

**GENOA CHARTER TOWNSHIP  
PLANNING COMMISSION  
PUBLIC HEARING  
JANUARY 8, 2024  
MONDAY  
6:30 P.M.  
AGENDA**

**CALL TO ORDER:**

**PLEDGE OF ALLEGIANCE:**

**ELECTION OF OFFICERS:**

**APPROVAL OF AGENDA:**

**DECLARATION OF CONFLICT OF INTEREST:**

**CALL TO THE PUBLIC: (Note: The Board reserves the right to not begin new business after 10:00 p.m.)**

**OPEN PUBLIC HEARING #1**...Consideration of a special use application, environmental impact assessment and site plan to allow for a contractor's yard with outdoor storage, wetland buffer encroachment and accessory fuel storage located at 855 Victory Drive, east side of Victory Drive, south of Grand River Avenue. The request is petitioned by Michigan Recreation Construction, Inc.

- A. Recommendation of Special Use Application
- B. Recommendation of Environmental Impact Assessment (12-19-23)
- C. Recommendation of Site Plan (12-19-23)

**OPEN PUBLIC HEARING # 2**...Consideration of a special use application, environmental impact assessment and preliminary site plan for a 2-unit non-residential site condominium with contractor's offices and yards with outdoor storage and accessory fuel storage. The property is located at 2025 Euler Road, east side of Euler Road, north of Grand River Avenue. The request is petitioned by Desine, Inc.

- A. Recommendation of Special Use Application
- B. Recommendation of Environmental Impact Assessment (12-18-23)
- C. Recommendation of Preliminary Site Plan (12-19-23)

**OPEN PUBLIC HEARING #3**...Consideration of a sketch plan application and sketch plan for a proposed 1,704 sq. ft. addition for Michigan Rod Products located at 1326 Grand Oaks Drive. The request is petitioned by Asselin, McLane Architectural Group, LLC.

- A. Disposition of Sketch Plan (11-28-23)

**ADMINISTRATIVE BUSINESS:**

- Staff Report – Annual Report
- Approval of December 11, 2023 Planning Commission meeting minutes
- Member discussion
- Adjournment

\*Citizen's Comments- In addition to providing the public with an opportunity to address the Township Board at the beginning of the meeting, opportunity to comment on individual agenda items may be offered by the Chairman as they are presented. Anyone speaking on an agenda item will be limited to 2 minutes.



**GENOA CHARTER TOWNSHIP**  
**Application for Site Plan Review**

**TO THE GENOA TOWNSHIP PLANNING COMMISSION AND TOWNSHIP BOARD:**

APPLICANT NAME & ADDRESS: Michigan Recreational Construction, Inc. 1091 Victory Dr, Howell, MI 48843  
*If applicant is not the owner, a letter of Authorization from Property Owner is needed.*

OWNER'S NAME & ADDRESS: Michigan Recreational Construction, Inc. 1091 Victory Dr, Howell, MI 48843

SITE ADDRESS: 855 Victory Drive PARCEL #(s): 11-05-303-025, 11-05-303-026

APPLICANT PHONE: ( 313 ) 806-8406 OWNER PHONE: ( 313 ) 806-8406

OWNER EMAIL: craig@buildingfun.com

LOCATION AND BRIEF DESCRIPTION OF SITE: Site is located at 855 Victory Drive as well as includes the vacant 10+ ac parcel to the south and east of 855 Victory Drive.  
Site currently has an unoccupied building with outdoor storage yard. Existing wetlands occupy large portion of vacant property.

BRIEF STATEMENT OF PROPOSED USE: The purpose is to relocate the existing Michigan Recreational Construction operation from 1091 Victory Drive to 855 Victory Drive (with proposed 10ac parcel combination). The use will provide additional paved parking as well as additional outdoor contractor storage yard space.

THE FOLLOWING BUILDINGS ARE PROPOSED: No buildings are proposed as part of this submittal. The plan would be to finish the existing building at 855 Victory Drive and occupy the space along with additional outdoor storage and parking.

**I HEREBY CERTIFY THAT ALL INFORMATION AND DATA ATTACHED TO AND MADE PART OF THIS APPLICATION IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.**

BY: 


ADDRESS: 1091 Victory Drive, Howell, MI 48843

**Contact Information** - Review Letters and Correspondence shall be forwarded to the following:

1.) Scott Tousignant of Boss Engineering at scottt@bosseng.com  
Name Business Affiliation E-mail Address

**FEE EXCEEDANCE AGREEMENT**

As stated on the site plan review fee schedule, all site plans are allocated two (2) consultant reviews and one (1) Planning Commission meeting. If additional reviews or meetings are necessary, the applicant will be required to pay the actual incurred costs for the additional reviews. If applicable, additional review fee payment will be required concurrent with submittal to the Township Board. By signing below, applicant indicates agreement and full understanding of this policy.

SIGNATURE:  DATE: 11/28/2023  
PRINT NAME: Craig Sheffer PHONE: 313-806-8406  
ADDRESS: 1091 Victory Drive, Howell, MI 48843



# GENOA CHARTER TOWNSHIP

## Special Land Use Application

This application **must** be accompanied by a site plan review application and the associated submittal requirements. (The Zoning Official may allow a less detailed sketch plan for a change in use.)

APPLICANT NAME & ADDRESS: Michigan Recreational Construction, Inc. 1091 Victory Dr, Howell, MI 48843

*Submit a letter of Authorization from Property Owner if application is signed by Acting Agent.*

APPLICANT PHONE: ( 313 ) 806-8406 EMAIL: craig@buildingfun.com

OWNER NAME & ADDRESS: Michigan Recreational Construction, Inc. 1091 Victory Dr, Howell, MI 48843

SITE ADDRESS: 855 Victory Drive, Howell, MI 48843 PARCEL #(s): 11-05-303-025, 11-05-303-026

OWNER PHONE: ( 313 ) 806-8406 EMAIL: craig@buildingfun.com

Location and brief description of site and surroundings:

Site is located at 855 Victory Drive as well as includes the vacant 10+ ac parcel to the south and east of 855 Victory Drive. Site currently has an unoccupied building with outdoor storage yard. Existing wetlands occupy large portion of vacant property.

Proposed Use:

The purpose is to relocate the existing Michigan Recreational Construction operation from 1091 Victory Drive to 855 Victory Drive (with a proposed parcel combination with the vacant 10 acre parcel to the south/east. The use will provide additional paved parking as well as additional outdoor contractor storage yard space.

Describe how your request meets the Zoning Ordinance General Review Standards (section 19.03):

- a. Describe how the use will be compatible and in accordance with the goals, objectives, and policies of the Genoa Township Comprehensive Plan and subarea plans, and will promote the Statement of Purpose of the zoning district in which the use is proposed.

The proposed use of the site is consistent with the originally intended use of 855 Victory Drive when it was initially proposed and constructed.

The proposed use is a relocation of an existing use from the property to the south at 1091 Victory Drive.

- b. Describe how the use will be designed, constructed, operated, and maintained to be compatible with, and not significantly alter, the existing or intended character of the general vicinity.

The proposed use will continue with the originally proposed use of the 855 Victory Drive site and enhance it with the proposed corrective improvements. Victory Drive contains multiple outdoor storage yard uses, so this proposed use would be consistent with surrounding uses and would not change the character of the general vicinity.

- c. How will the use be served adequately by essential public facilities and services such as highways, streets, police and fire protection, drainage structures, water and sewage facilities, refuse disposal and schools?

The proposed use is served by public sewer and private water. The water usage for this use is minimal. This use has no impact on schools. The current refuse collection service that serves 1091 Victory Drive would likely be retained for the 855 Victory Drive site.

The site is adequately serviced by a public road (Victory Drive) with multiple site access points onto Victory Drive.

d. Will the use involve any uses, activities, processes, or materials potentially detrimental to the natural environment, public health, safety, or welfare by reason of excessive production of traffic, noise, vibration, smoke, fumes, odors, glare, or other such nuisance? If so, how will the impacts be mitigated?

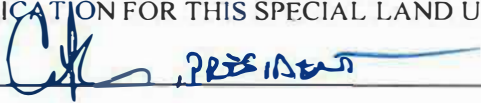
The proposed use will not generate excess traffic as this use is typically limited to employees and deliveries. The storage yard is used to store materials. Smoke, fumes, odors, vibration, and glare are not generated on this site. The site will generate noise consistent with contractor operations and is to meet the Township Noise Ordinance.

e. Does the use have specific criteria as listed in the Zoning Ordinance (sections 3.03.02, 7.02.02, & 8.02.02)? If so, describe how the criteria are met.

8.02.02 (b): 1) The lot area exceeds 1 acre. 2) Existing storage bins will be utilized for typical contractor material stockpiles. 3) A gravel surface is proposed with adequate perimeter curbing to permanently define the storage area as well as promote positive storm drainage to the storm water facilities. 4) Parking lot setback is met. No storage within building setback proposed. 5) A building exists on site > 500 sft. 6) Adequate site circulation provided. 7) Buffer zones provided. 8) Stored materials are lower profile.

I HEREBY CERTIFY THAT ALL INFORMATION AND DATA ATTACHED TO AND MADE PART OF THIS APPLICATION ARE TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF. I AGREE TO DESIGN, CONSTRUCT AND OPERATE, AND MAINTAIN THESE PREMISES AND THE BUILDINGS, STRUCTURES, AND FACILITIES WHICH ARE GOVERNED BY THIS PERMIT IN ACCORDANCE WITH THE STATED REQUIREMENTS OF THE GENOA TOWNSHIP ZONING ORDINANCE, AND SUCH ADDITIONAL LIMITS AND SAFEGUARDS AS MAY BE MADE A PART OF THIS PERMIT.

THE UNDERSIGNED Craig Sheffer STATES THAT THEY ARE THE FREE OWNER OF THE PROPERTY OF PROPERTIES DESCRIBED ABOVE AND MAKES APPLICATION FOR THIS SPECIAL LAND USE PERMIT.

BY:  PRESIDENT

ADDRESS: 1091 Victory Drive, Howell, MI 48843

**Contact Information** - Review Letters and Correspondence shall be forwarded to the following:

Scott Tousignant of Boss Engineering at scottt@bosseng.com  
Name Business Affiliation Email

**FEE EXCEEDANCE AGREEMENT**

As stated on the site plan review fee schedule, all site plans are allocated two (2) consultant reviews and one (1) Planning Commission meeting. If additional reviews or meetings are necessary, the applicant will be required to pay the actual incurred costs for the additional reviews. If applicable, additional review fee payment will be required concurrent with submittal to the Township Board. By signing below, applicant indicates agreement and full understanding of this policy.

SIGNATURE:  DATE: 11/28/2023

PRINT NAME: Craig Sheffer PHONE: 313-806-8406



January 2, 2024

Planning Commission  
Genoa Township  
2911 Dorr Road  
Brighton, Michigan 48116

<b>Attention:</b>	Amy Ruthig, Planning Director
<b>Subject:</b>	Michigan Recreational Construction – Special Land Use and Site Plan Review #2
<b>Location:</b>	855 Victory Drive – east side of Victory Drive, south of Grand River Avenue
<b>Zoning:</b>	IND Industrial District

Dear Commissioners:

At the Township’s request, we have reviewed the revised submittal from Michigan Recreational Construction for relocation of their business from 1091 Victory Drive to 855 Victory Drive (site plan dated 12/19/23).

**A. Summary**

**1. Special Land Uses (Section 19.03):**

- a. The special land use standards of Section 19.03 are generally met.
- b. In order to make favorable findings related to compatibility and impacts, the conditions of Section 8.02.02(b), 13.02 and 13.07 need to be met to the Commission’s satisfaction.
- c. The applicant must address any comments provided by the Township Engineer or Brighton Area Fire Authority regarding public facilities and services.

**2. Outdoor Storage (Section 8.02.02(b)):**

- a. The use of gravel surfacing requires a recommendation by the Township Engineer.

**3. Wetland Protection (Section 13.02)**

- a. There is 1 existing and 3 proposed encroachments into the 25’ natural feature setback.
- b. The drive across the wetland that connects the 2 proposed outdoor storage areas requires approval from the State.

**4. Fuel Storage (Section 13.07)**

- a. The project does not meet the capacity limitation.
- b. The applicant must obtain all necessary permits.

**5. Site Plan Review:**

- a. The applicant may wish to incorporate some form of internal pedestrian walkway as opposed to having people walk 300’ in the drive aisle.
- b. The applicant will coordinate refuse removal since the waste receptacle is behind a security gate.
- c. Waste receptacle/enclosure details are provided; however, the applicant would like to discuss the need for an enclosure given the nature of the project.



*Aerial view of site and surroundings (looking east)*

## **B. Proposal/Process**

The applicant proposes development of a contractor's yard with outdoor storage of equipment and machinery on the 16.27 acre site, which was previously developed (existing building, parking area, and gravel storage yard).

Table 8.02 allows contractors yards with outdoor storage with special land use approval in the IND. The request is also subject to the use conditions of Section 8.02.02(b).

Additionally, the project includes accessory fuel storage and an encroachment into the 25' natural feature setback, both of which require special land use approval.

Procedurally, the Planning Commission is to review the special land use, site plan, and Environmental Impact Assessment, and put forth recommendations to the Township Board following a public hearing.

## **C. Special Land Use Review**

Section 19.03 of the Zoning Ordinance identifies the review criteria for Special Land Use applications as follows:

- 1. Master Plan.** The Township Master Plan identifies the subject site as Industrial, which is intended for "industrial uses such as research, wholesale and warehouse activities, and light industrial operations."

The proposed use, which is light industrial in nature, is generally consistent with the Master Plan and Future Land Use Map.

- 2. Compatibility.** Properties along Victory Drive are industrial in nature, including several businesses with outdoor storage.

The use conditions of Section 8.02.02(b), which include setback and screening requirements, are intended to help mitigate potential off-site impacts of the outdoor storage areas. Similarly, the conditions of Article 13 are intended to help mitigate potential impacts of the natural feature setback encroachment and fuel storage.

Provided these conditions are met to the Commission's satisfaction, the proposal is expected to be compatible with the existing and intended character of the area.

- 3. Public Facilities and Services.** Given that the site fronts Victory Drive and was previously developed, we anticipate that necessary public facilities and services are in place.

With that being said, the applicant must address any comments provided by the Township Engineer and/or Brighton Area Fire Authority related to this criterion.

- 4. Impacts.** Similar to comments under criterion #2 above, the use conditions for contractor's yards with outdoor storage must be met to the Commission's satisfaction.

Similarly, the conditions of Section 13.02 (wetland protection) and 13.07 must be met to the Commission's satisfaction to ensure there are no adverse impacts upon the environment.

- 5. Mitigation.** If additional concerns arise as part of the review process, the Township may require additional efforts to mitigate potential adverse impacts.

#### **D. Conditions (Outdoor Storage)**

Contractor's yards with outdoor storage are subject to the use requirements of Section 8.02.02(b), as follows:

- 1. Minimum lot area shall be one (1) acre.**

The subject site contains a total of 16.27 acres. This standard is met, though the applicant will need to combine the 2 parcels as part of this project.

- 2. Any stockpiles of soils, fertilizer or similar loosely packaged materials shall be sufficiently covered or contained to prevent dust or blowing of materials.**

The application form notes that "existing storage bins will be utilized for typical contractor material stockpiles."

- 3. All outdoor storage areas shall be paved with a permanent, durable and dustless surface and shall be graded and drained to dispose stormwater without negatively impact adjacent property. The Township Board, following a recommendation of the Planning Commission and the Township Engineer, may approve a gravel surface for all or part of the display or storage area for low intensity activities, upon a finding that neighboring properties and the environment will not be negatively impacted.**

The existing and proposed outdoor storage areas are to be surfaced with gravel. The Commission should consider any comments from the Township Engineer regarding this aspect of the project.

- 4. No outdoor storage shall be permitted in any required yard (setback) of buildings for the district in which the outdoor display, sales or storage use is located. Any approved outdoor sales or display with a parking lot shall meet the required parking lot setback; provided the Planning Commission may require additional landscaping screening or ornamental fencing.**

Each of the 3 outdoor storage areas meets or exceeds minimum IND setback requirements.

- 5. The site shall include a building of at least five hundred (500) feet of gross floor area for office use in conjunction with the use.**

The site contains a 9,200 square foot building.

- 6. All loading and truck maneuvering shall be accommodated on-site.**

Based on the proposed site plan, this standard is met.



- 7. All outdoor storage area property lines adjacent to a residential district shall provide a buffer zone A as described in Section 12.02. A buffer zone B shall be provided on all other sides. The Planning Commission may approve a six (6) foot high screen wall or fence, or a four (4) foot high landscaped berm as an alternative.**

The project includes a mix of existing plantings, proposed landscaping and screen fencing.

The north (existing) and south (proposed) outdoor storage areas will be screened by landscaping and fencing, while the southeast area (proposed) will be screened by existing plantings.

- 8. The height of all material and equipment stored in an outdoor storage area shall not exceed the height of any landscape screening, wall or fence. Boats and recreational vehicles may exceed the height of the fence provided that they are setback from the fence a distance equal to their height. Storage of materials up to the height of the adjacent building wall may be permitted in the rear yard if it is illustrated on the site plan, the rear yard does not abut a residential district or face an expressway, and such storage is confined to within twenty (20) feet of the building.**

The application form notes that “stored materials are lower profile.” The Impact Assessment provides more detail, identifying items such as company vehicles, small construction equipment, materials, and playground equipment.

The site plan identifies a mix of existing plantings, proposed landscaping and fencing around the outdoor storage areas.

The revised submittal notes that materials and equipment stored have a maximum height of 8 feet, while screening will be at least 8 feet tall.

#### **E. Conditions (Wetland Protection)**

Section 13.02.04 provides wetland protection standards, including a 25’ natural feature setback from the edge of a regulated wetland.

The site plan identifies 4 areas of encroachment into the natural feature setback:

- An existing encroachment of approximately 5’ for existing outdoor storage area;
- 2 proposed encroachments of approximately 5’ each for stormwater management; and
- A proposed gravel drive across the wetland connecting the 2 southerly outdoor storage areas.

The first 2 bullet points may be allowed by the Planning Commission; however, the wetland crossing is subject to approval by the State. It is also worth noting that there is a Consent Judgement addressing the existing encroachment.

#### **F. Conditions (Fuel Storage)**

Accessory fuel storage is subject to the requirements of Section 13.07, as follows:

- 1. Above ground.** The project includes 2 500-gallon above ground tanks; however, the Ordinance allows a maximum capacity of 300 gallons. The applicant has stated that they will seek a variance from ZBA.
- 2. Below ground.** This standard does not apply to the request.
- 3. Secondary containment.** The revised submittal includes a detail of the fuel tanks, including secondary containment.

4. **PIPP.** The revised submittal includes the required Pollution Incident Prevention Plan.
5. **Permits.** The applicant must obtain all necessary permits.

**G. Site Plan Review**

1. **Dimensional Requirements.** Aside from the existing nonconforming building front setback, which is not altered by the proposal, the project complies with the dimensional requirements of the IND, as follows:

	Min. Lot Req.		Minimum Yard Setbacks (feet)				Max. Lot Coverage (%)	Max. Height
	Area (acres)	Width (feet)	Front Yard	Side Yard	Rear Yard	Parking Lot		
<b>IND</b>	1	150	50	25	40	20 front 10 side/rear	40% building 85% impervious	30' 2 stories
<b>Proposal</b>	16.27	1,040	47 (existing)	355 (N) 515 (S)	575	50 front 105 side (S)	1.3% building 6.7% impervious	Existing

2. **Building Design and Materials.** The revised submittal includes a list of repair work for the existing building; however, there are no expansions or substantive changes to building design.
3. **Pedestrian Circulation.** No public sidewalk is provided along Victory Drive, nor is one required.

Given the nature of the use, internal sidewalks may not be necessary, though the southerly parking lot is more than 300' from the building.

As such, the applicant may wish to incorporate some form of internal pedestrian walkway as opposed to having people walk 300' in the drive aisle.

4. **Vehicular Circulation.** The site plan depicts 2 existing driveways along Victory Drive, both of which are generally aligned with drives across the street.

A 3<sup>rd</sup> driveway is proposed approximately 375' south of the existing southerly driveway. Given the site's frontage (more than 1,000'), Section 15.06.03 allows a 3<sup>rd</sup> driveway.

This drive is offset by approximately 150' from the existing drives across Victory Drive, which is sufficient for a 30 MPH road. We do not know the speed limit on Victory Drive, though ultimately driveway location and design are subject to approval by the Livingston County Road Commission.

The applicant must address any comments provided by the Township Engineer and/or the Brighton Area Fire Authority with respect to vehicular circulation.

5. **Parking.** Based on the number of employees at peak shift (50), the project requires 60 parking spaces. The site plan provides 64 spaces with additional spaces for company vehicles within the outdoor storage areas.

The design and dimensions of parking spaces and drive aisles, as well as the number of barrier-free spaces, comply with Ordinance standards.

6. **Exterior Lighting.** The lighting plan identifies 18 light poles and 7 wall mounted fixtures.

Based on the detail sheets provided, the proposed fixtures are downward direct LED, as required.

Pole heights and photometric readings (both on-site and along property lines) comply with Ordinance standards.

7. **Landscaping.** The landscape plan has been reviewed for compliance with the standards of Section 12.02, as follows:

Standard	Required	Proposed	Notes
Front yard greenbelt	20' width 26 canopy trees Hedge, wall or berm	50' width 40 trees (existing and proposed) Berm	In compliance
Parking lot	7 canopy trees 740 SF landscaped area	7 canopy trees 1,000+ SF landscaped area	In compliance
Detention pond (S)	9 trees 89 shrubs	9 trees 89 shrubs	In compliance
Detention pond (E)	4 trees 32 shrubs	4 trees 32 shrubs	In compliance

8. **Waste Receptacle.** The proposed waste receptacle has been reviewed for compliance with the standards of Section 12.04, as follows:

	Requirement	Proposed	Comments
Location	Rear yard or non-required side yard	Rear yard (within northerly outdoor storage area)	Requirement met
Access	Clear access w/ out damaging buildings/vehicles	Access is behind a security gate	Applicant will coordinate access w/ refuse service
Base design	9' x 15' concrete pad	20' x 30' concrete pad	Requirement met
Enclosure	3-sided enclosure w/ gate Masonry walls 6' height/taller than receptacle	3-sided w/ gate Treated lumber 8'	Requirements met; applicant wishes to discuss removal of enclosure due to nature of project

Should you have any questions concerning this matter, please do not hesitate to contact our office.

Respectfully,  
**SAFE BUILT**



Brian V. Borden, AICP  
 Michigan Planning Manager



January 3, 2024

Ms. Amy Ruthig  
Genoa Township  
2911 Dorr Road  
Brighton, MI 48116

**Re: Michigan Recreational Construction  
Site Plan Review No. 2**

Dear Ms. Ruthig:

Tetra Tech conducted a second review of the proposed Michigan Recreational Construction site plan last dated December 19, 2023. The plan was prepared by Boss Engineering on behalf of Michigan Recreational Construction, Inc. The development is located on the east side of Victory Drive, approximately 1,600 feet south of East Grand River Avenue. The Petitioner is proposing to use the existing building on site and proposed improvements include additional parking lot and gravel storage area.

We offer the following comments for your consideration:

**GENERAL**

1. Approval from the Brighton Area Fire Authority will be required prior to final site plan approval.
2. There is a proposed 20-foot gravel drive across the wetland. An EGLE wetland permit will be required and should be provided to the Township for their records.
3. The Genoa Township Zoning Ordinance requires that the parking lot be hard surface with concrete curb and gutter. However, the aggregate parking lot may be considered as a Low Impact Development alternative to the zoning requirements. Since the primary use of the proposed gravel lots is storage and the Petitioner is providing a concrete gravel containment curb, we have no objection to the use of gravel for the storage areas.

We recommend the petitioner address the above comments to the Township's satisfaction prior to approval. Please call or email if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads 'Shelby Bytne'.

Shelby Bytne, P.E.  
Project Engineer



# BRIGHTON AREA FIRE AUTHORITY

615 W. Grand River Ave.  
Brighton, MI 48116  
o: 810-229-6640 f: 810-229-1619

December 26, 2023

Amy Ruthig  
Genoa Township  
2911 Dorr Road  
Brighton, MI 48116

RE: Michigan Recreational Construction, Inc.  
855 Victory Drive  
Genoa Twp., MI

Dear Amy,

The Brighton Area Fire Department has reviewed the above-mentioned site plan. The plans were received for review on December 19, 2023, and the drawings are dated November 29, 2023 with latest revisions dated December 19, 2023. The project is based on the proposed installation of a new parking area between two parcels and two outside areas for materials storage. The project is utilizing an existing 9,200-square-foot building on a 5.85-acre parcel and an adjacent 10.42-acre parcel. The plan review is based on the requirements of the International Fire Code (IFC) 2021 edition.

***It must be noted that the use of building located at the North end of the proposed project, but does not appear to be included in the scope of the submitted project; shall be reviewed by both the Livingston County Building Department and Brighton Area Fire Authority for compliant uses. The building SHALL NOT be used for vehicle repair of any sort as it was designed for vehicle storage only.***

1. There is a 14-foot wide access drive shown crossing the wetland to the rear material storage. This drive must be widened to 20-feet for emergency access. **(The access drive has been widened to 20 feet as required.)**
2. Access through the access drives shall provide emergency vehicles with a turning radius of 50-feet outside and 30-feet inside. Vehicle circulation shall account for non-emergency traffic and maintain the vehicle within the boundary of lanes of travel. Provide emergency vehicle circulation through the new drive aisle area. **(New vehicle circulation plan has been provided on Sheet 4 and is compliant with BAFA apparatus.)**  
IFC 503.2.4
3. A minimum vertical clearance of 13½ feet shall be maintained along the length of all apparatus access drives. This includes but is not limited to porte-cochere's, lighting, and large canopy trees. **(Note provided on Sheet 4 to comply.)**  
IFC 503.2.1
4. The location of the reflected Knox Boxes on the access gates shall be replaced with Knox Padlocks secured to the chains in conjunction with the owner's lock. If the gate access is powered a Knox Key switch shall be installed to override the gate control. **(Gates are noted to be provided with electronic controls that will integrate Knox key switches.)**  
IFC 506.1

Additional comments will be given during the building plan review process (specific to the building plans and occupancy). The applicant is reminded that the fire authority must review



*December 26, 2023*

*Page 2*

*Michigan Recreational Construction, Inc.  
855 Victory Drive  
Site Plan Review*

the fire protection systems submittals (sprinkler & alarm) prior to permit issuance by the Building Department and that the authority will also review the building plans for life safety requirements in conjunction with the Building Department.

If you have any questions about the comments on this plan review please contact me at 810-229-6640.

Cordially,

A handwritten signature in black ink, appearing to read "R. Boisvert".

Rick Boisvert, CFPS  
Fire Marshal

## Livingston County Road Commission

3535 Grand Oaks Drive • Howell, Michigan 48843-8575  
Telephone: (517) 546-4250 • Facsimile: (517) 546-9628  
Internet Address: [www.livingstonroads.org](http://www.livingstonroads.org)

January 4, 2024

Scott Tousignant  
Boss Engineering  
3121 E. Grand River Ave  
Howell, MI 48843

Re: Michigan Recreational Construction, Genoa Township, Section 5  
LCRC# C-24-01

Dear Scott:

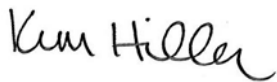
I have completed the review of the construction plans, dated December 19, 2023, for the above-referenced project and have determined the plans to be in substantial compliance with our commercial driveway approach specifications.

Before a commercial approach permit can be issued the following items need to be addressed:

1. A contractor needs to be selected and the selected contractor must submit a certificate of insurance to the LCRC with the following language: "The Board of Livingston County Road Commissioners, the Livingston County Road Commission, and their officers, agents, and employees are listed additional insured parties with respects to General Liability."
2. Victory Drive is classified as an All-Weather road, therefore the proposed pavement cross-section within the road right-of-way will need to match the cross section of Victory Drive. Please include a pavement cross section for the approach within the road right-of-way that consists of 2" 5E3 top HMA, 2" 5E3 leveling HMA, 4" 4E3 base HMA, 8" 21AA Aggregate, and 12" CL II Sand in the plan set. The revised plan set will need to be submitted electronically.

If you have any questions, please do not hesitate to contact me.

Sincerely,



Kim Hiller, P.E.  
Utilities and Permits Engineer

Cc: File  
Amy Ruthig, Genoa Township (via email)  
Ken Recker, LCDC (via email)  
Craig Cheffer, Property Owner (via email)

**IMPACT ASSESSMENT  
FOR  
SITE PLAN PETITION  
"MICHIGAN RECREATIONAL CONSTRUCTION, INC"  
GENOA TOWNSHIP, LIVINGSTON COUNTY  
MICHIGAN**

Prepared for:

**MICHIGAN RECREATIONAL CONSTRUCTION, INC  
1091 VICTORY DRIVE  
HOWELL, MI 48843  
(313) 806-8406**

Prepared by:

**BOSS ENGINEERING COMPANY  
3121 E. GRAND RIVER  
HOWELL, MI 48843  
(517) 546-4836**

November 29<sup>th</sup>, 2023  
Revised: December 19<sup>th</sup>, 2023

**23-265 EIA**



## INTRODUCTION

The purpose of this Impact Assessment (IA) report is to show the effect that this proposed development may have on various factors in the general vicinity of the project. The format used for presentation of this report conforms to the *Submittal Requirements for Impact Assessment* guidelines in accordance with Section 18.07 of the published Zoning Ordinance for Genoa Township, Livingston County, Michigan.

## DISCUSSION ITEMS

### **A. Name(s) and address(es) of person(s) responsible for preparation of the impact assessment and a brief statement of their qualifications.**

Prepared For:  
MICHIGAN RECREATIONAL CONSTRUCTION, INC.  
1091 Victory Drive  
Howell, MI 48843  
(313) 806-8406

Prepared By:  
BOSS ENGINEERING COMPANY  
Civil Engineers, Land Surveyors, Landscape Architects and Planners  
3121 E. Grand River  
Howell, MI 48843  
(517) 546-4836

Boss Engineering has been successfully providing engineering, surveying, planning and landscape architecture services on land development projects since 1969. Since its beginning, Boss Engineering has strived to provide unparalleled professional services with integrity and respect to every client. Today, Boss provides a complete lineup of consulting services for each project, ranging from conceptual design through final construction. The company currently employs a variety of professions including civil engineers, surveyors, landscape architects and sanitarians.

### **B. Map(s) and written description / analysis of the project site including all existing structures, manmade facilities, and natural features. The analysis shall also include information for areas within 10 feet of the property. An aerial photograph or drawing may be used to delineate these areas.**

The site is located on the east side of Victory Drive approximately 1,625 feet southwest of the E. Grand River Ave intersection. The project contains subject parcels 4711-05-303-025 and 4711-05-303-026 which have areas of 5.85 ac and 10.42 ac, respectively. The project will consist of a parcel combination of the two subject parcels for a resultant parcel area of 16.27 ac. The subject property and adjacent properties are all zoned within the Industrial District (IND), with the subject property having approximately 1,040 feet of frontage along Victory Drive. The northern parcel contains an unoccupied building and gravel storage yard and the southern parcel is an undeveloped parcel. The undeveloped parcel contains wetlands and a storm water conveyance channel. The southern parcel also contains a drainage ditch that conveys storm water from the Victory Road right of way to the wetland at the central/west central portion of the parcel.

**C. Impact on natural features: A written description of the environmental characteristics of the site prior to development and following development, i.e., topography, soils, wildlife, woodlands, mature trees (eight inch caliper or greater), wetlands, drainage, lakes, streams, creeks or ponds. Documentation by a qualified wetland specialist shall be required wherever the Township determines that there is a potential regulated wetland. Reduced copies of the Existing Conditions Map(s) or aerial photographs may accompany written material.**

The total site area is 16.27 acres. The wetland is primarily in the north central portion of the resultant parcel with a storm conveyance channel running north-south through the center of the resultant parcel. The wetland is considered low quality and part of the county drain system with excavated ditches being connected by culverts and draining into the wetland. The woodlands on site contain dogwood (scrub), cottonwood (1"-20"), boxelder (1"-8"), and silver maple (1"-8"). The common wetland vegetation consists of reed canary grass with cattails and common reed grass within open water.

The site gradually drains towards the wetlands with the buildable area consisting of slopes of approximately 5-10%. The USDA Soil Conservation Service soil classification for the site with Bronson Loamy Sand, Brookston Loam, Carlisle Muck, and Miami Loam.

**D. Impact on storm water management: Description of measures to control soil erosion and sedimentation during grading and construction operations and until a permanent ground cover is established. Recommendations for such measures may be obtained from County Soil Conservation Service.**

Surface runoff during periods of construction will be controlled by proper methods set forth by the Livingston County Drain Commissioner, including silt fence, inlet protection devices, and seed and mulch.

At the time of construction, there may be some temporary dust, noise, vibration and smoke, but these conditions will be of relatively short duration and shall be controlled by applying appropriate procedures to minimize the effects, such as watering if necessary for dust control.

The Site Plan documents show the proposed locations of all site improvements along with detailed soil erosion control information. The plans will be reviewed by the Livingston County Drain Commissioner's office for compliance with their regulations prior to issuance of a Soil Erosion Control permit.

**E. Impact on surrounding land use: Description of the types of proposed uses and other man made facilities, including any project phasing, and an indication of how the proposed use conforms or conflicts with existing and potential development patterns. A description shall be provided of any increases of light, noise or air pollution which could negatively impact adjacent properties.**

The proposed primary use of the site is for storage purposes for construction equipment and material, with hours of operations between 7am and 7pm Monday through Friday. The equipment being stored on-site consists of general construction equipment and materials associated with Michigan Recreational Constructions business. The storage yard will be utilized for parking the company vehicles (which consist of primarily pickup trucks with flatbed trailers and small construction equipment like skid steers and mini excavators), as well as storing materials. Playground equipment will be the primary stored equipment/material within the storage yard. These materials are between 2' to 7' in height. An 8' screen fence is being proposed. The company vehicles and equipment is proposed to be parked behind the existing building when not in use or

when they return from job sites. Existing storage bins behind the existing building will be utilized for storage of loose materials like sand, topsoil and gravel.

The subject site conforms with current surrounding land being zoned in the industrial district. The increase in light, noise or air pollution will be minimal with what is typically associated with an industrial development and is to meet Township Ordinances. The proposed use is consistent with the previously approved use for the 855 Victory Road site, being an industrial building with outdoor storage for a contractor yard. The parcel immediately to the south of the two subject parcels is the current operation for Michigan Recreational Construction that is being relocated to this subject parcel at 855 Victory Drive. This use is consistent with other outdoor storage yards located on Victory Drive.

**F. Impact on public facilities and services: Description of number of expected residents, employees, visitors, or patrons, and the anticipated impact on public schools, police protection and fire protection. Letters from the appropriate agencies may be provided, as appropriate.**

The majority of employees for this use typically arrive on site in the morning and depart shortly thereafter in company vehicles to job sites. Thus, the impact on public services like public sewers is minimal. The site is proposed to utilize a well for water supply. The water usage on the site is primarily domestic use for any remaining on-site employees. This proposed use does not impact schools or police and fire protection. The site is serviced by adequate public roads.

**G. Impact on public utilities: Description of the method to be used to service the development with water and sanitary sewer facilities, the method to be used to control drainage on the site and from the site, including runoff control during periods of construction. For sites service with sanitary sewer, calculations for pre- and post development flows shall be provided in equivalents to a single family home. Where septic systems are proposed, documentation or permits from the Livingston County Health Department shall be provided.**

For sanitary, the development is to be served by public sanitary sewer. The development lies outside of the municipal water main district and will be serviced by well.

The pre-development sanitary flow from this site is zero. Post-development flows based on MHOG sewer standards for industrial buildings is equivalent to 0.46 REU's.

Warehouse & Storage: Unit factor = 0.05 per 1,000 sq ft  
REU's = (9,200 sq ft / 1,000 sq ft) x 0.05 = 0.46 REU's

With regards to storm water management, all storm water will be directed towards either the existing north sedimentation basin or towards the modified south sedimentation basins or new east sedimentation basin. The basin design computations/method are consistent with what was previously provided on the subject property on 855 Victory Drive. The Sedimentation Basins are all 50-year basin designs that act as large forebays prior to discharge to the wetland for storage.

**H. Storage or handling of any hazardous materials: Description of any hazardous substances expected to be used, stored or disposed of on the site. The information shall describe the type of materials, location within the site and method of containment. Documentation of compliance with federal and state requirements, and a Pollution Incident Prevention Plan (PIPP) shall be submitted, as appropriate.**

Two 500-gallon fuel tanks will be stored on-site. The fuel being stored is offroad diesel, which is used to fuel construction equipment. The tanks will meet all local, state, and federal regulations. The tanks will be located on a concrete pad and surrounded by protective bollards. Fueling activities occur in the mornings as crews are preparing to head out to job-sites. Two fuel tanks are proposed to reduce the number of trips needed by the fuel provider (Corrigan Oil) as well as allow two vehicles to be filled concurrently to improve morning operations. The fuel tanks proposed are provided by Corrigan Oil and are dual wall tanks equipped with 110% capacity between the inner and outer walls to meet MDEGLE requirements for secondary containment.

No hazardous materials will be disposed of on this site.

**I. Impact on traffic and pedestrians: A description of the traffic volumes to be generated based on national reference documents, such as the most recent edition of the Institute of Transportation Engineers Trip Generation Manual, other published studies or actual counts of similar uses in Michigan.**

The anticipated number of trips that will be generated based on the number of employees will be 50 trips between 6 AM - 8 AM and 50 trips between 5 PM - 7 PM. With no on-site client/customers, the vehicle trips are limited to employees entering and leaving the site as well as delivery trucks dropping off equipment. The equipment deliveries occur periodically throughout the day and would typically be 2-3 trucks per day.

**J. A detailed traffic impact study shall be submitted for any site over ten (10) acres in size which would be expected to generate 100 directional vehicle trips (i.e. 100 inbound or 100 outbound trips) during the peak hour of traffic of the generator or on the adjacent streets.**

Although the site is over 10 acres in area, a majority of the parcel is wetland and will remain undeveloped. Additionally, since the use is limited to employee traffic and deliveries, the inbound/outbound trips in a peak hour is equivalent to the maximum number of employees (50) plus a standard day of 2-3 delivery trucks. Should the delivery trucks arrive within the same hours as employees coming in to work in the morning, there would be approximately 53 inbound trips within the peak hour which is less than 100 directional trips and thus no traffic study is warranted.

**K. Special Provisions: General description of any deed restrictions, protective covenants, master deed or association bylaws.**

Existing drainage easements exist on the property as shown on the site plan documents.

**L. A list of all sources shall be provided.**

Genoa Township's Submittal Requirements for Impact Assessment

Genoa Township Zoning Ordinances

Soil Survey of Livingston County, Michigan, U.S.D.A. Soil Conservation Service

National Wetland Inventory Plan, United States Department of the Interior, Fish and Wildlife Service

**POLLUTION INCIDENT PREVENTION PLAN  
FOR  
"MICHIGAN RECREATIONAL CONSTRUCTION, INC"  
GENOA TOWNSHIP, LIVINGSTON COUNTY  
MICHIGAN**

Prepared for:

**MICHIGAN RECREATIONAL CONSTRUCTION, INC  
1091 VICTORY DRIVE  
HOWELL, MI 48843  
(313) 806-8406**

Prepared by:

**BOSS ENGINEERING COMPANY  
3121 E. GRAND RIVER  
HOWELL, MI 48843  
(517) 546-4836**

December 19<sup>th</sup>, 2023

**23-265 PIPP**

## INTRODUCTION

In accordance with Section 13.07 of the published Zoning Ordinance for Genoa Township, Livingston County, Michigan, a Pollution Incident Prevention Plan shall be provided for sites storing large quantities of hazardous materials. Below is information required, by Ordinance.

### PARCEL INFO AND CONTACT INFORMATION

Site Address: 855 Victory Drive, Howell, MI 48843  
Owner: Michigan Recreational Construction, Inc  
Contact Name: Craig Sheffer  
Contact Number: (313) 806-8406

**A. Description of any discharge of any type of wastewater to a storm sewer, drain, lake, stream, wetland, other surface water body or into the groundwater.**

There is no discharge of wastewater to a storm sewer, drain, lake, stream, or wetland.

**B. Description of storage of any salt, oil, or other potentially hazardous materials including common name, name of chemical components, location, maximum quantity expected on hand at any time, type of storage containers or base material, and anticipated procedure for use and handling.**

The fuel proposed to be stored on-site is offroad diesel. The fuel is used in construction equipment used by the Michigan Recreational Construction operations. The fuel pad is located 81' from the rear of the existing building. The maximum quantity anticipated on site is 1,000 gallons. Two (2) 500 gallons tanks are being provided by Corrigan Oil and a detail is provided in attached Appendix A. The fuel tanks are provided on an 8" thick concrete pad. The typical operations on site include morning fueling fill ups of construction equipment by employees prior to leaving for job sites. Fill ups occur daily. Fuel usage is approximately 500-600 gallons per week. Corrigan Oil will provide fuel delivery for the tanks on a bi-weekly or weekly basis as needed. Transport and handling of the off-road diesel shall comply with all Local, State, and Federal regulations and per the Material Safety Data Sheet.

**C. Description of any transportation, on-site treatment, storage or disposal of hazardous waste generated in quantities of 250 gallons or 2200 pounds per month.**

No hazardous waste is generated on-site.

**D. Description of any secondary containment measures proposed including design, construction materials and specification, volume and security measures.**

The 500-gallon tanks provided by Corrigan Oil are dual wall tanks that provide 110% capacity between the inner and outer tank walls. The fuel tanks are proposed to be placed on an 8" thick concrete pad, as shown on the plans. The concrete pad includes protective bollards around its perimeter for protection. The fuel storage tanks are located in a gravel storage yard area behind the existing building. This area is not open to public and is enclosed by an 8' high fence with automated security gates for access which limits access to employees.

