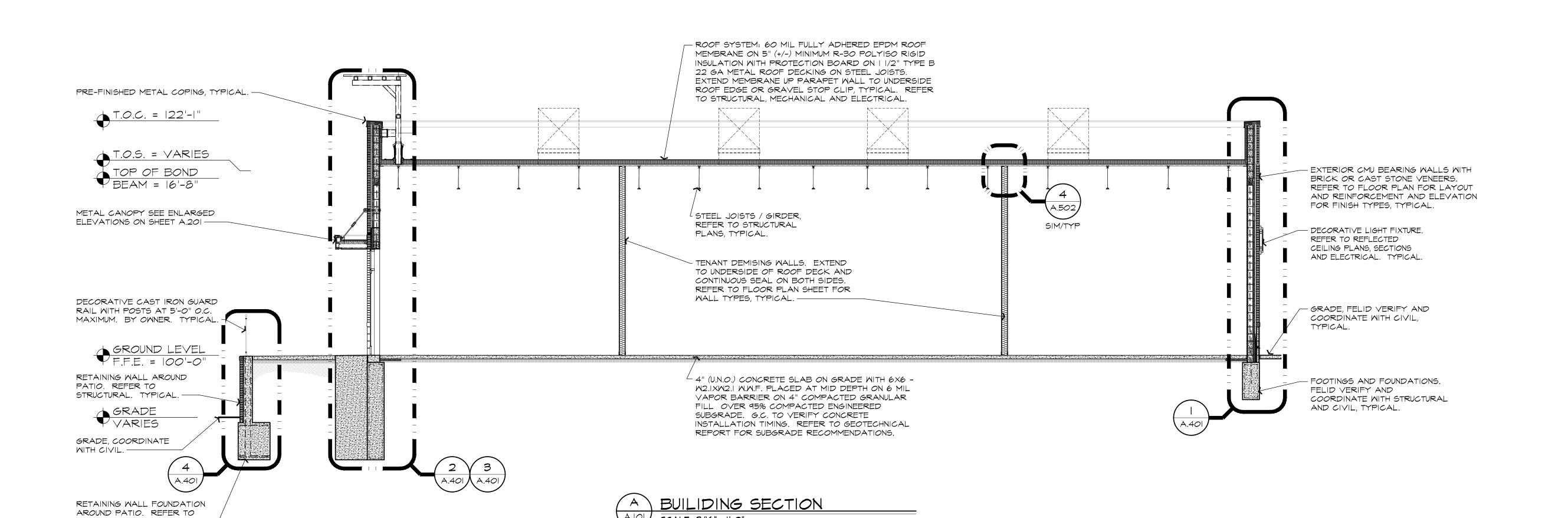
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ARCHITECT

SHEET TITLE BUILDING

ELEVATIONS





BUILIDING SECTION

SCALE: 3/16"= 1'-0"

SCALE: 3/16"= 1'-0"

STRUCTURAL. TYPICAL. ---

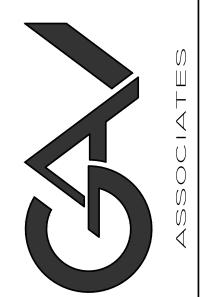


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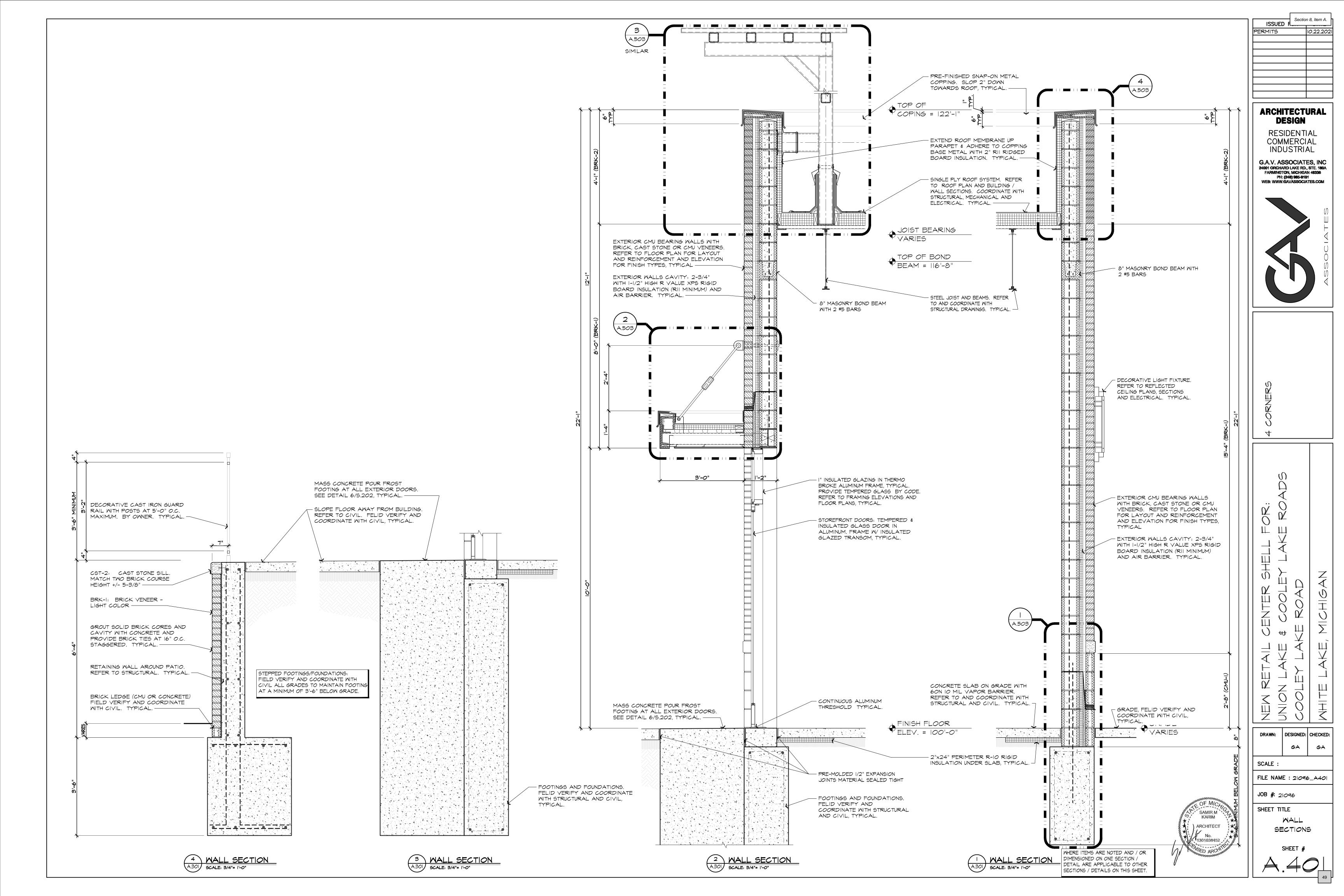
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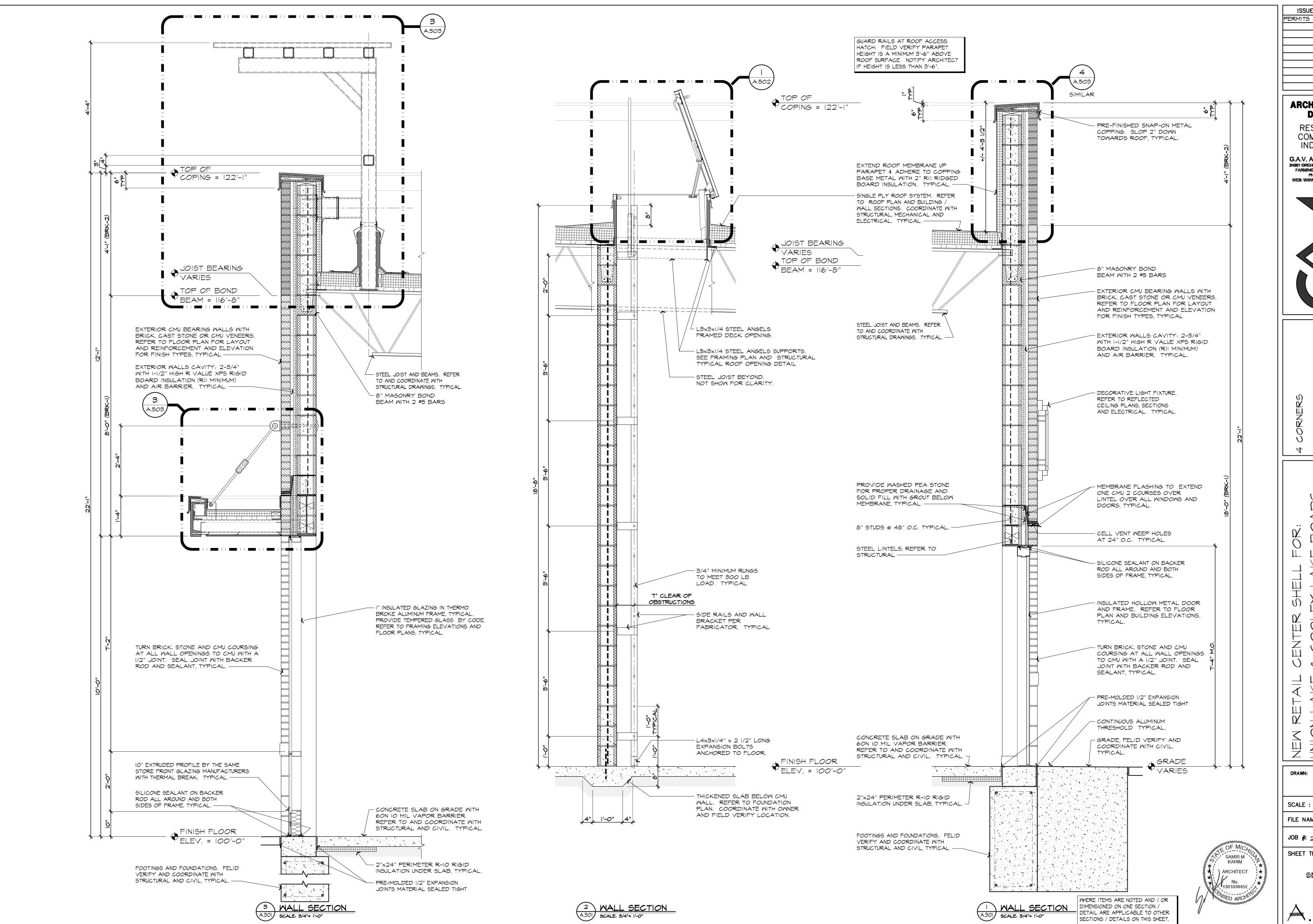
JOB #: 21096

SHEET TITLE BUILDING

SHEET #

SECTIONS





ISSUED 10.22.2021 PERMITS

Section 8, Item A.

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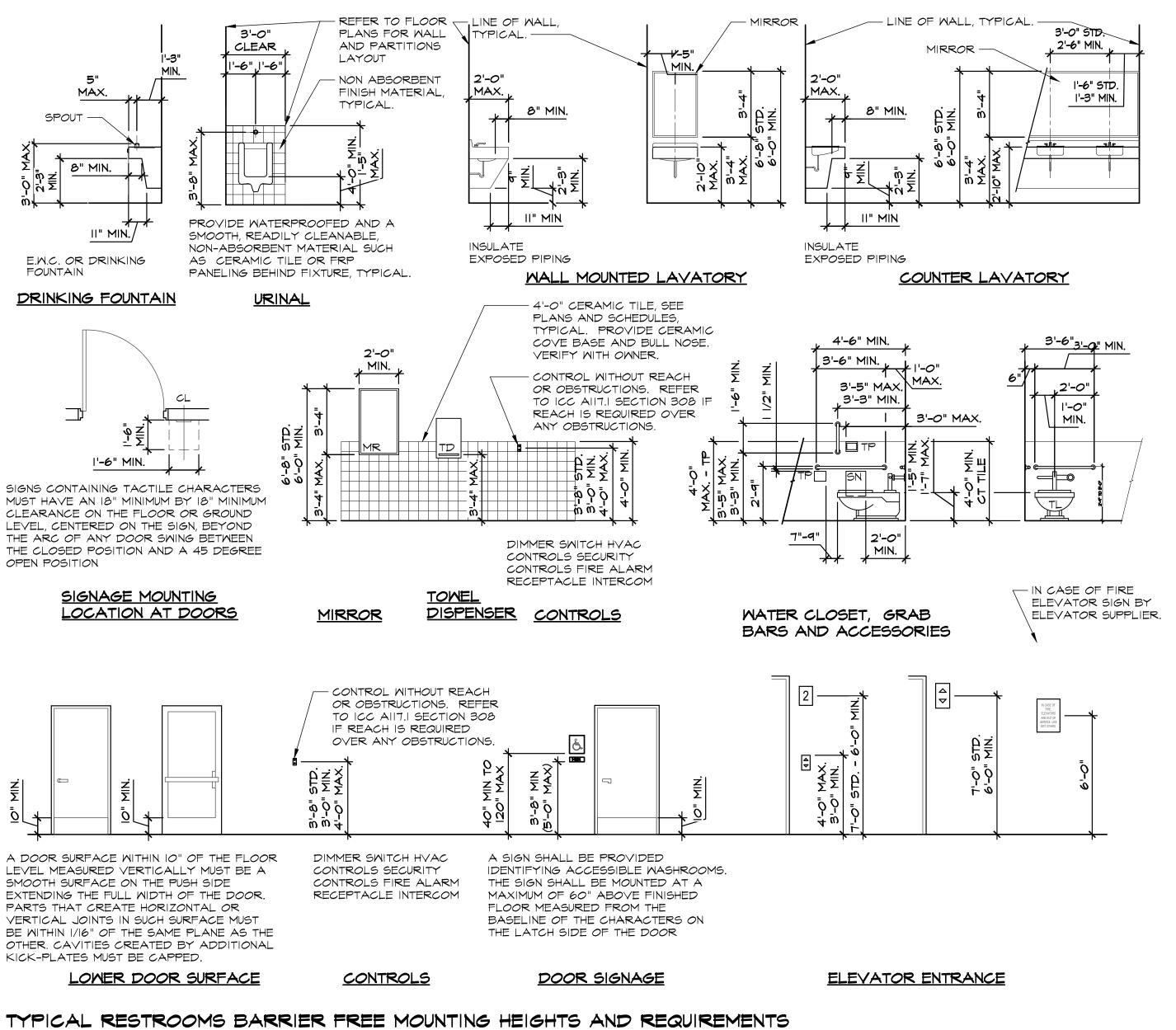
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FILE NAME : 21096_A402

JOB #: 21096

SHEET TITLE

SECTIONS



DOOR SCHEDULE															
		DOOR	ξ		FRAME			H	ARI	DM/	AR	E		RTG.	REMARKS
ROOM NAME/TYPE	DOOR SIZE (M×H×T)	TYPE	MAT.	FINISH	TYPE	MAT.	FINISH	A	B	0	D	E	F	G	REMARKS
TENANT MAIN ENTRIES SINGLE DOORS - SUITE NO'S A, B & C	3'-0"X8'-0"XI-3/4"	I	AL/GL	AA	А	AL	AA				•	•	•		COORDINATE WITH STORE FRONT GLAZING SYSTEM.
TENANT REAR ENTRIES DOORS SUITE NO's I, 2, 3, 4, 5 \$ 6	3'-4"X7'-0"XI-3/4"	2	НМ	PNT	В	НМ	PNT	•		•	•	•			
ELECTRICAL / ROOF ACCESS ROOM #100	3'-0"X7'-0"XI-3/4"	2	НМ	PNT	В	НМ	PNT	•		•	•	•			

GENERAL DOOR & WINDOW SPECIFICATION

- I. G.C. TO COORDINATE DOOR AND FRAME LOCATIONS TO MATCH SIZE AND SWINGS SHOWN ON PLAN. CONTACT ARCHITECT WITH ANY DISCREPANCIES.
- 2. HOLLOW METAL DOORS AND FRAMES SHALL BE: AS FURNISHED BY PIONEER / STEELCRAFT / SPECIALITE (OR EQUAL). FRAMES TO 16-GAGE, COMMERCIAL GRADE, "F" SERIES, KNOCK DOWN, WITH ANCHORING AS REQUIRED BY WALL CONDITIONS. REFER TO DETAILS ON THIS SHEET. DOORS SHALL BE 18-GAGE, COMMERCIAL GRADE, "VM" SERIES, PREPARED TO RECEIVE MORTISED HARDWARE AS SPECIFIED. ALL HARDWARE MUST BE RECESSED FLUSH WITH NO SHARP EDGES EXPOSED. H.M. DOORS AND FRAMES SHALL PRIMED AND PAINTED TO MATCH ROOM COLOR.
- 3. ALL GLASS USED IN DOORS AND SIDE LITES SHALL BE TEMPERED 1/4" GLASS. 4. GLASS FRAME IN DOORS SHALL ALSO BE PRE-FINISHED TO MATCH DOOR OR
- FINISHED IN FIELD. 5. COORDINATE ALL DOORS AND FRAMES SIZES WITH MASONRY AND CARPENTRY

INDAL INC. FINISH IS TO BE DARK BRONZE (MIO-C22-A44).