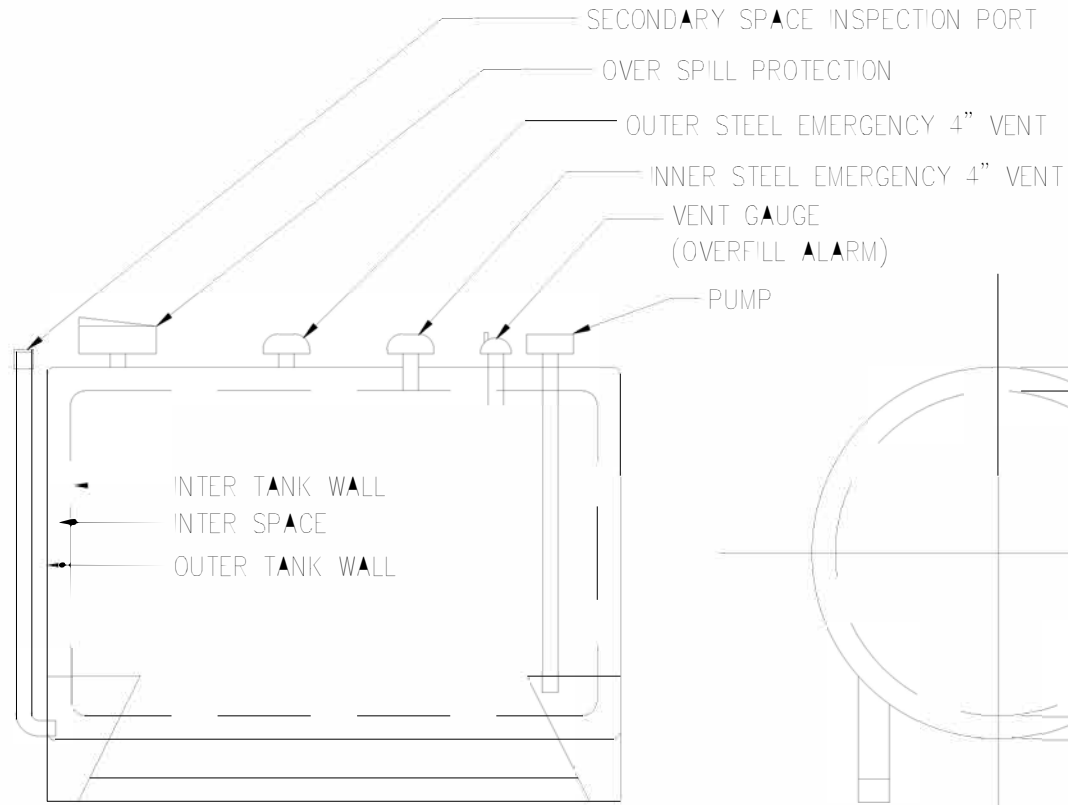
**E. Name and phone number(s) of person(s) responsible for materials and available 24 hours, in case of detected spill.**

Owner: Michigan Recreational Construction, Inc  
Contact Name: Craig Sheffer  
Contact Number: (313) 806-8406

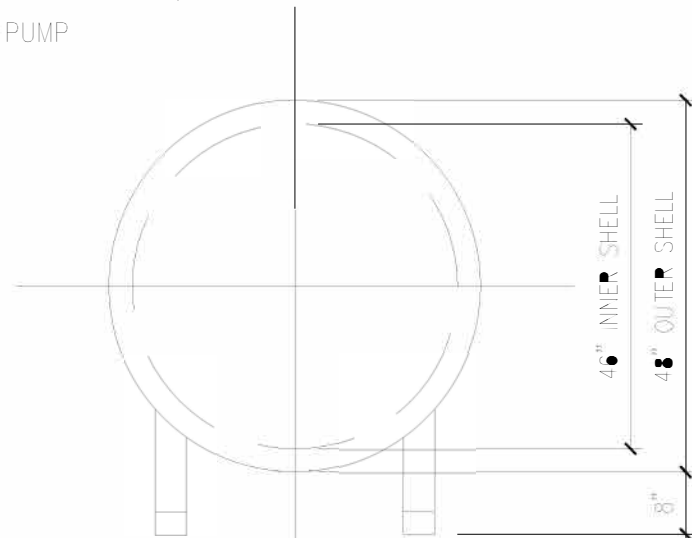
Fuel Supplier: Corrigan Oil  
Contact Number: 810-229-6323

**Appendix A**

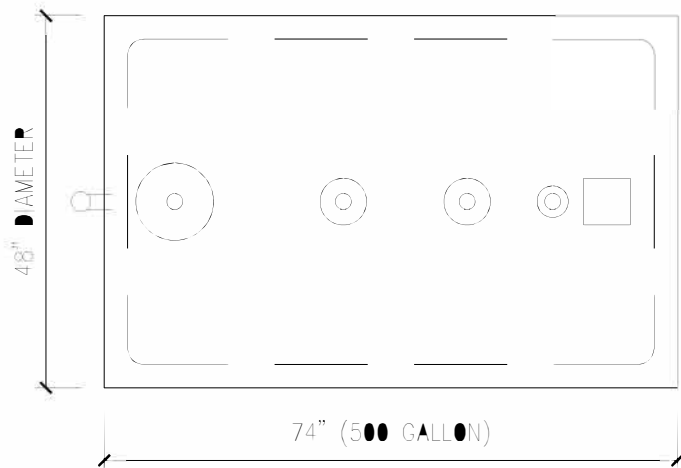
**Fuel Storage Tank Detail**



SIDE VIEW



END VIEW



TOP VIEW

500 GALLON TANK – UL142® DOUBLE WALL ABOVE GROUND STORAGE TANK  
 12 GAUGE CONSTRUCTION  
 MDEO APPROVED 110% CAPACITY BETWEEN OUTER SHELL AND INNER SHELL

PH. 810-229-6323



**PROPERTY DESCRIPTION:**

1ST PARCEL:  
 PART OF LOT 18 AND PART OF LOT 19 OF "GRAND OAKS WEST INDUSTRIAL PARK", AS RECORDED IN LIBER 30 OF PLATS, PAGES 1-5, LIVINGSTON COUNTY RECORDS AND BEING A PART OF THE SOUTHWEST 1/4 OF SECTION 5 AND PART OF THE SOUTHEAST 1/4 OF SECTION 6, T2N-R5E, GENOA TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN, MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF SAID LOT 19 OF "GRAND OAKS WEST INDUSTRIAL PARK"; THENCE ALONG THE NORTH LINE OF SAID LOT 19, S 80°36'27" E, 435.57 FEET; THENCE S 02°07'51" W, 581.16 FEET; THENCE S 88°58'54" W, 379.75 FEET; THENCE ALONG THE EAST LINE OF VICTORY DRIVE (66 FOOT WIDE RIGHT OF WAY) ON THE FOLLOWING THREE (3) COURSES:  
 1)NORTHERLY ON AN ARC LEFT, HAVING A LENGTH OF 62.39 FEET, A RADIUS OF 650.15 FEET, A CENTRAL ANGLE OF 05°29'55", AND A LONG CHORD WHICH BEARS N 08°06'52" W, 62.37 FEET;  
 2)NORTHERLY ON AN ARC RIGHT, HAVING A LENGTH OF 99.88 FEET, A RADIUS OF 584.15 FEET, A CENTRAL ANGLE OF 09°47'49", AND A LONG CHORD WHICH BEARS N 05°57'55" W, 99.76 FEET;  
 3)N 01°04'01" W, 497.72 FEET, TO THE POINT OF BEGINNING, CONTAINING 5.85 ACRES, MORE OR LESS, AND SUBJECT TO THE RIGHTS OF THE PUBLIC OVER THE EXISTING SAID VICTORY DRIVE. ALSO SUBJECT TO ANY OTHER EASEMENTS OR RESTRICTIONS OF RECORD.

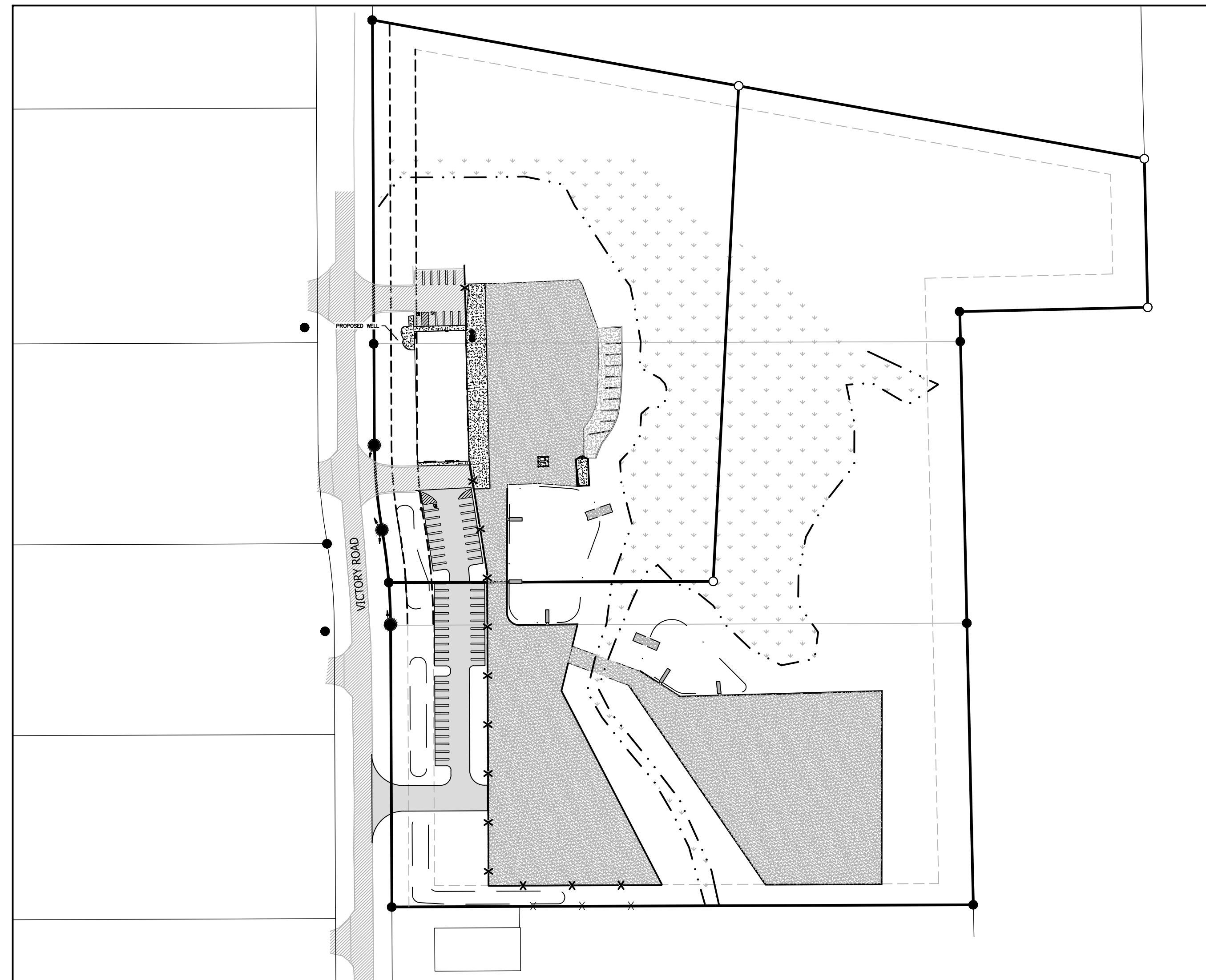
2ND PARCEL:  
 PARCEL NO. 4711-05-303-026  
 LOT 17 AND PART OF LOT 18 AND PART OF LOT 19, OF "GRAND OAKS WEST INDUSTRIAL PARK", ACCORDING TO THE PLAT THEREOF RECORDED IN LIBER 30 OF PLATS, PAGE(S) 1, LIVINGSTON COUNTY RECORDS, MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE SOUTHWEST CORNER OF SAID LOT 17; THENCE ALONG THE EAST LINE OF VICTORY DRIVE (66 FOOT WIDE RIGHT OF WAY) NORTH 01 DEGREES 04 MINUTES 01 SECONDS WEST 331.21 FEET; THENCE CONTINUING ALONG SAID EAST LINE OF VICTORY DRIVE, NORTHERLY ON AN ARC LEFT, HAVING A LENGTH OF 48.78 FEET, A RADIUS OF 650.15 FEET, A CENTRAL ANGLE OF 04 DEGREES 17 MINUTES 55 SECONDS AND A LONG CHORD WHICH BEARS NORTH 03 DEGREES 12 MINUTES 57 SECONDS WEST 48.77 FEET; THENCE NORTH 88 DEGREES 58 MINUTES 54 SECONDS EAST 379.75 FEET; THENCE NORTH 02 DEGREES 07 MINUTES 51 SECONDS EAST 581.16 FEET; THENCE ALONG THE NORTH LINE OF SAID LOT 19, SOUTH 80 DEGREES 36 MINUTES 27 SECONDS EAST 482.57 FEET; THENCE ALONG THE EAST LINE OF SAID LOT 19, SOUTH 02 DEGREES 06 MINUTES 27 SECONDS EAST 174.00 FEET; THENCE ALONG THE SOUTH LINE OF SAID LOT 19, SOUTH 87 DEGREES 53 MINUTES 37 SECONDS WEST 220.00 FEET; THENCE ALONG THE EAST LINE OF SAID LOTS 17, 18 & 19, SOUTH 02 DEGREES 06 MINUTES 23 SECONDS EAST 695.00 FEET; THENCE ALONG THE SOUTH LINE OF SAID LOT 17, SOUTH 88 DEGREES 58 MINUTES 54 SECONDS WEST 680.69 FEET TO THE POINT OF BEGINNING. SUBJECT TO THE RIGHTS OF THE PUBLIC OVER EXISTING VICTORY DRIVE AND TO ANY OTHER EASEMENT OR RESTRICTIONS OF RECORD.

SECTION 5 & 6 TOWN 2 NORTH RANGE 5 EAST GRAND OAKS WEST INDUSTRIAL PARK LOT 16

# SITE PLAN FOR MICHIGAN RECREATIONAL CONSTRUCTION PART OF SW QUARTER, SECTION 5 855 VICTORY DRIVE GENOA TOWNSHIP, LIVINGSTON COUNTY, MI



**LOCATION MAP**  
NO SCALE



**OVERALL SITE MAP**  
NO SCALE

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES & LEGEND
3	EXISTING CONDITIONS & DEMOLITION PLAN
4	SITE PLAN
5	GRADING & DRAINAGE PLAN
6	SOIL EROSION & SEDIMENTATION CONTROL PLAN
7	UTILITY PLAN
8	BASIN DETAILS
9	LANDSCAPE PLAN
10	CONSTRUCTION DETAILS
11	CONSTRUCTION DETAILS
PLANS BY OTHERS	
1	GASSER BUSH ASSOCIATES

PERMITS & APPROVALS		
AGENCY	DATE SUBMITTED	DATE APPROVED
• TOWNSHIP ENGINEERING APPROVAL	-	-
• LDC	-	-
• LCRC	-	-
• LCDC SESC	-	-
• EGLE - WETLAND	-	-

**INDEMNIFICATION STATEMENT**

THE CONTRACTOR SHALL HOLD HARMLESS THE DESIGN PROFESSIONAL, MUNICIPALITY, COUNTY, STATE AND ALL OF ITS SUB CONSULTANTS, PUBLIC AND PRIVATE UTILITY COMPANIES, AND LANDOWNERS FOR DAMAGES TO INDIVIDUALS AND PROPERTY, REAL OR OTHERWISE, DUE TO THE OPERATIONS OF THE CONTRACTOR AND/OR THEIR SUBCONTRACTORS.

**PREPARED FOR:**

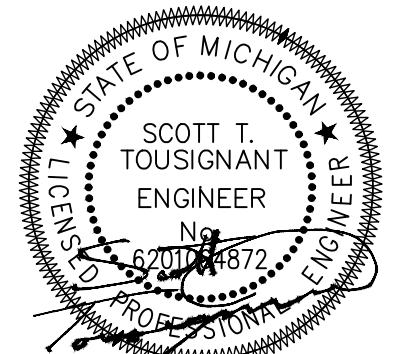
MICHIGAN RECREATIONAL CONSTRUCTION, INC.  
 1091 VICTORY DRIVE  
 HOWELL, MI 48843  
 CONTACT: SUSAN & CRAIG SHEFFER  
 PHONE: 517-545-7122  
 EMAIL: CRAIG@BUILDINGFUN.COM

**LIGHTING PREPARED BY:**

GASSER BUSH ASSOCIATES  
 30984 INDUSTRIAL RD  
 LIVONIA, MI 48150  
 QUOTES@GASSERBUSH.COM  
 PHONE: 734-266-6705

**PREPARED BY:**

**BEBOSS Engineering**  
 Engineers Surveyors Planners Landscape Architects  
 3121 E. GRAND RIVER AVE.  
 HOWELL, MI. 48843  
 517.546.4836 FAX 517.548.1670  
 CONTACT: SCOTT TOUSIGNANT



FOR SITE PLAN APPROVAL ONLY!  
NOT FOR CONSTRUCTION

1	MD	ST	PER TOWNSHIP REVIEW	12-19-23	ISSUE DATE: 11/29/23
	NO	BY	CK	REVISION	DATE

**GENERAL NOTES**

- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED TOWNSHIP, COUNTY, AND STATE OF MICHIGAN PERMITS.
- A GRADING PERMIT FOR SOIL EROSION-SEDIMENTATION CONTROL SHALL BE OBTAINED FROM THE GOVERNING AGENCY PRIOR TO THE START OF CONSTRUCTION.
- IF DUST PROBLEM OCCURS DURING CONSTRUCTION, CONTROL WILL BE PROVIDED BY AN APPLICATION OF WATER, EITHER BY SPRINKLER OR TANK TRUCK.
- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH LOCAL MUNICIPAL STANDARDS AND SPECIFICATIONS.
- PAVED SURFACES, WALKWAYS, SIGNS, LIGHTING AND OTHER STRUCTURES SHALL BE MAINTAINED IN A SAFE, ATTRACTIVE CONDITION AS ORIGINALLY DESIGNED AND CONSTRUCTED.
- ALL BARRIER-FREE FEATURES SHALL BE CONSTRUCTED TO MEET ALL LOCAL, STATE AND A.D.A. REQUIREMENTS. WHERE EXISTING CONDITIONS AND/OR THE REQUIREMENTS OF THE PLANS WILL RESULT IN FINISHED CONDITIONS THAT DO NOT MEET ADA REQUIREMENTS, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER PRIOR TO WORK COMMENCING.
- ANY DISCREPANCY IN THIS PLAN AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE DESIGN ENGINEER PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL SETBACKS, EASEMENTS AND DIMENSIONS SHOWN HEREON PRIOR TO BEGINNING CONSTRUCTION.
- THE CONTRACTOR SHALL CONTACT ALL OWNERS OF EASEMENTS, UTILITIES AND RIGHT-OF-WAY, PUBLIC OR PRIVATE, PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR SHALL COORDINATE WITH ALL OWNERS TO DETERMINE THE LOCATION OF EXISTING LANDSCAPING, IRRIGATION LINES & PRIVATE UTILITY LINES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING LANDSCAPING, IRRIGATION LINES, AND PRIVATE UTILITY LINES.
- THE CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE UPON COMPLETION OF THE PROJECT.
- THE CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND PUBLIC SHALL BE PROTECTED FROM INJURY, AND ADJOINING PROPERTY PROTECTED FROM DAMAGE.
- THE CONTRACTOR SHALL KEEP THE AREA OUTSIDE THE "CONSTRUCTION LIMITS" BROOM CLEAN AT ALL TIMES.
- THE CONTRACTOR SHALL CALL MISS DIG A MINIMUM OF 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
- ALL PAVEMENT REPLACEMENT AND OTHER WORKS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWNSHIP, INCLUDING THE LATEST MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES.
- NO ADDITIONAL COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR ANY DELAY OR INCONVENIENCE DUE TO THE MATERIAL SHORTAGES OR RESPONSIBLE DELAYS DUE TO THE OPERATIONS OF SUCH OTHER PARTIES DOING WORK INDICATED OR SHOWN ON THE PLANS OR IN THE SPECIFICATION OR FOR ANY REASONABLE DELAYS IN CONSTRUCTION DUE TO THE ENCOUNTERING OR EXISTING UTILITIES THAT MAY OR MAY NOT BE SHOWN ON THE PLANS.
- DURING THE CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL NOT PERFORM WORK BY PRIVATE AGREEMENT WITH PROPERTY OWNERS ADJACENT TO THE PROJECT.
- IF WORK EXTENDS BEYOND NOVEMBER 15, NO COMPENSATION WILL BE DUE TO THE CONTRACTOR FOR ANY WINTER PROTECTION MEASURES THAT MAY BE REQUIRED BY THE ENGINEER.
- NO TREES ARE TO BE REMOVED UNTIL MARKED IN THE FIELD BY THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE PROPERTY BEYOND THE CONSTRUCTION LIMITS INCLUDING BUT NOT LIMITED TO EXISTING FENCE, LAWN, TREES AND SHRUBBERY.
- TRAFFIC SHALL BE MAINTAINED DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL SIGNS AND TRAFFIC CONTROL DEVICES. FLAG PERSONS SHALL BE PROVIDED BY THE CONTRACTOR IF DETERMINED NECESSARY BY THE ENGINEER. ALL SIGNS SHALL CONFORM TO THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AT NO COST TO THE TOWNSHIP. NO WORK SHALL BE DONE UNLESS THE APPROPRIATE TRAFFIC CONTROL DEVICES ARE IN PLACE.
- ALL DEMOLISHED MATERIALS AND SOIL SPOILS SHALL BE REMOVED FROM THE SITE AT NO ADDITIONAL COST, AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
- ANY EXISTING APPURTENANCES SUCH AS MANHOLES, GATE VALVES, ETC. SHALL BE ADJUSTED TO THE PROPOSED GRADE AND SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- ALL PERMANENT SIGNS AND PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION OF THE MICHIGAN MUTCD MANUAL AND SHALL BE INCIDENTAL TO THE CONTRACT.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL ITEMS REQUIRED FOR CONSTRUCTION OF THE PROJECT ARE INCLUDED IN THE CONTRACT. ANY ITEMS NOT SPECIFICALLY DESIGNATED IN THE PLANS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- THE CONTRACTOR IS RESPONSIBLE FOR HAVING A SET OF APPROVED CONSTRUCTION PLANS, WITH THE LATEST REVISION DATE, ON SITE PRIOR TO THE START OF CONSTRUCTION; IN THE EVENT OF ANY QUESTIONS PERTAINING TO THE INTENT OF THE CONSTRUCTION PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER FOR A FINAL DETERMINATION FROM THE DESIGN ENGINEER.
- THE CONTRACTOR, NOT THE OWNER OR THE ENGINEER, ARE RESPONSIBLE FOR THE MEANS, METHODS, AND SEQUENCE OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR SAFE EXECUTION OF THE PROJECT SCOPE IN ACCORDANCE WITH THE APPROVED CONSTRUCTION PLANS.
- THE CONTRACTOR IS RESPONSIBLE FOR PRESERVING CONSTRUCTION STAKING AS NECESSARY. CONTRACTOR TO NOTIFY CONSTRUCTION SURVEYOR OF REPLACEMENT STAKES NEEDED WHICH SHALL BE AT THE CONTRACTORS EXPENSE.
- THE OWNER AND/OR CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING FRANCHISE UTILITY SERVICES (CABLE, ELECTRIC, GAS, ETC.) OWNER AND/OR CONTRACTOR SHALL WORK WITH UTILITY COMPANIES ON FURNISHING SITE UTILITY LAYOUTS AND PROVIDING CONDUIT CROSSINGS AS REQUIRED.
- DAMAGE TO ANY EXISTING UTILITIES OR INFRASTRUCTURE (INCLUDING PAVEMENT, CURB, SIDEWALK, ETC.) SHALL PROMPTLY BE REPLACED IN KIND AND SHALL BE AT THE CONTRACTORS EXPENSE.
- COORDINATION OF TESTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND PER ALL CITY/TOWNSHIP/COUNTY REQUIREMENTS. COPIES OF ALL TEST REPORTS SHALL BE FURNISHED TO THE DESIGN ENGINEER.
- PRIOR TO THE START OF CONSTRUCTION, PROTECTION FENCING SHALL BE ERECTED AROUND THE TREE DRIPLINE OF ANY TREES INDICATED TO BE SAVED WITHIN THE LIMITS OF DISTURBANCE.
- THE CONTRACTOR SHALL MAINTAIN DRAINAGE OF THE PROJECT AREA AND ADJACENT AREAS. WHERE EXISTING DRAINAGE FACILITIES ARE IMPACTED/DISTURBED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE ANY NECESSARY TEMPORARY DRAINAGE PROVISIONS.
- SOIL BORING LOGS ARE REPRESENTATIVE OF SPECIFIC POINTS ON THE PROJECT SITE, AND IF PROVIDED TO THE CONTRACTOR ARE FOR INFORMATIONAL PURPOSES ONLY.
- WHERE CITY/TOWNSHIP STANDARD CONSTRUCTION DETAILS/SPECIFICATIONS ARE PROVIDED AND ARE IN CONFLICT WITH NOTES AND SPECIFICATIONS HEREIN, THE CITY/TOWNSHIP STANDARD SHALL GOVERN.

**INDEMNIFICATION STATEMENT**

THE CONTRACTOR SHALL HOLD HARMLESS THE DESIGN PROFESSIONAL, MUNICIPALITY, COUNTY, STATE, AND ALL OF ITS SUB CONSULTANTS, PUBLIC AND PRIVATE UTILITY COMPANIES, AND LANDOWNERS FOR DAMAGES TO INDIVIDUALS AND PROPERTY, REAL OR OTHERWISE, DUE TO THE OPERATIONS OF THE CONTRACTOR AND/OR THEIR SUBCONTRACTORS.

**CONTRACTOR TO FOLLOW MANUFACTURER SPECS/RECOMMENDATIONS THAT SUPERCEDE PLANS**

**GENERAL GRADING & SESC NOTES**

- THE CONTRACTOR SHALL HAVE IN PLACE ALL REQUIRED EROSION CONTROL METHODS AS INDICATED ON THE CONSTRUCTION PLANS AND AS REQUIRED BY GENERAL PRACTICE. SPECIFIC MEANS, METHODS AND SEQUENCES OF CONSTRUCTION MAY DICTATE ADDITIONAL SOIL EROSION CONTROL MEASURES BE NEEDED. THE CONTRACTOR SHALL COORDINATE WITH THE DESIGN ENGINEER ON THESE ANTICIPATED METHODS. ADDITIONAL SOIL EROSION CONTROL METHODS SHALL BE INCIDENTAL TO THE SCOPE OF WORK.
- ACTUAL FIELD CONDITIONS MAY DICTATE ADDITIONAL OR ALTERNATE SOIL EROSION CONTROL MEASURES BE UTILIZED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DEFICIENCIES OR FIELD CONDITIONS THAT WARRANT ADDITIONAL AND/OR ALTERNATIVE SESC MEASURES BE UTILIZED.
- AT THE CLOSE OF EACH DAY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING ALL CONSTRUCTION OPERATIONS, MATERIALS, DEBRIS, ETC ARE CONTAINED ON-SITE.
- AT THE CLOSE OF EACH WORKING DAY, ALL DRAINAGE STRUCTURES SHALL BE FREE OF DIRT AND DEBRIS AT THE FLOW LINE.
- ALL SOIL EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE PER MDEGLE REGULATIONS AND BEST PRACTICES. ALL SOIL EROSION CONTROL MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR.
- THE SOIL EROSION CONTROL MEASURES SHALL BE KEPT IN PLACE UNTIL SUCH A TIME THAT THE SITE IS DETERMINED TO BE ESTABLISHED WITH ACCEPTABLE AMOUNT OF VEGETATIVE GROUND COVER.
- ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND THE NORMAL CONSTRUCTION LIMITS OF THE PROJECT SHALL BE SODDED OR SEEDED AS SPECIFIED OR DIRECTED BY THE ENGINEER.
- AFTER REMOVAL OF TOPSOIL, THE SUBGRADE SHALL BE COMPACTED TO 95% OF ITS UNIT WEIGHT.
- ALL GRADING IN THE PLANS SHALL BE DONE AS PART OF THIS CONTRACT. ALL DELETERIOUS MATERIAL SHALL BE REMOVED FROM THE SUBGRADE PRIOR TO COMPACTING.
- ALL ROOTS, STUMPS AND OTHER OBJECTIONABLE MATERIALS SHALL BE REMOVED AND THE HOLE BACKFILLED WITH SUITABLE MATERIAL. WHERE GRADE CORRECTION IS REQUIRED, THE SUBGRADE SHALL BE CUT TO CONFORM TO THE CROSS-SECTION AS SHOWN IN THE PLANS.
- ALL EXCAVATION UNDER OR WITHIN 3 FEET OF PUBLIC PAVEMENT, EXISTING OR PROPOSED SHALL BE BACKFILLED AND COMPACTED WITH SAND (MDOT CLASS II).

**GENERAL LANDSCAPE NOTES**

- ALL PLANT MATERIAL SHALL CONFORM TO THE REQUIREMENTS AND SPECIFICATIONS OF THE GOVERNING MUNICIPALITY. ALL STOCK SHALL BE NURSERY GROWN, CONFORMING TO ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK", AND IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICE. STOCK SHALL EXHIBIT NORMAL GROWTH HABIT AND BE FREE OF DISEASE, INSECTS, EGGS, LARVAE, & DEFECTS SUCH AS KNOTS, SUN-SCALD, INJURIES, ABRASION, OR DISFIGUREMENT. ALL PLANT MATERIAL SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT.
  - ALL PLANT MATERIALS SHALL BE BALLED AND BURLAPPED OR CONTAINER STOCK. NO BARE ROOT STOCK IS PERMITTED. ALL PLANT BALLS SHALL BE FIRM, INTACT, AND SECURELY WRAPPED AND BOUND.
  - ALL PLANT BED MATERIALS SHALL BE EXCAVATED OF ALL BUILDING MATERIALS, OTHER EXTRANEIOUS OBJECTS, AND POOR SOILS TO A MINIMUM DEPTH OF 12-INCHES AND BACKFILLED TO GRADE WITH SPECIFIED PLANTING MIX (SEE BELOW).
  - PLANTING MIXTURE SHALL CONSIST OF 5 PARTS TOPSOIL FROM ON-SITE (AS APPROVED), 4 PARTS COARSE SAND, 1 PART SPHAGNUM PEAT MOSS (OR APPROVED COMPOST), AND 5 LBS OF SUPERPHOSPHATE FERTILIZER PER CU. YD. OF MIX. INGREDIENTS SHALL BE THOROUGHLY BLENDED FOR UNIFORM CONSISTENCY.
  - ALL PLANT BEDS AND INDIVIDUAL PLANTS, NOT OTHERWISE NOTED SHALL BE MULCHED WITH A 4-INCH LAYER OF SHREDDED BARK MULCH. EDGE OF MULCH BEDS AS SHOWN. DECIDUOUS TREES IN LAWN AREAS SHALL RECEIVE A 5-FT DIAMETER CIRCLE OF MULCH AND CONIFER TREES 8-FT (PLANTED CROWN OF TREE) UNLESS OTHERWISE NOTED.
  - LANDSCAPE STONE SHALL BE INSTALLED WHERE NOTED OR INDICATED (HATCHED). STONE SHALL BE 3/4"-1-1/4" WASHED RIVER GRAVEL OR AS SELECTED AND SHALL BE INSTALLED TO A MINIMUM DEPTH OF 3-INCHES.
  - ALL LANDSCAPE BEDS, UNLESS OTHERWISE NOTED SHALL BE INSTALLED OVER WEED BARRIER FABRIC - WATER PERMEABLE FILTRATION FABRIC OF NON-WOVEN POLYPROPYLENE OR POLYESTER FABRIC. FABRIC SHALL BE OF SUITABLE THICKNESS FOR APPLICATION.
  - ALL PLANTS AND PLANT BEDS SHALL BE THOROUGHLY WATERED UPON COMPLETION OF PLANTING AND STAKING OPERATIONS.
  - THE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR A PERIOD OF 1 YEAR FROM THE DATE THE WORK IS ACCEPTED, IN WRITING, BY THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL REPLACE, WITHOUT COST TO THE OWNER, WITHIN A SPECIFIED PERIOD OF TIME, ALL DEAD PLANTS, AND ALL PLANTS NOT IN A VIGOROUS, THRIVING CONDITION, AS DETERMINED BY THE LANDSCAPE ARCHITECT, DURING AND AT THE END OF THE GUARANTEE PERIOD. REPLACEMENT STOCK SHALL CONFORM TO THE ORIGINAL SPECIFICATIONS.
  - EDGING SHALL BE PROVIDED FOR ALL LANDSCAPE BEDS NOT ADJACENT TO CONCRETE PAVEMENT. EDGING SHALL BE BLACK ALUMINUM EDGING, 3/16-INCH X 4-INCH. INSTALL PER MANUFACTURER'S INSTRUCTIONS, ALL EDGING SHALL BE INSTALLED IN STRAIGHT LINES OR SMOOTH CURVES WITHOUT IRREGULARITIES.
  - SOD SHALL BE DENSE, WELL ROOTED TURF, FREE OF WEEDS. IT SHALL BE COMPRISED OF A BLEND OF AT LEAST TWO KENTUCKY BLUE GRASSES AND ONE FESCUE. IT SHALL HAVE A UNIFORM THICKNESS OF 3/4-INCH AT TIME OF PLANTING, AND CUT IN UNIFORM STRIPS NOT LESS THAN 10-INCHES BY 18-INCHES. SOD SHALL BE KEPT MOIST AND LAID WITHIN 36-HOURS AFTER CUTTING.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A DENSE LAWN OF PERMANENT GRASSES, FREE OF LUMPS AND DEPRESSIONS. ALL SODDED AREAS THAT BROWN-OUT OR HAVE NOT FIRMLY KNITTED TO THE SOIL BASE WITHIN A PERIOD OF 1 MONTH SHALL BE REPLACED BY THE CONTRACTOR, AT NO COST TO THE OWNER.
- ALL AREAS OF THE SITE THAT BECOME DISTURBED DURING CONSTRUCTION AND ARE NOT TO BE PAVED, STONED, LANDSCAPED, OR SODDED SHALL BE SEEDED AND MULCHED.
- SEED MIXTURE SHALL BE AS FOLLOWS:  
 KENTUCKY BLUEGRASS (CHOOSE 3 VARIETIES - ADLPHI, RUGBY, GLADE, OR PARADE) 30%  
 RUBY RED OR DAWSON RED FINE FESCUE 30%  
 ATLANTA RED FESCUE 20%  
 PENNINE PERENNIAL RYE 20%
- THE ABOVE SEED MIXTURE SHALL BE SOWN AT A RATE OF 250 LBS PER ACRE. PRIOR TO SEEDING, THE TOPSOIL SHALL BE FERTILIZED WITH A COMMERCIAL FERTILIZER WITH A 10-0-10 ANALYSIS:  
 10% NITROGEN - MIN 25% FROM A UREA FORMALDEHYDE SOURCE  
 0 % PHOSPHATE  
 10% POTASH - SOURCE POTASSIUM SULFATE OR POTASSIUM NITRATE
- THE FIRST FERTILIZER APPLICATION SHALL BE AT A RATE OF 10 LBS PER 1000 SQ FT OF BULK FERTILIZER.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A DENSE LAWN OF PERMANENT GRASSES, FREE OF LUMPS AND DEPRESSIONS. ANY PART OF THE AREA THAT FAILS TO SHOW A UNIFORM GERMINATION SHALL BE RE-SEEDED AND SUCH RE-SEEDED SHALL CONTINUE UNTIL A DENSE LAWN IS ESTABLISHED. DAMAGE TO SEEDED AREAS RESULTING FROM EROSION SHALL BE REPAIRED BY THE CONTRACTOR.
- ALL AREAS OF THE SITE SCHEDULED FOR SEEDING OR SODDING SHALL FIRST RECEIVE A 6-INCH LAYER OF CLEAN, FRIABLE TOPSOIL. THE SOIL SHALL BE DISCED AND SHALL BE GRADED IN CONFORMANCE WITH THE GRADING PLAN.
  - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF ALL UTILITIES AND TO INFORM THE LANDSCAPE ARCHITECT OF ANY CONFLICTS PRIOR TO COMMENCING LANDSCAPING.

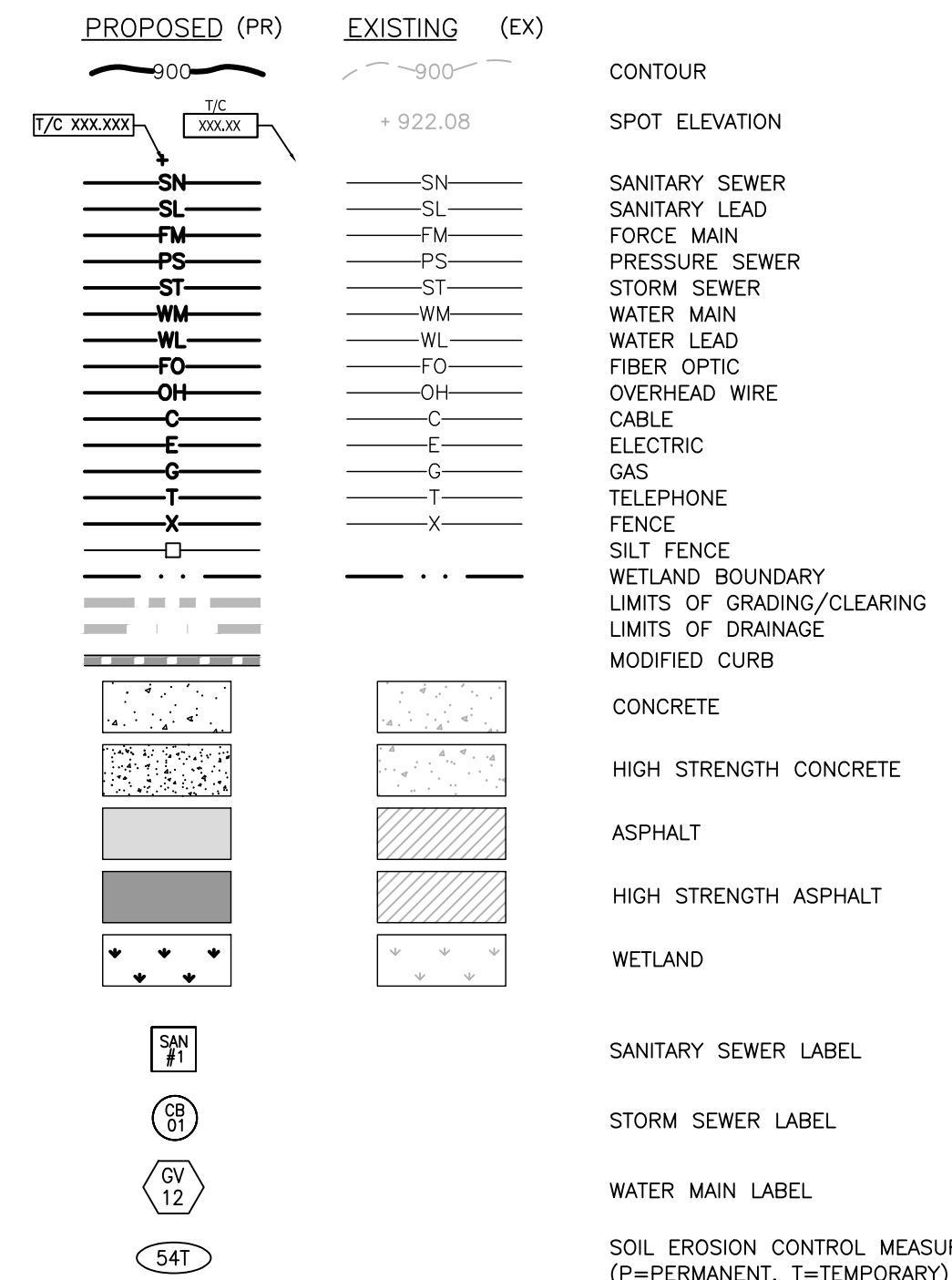
**GENERAL UTILITY NOTES**

- BEDDING SHALL EXTEND A MINIMUM OF 4" BELOW THE PIPE, UNLESS OTHERWISE NOTED ON THE PLANS. BEDDING SHALL BE OF UNIFORM GRADATION MDOT 6AA STONE OR MDOT CLASS II GRANULAR MATERIAL FOR SANITARY AND STORM PIPE AND MDOT CLASS II GRANULAR MATERIAL ONLY FOR WATERMAIN.
- WHERE UNSTABLE GROUND CONDITIONS ARE ENCOUNTERED, STONE BEDDING SHALL BE USED AS DIRECTED BY THE ENGINEER.
- BACKFILL SHALL BE OF A SUITABLE MATERIAL AND SHALL BE FREE OF ANY ORGANIC MATERIALS AND ROCKS.
- BACKFILL ABOVE THE PIPE SHALL BE OF GRANULAR MATERIAL MDOT CLASS II TO A POINT 12" ABOVE THE TOP OF THE PIPE. WHERE THE TRENCH IS NOT WITHIN THE INFLUENCE OF THE ROAD, SUITABLE SITE MATERIAL MAY BE COMPACTED AND UTILIZED FROM A POINT 12" ABOVE THE PIPE TO GRADE. WHERE THE TRENCH IS WITHIN A 1:1 INFLUENCE OF THE ROAD, GRANULAR MATERIAL, MDOT CLASS II OR III, IS TO BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 12" IN THICKNESS. COMPACTION SHALL BE 95% AS DETERMINED BY AASHTO T99.
- 18" MINIMUM VERTICAL SEPARATION AND 10" HORIZONTAL SEPARATION IS TO BE MAINTAINED BETWEEN WATERMAIN AND SANITARY/STORM SEWER TO THE MAXIMUM EXTENT POSSIBLE.