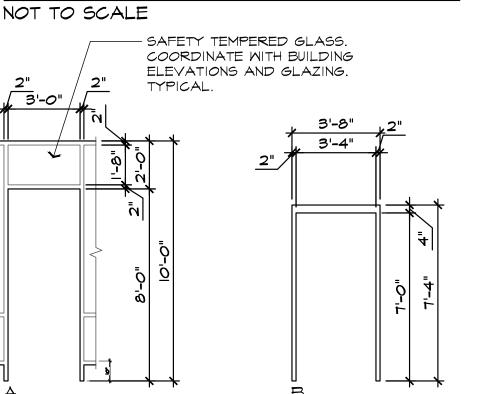
- CONTRACTORS PRIOR TO CONSTRUCTION. DOORS AND FRAMES AT THE MAIN ENTRANCE SHALL BE ALUMINUM ENTRANCES OR STOREFRONT MATERIAL WITH THERMAL BREAK EQUAL TO SYSTEMS DESIGNED AND ENGINEERED BY KAWNEER CO., INC. OR TUBELITE DIVISION,
- 7. ALL EXTERIOR DOORS AND FRAMES, EXCEPT AT MAIN ENTRANCE, SHALL BE CUSTOM HOLLOW METAL CONSTRUCTION PROVIDED WITH HEAVY DUTY COMMERCIAL GRADE HARDWARE. DOOR FACE SHEETS SHALL BE COMMERCIAL QUALITY, ROLLER LEVELED, COLD ROLL, 16 GAUGE STEEL WITH 18 GAUGE STIFFENERS AT 6" ON CENTER. PROVIDE POLYSTYRENE OR URETHANE INSULATION CORE FILLER. ALL EXPOSED STEEL SURFACES SHALL BE CLEANED, BONDED AND COATED WITH A BAKED ON ZINC CHROMATE BASED PRIME PAINT. FRAMES SHALL BE PREFABRICATED COMBINATION BUCK, FRAME, AND TRIM TYPE. MITERED JOINTS SHALL HAVE LOCKING TABS AT FRAME RABBETS AND BACKBOARDS. ALL INTERIOR DOOR FRAMES SHALL BE FURNISHED FOR INTERIOR OPENINGS. REINFORCE, DRILL, AND TAP DOORS AND FRAMES FOR FULLY-TEMPLATED MORTISED AND CONCEALED HARDWARE.
- 8. DOOR HANDLES, PLUS LATCH, LOCKS AND OTHER OPERATING MAXIMUM HEIGHT OF 34"-48" ABOVE FINISH FLOOR. OPERATING DEVICES SHALL BE CAPABLE OF OPERATION WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING OR TWISTING OF THE WRIST TO OPERATE. ALL MEANS OF EGRESS WHERE SERVING AN OCCUPANT LOAD OF 50 OR MORE PERSONS. THE OPENING FORCE FOR INTERIOR SIDE-SWING DOORS WITH- OUT CLOSERS SHALL NOT EXCEED 5-POUND FORCE. FOR ALL OTHER SIDE-SWING, SLIDING AND FOLDING DOORS, THE DOOR LATCH SHALL RELEASE WHEN SUBJECT TO A 15-POUND FORCE. THE DOOR SHALL SWING TO A FULL-OPEN POSITION WHEN SUBJECTED TO A 15 POUND FORCE. FORCES SHALL BE APPLIED TO THE LATCHSIDE.
- ALL MEANS OF EGRESS DOORS SHALL BE READILY OPERABLE FROM THE SIDE FROM WHICH EGRESS IS TO BE MADE WITHOUT THE USE OF A KEY, SPECIAL
- 10. ALL EXIT DOORS & MEANS OF EGRESS DOORS SHALL BE SIDE HINGED, NON-LOCKING & SWING IN DIRECTION OF EGRESS.
- II. ALL GLASS SHALL BE SAFETY GLASS AS REQ'D PER SECTION 2406.2 AND SHALL PASS THE TEST REQ'MTS. OF CPSC 16 CFR, PART 1201
- 12. ALL EXIT DISCHARGE DOORS TO CONTAIN A RAISED CHARACTER SIGN STATING
- "EXIT" COMPLYING WITH ICC AIIT.I SECTION 703.3 AS REQ'D BY MBC 2015 SECTIONS IIIO.3 (ITEM #4) AND IOII.4.
- 13. "EXIT" SIGNS SHALL HAVE RED LETTERS AT LEAST 6" HIGH AND THE MINIMUM WIDTH OF EACH STROKE SHALL BE 3/4" ON A WHITE BACKGROUND OR IN OTHER APPROVED DISTINGUISHABLE COLOR. THE WORD "EXIT" EXCEPT THE LETTER "I" SHALL HAVE LETTERS HAVING A WIDTH NOT LESS THEN 2 INCHES AND THE MINIMUM SPACING BETWEEN LETTERS SHALL NOT BE LESS THAN 3/8" OF AN INCH. SIGNS LARGER THAN THE MINIMUM SIZE REQUIRED SHALL HAVE LETTERS WIDTH AND SPACING IN THE SAME PROPORTION TO THE HEIGHT AS INDICATED IN THIS CODE. IF AN ARROW IS PROVIDED AS PART OF AN "EXIT" SIGN, THE CONSTRUCTION SHALL BE SUCH THAT THE ARROW CANNOT BE READILY CHANGED. THE WORD "EXIT" SHALL BE CLEARLY DISCERNIBLE WHEN THE SIGN IS ILLUMINATION MEANS IS NOT ENERGIZED.

ABBREVIATION (DOORS): AA ANODIZED ALUMINUM AL ALUMINUM

- (WELDED FRAME) LG LEGACY WOOD DOOR
- GL GLAZING RM REDI-METAL
- A: LOCK SET
- B: PASSAGE SET C: PUSH/PULL
- D: CLOSER
- F: PUSH BAR/PULL BAR/LOCK SET NON LOCKING AGAINST

SAFETY TEMPERED GLASS. COORDINATE WITH BUILDING ELEVATIONS AND GLAZING. TYPICAL. 3'-4"

NOT TO SCALE



DOOR FRAME TYPES

NOT TO SCALE

HARDWARE:

- HM HOLLOW METAL

- PF PRE FINISHED

E: WALL/FLOOR/DOOR STOP

EGRESS

G: KICK PLATE

DESIGNED: CHECKED: DRAWN: GA SCALE: FILE NAME : 21096_A501 JOB #: 21096 SHEET TITLE



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PERMITS

Section 8, Item A.

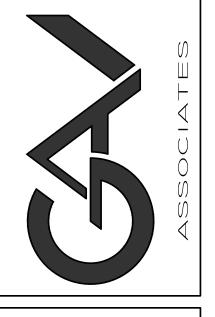
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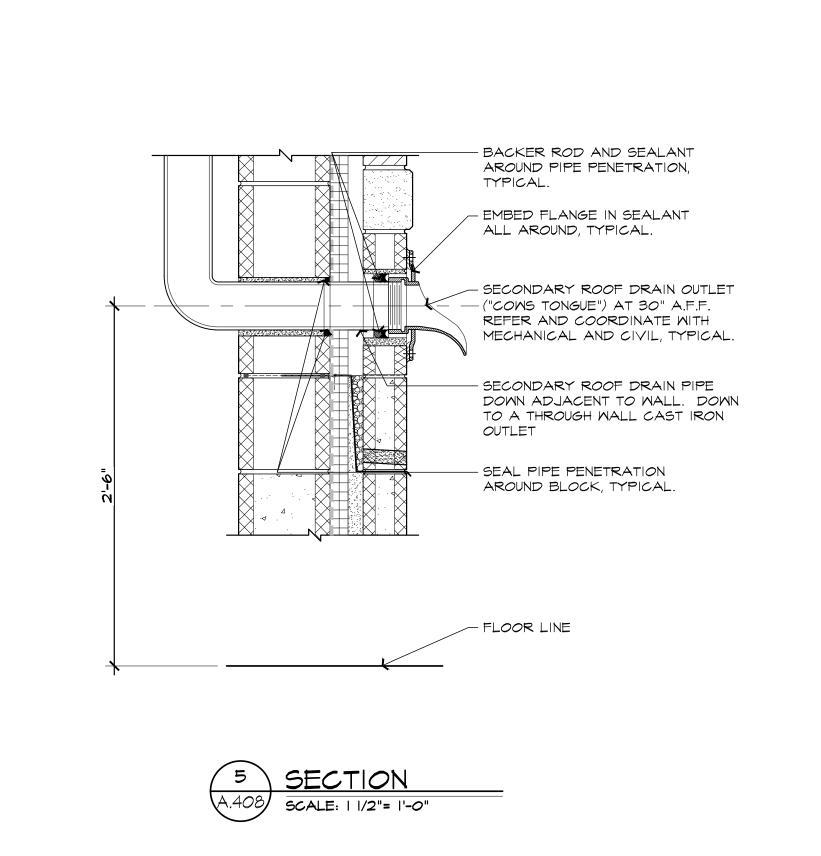
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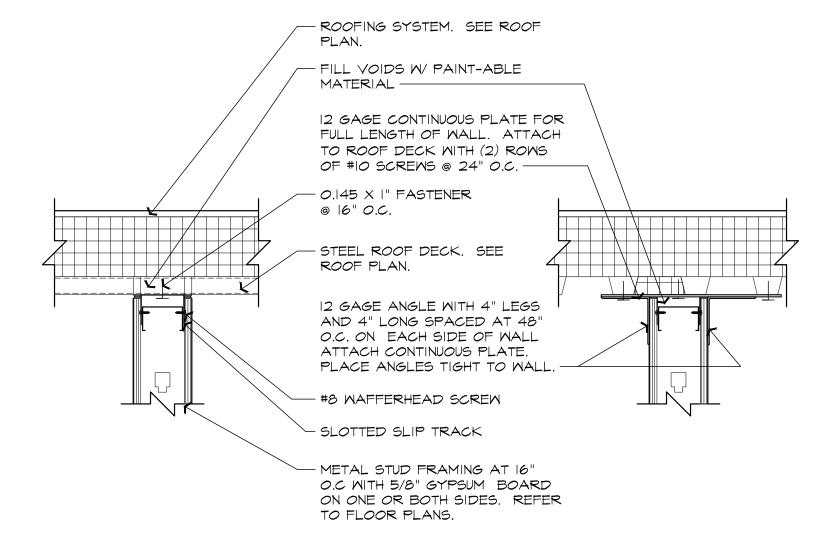
INDUSTRIAL

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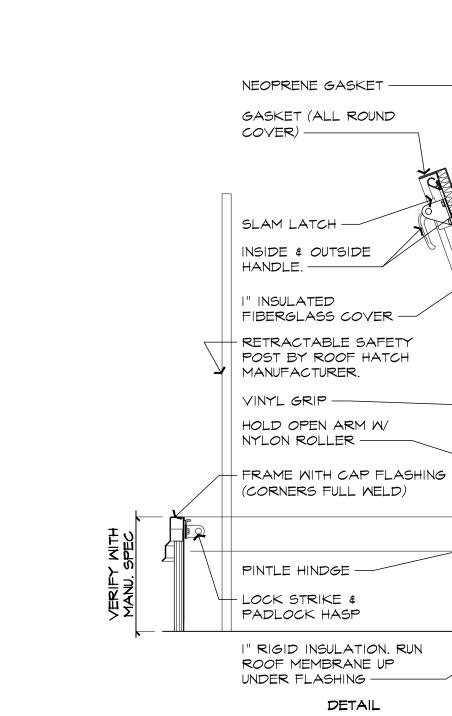


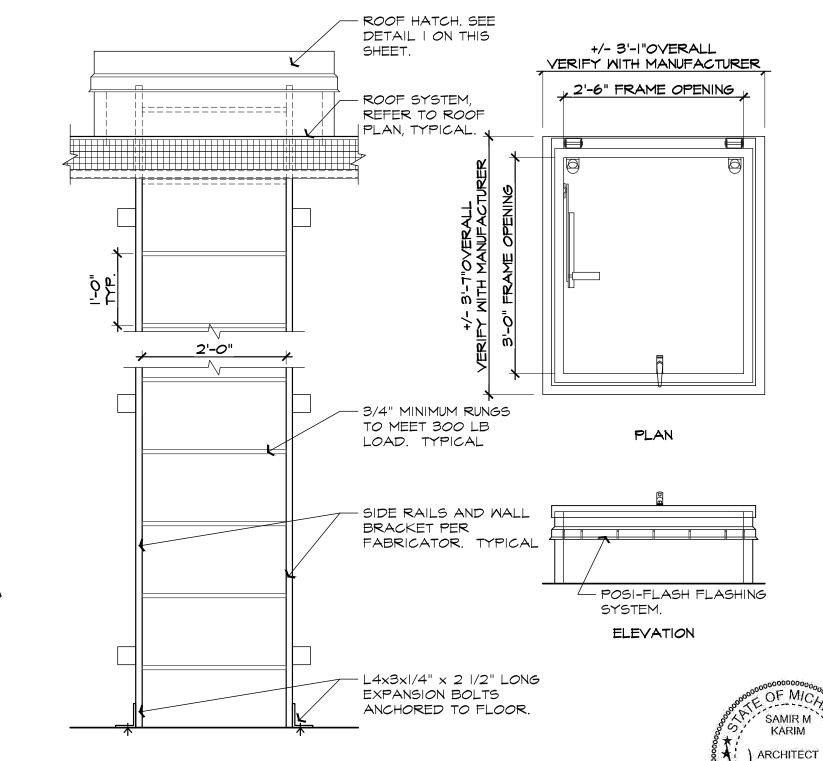
DETAILS ANDSCHEDULES

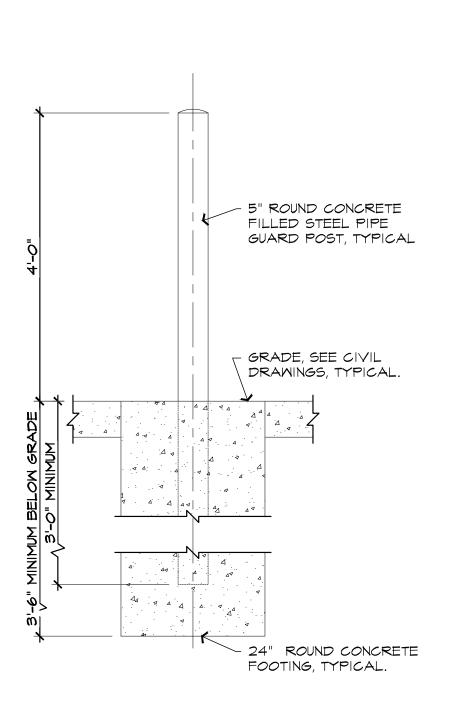




TYPICAL DEFLECTION TRACK DETAIL







TYPICAL BOLLARD DETAIL

NOT TO SCALE

TYPICAL PRIMARY AND SECONDARY ROOF DRAIN DETAIL NOT TO SCALE

G.C. / C.M. TO COORDINATE WITH MECHANICAL

REFER TO ROOF PLAN AND MECHANICAL FOR

ALL REQUIREMENTS TO ENSURE PROPER

MATERTIGHT INSTALLATION.