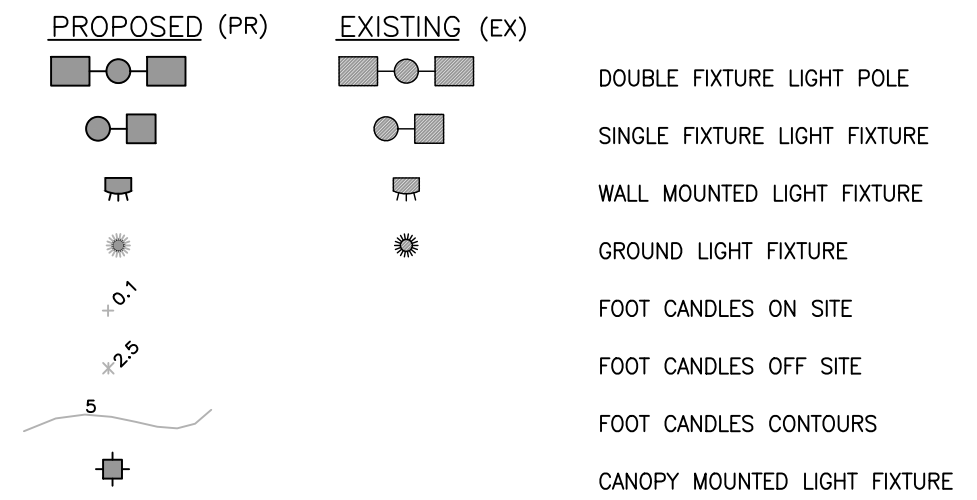
**GENERAL STORM NOTES**

- ALL STORM PIPE LENGTHS ARE SHOWN FROM C/L TO C/L OF STRUCTURE OR FROM C/L OF STRUCTURE TO DISCHARGE END OF FLARED END SECTION.
  - STORM PIPE MATERIALS SHALL BE AS FOLLOWS:  
 2.1. RCP(REINFORCED CONCRETE PIPE); SHALL MEET THE REQUIREMENTS OF ASTM C76 WITH MODIFIED GROOVED TONGUE AND RUBBER GASKETS MEETING THE REQUIREMENTS OF ASTM C443. RCP TO BE EITHER CLASS IV OR V AS CALLED OUT ON THE PLANS.  
 2.2. HDPE(HIGH DENSITY POLYETHYLENE); SHALL MEET THE REQUIREMENTS OF ASTM F2648.  
 2.3. PP(POLYPROPYLENE); SHALL MEET THE REQUIREMENTS OF ASTM F2881.  
 2.4. PVC(POLYVINYL CHLORIDE); SHALL MEET THE REQUIREMENTS OF ASTM D3034.
  - STORM PIPE JOINTS SHALL MEET THE REQUIREMENTS OF ASTM D3212. HDPE AND PP PIPE GASKETS SHALL MEET THE REQUIREMENTS OF ASTM F477.
  - ALL STORM PIPE TO HAVE WATERTIGHT PREMIUM JOINTS, UNLESS OTHERWISE NOTED ON THE PLANS.
  - STORM DRAINAGE STRUCTURES SHALL BE FURNISHED WITH STEPS WHICH SHALL BE STEEL ENCASED WITH POLYPROPYLENE PLASTIC OR EQUIVALENT. STEPS SHALL BE SET AT 16" CENTER TO CENTER.
  - ALL FLARED END SECTIONS 15" AND LARGER SHALL BE FURNISHED WITH AN ANIMAL GRATE.
  - FLARED END SECTIONS DISCHARGING STORM WATER SHALL RECEIVE A MINIMUM OF 10 SQ YDS OF PLAIN COBBLESTONE RIP RAP WITH A MINIMUM STONE SIZE OF 6" AND SHALL BE PLACED ON A GEOTEXTILE FABRIC WRAP.
  - ALL CATCH BASINS WITHIN THE ROADWAY SHALL INCLUDE INSTALLATION OF 6" DIAMETER PERFORATED PIPE SUBDRAIN.
  - STORM DRAINAGE STRUCTURE COVERS SHALL BE OF THE FOLLOWING (OR APPROVED EQUAL):
- | COVER | USE             | FRAME     | GRATE/BACK                               |
|-------|-----------------|-----------|--|
| 'A'   | MANHOLE         | 1040      | TYPE 'B'                                 |
| 'B'   | TYPE B2 CURB    | 7085      | TYPE 'M1'                                |
| 'C'   | VALLEY CURB     | 7065      | 7045 TYPE 'M1' GRATE/7060 TYPE 'T1' BACK |
| 'D'   | PARKING LOTS    | 1040/5100 | TYPE 'M1' GRATE OR 5105 TYPE 'M1' GRATE  |
| 'E'   | LAWN            | 1040      | TYPE 'O2' GRATE                          |
| 'K'   | TYPE C & F CURB | 7045      | TYPE 'M1' GRATE/7050 TYPE 'T1' BACK      |

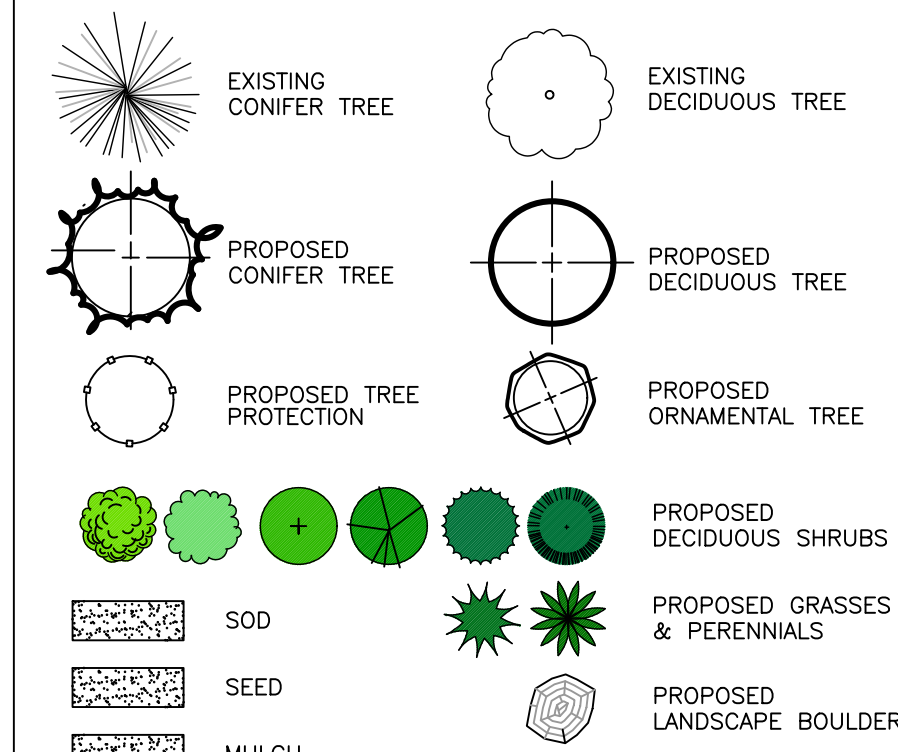
**LINES & HATCHES LEGEND**



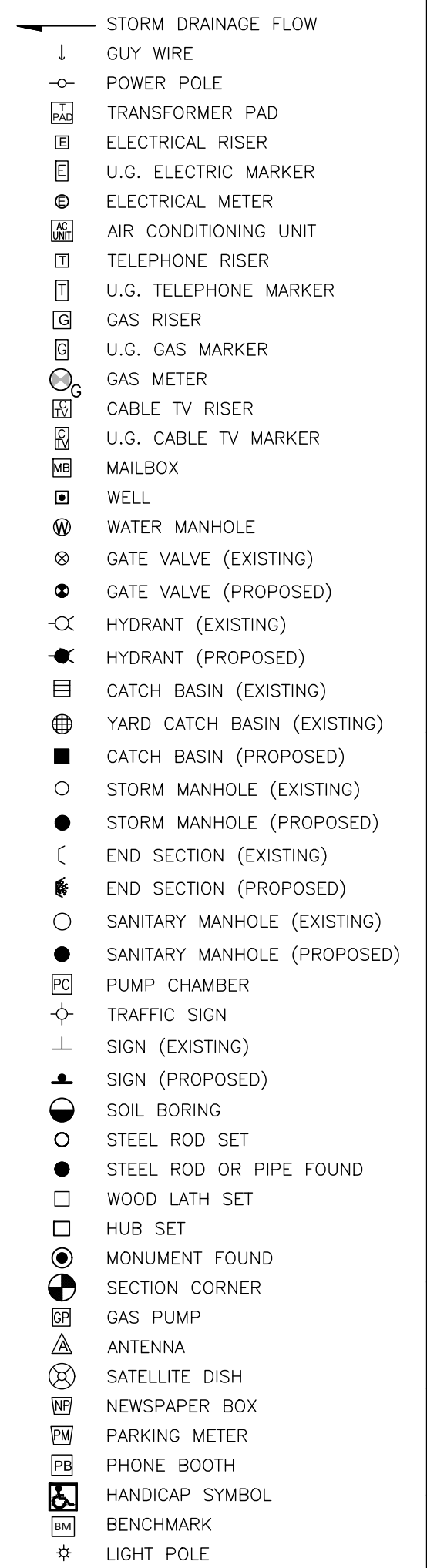
**LIGHTING LEGEND**



**LANDSCAPE LEGEND**



**SYMBOL LEGEND**



**ABBREVIATIONS**

- FFE FINISHED FLOOR ELEVATION
- BFE BASEMENT FLOOR ELEVATION
- GFE GARAGE FLOOR ELEVATION
- FG FINISHED GRADE
- T/A TOP OF ASPHALT
- T/C TOP OF CONCRETE/CURB
- T/W TOP OF WALK
- T/P TOP OF PIPE
- B/P BOTTOM OF PIPE
- F/L FLOW LINE
- RIM RIM ELEVATION (AT FLOW LINE)
- INV INVERT ELEVATION
- MH MANHOLE
- CB CATCH BASIN
- RY REAR YARD
- YD YARD DRAIN
- RD ROOF DRAIN
- FES FLARED END SECTION
- CMP CORRUGATED METAL PIPE
- GPP CORRUGATED PLASTIC PIPE
- RCP REINFORCED CONCRETE PIPE
- HDPE HIGH DENSITY POLYETHYLENE
- PVC POLYVINYL CHLORIDE
- DIP DUCTILE IRON PIPE
- GV GATE VALVE
- QVW GATE VALVE IN WELL
- QVB GATE VALVE IN BOX
- HYD HYDRANT
- FDC FIRE DEPARTMENT CONNECTION
- UP UTILITY POLE
- NFV NOT FIELD VERIFIED TO BE REMOVED
- TR L. LIBER
- P. PAGE
- L.C.R. LIVINGSTON COUNTY RECORDS
- (M&R) MEASURED AND RECORD
- L.O.B. POINT OF BEGINNING

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. NO GUARANTEE IS MADE FOR THE ACCURACY OF THESE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE PLANS.

BEFORE ANY DIGGING OR EXCAVATION, CALL MISS DIG AT 1-800-487-7171. MISS DIG IS A SERVICE PROVIDED BY THE STATE OF MICHIGAN.

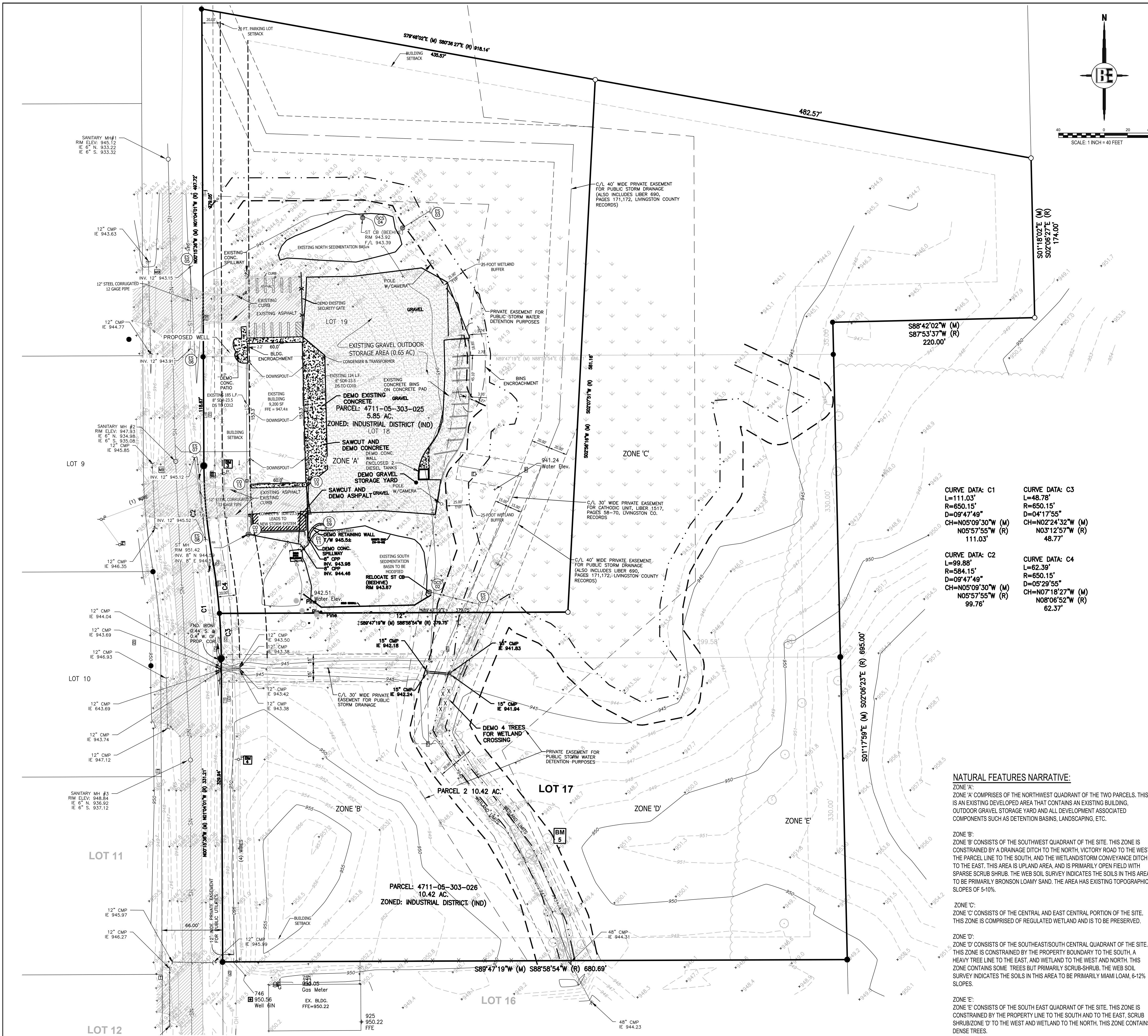
**BEBOSS**  
 Engineers Surveyors Planners Landscape Architects  
 3121 E. GRAND RIVER AVE.  
 HOWELL, MI. 48843  
 517.546.4836 FAX 517.548.1670

PROJECT: MICHIGAN RECREATIONAL CONSTRUCTION  
 PREPARED FOR: MICHIGAN RECREATIONAL CONSTRUCTION, INC.  
 1001 VICTORY DRIVE  
 HOWELL, MI. 48843  
 517-595-7122

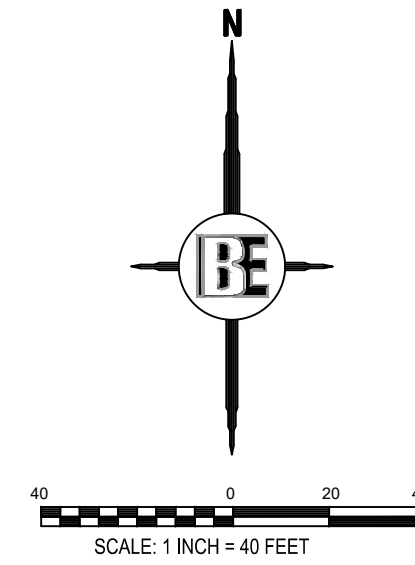
TITLE	DATE
PER TOWNSHIP REVIEW	12-19-23
REVISION PER	
1 ST	
NO BY	

DESIGNED BY: ST  
 DRAWN BY: MJD  
 CHECKED BY:  
 SCALE: NO SCALE  
 JOB NO: 23-265  
 DATE: 11/29/23  
 SHEET NO. 2





SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



SOILS MAP  
NO SCALE

SITE SOIL INFORMATION (WEB SOIL SURVEY)  
 BuA: BRANDY LOAMY SAND  
 BwA: BRONSON LOAMY SAND  
 By: BROOKSTON LOAM  
 Cc: CARLISLE MUCK  
 CarabA: CARLISLE MUCK, 0-2% SLOPES  
 CarabB: CONOVER LOAM, 0-4% SLOPES  
 MoB: MIAMI LOAM, 2-6% SLOPES  
 MoC: MIAMI LOAM, 6-12% SLOPES  
 Tm: TAWAS MUCK

GENERAL NOTES:

- ALL WORK SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE MUNICIPALITY, THE COUNTY, AND THE STATE OF MICHIGAN.
- THREE WORKING DAYS BEFORE YOU DIG, CALL MISS DIG TOLL FREE 1-800-482-7171.
- BENCHMARK INFORMATION: (U.S.G.S. DATUM)  
 BENCHMARK #3  
 NAIL IN WEST SIDE OF UTILITY POLE ON EAST SIDE OF VICTORY DRIVE ACROSS FROM ENTRANCE TO "BEST SELF STORAGE"  
 ELEVATION: 948.85  
 BENCHMARK #4  
 NAIL & TAG IN EAST SIDE OF UTILITY POLE ON EAST SIDE OF VICTORY DRIVE ON LOT 17, 75' +/- SOUTH OF EAST-WEST DITCH  
 ELEVATION: 952.36
- CONTOUR INTERVAL = 1 FOOT
- WETLANDS WERE FLAGGED BY KING & MACGREGOR ENVIRONMENTAL, INC. ON OCTOBER 22, 2004. WETLANDS EDGE WAS UPDATED AND FLAGGED BY BOSS ENGINEERING ON MARCH 15, 2016.
- BEARING BASIS IS "GRAND OAKS WEST INDUSTRIAL PARK" AS RECORDED IN LIBER 30, PAGES 1 THROUGH 5, LIVINGSTON COUNTY RECORDS.
- EASEMENTS SHOWN ON THIS SURVEY ARE PER "GRAND OAKS WEST INDUSTRIAL PARK" AS RECORDED IN LIBER 30, PAGES 1 THROUGH 5, LIVINGSTON COUNTY RECORDS.

CURVE DATA: C1  
 L=111.03'  
 R=650.15'  
 D=09°47'49"  
 CH=N05°09'30"W (M)  
 N05°57'55"W (R)  
 111.03'

CURVE DATA: C2  
 L=99.88'  
 R=584.15'  
 D=09°47'49"  
 CH=N05°09'30"W (M)  
 N05°57'55"W (R)  
 99.76'

CURVE DATA: C3  
 L=48.78'  
 R=650.15'  
 D=04°17'55"  
 CH=N02°24'32"W (M)  
 N03°12'57"W (R)  
 48.77'

CURVE DATA: C4  
 L=62.39'  
 R=650.15'  
 D=05°29'55"  
 CH=N07°18'27"W (M)  
 N08°06'52"W (R)  
 62.37'

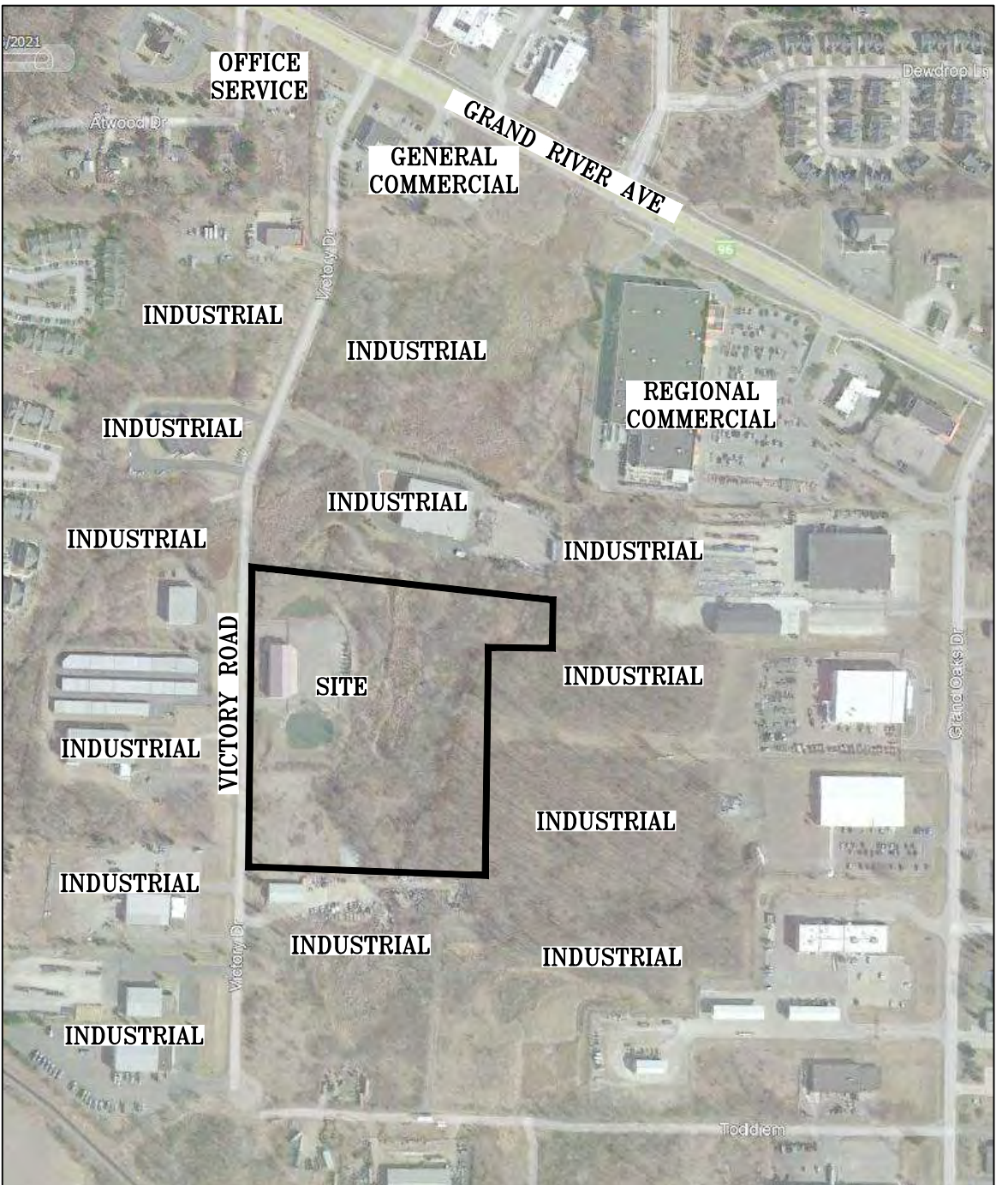
NATURAL FEATURES NARRATIVE:  
 ZONE 'A':  
 ZONE 'A' COMPRISES OF THE NORTHWEST QUADRANT OF THE TWO PARCELS. THIS IS AN EXISTING DEVELOPED AREA THAT CONTAINS AN EXISTING BUILDING, OUTDOOR GRAVEL STORAGE YARD AND ALL DEVELOPMENT ASSOCIATED COMPONENTS SUCH AS DETENTION BASINS, LANDSCAPING, ETC.

ZONE 'B':  
 ZONE 'B' CONSISTS OF THE SOUTHWEST QUADRANT OF THE SITE. THIS ZONE IS CONSTRAINED BY A DRAINAGE DITCH TO THE NORTH, VICTORY ROAD TO THE WEST, THE PARCEL LINE TO THE SOUTH, AND THE WETLAND/STORM CONVEYANCE DITCH TO THE EAST. THIS AREA IS UPLAND AREA, AND IS PRIMARILY OPEN FIELD WITH SPARSE SCRUB SHRUB. THE WEB SOIL SURVEY INDICATES THE SOILS IN THIS AREA TO BE PRIMARILY BRONSON LOAMY SAND. THE AREA HAS EXISTING TOPOGRAPHIC SLOPES OF 5-10%.

ZONE 'C':  
 ZONE 'C' CONSISTS OF THE CENTRAL AND EAST CENTRAL PORTION OF THE SITE. THIS ZONE IS COMPRISED OF REGULATED WETLAND AND IS TO BE PRESERVED.

ZONE 'D':  
 ZONE 'D' CONSISTS OF THE SOUTHEAST/SOUTH CENTRAL QUADRANT OF THE SITE. THIS ZONE IS CONSTRAINED BY THE PROPERTY BOUNDARY TO THE SOUTH, A HEAVY TREE LINE TO THE EAST, AND WETLAND TO THE WEST AND NORTH. THIS ZONE CONTAINS SOME TREES BUT PRIMARILY SCRUB SHRUB. THE WEB SOIL SURVEY INDICATES THE SOILS IN THIS AREA TO BE PRIMARILY MIAMI LOAM, 6-12% SLOPES.

ZONE 'E':  
 ZONE 'E' CONSISTS OF THE SOUTH EAST QUADRANT OF THE SITE. THIS ZONE IS CONSTRAINED BY THE PROPERTY LINE TO THE SOUTH AND TO THE EAST, SCRUB SHRUB/ZONE 'D' TO THE WEST AND WETLAND TO THE NORTH. THIS ZONE CONTAINS DENSE TREES.



SURROUNDING AREAS MAP  
NO SCALE

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. NO WARRANTY IS MADE BY THE ENGINEER FOR THE ACCURACY OF THE LOCATION, DEPTH, OR ELEVATION OF EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES OR FOR THE LOCATION OR DEPTH OF EXISTING UTILITIES THAT ARE NOT SHOWN ON THESE DRAWINGS.

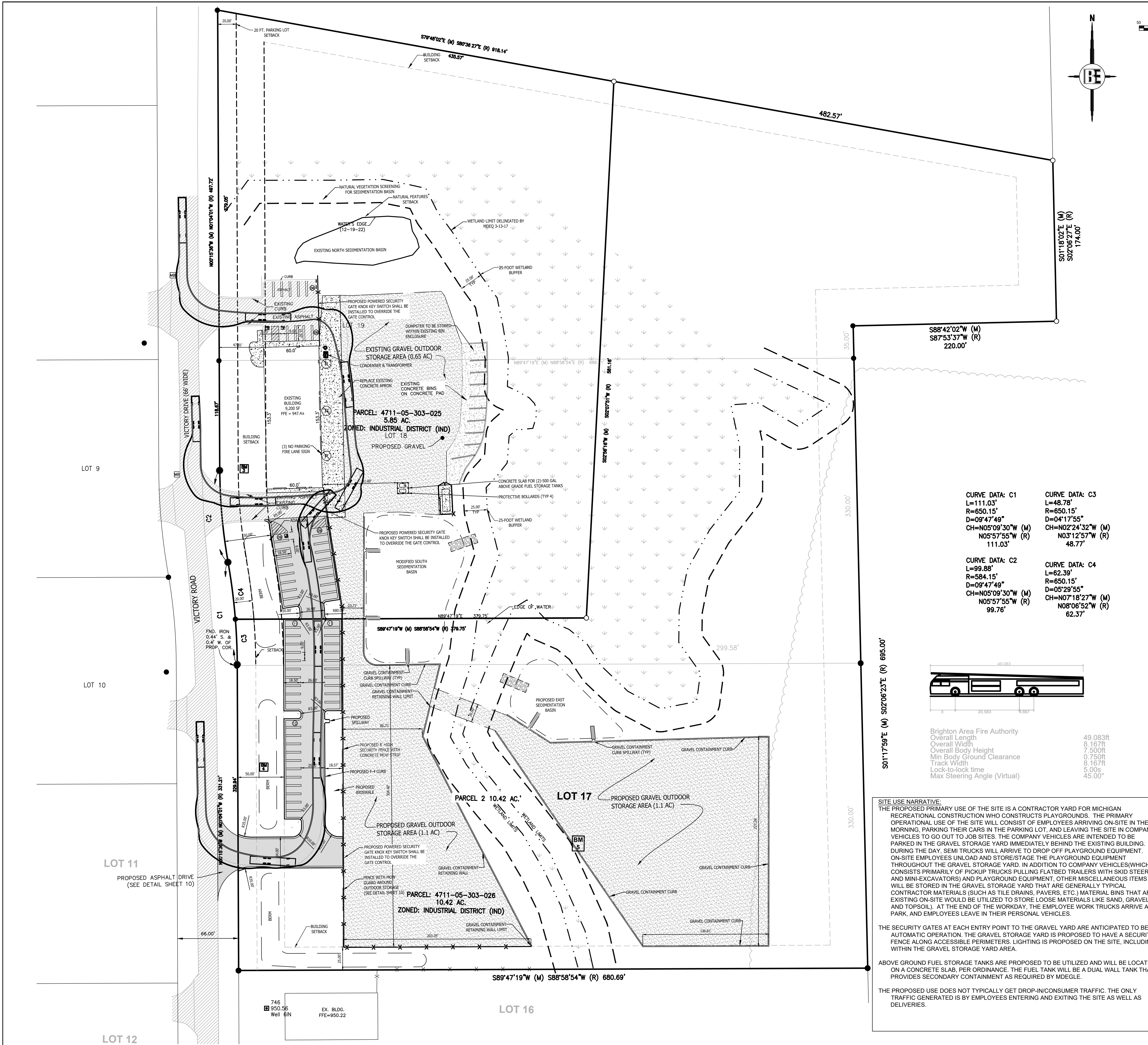
BEFORE ANY CONSTRUCTION BEGINS, CALL MISS DIG TOLL FREE 1-800-482-7171.

**BEBOSS**  
 Engineering  
 Engineers Surveyors Planners Landscape Architects  
 3121 E. GRAND RIVER AVE.  
 HOWELL, MI. 48843  
 517.546.4836 FAX 517.548.1670

PROJECT: MICHIGAN RECREATIONAL CONSTRUCTION  
 PREPARED FOR: MICHIGAN RECREATIONAL CONSTRUCTION, INC.  
 1001 VICTORY DRIVE  
 HOWELL, MI. 48843  
 517-595-7122

TITLE	DATE	PER	TOWNSHIP	REVISION	BY
EXISTING CONDITIONS & DEMOLITION PLAN	12-19-23	1	ST		ST

DESIGNED BY: ST  
 DRAWN BY: MJD  
 CHECKED BY:  
 SCALE: 1" = 50'  
 JOB NO: 23-265  
 DATE: 11/29/23  
 SHEET NO. 3



SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



FENCE SAMPLE

**SITE DATA**

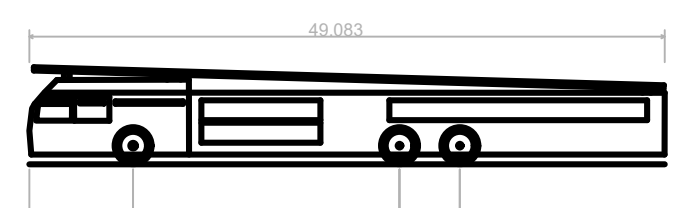
PARCEL # 4711-05-303-025 & 4711-05-303-026  
 855 VICTORY DRIVE  
 HOWELL, MI  
 GENOA TOWNSHIP  
 5.85 AC & 10.42 AC  
 ZONING: INDUSTRIAL DISTRICT (IND)  
 CURRENT USE: UNOCCUPIED BUILDING WITH GRAVEL STORAGE YARD & VACANT 10.42 ACRE PARCEL

**GENERAL COMMERCIAL DISTRICT**

- MIN. LOT AREA: 1 ACRE
- MIN. LOT WIDTH: 150 FT
- BUILDING SETBACK: EXISTING 47.8 FT, PROVIDED 50.0 FT
- SIDE: 25 FT, PROVIDED 163.1 FT
- REAR: 40 FT, PROVIDED 560.6 FT
- PARKING SETBACK: PROVIDED 50.0 FT
- SIDE: 10 FT, PROVIDED 163.1 FT
- REAR: 10 FT, PROVIDED 560.6 FT
- MAX LOT COVERAGE: PROVIDED 708,811 SFT (16.27 AC)
- BUILDING: 40%, 9,200 SFT (1.3%)
- IMPERVIOUS: 85%, 47,428 SFT (6.7%) (EXCL. GRAVEL)

**CURVE DATA:**

<b>C1</b> L=111.03' R=650.15' D=09°47'49" CH=N05°09'30"W (M) N05°57'55"W (R) 111.03'	<b>C2</b> L=99.88' R=584.15' D=09°47'49" CH=N05°09'30"W (M) N05°57'55"W (R) 99.76'	<b>C3</b> L=48.78' R=650.15' D=04°17'55" CH=N02°24'32"W (M) N03°12'57"W (R) 48.77'	<b>C4</b> L=62.39' R=650.15' D=05°29'55" CH=N07°18'27"W (M) N08°06'52"W (R) 62.37'
--	--	--	--



**Brighton Area Fire Authority**

Overall Length	49.083ft
Overall Width	8.167ft
Overall Body Height	7.500ft
Min Body Ground Clearance	0.750ft
Track Width	8.167ft
Lock-to-lock time	5.00s
Max Steering Angle (Virtual)	45.00°

**SITE USE NARRATIVE:**  
 THE PROPOSED PRIMARY USE OF THE SITE IS A CONTRACTOR YARD FOR MICHIGAN RECREATIONAL CONSTRUCTION WHO CONSTRUCTS PLAYGROUNDS. THE PRIMARY OPERATIONAL USE OF THE SITE WILL CONSIST OF EMPLOYEES ARRIVING ON-SITE IN THE MORNING, PARKING THEIR CARS IN THE PARKING LOT, AND LEAVING THE SITE IN COMPANY VEHICLES TO GO OUT TO JOB SITES. THE COMPANY VEHICLES ARE INTENDED TO BE PARKED IN THE GRAVEL STORAGE YARD IMMEDIATELY BEHIND THE EXISTING BUILDING. DURING THE DAY, SEMI TRUCKS WILL ARRIVE TO DROP OFF PLAYGROUND EQUIPMENT. ON-SITE EMPLOYEES UNLOAD AND STORE/STAGE THE PLAYGROUND EQUIPMENT THROUGHOUT THE GRAVEL STORAGE YARD. IN ADDITION TO COMPANY VEHICLES (WHICH CONSISTS PRIMARILY OF PICKUP TRUCKS PULLING FLATBED TRAILERS WITH SKID STEERS AND MINI-EXCAVATORS) AND PLAYGROUND EQUIPMENT, OTHER MISCELLANEOUS ITEMS WILL BE STORED IN THE GRAVEL STORAGE YARD THAT ARE GENERALLY TYPICAL CONTRACTOR MATERIALS (SUCH AS TILE DRAINS, PAVERS, ETC.) MATERIAL BINS THAT ARE EXISTING ON-SITE WOULD BE UTILIZED TO STORE LOOSE MATERIALS LIKE SAND, GRAVEL, AND TOPSOIL. AT THE END OF THE WORKDAY, THE EMPLOYEE WORK TRUCKS ARRIVE AND PARK, AND EMPLOYEES LEAVE IN THEIR PERSONAL VEHICLES.

THE SECURITY GATES AT EACH ENTRY POINT TO THE GRAVEL YARD ARE ANTICIPATED TO BE AUTOMATIC OPERATION. THE GRAVEL STORAGE YARD IS PROPOSED TO HAVE A SECURITY FENCE ALONG ACCESSIBLE PERIMETERS. LIGHTING IS PROPOSED ON THE SITE, INCLUDING WITHIN THE GRAVEL STORAGE YARD AREA.

ABOVE GROUND FUEL STORAGE TANKS ARE PROPOSED TO BE UTILIZED AND WILL BE LOCATED ON A CONCRETE SLAB. PER ORDINANCE, THE FUEL TANK WILL BE A DUAL WALL TANK THAT PROVIDES SECONDARY CONTAINMENT AS REQUIRED BY MDELEG.

THE PROPOSED USE DOES NOT TYPICALLY GET DROP-IN/CONSUMER TRAFFIC. THE ONLY TRAFFIC GENERATED IS BY EMPLOYEES ENTERING AND EXITING THE SITE AS WELL AS DELIVERIES.

**VARIANCES:**

1) A VARIANCE IS TO BE SOUGHT FOR ADDITIONAL FUEL STORAGE IN EXCESS OF 300 GALS.

**PARKING CALCULATIONS:**

-LIGHT INDUSTRIAL: 1.5 SPACES PER 1,000 SQFT GROSS FLOOR AREA OR 1.2 SPACES PER EMPLOYEE AT PEAK SHIFT + 1 SPACE PER COMPANY VEHICLE

1.2 \* 50 EMPLOYEES = 60 SPACES

REQUIRED: 60 SPACES  
 PROVIDED: 64 SPACES (PARKING FOR COMPANY VEHICLES ACCOUNTED FOR WITHIN GRAVEL STORAGE YARD)

LOADING/UNLOADING SPACES: 10' x 50'  
 REQUIRED: 1,401 GFA TO 20,000 GFA REQUIRES 1 SPACES  
 PROVIDED: 1 LOADING/UNLOADING SPACE WITHIN GRAVEL STORAGE YARD

- GENERAL NOTES**
- ALL OUTDOOR LIGHTS SHALL BE SHIELDED TO REDUCE GLARE AND SHALL BE ARRANGED TO NOT INTERFERE WITH THE VISION OF PERSONS ON ADJACENT ROADWAYS OR ADJACENT PROPERTY.
  - ALL SIGNS SHALL MEET LOCAL MUNICIPALITY ORDINANCE REQUIREMENTS.
  - THE BUILDING ADDRESS SHALL BE A MINIMUM 6" HIGH LETTERS OF CONTRASTING COLORS AND BE CLEARLY VISIBLE FROM THE STREET. THE LOCATION AND SIZE SHALL BE VERIFIED PRIOR TO INSTALLATION.
  - A KEY BOX/KNOX BOX SHALL BE LOCATED NEAR THE FRONT ENTRY AT EACH TENANT SPACE (FINAL LOCATION TO BE DETERMINED BETWEEN THE OWNER & FIRE MARSHALL).
  - ONE SIDE OF THE STREET SHALL BE MARKED AS A FIRE LANE AND SHALL HAVE APPROPRIATE SIGNAGE.
  - ACCESS ROADS TO THE SITE SHALL BE PROVIDED AND MAINTAINED DURING CONSTRUCTION.
  - ACCESS ROADS SHALL BE CONSTRUCTED TO BE CAPABLE OF SUPPORTING THE IMPOSED LOAD OF FIRE APPARATUS WEIGHING AT LEAST 84,000 LBS.
  - A MINIMUM VERTICAL CLEARANCE OF 13.5 FEET SHALL BE MAINTAINED THROUGHOUT THE SITE. THIS INCLUDES ENCROACHMENTS FROM LARGE TREE CANOPIES, LIGHTING, ETC.
  - DURING THE CONSTRUCTION PROCESS, THE BUILDING WILL BE EVALUATED FOR EMERGENCY RESPONDER RADIO SIGNAL STRENGTH. IF COVERAGE IS FOUND TO BE QUESTIONABLE OR INADEQUATE, AN APPROVED CONTRACTOR SHALL BE HIRED TO PERFORM A GRID TEST OF THE FACILITY. IF THE SIGNAL STRENGTH COVERAGE IS FOUND TO BE NON-COMPLIANT, AN APPROVED EMERGENCY RESPONDER RADIO COVERAGE SYSTEM SHALL BE PROVIDED IN THE BUILDING.
  - SITE LIGHTING SHALL BE PLACED ON TIMERS TO BE OFF DURING NON-USE HOURS TO THE EXTENT POSSIBLE WHILE MAINTAINING SITE SAFETY. SITE LIGHTING SHALL BE PROGRAMMED TO TURN OFF AT NIGHT WHEN ACTIVITIES ARE NO LONGER OCCURRING ON THE PROPERTY.
  - SUBJECT PARCELS TO BE COMBINED UPON FINAL SITE PLAN APPROVAL.

**BEBOSS Engineering**  
 Engineers Surveyors Planners Landscape Architects  
 3121 E. GRAND RIVER AVE.  
 HOWELL, MI. 48843  
 517.546.4836 FAX 517.548.1670

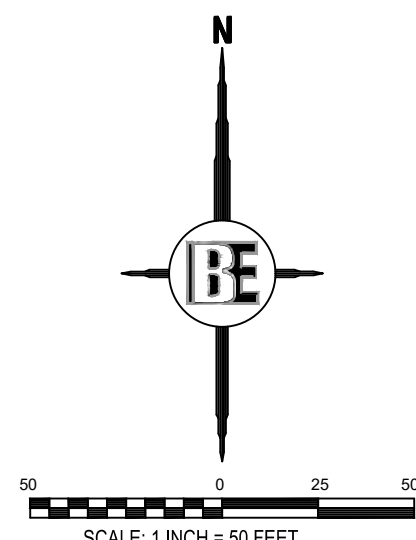
**MICHIGAN RECREATIONAL CONSTRUCTION**  
 PREPARED FOR: MICHIGAN RECREATIONAL CONSTRUCTION, INC.  
 1081 VICTORY DRIVE  
 HOWELL, MI. 48843  
 517-595-7122

**TITLE: SITE PLAN**

DESIGNED BY:	ST
DRAWN BY:	MJD
CHECKED BY:	
SCALE:	1" = 50'
JOB NO:	23-265
DATE:	11/29/23
SHEET NO.	4

**BOSS Engineering**

SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. NO ASSURANCE IS MADE AS TO THE ACCURACY OF THESE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND DEPTH OF ALL UTILITIES CROSSING IN THE FIELD PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE LOCAL, STATE AND FEDERAL AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE LOCAL, STATE AND FEDERAL AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE LOCAL, STATE AND FEDERAL AGENCIES.