PRODUCT TYPE AND.

ROOFING SYSTEM. SEE

 \angle 14 GA RECESSED SUMP PAN.

- BRONZE EXPANSION FITTING

SPECIFICATIONS. TYPICAL.

- ROOF CONDUCTOR PER

MANUFACTURE

- UNDER DECK CLAMP

ROOF PLAN. -

SINGLE-PLY ROOFING

INSULATION. —

BY MECHANICAL CONTRACTOR. -

MEMBRANE ON TAPERED

ROOF SUMP AND FITTINGS

SUMP ANGLE FLASHING COLLARD GRAVEL STOP —

STEEL ANGLE FRAMES FOR SUMP PAN. REFER TO TYPICAL STRUCTURAL

DETAILS. —

PROVIDE BILCO TYPE-S ROOF SCUTTLE (OR APPROVED EQUAL BY OWNER). SEE WALL SECTION NO. 2 ON SHEET A.405.

DETAIL

SCALE: 3/4" = 1'-0"

ELEVATION

ARCHITECTURAL

ISSUED I

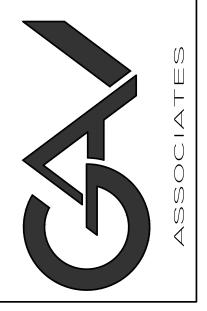
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Section 8, Item A.

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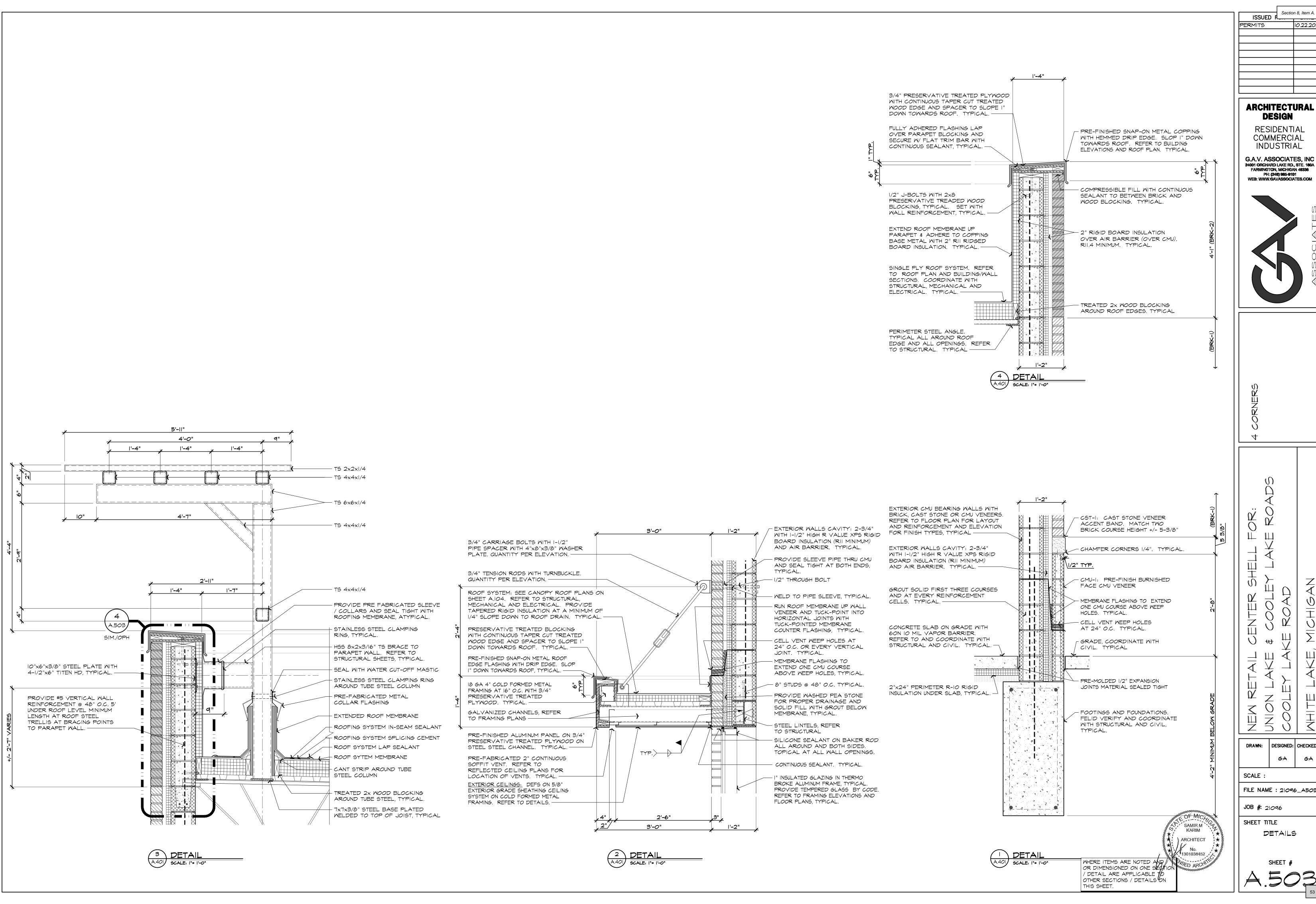


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SCALE:

FILE NAME: 21096_A502 JOB #: 21096

SHEET TITLE DETAILS



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DRAWN: DESIGNED: CHECKED:

FILE NAME : 21096_A503

DETAILS

C HO EXTERIOR WALL MOUNTED DECORATIVE LIGHT FIXTURE MODEL: 674-31-WP SERIES BY COOPER LIGHTING. SIZE 31" IN CC COLOR (CUSTOM COLOR) WITH LED LAMPS.

D POLYCARBONATE EXIT UNIT COMBO LIGHTING FIXTURE W/NICAD
BATTERY FOR 90 MINUTES MAINTENANCE FREE W/
SELF-DIAGNOSTIC. SELF-DIAGNOSTIC.

NOTE: COORDINATE ALL LIGHT FIXTURE SELECTIONS AND COLORS WITH OWNER FOR APPROVALS. TYPICAL FOR ALL FIXTURES.

Section 8, Item A. ISSUED I REFLECTED CEILING PLAN LEGEND: 10.22.2021 A 4' LONG CEILING SUSPENDED LED LIGHT FIXTURE MODEL: LAMAR LIGHTING DLLR SERIES B O ROUND CEILING RECESSED EXTERIOR LED LIGHT FIXTURE.

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SCALE :

FILE NAME : 21096_A601

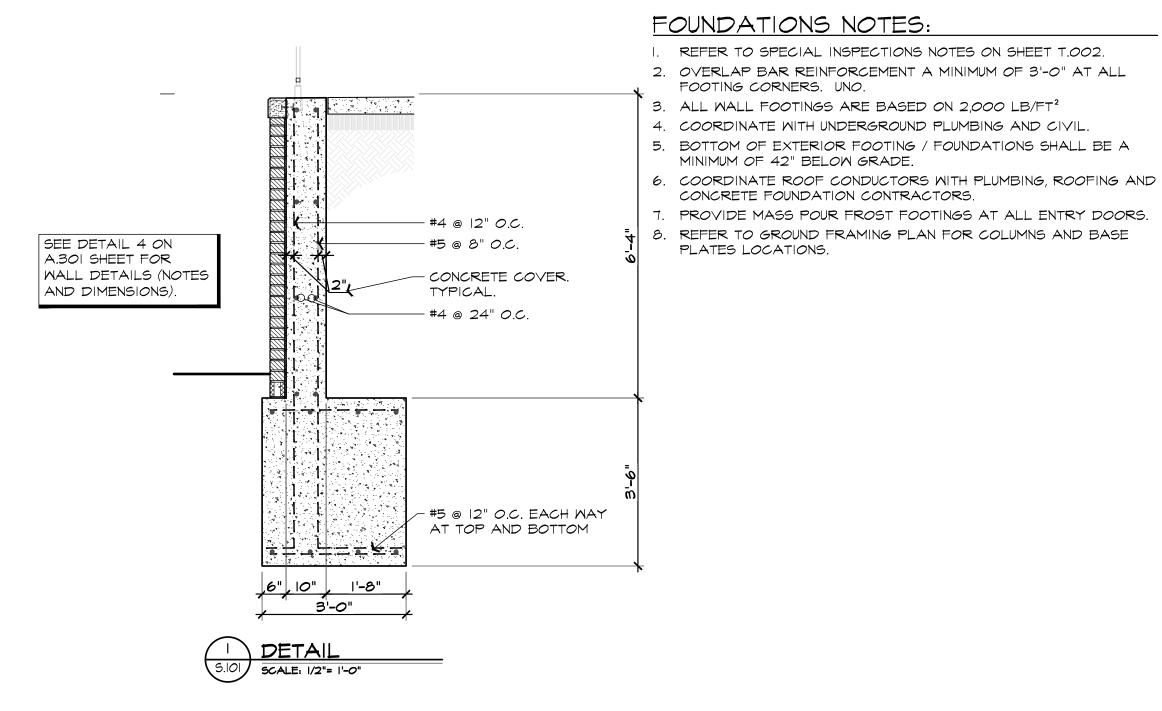
JOB #: 21096

SHEET TITLE REFLECTED

CEILING PLAN SHEET #

REFLECTED CEILING PLAN

SCALE: 3/16"= 1'-0"



STUD WALLS ABOVE. TYPICAL.

2"x24" PERIMETER R-IO

RIGID INSULATION UNDER

MF-I

MASS CONCRETE POUR FROST FOOTING AT ALL

EXTERIOR DOORS. SEE

DETAIL S.103, TYPICAL.

CANOPY ROOF DRAIN PIPE. REFER TO

WITH MECHANICAL AND CIVIL. TYPICAL.

CONNECTION WITH OWNER AND COORDINATE

FLOOR AND ROOF PLANS. VERIFY

SLAB, TYPICAL. —

84'-0"

MASS CONCRETE POUR FROST FOOTING AT ALL EXTERIOR DOORS. SEE

DETAIL S.103, TYPICAL.

LINES OF WALLS

ABOVE. TYPICAL.

RECOMMENDATIONS.

LINES OF WALLS ABOVE. TYPICAL.

FLOOR PLAN

SCALE: 3/16"= 1'-0"

46'-8"

UNDERGROUND STORM LINE. COORDINATE WITH MECHANICAL AND CIVIL. TYPICAL.

| F-I

5'-0"

18'-8"

MF-I

<u>5'-0"</u>

#-|MF-2|

12'-0" 10'-10"

S.101

FIELD VERIFY AND

COORDINATE WITH CIVIL $^{-1}$

| MF-1 |---

| WF-1 | ---

| MF-1 |

- 2"x24" PERIMETER R-IO

RIGID INSULATION UNDER SLAB, TYPICAL. ———

- LINES OF WALLS

ABOVE. TYPICAL.

STEPPED FOOTINGS/FOUNDATIONS: FIELD VERIFY AND COORDINATE WITH

- CANOPY ROOF DRAIN PIPE.

REFER TO FLOOR AND ROOF

PLANS. VERIFY CONNECTION WITH

MECHANICAL AND CIVIL. TYPICAL.

OWNER AND COORDINATE WITH

OVERLAP BAR REINFORCEMENT A MINIMUM OF 2'-0" AT ALL

3'-2" 6'-4"

(2) STEP FOOTING

DOWN 3'-2" ---

PLANS. VERIFY CONNECTION WITH OWNER AND COORDINATE WITH

MECHANICAL AND CIVIL. TYPICAL. —

CANOPY ROOF DRAIN PIPE. REFER TO FLOOR AND ROOF

FOOTING CORNERS. TYPICAL

CIVIL ALL GRADES TO MAINTAIN FOOTING

AT A MINIMUM OF 3'-6" BELOW GRADE.

18'-0"

(2) STEP FOOTING DOWN 3'-2" ----

3'-2" 6'-4" 3'-2"

WALL FOOTINGS SCHEDULE:

|MARK|SIZE (WXD)|REINFORCEMENT U.NO. '-6"×3'-6" 2 #5 CONTINUOUS @ TOP AND MF-I IMF-2 DETAIL DETAIL

> PROVIDE #5 BARS @ 48" O.C DOWELS FOR ALL WALL FOOTINGS. BARS SHALL BE 2'-0" INTO FOOTING AND 3'-0" ABOVE.

COLUMN FOOTINGS SCHEDULE:

MARK	SIZE (MxD)	DEPTH	REINFORCEMENT U.NO.
F-I	4'-0"×4'-0"		#5 @ 6" O.C. EACH WAY AT BOTTOM AND #4 @12 O.C. EACH WAY AT TOP

22'-0" __5'-0"____2'-8" <u>5'-0"</u> A.301 MF-I MF-1 OVERLAP BAR REINFORCEMENT A MINIMUM OF 2'-0" AT ALL FOOTING CORNERS. TYPICAL. PROVIDE I'-O" WIDE BY 8" THICKENED LINES OF WALLS SLAB BELOW CMU WALL WITH 2-#5 ABOVE. TYPICAL. CONTINUOUS BARS. COORDINATE WITH OWNER AND AND FIELD VERIFY LOCATION. -4" CONCRETE SLAB ON GRADE: WITH 6x6 - W2.9xW2.9 W.W.F. PLACED AT MID DEPTH ON 6 MIL VAPOR BARRIER ON 5" COMPACTED GRANULAR FILL OVER 95% COMPACTED ENGINEERED SUBGRADE. G.C. TO VERIFY CONCRETE INSTALLATION TIMING. REFER TO GEOTECHNICAL REPORT FOR SUBGRADE CANOPY ROOF DRAIN PIPE. REFER TO FLOOR AND ROOF PLANS. VERIFY CONNECTION WITH OWNER AND COORDINATE WITH MECHANICAL AND CIVIL. TYPICAL.