BEBOSS ENGINEERING  
CALL MSS DIG  
1-800-468-7171  
www.beboss.com

	AREA (SFT)	IMPERV.	PERV.	GRAVEL	AREA (AC)	IMPERV.	PERV.	GRAV.	C	A°C
2	53656	7555	15646	30455	1.23	0.17	0.36	0.70	0.58	0.72
4	27823	8154	11694	7975	0.64	0.19	0.27	0.18	0.55	0.35
10	4599	4599	0	0	0.11	0.11	0.00	0.00	0.90	0.10
13	4599	4599	0	0	0.11	0.11	0.00	0.00	0.90	0.10
21	13822	9918	3904	0	0.32	0.23	0.09	0.00	0.70	0.22
22	6603	6496	107	0	0.15	0.15	0.00	0.00	0.89	0.13
23	28618	7178	2675	18765	0.66	0.16	0.06	0.43	0.70	0.46
25	24250	0	8679	15571	0.56	0.00	0.20	0.36	0.52	0.29
31	54725	0	6954	47771	1.26	0.00	0.16	1.10	0.64	0.80
101	28666	6421	22445	0	0.66	0.15	0.51	0.00	0.36	0.23
103	29789	0	29789	0	0.68	0.00	0.68	0.00	0.20	0.14
105	7712	2964	4748	0	0.18	0.07	0.11	0.00	0.47	0.08

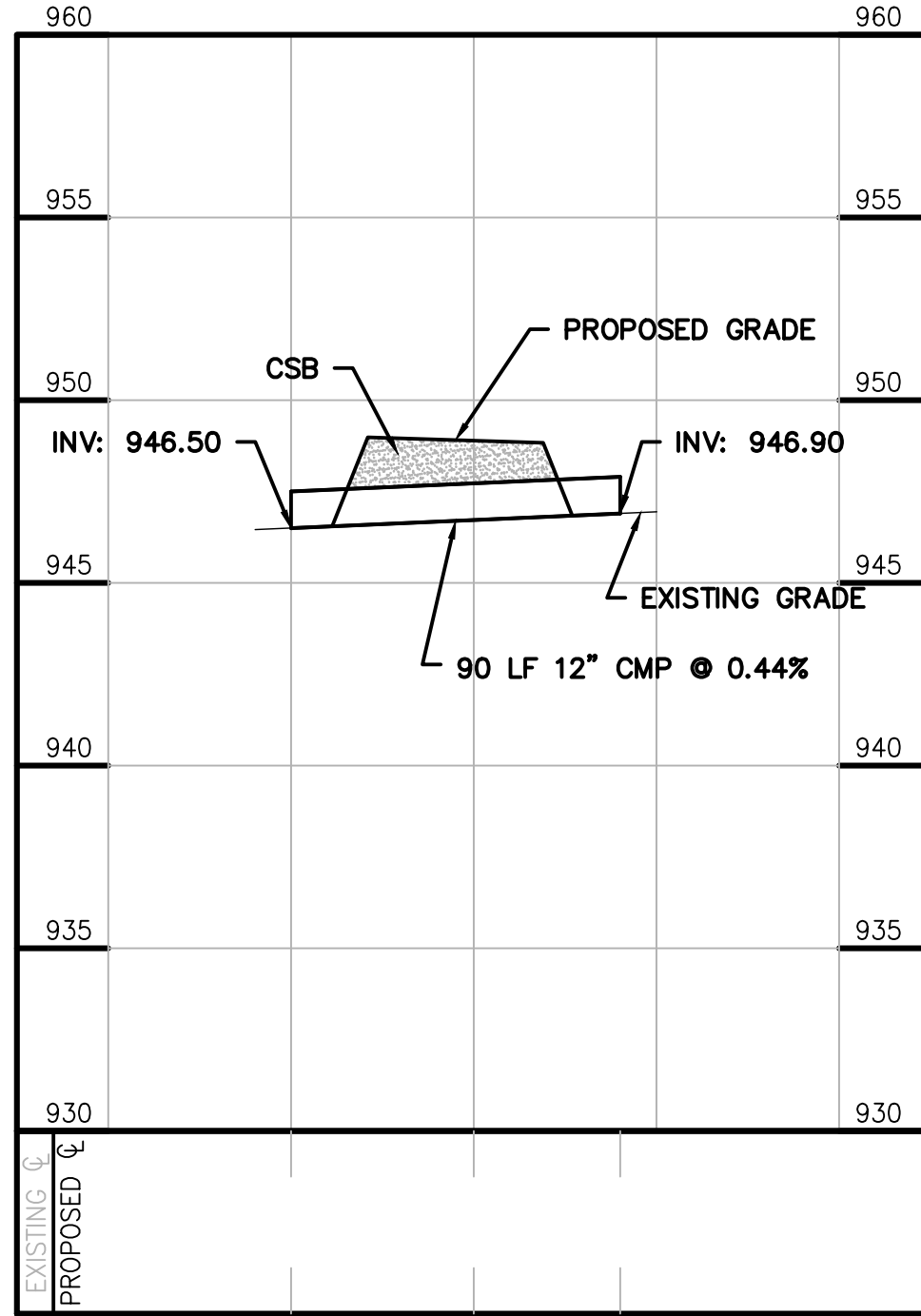
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R=650.15'  
D=09°47'49"  
CH=N05°09'30"W (M)  
N05°57'55"W (R)  
111.03'

CURVE DATA: C2  
L=99.88'  
R=584.15'  
D=09°47'49"  
CH=N05°09'30"W (M)  
N05°57'55"W (R)  
99.76'

CURVE DATA: C3  
L=48.78'  
R=650.15'  
D=04°17'55"  
CH=N02°24'32"W (M)  
N03°12'57"W (R)  
48.77'

CURVE DATA: C4  
L=62.39'  
R=650.15'  
D=05°29'55"  
CH=N07°18'27"W (M)  
N08°06'52"W (R)  
62.37'

PROFILE - FES 104 TO FES 105



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Engineering  
Engineers Surveyors Planners Landscape Architects  
3121 E. GRAND RIVER AVE.  
HOWELL, MI. 48843  
517.546.4836 FAX 517.548.1670

PROJECT: MICHIGAN RECREATIONAL CONSTRUCTION  
PREPARED FOR: MICHIGAN RECREATIONAL CONSTRUCTION, INC.  
1001 VICTORY DRIVE  
HOWELL, MI. 48843  
517-595-7122

DATE	REVISION	PER	TOWNSHIP	BY
12-19-23 <td>1 <td>ST <td></td> <td>ST</td> </td></td>	1 <td>ST <td></td> <td>ST</td> </td>	ST <td></td> <td>ST</td>		ST

DESIGNED BY: ST  
DRAWN BY: MJD  
CHECKED BY:  
SCALE: 1" = 50'  
JOB NO: 23-265  
DATE: 11/29/23  
SHEET NO. 5

**LIVINGSTON COUNTY SOIL EROSION PERMIT TEMPLATE  
TEMPORARY CONTROLS AND SEQUENCE**

- NOTIFY LIVINGSTON COUNTY DRAIN COMMISSIONER'S OFFICE 24 HOURS PRIOR TO START OF GRADE WORK.
- IN ACCORDANCE WITH PUBLIC ACT NO. 53, OF 1974 THE PERMIT HOLDER SHALL CALL MISS DIG FOR STAKING AND LOCATING OF UTILITIES, AT LEAST 72 HOURS IN ADVANCE OF THE START OF ANY WORK.

- (IMPORTANT NOTICE) RETENTION/DETENTION PONDS SHALL BE EXCAVATED, TOPSOILED, SEED, MULCHED AND TACKED PRIOR TO THE START OF MASSIVE EARTH DISRUPTION. INGRESS/EGRESS MUST HAVE LARGE CRUSHED ROCK TO REDUCE THE TRACKING OF SOIL ONTO THE PUBLIC TRAFFIC AREAS. SEE DETAIL ITEMS BELOW.
- 36" M.D.O.T. SPECIFICATION TYPE SILT FABRIC FENCE AS SHOWN ON PLANS SHALL BE PLACED AND MAINTAINED ALONG PERIMETER ON ALL LOW LYING AREAS OF THE CONSTRUCTION SITE TO FILTER RUNOFF BEFORE LEAVING PROJECT SITE.
- ALL TEMPORARY EROSION CONTROL DEVICES AS NOTED ON PLANS SHALL BE INSTALLED PRIOR TO THE START OF MASSIVE EARTH.
- PLAN DOES DENOTE A DETAILED EROSION CONTROL DEVICE TO RESTRICT TRACKING OF MATERIAL ONTO THE HIGHWAY. STONE DAMPERS SHALL BE INSTALLED AT ALL INGRESS/EGRESS AREAS OF THE SITE PRIOR TO THE START OF MASSIVE EARTH DISRUPTION. DAMPERS SHALL BE OF CRUSHED STONE AND SHALL HAVE A MINIMUM LENGTH OF 100'.

- RETENTION/DETENTION/SEDIMENTATION PONDS SHALL BE EXCAVATED, TOPSOILED, SEED, MULCHED AND TACKED PRIOR TO THE START OF MASSIVE EARTH DISRUPTION.
- DETENTION POND OUTLETS SHALL BE OF THE STANDPIPE AND STONE FILTER SYSTEM WITH TRASH SCREEN. OUTLET FLOW SHALL NOT EXCEED 0.20 CUBIC FEET OF WATER PER SECOND/PER ACRE. POND DIKES SHALL HAVE A MINIMUM OF ONE (1) FOOT OF FREEBOARD. AN EMERGENCY SILLWAY SHALL BE INSTALLED AT THE FREEBOARD LEVEL.
- THE EMERGENCY SILLWAY FROM THE DETENTION POND SHALL BE SODDED AND PEGGED, OR RIP RAPPED, 15 FEET PAST THE TOE OF THE SLOPE OF THE BERM AND SHALL BE FREE OF ALL ORGANIC MATTER.
- RETENTION/DETENTION PONDS SHALL BE FENCED WITH A 4" CHAIN LINK FENCE, INCLUDING A 12' ACCESS GATE FOR MAINTENANCE UNLESS MINIMUM 5 FT. HORIZONTAL TO 1 FT. VERTICAL SIDE SLOPES ARE PROVIDED. THE FENCE SHALL BE INSTALLED AT THE OUTER PORTION OF THE BERM, TO ALLOW FOR MAINTENANCE WORK TO BE DONE INSIDE THE FENCE.
- ALL UNIMPROVED DISTURBED AREAS SHALL BE STRIPPED OF TOPSOIL WHICH WILL BE STORED ONSITE DURING THE EXCAVATING STAGE. TOPSOIL PILES SHALL BE SEED, MULCHED, OR MATTED WITH STRAW IN THE NON-GROWING SEASON, IMMEDIATELY AFTER THE STRIPPING PROCESS IS COMPLETED, TO PREVENT WIND AND WATER EROSION.
- SOIL EROSION CONTROLS SHALL BE MONITORED DAILY BY THE ON-SITE ENGINEER, OR CONTRACTOR, WHICHEVER CASE APPLIES.

- DIKES AND BERMS SHALL BE FREE OF ALL ORGANIC MATTER.
- RETENTION/DETENTION PONDS SHALL BE FENCED WITH A 4" CHAIN LINK FENCE, INCLUDING A 12' ACCESS GATE FOR MAINTENANCE UNLESS MINIMUM 5 FT. HORIZONTAL TO 1 FT. VERTICAL SIDE SLOPES ARE PROVIDED. THE FENCE SHALL BE INSTALLED AT THE OUTER PORTION OF THE BERM, TO ALLOW FOR MAINTENANCE WORK TO BE DONE INSIDE THE FENCE.
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- SOIL EROSION CONTROLS SHALL BE MONITORED DAILY BY THE ON-SITE ENGINEER, OR CONTRACTOR, WHICHEVER CASE APPLIES.

- ON SITE DITCHES SHALL BE OF THE FLAT BOTTOM TYPE MINIMUM WIDTH OF 2' WITH A MINIMUM OF 3 HORIZONTAL TO 1 VERTICAL SIDE.
- DITCHES WITH STEEP SLOPES WILL NEED FLOW CHECKS TO PREVENT SCOURING OF THE DITCH BOTTOM. THESE SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER OR INSPECTOR.
- SLOPES IN EXCESS OF 3 HORIZONTAL TO 1 VERTICAL SHALL NOT BE USED EXCEPT WITH A MECHANICAL DEVICE SUCH AS A RETAINING WALL, TERRACING, OR OTHER PRIOR APPROVED DEVICE.

- ALL STORM WATER STRUCTURES, CATCH BASINS AND/OR MANHOLES, IF BLOCK, SHALL BE PLASTERED ON BOTH THE INSIDE AND OUTSIDE OF THE STRUCTURES. GROUTING AND POINTING WILL BE NECESSARY AT THE CASTING AND STRUCTURE JOINT TO PREVENT LEAKAGE AND THE RESULTING SOIL MOVEMENT, AROUND THE STRUCTURE.
- STORM WATER INLETS SHALL HAVE AS A TEMPORARY CONTROL A STRAW BALE BARRIER AND STONE FILTER INSTALLED AROUND THE INLET DURING CONSTRUCTION. AS AN ALTERNATIVE TO THE STRAW BALE BARRIER, A BURLAP AND PEA STONE FILTER MAY BE USED. THREE LAYERS OF BURLAP FIBER AND A FILTER OF PEA STONE MINIMUM 1 FT. IN DEPTH CAN BE USED. DUE TO THE POROSITY OF THE BURLAP FILTER THE MINIMUM OF 1 FT. OF STONE IS VERY IMPORTANT. THE CONTROL SHALL BE INSTALLED AS SOON AS THE STRUCTURE IS BUILT AND INSPECTED DAILY.
- BURLAP AND PEA STONE FILTERS WILL NEED TO BE CHANGED AFTER EACH RAINFALL.
- COUNTY CODE REQUIRES A MINIMUM PIPE SIZE OF 12" IN DIAMETER. IF SMALLER PIPE IS NEEDED FOR OUTLET PURPOSES THE 12" CAN BE BAFFLED TO THE CORRECT SIZE. ALL PIPE SHALL MEET THE 12" DIAMETER CODE SIZE.
- ALL STORM DRAIN OUTLETS 15" IN DIAMETER OR LARGER SHALL HAVE ANIMAL GUARDS INSTALLED TO PREVENT ENTRANCE TO THE SYSTEM.

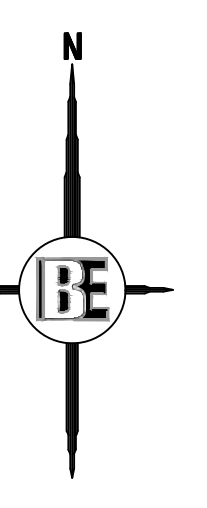
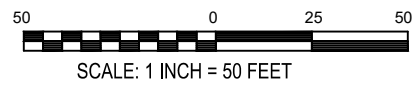
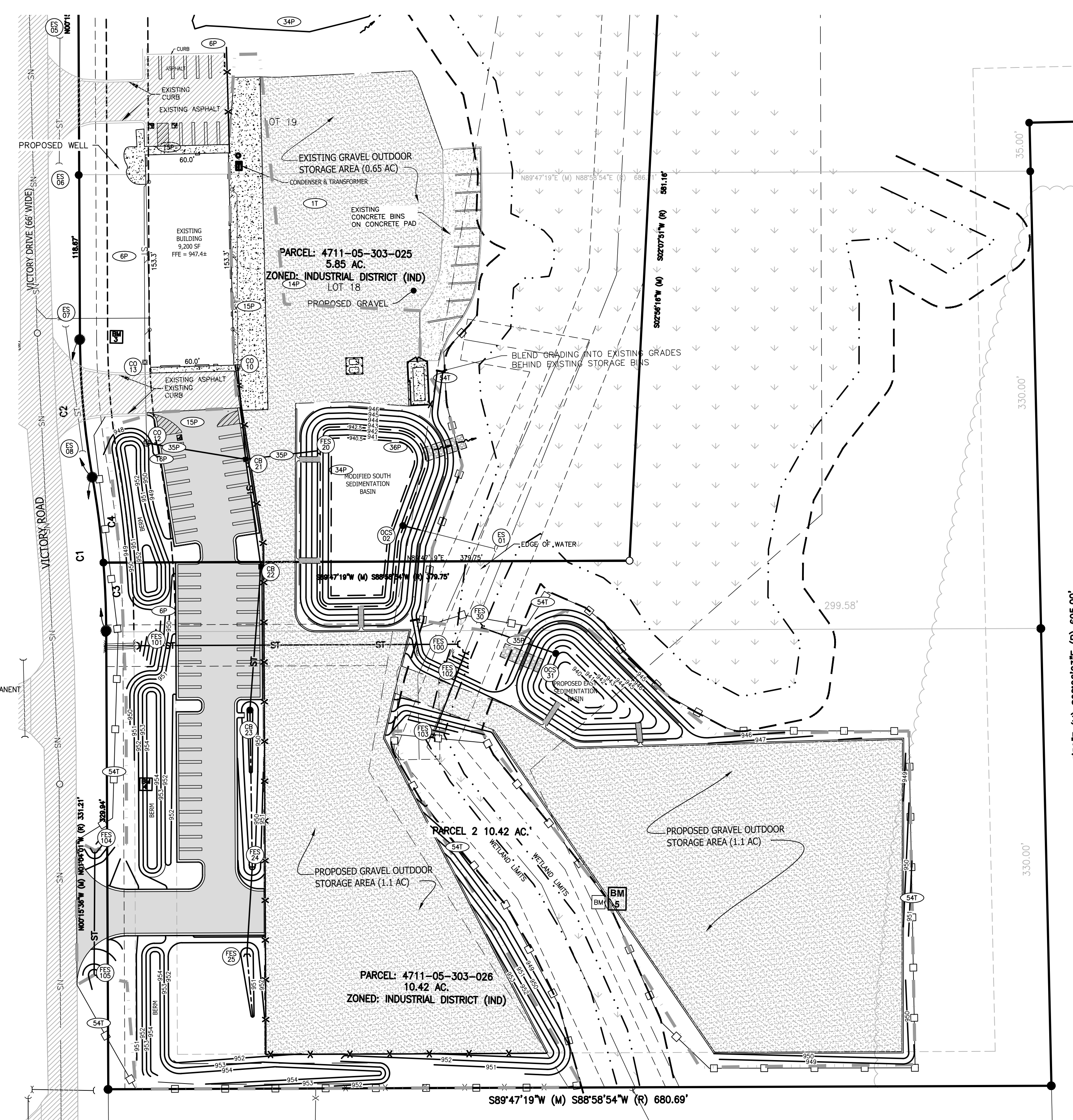
- ALL STORM DRAINAGE PIPE 30" IN DIAMETER OR LARGER SHALL BE POINTED, AT THE JOINTS ON THE INSIDE WITH MORTAR, AFTER BACKFILLING.
- ALL STORM DRAIN OUTLETS THAT DO NOT EMPTY INTO THE RETENTION/DETENTION POND SHALL HAVE A TEMPORARY 5'X10'X3' SUMP INSTALLED AT THE TERMINATION OF THE STORM SEWER. UPON COMPLETION OF THE STABILIZATION WORK THE SUMP AREA SHALL BE FILLED AND RIP RAPPED WITH COBBLE STONE. SILT TRAPS SHALL BE INSPECTED AFTER EACH STORM.
- STORM WATER OUTLETS DO DENOTE RIP RAP. ALL OUTLETS SHALL BE RIP RAPPED OVER KEVED FILTER FABRIC WITH A MINIMUM OF 15 SQ. YARDS OF 6" OR LARGER COBBLE STONE.
- RIP RAP AS NOTED ON THE PLAN SHALL BE OF A FUNNEL SHAPE CONSTRUCTION, WITH SHALL INCREASE AS DISTANCE FROM THE OUTLET POINT INCREASES AT A 3:1 RATIO.
- RIP RAP SHALL BE OF COBBLE STONE, 6" IN DIAMETER OR LARGER. GROUTING MAY BE NECESSARY, AND SHALL BE A MINIMUM OF 6" IN DEPTH WITH THE COBBLE SET IN THE CEMENT SLURRY.
- STORM WATER OUTLET IS IN NEED OF A SPLASH BLOCK WHICH IS NOT NOTED ON THE PLAN. INSTALL SPLASH BLOCK IF SLOPE OF THE PIPE IS 4% OR GREATER.
- IT WILL BE NECESSARY FOR THE DEVELOPER TO HAVE THE STORM DRAINAGE LINES CLEANED PRIOR TO FINAL INSPECTION BY THE LIVINGSTON COUNTY DRAIN COMMISSIONER'S OFFICE. IF REQUIRED, THIS WORK SHALL BE DONE BY A PROFESSIONAL SEWER CLEANING FIRM AND CERTIFIED IN WRITING BY THE PROJECT ENGINEER. ALL SUMPS AND TEMPORARY SILT TRAPS SHALL ALSO BE CLEANED AT THIS TIME.

- ALL UNIMPROVED DISTURBED AREAS SHALL BE RE-TOP SOILED, WITH A MINIMUM OF 3" OF MATERIAL, SEED, MULCHED AND TACKED WITHIN 15 DAYS OF THE COMPLETION OF THE MASSIVE EARTH DISRUPTION. IN THE NON-GROWING SEASON STRAW MATTING WILL SURFACE. HYDROSEEDING WILL BE AN ACCEPTABLE ALTERNATE FOR MULCHING. EXTREME CARE SHOULD BE EXERCISED IN SPRING AND FALL PERIODS AS A FROST WILL BREAK THE BIND OF THE HYDROSEEDING, WHICH WILL AFFECT THE EFFECTIVENESS OF THIS PROCEDURE.
- IN THE NON-GROWING SEASON, TEMPORARY STABILIZATION OF MASSIVELY EXPOSED AREAS FOR WINTER STABILIZATION SHALL BE DONE WITH STRAW MATTING.
- PERIODIC INSPECTIONS WILL BE MADE THROUGHOUT THE COURSE OF THE PROJECT. IT WILL BE THE RESPONSIBILITY OF THE MANAGERS OF THE PROJECT TO CONTACT THIS OFFICE FOR THE FINAL INSPECTION AT THE END OF THE PROJECT.
- THIS COMMERCIAL PERMIT IS VALID FOR THE MASS EARTH MOVEMENT, THE INSTALLATION OF ROADS, DRAINS, AND UTILITIES AND IS NOT FOR ANY SINGLE FAMILY RESIDENCE. ALL RESIDENTIAL BUILDERS WILL NEED TO SECURE MANAGERS AND OR PERMITS AS NECESSARY FOR EACH LOT IN THIS DEVELOPMENT AT THE TIME APPLICATION FOR SINGLE FAMILY RESIDENCE IS MADE.
- THE ISSUING BUILDING DEPARTMENT SHALL NOT ISSUE THE CERTIFICATE OF OCCUPANCY UNTIL THE FINAL INSPECTION LETTER FROM THE LIVINGSTON COUNTY DRAIN COMMISSIONER'S OFFICE HAS BEEN OBTAINED.
- PER THE LIVINGSTON COUNTY DRAIN COMMISSIONER THE SEEDING, FERTILIZER AND MULCH MINIMUM QUANTITIES SHALL BE AS FOLLOWS:  
TOP-SOIL 3" IN DEPTH 218 LBS. PER ACRE  
GRASS SEED 218 LBS. PER ACRE  
FERTILIZER 150 LBS. PER ACRE  
STRAW MULCH 3" IN DEPTH 1.5 TO 2 TONS PER ACRE (ALL MULCHING MUST HAVE A TIE DOWN, SUCH AS TACKIFIER, NET BINDING, ETC.)  
HYDRO-SEEDING IS NOT ACCEPTABLE FOR SLOPES EXCEEDING 1% IN SUCH CASES STABILIZATION SHALL BE DONE WITH SEED AND STRAW MULCH WITH A TACKIFIER.

- PER THE LIVINGSTON COUNTY DRAIN COMMISSIONER THE SEEDING, FERTILIZER AND MULCH MINIMUM QUANTITIES SHALL BE AS FOLLOWS:  
TOP-SOIL 3" IN DEPTH 218 LBS. PER ACRE  
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HYDRO-SEEDING IS NOT ACCEPTABLE FOR SLOPES EXCEEDING 1% IN SUCH CASES STABILIZATION SHALL BE DONE WITH SEED AND STRAW MULCH WITH A TACKIFIER.

- SILT FENCE SHALL BE INSPECTED WEEKLY AND AFTER EACH MAJOR STORM EVENT. MAINTENANCE SHALL INCLUDE REMOVAL OF ACCUMULATED SILT AND REPLACEMENT OF TORN SECTIONS. SILT FENCE SHALL BE REMOVED WHEN ALL CONTRIBUTING AREAS HAVE BEEN STABILIZED.
- TRACKING PAD SHALL BE INSPECTED MONTHLY FOR ACCUMULATED DIRT. TRACKING PAD SHALL BE REPLACED WHEN THE STONES ARE CHOKED WITH DIRT. TRACKING PAD SHALL BE REMOVED IMMEDIATELY PRIOR TO THE FIRST COURSE OF ASPHALT BEING LAID.
- DETENTION/RETENTION POND SHALL BE INSPECTED QUARTERLY ON A PERMANENT BASIS. MAINTENANCE SHALL INCLUDE SEDIMENT REMOVAL, EMBANKMENT STABILIZATION AND MAINTAINING THE OUTLET STRUCTURE IN GOOD CONDITION. NO TREES SHALL BE ALLOWED TO GROW ON THE EMBANKMENT.
- CATCH BASINS SHALL BE INSPECTED ANNUALLY FOR ACCUMULATION OF SEDIMENT. ALL SEDIMENT MUST BE REMOVED AND DISPOSED OF PROPERLY WHEN THE SUMP IS FULL.
- COMMON AREAS SHALL BE STABILIZED NO LATER THAN 15 DAYS AFTER GRADE WORK, PURSUANT TO RULE 1709 (5).

SILT FENCE SHALL BE A MINIMUM 36".



SEE SHEET 2 FOR GENERAL NOTES AND LEGEND

SOIL EROSION CONTROL MEASURES	
1	STRIPPING & STOCKPILING TOPSOIL
6	SEEDING WITH MULCH AND/OR MATTING
8	SODDING
12	CONCRETION
13	60-SP, SUBSIL, GRASSING
14	AGGREGATE COVER
15	PAVING
16	CURB & GUTTER
24	GRASSED WATERWAY
33	SEDIMENT TRAP
34	SEDIMENT BASIN
35	SOIL STORM CONTROL
36	CATCH BASIN, OPEN INLET
40	INLET SEDIMENT FILTER
54	SILT FENCE

T= TEMPORARY, P= PERMANENT  
TOTAL DISTURBED AREA= 4.71 AC.

**CONSTRUCTION SEQUENCE**

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT EROSION IS MINIMIZED AND THAT COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS, REGULATIONS, AND ORDINANCES IS MAINTAINED THROUGHOUT EXECUTION OF THIS PROJECT.
- 1 DAY 1. INSTALL SILT FENCE AS SHOWN ON PLANS.
  - 20 DAYS 2. ROUGH GRADE AND INSTALL STORM DRAINAGE.
  - 1 DAY 3. INSTALL INLET PROTECTION ON STORM INLETS.
  - 30 DAYS 4. INSTALLATION OF GRAVEL AND FENCE STORAGE YARD.
  - 30 DAYS 5. INSTALL CURB & GUTTER AND PAVEMENT.
  - 4 DAYS 6. FINE GRADE AROUND BUILDING, SPREAD TOPSOIL, SEED OR SOD AS APPLICABLE.
  - 1 DAY 7. REMOVE ALL EROSION CONTROL STRUCTURES.
  - 1 DAY 8. REMOVE ACCUMULATED SILT FROM ALL EXISTING DRAINAGE.

**PROPOSED CONST. SCHEDULE FOR THE YEAR 2024**

ACTIVITY	APR	MAY	JUNE	JULY	AUG	SEPT
DEMO & CLEAR						
MASS GRADING						
UNDERGROUND UTILITY						
FINAL GRADING						
SEED & MULCH						

**CONTROLS & MEASURES POST CONSTRUCTION SEQUENCE**

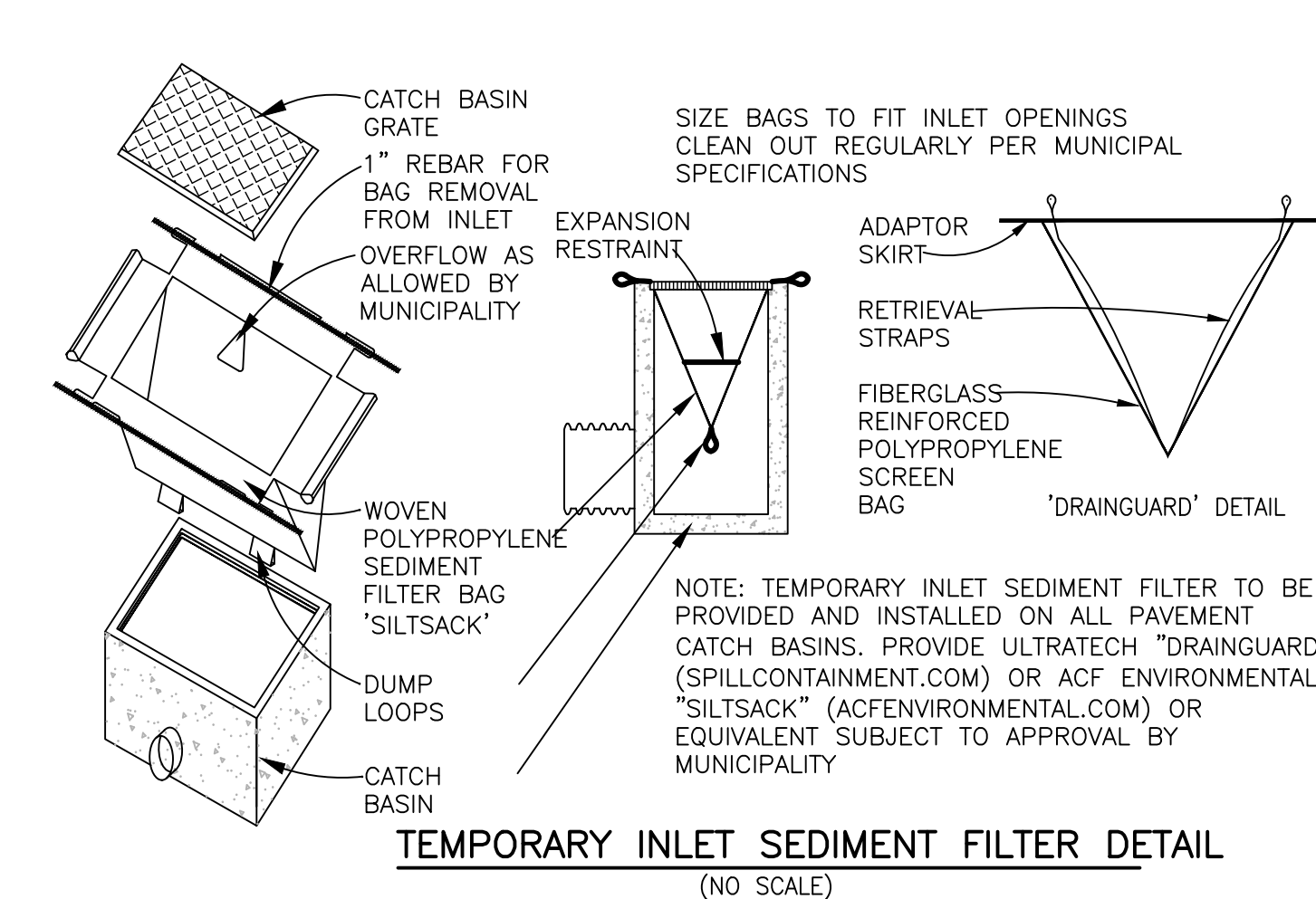
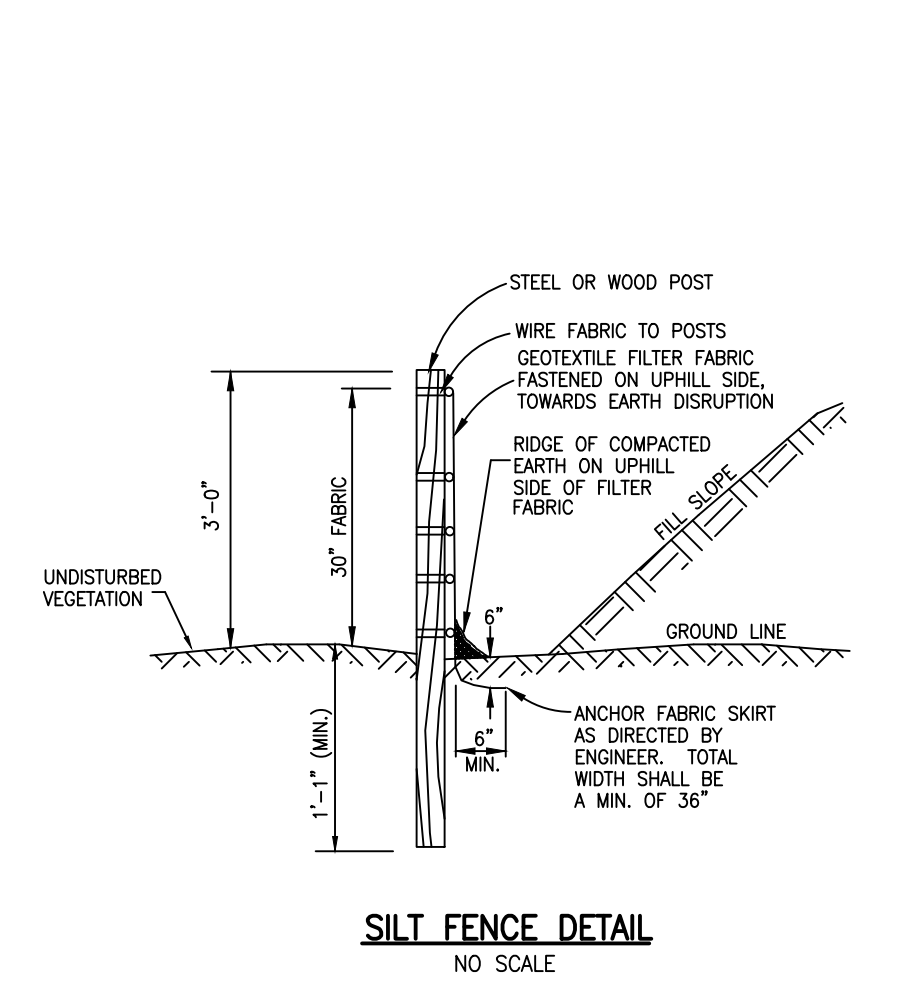
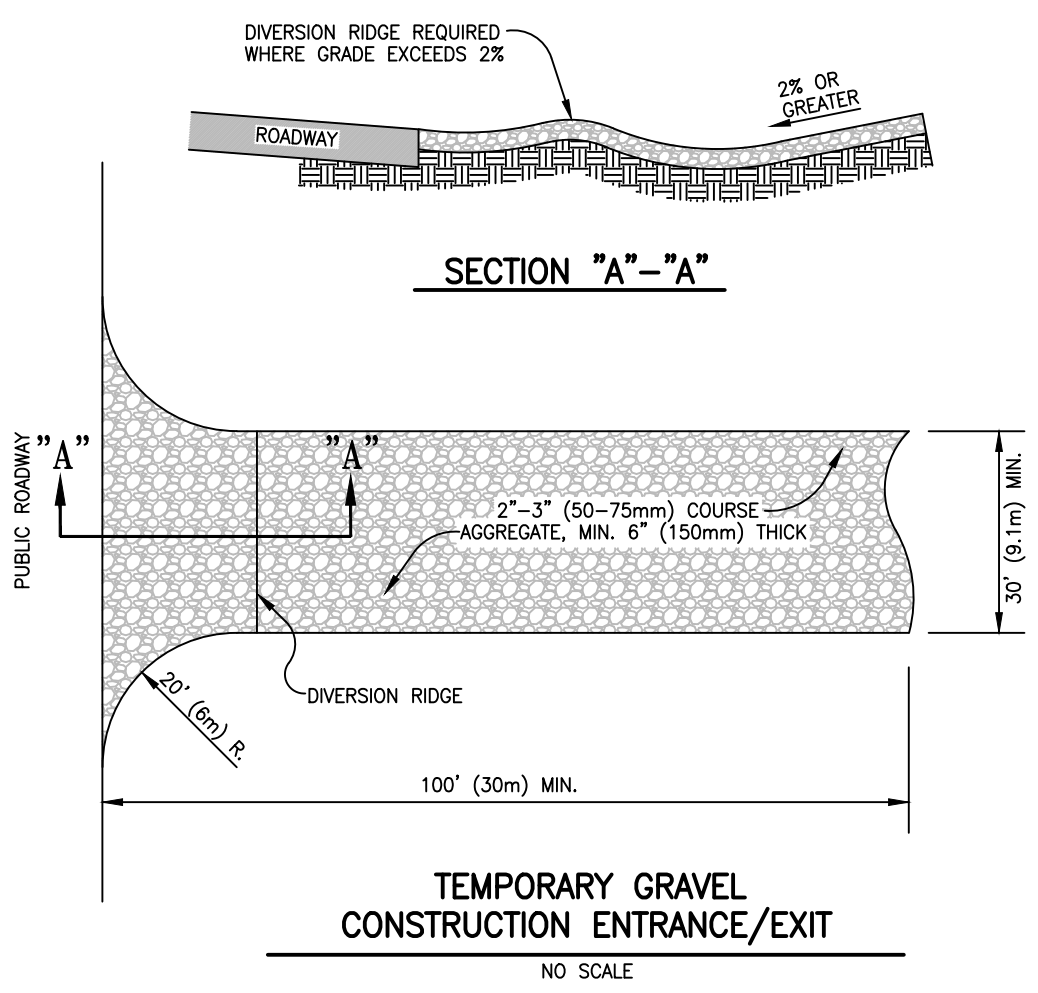
ACTIVITY	WEEKLY	MONTHLY	AS REQUIRED
MAINTAIN LANDSCAPING, REPLACE MULCH	X	X	X
CLEAN INLETS		X	X
COLLECT LITTER	X		X
SWEEP PARKING LOT		X	X

**CONTROLS & MEASURES NARRATIVE**

ACTIVITY	DESCRIPTION
MAINTAIN LANDSCAPING, REPLACE MULCH	COLLECT GRASS, TREE, AND SHRUB CLIPPINGS. DISPOSE IN APPROVED CONTAINER. REPLACE DEAD SOD, TREES AND SHRUBS.
CLEAN INLETS	REMOVE LITTER, SEDIMENT AND DEBRIS. DISPOSE OF IN APPROVED LANDFILL.
COLLECT LITTER	DISPOSE OF WITH INLET DEBRIS.
SWEEP PARKING LOT	REMOVE MUD, DIRT, GREASE AND OIL WITH PERIODIC SWEEPING.
DUST CONTROL	SPRINKLE WATER AS NEEDED

**SURFACE WATER & COUNTY DRAINS**

- WETLAND LAKES - ON SITE
- STREAMS - APPROXIMATELY 3,865 FT NORTH TO EARL LAKE
- STREAMS - APPROXIMATELY 5,540 FT SOUTH TO MARION & GENOA DRAIN
- STREAMS - ON SITE
- DRAINS - GENOA DRAIN 14, PART OF THE MARION-GENOA DRAIN
- PONDS - APPROXIMATELY 1,635 FT NORTHWEST AT 2900 E GRAND RIVER



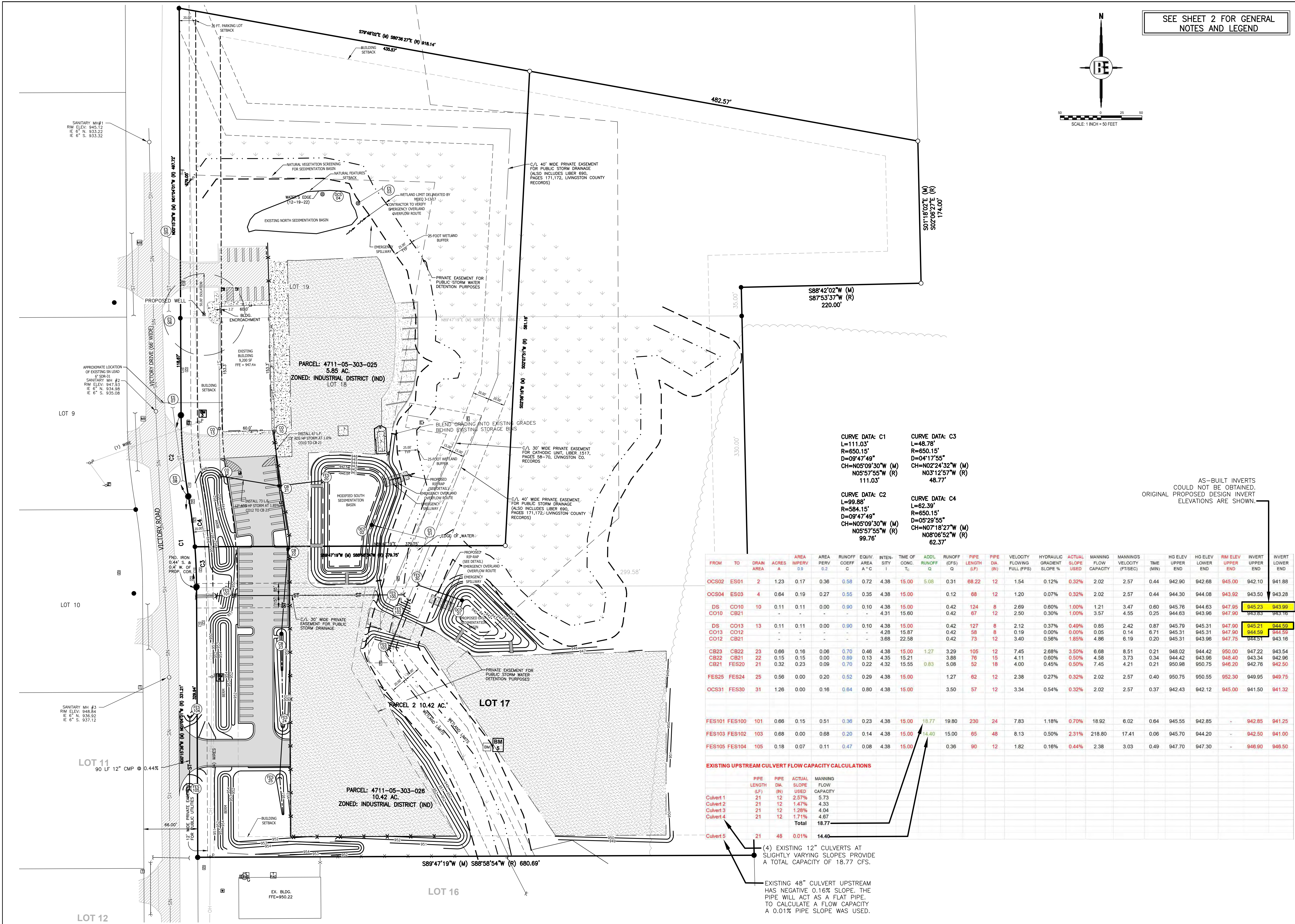
**BEBOSS Engineering**  
Engineers Surveyors Planners Landscape Architects  
3121 E. GRAND RIVER AVE.  
HOWELL, MI. 48843  
517.546.4836 FAX 517.548.1670

**MICHIGAN RECREATIONAL CONSTRUCTION**  
PREPARED FOR: MICHIGAN RECREATIONAL CONSTRUCTION, INC.  
1001 VICTORY DRIVE, HOWELL, MI 48843, 517-595-7122

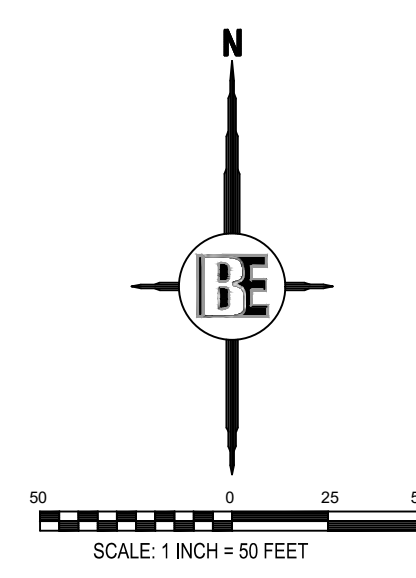
**SOIL EROSION & SEDIMENTATION CONTROL PLAN**

NO.	BY	PER	TOWNSHIP	REVIEW	DATE
1	ST	MJD			12-19-23

DESIGNED BY: ST  
DRAWN BY: MJD  
CHECKED BY:  
SCALE: 1" = 50'  
JOB NO: 23-265  
DATE: 11/29/23  
SHEET NO. 6



SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. NO CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

BEBOSS Engineering  
 3121 E. GRAND RIVER AVE.  
 HOWELL, MI. 48843  
 517.546.4836 FAX 517.548.1670

**CURVE DATA: C1**  
 L=111.03'  
 R=650.15'  
 D=09°47'49"  
 CH=N05°09'30"W (M)  
 N05°57'55"W (R)  
 111.03'

**CURVE DATA: C2**  
 L=99.88'  
 R=584.15'  
 D=09°47'49"  
 CH=N05°09'30"W (M)  
 N05°57'55"W (R)  
 99.76'

**CURVE DATA: C3**  
 L=48.78'  
 R=650.15'  
 D=04°17'55"  
 CH=N02°24'32"W (M)  
 N03°12'57"W (R)  
 48.77'

**CURVE DATA: C4**  
 L=62.39'  
 R=650.15'  
 D=05°29'55"  
 CH=N07°18'27"W (M)  
 N08°06'52"W (R)  
 62.37'

AS-BUILT INVERTS  
 COULD NOT BE OBTAINED.  
 ORIGINAL PROPOSED DESIGN INVERT  
 ELEVATIONS ARE SHOWN.