MF-I

5'-0" 2'-6"

SCALE: FILE NAME : 21096_SIOI JOB #: 21096 SHEET TITLE

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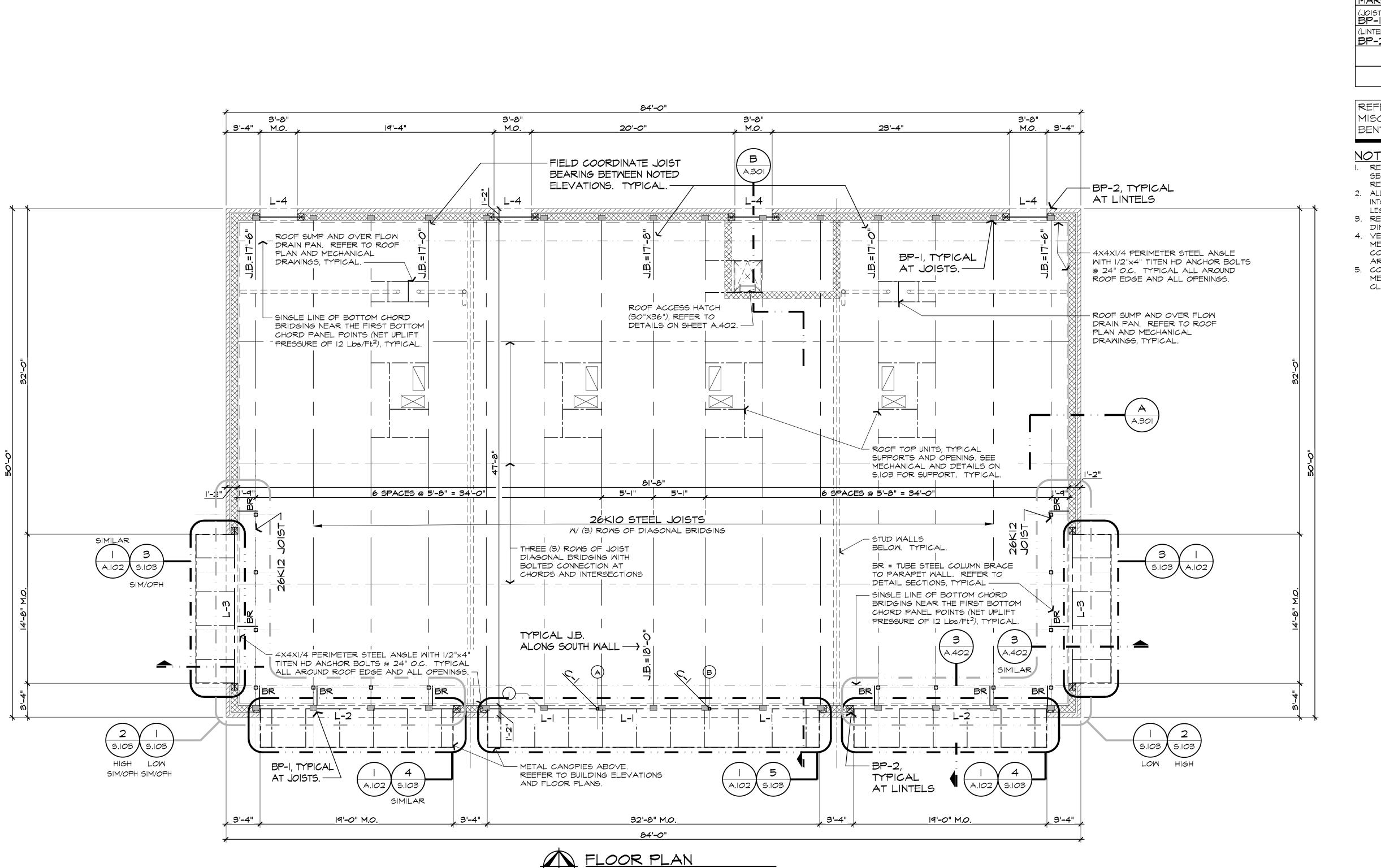
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PERMITS

DRAWN: DESIGNED: CHECKED: GA

FOUNDATION



SCALE: 3/16"= 1'-0"

COLUMN SCHEDULE

BASE PLATE MARK SIZE ANCHOR BOLTS C-I HSS 3x3x3/8 | 9x9x5/8 (4) 3/4×16"

LINTELS SCHEDULE MARK SIZE STEEL PLATE BASE PLATE M8×24 3/8"x|3-|/2" BP-2 L-2 3/8"x|3-|/2" BP-2 M16×50 M8×28 3/8"×13-1/2" L-3 BP-I L-4 | M8x15 BP-I 3/8"x|3-|/2"

- ALL STEEL LINTELS TO HAVE 5/8"x8" STEEL
- STUDS AT 48" O.C. WELDED TO TOP FLANGE. REFER FLOOR PLANS, ELEVATIONS AND WALL SECTIONS.
- COORDINATE BASE PLATE THICKNESS TO MAINTAIN MASONRY COURSING JOINTS.

BEARING PLATE SCHEDULE							
MARK	SIZE	ANCHORS					
JOISTS) 3P-1	6"×8"×3/8"	2-1/2"Φ × 8" STEEL STUDS					
LINTELS)	7 1/2"x7 1/2"x1/2"	2-1/2"Φ × 8" STEEL STUDS					

REFER TO ARCHITECTURAL SECTION DETAILS FOR MISCELLANEOUS GALVANIZED STEEL ANGLES AND BENT PLATES. TYPICAL.

I. REFER TO WALL LEGEND ON ARCHITECTURAL PLANS AND SECTIONS FOR MASONRY AND CONCRETE STEEL

REINFORCEMENT. 2. ALL CMU WALLS TO HAVE #5 VERTICAL @ 48" O.C. DOWELS TO BE 2'-0"

INTO FOOTING AND 3'-O" ABOVE. COORDINATE WITH FLOOR PLAN LEGEND AND NOTIFY ARCHITECT / ENGINEER OF ANY DISCREPANCIES.

3. REFER TO ARCHITECTURAL SECTIONS MASONRY WALLS DIMENSIONS AND COORDINATION.

4. VERIFY AND COORDINATE STEEL ANGLE FRAMING FOR MECHANICAL PENETRATION OPENING SIZE WITH MECHANICAL CONTRACTOR. PROVIDE 2 HOUR FIRE RATED MATERIAL AROUND PENETRATION.

5. COORDINATE CONCRETE FLOOR AND STEEL FRAMING WITH MECHANICAL, PLUMBING AND ELECTRICAL CONTRACTORS FOR CLEARANCES.

Section 8, Item A. ISSUED 10.22.2021 PERMITS

ARCHITECTURAL DESIGN

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DRAWN: DESIGNED: CHECKED: GA

SCALE:

FILE NAME : 21096_5102

AL ARCHITECT

JOB #: 21096 SHEET TITLE

FRAMING SHEET #

ROOF STEEL TRELLIS FRAMING PLAN - HIGH

GENERAL NOTES:

REFER TO SHEET S.102 FOR SCHEDULES AND NOTES.

ROOF STEEL TRELLIS FRAMING NOTES:

I. ALL EXPOSED STEEL TO RECEIVE SPECIAL PRIMER: SOLVENT BASED TWO PART INORGANIC ETHYL SILICATE ZINC RICH PRIMER.

- SPECIAL PRIMER SHALL BE APPLIED TO ALL ROOF EXPOSED STEEL TRELLIS AND STEEL TOWER. COORDINATE COLOR AND FINISH WITH OWNER AND FINISH PRIME TO ACCEPT PAINT AS REQUESTED BY OWNER.
- 3. SUBMIT A COMPLETE DETAILED SHOP DRAWINGS FOR TRELLIS AND TOWER FOR REVIEW.
- 4. ALL TUBE STEEL MEMBERS TO CAPPED WITH 3/8" WELDED SMOOTH PLATE AT END CAPS.
- 5. WELD CORNERS AND SEAMS CONTINUOUSLY TO COMPLY WITH AWS RECOMMENDATIONS AND THE FOLLOWING:
- 5.1. USE MATERIALS AND METHODS THAT MINIMIZE DISTORTION AND DEVELOP STRENGTH AND CORROSION
- RESISTANCE OF BASE METALS.

 5.2. AT EXPOSED CONNECTIONS, FINISH EXPOSED WELDS AND SURFACES SMOOTH AND BLENDED SO THAT NO ROUGHNESS SHOWS AFTER FINISHING AND CONTOUR OF
- WELDED SURFACE MATCHES THOSE ADJACENT.

 6. COORDINATE COLOR / FINISH WITH OWNER.

ISSUED

PERMITS

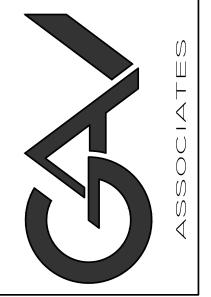
Section 8, Item A.

10.22.2021

ARCHITECTURAL DESIGN

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CORNERS

ON LAKE & COOLEY LAKE ROAD
OLEY LAKE ROAD
THE ATER ROAD

DRAWN: DESIGNED: CHECKED:
SSA GA GA

SCALE :

FILE NAME : 21096_5103

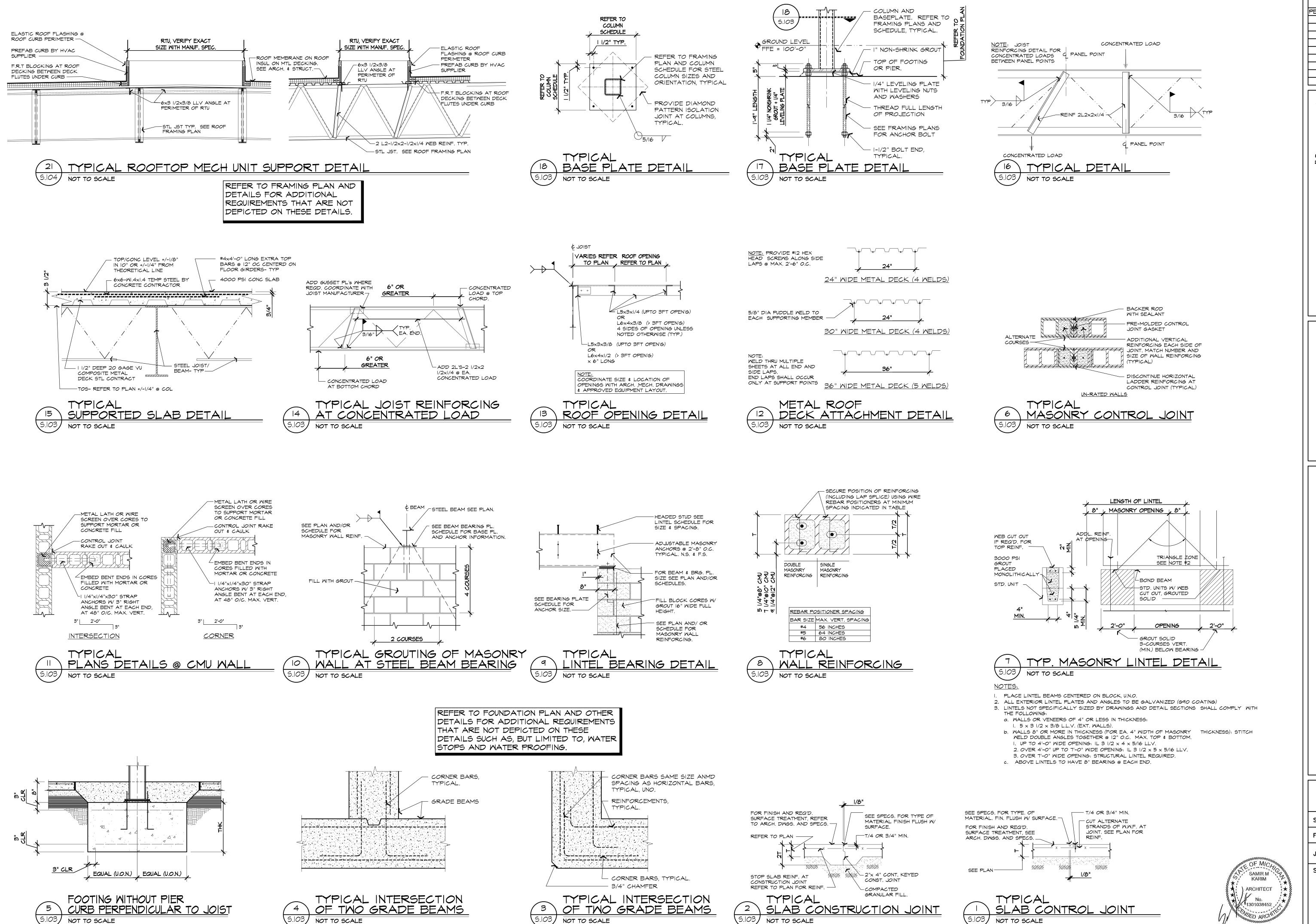
JOB #: 21096

SHEET TITLE

★ ARCHITECT

ROOF STEEL TRELLIS FRAMING PLAN - LOW SCALE: 3/8"= 1'-0" ENLARGED FRAMING PLANS SHEET #

5.103



PERMITS

| O.22.202|

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CORNERS

N RETAIL CENTER SHELL FOR: ON LAKE & COOLEY LAKE ROAI OOLEY LAKE ROAD

DRAWN: DESIGNED: CHECKED:
SSA GA GA

SCALE :

FILE NAME : 21096_5104

JOB #: 21096

SHEET TITLE
SECTIONS

AND DETAILS

ABBREVIATIONS

A.F.F ABOVE FINISH FLOOR CEILING SUPPLY DIFFUSER C.F.M. CUBIC FEET PER MINUTE C.O. CLEAN OUT COMB. COMBUSTION C.P. CIRCULATING PUMP DPR. DAMPER D.F. DRINKING FOUNTAIN **EXISTING** E.F. EXHAUST FAN ER-# EXHAUST REGISTER EXH. EXHAUST EWC ELECTRIC WATER COOLER F.C.O. FLOOR CLEANOUT F.D. FLOOR DRAIN F.D. FIRE DAMPER H.B. HOSE BIBB INVERT ELEVATION LAV. LAVATORY NEW CONNECTION/ NORMALLY CLOSED N.C. O.A. OUTSIDE AIR P.H. PHYSICAL HANDICAPPED R.A. RETURN AIR R.C. RAIN CONDUCTOR E.D.H. ELECTRIC DUCT HEATER RETURN AIR GRILLE R.P.B.P. REDUCED PRESSURE BACKFLOW PREVENTER RR-# RETURN AIR REGISTER S.A. SUPPLY AIR S-1 SUPPLY DIFFUSER SR-# SUPPLY REGISTER S.F. SQUARE FEET SAN. SANITARY S.S. SERVICE SINK SHOWER SHWR. ST. STORM T.G. TRANSFER GRILLE T.P. TRAP PRIMER U/GRD. UNDERGROUND U.H. UNIT HEATER UR. URINAL VENT V.T.R. VENT THRU ROOF WASTE WATER CLOSET W.C. W.C.O. WALL CLEANOUT

H.V.A.C. SYMBOLS

SPIN-IN FITTING W/DAMPER FLEXIBLE DUCT RETURN AIR GRILLE SUPPLY AIR DIFFUSER HORIZONTAL FIRE DAMPER VERTICAL FIRE DAMPER HORIZONTAL FIRE & SMOKE DAMPER VERTICAL FIRE & SMOKE DAMPER VOLUME DAMPER RECTANGULAR TO ROUND TRANSITION MOTORIZED AIR DAMPER

PLUMBING SYMBOLS

WATER HEATER

W.H.

	DOMESTIC COLD WATER (C.W.)
	DOMESTIC HOT WATER (H.W.)
<u> </u>	DOMESTIC HOT WATER RETURN (H.W.F
— GAS OR NG —	NATURAL GAS
SAN	SANITARY SEWER
ST	STORM SEWER
	VENT
$\longrightarrow \bigvee \longrightarrow$	GATE VALVE
	CHECK VALVE
—————————————————————————————————————	BALANCING VALVE
	THERMOMETER
	STRAINER
——————————————————————————————————————	UNION
***	FLEXIBLE CONNECTOR
——IOI——	BALL VALVE
T	THERMOSTAT
•	NEW CONNECTION

MECH. SHEET INDEX						
SHEET No.	DESCRIPTION					
M.000	SYMBOLS AND ABBREVIATIONS					
M.100	MECHANICAL PLAN, SCHEDULES & DETAILS					

NOTE:

NOT ALL SYMBOLS AND ABBREVIATIONS ARE APPLICABLE TO THIS PROJECT

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ARCHITECTURAL

DESIGN

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Section 8, Item A.

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PERMITS

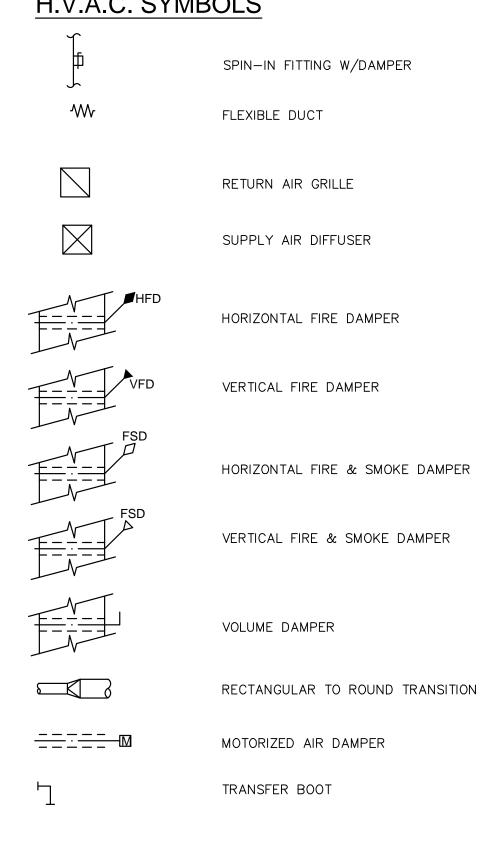
GA SCALE : AS NOTED

DRAWN: DESIGNED: CHECKED:

FILE NAME : 21096_M000

JOB #: 21096

SHEET TITLE SYMBOLS AND ABBREVIATIONS



MECHANICAL AND PLUMBING NOTES

A. WATER SUPPLY SYSTEM

- . ALL PLUMBING FIXTURES MUST CONFORM TO BUT NOT LIMITED TO SECTION 6 PROTECTION OF POTABLE WATER SUPPLY OF THE 2 12 MICHIGAN PLUMBING CODE AND THE STANDARDS OF THE ASSE-AMERICAN SOCIETY OF SANITARY
- ENGINEERS. 2. ALL PIPING SHALL BE TYPE L COPPER, INSULATED WITH 1 INCH PLENUM RATED FIBERGLASS WRAP.
- 3. PROVIDE SHUT-OFF VALVE AT TENANT AREA AS INDICATED ON THE PLAN.

B. SANITARY SEWER SYSTEM

- . ALL SANITARY SEWER PIPING SHALL BE CAST IRON ABOVE FLOOR. PVC PIPING SHALL BE PERMITTED BELOW THE FLOOR SLAB IF APPROVED BY AHJ.
- 2. SANITARY SEWER PIPING SHALL BE SLOPED PER FOOT. 3. CLEANOUTS SHALL BE IN ACCORDANCE WITH UP TO DATE

5. OVERFLOW NOZZLE, PER ARCHITECTURAL TRADE.

PLUMBING CODES IN THE LOCATION OF THE BUILDING. 4. PROVIDE SANITARY VENTS AND VTR'S AT INTERIOR WALLS AS REQUIRED. 5. PROVIDE CLEAN OUTS AT EVERY CHANGE OF DIRECTION GREATER THAN 45 DEGREES AND EVERY 50 FEET STRAIGHT RUN.

C. STORM SEWER SYSTEM

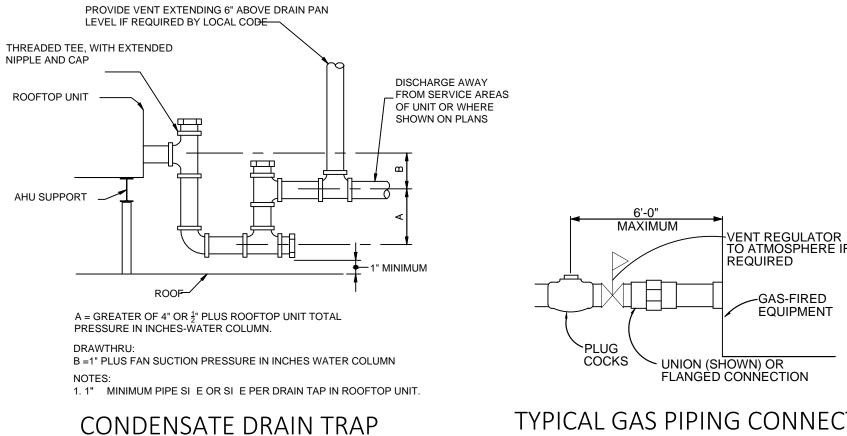
- 1. STORM SEWER PIPING MAY BE PCV BELOW THE FLOOR SLAB IF APPROVED BY AHJ. 2. METAL ROOF LEADERS SHALL BE CONNECTED TO UNDERGROUND STORM SEWER
- 3. ALL PIPING SHALL BE INSULATED WITH 1 INCH PLENUM RATED FIBERGALSS WRAP. 4. CLEANOUTS ARE TO BE PROVIDED THE SAME AS REQUIRED FOR SANITARY PIPING.

MECHANICAL HVAC UNITS

- 1. MECHANICAL ROOF TOP UNITS, CURBS AND ACCESSORIES AS SPECIFIED ARE TO BE PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR
- 2. GAS PIPING FROM GAS METER TO ROOF TOP HVAC UNITS SHALL BE PROVIDED AND INSTALLED PER GAS COMPANY AND ASHRAE STANDARDS.
- 3. GAS PIPING SHALL BE SIZED BY THE MECHANICAL CONTRACTOR PER UTILITY COMPANY AND ROOF TOP UNIT MANUFACTURER'S
- REQUIREMENTS.
- 4. GAS PIPING ON ROOF TO CONNECT TO EACH CORRESPONDING TENANT GAS METER.SEE MEP-200 FOR GAS PIPE ROOF SUPPORT DETAILS.

EKEYED MECHANICAL NOTES

- (1) GAS SERVICE MAIN COORDINATE WITH CIVIL & UTILITY CO.
- (2)2 INCH DOMESTIC WATER METER PER THE CITY REQUIREMENTS. SEE DOMESTIC WATER METER RISER DETAIL ON THIS
- (3)6 INCH ROOF SUMP 6 INCH CAST IRON HORIZONTAL TO 6 INCH VERTICAL DOWN FACE OF BACK WALL WITH CLEAN OUT AT BASE. HOLD VERTICAL CONDUCTOR TIGHT TO BACK WALL FACE. REFER TO ARCHITECTURAL DRAWINGS FOR TYPICAL ROOF SUMP DETAIL AND PLUMBING GENERAL NOTES FOR PIPE INSULATION REQUIREMENTS.
- (4.)6 INCH OVERFLOW ROOF SUMP TO 6 INCH HORIZONTAL CAST IRON OVERFLOW CONDUCTOR IN JOIST SPACE. SLOPE AT MINIMUM " PER L.F. HOLD CONDUCTOR AS HIGH AS POSSIBLE WITHIN JOIST SPACE. REFER TO ARCHITECTURAL DRAWINGS FOR TYPICAL ROOF OVERFLOW NOZZLE DETAIL AND PLUMBING GENERAL NOTES FOR PIPE INSULATION REQUIREMENTS.
- (5) 6 INCH CAST IRON STORM ABOVE. SLOPE AT MINIMUM 1/8" PER L.F.
- (6.)8 INCH BUILDING STORM SEWER LEAD, COORDINATE SITE STORM LEAD SIZE, INVERT ELEVATION AND LOCATION WITH
- (7.)6 INCH SANITARY SEWER UNDERGROUND. PITCH AT MINIMUM "PER L.F.
- (8)6 INCH BUILDING SANITARY LEAD-COORDINATE SITE SANITARY SIZE, INVERT ELEVATION AND LOCATION WITH
- (9.)GAS SERVICE MAIN COORDINATE WITH CIVIL & UTILITY CO.
- (0) BUILDING HOSE BIBS TO BE ON HOUSE METER. VERIFY EXACT LOCATION IN FIELD W/ OWNER AND CONTRACTOR.

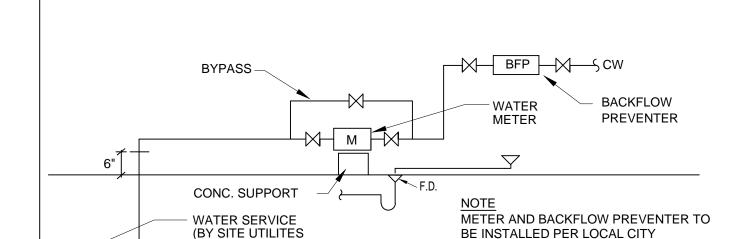


NO SCALE

TYPICAL GAS PIPING CONNECTION NO SCALE

		HVAC UNIT SCHEDULE
HVAC UNIT	MANUFACTURER	DESCRIPTION
		MODEL # 48HC05, NOMINAL 4 TON COOLING: TOTAL= 48.5 MBH, SENSIBLE = 38.1 MBH, 1600
1,4	CARRIER	CFM TOTAL, 368 CFM MIN. OUTSIDE AIR, HEATING: GAS INPUT= 150 CFH, GAS OUTPUT= 117
		CFH, 208-3-60 4W, 32 MCA, 45A MOCP, STD. UNIT WEIGHT 850 LBS
		MODEL # 48HC04, NOMINAL 3 TON COOLING: TOTAL= 36 MBH, SENSIBLE = 28.3 MBH, 1200 CFN
2,3	CARRIER	TOTAL, 276 CFM MIN. OUTSIDE AIR, HEATING: GAS INPUT= 115 CFH, GAS OUTPUT= 89 CFH,
		208-3-60 4W, 26 MCA, 30A MOCP, STD. UNIT WEIGHT 700 LBS
NOTES:		
PROVIDE AT EACH UNIT		
1 18" MANUEACTURER'	S ROOF CLIRR II N.	

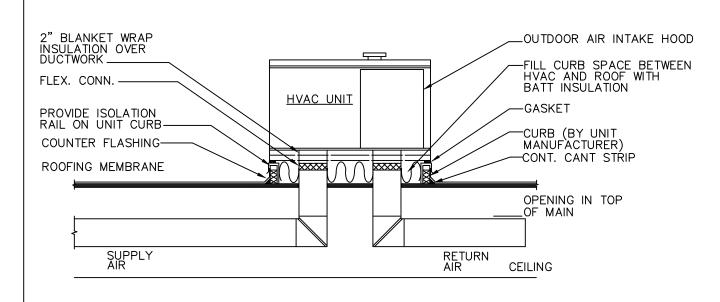
- 2. ENTHALPY CONTROLLED ECONOMIZER
- . THROW-AWAY FILTERS
- 4. BIRDSCREEN
- RETURN AIR SMOKE DETECTORS FOR HVAC UNIT
- PROVIDE GENERAL SERVICE DUPLEX ELECTRICAL OUTLET (GFCI) AT EACH HVAC ROOF TOP UNIT. OUTLET BY HVAC MANUFACTUER.
- CIRCUIT TO FUTURE TENANT PANEL, U.N.O.
- . PROVIDE PROGRAMMABLE THERMOSTAT AT ALL UNITS.
- 3. TRANE AND LENNOX ARE ACCEPTABLE ALTERNATE MANUFACTURERS
- 8.1. WHERE AN ALTERNATE HVAC UNIT MANUFACTURER IS PROVIDED, THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING HE ALTERNATE UNITS WEIGHT WITH THE STRUCTURAL FRAMING INCLUDING BUT NOT LIMITED TO ANY ADDITIONAL STRUCTURAL
- REINFORCING THAT MAY BE REQUIRED TO SUPPORT THE NEW LOADS.



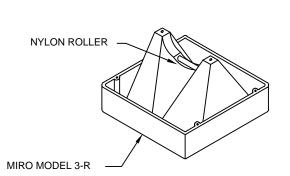
WATER METER INSTALLATION DIAGRAM NO SCALE

REQUIREMENTS

CONTRACTORS)



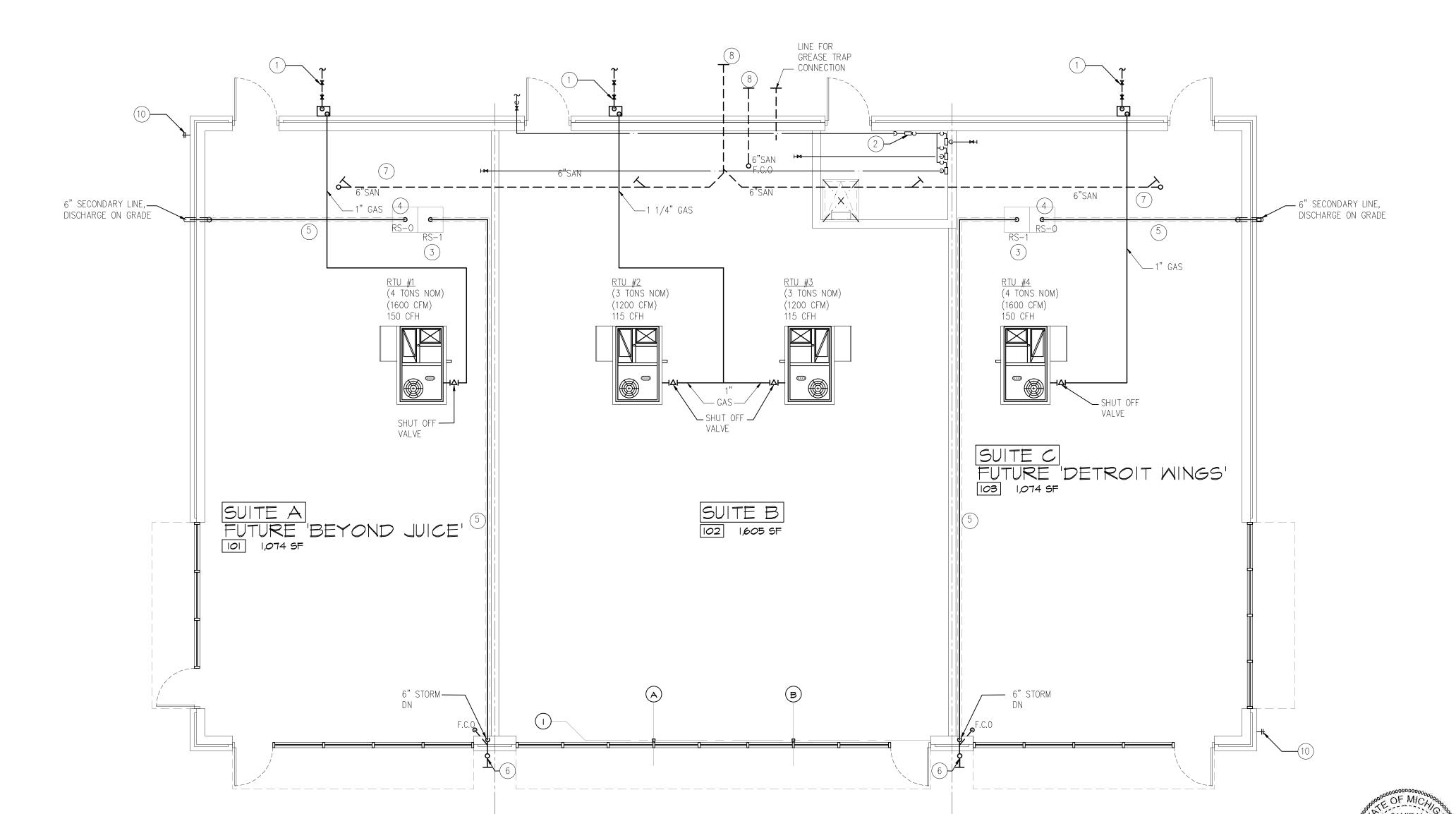
SECTION THROUGH HVAC UNIT SCALE: N.T.S



SUPPORT SPACING FOR PIPE SIZE: 5"=16', 4"=14', 3"=12', 2-1/2"=11', 2"=10' 1-1/2"=9', 1-1/4"=8', 1"=7', 3/4"=6'. PLACE BASE SHEETS ON ROOFING BEFORE GRAVEL IF ANY. INSTALL GAS PIPE TO ALLOW FOR EXPANSION AND CONTRACTION.