FROM	TO	DRAIN AREA	ACRES	AREA IMPERV	AREA PERV	RUNOFF COEFF	EQUIV. AREA A+C	INTEN. CITY Tc	TIME OF CONC. Tc	ADDD. RUNOFF Q	PIPE LENGTH (LF)	PIPE DIA (IN)	VELOCITY FLOWING FULL (FPS)	HYDRAULIC GRADIENT SLOPE %	ACTUAL SLOPE USED	MANING FLOW CAPACITY	MANING'S VELOCITY (FT/SEC)	TIME (MIN)	HG ELEV UPPER END	HG ELEV LOWER END	RM ELEV UPPER END	RM ELEV LOWER END	INVERT UPPER END	INVERT LOWER END
OCS02	ES01	2	1.23	0.17	0.36	0.58	0.72	4.38	15.00	5.08	0.31	68.22	12	1.54	0.12%	0.32%	2.02	2.57	0.44	942.90	942.68	945.00	942.10	941.88
OCS04	ES03	4	0.84	0.19	0.27	0.55	0.35	4.38	15.00		0.12	68	12	1.20	0.07%	0.32%	2.02	2.57	0.44	944.30	944.08	943.92	943.50	943.28
DS	CO10	10	0.11	0.11	0.00	0.90	0.10	4.38	15.00		0.42	124	8	2.69	0.80%	1.00%	1.21	3.47	0.60	945.76	944.63	947.95	945.23	943.99
CO10	CB21	-	-	-	-	-	-	4.31	15.60		0.42	67	12	2.50	0.30%	1.00%	3.57	4.55	0.25	944.83	943.96	947.90	943.83	943.10
DS	CO13	13	0.11	0.11	0.00	0.90	0.10	4.38	15.00		0.42	127	8	2.12	0.37%	0.49%	0.85	2.42	0.87	945.79	945.31	947.90	945.21	944.59
CO13	CO12	-	-	-	-	-	-	4.28	15.87		0.42	58	8	0.19	0.00%	0.00%	0.05	0.14	6.71	945.31	945.31	947.90	944.59	944.59
CO12	CB21	-	-	-	-	-	-	3.88	22.58		0.42	73	12	3.40	0.56%	1.85%	4.86	6.19	0.20	945.31	943.96	947.75	944.51	943.16
CB23	CB22	23	0.66	0.16	0.06	0.70	0.46	4.38	15.00	1.27	3.29	105	12	7.45	2.88%	3.50%	6.68	8.51	0.21	948.02	944.42	950.00	947.22	943.54
CB22	CB21	22	0.15	0.15	0.00	0.89	0.13	4.35	15.21		3.88	76	15	4.11	0.60%	0.50%	4.58	3.73	0.34	944.42	943.96	948.40	943.34	942.96
CB21	FES20	21	0.32	0.23	0.09	0.70	0.22	4.32	15.55	0.83	5.08	52	18	4.00	0.45%	0.50%	7.45	4.21	0.21	950.88	950.75	948.20	942.76	942.50
FES25	FES24	25	0.56	0.00	0.20	0.52	0.29	4.38	15.00		1.27	62	12	2.38	0.27%	0.32%	2.02	2.57	0.40	950.75	950.55	952.30	949.95	949.75
OCS31	FES30	31	1.26	0.00	0.16	0.64	0.80	4.38	15.00		3.50	57	12	3.34	0.54%	0.32%	2.02	2.57	0.37	942.43	942.12	945.00	941.50	941.32
FES101	FES100	101	0.66	0.15	0.51	0.36	0.23	4.38	15.00	18.77	19.80	230	24	7.83	1.18%	0.70%	18.92	6.02	0.64	945.55	942.85	-	942.85	941.25
FES103	FES102	103	0.68	0.00	0.68	0.20	0.14	4.38	15.00	14.40	15.00	65	48	8.13	0.50%	2.31%	218.80	17.41	0.06	945.70	944.20	-	942.50	941.00
FES105	FES104	105	0.18	0.07	0.11	0.47	0.08	4.38	15.00		0.36	90	12	1.82	0.16%	0.44%	2.38	3.03	0.49	947.70	947.30	-	946.90	946.50

**EXISTING UPSTREAM CULVERT FLOW CAPACITY CALCULATIONS**

PIPE LENGTH (LF)	PIPE DIA (IN)	ACTUAL SLOPE USED	MANING FLOW CAPACITY
Culvert 1	21	12 2.57%	5.73
Culvert 2	21	12 1.47%	4.33
Culvert 3	21	12 1.28%	4.04
Culvert 4	21	12 1.71%	4.67
<b>Total</b>			<b>18.77</b>

(4) EXISTING 12" CULVERTS AT SLIGHTLY VARYING SLOPES PROVIDE A TOTAL CAPACITY OF 18.77 CFS.

EXISTING 48" CULVERT UPSTREAM HAS NEGATIVE 0.16% SLOPE. THE PIPE WILL ACT AS A FLAT PIPE. TO CALCULATE A FLOW CAPACITY A 0.01% PIPE SLOPE WAS USED.

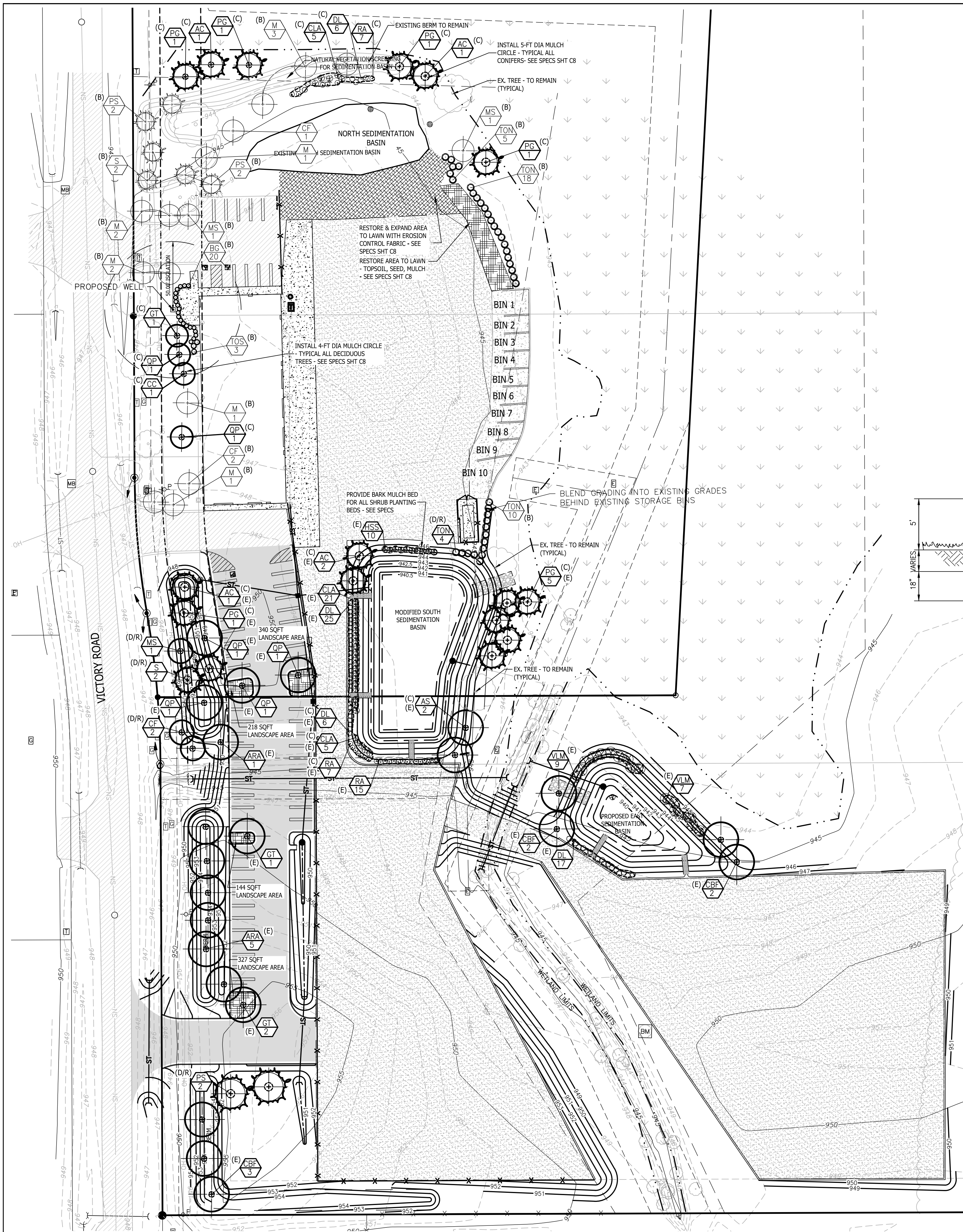
**MICHIGAN RECREATIONAL CONSTRUCTION, INC.**  
 1091 VICTORY DRIVE  
 HOWELL, MI 48843  
 517-595-7122

PROJECT: MICHIGAN RECREATIONAL CONSTRUCTION, INC.  
 PREPARED FOR: MICHIGAN RECREATIONAL CONSTRUCTION, INC.  
 TITLE: UTILITY PLAN  
 DATE: 12-19-23  
 PER TOWNSHIP REVIEW: 1 ST  
 REVISION PER: NO BY

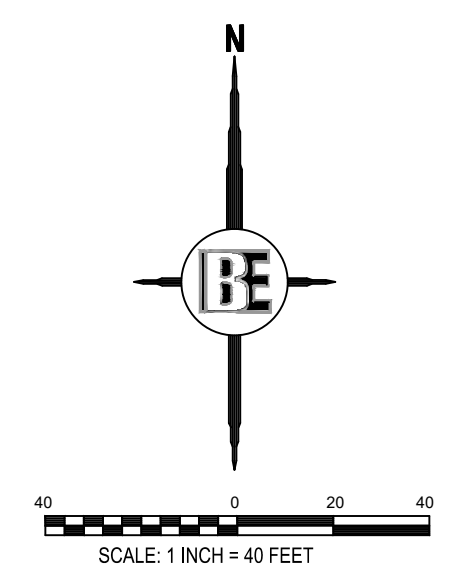
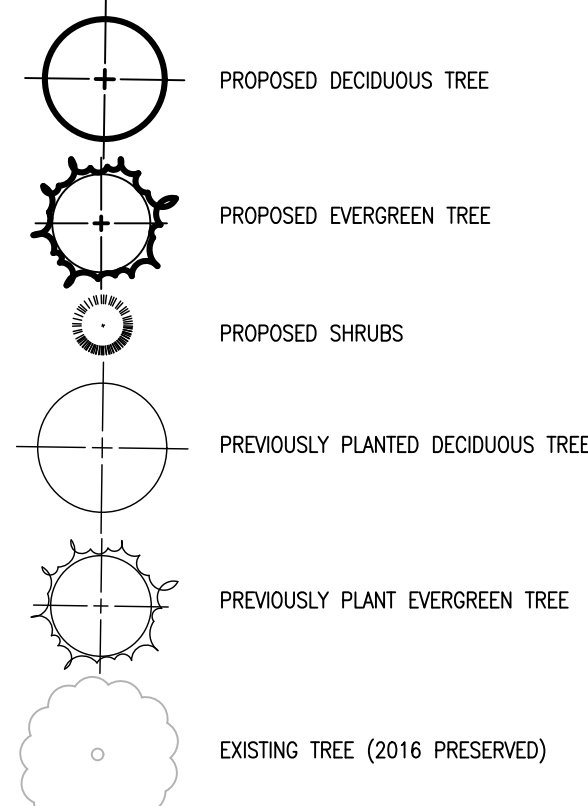
DESIGNED BY: ST  
 DRAWN BY: MJD  
 CHECKED BY:  
 SCALE: 1" = 50'  
 JOB NO: 23-265  
 DATE: 11/29/23  
 SHEET NO. 7







**LANDSCAPE KEY - SPECIAL**



SEE SHEET 2 FOR GENERAL NOTES AND LEGEND

**LANDSCAPE NOTES - LOT 18 - PER CONSENT JUDGEMENT 7-22-2021:**

- PLANTINGS SHOWN ARE A MIX OF 3 TYPES (SEE LEGEND) -  
 A) EXISTING TREES FROM 2016 THAT WERE AND SHALL CONTINUE TO BE PRESERVED;  
 B) LANDSCAPING PLANTED FOR THE ORIGINAL CONSTRUCTION & PLANTED PRIOR TO 2021 ('AS-BUILT');  
 C) SUPPLEMENTAL LANDSCAPING TO COMPLY WITH THE INTENT OF THE APPROVED 2016 PLANS (SOUTH BASIN PLANTING AREA LOCATIONS ADJUSTED TO ACCOMMODATE 2023 PROPOSED CONFIGURATION)  
 D/R) AS-BUILT PLANTS TO BE REMOVED BY NEW WORK & REPLACED IN KIND
- GROUND COVER/GRASS SHALL BE RESTORED AND MAINTAINED BETWEEN ALL GRAVEL AND/OR PAVED AREAS AND THE ADJACENT SEDIMENTATION BASINS. EROSION CONTROL MATTING SHALL BE INSTALLED ON SEEDED SLOPES STEEPER THAN 1:6.

**(A) 10 EXISTING TREES PRESERVED ON-SITE**

**(B) PLANT LIST (AS-BUILT AS OF 2021)**

KEY	QT.	BOTANICAL NAME	COMMON NAME	SIZE	REMARK
<b>TREES AND SHRUBS</b>					
S	4	Picea spp.	Spruce	4' hgt	-
M	10	Acer spp.	Maple	2.5" cal	-
BG	20	Buxus x Green Gem	Green Gem Boxwood	24" hgt	-
CF	5	Cornus Kousa Chinensis	Kousa Dogwood	2-1/2" cal.	-
MS	3	Magnolia Stellata 'Royal Star'	Royal Star Magnolia	2-1/2" cal.	-
PS	6	Pinus strobus	Eastern White Pine	6' hgt.	-
TON	37	Thuja Occidentalis Nigra	Dark Green Arborvitae	6' hgt.	-
TOS	3	Thuja Occidentalis 'Smaragd'	Emerald Arborvitae	6' hgt.	-

**(C) PLANT LIST - NEW SUPPLEMENTAL - TO BE PLANTED PER CONSENT JUDGEMENT \***

KEY	QT.	BOTANICAL NAME	COMMON NAME	SIZE	REMARK
AC	5	Abies concolor	White Fir	6' hgt	B-B
AS	2	Acer saccharum 'Legacy'	Legacy Sugar Maple	2-1/2" cal	B-B
CC	1	Cercis canadensis	Eastern Redbud	2" cal.	B-B
CL	10	Clethra alnifolia 'Ruby Spice'	Ruby Spice Clethra	24" hgt.	Cont.
DL	12	Diervilla lonicera	Dwarf Bush Honeysuckle	24" hgt.	Cont.
GT	1	Gleditsia triacanthos var inermis 'Skycole'	Skyline Honeylocust	2-1/2" cal.	B-B
PG	10	Picea glauca 'Densata'	White Spruce	6' hgt.	B-B
RA	14	Rhus aromatica 'Grow Low'	Grow Low Sumac	24" hgt.	Cont.
QP	2	Quercus palustris	Pin Oak	2-1/2" cal.	B-B

**(D/R) AS-BUILT PLANTS - REMOVALS FOR NEW CONSTRUCTION**

KEY	QT.	BOTANICAL NAME	COMMON NAME	SIZE	REMARK
<b>TREES</b>					
S	2	Picea glauca 'Densata'	White Spruce	6' hgt	B-B
CF	3	Cornus Kousa Chinensis	Kousa Dogwood	2" cal.	B-B
MS	1	Magnolia Stellata 'Royal Star'	Royal Star Magnolia	2" cal.	B-B
PS	2	Pinus strobus	Eastern White Pine	6' hgt	B-B
TON	4	Thuja Occidentalis Nigra	Dark Green Arborvitae	4' hgt	B-B

TOTAL OF 12 TREES TO BE REMOVED / REPLACED IN KIND IN SIZES INDICATED

**(E) LANDSCAPE CALCULATIONS 'INDUSTRIAL' (IND) ZONING - NEW WORK:**

**REQUIRED:**  
 GREENBELT - PUBLIC R.O.W.'S - VICTORY DRIVE: 1 CANOPY TREE / 40 LFT FRONTAGE, MIN 20 FT WIDTH  
 BUFFER - SOUTH ADJ. TO INDUSTRIAL: N.A.  
 PARKING AREA (>10 SPACES): 1 CANOPY TREE + 100 SQFT LANDSCAPE AREA / 10 SPACES - PARKING ADJ. TO STREET REQUIRES SCREENING - MIN 3-FT HGT LANDSCAPED BERM ACCEPTABLE OPTIONS - MIN. 10-FT WIDTH  
 DETENTION / RETENTION BASIN: 1 DECIDUOUS OR 1 CONIFEROUS TREE + 10 SHRUBS / 50 LFT PERIMETER LENGTH AS MEASURED AT TOP OF BASIN  
 ACCESSORY STRUCTURES (BINS): SCREENED WITH SHRUBS IF IN 'VISIBLE LOCATION' - EXISTING  
 CALCULATION / PROVIDED: GREENBELT - PUBLIC R.O.W. - VICTORY DRIVE: 482.05 LFT FRONTAGE (FROM EX. LOT 18 SOUTH DRIVEWAY) / 40 = 12 CANOPY TREES REQ'D & PROVIDED  
 PARKING AREA: 52 PROPOSED PARKING SPACES / 10 = 6 TREES + 520 SQFT TOTAL LANDSCAPE AREA REQUIRED; 6 TREES & 1,029 SQFT LANDSCAPE AREA PROVIDED, CONTAINED IN GRASSED LAWN PENINSULAS  
 DETENTION BASIN - 'MOD. SOUTH': 444 LFT / 50 = 9 TREES + 89 SHRUBS REQ'D & PROVIDED  
 SEDIMENTATION BASIN 'EAST': 320 LFT / 50 = 4 TREES + 32 SHRUBS REQ'D & PROVIDED

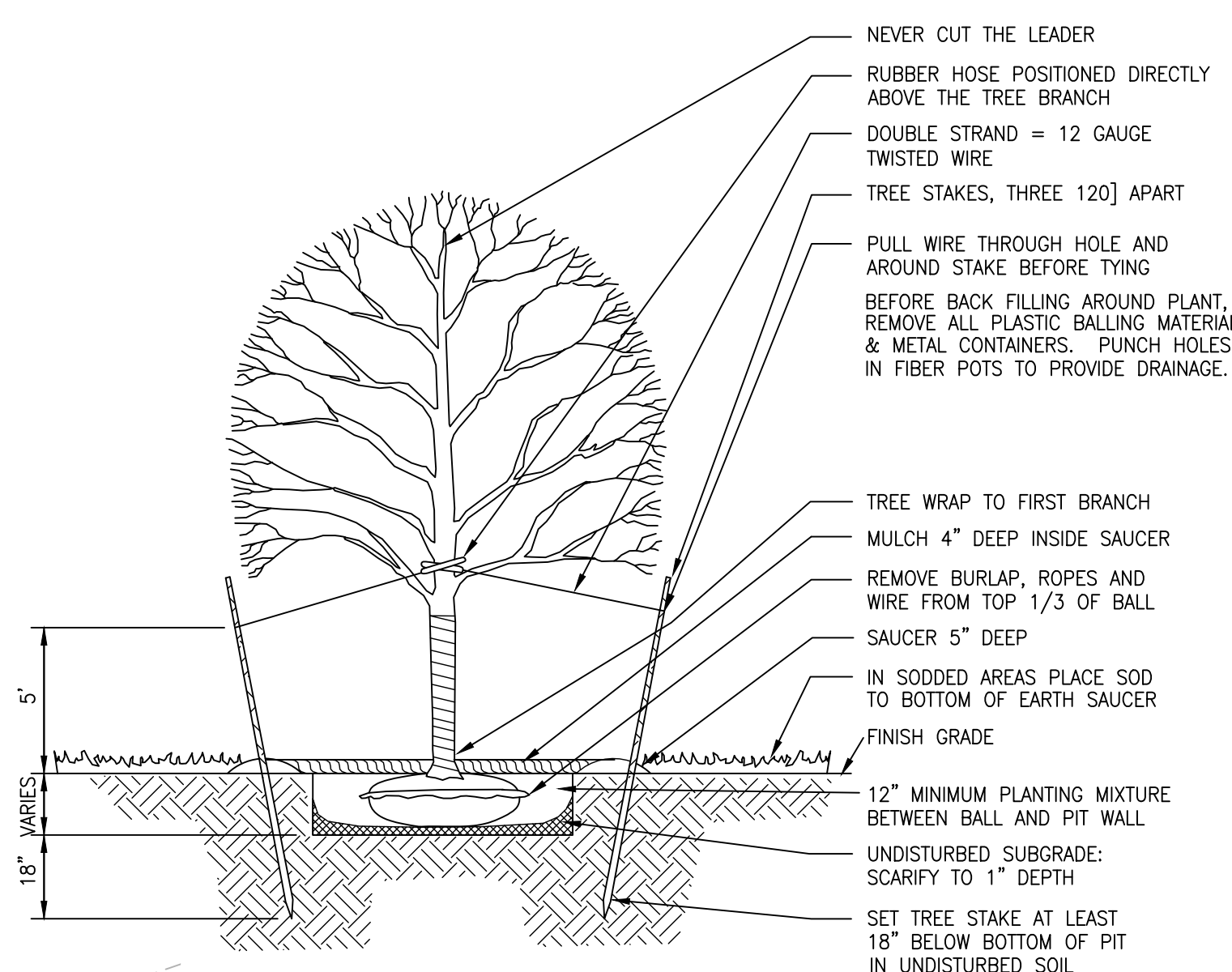
**(E) NEW PLANTINGS LIST - FOR NEW WORK \***

KEY	QUAN.	BOTANICAL NAME	COMMON NAME	SIZE	REMARK
<b>DECIDUOUS TREES</b>					
CBF	7	Carpinus betulus 'Frans Fontaine'	Frans Fontaine European Hornbeam	2-1/2" cal.	B-B
ARA	6	Acer rubrum 'fs KW 78'	Armstrong Gold Red Maple	2-1/2" cal.	B-B
GT	3	Gleditsia triacanthos var inermis 'Skycole'	Skyline Thornless Honeylocust	2-1/2" cal.	B-B
QP	4	Quercus palustris	Northern Pin Oak	2-1/2" cal.	B-B
<b>DECIDUA SHRUBS</b>					
CLA	21	Clethra alnifolia 'Ruby Spice'	Ruby Spice Clethra	24" ht.	Cont.
DL	42	Diervilla lonicera	Dwarf Bush Honeysuckle	24" ht.	Cont.
HSS	10	Hydrangea serrata 'Smmaktsr'	Mountain Tuff Stuff Red Hydrangea	18" ht./#3	Cont.
RA	15	Rhus aromatica 'Gro-Low'	Gro-Low Fragrant Sumac	24" ht./#3	Cont.
VLM	16	Viburnum lentana 'Mohican'	Wayfaring Mohican Viburnum	36" ht./#5	Cont.

**SUPPLEMENTAL LANDSCAPE NOTE**  
 ANY SUBSTITUTIONS OF PLANT MATERIAL FROM THE APPROVED SITE PLAN MUST BE APPROVED BY THE TOWNSHIP PRIOR TO INSTALLATION.

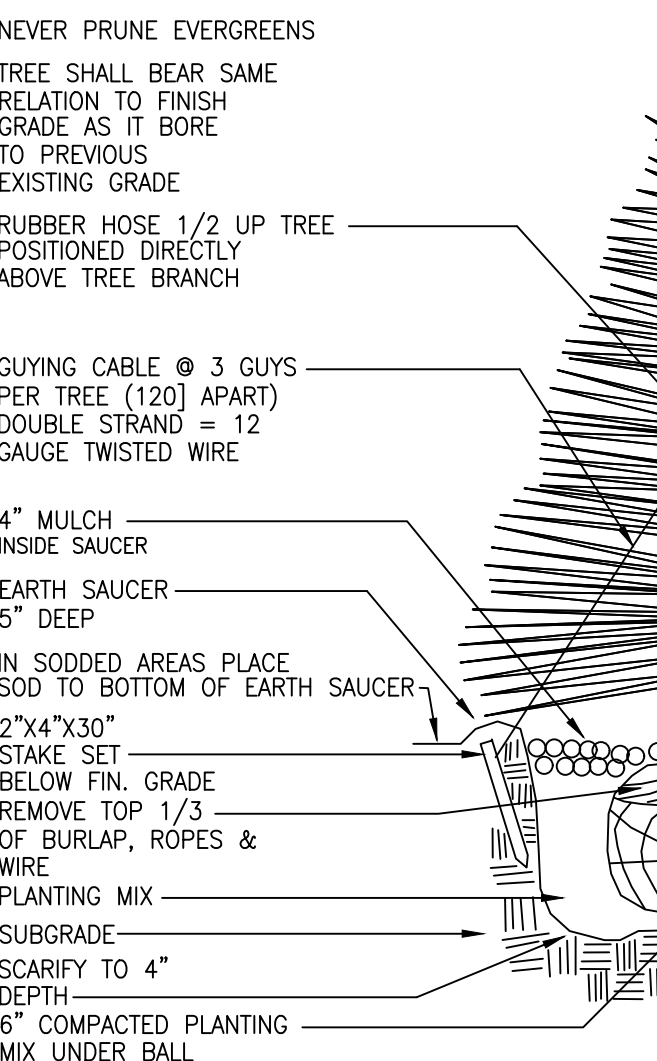
**CONTRACTOR NOTE**  
 \* PLANT LISTS (C), (D/R) & (E) - ARE NEW PLANTINGS TO BE PROVIDED

FOR SITE PLAN APPROVAL ONLY!  
 NOT FOR CONSTRUCTION



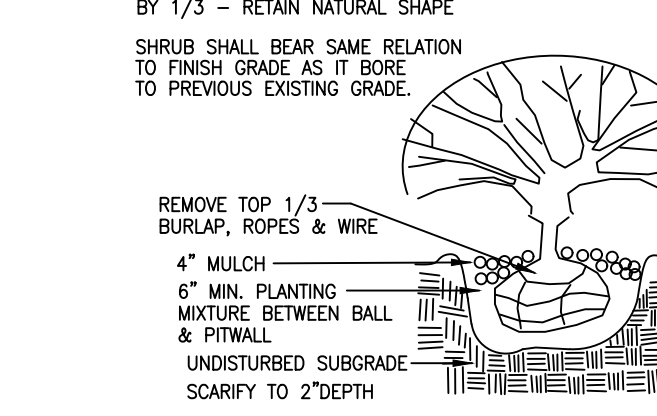
**DECIDUOUS TREE PLANTING DETAIL (NO SCALE)**

BEFORE BACK FILLING AROUND PLANT, REMOVE ALL PLASTIC BALLING MATERIAL & METAL CONTAINERS. PUNCH HOLES IN FIBER POTS TO PROVIDE DRAINAGE.  
 NEVER PRUNE EVERGREENS  
 TREE SHALL BEAR SAME RELATION TO FINISH GRADE AS IT BORE TO PREVIOUS EXISTING GRADE  
 RUBBER HOSE 1/2 UP TREE POSITIONED DIRECTLY ABOVE TREE BRANCH  
 GUYING CABLE @ 3 GUYS PER TREE (120] APART)  
 DOUBLE STRAND = 12 GAUGE TWISTED WIRE  
 4" MULCH INSIDE SAUCER  
 EARTH SAUCER 5" DEEP  
 IN SODDED AREAS PLACE SOD TO BOTTOM OF EARTH SAUCER  
 2"x4"x30" STAKE SET BELOW FIN. GRADE REMOVE TOP 1/3 OF BURLAP, ROPES & WIRE  
 PLANTING MIX SUBGRADE SCARIFY TO 4" DEPTH  
 6" COMPACTED PLANTING MIX UNDER BALL



**EVERGREEN TREE PLANTING DETAIL (NO SCALE)**

BEFORE BACK FILLING AROUND PLANT, REMOVE ALL PLASTIC BALLING MATERIAL & METAL CONTAINERS. PUNCH HOLES IN FIBER POTS TO PROVIDE DRAINAGE.  
 NEVER PRUNE EVERGREENS  
 TREE SHALL BEAR SAME RELATION TO FINISH GRADE AS IT BORE TO PREVIOUS EXISTING GRADE  
 RUBBER HOSE 1/2 UP TREE POSITIONED DIRECTLY ABOVE TREE BRANCH  
 GUYING CABLE @ 3 GUYS PER TREE (120] APART)  
 DOUBLE STRAND = 12 GAUGE TWISTED WIRE  
 4" MULCH INSIDE SAUCER  
 EARTH SAUCER 5" DEEP  
 IN SODDED AREAS PLACE SOD TO BOTTOM OF EARTH SAUCER  
 2"x4"x30" STAKE SET BELOW FIN. GRADE REMOVE TOP 1/3 OF BURLAP, ROPES & WIRE  
 PLANTING MIX SUBGRADE SCARIFY TO 4" DEPTH  
 6" COMPACTED PLANTING MIX UNDER BALL



**SHRUB PLANTING DETAIL (NO SCALE)**

**BEBOSS Engineering**  
 Engineers Surveyors Planners Landscape Architects  
 3121 E. GRAND RIVER AVE.  
 HOWELL, MI. 48843  
 517.546.4836 FAX 517.548.1670

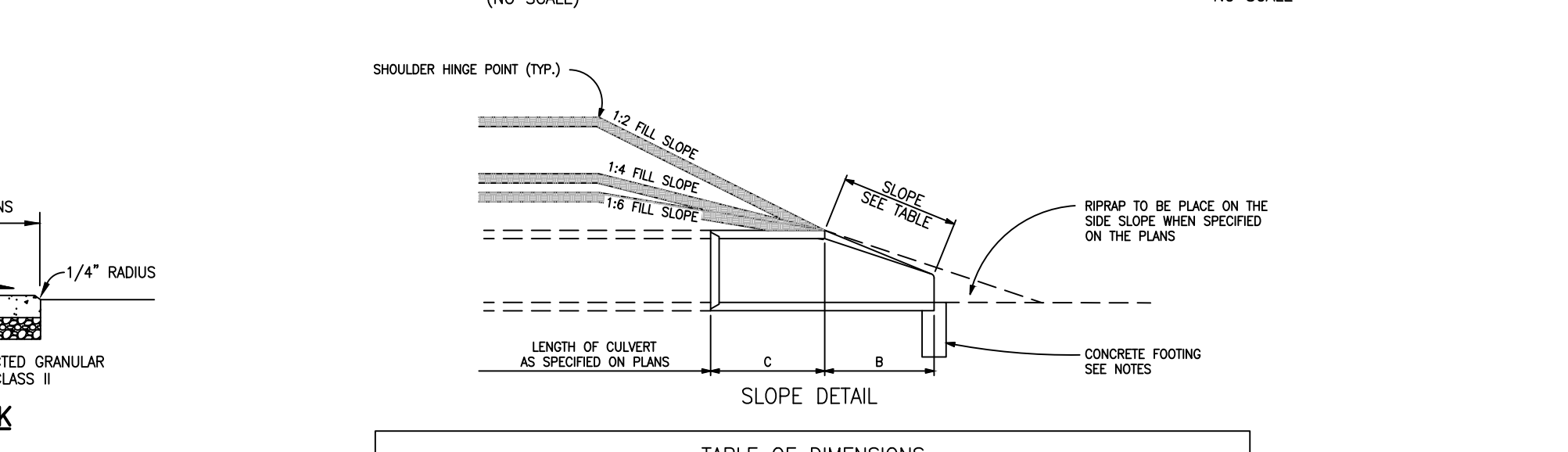
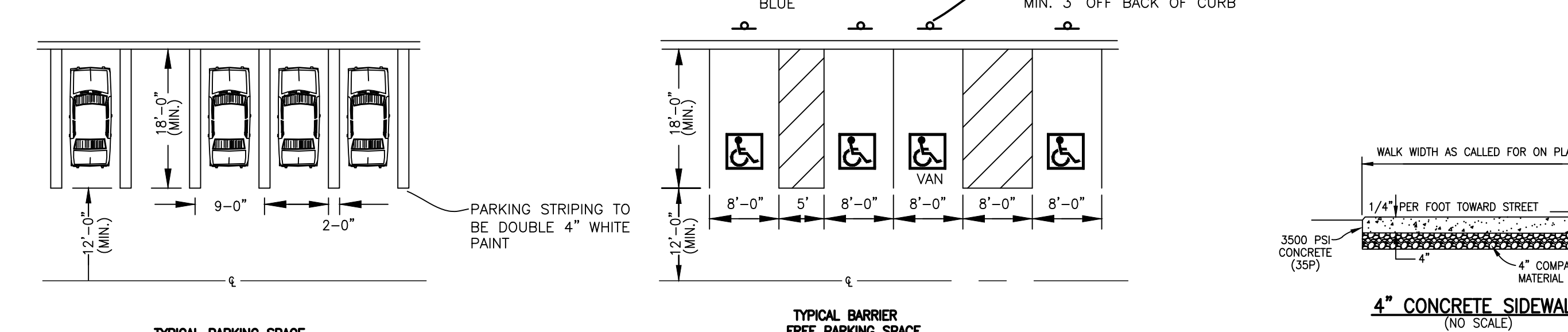
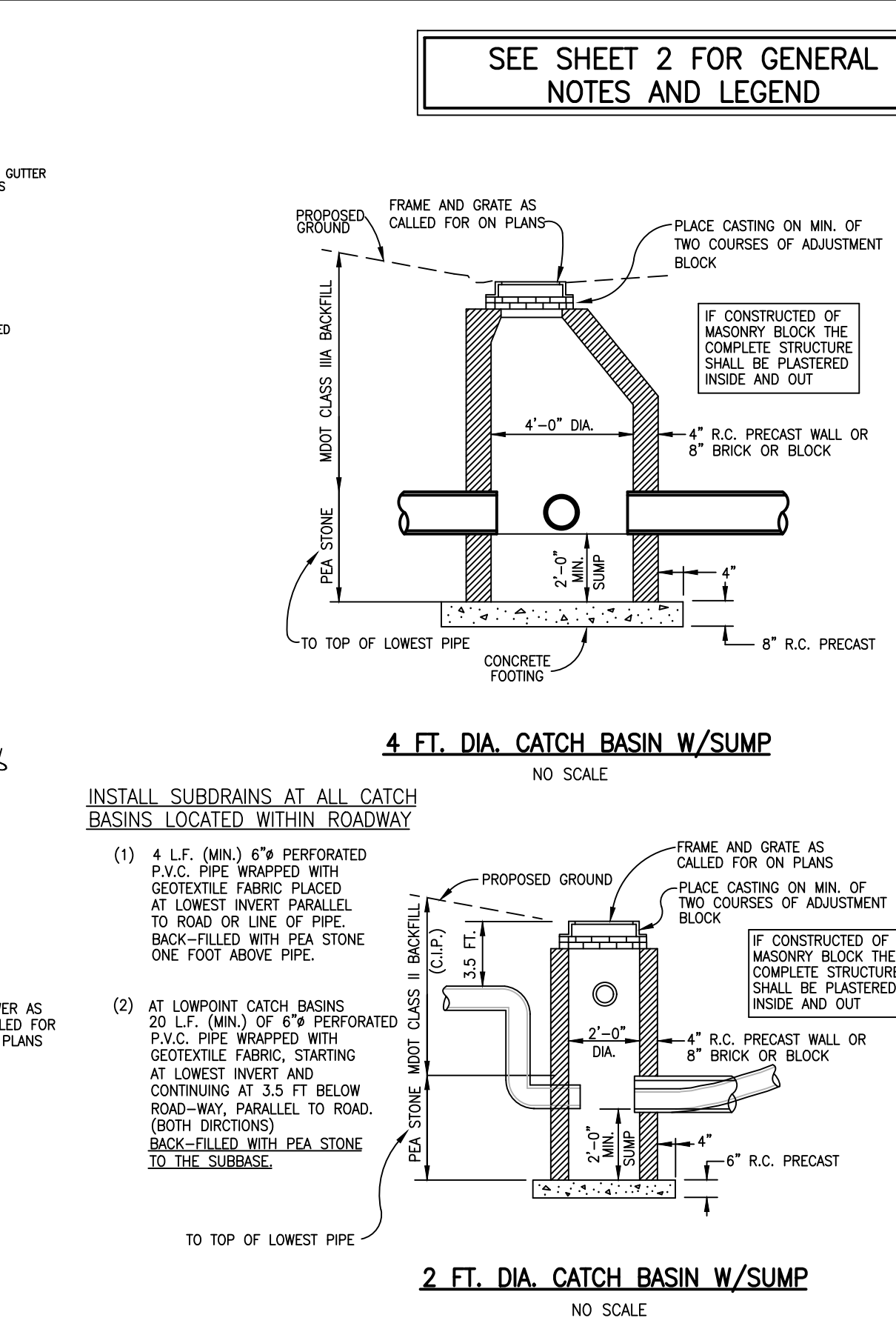
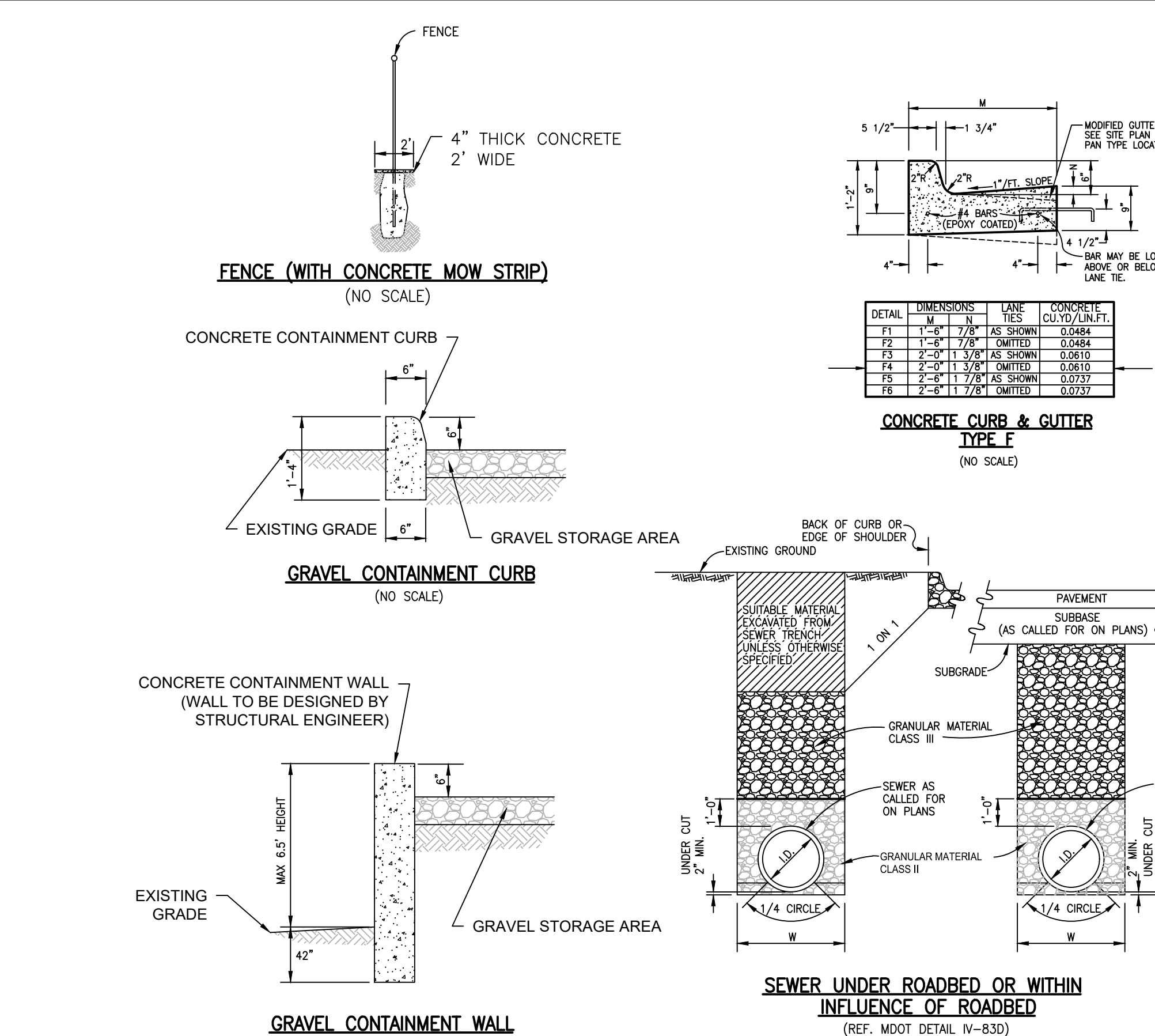
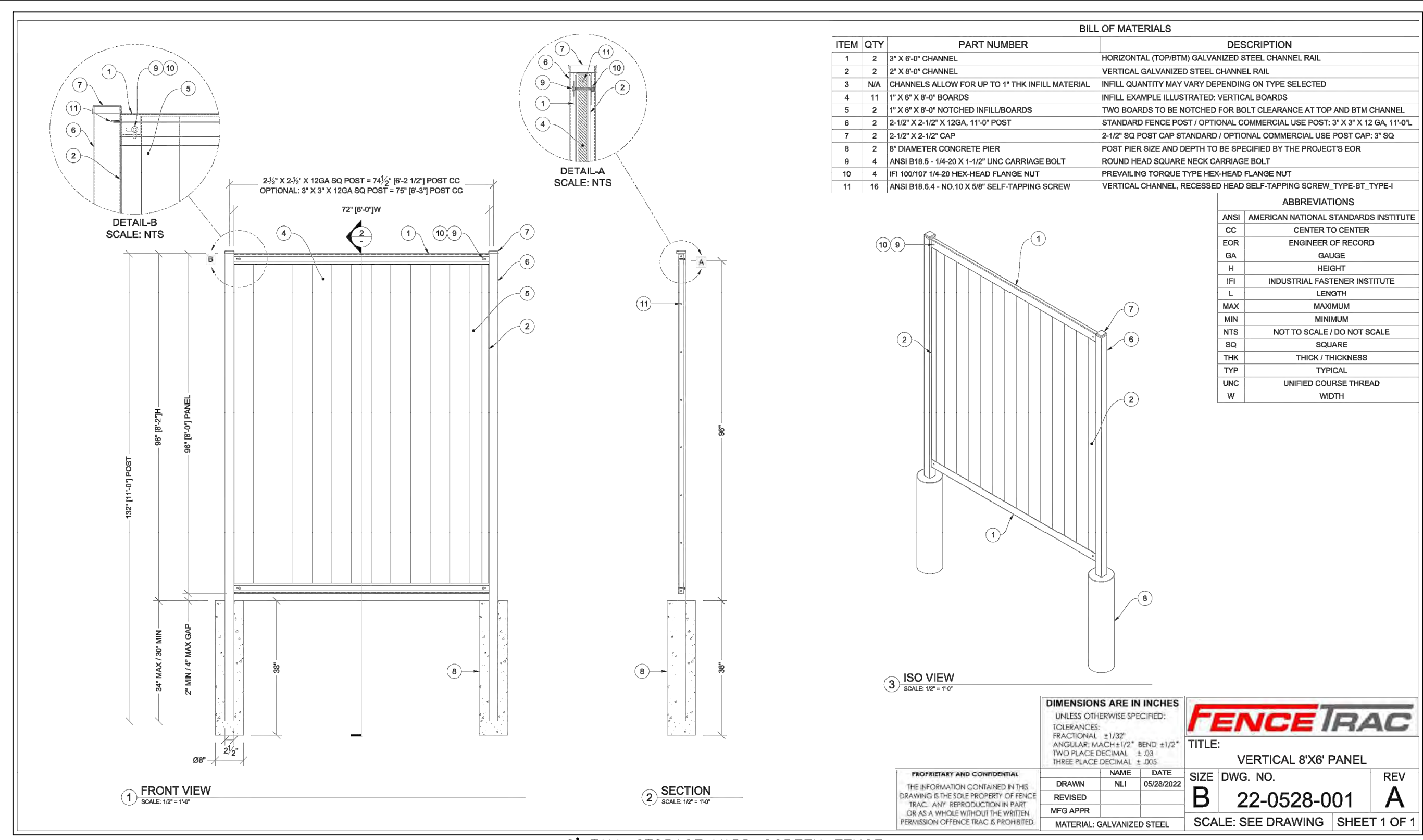
**MICHIGAN RECREATIONAL CONSTRUCTION**  
 PREPARED FOR: MICHIGAN RECREATIONAL CONSTRUCTION, INC.  
 1001 VICTORY DRIVE  
 HOWELL, MI. 48843  
 517.595.7122

**LANDSCAPE PLAN**

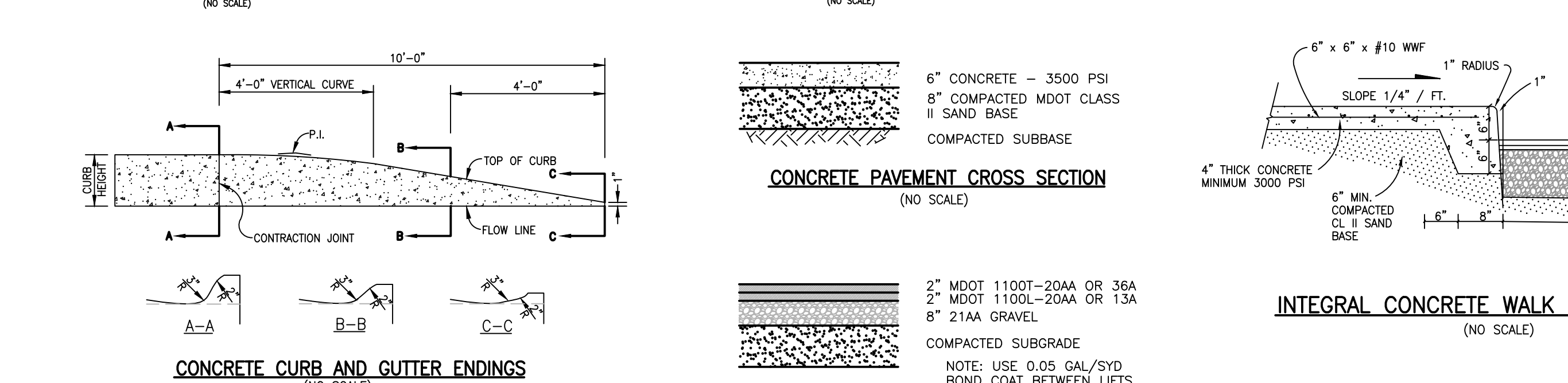
PROJECT	DATE
MICHIGAN RECREATIONAL CONSTRUCTION	12-19-23

PER TOWNSHIP REVIEW	REVISION PER
1	BY

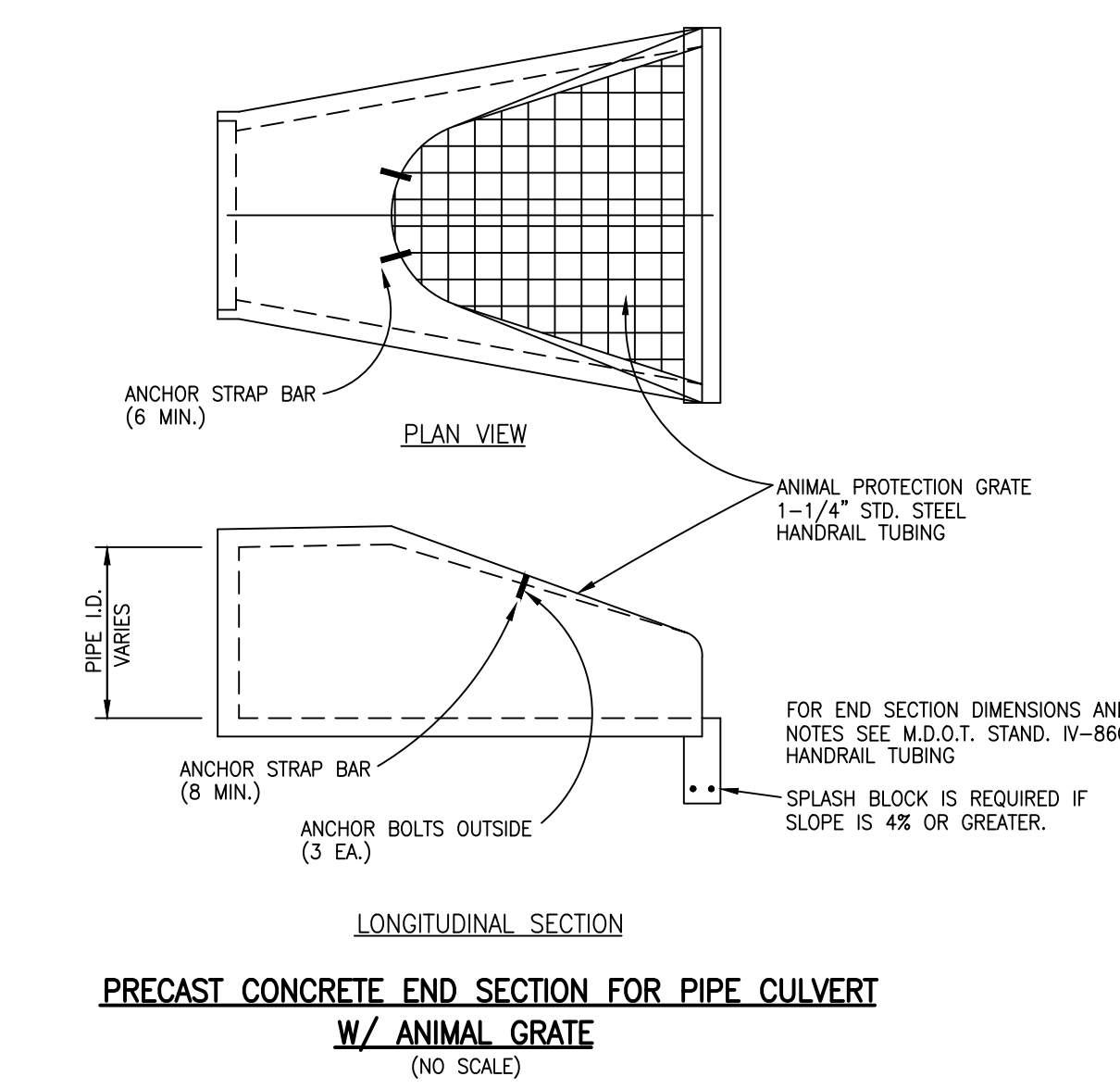
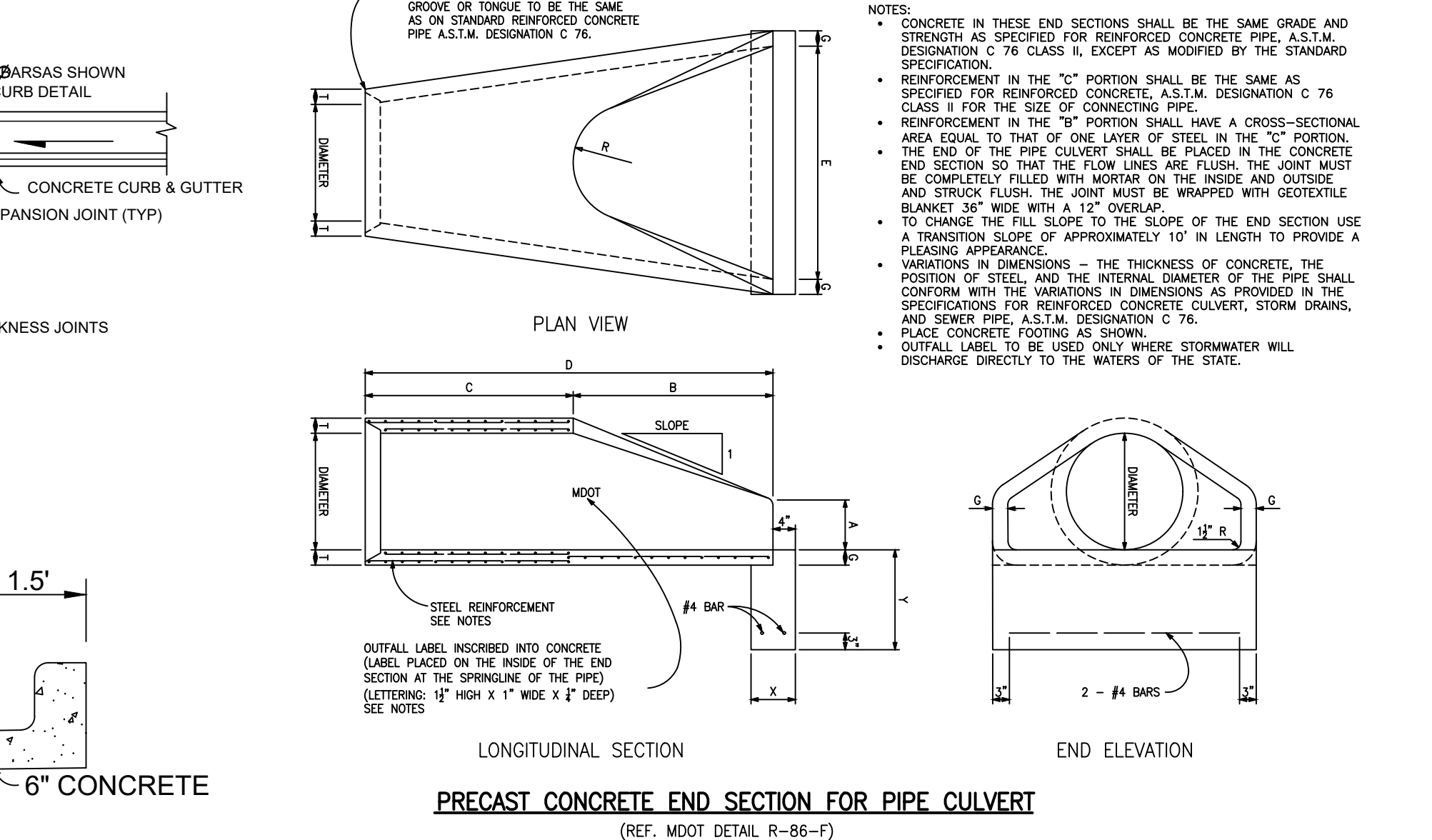
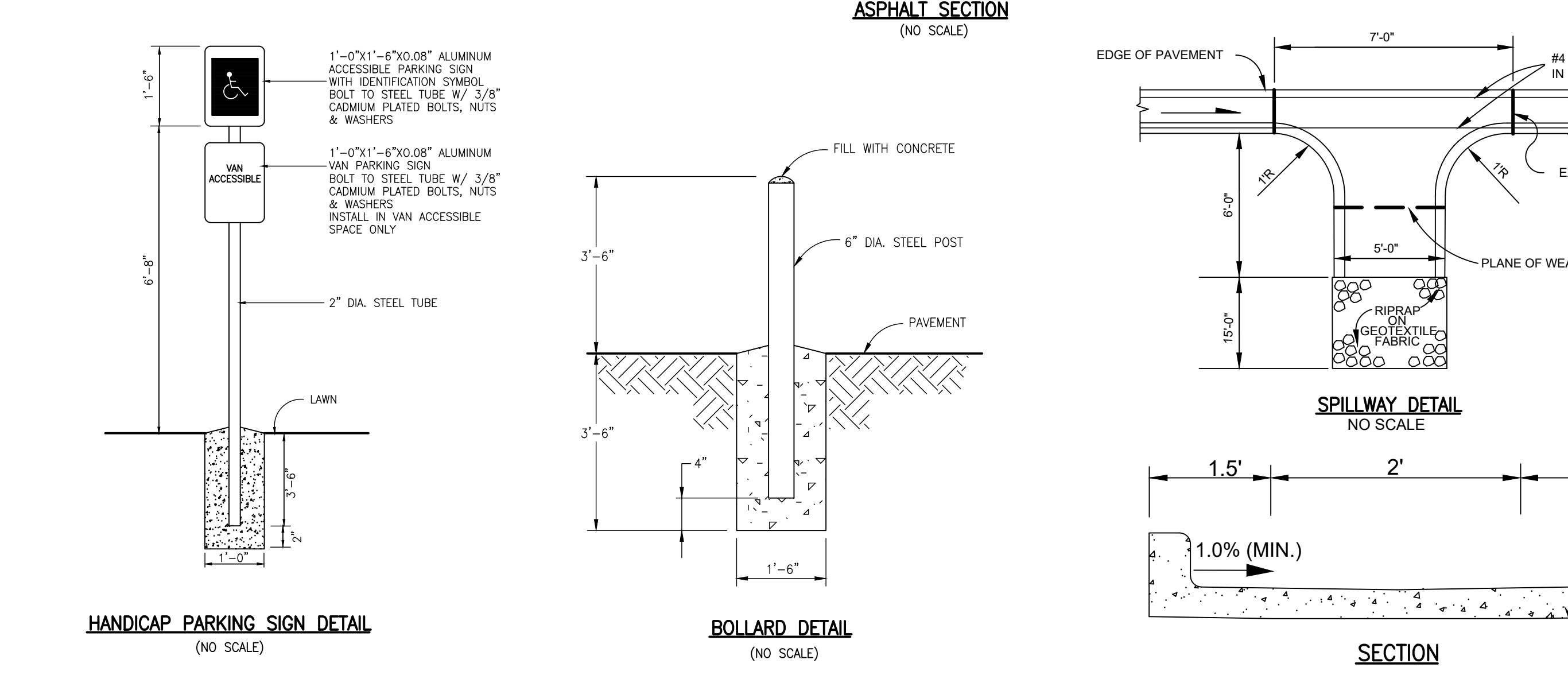
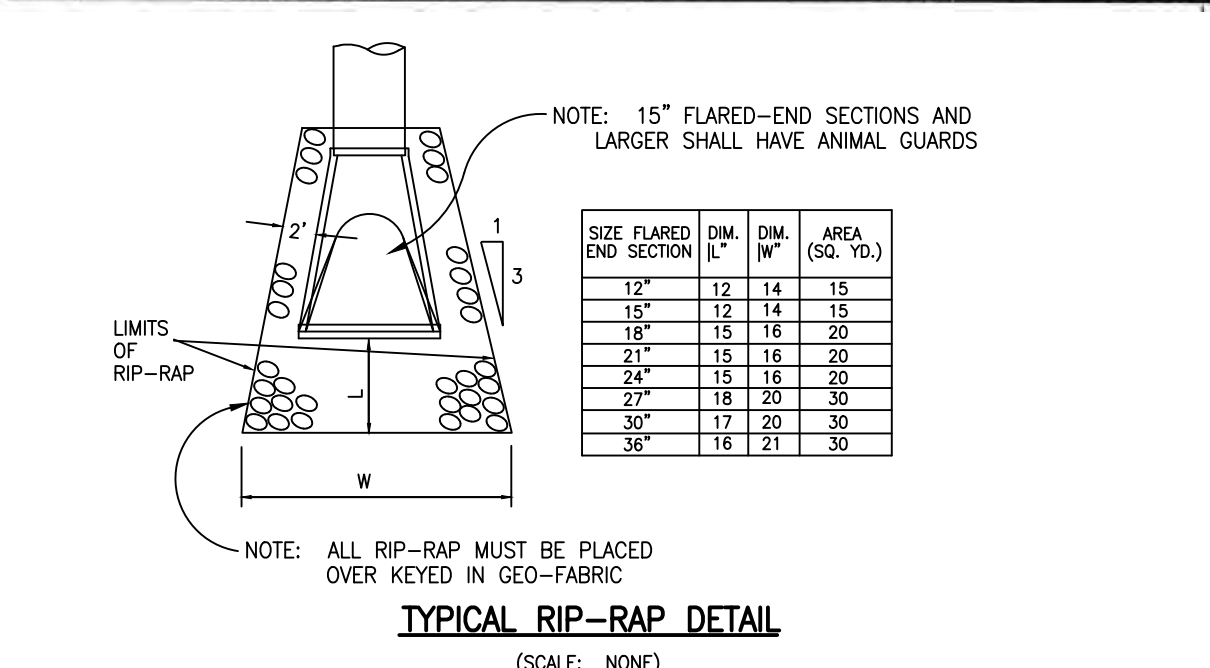
DESIGNED BY: PC  
 DRAWN BY: PC  
 CHECKED BY:  
 SCALE: 1" = 40'  
 JOB NO: 23-265  
 DATE: 11/29/23  
 SHEET NO. **9**



TYPE	LOCATION	MANUFACTURER OR EQUAL		TYPE OF COVER OR INLET	MAXIMUM DRAINAGE AREA (ACRES)
		EAST JORDAN	NEENAH		
MH	ALL	1040	R-1916 F1	SANITARY-SOLID SELF-SEALING STORM-VENTED	N/A
CB	TYPE A CURB	7000-T1-M1	R-3070	FLAT GRATE WITH VERT. OPEN BACK	0.71
CB	TYPE B CURB	7085-T1-M1	R-3034-B	FLAT GRATE WITH ROLL BACK	0.87
CB	PAVEMENT/SHOULDER	1020-M1	R-2060-D	FLAT GRATE	0.66
CB	OPEN AREA	1020-01	R-2560-D	BEEHIVE GRATE 4" HIGH	0.63
CB	GUTTER	5100	R-3238	CONCAVE INLET	0.86



PIPE DIAMETER (INCHES)	APPROX. SLOPE	T (INCHES)	A (INCHES)	B (INCHES)	C (INCHES)	D (INCHES)	E (INCHES)	G (INCHES)	R (INCHES)	X (INCHES)	Y (INCHES)
12	2.4 TO 1	2	4	24	49	73	24	2	9	8	18
15	2.4 TO 1	2-1/4	6	27	46	73	30	2-1/4	11	8	18
18	2.5 TO 1	2-1/2	9	27	46	73	36	2-1/2	12	8	18
21	2.4 TO 1	2-3/4	9	36	37-1/2	73-1/2	42	2-3/4	13	8	18
24	2.5 TO 1	3	9-1/2	43-1/4	30-1/2	73-3/4	48	3	14	8	18
27	2.5 TO 1	3-1/4	10-1/2	49-1/4	24-1/2	73-3/4	54	3-1/4	14-1/2	8	18
30	2.5 TO 1	3-1/2	12	54	19-3/4	73-3/4	60	3-1/2	15	8	18
36	2.5 TO 1	4	15	63	34-3/4	97-3/4	72	4	20	8	18
42	2.5 TO 1	4-1/2	21	63	35	98	78	4-1/2	22	10	24
48	2.5 TO 1	5	24	72	26	98	84	5	22	10	24
54	2.0 TO 1	5-1/2	27	65	33-1/4	98-1/4	90	5-1/2	24	10	24
60	1.9 TO 1	6	35	60	39	99	96	6	24	12	24
66	1.7 TO 1	6-1/2	30	72	27	99	102	5-1/2	24	12	24
72	1.8 TO 1	7	36	78	21	99	108	6	24	12	24
78	1.8 TO 1	7-1/2	36	90	21	111	114	6-1/2	24	12	24
84	1.6 TO 1	8	36	90-1/2	21	111-1/2	120	6-1/2	24	12	24



SEE SHEET 2 FOR GENERAL NOTES AND LEGEND

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. NO COMPLETELY RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, DEPTH, OR TYPE OF UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF UTILITIES CROSSING IN THE FIELD PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE UTILITY OWNERS OF ANY APPARENT OR SUSPECTED UTILITIES FROM THE PLANS.

**BEBOSS**  
Engineering  
Planners Landscape Architects

3121 E. GRAND RIVER AVE.  
HOWELL, MI. 48843  
517.546.4836 FAX 517.548.1670

**MICHIGAN RECREATIONAL CONSTRUCTION**

MICHIGAN RECREATIONAL CONSTRUCTION, INC.  
1001 VICTORY DRIVE  
HOWELL, MI 48843  
517-595-7122

CONSTRUCTION DETAILS

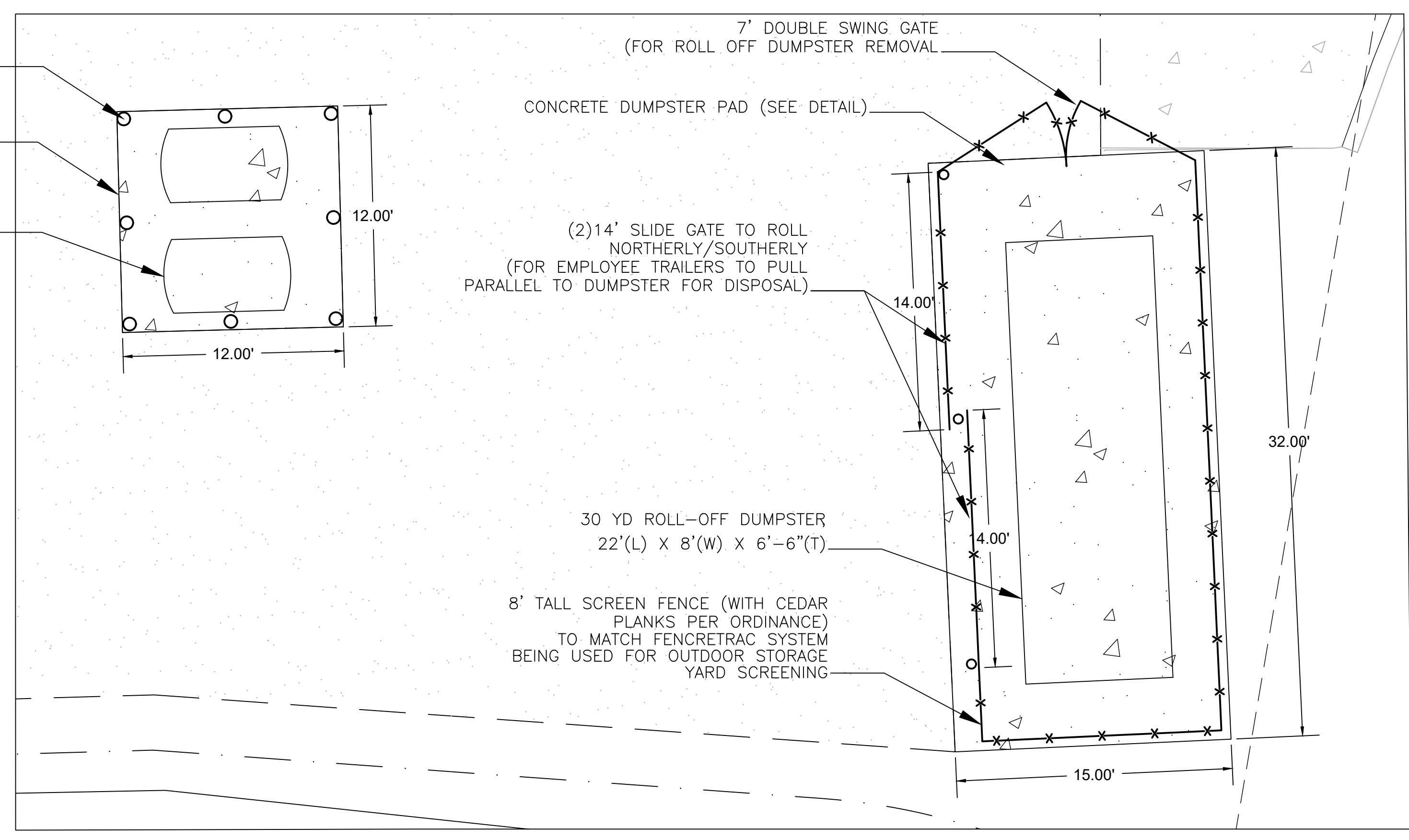
DATE	REVISION	PER	TOWNSHIP
12-19-23	1	ST	NO BY

DESIGNED BY: ST  
DRAWN BY: MJD  
CHECKED BY:  
SCALE: NO SCALE  
JOB NO: 23-265  
DATE: 11/29/23  
SHEET NO: 10

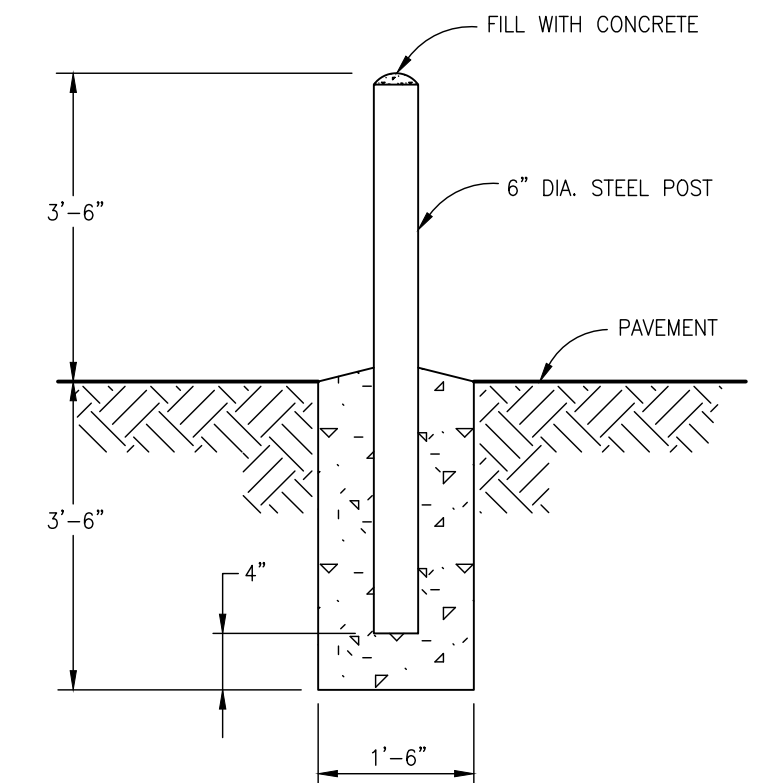
SEE SHEET 2 FOR GENERAL NOTES AND LEGEND

PROTECTIVE BOLLARDS  
12' X 12' CONCRETE PAD FOR FUEL TANKS (SEE DETAIL)  
(2) 500 GAL FUEL TANKS AS SUPPLIED BY CORRIGAN (SEE DETAIL BELOW)

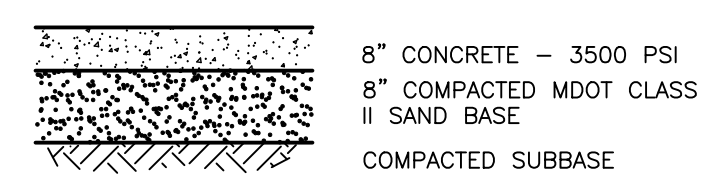
SECONDARY CONTAINMENT IS VIA A DUAL WALL FUEL STORAGE TANK WHERE THE VOLUME PROVIDED BETWEEN DUAL WALL IS 110% MAX TANK CAPACITY AS APPROVED BY MDEGLE



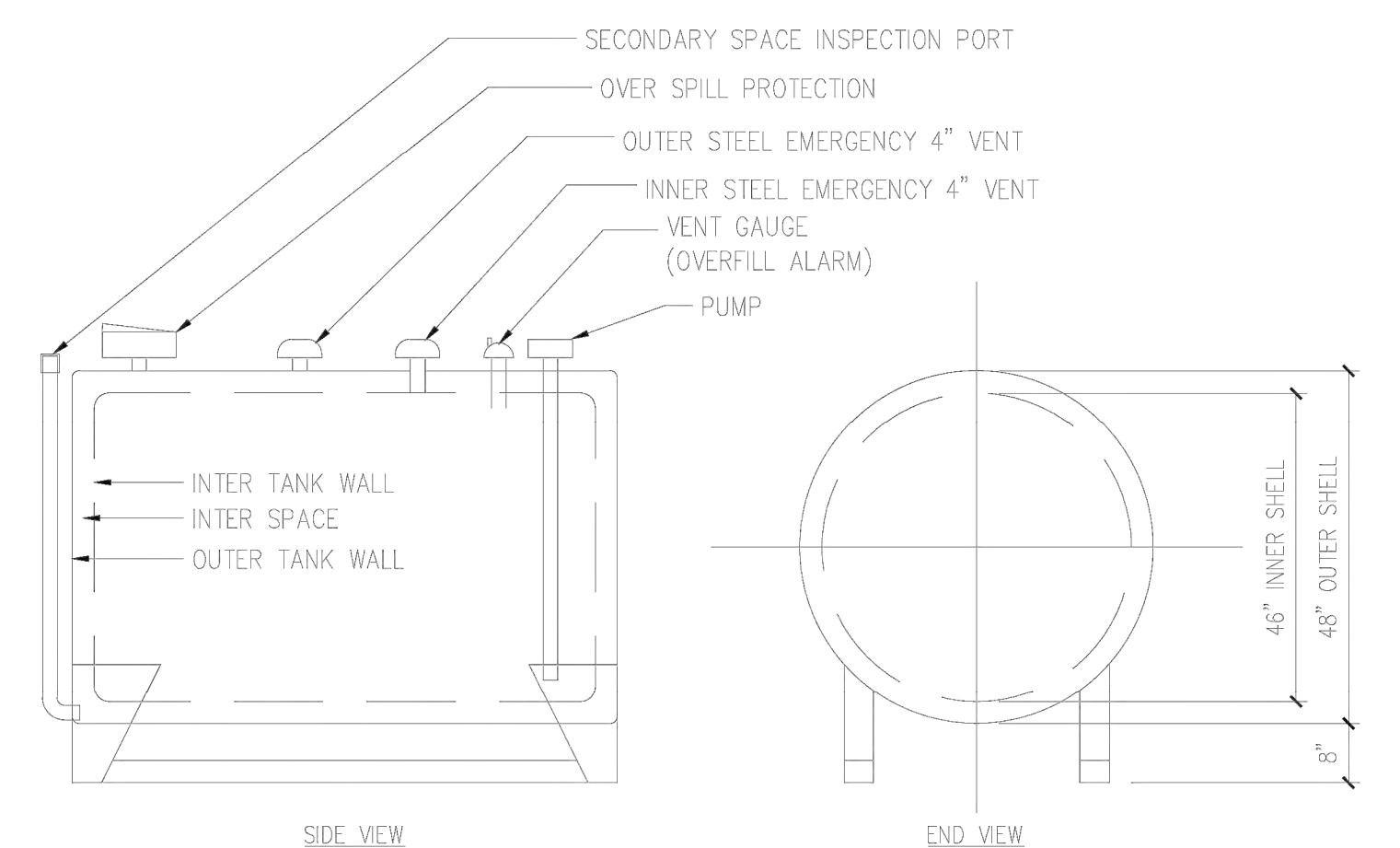
FUEL STORAGE AND DUMPSTER PAD DETAILS  
SCALE: 1" = 5'



BOLLARD DETAIL  
(NO SCALE)

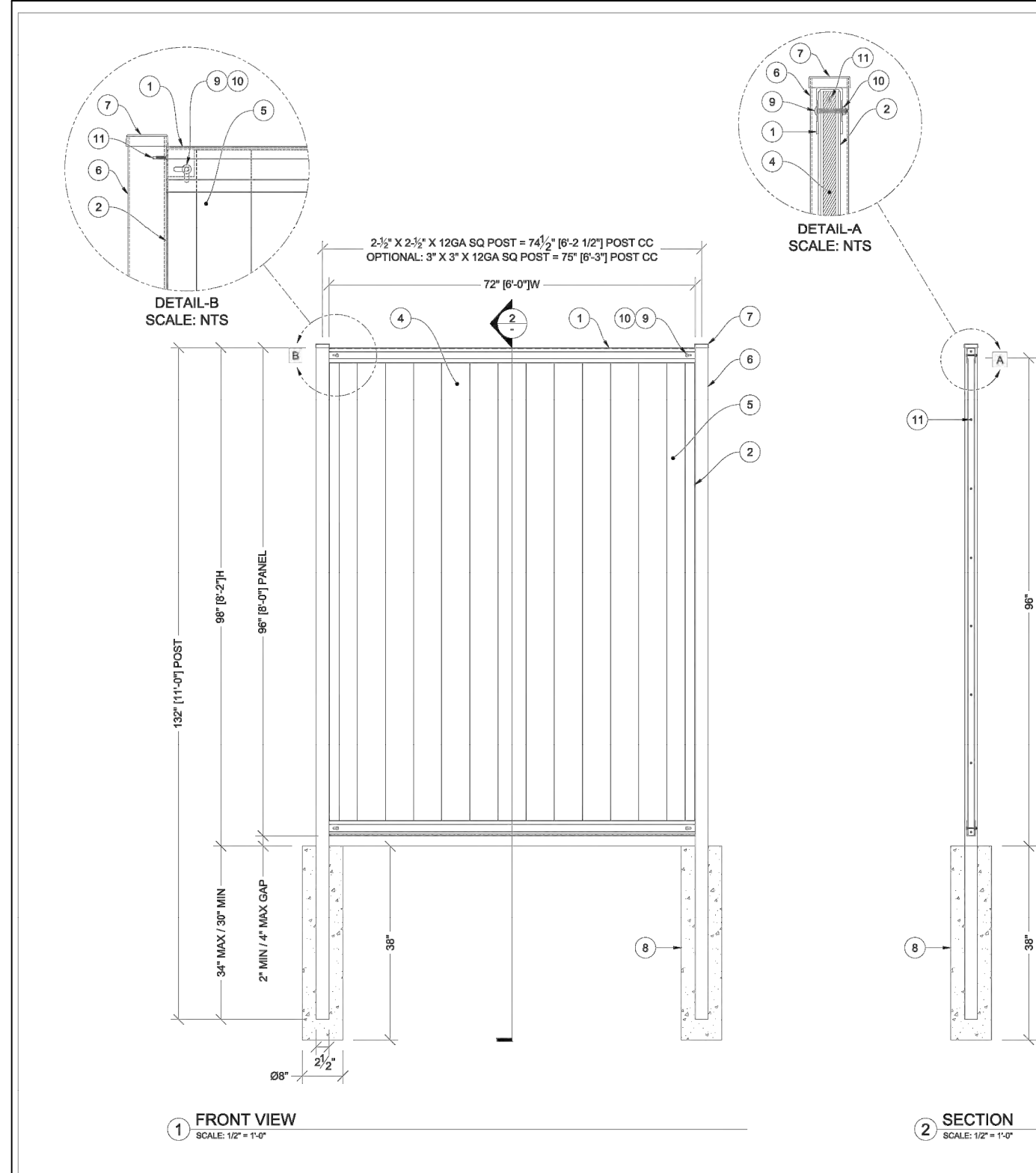


DUMPSTER PAD & FUEL TANK STORAGE PAD CONCRETE CROSS SECTION  
(NO SCALE)



500 GAL FUEL STORAGE TANK DETAIL  
(NO SCALE)

500 GALLON TANK - UL142 DOUBLE WALL ABOVE GROUND STORAGE TANK  
12 GAUGE CONSTRUCTION  
MDEO APPROVED 110% CAPACITY BETWEEN OUTER SHELL AND INNER SHELL



8' TALL DUMPSTER ENCLOSURE SCREEN FENCE  
(NO SCALE)

ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	2" X 6" CHANNEL	HORIZONTAL (TOP/BTM) GALVANIZED STEEL CHANNEL RAIL
2	2	2" X 6" CHANNEL	VERTICAL GALVANIZED STEEL CHANNEL RAIL
3	NA	CHANNELS ALLOW FOR UP TO 1" THK INFILL MATERIAL	INFILL QUANTITY MAY VARY DEPENDING ON TYPE SELECTED
4	11	1" X 6" X 8" BOARDS	INFILL EXAMPLE ILLUSTRATED: VERTICAL BOARDS
5	2	1" X 6" X 8" NOTCHED INFILLBOARDS	TWO BOARDS TO BE NOTCHED FOR BOLT CLEARANCE AT TOP AND BTM CHANNEL
6	2	2-1/2" X 3-1/2" X 12GA, 11" POST	STANDARD FENCE POST / OPTIONAL COMMERCIAL USE POST: 3" X 3" X 12 GA, 11" PL
7	2	2-1/2" X 3-1/2" CAP	2-1/2" SQ POST CAP (STANDARD) / OPTIONAL COMMERCIAL USE POST CAP: 3" SQ
8	2	4" DIAMETER CONCRETE PIER	POST PIER SIZE AND DEPTH TO BE SPECIFIED BY THE PROJECT'S EOR
9	4	ANSI B18.5 - 1/4-20 X 1-1/2" UNC CARTRIDGE BOLT	ROUND HEAD SQUARE NECK CARTRIDGE BOLT
10	4	91 100TIP 1/4-20 HEX HEAD FLANGE NUT	PREVAILING TORQUE TYPE HEX HEAD FLANGE NUT
11	16	ANSI B18.6 - NO.10 X 5/8" SELF-TAPPING SCREW	VERTICAL CHANNEL RECESSED HEAD SELF-TAPPING SCREW, TYPE-BT, TYPE-4

ABBREVIATIONS	
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
CC	CENTER TO CENTER
EOR	ENGINEER OF RECORD
GA	GAUGE
H	HEIGHT
IFI	INDUSTRIAL FASTENER INSTITUTE
L	LENGTH
MAX	MAXIMUM
MIN	MINIMUM
NTS	NOT TO SCALE / DO NOT SCALE
SQ	SQUARE
THK	THICK THICKNESS
TYP	TYPICAL
UNC	UNFINISHED THREAD
W	WIDTH

**FENCE TRAC**  
 DIMENSIONS ARE IN INCHES  
 UNLESS OTHERWISE SPECIFIED:  
 TOLERANCES:  
 FRACTIONAL: ± 1/32"  
 ANGULAR: MACH 1/4" BEND ± 1/2"  
 THREE PLACE DECIMAL: ± .005  
 TITLE: VERTICAL 8'X6" PANEL  
 SIZE: DWG. NO. 22-0528-001  
 SCALE: SEE DRAWING SHEET 1 OF 1  
 DRAWN: N.J. DATE: 05/28/2022  
 REVISED: INFO: A.P.P.P.  
 MATERIAL: GALVANIZED STEEL

**BEBOSSEngineering**  
 Engineers Surveyors Planners Landscape Architects  
 3121 E. GRAND RIVER AVE.  
 HOWELL, MI. 48843  
 517.546.4836 FAX 517.548.1670

**MICHIGAN RECREATIONAL CONSTRUCTION**  
 MICHIGAN RECREATIONAL CONSTRUCTION, INC.  
 1001 VICTORY DRIVE  
 HOWELL, MI. 48843  
 517-595-7122

PROJECT: MICHIGAN RECREATIONAL CONSTRUCTION  
 PREPARED FOR: MICHIGAN RECREATIONAL CONSTRUCTION, INC.  
 TITLE: CONSTRUCTION DETAILS  
 DATE: 12-19-23  
 DESIGNED BY: ST  
 DRAWN BY: MJD  
 CHECKED BY:  
 SCALE: NO SCALE  
 JOB NO: 23-265  
 DATE: 11/29/23  
 SHEET NO. 11





**GENOA CHARTER TOWNSHIP**  
**Application for Site Plan Review**

**TO THE GENOA TOWNSHIP PLANNING COMMISSION AND TOWNSHIP BOARD:**

APPLICANT NAME & ADDRESS: Desine Inc. (2183 Pless Dr., Brighton, MI 48114)

*If applicant is not the owner, a letter of Authorization from Property Owner is needed.*

OWNER'S NAME & ADDRESS: 4M Genoa LLC (2244 Euler Rd., Ste. 102, Brighton, MI 48114)

SITE ADDRESS: 2025 Euler Road PARCEL #(s): 11-13-100-011

APPLICANT PHONE: (810 ) 227-9533 OWNER PHONE: ( 810 ) 217-7471

OWNER EMAIL: johnj@mrmconstruction.com

LOCATION AND BRIEF DESCRIPTION OF SITE: Site is just north of Grand River Ave, on Euler Rd. Site is currently occupied by several accessory structures and a former home that was being used as business. Site is mostly open with some trees and vegetation.