PRIMER COAT AND PAINT EXTERIOR GAS PIPE. TYPICAL GAS PIPE SUPPORT **DETAIL ON ROOF**

NO SCALE



FLOOR PLAN-MECHANICAL SCALE: 3/16" = 1'-0" NORTH

10.22.2021 PERMITS

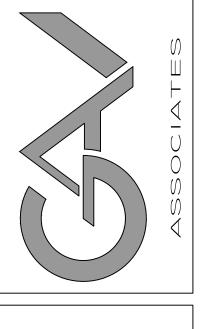
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DRAWN: DESIGNED: CHECKED:

DG DG SCALE : 3/16" = 1'-0"

FILE NAME : 21096_MIOI

JOB #: 21096

SHEET TITLE

FLOOR PLAN-MECHANICAL



GENERAL NOTES & SPECIFICATIONS

- 1. CONTRACTOR SHALL VISIT THE JOB SITE AND THOROUGHLY CHECK THE FIELD CONDITIONS PRIOR TO SUBMITTING HIS BID.
- 2. CONTRACTOR SHALL BE PREPARED TO WORK CONTINUOUSLY AND EXPEDITIOUSLY TO COMPLETE THE WORK RIGHT ON SCHEDULE FOR A COMPLETE LIGHTING AND POWER
- 3. CONTRACTOR SHALL OBTAIN ALL PERMITS AND PAY ALL FEES.
- 4. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, CODES AND REGULATIONS AS WELL AS APPLICABLE CURRENT STANDARDS.
- 5. CABINETS, MOTOR FRAMES, STARTERS, CONDUIT SYSTEM, PANELBOARDS, ETC., SHALL BE GROUNDED IN ACCORDANCE WITH THE LATEST N.E.C. AND LOCAL CODES.
- 6. MATERIALS SHALL BE NEW AND BEAR THE U.L. LABEL OR LISTING, WHEREVER STANDARDS HAVE BEEN ESTABLISHED.
- 7. COORDINATE EXACT LOCATION AND MOUNTING HEIGHTS OF ALL LIGHTING FIXTURES AND ELECTRICAL DEVICES WITH OTHER TRADES BEFORE INSTALLATION.
- 8. ALL WALL MOUNTED CONTROL DEVICES, LIGHTING SWITCHES SHALL BE 4'-0" A.F.F. UNLESS OTHERWISE NOTED ON THE DRAWINGS. SWITCHES SHALL BE 20A, 120/277V, 1 POLE, 2 POLE, 3 AND 4 WAY AS INDICATED, HUBBELL #1221 SERIES OR EQUAL.
- 9. WALL MOUNTED DISCONNECT SWITCHES AND CONTROL PANELS SHALL BE 6'-0" TO TOP ABOVE FINISH FLOOR.
- 10. EXPANSION FITTINGS SHALL BE PROVIDED FOR ALL CONDUIT CROSSING BUILDING EXPANSION JOINTS.
- 11. ALL WEATHERPROOF (WP) DUPLEX RECEPTACLES SHALL BE INSTALLED HORIZONTALLY SUCH THAT COVER DOORS OPEN UPWARD.
- 12. ALL PENETRATIONS OF FIRE WALLS OR FLOORS SHALL BE SEALED AFTER INSTALLATION OF CONDUIT WITH A FIRE RETARDANT SEALANT THAT IS RATED THE SAME AS THE FIRE WALL OR FLOOR.
- 13. PROVIDE A GREEN GROUND CONDUCTOR IN ALL SYSTEMS CONDUITS INCLUDING BRANCH CIRCUIT CONDUITS FOR LIGHTING AND RECEPTACLES PER NEC TABLE 250-95.
- 14. ALL CONDUIT SHALL BE 3/4"EMT (MIN.) AND THEY SHALL BE OF SIZES REQUIRED TO ACCOMMODATE NUMBER OF CONDUCTORS IN ACCORDANCE WITH NEC WIRING TABLES OR AS INDICATED ON DRAWINGS, WHICHEVER IS LARGER.
- 15. FEEDERS SHALL BE TYPE "THW" OR "XHHW", AND ALL 120 VAC LIGHTING AND RECEPTACLE CIRCUITS RUN 2#12 (THWN/THHN) MIN. + GND IN 3/4"C MIN. TO THE LIGHTING PANELBOARD INDICATED UNLESS NOTED OTHERWISE. HOME RUN TO PANEL IF MORE THAN 80' SHALL BE #10 IN 3/4"C. OR CONTRACTOR SHALL USE A CONDUCTOR SO THAT VOLTAGE DROP IS LESS THAN 2%. ALL WIRE SHALL BE COPPER, HAVE 600 VOLT INSULATION AND INSTALLED IN
- 16. RECEPTACLES SHALL BE DUPLEX GROUNDING TYPE 20A, 125V, HUBBELL #5362 OR EQUAL. SPECIAL PURPOSE RECEPTACLES 30A, 40A, 50A-2P OR 3P, ETC., SHALL BE SPECIFICATIONS
- 17. WALL PLATES FOR SWITCHES, RECEPTACLES AND TELEPHONE OUTLETS SHALL BE SUPER STAINLESS STEEL, TYPE 302, HUBBELL #93000 SERIES OR EQUAL.
- 18. SINGLE PHASE MOTOR STARTERS SHALL HAVE MANUAL TOGGLE SWITCH WITH THERMAL OVERLOADS, FLUSH MOUNTED WITH PILOT LIGHT, ALLEN-BRADLEY #600 OR EQUAL.
- 19. THREE PHASE MOTOR STARTERS SHALL BE MAGNETIC TYPE, WITH FUSED CONTROL TRANSFORMER (120 VOLT SECONDARY) AND AUXILIARY CONTACTS AS REQUIRED, ALLEN BRADLEY #712 OR EQUAL.
- DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE, FUSED OR NON-FUSED AS INDICATED, IN A NEMA 1 OR 12 ENCLOSURE, DISCONNECT SWITCHES INSTALLED OUTDOOR SHALL BE NEMA 3R ENCLOSURE, CUTLER—HAMMER, SQUARE D, OR G.E.
- 21. METER CENTERS, OR PANELBOARDS SHALL BE SIEMENS, SQUARE D, CUTLER-HAMMER,
- 22. FOR BRANCH CIRCUIT PANELBOARD TERMINATION AND CIRCUITRY, REFER TO PANEL SCHEDULES.
- 23. FOR TYPE OF LIGHTING FIXTURES REFER TO LIGHTING FIXTURE SCHEDULE.

OR G.E. SIZE ON THE DRAWINGS.

- 24. ALL ELECTRICAL EQUIPMENT MOUNTED ON EXTERIOR WALLS SHALL HAVE A 1/2" MIN. AIR SPACE BETWEEN WALL AND EQUIPMENT. PROVIDE A NON-CORROSIVE SPACERS AND BRACKETS
- 25. VERIFY ALL ROUGH—IN LOCATIONS, FINAL CONNECTIONS, MOUNTING HEIGHTS, VOLTAGES AND PHASES WITH OTHER TRADES EQUIPMENT SUPPLIERS SHOP DRAWINGS PRIOR TO INSTALLATION OF EQUIPMENT. FAILURE TO DO SO SHALL RESULT IN NO EXTRA CHARGE TO THE OWNER.
- 26. EXACT LOCATIONS OF ELECTRICAL EQUIPMENT MAYBE ADJUSTED IN THE FIELD TO AVOID EXISTING AND UNEXPECTED CONSTRUCTION OBSTACLES.
- 27. VERIFY EXACT LOCATION OF ALL CONTROL PANELS ETC., FOR MECHANICAL EQUIPMENT, AND WIRE ACCORDINGLY FOR A COMPLETE FUNCTIONAL SYSTEM.
- 29. WHEN THE JOB IS COMPLETED, THE CONTRACTOR SHALL PROVIDE THE ARCHITECT WITH CERTIFICATE OF APPROVAL FROM THE LOCAL INSPECTION AUTHORITY. THE CONTRACTOR SHALL GIVE THE OWNER A WRITTEN GUARANTEE THAT HE WILL MAKE GOOD, AT HIS OWN EXPENSE, ANY DEFECTS IN MATERIALS OR WORKMANSHIP WHICH MAY DEVELOP WITHIN ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE.

ABBREVIATIONS

Α	AMPS
AC	ALTERNATE CURRENT
AFF	ABOVE FINISH FLOOR
AMP	AMPLIFIER
BKR	BREAKER
C,CND	CONDUIT
CUH	CABINET UNIT HEATER
CAT. NO.	CATALOG NUMBER
CKT. CLG.	CIRCUIT CEILING
CONT.	CONTRACTOR
C/T	CURRENT TRANSFORMER
D'	DUCT SMOKE DETECTOR
D.E.CO.	DETROIT EDISON COMPANY
DN.	DOWN
DISC.	DISCONNECT
ELECT.	ELECTRICAL
EF	EXHAUST FAN
EXIST.	EXISTING
F	FIRE
FIXT.	FIXTURE
FL GND.,G.	FLOOR GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
HP	HORSE POWER
KVA	KILO VOLT AMPERE
L,LTG.	LIGHTING
M.B.	MAIN BREAKER
MECH.	MECHANICAL
MIC	MICROPHONE
MIN.	MINIMUM
MTD	MOUNTED
N.T.S.	NOT TO SCALE
NO. PNL	NUMBER PANEL
PWR	POWER
R	RECEPTACLE
RM	ROOM
SD	SMOKE DETECTOR
SHT	SHEET
SW	SWITCH
TS	TIMER SWITCH
TYP.	TYPICAL
UM	UTILITY METER
VA	VOLT AMPERE
V	VOLT
W W/	WATTS WITH
w/o	WITHOUT
WP	WEATHER PROOF
XFMR	TRANSFORMER

SITE ELECTRICAL NOTES

- CADWELD #2/0 BARE COPPER GROUND WIRE TO GROUND ROD (3/4" X 10'-0"). TOP OF GROUND ROD SHALL BE 12" MIN. BELOW GRADE.
- 2. REFER TO CIVIL DRAWINGS FOR EXACT LOCATION OF EXISTING UTILITY AND THE EXACT LOCATION OF UTILITY CO. CONCRETE PAD MOUNTED TRANSFORMER.
- 3. PRIOR TO INSTALLATION OF THE CONCRETE PAD, COORDINATE THE WORK WITH UTILITY CO. FOR SPECIFIC DETAIL OF GROUNDING SYSTEM INSTALLATION OF THE TRANSFORMER.
- 4. COORDINATE ALL NEW ELECTRICAL UNDERGROUND WORK WITH NEW AND EXISTING UNDERGROUND UTILITIES BEFORE INSTALLATION.
- 5. PROVIDE WATERTIGHT HUBS AT CONDUIT ENTRANCES TO ALL ENCLOSURES MOUNTED OUTDOOR AND TO ALL WATERTIGHT (NEMA 4) ENCLOSURES MOUNTED INDOORS.
- 6. ALL EXISTING DUCTS, MANHOLES, ETC. ARE APPROXIMATE LOCATIONS ONLY. THE ELECTRICAL CONTRACTOR SHALL VERIFY EXACT LOCATIONS IN THE FIELD.
- 7. EXACT LOCATIONS MAYBE ADJUSTED IN THE FIELD TO AVOID EXISTING AND UNEXPECTED
- CONSTRUCTION OBSTACLES.
- 8. IT SHALL BE THE CONTRACTOR RESPONSIBILITY TO EXERCISE EXTREME CAUTION WHILE EXCAVATING TO AVOID DAMAGE TO ANY BURIED UTILITY LINES, PIPING, CONDUIT, ETC., CONTRACTOR SHALL REPAIR OR REPLACE TO THE OWNER SATISFACTION ANY AND ALL DAMAGED UTILITY LINES, PIPING, CONDUIT, ETC., WHICH MAY BECOME DAMAGED DURING EXCAVATION OF THE NEW WORK AT NO EXTRA COST.

	ELECTRICAL SYMBOLS LIST
SYMBOLS	DESCRIPTION
	NOTE: NOT ALL ELECTRICAL SYMBOLS SHOWN ARE USED FOR THIS PROJECT.
	CONDUIT RUN EXPOSED CONDUIT RUN CONCEALED HOME RUN TO PANEL FLEXIBLE CONDUIT CONDUIT TURNED DOWN CONDUIT TURNED UP
A,1	INDICATES PANEL A, BRANCH CIRCUIT #1
	SERVICE TERMINAL CABINET LIGHTING AND POWER PANEL (NORMAL — SURFACE) POWER CONNECTION
C⊚	DUPLEX RECEPTACLE, GROUNDING TYPE, CEILING MOUNTED FLUSH
€	DUPLEX RECEPTACLE, GROUNDING TYPE, WALL MOUNTED 18" AFF
GFCI ⊜ WP⊖÷	OVER THE COUNTER DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTER, WALL MOUNTED 6" ABOVE COUNTER WEATHERPROOF DUPLEX RECEPTACLE
\$ \$ _T	SINGLE POLE SWITCH MANUAL START WITH THERMAL OVERLOAD
	DISCONNECT SWITCH - FUSED
	DISCONNECT SWITCH - UNFUSED
•	JUNCTION BOX OR PULL BOX - SIZED PER NEC
Ø	SINGLE PHASE MOTOR
	THREE PHASE MOTOR
0	INCANDESCENT OR HID FIXTURE AS INDICATED ON THE LIGHTING FIXTURES SCHEDULE
	2'X4' FLUORESCENT LIGHTING FIXTURE AS INDICATED ON THE SCHEDULE
	2'X4' NIGHT LIGHT FLUOR. FIXTURE AS INDICATED ON THE SCHEDULE
X ⊗	LED EXIT LIGHT — WALL MOUNTED OR CEILING MOUNTED
EM 4	EMERGENCY LIGHT - W/90 MINUTES NICAD BATTERY MAINTENANCE FREE
D	DUCT SMOKE DETECTOR — (COORDINATE WITH MECH. TRADE FOR TYPE)

GENERAL REQUIREMENTS

A. CODES:

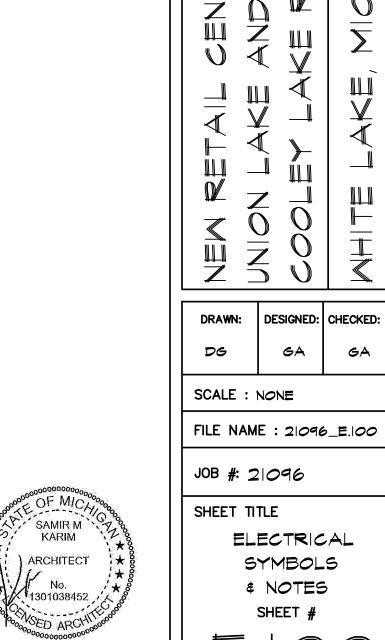
1. THE WORK SHALL COMPLY WITH THE CURRENT NATIONAL ELECTRIC CODE AND ALL APPLICABLE CODES.