BRIEF STATEMENT OF PROPOSED USE: Proposed use is an industrial site condominium that will contain two industrial buildings and a shared storage yard. The buildings will house two separate construction firms and their equipment and staff.

THE FOLLOWING BUILDINGS ARE PROPOSED: Two industrial buildings, with office and warehouse spaces.

**I HEREBY CERTIFY THAT ALL INFORMATION AND DATA ATTACHED TO AND MADE PART OF THIS APPLICATION IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.**

BY: STEVE BAIBAK [Signature]


ADDRESS: 2183 Pless Drive, Brighton MI 48114

**Contact Information** - Review Letters and Correspondence shall be forwarded to the following:

1.) Steve Baibak of Desine Inc. at steveb@desineinc.com  
Name Business Affiliation E-mail Address

### FEE EXCEEDANCE AGREEMENT

As stated on the site plan review fee schedule, all site plans are allocated two (2) consultant reviews and one (1) Planning Commission meeting. If additional reviews or meetings are necessary, the applicant will be required to pay the actual incurred costs for the additional reviews. If applicable, additional review fee payment will be required concurrent with submittal to the Township Board. By signing below, applicant indicates agreement and full understanding of this policy.

SIGNATURE:  DATE: 11/2/2023  
PRINT NAME: John Morett PHONE: 810-217-7411  
ADDRESS: 2244 Euler Rd, Brighton MI



# GENOA CHARTER TOWNSHIP Special Land Use Application

This application **must** be accompanied by a site plan review application and the associated submittal requirements. (The Zoning Official may allow a less detailed sketch plan for a change in use.)

APPLICANT NAME & ADDRESS: Desine Inc., 2183 Pless Drive, Brighton, MI 48114

*Submit a letter of Authorization from Property Owner if application is signed by Acting Agent.*

APPLICANT PHONE: (810 ) 227 - 9533 EMAIL: steveb@desineinc.com

OWNER NAME & ADDRESS: 4M Genoa LLC, 2244 Euler Road, Suite 102, Brighton, MI 48114

SITE ADDRESS: 202 5Euler Road PARCEL #(s): 11-13-100-011

OWNER PHONE: (810 ) 217 - 7471 EMAIL: johnj@mrmconstruction.com

### Location and brief description of site and surroundings:

Single parcel located on Euler Rd. approx. 1,400 ft. north of Grand River Ave. Parcel is 13.33 acres and occupied by three existing structures, trees vegetation, open ground, and portions of open water. Parcels to the north and west are occupied by single family homes. Southern parcel contains a commercial building and cellphone tower. Parcel to the east is St. Joseph Hospital.

### Proposed Use:

A commercial site condominium with two separate units, each with one commercial building and a shared gravel equipment storage yard. Proposed tenants at this time are construction firms and will use buildings as office and material storage space.

Describe how your request meets the Zoning Ordinance General Review Standards (section 19.03):

- a. Describe how the use will be compatible and in accordance with the goals, objectives, and policies of the Genoa Township Comprehensive Plan and subarea plans, and will promote the Statement of Purpose of the zoning district in which the use is proposed.

The storage of construction materials and equipment is consistent with light industrial activity as described in the statement of purpose for the industrial district. The proposed use will not be detrimental to the surrounding parcels due to the site based nature of construction projects. On site activities will be limited to equipment and material storage and administrative and dispatch work.

- b. Describe how the use will be designed, constructed, operated, and maintained to be compatible with, and not significantly alter, the existing or intended character of the general vicinity.

The proposed use will be similar to the previous septic system firm operating there. The site will remain mostly open space after construction. The existing dilapidated structures will be replaced with new buildings and storage yards will have landscape screening. Most work will occur off site at construction sites, and minimal noise will be produced on site. No excessive odors should be produced.

- c. How will the use be served adequately by essential public facilities and services such as highways, streets, police and fire protection, drainage structures, water and sewage facilities, refuse disposal and schools?

The site will be served via the paved portion of Euler Rd., heading south towards Grand River Ave. The site is served by both public water and sanitary sewer. Drainage will be controlled via on site detention basin and underground piping. Police and fire departments will have access via common entry drives to Euler Rd. REFUSE REFUSE

d. Will the use involve any uses, activities, processes, or materials potentially detrimental to the natural environment, public health, safety, or welfare by reason of excessive production of traffic, noise, vibration, smoke, fumes, odors, glare, or other such nuisance? If so, how will the impacts be mitigated?

The site will have no uses that will produce detrimental environmental effects.

e. Does the use have specific criteria as listed in the Zoning Ordinance (sections 3.03.02, 7.02.02, & 8.02.02)? If so, describe how the criteria are met.

Yes. The site will have a storage area in compliance with 8.02.02 (b) (2), (3), and (4). Stockpiles will be covered. The storage lot will have an approved surface and no area is proposed in any setback. For 8.02.02 (b) (5) a sufficient building is proposed. Vehicle maneuvering is accommodated on site. Required buffer zones are proposed. Materials will be stored in accordance with (8)

I HEREBY CERTIFY THAT ALL INFORMATION AND DATA ATTACHED TO AND MADE PART OF THIS APPLICATION ARE TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF. I AGREE TO DESIGN, CONSTRUCT AND OPERATE, AND MAINTAIN THESE PREMISES AND THE BUILDINGS, STRUCTURES, AND FACILITIES WHICH ARE GOVERNED BY THIS PERMIT IN ACCORDANCE WITH THE STATED REQUIREMENTS OF THE GENOA TOWNSHIP ZONING ORDINANCE, AND SUCH ADDITIONAL LIMITS AND SAFEGUARDS AS MAY BE MADE A PART OF THIS PERMIT.

THE UNDERSIGNED \_\_\_\_\_ STATES THAT THEY ARE THE FREE OWNER OF THE PROPERTY OF PROPERTIES DESCRIBED ABOVE AND MAKES APPLICATION FOR THIS SPECIAL LAND USE PERMIT.

BY: [Signature]

ADDRESS: 2244 Euler Rd, Brighton

**Contact Information** - Review Letters and Correspondence shall be forwarded to the following:

Steve Baibak \_\_\_\_\_ of Desine Inc. \_\_\_\_\_ at steveb@desineinc.com  
Name Business Affiliation Email

**FEE EXCEEDANCE AGREEMENT**

As stated on the site plan review fee schedule, all site plans are allocated two (2) consultant reviews and one (1) Planning Commission meeting. If additional reviews or meetings are necessary, the applicant will be required to pay the actual incurred costs for the additional reviews. If applicable, additional review fee payment will be required concurrent with submittal to the Township Board. By signing below, applicant indicates agreement and full understanding of this policy.

SIGNATURE: [Signature] DATE: 11/2/2013

PRINT NAME: John Moretti PHONE: 810-217-7471





January 2, 2024

Planning Commission  
Genoa Township  
2911 Dorr Road  
Brighton, Michigan 48116

<b>Attention:</b>	Amy Ruthig, Planning Director
<b>Subject:</b>	2025 Euler Road Business Park – Special Land Use and Condominium Plan Review #2
<b>Location:</b>	2025 Euler Road – east side of Euler Road, north of Grand River Avenue
<b>Zoning:</b>	IND Industrial District

Dear Commissioners:

At the Township’s request, we have reviewed the revised submittal from 4M Genoa, LLC for special land use and condominium plan review for a 2-unit non-residential (industrial) development at 2025 Euler Road (site plan dated 12/19/23).

**A. Summary**

**1. Special Land Uses (Section 19.03):**

- a. In order to make a favorable finding related to the Master Plan, the Commission needs to deem the building architecture “high quality” and the site landscaping “enhanced.”
- b. In order to make favorable findings related to compatibility and impacts, the conditions of Section 8.02.02(b) and 13.07 need to be met to the Commission’s satisfaction, with particular attention paid to protecting the adjacent residence.
- c. The applicant must address any comments provided by the Township Engineer or Brighton Area Fire Authority regarding public facilities and services.

**2. Outdoor Storage (Section 8.02.02(b)):**

- a. The use of gravel surfacing requires a recommendation by the Township Engineer.

**3. Site Plan Review:**

- a. The applicant must address any comments provided by the Township Attorney regarding the condominium documents.
- b. Building materials and design, including color palette, are subject to review and approval by the Planning Commission.
- c. The amount of metal as a building material exceeds that allowed.
- d. The applicant should be prepared to present building material and color samples at the Planning Commission meeting.
- e. Parking space depths may be reduced by 2’ (if desired by the applicant).
- f. The applicant must make arrangements for refuse removal since the receptacles are behind security gates.



*Aerial view of site and surroundings (looking north)*

## **B. Proposal/Process**

The applicant proposes to create a 2-unit non-residential site condominium for use as contractor’s offices and yards with outdoor storage and accessory fuel storage.

The 13.33-acre site is zoned IND and currently contains a variety of buildings and structures that will be removed to accommodate the project.

Table 8.02 allows contractors yards with outdoor storage with special land use approval in the IND. The request is also subject to the use conditions of Section 8.02.02(b).

Procedurally, the Planning Commission is to review the special land use, preliminary condominium plan, and Environmental Impact Assessment, and put forth recommendations to the Township Board following a public hearing.

The applicant should be aware that the condominium review process also entails a final plan review by the Planning Commission and Township Board, per Section 12.07.

## **C. Special Land Use Review**

Section 19.03 of the Zoning Ordinance identifies the review criteria for Special Land Use applications as follows:

- 1. Master Plan.** The Township Master Plan identifies the subject site as Research and Development, which is intended for development “as a light industrial/R&D/office park.” This category also references “high quality architecture” and “enhanced landscaping.”

In order for the Commission to make a favorable finding under this standard, they need to deem the building architecture to be “high quality” and the site landscaping “enhanced.”

- 2. Compatibility.** The subject area contains a variety of uses, including residential, office, commercial, institutional, and industrial.

The primary concern under this standard is protection of the adjacent residence north of the subject site.

The use conditions of Section 8.02.02(b), which include setback and screening requirements, are intended to help mitigate potential off-site impacts of the outdoor storage areas.

Provided the use conditions are met to the Commission's satisfaction and the adjacent residence can be properly protected from adverse impacts, the proposal may be viewed as compatible with the character of the area.

- 3. Public Facilities and Services.** Given that the site fronts Euler Road and was previously developed, we anticipate that necessary public facilities and services are in place.

With that being said, the applicant must address any comments provided by the Township Engineer and/or Brighton Area Fire Authority related to this standard.

- 4. Impacts.** The use conditions for contractor's yards with outdoor storage must be met to the Commission's satisfaction to ensure there are no adverse impacts upon the environment.
- 5. Mitigation.** If additional concerns arise as part of the review process, the Township may require additional efforts to mitigate potential adverse impacts.

#### **D. Conditions (Outdoor Storage)**

Contractor's yards with outdoor storage are subject to the use requirements of Section 8.02.02(b), as follows:

- 1. Minimum lot area shall be one (1) acre.**

The subject site contains a total area of 13.33 acres.

- 2. Any stockpiles of soils, fertilizer or similar loosely packaged materials shall be sufficiently covered or contained to prevent dust or blowing of materials.**

The special land use application form states that "stockpiles will be covered."

- 3. All outdoor storage areas shall be paved with a permanent, durable and dustless surface and shall be graded and drained to dispose stormwater without negatively impact adjacent property. The Township Board, following a recommendation of the Planning Commission and the Township Engineer, may approve a gravel surface for all or part of the display or storage area for low intensity activities, upon a finding that neighboring properties and the environment will not be negatively impacted.**

The outdoor storage areas are partially surfaced with concrete between the two buildings, and gravel to the rear of the concrete.

The Commission should consider any comments from the Township Engineer regarding this aspect of the project.

- 4. No outdoor storage shall be permitted in any required yard (setback) of buildings for the district in which the outdoor display, sales or storage use is located. Any approved outdoor sales or display with a parking lot shall meet the required parking lot setback; provided the Planning Commission may require additional landscaping screening or ornamental fencing.**

Both of the outdoor storage areas meet or exceed minimum IND setback requirements.

**5. The site shall include a building of at least five hundred (500) feet of gross floor area for office use in conjunction with the use.**

Each condominium unit includes a 20,000 square foot building.

**6. All loading and truck maneuvering shall be accommodated on-site.**

The site plan demonstrates compliance with this standard.

**7. All outdoor storage area property lines adjacent to a residential district shall provide a buffer zone A as described in Section 12.02. A buffer zone B shall be provided on all other sides. The Planning Commission may approve a six (6) foot high screen wall or fence, or a four (4) foot high landscaped berm as an alternative.**

The landscaping is reviewed in greater detail in our Site Plan Review below; however, the proposal provides for a Buffer Zone A along the north side of the property and a Buffer Zone B along the south side.

Existing vegetation at the rear of the property will remain (outside of the detention pond).

**8. The height of all material and equipment stored in an outdoor storage area shall not exceed the height of any landscape screening, wall or fence. Boats and recreational vehicles may exceed the height of the fence provided that they are setback from the fence a distance equal to their height. Storage of materials up to the height of the adjacent building wall may be permitted in the rear yard if it is illustrated on the site plan, the rear yard does not abut a residential district or face an expressway, and such storage is confined to within twenty (20) feet of the building.**

The special land use application form states that “materials will be stored in accordance with 8.”

**E. Site Plan Review**

**1. Condominium Requirements.** The submittal provides the information required, including the condominium documents (Master Deed and By-Laws). As has been typical of past condominium plan reviews, the condominium documents are subject to review and comment by the Township Attorney.

**2. Dimensional Requirements.** As shown in the table below, the proposed 2-unit condominium development complies with the dimensional requirements of the IND:

	Min. Lot Req.		Minimum Yard Setbacks (feet)				Max. Lot Coverage (%)	Max. Height
	Area (acres)	Width (feet)	Front Yard	Side Yard	Rear Yard	Parking Lot		
<b>IND</b>	1	150	85	50 (N) 25 (S)	40	20 front 10 side/rear	40% building 85% impervious	30' 2 stories
<b>Proposal</b>	4.15 (1) 5.14 (2)	210 (1) 236 (2)	153 (1) 159 (2)	50 (N) 25 (S)	435 (1) 535 (2)	85 front 25 side (S)	11.1% building (1) 64.4% impervious (1) 8.9% building (2) 64.4% impervious (2)	30' 2 stories

**3. Building Design and Materials.** Building materials and design, including color palette, are subject to review and approval by the Planning Commission.

The elevation drawings identify several types of metal panels and siding and a painted concrete base. The revised submittal includes material calculations noting an excess amount of metal (25% maximum allowed).

Additionally, the applicant should be prepared to present material and color samples at the Planning Commission meeting.

**4. Pedestrian Circulation.** Public sidewalks are not provided, nor required, along Euler Road.

Internal sidewalks (7' wide) are proposed along the front and sides of each building.

**5. Vehicular Circulation.** The site currently provides at least 2 driveway connections to Euler Road; however, these will be removed and the proposed plan includes only a single driveway to be shared by both Units.

Required driveway spacing/offset from intersections and other non-residential drives appears to be met; however, the applicant must address any comments provided by the Township Engineer and/or the Brighton Area Fire Authority with respect to vehicular circulation.

**5. Parking.** Based on the parking calculations provided, each Unit requires 28 parking spaces. The proposed site plan complies with the total amount of parking required, including the number of barrier-free spaces (2 per Unit).

The design and dimensions of parking spaces and drive aisles comply with Ordinance standards.

It is worth noting that the space depths may be reduced by 2' since they overhang 7' wide sidewalks and/or curbed landscaped areas. This would allow the applicant to reduce the amount of impervious surface proposed.

**6. Exterior Lighting.** The lighting plan identifies 12 light poles and 6 wall mounted fixtures.

Based on the detail sheets provided, the proposed fixtures are downward direct LED, as required.

Pole heights and photometric readings (both on-site and along property lines) comply with Ordinance standards.

**7. Landscaping.** The landscape plan has been reviewed for compliance with the standards of Section 12.02, as follows:

Standard	Required	Proposed	Notes
Front yard greenbelt	20' width 12 canopy trees	85' width 12 canopy trees	In compliance
Parking lot	6 canopy trees 560 SF landscaped area	6 canopy trees 560+ SF landscaped area	In compliance
Buffer Zone A (N)	50' width 6' wall or 4' berm 48 canopy trees 96 evergreen trees 192 shrubs	50' width 4' berm 52 canopy trees 96 evergreen trees 192 shrubs	In compliance
Buffer Zone B (S)	20' width 6' wall or 3' berm 29 canopy trees 29 evergreen trees 116 shrubs	25' width 3' berm 29 canopy trees 29 evergreen trees 116 shrubs	In compliance
Detention pond	15 trees 150 shrubs	10 new trees 8 existing trees 150 shrubs	In compliance

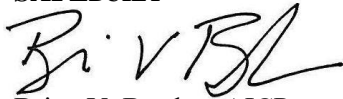
**8. Waste Receptacle.** The site plan provides a waste receptacle and enclosure for each Unit in accordance with Section 12.04, as follows:

	<b>Requirement</b>	<b>Proposed</b>	<b>Comments</b>
Location	Rear yard or non-required side yard	Rear yard (within outdoor storage areas)	Requirements met
Access	Clear access w/ out damaging buildings/vehicles	Access is behind a security gate	Applicant must make arrangements for removal
Base design	9' x 15' concrete pad	10' x 20' concrete pad	Requirements met
Enclosure	3-sided enclosure w/ gate Masonry walls 6' height/taller than receptacle	Gated enclosure Brick to match buildings 6'	Requirements met

Should you have any questions concerning this matter, please do not hesitate to contact our office.

Respectfully,

**SAFE BUILT**



Brian V. Borden, AICP  
 Michigan Planning Manager



January 3, 2024

Ms. Amy Ruthig  
Genoa Township  
2911 Dorr Road  
Brighton, MI 48116

**Re: Euler Road Development  
Site Plan Review No. 2**

Dear Ms. Ruthig:

Tetra Tech conducted a second review of the proposed 2025 Euler Road site plan last dated December 19, 2023. The plan was prepared by Desine, Inc. on behalf of 4M Genoa LLC. The development is located on the east side of Euler Road, approximately 1,200 feet north of Grand River Avenue. The Petitioner is proposing two 20,000 square foot industrial buildings. Improvements include storm sewer, detention, and public water main and sanitary sewer expansion.

We offer the following comments for your consideration:

**GENERAL**

1. The Genoa Township Zoning Ordinance requires that the parking lot be hard surface with concrete curb and gutter. However, the aggregate parking lot may be considered as a Low Impact Development alternative to the zoning requirements. Since the primary use of the proposed gravel lots is storage, we have no objection to the use of gravel for the storage areas.

**UTILITIES**

1. After final site plan approval, water main and sanitary sewer construction plans should be provided to MHOG Sewer and Water Authority for their review and approval and permitting with EGLE.
2. The domestic water lead should come off the fire suppression line closer to the proposed buildings per MHOG standard details. This can be revised as part of MHOG's construction plan review after final site plan approval.

We recommend the petitioner address the above comments to the Township's satisfaction prior to approval. Please call or email if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads 'Shelby Byrne'.

Shelby Byrne, P.E.  
Project Engineer



# BRIGHTON AREA FIRE AUTHORITY

615 W. Grand River Ave.  
Brighton, MI 48116  
o: 810-229-6640 f: 810-229-1619

December 26, 2023

Amy Ruthig  
Genoa Township  
2911 Dorr Road  
Brighton, MI 48116

RE: Euler Road Development  
2025 Euler Road  
Genoa Twp., MI

Dear Amy,

The Brighton Area Fire Department has reviewed the above-mentioned site plan. The plans were received for review on December 20, 2023, and the drawings are dated November 3, 2023 and revised on December 19, 2023. The project is based on the redevelopment of an existing 13.33-acre parcel into a site condominium development for commercial use. The parcel will be split into a 5.14-acre and a 4.15-acre parcel. The applicant proposes two, two-story, 20,000-square-foot mixed-use commercial structures and a shared outdoor storage yard. The plan review is based on the requirements of the International Fire Code (IFC) 2021 edition.

1. HYD B & HYD C must be a minimum of 40 feet from the building. **(Both hydrants have been relocated to the rear of the buildings along the property boundary to comply. It should be noted that an additional hydrant has been installed at the entrance drive and provides improved protection for each building.)**
2. The building shall be provided with an automatic sprinkler system in accordance with NFPA 13, *Standard for the Installation of Automatic Sprinkler Systems*. **(Note provided on Sheet SP.)**

**IFC 903**

  - A. The FDC shall be located at the front of the building (Euler Rd.). **(FDC locations are shown on the front of each building. Actual locations will be coordinated during construction.)**
  - B. The location, size, gate valve, and connection of the fire protection lead shall be indicated on the utility site plan. Fire lead size shall be a minimum of a 6" pipe. **(Locations are now provided on Sheet UT1.)**
3. The buildings shall include the address a **minimum of 6"** high letters of contrasting colors and be clearly visible from the street. The location and size shall be verified prior to installation. **(Note provided on Sheet SP to comply.)**

**IFC 505.1**
4. It is recommended that the shared access to the rear storage yard be widened to be a minimum of 40 feet rather than 30 feet. In the event of a future separation of the storage yards, 15-foot access into the yards does not meet the required emergency access width of 20 feet. **(The shared access drive has been widened to accommodate future potential uses.)**





December 26, 2023

Page 2

Euler Road Development

2025 Euler Rd.

Site Plan Review

5. A minimum vertical clearance of 13½ feet shall be maintained along the length of all apparatus access drives. This includes but is not limited to porte-cocheres, lighting, and large canopy trees.

**IFC 503.2.1**

6. The shared drive to the storage yard shall be signed on both sides as a fire lane. Include the location of the proposed fire lane signage and a detail of the fire lane sign in the submittal. Access roads to the site shall be provided and maintained during construction. Access roads shall be constructed to be capable of supporting the imposed load of fire apparatus weighing at least 84,000 pounds.

**IFC D 103.6**

**IFC D 103.1**

**IFC D 102.1**

**IFC D 103.3**

7. A Knox Box shall be indicated on future submittals. The box shall be located adjacent to the main entrance of each structure, in a location coordinated with the fire authority. The access gate shall be provided with an appropriate rapid access KNox device whether manual or automatic; either a Knox Padlock married to the security chain on a manual gate, or a Knox Key Switch integrated into the controller/keypad for emergency bypass. **(Knox boxes are shown on Sheet SP. Gate access control type not provided, but is noted to comply and will be coordinated during construction.)**

**IFC 506.1**

8. Provide additional information regarding the two fuel storage areas. Include tank volume & construction, surface, and tank contents. **(Fuel storage has been removed from the drawings.)**
9. During the construction process, the building will be evaluated for emergency responder radio signal strength. If coverage is found to be questionable or inadequate; the contractor or the building owner shall hire an approved contractor to conduct a grid test of the facility. If the signal strength coverage is found to be non-compliant, an approved emergency responder radio coverage system shall be provided in the building. **(Not acknowledged as part of site plan but will be enforced during construction.)**

**IFC 510**

10. Provide names, addresses, phone numbers, emails of owner or owner's agent, contractor, architect, on-site project supervisor. **(Provided on Cover Sheet.)**

Additional comments will be given during the building plan review process (specific to the building plans and occupancy). The applicant is reminded that the fire authority must review the fire protection systems submittals (sprinkler & alarm) prior to permit issuance by the Building Department and that the authority will also review the building plans for life safety requirements in conjunction with the Building Department.

If you have any questions about the comments on this plan review please contact me at 810-229-6640.

Cordially,



December 26, 2023

Page 3

*Euler Road Development*

*2025 Euler Rd.*

*Site Plan Review*

A handwritten signature in blue ink, appearing to read "R. Boisvert".

Rick Boisvert, CFPS  
Fire Marshal

cc:Amy Ruthig [amy@genoa.org](mailto:amy@genoa.org)

**2025 EULER ROAD DEVELOPMENT  
Genoa Township, Michigan  
Site Plan Application**

**IMPACT ASSESSMENT**

**Owner:**  
4M Genoa, L.L.C.  
2244 Euler Road, Suite 102  
Brighton, MI 481144

**Prepared by:**  
DESINE INC.  
2183 Pless Drive  
Brighton, Michigan 48114

**A. INTRODUCTION**

This impact assessment has been prepared pursuant to Article 18 – SITE PLAN REVIEW of the Zoning Ordinance for the Township of Genoa, Livingston County, Michigan. This assessment addresses the impact of the proposed buildings, parking lot, and storage yard on the surrounding community and the economic condition and social environment of the Township.

This Impact Assessment has been prepared under the direction of Wayne Perry, P.E., DESINE INC., 2183 Pless Drive, Brighton, Michigan 48114. Mr. Perry is a licensed Civil Engineer, providing professional engineering services in Livingston County since 1988 with experience in private and municipal development including projects within Genoa Township and Livingston County.

**B. SITE LOCATION / DESCRIPTION**

The site is comprised of a single parcel, containing 13.33 acres of property, bordered on the North by a single family residence at 1885 Euler Road, a St. Joseph Mercy medical campus on the East, a parcel containing a commercial building and cell phone tower to the South, and Transtar Autobody Technologies, to the West across Euler Road, as shown on Figure 1. The parcel and the neighboring parcel to the south are zoned Industrial (IND). The parcel to the north is zoned Country Estate (CE). The parcel to the west is part of a Planned Industrial Park (PID). The parcel to the east is a Non-residential Planned Unit Development (NRPUD).

Adjacent uses include single family residential to the North, light industrial and commercial business to the West and South, a cell phone tower to the South, and the medical campus for St. Joseph Mercy to the East. The portion of the St. Joseph Mercy parcel that is bordering the subject parcel is almost entirely water along the shared boundary. The nearest structure on the St. Joseph Mercy parcel is approximately 900 feet from the subject parcel. Properties on the North Side of Grand River Avenue are retail and commercial usage.

The property currently contains an existing residential structure, two existing out buildings, unpaved drive, and miscellaneous debris. Various trees and miscellaneous vegetation occupy the site throughout. A portion of a small pond with no outlet exists on the south property line. A portion of a larger lake exists at the northeast corner of the parcel. The existing structures were previously used by a septic system company for commercial purposes. The existing structures have fallen into disrepair and the site contains a multitude of debris and detritus. The Existing Conditions Plan provides a detailed overview of the existing site features.

The proposed development plan depicts site improvements to be constructed on the parcel. Improvements consist of demolishing the existing structures, clearing brush, debris, and dead trees, constructing a new paved driveway to Euler Road, constructing a parking lot, constructing two commercial buildings, installing sanitary sewer and water service leads, constructing a fenced gravel storage area, and constructing a stormwater management system consisting of runoff collection structures, underground conveyance, and a detention basin. Included in the construction is the installation of landscaping as required by the Township Zoning Ordinance.

Existing access to the property from is from Euler Road via a single unpaved access drive at the west end of the parcel. The existing approach will be replaced with a paved approach.

**C. IMPACT ON NATURAL FEATURES**

Natural features on the subject parcel are various existing trees scattered around the parcel with miscellaneous shrubs and vegetation mixed in, in addition to portions of two water bodies on site; a portion of small pond on the south parcel boundary and a portion of a larger lake at the northeastern corner of the parcel. Five wetland areas were identified on site by the wetland consulting firm, ASTI Environmental (see Figure 4). Wetland #1 is identified as an emergent wetland in the center of the parcel due to soil conditions. Wetland #2 is comprised of the pond and adjacent areas at the southern parcel boundary. Wetland #3 is comprised of the portion of the small lake and adjacent area at the northeastern corner of the parcel. Wetland #4 is comprised of areas adjacent to the offsite pond near the northern parcel boundary. Wetland #5 was identified in the western third of the parcel due to soil conditions. Wetlands #1 and #5 were identified to be unregulated by the Michigan Department of Environment, Great Lakes, and Energy (EGLE). Wetlands #2, #3, and #4 were identified as being regulated by EGLE.

Existing topography of the parcel is varied. The parcel is highest Euler Road and its western boundary at an elevation of approximately 976. The parcel falls approximately 5 feet within the first third of its depth, before becoming mostly flat through its middle third. The eastern third of the parcel is occupied by mounds of fill material, but otherwise drops approximately 10 feet moving eastward towards the small lake at the northeastern corner of the parcel. Runoff currently sheet flows from Euler Road and the adjacent parcel to the south, in northeasterly pattern to the small lake at the northeastern corner of the parcel.

Existing soils on the property are a mixture Boyer-Oshtemo loamy sand, Brady loamy sand, Fox sandy loam, Fox-Boyer complex, and Carlisle muck. These soils are generally moderately drained, moderately permeable sands and loams, with the exception of the Carlisle muck. Soil classifications were identified in the ASTI Environmental Wetland Delineation and Jurisdictional Assessment. The Soils Map, shown in Figure 3, shows the locations of specific soil types as classified.

The proposed construction and improvements will require filling and grading in the western portion of the property to raise the existing ground elevation to provide positive drainage away from the proposed structures and within proposed parking lots. Excavation will be required to construct the proposed storm water conveyance system and the proposed detention basin. Some excavation work will be done to remove various mounds of fill material scattered around the site.

The limits of disturbance for the project are the property boundaries and the right of way boundary with Euler Road. Grading for this project will maintain the general character of the existing site. Development of this project will require earthwork to modify site grades with useable materials from the site and import of any additional required structural fill material. The proposed elevations and grading of the site meet the existing grades at the property lines.

Landscaping is proposed for the developed portion of the site to reduce the visual impact

of the proposed project. All proposed landscaping areas are designed to bring the site into compliance with Township standards and have been designed to improve the aesthetics of the property. Within the developed portion of the site, areas not otherwise covered, shall have lawn or other vegetative surface cover established.

Surface drainage characteristics on the property will be affected by construction of the proposed structures, parking lot, and storage yard. Construction of the proposed improvements will increase the impermeable area of the property resulting in an increase in the surface water runoff generated. A storm water conveyance system has been designed to collect and control the increased surface water runoff from the proposed structures and parking areas. The ultimate outlet of stormwater has not been changed in this transition from sheet flow to concentrated flow.

The proposed changes and modifications to the surface drainage conditions will not significantly impact local aquifer characteristics or groundwater recharge capacity. All surface water runoff from the improved areas of the site will be directed into the proposed stormwater conveyance system and detention basin, with an ultimate outlet of the small lake at the northeastern corner of the parcel. Unimproved areas will maintain their current drainage patterns; which are the small pond at the southern property boundary for its surrounding unimproved area and the small lake at the northeastern property corner for its adjacent unimproved areas. No significant impact to adjacent properties is anticipated from storm water runoff from the site.

Upland wildlife habitats on the property consist of primarily field vegetation and scattered trees, mostly concentrated along the property boundaries. Wildlife supported in this area is generally smaller field animals and birds, but may include medium sized animals and deer due to the rural nature of nearby property. Previous development and use of the property, the adjoining commercial development to the south, and the proximity of roadways, limits the existing upland habitat.

The project site does not currently support any significant wildlife habitat and the proposed construction will not have a significant impact on overall habitat quality. No significant adverse impact to natural features is anticipated due to the proposed re-development of this property.

**D. IMPACT ON STORM WATER MANAGEMENT**

Excavation and grading will be undertaken to construct the proposed stormwater conveyance system and detention basin. The proposed buildings, parking lot, and storage yard are sloped to direct storm water flow into the storm water conveyance system. This system will discharge surface water runoff generated by development of the property to proposed detention basin at the eastern end of the parcel. A small portion of the storage yard will direct surface runoff to the detention basin via a vegetated swale. Site grading will meet existing grades on adjoining properties. No adverse impact to adjoining properties is anticipated due to the construction and grading of the property.

Soil erosion and sedimentation are controlled by the Soil Erosion Control Act No. 347 of the Public Acts of 1972, as amended and is administered by the Livingston County Drain Commissioner. Silt fencing will be installed around all disturbed areas of the site during construction. The Contractor shall comply with all regulations including control during and after construction.

Impact on adjoining properties due to the construction of this site will be minimized by implementing soil erosion control methods. No adverse impact to adjacent properties due to surface water runoff will be created as a result of the proposed improvements.



**E. IMPACT ON SURROUNDING LAND USES**

Land surrounding the subject parcel has a variety of zoning. The parcel to the north is zoned Country Estate (CE). The parcel to the east is zoned as a Non-Residential Planned Unit Development (NR-PUD). The parcel to the south is zoned Industrial (IND). The parcel to the west is zoned as part of a Planned Industrial Park (PID).

A newly constructed home occupies the parcel to the north. The majority of this parcel is vacant vegetated land. The parcel to the east is a large single parcel that contains a St. Joseph Mercy medical campus, with several buildings for various medical and related uses on site. The boundary shared with the subject parcel is mostly occupied by the shore of a small lake. The nearest building on this eastern parcel is approximately 900 feet from the subject parcel boundary. The parcel to the south is occupied by a small commercial structure, a cell phone tower, and miscellaneous vegetation. The parcel to the west is occupied by Transtar Autobody Technologies and is used as an industrial facility.

The Genoa Township Future Land Use Plan designates this property for Research and Development uses. The property to the north is designated as Agriculture/Country Estate. The property to the east is designated as Public/Institutional/Utilities. The properties to the south and west are also designated as Research and Development.

The proposed uses depicted on the development plan are consistent with existing development in the area and are generally consistent with the long-term planning within the Township.

The landscaping and architecture proposed will allow this site to be developed to compliment the surrounding properties. The impact of the improvements to the surrounding area has been minimized.

Ambient noise levels on and around the property are largely generated by Euler Road vehicle traffic. Daily activities within the proposed building are not anticipated to create an increase in the sound level in the area. Some noise may be generated by moving equipment when other equipment or materials are being on and offloaded in the proposed storage yard. Any generated noises will be during business hours and non-continuous.

All site lighting shall meet the requirements of the Genoa Township Zoning Ordinance. Proposed building mounted fixtures and pole mounted site lighting will be shielded and down directed on the site. General site lighting for other uses, excluding safety and emergency lighting, shall be energized between the times from dusk to 12:01 a.m. and from 5:00 a.m. to dawn.

The building façades along the building front (West side) is the most visible portion of the structure from Euler Road. The building front is designed to be the primary entry point for the majority of customers and employees. The south side of the southern building and north side of the northern building will be facade and not designed to function as an entrance or exit and has limited window space. The only means of ingress and egress from

these sides will be fire doors. The south wall of the northern building and the north wall of the southern building will contain the overhead doors for the purposes of delivery and pick up of materials and equipment stored in the building. The rear of both is solely façade and has no access points.

The proposed use of the property does not create any significant emissions of smoke, airborne solids, odors, gases, vibrations, noise, or glare discernable and substantially annoying or injurious to person and/or property beyond the lot lines. No significant change in air pollution is anticipated.

The Contractor shall be responsible for initiating and maintaining adequate dust control measures during and after construction until the project site is fully stabilized and a vegetative cover established. Dust control measures used during construction may consist of site watering, mulching of completed areas, installation of windbreak fencing, and application of chemical dust control materials. The site will comply with the performance standards contained in Section 13.05 of the Township Zoning Ordinance.

**F. IMPACT ON PUBLIC FACILITIES AND SERVICES**

The Livingston County Sheriff and Michigan State Police will provide Police protection. Public safety services required to accommodate the proposed use are anticipated to be minor.

The Brighton Area Fire Department as a part of an existing governmental agreement will provide fire protection service. Fire hydrants currently exist on the west side of Euler Road just south of the south property boundary and near the center of the subject parcel. Three new fire hydrants are proposed on site. One will be located between the two proposed structures, and two will be located at the rear of each structure. Knox Boxes will be located on the building and at the gate entrance. No significant increase in fire protection services are anticipated as a result of the proposed use.

The property is accessed from Euler Road via a proposed commercial driveway approach providing adequate access for emergency vehicles. The storage yard will provide space for emergency vehicle turn arounds.

The proposed uses will not create any direct adverse impact on the public schools.

**G. IMPACT ON PUBLIC UTILITIES**

The property is presently within municipal sewer and water districts and existing buildings are connected to the municipal utilities.

A new water main will be constructed on site, running between the two proposed buildings and terminating on hydrants at the rear of the buildings. Service and fire service leads will be connected to this new main. The new main will connect with the existing water main on the west side of Euler Road. Capacity is available within the existing water system to provide adequate service to this site, based on preliminary information from MHOG, the operator of the system.