B. COORDINATION:

- 1. THE WORK SHALL BE COORDINATED WITH THE WORK OF OTHER TRADES TO AVOID INTERFERENCE. REFER TO CIVIL, ARCHITECTURAL, STRUCTURAL, AND MECHANICAL DRAWINGS FOR CEILING HEIGHTS, ROOM FINISHES, DOOR SWINGS, BUILDING DIMENSIONS, LOCATION AND SIZES OF DUCTS, PIPES AND MECHANICAL EQUIPMENT ETC.. PROVIDE ADDITIONAL SUPPORT FOR RACEWAYS, BOXES, SWITCHES, CIRCUIT BREAKERS, MOTOR CONTROLLERS, FIXTURES AND THE LIKE. WHERE THE BUILDING STRUCTURE IS NOT ADAPTED OR SUITABLE FOR MOUNTING THE SAME DIRECTLY THERE ON. RACEWAYS SHALL NOT BE USED AS SUPPORTS FOR BOXES OR OTHER ELECTRICAL EQUIPMENT.
- 2. IT SHALL BE THE CONTRACTOR'S REPONSIBILITY TO VERIFY THAT ALL EQUIPMENT FURNISHED UNDER OTHER TRADES IS COMPATIBLE WITH THE ELECTRICAL FEEDER PROVIDED UNDER THE ELECTRICAL TRADE. CASES OF DISCREPENCY MUST BE BROUGHT TO THE ENGINEER ATTENTION.
- 3. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERALLY THE LOCATIONS OF MATERIALS AND EQUIPMENT. THESE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE.

C. TESTING:

1. THE CONTRACTOR SHALL MAKE ALL TESTS, ADJUSTMENTS, AND TRIAL OPERATIONS REQUIRED TO PLACE THE SYSTEM IN BALANCED AND SATISFACTORY OPERATING CONDITION.





Section 8. Item A. ISSUED 10.22.2021 PERMITS

> **ARCHITECTURAL DESIGN**

> > RESIDENTIAL COMMERCIAL INDUSTRIAL

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ELECTRICAL SYMBOLS # NOTES

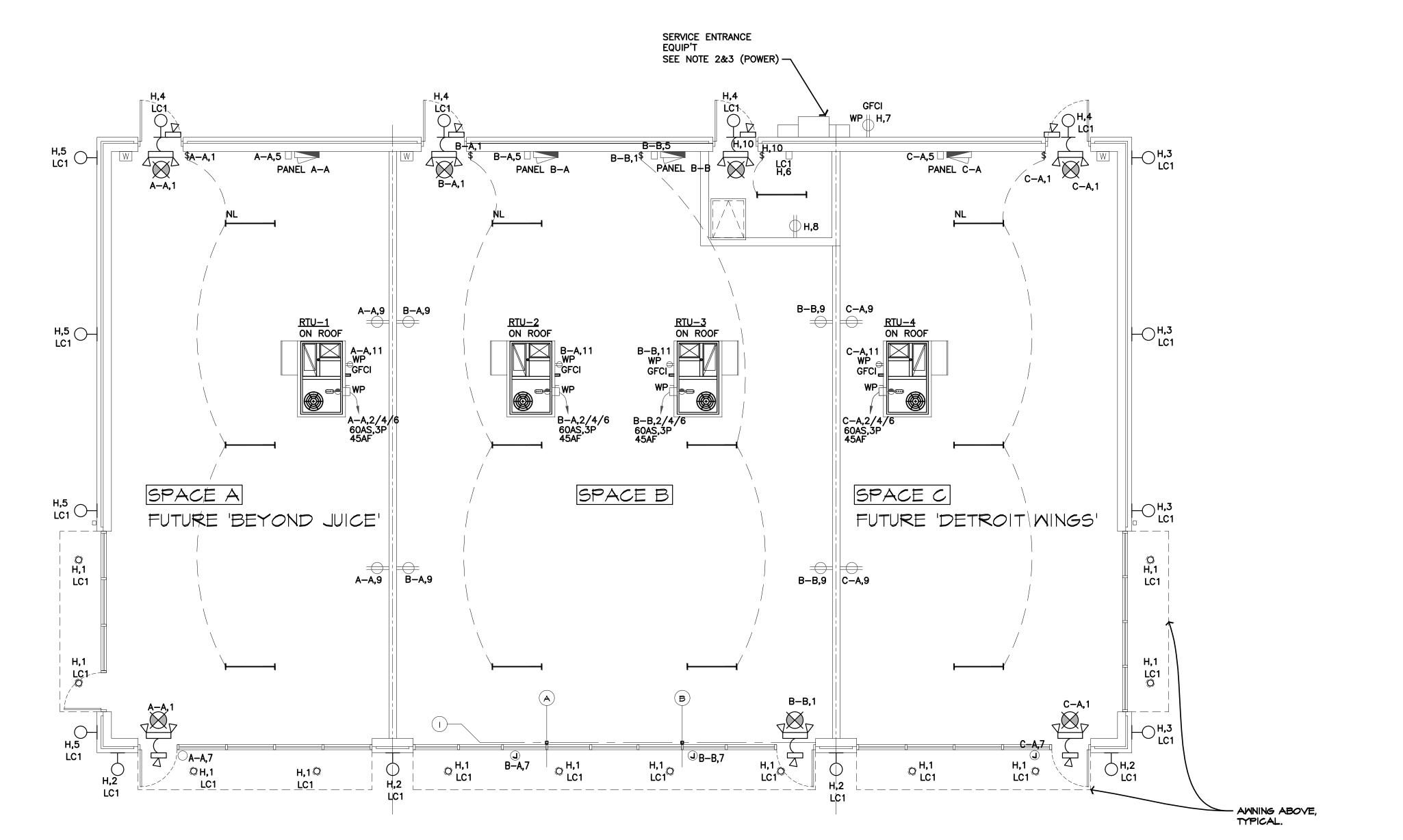
GA

NOTES: (FOR POWER)

- 1. FOR GENERAL NOTES SEE SHEET E.100
- 2. ELECT. CONT. TO COORDINATE THE SERVICE ENTRANCE EQUIP'T LOCATIONS & INSTALLATIONS WITH UTILITY COMPANY AND THE OWNER PRIOR TO INSTALLATION.
- 3. REQUIRE 1000A TO SERVICE METERS MODULE, @ 208/120V, 3ø, 4W, UNDERGROUND SECONDARY SERVICE ENTRANCE.
- 4. REQUIRE 600A TO SERVICE ENTRANCE C/T CABINET, @ 208/120V, 3ø, 4W, UNDERGROUND SECONDARY SERVICE ENTRANCE.
- 5. ELECTRICAL CONTRACTOR TO COORDINATE ALL MECHANICAL INTERLOCK WITH MECHANICAL TRADE AS REQUIRED.

NOTES: (FOR LIGHTING)

- 1. FOR GENERAL NOTES SEE SHEET E-100.
- 2. BATTERY BACK-UP EXIT AND EMERGENCY LIGHTS SHALL BE FED FROM THE SAME CIRCUIT AS NORMAL LIGHTING IN THEIR RESPECTIVE AREAS AND BE CONNECTED AHEAD OF ANY LOCAL SWITCHES.
- 3. PROVIDE A SEPARATE RACEWAY SYSTEM FOR ALL NIGHTLIGHTS, EXIT LIGHTS, AND EMERGENCY LIGHTS AS REQUIRED PER LATEST NEC.







Ĺ	IGHTING FIXTURE SCHED	ULE	ISSUED F	on 8, Item A.
	I'X4' LED SERIES LUMINAIRE	MOUNTED @		
J	ARCHITECTURAL WALL LED LUMINAIRE SCONCE: 674-31-WP SERIES BY COOPER LIGHTING. SIZE 31" IN CC COLOR (CUSTOM COLOR) WITH LED LAMPS.	REFER TO ELEVATIONS SHEET A.201		
0	COMMERCIAL RECESSED EXTERIOR LED LAMP DOWNLIGHT (8" ROUND)	REFER TO ELEVATIONS SHEET A.201		
⊗>	POLYCARBONATE EXIT UNIT COMBO LIGHTING FIXTURE WNICAD BATTERY FOR 90 MINUTES MAINTENANCE FREE W SELF-DIAGNOSTIC	ABOVE DOOR HEAD ON MASONRY	ARCHITECT DESIGN	

ABOVE DOOR

HEAD ON MASONRY

EXTERIOR REMOTE HEAD EMERGENCY

COORDINATE ALL LIGHT FIXTURE SELECTIONS AND COLORS

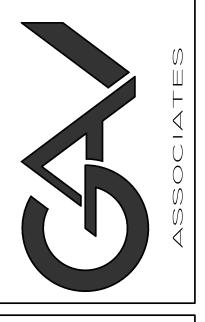
WITH OWNER FOR APPROVALS. TYPICAL FOR ALL FIXTURES.

LAMPHEAD WIRED TO ADJACENT

EMERGENCY LIGHT AT INTERIOR

RESIDENTIAL COMMERCIAL INDUSTRIAL

G.A.V. ASSOCIATES, INC 24001 ORCHARD LAKE RD., STE. 180A FARMINGTON, MICHIGAN 48336 PH: (248) 985-9161 WEB: WWW.GAVASSOCIATES.COM



DRAWN: DESIGNED: CHECKED: DG GA

SCALE : 3/16" = 1'-0"

FILE NAME : 21096_E102

JOB #: 21096

SHEET TITLE ELECTRICAL



	LOCATION: LEASE SPACE "A"					М	IAINS:	200A,	м.р.,						1011110:	65,000 AIC	
Ck	T DESCRIPTION	WIRE	CKT.	BKR.		LOA	AD KVA	4 / PH	IASE		СКТ.	BKR.	WIRE		DESCRIPTION		CKT
NC).	SIZE	Α	Р	Α	В	С	A	В	С	Р	Α	SIZE				NO.
1	L- NIGHT LIGHTS, EXIT/EMERG.	#12	20	1	0.5	\otimes		4.5	XXX								2
	SPARE	_	20	1	$\otimes\!\!\!\otimes$	<u> </u>			4.5	\bowtie	3	45	#8	RTU #1			4
5	OUTDOOR SIGN TIMER SWITCH (TS)	#12	20	1	$\otimes\!\!\!\otimes$	XXX	0.5		XXX	4.5	1						6
7	OUTDOOR SIGN	#12	20	1	1.0	\bowtie		—	\bowtie	XXX	-	-	-	SPACE			8
9	R- STORE	#12	20	1	$\otimes\!$	0.4	$\times\!\!\times\!\!\times$	$ \otimes \!\! \otimes \!\! $		\bowtie	-	-	_	SPACE			10
1	R- ROOF	#12	20	1		\bowtie	0.2	$ \times \!\!\! \times \!\!\!\! \times$	XXX		_	-	-	SPACE			12
1.	S SPARE	_	20	1	_	\bowtie	XXXX		\bowtie	XXX	_	1	-	SPACE			14
1	SPARE	_	20	1	\bowtie	<u> </u>	\bowtie	$ \otimes \!\! \otimes $		\bowtie	_	1	ı	SPACE			16
1	7 SPARE	_	20	1	\bowtie	\bowtie	\	$\otimes\!\!\!\otimes$	\bowtie	_	_	-	ı	SPACE			18
19	SPARE	_	20	1		\bowtie	XXX		XX	XXX	_	-	ı	SPACE			20
2	1 SPARE	_	20	1	\bowtie	-	\bowtie	$ \times \!\!\! \times$		\bowtie	_	-	ı	SPACE			22
2	3 SPARE	_	20	1	\bowtie	₩	<u>} — </u> [$ \times \!\!\! \times$	888	<u> </u>	_	_	-	SPACE			24
2	SPARE	_	20	1	_	\bowtie	XXXX		888	XXX	_	_	-	SPACE			26
2	7 SPARE	_	20	1	$\otimes\!$	-	$\times\!\!\!\times\!\!\!\times$	XXX	_	\bowtie	_	_	-	SPACE			28
2	SPARE	_	20	1	\bowtie	888	<u>} — [</u>	XXX	XXX	<u> </u>	_	_	-	SPACE			30
3	SPARE	-	20	1		XXX	$X\!X\!X\!X$		XXX	XXX	-	-	-	SPACE			32
33	S SPARE	_	20	1	XXX	-		XXX		\bigotimes		-	-	SPACE			34
35	S SPARE	_	20	1	XXX	$X\!X\!X$	<u>} — </u>	XXX	XXX		_	-	-	SPACE			36
37	SPARE		20	1		XX	$X\!X\!X\!X$		XXX	XXX	_	-	-	SPACE			38
39	SPARE	_	20	1	XXX			XXX		\bigotimes		-	-	SPACE			40
4	I SPARE	-	20	1	\bowtie	₩	} — [$X\!X\!X$	} —	_	-	-	SPACE			42

*	PROVIDE	LOCK-0N	TRIP	FREE	DEVICE	FOR	SINGLE	POLE	CIRCUIT	BREAKER.

	кт	DESCRIPTION	WIRE	СКТ.	BKR.		LOA	D KVA	/ PH	HASE		скт.	BKR.	WIRE		DESCRIPTION	СК
N	10.		SIZE	A	Р	Α	В	С	Γ̈́Α	В	С	Р	Α	SIZE			NC
k	1 L-	NIGHT LIGHTS, EXIT/EMERG.	#12	20	1				4.5	\bowtie	\bowtie						1 2
	3 SP	ARE	_	20	1		—	$\otimes\!\!\otimes$	$\otimes\!\!\!\otimes$	4.5	4.5	3	45	#8	RTU #4		4
k $ig[$	5 OU	TDOOR SIGN TIMER SWITCH (TS)	#12	20	1	\bowtie	XXX	2.0	$\otimes\!\!\!\otimes$	888	4.5						T
k 🛚	_	TDOOR SIGN	#12	20	1	1.0	888	\bowtie		\bowtie	XXX	_	-	_	SPACE		8
L		STORE	#12	20	1	\bowtie	0.4		$\otimes\!\!\!\otimes$	1—	\bowtie	_	_	_	SPACE		1
Ľ		ROOF	#12	20	1	\bowtie	\bowtie	0.2	\bowtie	XXX	_	_	_	_	SPACE		1:
		ARE	<u> </u>	20	1	_	\bowtie			\bowtie	$\otimes\!$	_	_	_	SPACE		1
Ŀ	15 SP/		<u> - </u>	20	1	$\otimes\!\!\!\otimes$		\bowtie	\bowtie		\bowtie	_	_	_	SPACE		1
Ŀ		ARE	<u> </u>	20	1	\bowtie	\bowtie		\bowtie	888		-	_	_	SPACE		1
-	19 SP/		<u> </u> -	20	1		$\otimes\!$			₩	$\otimes\!$	_	_	_	SPACE		2
Ŀ		ARE	<u> - </u>	20	1	\bowtie		\bowtie	\bowtie	1—	\bowtie	_	_	_	SPACE		2
	_	ARE	<u> </u>	20	1	\bowtie	XX		\bowtie	XX		_	_	_	SPACE		2
_		ARE	<u> </u>	20	1		XXX			XXX	XXX	_	_	_	SPACE		2
_		ARE	<u> - </u>	20	1	\bowtie		$\otimes\!\!\otimes\!\!$	\bowtie		\bowtie	_	_	_	SPACE		2
		ARE	<u> </u>	20	1	XXX	XX		XXX	XXX		-	_	_	SPACE		3
_		ARE	<u> -</u>	20	1	_	XXX			\bowtie	XXX	_	_	_	SPACE		3:
		ARE	<u> - </u>	20	1	XXX		$\otimes\!\!\!\otimes$	\bowtie		\bowtie	_	_	_	SPACE		3,
_	_	ARE	<u> </u>	20	1	XXX	XX		\bowtie	XXX		-	_	_	SPACE		3
		ARE		20	1		XXX			XX	XXX	_	_	_	SPACE		38
	39 SP/	ARE		20	1	\bowtie		$\otimes\!\!\!\otimes$	XXX	 XXX	\bowtie	_	_	_	SPACE		4(
4	41 SP/	ARE	_	20	1	\bowtie	XXX	3 — Ⅰ	XXX	$& \\ \\ & \\ \\ & \\ \\ & \\ \\ & \\ \\ & \\ \\ & \\ \\ & \\ \\ & \\ \\ & \\ \\ & \\ \\ \\ & \\ \\ \\ & \\$	1 — [_	_	l –	SPACE		42

	LOCATION: LEASE SPACE "B"					M	IAINS:	200A,	M.B.,	WITH	225A	COF	PPER E	BUS	RATING	65,0	OO AIC
CK	T DESCRIPTION	WIRE	СКТ.	BKR		LO	AD KVA	/ PH	HASE		СКТ.	BKR.	WIRE		DESCRIPTION		СК
NC	ı.	SIZE	A	Р	A	В	С	T A	В	С	Р	Α	SIZE				NO
1	L- NIGHT LIGHTS, EXIT/EMERG.	#12	20	1			***	3.5		\bigotimes							2
3	SPARE	T-	20	1	$\otimes\!\!\!\otimes$	X —		$\otimes\!\!\!\otimes$	3.5	\bowtie	3	30	#8	RTU #1			4
5	OUTDOOR SIGN TIMER SWITCH (TS)	#12	20	1	\otimes	XXXX	30.5 l	XXX	$\otimes\!\!\!\otimes\!\!\!\!\otimes$	3.5			"	•			6
7	OUTDOOR SIGN	#12	20	1	1.0	\bowtie			$\otimes\!\!\!\otimes\!\!\!\!\otimes$		_	_	-	SPACE			8
9	R- STORE	#12	20	1	\bowtie	0.4	\bowtie	$\otimes\!\!\!\otimes$		\bowtie	-	-	-	SPACE			10
1	R- ROOF	#12	20	1	\bowtie	$X\!X\!X$	0.2	$\otimes\!\!\!\otimes$	\bowtie		-	-	-	SPACE			12
1	S SPARE	_	20	1	_	\bowtie	XXXX	_	\bowtie	XXX	1	-	-	SPACE			14
1	5 SPARE	_	20	1	\bowtie	<u>} —</u>	\bowtie	$\otimes\!\!\!\otimes$		\bowtie	1	-	•	SPACE			16
1	7 SPARE	_	20	1	\bowtie	XXX	<u>~</u>	$\otimes\!\!\!\otimes$	\bowtie		-	-	-	SPACE			18
19	SPARE	_	20	1	_	\bowtie		_	\bowtie	XXX	-	-	-	SPACE			20
2	I SPARE	_	20	1	\otimes	<u> </u>	\bowtie	$\otimes\!\!\!\otimes$		\bowtie	-	-	•	SPACE			22
2	S SPARE	_	20	1	\bowtie	$X\!\!X\!\!X$	<u> </u>	$\otimes\!\!\!\otimes$	XXX	<u> </u>	-	-	-	SPACE			24
2	5 SPARE	_	20	1		\bowtie	XXX		\bowtie	$X\!X\!X$	_	-	-	SPACE			26
2	7 SPARE	_	20	1	$\otimes\!$	-8	\bowtie	$\otimes\!\!\!\otimes\!\!\!\!\otimes$	_	$\otimes\!\!\!\otimes\!\!\!\otimes$	_	-	-	SPACE			28
2	SPARE		20	1	$\otimes\!\!\!\!\otimes$	8	} — [$\otimes\!$	888		_	-	-	SPACE			30
3	SPARE		20	1		XXX	****		XXX	XXX	_	-	_	SPACE			32
33	1 2 7 7 7 7 2		20	1	\bowtie	$-\mathbb{R}$	XXX	\bowtie		\bowtie	_	-	_	SPACE			34
35		_	20	1	\boxtimes	XXX	<u>} — </u>	\bowtie	XXX		_	_	_	SPACE			36
37	' SPARE		20	1		XXX	XXXX		\bowtie	XXX	_	_	_	SPACE			38
39	SPARE		20	1	\bowtie		XXX			XXX	_	-	_	SPACE			40
4	SPARE		20	1	\bowtie	XXX	} — [XXX	XX	<u> </u>	_	-	-	SPACE			42

- * PROVIDE LOCK-ON TRIP FREE DEVICE FOR SINGLE POLE CIRCUIT BREAKER.
- ** COORDINATE WITH MECHANICAL TRADE AND THE ELECTRICAL FLOOR PLANS ON WHICH HVAC UNIT SERVING THE OTHER LEASE SPACES.

DESCRIPTION	WIRE	CKT														
		UNI.	BKR		LOA	D KVA	/ PH	ASE		CKT.	BKR.			DESCRIPTION		СК
	SIZE	Α	Р	Α	В	С	A	В	С	Р	Α	SIZE				NO
NIGHT LIGHTS, EXIT/EMERG.	#12	20	1	0.5			3.5									2
ARE	_	20	1	$\otimes\!\!\!\otimes$		XXX	$\otimes\!\!\!\otimes$	3.5	XXX	3	30	#8	RTU #1			4
TDOOR SIGN TIMER SWITCH (TS)	#12	20	1		$\otimes\!\!\!\otimes\!\!\!\!\otimes$	0.5	$\otimes\!\!\!\otimes$	XXX	3.5			••	,			6
TDOOR SIGN	#12	20	1	1.0	\bowtie	XXX		XXX	XXX	-	-	1	SPACE			8
STORE		20	1	\bowtie			$\otimes\!\!\!\otimes$	_	$X\!X\!X$	_	_	-	SPACE			10
ROOF	#12	20	1	\bowtie	XXX	0.2	$\otimes\!\!\!\otimes$	XXX	_	_	-	-	SPACE			12
ARE		20	1	<u> —</u>	\bowtie	\bowtie		XXX	XXX	_	_	_	SPACE			14
ARE			1	\bowtie		\bowtie	\bowtie		XXX	_	_	-	SPACE			1
ARE	-		1	\bowtie	\bowtie		\bowtie	888	_	_	_	_	SPACE			18
ARE	-		1		\bowtie	\bowtie		XX	888	_	_	_	SPACE			2
ARE	<u> -</u>		1	\bowtie		\bowtie	\bowtie		XXX	_	_	-				2:
ARE	-		1	\bowtie	XX		$\otimes\!\!\!\otimes$	XXX			_	_	SPACE			2
ARE	-		1		XXX	\bigotimes		XXX	XXX	_	_	-	SPACE			20
ARE	-		1	\bowtie	_	\bowtie		_	XXX	_	-	-	SPACE			2
ARE	-		1	\bowtie	\bowtie			XXX			_	-				3
ARE	-		1		XXX		_	XXX	XXX	_	-	_				32
ARE	-		1	\bowtie	<u> </u>	\bowtie		<u> </u>	XXX	_	-	_				34
ARE	-		1	\bowtie	\bowtie		\bowtie	\bowtie	_	_	-	-				36
ARE	<u> -</u>		1	<u> </u>	\bowtie			XXX	XXX	_	_	_				38
ARE	<u> -</u>		1	\bowtie		XXX			XXX	_	_	-				4(
ARE		20	1_	\bowtie	x x x x x x x x x x x x x x x x x x x	1—1	\bowtie	XXX	_	_	-	-	SPACE			42
	DOOR SIGN TIMER SWITCH (TS) DOOR SIGN STORE ROOF RE	DOOR SIGN TIMER SWITCH (TS)	TOOOR SIGN TIMER SWITCH (TS)	TOOOR SIGN TIMER SWITCH (TS)	DOOR SIGN TIMER SWITCH (TS)	DOOR SIGN TIMER SWITCH (TS) #12 20 1 \$\limits\$ DOOR SIGN #12 20 1 1.0 \$\limits\$ STORE #12 20 1 \$\limits\$ 0.4 ROOF #12 20 1 \$\limits\$ RE - 20 1 \$\limits\$	DOOR SIGN TIMER SWITCH (TS) #12 20 1 \$\limits\$ \$\limits\$ 0.5 DOOR SIGN #12 20 1 1.0 \$\limits\$ \$\limits\$ STORE #12 20 1 \$\limits\$ 0.4 \$\limits\$ ROOF #12 20 1 \$\limits\$ 0.2 RE - 20 1 - \$\limits\$ RE - 20 1 - \$\limits\$	DOOR SIGN TIMER SWITCH (TS) #12 20 1 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	DOOR SIGN TIMER SWITCH (TS) #12 20 1 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	DOOR SIGN TIMER SWITCH (TS) #12 20 1 \$\infty\$ 0.5 \$\infty\$ 3.5 DOOR SIGN #12 20 1 1.0 \$\infty\$ 3.5 STORE #12 20 1 \$\infty\$ 0.4 \$\infty\$ \$\i	DOOR SIGN TIMER SWITCH (TS)	TOOOR SIGN TIMER SWITCH (TS)	DOOR SIGN TIMER SWITCH (TS)			

- * PROVIDE LOCK-ON TRIP FREE DEVICE FOR SINGLE POLE CIRCUIT BREAKER.
- ** COORDINATE WITH MECHANICAL TRADE AND THE ELECTRICAL FLOOR PLANS ON WHICH HVAC UNIT SERVING THE OTHER LEASE SPACES.

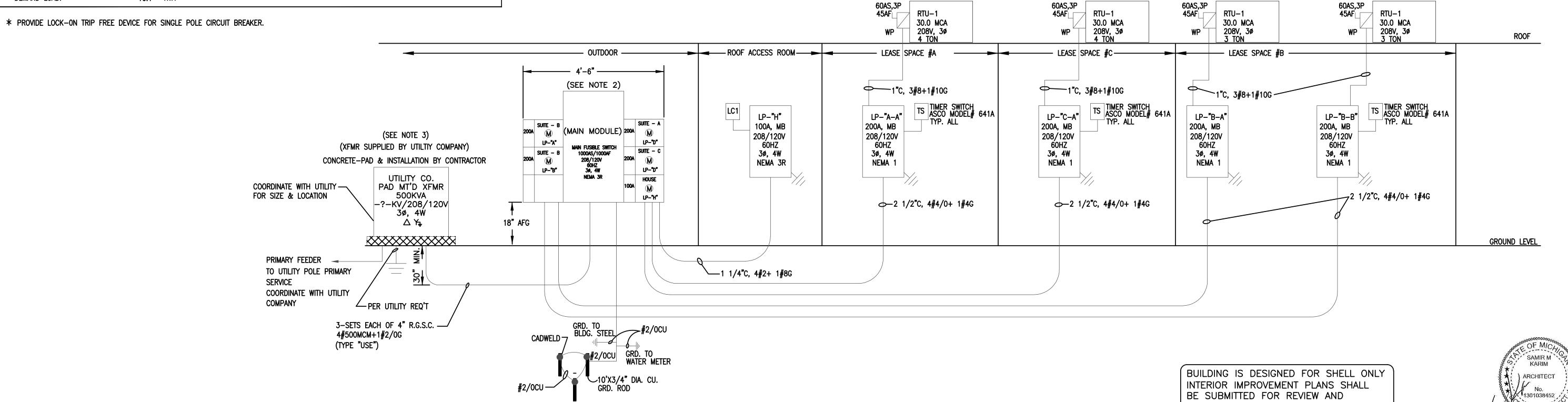
	YPE: SURFACE MTD (NQOD)					1.4	AINC.	1004	ΜВ	WITL	1054	000	מרם כ	ou ic	RATING	65,00	O AIC
L	OCATION: ROOF ACCESS ROOM					IM.	AIN2:	100A,	м.р.,	WIII	IZSA	COF	PER E	505	IVATING		——————————————————————————————————————
CKT	DESCRIPTION	WIRE	СКТ.	BKR.		LOA	AD KVA	/ PH	IASE		CKT.	BKR.	WIRE	DESC	CRIPTION		Į(
NO.		SIZE	Α	Р	Α	В	С	A	В	С	Р	Α	SIZE				l
1	L- EXTERIOR CANOPY LIGHTS	#10	30	1	1.0	$\otimes\!\!\!\otimes$		1.0	XXX		1	20	#10	L- EXTERIOR L	IGHTS (SOUTH)	
3	L- EXTERIOR LIGHTS (EAST)	#10	30	1	$\otimes\!\!\!\otimes$	1.0	$\otimes\!\!\!\otimes$		1.0	\bowtie	1	20	#10	L- EXTERIOR L	IGHTS (I	NORTH)	
5	L- EXTERIOR LIGHTS (WEST)	#10	30	1	$\otimes\!\!\!\otimes$	$\otimes\!\!\!\otimes$	1.0	$ \times \!\!\! \times \!\!\!\! \times$	XXX	0.5	1	20	# 10	LC1 (LIGHTING	CONTACT	TOR #1)	
7	R- OUTDOOR RECEPTACLES	#10	30	1	0.4	$\otimes\!\!\!\otimes$	XXX	1.0	XXX	XXX	1	20	# 10	R- ELECT. RM.	RECEPT	TACLES	
9	L- OUTDOOR SIGN	#12	20	1	$\otimes\!\!\!\otimes$	1.2	\bowtie	XXX	0.2	\bowtie	1	20	# 10	L- ELECT. RM			
11	SPARE	#12	20	1	\bowtie	\bowtie	\	$\otimes\!\!\!\otimes$	XXX		-	-	ı				
13	SPARE	#12	20	1		\bowtie	XXX		XXX	XXX	-	-	ı				
15	SPARE	-	20	1	\bowtie		\bowtie	$ \otimes \!\! \otimes $	_	\bowtie	-	-	1				
17	SPARE	-	20	1	\bowtie	\bowtie	∀	$\otimes\!\!\!\otimes$	\bowtie		-	-	ı				
19	SPARE	_	20	1		\bowtie	XXX		\bowtie	\bowtie	-	-	ı				
	CONNECTED LOAD:	8.3	KVA	.	1.4	2.2	1.0	2.0									
	DEMAND LOAD:	6.64	KVA													G BUS BA	٩R

POWER DISTRIBUTION - RISER DIAGRAM @208/120V, 3Ø, 4W SYSTEM

NOTES:

- 1. FOR GENERAL NOTES SEE SHEET E-100.
- 2. FOR EXACT UTILITY EQUIPMENT DIMENSIONS, UTILITY SECONDARY METERS LOCATION, AND INSTALLATION COORDINATE WITH THE SELECTED MANUFACTURER AND THE UTILITY COMPANY PRIOR TO INSTALLATION.
- 3. ELECT. CONT. TO COORDINATE WITH UTILITY COMPANY SERVICE PLANNER FOR LOCATION OF TRANSFORMER SIZES, SPECIFICATION, CONCRETE SIZE FOR HOUSE-KEEPING PAD, AND THEIR GROUNDING REQUIREMENT FOR A COMPLETE POWER SYSTEM TO THE BUILDING.

APPROVAL BEFORE CONSTRUCTION



PERMITS IO.22.2021

ARCHITECTURAL DESIGN

RESIDENTIAL COMMERCIAL INDUSTRIAL

G.A.V. ASSOCIATES, INC 24001 ORCHARD LAKE RD., STE. 180A FARMINGTON, MICHIGAN 48336 PH: (248) 985-9101 WER: WWW. GAVASSOCIATES COM



CONTRIBUTE TO SECTION OF THE PARTY OF THE PA

NEM RETAIL CENTER SHELL FOR:

UNION LAKE AND COOLEY LAKE ROAD

COOLEY LAKE ROAD

WHITE LAKE, MICHIGAN

DESIGNED: CHECKED:

SCALE : NONE

GA

FILE NAME : 21096_E103

JOB #: 21096

SHEET TITLE

ELECTRICAL
RISER DIAGRAM
\$ SCHEDULES
SHEET #