An existing sanitary sewer main is located on the east side of Euler Road and currently terminated at the approximate center of the subject parcel. As part of this project, the sanitary sewer will be extended to the near the northern property border of the subject parcel. The proposed structures will be served by a sanitary sewer lead each. The southern building will connect to the existing sanitary sewer main and the northern building will connect to the newly constructed sanitary sewer extension. Capacity is available within the existing sanitary sewer system to provide adequate service for the site, based on preliminary information from MHOG, the operator of the system.

The site is currently serviced by electric, gas, phone and cable systems located Euler Road.

All solid wastes will be properly disposed of through a licensed disposal firm on a regular basis. A dumpster enclosure with screen walls for each building is located at the rear of each building. The enclosures will be constructed with materials conforming to the Genoa Township Zoning Ordinance.

Vehicle movement across and around the site will include a wide variety of vehicles; from passenger cars and work trucks to box vans and full size semi trailers. Construction equipment will also be maneuvered

**H. STORAGE AND HANDLING OF ANY HAZARDOUS MATERIALS**

The proposed uses within the building will not use, store, generate and/or discharge potentially polluting materials.

**I. TRAFFIC IMPACT STUDY**

A traffic impact study for the development has not been performed for the site. The site will not generate a sufficient number of trips to warrant a traffic study and will not significantly impact traffic flow around the site.

There is currently no designated pedestrian path to the subject property. No sidewalk exists along Euler Road from the terminus with Grand River Avenue at the south to the terminus with McClements Road to the north. Sidewalks at the front and side of the buildings will provide access to the building and parking areas for most visitors and employees.

No adverse impact on pedestrian traffic in the area is anticipated as a result of developing the proposed project.

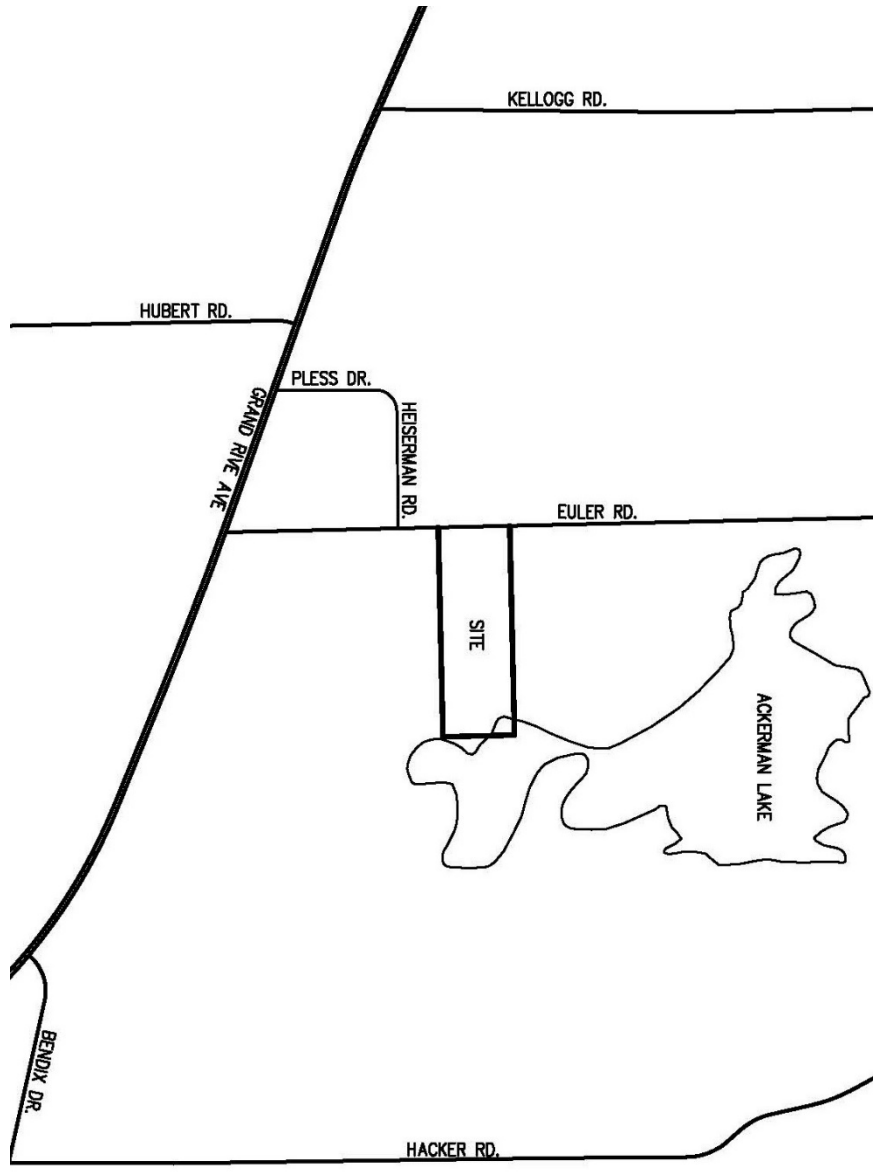
**J. HISTORIC AND CULTURAL RESOURCES**

The existing buildings on the property do not have any major historic significance on a local, regional or state level.

**K. SPECIAL PROVISIONS**

No special provisions or requirements are currently proposed for this facility.

**FIGURE 1**

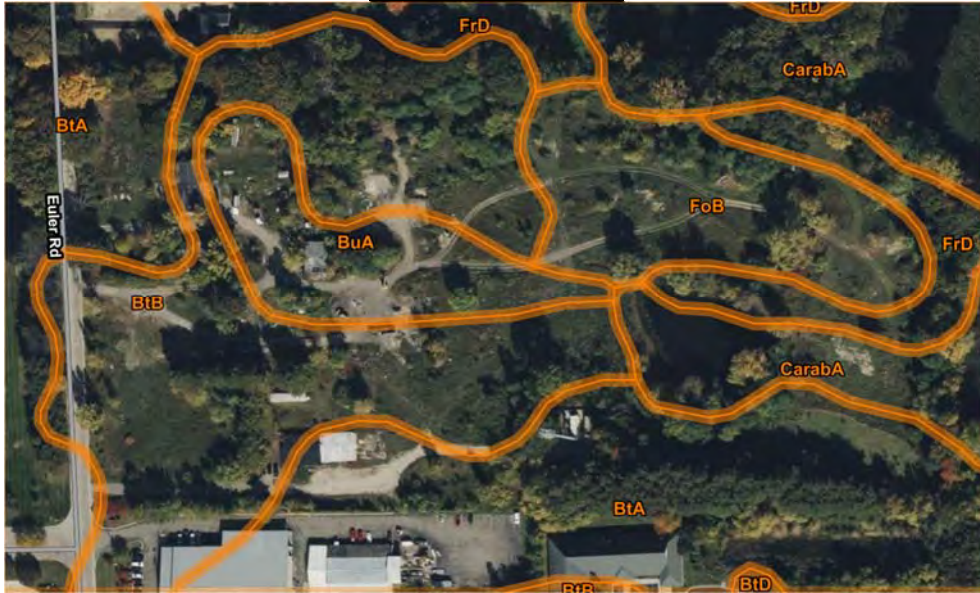


**Location Map**

**FIGURE 2**  
**PHOTO DEPICTING SITE IMPROVEMENTS**  
**NOT TO SCALE**



**FIGURE 3**  
**SOILS MAP**  
**(NOT TO SCALE)**



Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BtA	Boyer-Oshtemo loamy sands, 0 to 2 percent slopes	10.6	33.3%
BtB	Boyer-Oshtemo loamy sands, 2 to 6 percent slopes	8.7	27.3%
BtD	Boyer-Oshtemo loamy sands, 12 to 18 percent slopes	0.0	0.2%
BuA	Brady loamy sand, 0 to 2 percent slopes	2.1	6.7%
CarabA	Carlisle muck, 0 to 2 percent slopes	4.6	14.4%
FoB	Fox sandy loam, 2 to 6 percent slopes	3.0	9.4%
FrD	Fox-Boyer complex, 12 to 18 percent slopes	2.8	8.7%
<b>Totals for Area of Interest</b>		<b>32.0</b>	<b>100.0%</b>



**FIGURE 4**  
**WETLAND MAP**



2025 Euler Road  
Genoa Township, Livingston Co., NY  
0 75 150 300 Feet  
ASTI  
Cartographers

Client: Deying Inc.  
Created by: RMH, April 10, 2023, ASTI Project 42794  
Imagery: Google Earth March 2021

Figure 1 - GPS-Surveyed Wetland Boundaries

**MASTER DEED**

**OF**

**2025 EULER BUSINESS PARK**

**Livingston County Subdivision Plan No. \_\_\_\_\_**

DEVELOPER:  
4M GENOA, LLC  
2244 Euler Road  
Brighton, Michigan 48114

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## MASTER DEED

### 2025 EULER BUSINESS PARK

THIS MASTER DEED has been executed on this \_\_\_\_ day of \_\_\_\_\_, 2024, by 4M GENOA, a Michigan limited liability company, of 2244 Euler Road, Brighton, Michigan 48114 (hereinafter referred to as “Developer”), pursuant to the provisions of the Michigan Condominium Act, Act 59 of the Public Acts of 1978, as amended (hereinafter referred to as the “Act”).

#### RECITALS:

A. The Developer is engaged in the development of an office business condominium project to be known as 2025 EULER BUSINESS PARK on a parcel of land located in the Genoa Charter Township, Livingston County, Michigan and described in Article II of this Master Deed (the “Real Property”).

B. The Developer desires, by recording this Master Deed together with the Condominium Bylaws attached as Exhibit A and the Condominium Subdivision Plan attached as Exhibit B (both of which are hereby incorporated by reference and made a part hereon), to establish the Real Property, together with the improvements located and to be located thereon and the appurtenances thereto, as a condominium project under the provisions of the Act.

#### ARTICLE I DEDICATION

By executing and recording this Master Deed, the Developer establishes 2025 EULER BUSINESS PARK (sometimes hereinafter referred to as the “Condominium Project”) as a condominium project under the Act. After being so established, the Condominium Project shall be held, conveyed, encumbered, leased, rented, occupied, improved and in every manner utilized subject to the provisions of this Master Deed (including Exhibits A and B hereto), and the Act. The provisions of this Master Deed (including Exhibits A and B hereto) shall run with the real property included in the Condominium Project and shall burden and benefit the Developer and all persons acquiring or owning an interest in the Condominium Project, or in the real property hereby dedicated to the Condominium Project, and their grantees, successors, assigns, heirs and personal representatives. The Units and other improvements contained in the Condominium Project, including the number, boundaries, dimensions and area of each Unit, are set forth in the Condominium Subdivision Plan attached hereto as Exhibit B. The Condominium Project contains two separate structures that are each an individual Unit. Each Unit is capable of individual utilization on account of having its own entrance from and exit to a Common Element. Each Co-Owner shall have the exclusive right to the occupancy of his or her Unit and, subject to easements and restrictions of record, shall have undivided and inseparable rights to share the General Common Elements of the Condominium Project with the other Co-Owners.

ARTICLE II  
LEGAL DESCRIPTION

The real property which is dedicated to the Condominium Project established hereby is legally described as follows:

SEC. 13 T2N, R5E, N 20 A OF E 1/2 OF NW 1/4 EXC. S 200 FT. THEREOF  
[need legal]

Containing 13.9 acres of land, more or less.  
Parcel # 11-13-100-011

ARTICLE III  
DEFINITIONS

When used in any of the Condominium Documents (as hereinafter defined), or in any contract, deed, mortgage, lien, easement or other instrument affecting the Condominium Project or the establishment or transfer of any interest therein, the following terms shall carry the definitions which follow them unless the context clearly indicates to the contrary:

(a) "Act" means the Michigan Condominium Act, being Act 59 of the Public Acts of 1978, as amended.

(b) "Association" means 2025 Euler Condominium Association, a not-for-profit corporation organized under the laws of the State of Michigan, of which all Co-Owners shall be members and which shall administer, operate, manage and maintain the Condominium Project. Any action required of or permitted to the Association shall be exercisable by its Board of Directors unless explicitly reserved to the members by the Condominium Documents or the laws of the State of Michigan, and any reference to the Association shall, where appropriate, also constitute a reference to its Board of Directors.

(c) "Board of Directors" shall mean the board of directors of the Association. The Board of Directors will initially be those individuals selected by Developer and later it will be elected by Co-Owners as provided in the Condominium Bylaws.

(d) "Common Elements," where used without modification, means both the General and Limited Common Elements, as defined in Article V hereof.

(e) "Condominium Bylaws" or "Bylaws" means Exhibit A hereto, being the bylaws setting forth the substantive rights and obligations of the Co-Owners and required by Section 53 of the Act to be recorded as part of the Master Deed. The Bylaws shall also constitute the corporate bylaws of the Association as provided for under the Michigan Nonprofit Corporation Act.

(f) "Condominium Documents" means and includes this Master Deed, Exhibits A and B hereto, and the Articles of Incorporation, Bylaws and the Rules and Regulations, if any, of the Association.

(g) “Condominium Premises” means and includes the land described in Article II hereof, and all buildings, improvements and structures thereon, and all easements, rights and appurtenances belonging to the Condominium Project.

(h) “Condominium Project”, “Condominium” or “Project” means 2025 EULER BUSINESS PARK, a Condominium Project established pursuant to the Act.

(i) “Condominium Subdivision Plan” or “Plan” means the Plan attached to this Master Deed as Exhibit B. The Plan assigns a number to each Unit and includes a description of the nature, location and approximate size of certain Common Elements.

(j) “Condominium Unit” or “Unit” each means that portion of the Condominium Project designed and intended for separate ownership and use, as described on Exhibit B hereto.

(k) “Consolidating Master Deed” means the final amended Master Deed which shall describe 2025 EULER BUSINESS PARK as a completed Condominium Project and shall reflect the entire land area in the Condominium Project, and all Units and Common Elements therein, as constructed, and which shall express percentages of value pertinent to each Unit as finally readjusted. Such Consolidating Master Deed, if and when recorded in the office of the Livingston County Register of Deeds, shall supersede the previously recorded Master Deed for the Condominium and all amendments thereto.

(l) “Co-Owner,” “Owner” or “Member” each means a person, firm, corporation, partnership, trust or other legal entity or any combination thereof who or which owns one or more Units in the Condominium Project. The term “Co-Owner” includes a land contract vendee unless the land contract provides otherwise and notice of such fact is of record with the Livingston County Register of Deeds. However, a land contract vendor and vendee shall have joint and several liability for assessments levied by the Association under Article V of the Condominium Bylaws. The term “Owner,” wherever used, shall be synonymous with the term “Co-Owner.”

(m) “Development and Sales Period” means the period commencing with the recording of this Master Deed and continuing for so long as Developer owns any Unit.

(n) “Developer” means 4M GENOA, LLC, a Michigan limited liability company, which has prepared and executed this Master Deed, and shall include its successors and assigns.

(o) “First Annual Meeting” means the initial meeting at which non-developer Co-owners are permitted to vote for the election of all Directors and upon all other matters which properly may be brought before the meeting. Such meeting is to be held (a) in the Developer’s sole discretion after 50% of the Units that may be created are sold, or (b) mandatorily within (i) 54 months from the date of the first Unit conveyance, or (ii) 120 days after 75% of the Units that may be created are sold, whichever first occurs.

(p) “General Common Elements” means those Common Elements of the Condominium Project described in Article V, Section A of this Master Deed which are for the use and enjoyment of all Co-Owners, subject to such charges as may be assessed to defray the cost of the operation thereof.

(q) “Limited Common Elements” means those Common Elements of the Condominium Project described in Article V, Section B of this Master Deed which are reserved for the exclusive use of the Co-Owners of a specified Unit or Units.

(r) “Master Deed” means this Master Deed, including Exhibits A and B hereto, both of which are hereby incorporated by reference and made a part hereof.

(s) “Mortgagee(s)” means the named mortgagee or owner of any mortgage on all or any portion of the Condominium or any Unit therein.

(t) “Natural Features Buffer” means the 25-foot natural features buffer around the periphery of the Condominium Project as depicted on Exhibit B which area shall remain undisturbed pursuant to Genoa Township’s zoning ordinance and which shall be marked by the Association with demarcation signs.

(u) “Percentage(s) of Value” means the percentage assigned to each Condominium Unit in Article VI of the Master Deed. Percentages of Value shall be determinative only with respect to those matters to which they are specifically deemed to relate either in the Condominium Documents or in the Act.

(v) The phrase “successors and assigns” means, when used in relationship to the Developer, (i) such person or persons, corporations, partnership, trusts or other legal entities as may, by way of merger, consolidation, acquisition, liquidation or otherwise, acquire all of the rights, duties and obligations which the Developer may have in or with respect to the Condominium Project at the time of such acquisition, whether voluntarily or by operation of law, and (ii) such person or persons, corporations, partnership, trusts or other legal entities to whom the Developer may voluntarily transfer, by one or more duly recordable instruments in writing, any specific item of property, easement, right or power reserved to the Developer by the terms of this Master Deed or any other Condominium Document. Neither the Association nor any Co-Owner of a Unit shall be deemed to be or treated in any manner whatsoever as the successor or assign of the Developer with respect to any item of property, easement, right or power reserved to the Developer by the terms of this Master Deed or any other Condominium Document, in the absence of an instrument in writing in duly recordable form expressly providing to the contrary.

(w) “Transitional Control Date” means the date on which a Board of Directors for the Association takes office pursuant to an election in which the votes that may be cast by eligible Co-Owners unaffiliated with the Developer exceed the votes that may be cast by the Developer.

Terms not defined herein, but defined in the Act, shall carry the meanings given them in the Act unless the context clearly indicates to the contrary. Whenever any reference herein is made to one gender, the same shall include a reference to any and all genders where such a reference would be appropriate; similarly, whenever a reference is made herein to the singular, a reference shall also be included to the plural where such a reference would be appropriate, and vice versa.

ARTICLE IV  
TITLE AND NATURE

The Condominium Project shall be known as 2025 EULER BUSINESS PARK, Livingston County Subdivision Plan No. \_\_\_\_\_. The architectural plans for the Condominium Project have been filed with the Genoa Charter Township, Livingston County, Michigan. The improvements contained in the Condominium Project, including the number, boundaries, dimensions and area of each Unit, are set forth completely in the Condominium Subdivision Plan attached hereto as Exhibit B. Each building in the Condominium Project shall be a Unit and each contains space to be used for office or business purposes, and each Unit has been designed and intended for separate ownership and use, as evidenced by individual entrances from and exits to a Common Element of the Condominium Project. Each Co-Owner in the Condominium Project shall have an exclusive right to occupy his Unit, to lease space in the Unit to business tenants and shall have undivided and inseparable rights to share with other Co-Owners the use and enjoyment of Common Elements as more detailed below.

ARTICLE V  
COMMON ELEMENTS

The Common Elements of the Condominium Project as depicted on the Condominium Subdivision Plan and the respective responsibilities for maintenance, decoration, repair or replacement thereof are as follows:

A. General Common Elements. The General Common Elements are:

- (1) The Real Property described in Article II hereof, including the roads, and retaining walls, and portions of parking areas, lawns, landscaping and yards, marked as General Common Elements on Exhibit B and all rights of each pertaining thereto;
- (2) All utility rights-of-way as indicated on the Condominium Subdivision Plan or otherwise of record;
- (3) The electrical wiring throughout the Condominium Project, including that contained within Unit walls, up to the point of connection with, but not including, electrical fixtures, plugs and switches within any Unit;
- (4) The telephone wiring throughout the Condominium Project to the point of connection with any Unit;
- (5) The plumbing network throughout the Condominium Project up to the point of connection with plumbing fixtures within any Unit;
- (6) The water distribution system, storm water discharge and detention system and sanitary sewer system throughout the Condominium Project; up to the point such systems are connected with their respective mains in the road right of way;



(7) The gas line network throughout the Condominium Project up to the point of connection with gas fixtures in any Unit;

(8) Any network or telecommunications facilities that may from time to time be installed for the benefit of the entire Condominium Project and not an individual Unit;

(9) All sprinkler systems, if any, when installed by the Developer, to serve general common lawn areas throughout the Condominium Project;

(10) The entryway or directional signage for the Condominium Project located along Grand River, or placed upon any Common Element;

(11) Such other elements of the Condominium Project not herein designated as General or Limited Common Elements which are not enclosed within the boundaries of any Unit, and which are intended for common use by all the Co-Owners or are necessary to the existence, upkeep and safety of the Condominium Project.

Some or all of the utility lines, systems (including mains and service leads) and equipment and the cable television system described above may be owned by the local public authority or by the company that is providing the pertinent service. Accordingly, such utility lines, systems and equipment and the cable television system shall be General Common Elements only to the extent of the Co-Owners' interest therein, if any, and Developer makes no warranty whatever with respect to the nature or extent of such interest, if any.

B. Limited Common Elements. The Limited Common Elements, which, except as otherwise provided in this Subsection B, shall be appurtenant to the Unit or Units to which they are attached or adjacent or which they service (or which they are deemed by Exhibit B to benefit) and limited in use to the owners of such Unit or Units, or their designee, are:

(1) The mailbox serving each Unit, if any;

(2) The garbage dumpsters designated for each respective Unit or Units;

(3) The sidewalks, parking areas, lawn areas and landscaping immediately surrounding either Unit 1 or Unit 2, and serving such individual Unit or Units as depicted on Exhibit B;

(4) Such other elements of the Project that are not designated as General or Limited Common Elements and which are not enclosed within the boundaries of a Unit and which are intended for the use of a specific Unit.

C. Upkeep of Common Elements; Payment of Utility Bills. The respective responsibilities for the maintenance, decoration, repair and replacement of the Common Elements and for the payment of utility bills are as follows:

(1) The cost of decorating and maintaining, all Limited Common Elements referred to in Article V, Sections B(1) above as well as cost of decorating, maintaining, repairing and replacing such items servicing a Unit that are not Common Elements, whether or not they are

within the Unit they service, shall be the sole responsibility of the Co-Owner or Co-Owners whose Unit or Units are serviced by such items as designated on Exhibit B.

(2) Except as provided above, the Association shall be responsible for maintaining, decorating, repairing and replacing all General Common Elements to be assessed to all Co-Owners equally; unless, however, the need for maintenance, repair or replacement is due to the act or neglect of a Co-Owner or his agent, guest, invitee, for which such Co-Owner shall be wholly responsible. Except as otherwise provided herein or in the Condominium Bylaws, any damage caused to a Unit or its contents by the maintenance or by repair activities of the Association with respect to the Common Elements shall be repaired at the expense of the Association. The obligation of the Association for the maintenance and repair of Common Elements, including but not limited to roads, detention basins, landscaping, parking areas, and retaining walls shall not be diminished or in any way altered by easements granted over such Common Elements to the Genoa Charter Township or any other party.

(3) Each Co-Owner shall be responsible for payment of the utilities and services attributable solely to its Unit.

(4) In the absence of performance of the above by the Co-owner involved, the Association may undertake the maintenance of such Unit or Limited Common Element after it has delivered written notice thereof at least fifteen (15) days prior to such work, except in the case of an emergency where no prior notice shall be required. If such work is performed upon a Unit or Limited Common Element by the Association, the individual Co-owner thereof shall reimburse the Association for all costs thereof within fifteen (15) days of billing or the Association shall have the right to recover its expenses in the same manner as established for the collection of assessments in Article V of the Bylaws. In no event shall the Association be liable for the decoration, maintenance, repair, or replacement of any portion of the interior of any Unit.

D. Use of Common Elements. No Co-Owner shall use his Unit or the Common Elements in any manner inconsistent with the purposes of the Condominium Project or in any manner which will interfere with or impair the rights of any other Co-Owner in the use and enjoyment of his Unit or the Common Elements. The Natural Features Buffer shall remain undisturbed and shall have signs marking the area and indicating that they must remain undisturbed. No fuel storage tanks may be installed in the Condominium Project with the written approval of Genoa Township. without

E. Alterations. Until the Developer has sold all of the Units in the Condominium Project, it may, in its discretion, with the approval of the Genoa Charter Township (1) modify the dimensions of unsold Units, the General Common Elements and Limited Common Elements appurtenant to any Unit, by enlargement, combination, division or reduction in size and (2) make such structural alterations as it deems necessary or appropriate to any unsold Units or Common Elements. However, no such modifications or alterations may be performed which would unreasonably impair or diminish the appearance of the Project or the view, privacy or other significant attribute or amenity of any Unit sold by Developer which adjoins or is proximate to the modified Unit. Such modifications may be made, in the Developer's sole discretion, subject to complying with Genoa Charter Township's ordinances as necessary and any new responsibility for maintenance, repair and replacement therefor must be assigned by an amendment to this Master

Deed which may be effected solely by Developer without the consent of any other person. No Unit altered or modified in accordance with the provisions of this section shall be conveyed until an amendment to this Master Deed effectuating such modification is recorded. The Developer may, in connection with any such amendment, readjust Percentages of Value for all Units in a manner, which gives a reasonable recognition to such Unit or Common Element modifications based upon the method of original determination of Percentages of Value for the Condominium Project.

All of the Co-Owners and Mortgagees of Units and other persons interested or to become interested in the Condominium Project from time to time shall be deemed to have unanimously consented to such amendment or amendments to this Master Deed to effectuate the foregoing and subject to the limitations set forth herein, proportionate reallocation of Percentages of Value of existing Units which Developer may determine necessary in conjunction with such amendment or amendments. All such interested persons irrevocably appoint Developer as agent and attorney for the purpose of execution of such amendment or amendments to the Master Deed and all other documents necessary to effectuate the foregoing.

F. Reassignment of Limited Common Elements. A Limited Common Element, such as a parking space, may be reassigned, after notice to any affected Mortgagee, by a written application to the Board of Directors of the Association signed by the Co-owners whose interest will be affected thereby. Upon receipt of such application, the Board shall promptly prepare or cause to be prepared and executed an amendment to this Master Deed reassigning all rights and obligations with respect to the Limited Common Elements involved, and shall deliver such amendment to the Co-owners of the Units affected upon payment by them of all reasonable costs for the preparation and approval thereof.

## ARTICLE VI UNIT DESCRIPTION AND PERCENTAGE OF VALUE

A. Description. A complete description of each Unit, with elevations therein referenced to an official benchmark of the United States Geological Survey sufficient to relocate accurately the space enclosed by the description without reference to the structure itself, is set forth in the Condominium Subdivision Plan. Units 1 and 2 in the Condominium Project, as described in the Condominium Subdivision Plan, shall include the entire structure contained within such Unit, including roof and exterior walls, plus all that space contained within the Unit. Detailed architectural plans for the Condominium Project will be placed on file with the Genoa Charter Township, Livingston County, Michigan.

B. Percentages of Value. The total value of the project is one hundred percent (100%). Unit 1 and Unit 2 shall each be determined to have fifty percent (50%) value.

ARTICLE VII  
EASEMENTS

A. Easements for Maintenance and Related Matters.

(1) Encroachments. If all or any portion of a Unit or Common Element encroaches upon another Unit or Common Element due to shifting, settling or moving of a building, or of a foundation or support, or due to survey errors, construction deviations, reconstruction, replacement, renovation or repair, reciprocal easements, respectively benefiting and burdening each such Unit or Common Element, shall exist for the maintenance of such encroachment for so long as such encroachment exists, and for maintenance thereof after rebuilding in the event of any partial or total destruction.

(2) Maintenance and Utilities. Perpetual easements shall also exist and are hereby granted to, through, over, under and across the Condominium Premises, including all Units and interior walls, (a) in favor of the Developer, the Association and all Co-Owners for the maintenance and repair (including replacement) of Common Elements and Units, and (b) in favor of the various utility companies providing service and the Genoa Charter Township, as may be reasonable for the installation and continuing maintenance and repair (including replacement) of all utilities in the Condominium Project, including, but not necessarily limited to, light, heat, power, sewer, water, security system, cable TV system, storm water discharge and detention and communications, which utilities are sometimes collectively referred to in this Article VII as “utilities” or “utility services.” These easements include, without limitation, the right to obtain access to Common Elements located within any Unit or its appurtenant Limited Common Elements, during reasonable hours and upon reasonable notice, except in cases of emergency where no prior notice is required.

(3) Structural Support. Every portion of a Unit that contributes to the structural support of a building shall be burdened with an easement of structural support for the benefit of the Common Elements.

B. Easements Retained by Developer.

(1) Roadway Easements. In addition to all other rights reserved to it hereunder, the Developer, its successors and assigns, hereby reserves for the benefit of itself, its agents, employees, guests, invitees, independent contractors, successors and assigns, a perpetual, non-exclusive easement for the unrestricted use of all road and walkways now or hereafter located in the Condominium Project for the purpose of:

(a) ingress to and egress from all or any portion of:

(i) the Condominium Premises, including any property hereafter contracted out of the Condominium; and

(ii) any other land adjacent to or in the vicinity of the Condominium Project now owned or hereafter acquired by the Developer;

(b) complying with any governmental regulation, or installing and servicing the roads, utility drains as shown on the Condominium Subdivision Plan attached hereto as Exhibit B; or

(c) for any other lawful purpose, including installation of utilities.

(2) Use of Facilities. The Developer, and its duly authorized agents, representatives and employees, may maintain offices, model Units and other facilities on the Condominium Premises and engage in any acts reasonably necessary to facilitate the construction and sale of Units in the Condominium Project. In connection therewith, the Developer shall have full and free access to all Common Elements and unsold Units.

(3) Repair and Replacement. The Developer retains for the benefit of itself and to all assigns or designated representatives and any utility company and the Genoa Charter Township, and to the burden of the Condominium Premises, the right to enter the Condominium Project for the purpose of exercising any of the Developer's rights described herein, including the right to and do all the things necessary to install, maintain, repair, replace or inspect facilities within the purview of their responsibilities. Such right shall include the right granted to the Genoa Charter Township to maintain, repair, replace or inspect any Common Elements or Limited Common Elements that are the responsibility of the Developer or the Association under the Condominium Documents in the event, in the reasonable opinion of the Genoa Charter Township, such responsibility is not being maintained by the Developer or the Association and is causing a potential threat to the health, welfare or safety of the public or the Members. No actions taken by the Genoa Charter Township shall in any respect be deemed to create any Township obligation or liability for the Limited Common Elements or Common Elements. The Association shall be deemed to hold the Genoa Charter Township harmless from any and all liabilities, claims, costs, or expenses that may arise as a result of claims filed against the Genoa Charter Township by third parties which result specifically from the failure of the Developer or Association to repair, maintain or replace any Limited Common Elements or Common Elements. In the event the Genoa Charter Township takes any action under this section to repair, maintain or replace any Limited Common Elements or Common Elements, the Association shall reimburse the Genoa Charter Township for all costs thereof within fifteen (15) days of billing or the same shall become a lien upon the Condominium Premises.

(4) Hook-Up of Utilities. The Developer reserves for the benefit of itself, its agents, employees, independent contractors, successors and assigns, and hereby grants for the benefit of any appropriate utility company and the Genoa Charter Township, perpetual easements to enter upon and across the Condominium Premises and lay pipes and cables and do all other things reasonably necessary to utilize, tap and tie into, and to construct, extend and enlarge, all utility services or systems now or hereafter located on the Real Property described in Article II hereof, or as indicated on Exhibit B to this master Deed, to service all or any portion of the condominium project or other property outside the Condominium Project.

(5) Future Utility Easements. The Developer further reserves the right at any time to grant easements for utilities over, under and across the Common Elements to (i) appropriate governmental agencies, including the Genoa Charter Township or public utility

companies, (ii) any property hereafter contracted out of the Condominium, the Contraction Property, or any other land adjacent to or in the vicinity of the Condominium Project now owned or hereinafter acquired by Developer, and to transfer title to utilities to governmental agencies or to utility companies, provided such easements do not disturb, or interfere with the use of, any Unit. Any such easement or transfer of title may be made by the Developer without the consent of any Co-owner, Mortgagee or other person and shall be evidenced by an appropriate amendment to this Master Deed and to the Plan, which amendment shall be recorded in the Livingston County Records. All of the Co-owners and Mortgagees of Units and other persons interested or to become interested in the Project from time to time shall be deemed to have irrevocably and unanimously consented to such amendment or amendments of this Master Deed as may be required to effectuate the foregoing grant of easement or transfer of title.

(6) Future Easements, Licenses and Rights-of-Way. With the prior written consent of the Developer, the Association, acting through its lawfully constituted Board of Directors (including any Board of Directors acting prior to the Transitional Control Date) shall be empowered and obligated to grant such easements, licenses, rights-of entry and rights-of-way over, under and across the Common Elements of the Condominium for utility purposes, access purposes or other lawful purposes as may be necessary for the benefit of the Condominium. The Association shall not grant any such right that materially adversely affects any Co-owner without the consent of such Co-owner.

(7) Modification of Easements. No easements or right established pursuant to this Article may be modified or terminated, nor may any of the obligations relating thereto be varied, except as provided in the separate instrument creating such easement or right or, if no such separate instrument exists, without the consent of the Developer, the Association, and each Co-owner and Mortgagee benefiting from such easement or right.

C. Reserved Easements.

(1) Dedication of Right-of-Way. The Developer reserves the right, at any time during the Development and Sales Period, to dedicate to the public a right-of-way of such width as may be required by the local public authority over any or all of the roadways in the Condominium Project, shown as General Common Elements in the Condominium Subdivision Plan. Such dedication shall also include all gas and water lines, and all streetlights, located within the right-of-way.

(2) Dedication of Certain Utilities. The Developer or the Association as the case may be shall dedicate to the public all such sanitary sewer and water mains or storm drainage system that are within the road right of way and that are not defined as general common elements herein.

(3) Storm Sewer and Detention Basin Easement. The Developer reserves the right, at any time during the Development and Sales Period, to grant easements to the Genoa Charter Township for the maintenance, inspection, testing and repair of the storm sewer system and detention basin constituting General Common Elements and located within and serving the Condominium Project. The Association shall be responsible for repair and maintenance of the storm sewer and detention basin. In the event the Association fails to properly maintain or repair

those portions of the sanitary sewer, water system, the storm sewer and detention basin that are identified as general common elements, the Township shall have the right, but not the responsibility, to enter onto the Condominium Premises and conduct needed repairs and/or maintenance. In such event, the Association shall be responsible for reimbursing the Genoa Charter Township for the costs and expenses incurred in connection with such maintenance and repair, which costs and expenses shall be assessed to all Co-Owners according to their Percentages of Value.

(4) Emergency Vehicle and Public Services Access Easement. There shall exist for the benefit of the Genoa Charter Township, any emergency service agency and the United States Postal Service (“USPS”), an easement over all roads in the Condominium for use by the Genoa Charter Township service providers, USPS, garbage collection and/or emergency vehicles. Said easement shall be for purposes of ingress and egress to provide, without limitation, fire and police protection, ambulance and rescue services and other lawful governmental or private emergency services to the Condominium Project and Co-owners thereof.

D. Termination of Easements. Developer reserves the right with the prior written approval of the Genoa Charter Township to terminate and revoke any utility or other easement granted in this Master Deed at such time as the particular easement has become unnecessary. No easement for a utility may be terminated or revoked unless and until all Units served by it are adequately served by an appropriate substitute or replacement utility on a shared-maintenance basis. Any termination or revocation of any such easement shall be effected by the recordation of an appropriate amendment to this Master Deed in accordance with the requirements of the Act.

## ARTICLE VIII AMENDMENT AND TERMINATION

Except as otherwise expressly provided in this Master Deed or in the Act, the Condominium Project shall not be terminated, vacated, revoked or abandoned except as provided in the Act, nor may any of the provisions of this Master Deed or Exhibit B be amended (but Exhibit A hereto may be amended as therein provided) except as follows:

A. Amendments.

(1) Without Co-Owner and Mortgagee Consent. The Condominium Documents may be amended by the Developer or the Association without the consent of Co-Owners or Mortgagees for any purpose if the amendment does not materially alter or change the rights of a Co-Owner or Mortgagee. Amendments modifying the types and sizes of unsold Units and their appurtenant Common Elements, showing minor architectural variances and modifications to a Unit, correcting survey or other errors made in the Condominium Documents, or for the purpose of facilitating mortgage loan financing for existing or prospective Co-Owners and to enable the purchase or insurance of such mortgage loans by any institutional participant, shall be examples of amendments which do not materially alter or change the rights of a Co-Owner or Mortgagee.

(2) With Co-Owner and Mortgagee Consent. An amendment may be made, even if it will materially alter or change the rights of the Co-owners or Mortgagees, with the consent of not less than two-thirds (2/3) of the votes of the Co-owners entitled to vote as of the record date of such vote and two-thirds (2/3) of the votes of the Mortgagees; provided, that a Co-owner’s Unit

dimensions or Limited Common Elements may not be modified without his consent, nor may the formula used to determine Percentages of Value for the Project or provisions relating to the purpose of usage, ability or terms under which a Unit currently is leased or may be rented be modified without the consent of the Developer and each affected Co-owner and Mortgagee. Rights reserved by the Developer herein, including without limitation rights to amend for purposes of expansion and/or modification of Units, shall not be amended without the written consent of the Developer so long as the Developer or its successors or assigns continue to own or to offer for sale any Unit in the Project, have the right to create one or more additional Units, or continues to own any interest in the Real Property. For purposes of this subsection, a Mortgagee shall have one vote for each mortgage held.

(3) Material Amendment By Developer. A material amendment may also be made unilaterally by the Developer without the consent of any Co-owner or Mortgagee for the specific purpose(s) reserved by the Developer in this Master Deed. During the Development and Sales Period, this Master Deed shall not be amended nor shall the provisions of this Master Deed be modified in any way without the written consent of the Developer or its successors or assigns.

(4) Developer's Reserved Amendments. Notwithstanding any contrary provision of the Condominium Documents, Developer reserves the right to amend materially this Master Deed or any of its exhibits for any of the following purposes:

(a) To amend the Condominium Bylaws, subject to any restrictions on amendments stated therein;

(b) To correct arithmetic errors, typographical errors, survey or plan errors, deviations in construction or any similar errors in the Master Deed, Condominium Subdivision Plan or Condominium Bylaws, or to correct errors in the boundaries or locations of improvements including revising the Subdivision Plan to fully comply with the applicable regulations;

(c) To clarify or explain the provisions of this Master Deed or its exhibits;

(d) To comply with the Act or rules promulgated thereunder or with any requirements of any governmental or quasi-governmental agency or any financing institution providing mortgages on units in the Condominium Premises;

(e) To create, grant, make, define or limit easements affecting the Condominium Premises;

(f) To record an "as built" Condominium Subdivision Plan and/or consolidating Master Deed and/or to designate any improvements shown on the Plan as "must be built," subject to any limitations or obligations imposed by the Act;

(g) To terminate or eliminate reference to any right which Developer has reserved to itself herein; and



(h) To make alterations described in Article V, Section E, Article VI, Section B and Article VIII above, even if the number of Units in the Condominium Project would thereby be increased or reduced.

Amendments of the type described in this subsection (4) may be made by the Developer without the consent of Co-owners or Mortgagees, and any Co-owner or Mortgagee having an interest in a Unit affected by such an amendment shall join with the Developer in amending this Master Deed.

(5) Costs and Expenses; Notice. A person causing or requesting an amendment to the Condominium Documents shall be responsible for costs and expenses of the amendment, except for amendments based upon a vote of the prescribed majority of Co-owners and Mortgagees, the costs of which are expenses of administration. The Co-owners and Mortgagees of record shall be notified of proposed amendments under this Section not less than ten (10) days before the amendment is recorded.

(6) Developer Consent Required. Articles II, V, VI, VII, VIII, IX and X shall not be amended, nor shall the provisions thereof be modified by any other amendment to this Master Deed, without the written consent of the Developer, so long as the Developer owns any Unit in the Condominium. Developer's reservation of easement rights for adjacent property and Developer's right to consent to all easements affecting the Project, shall be perpetual and cannot be amended.

(7) Genoa Charter Township Consent Required. No amendment of this Master Deed or the Condominium documents may be made without the prior written consent of the Genoa Charter Township, if such amendment would affect a right of the Genoa Charter Township set forth or reserved with in this Master Deed or in the condominium documents, and any amendment must comply with the then existing applicable Township ordinances.

B. Termination. If there is a Co-Owner other than the Developer, the Project may be terminated only with consent of the Developer and not less than 80% of the Co-Owners and Mortgagees, as follows:

(1) Execution of Agreement. Agreement of the required number of Co-owners and Mortgagees to termination of the Project shall be evidenced by their execution of the termination agreement or of ratifications thereof, and the termination shall become effective only when the agreement is so evidenced of record.

(2) Ownership of Project. Upon recordation of an instrument terminating the Project, the property constituting the Condominium shall be owned by the Co-owners as tenants in common in proportion to their respective undivided interests in the Common Elements immediately before recordation. As long as the tenancy in common lasts, each Co-owner or the heirs, successors, or assigns thereof shall have an exclusive right of occupancy of that portion of the property, which formerly constituted the Condominium Unit.

(3) Ownership of Association Assets. Upon recordation of an instrument terminating the Project, any rights the Co-owners may have to the assets of the Association shall be in proportion to their respective undivided interests in the Common Elements immediately before

recordation. Any common profits shall be distributed in the same proportions except as otherwise required under the Condominium Documents and the Act.

(4) Notice of Termination. Notification of termination by first class mail shall be made to all parties interested in the Project, including escrow agents, land contract vendors, creditors, lienholders, and prospective purchasers who deposited funds.

ARTICLE IX  
ASSIGNMENT

Any or all of the rights and powers granted or reserved to the Developer in the Condominium Documents or by law, including the power to approve or disapprove any act, use or proposed action or any other matter or thing, may be assigned by Developer to any other entity or to the Association. Any such assignment or transfer shall be made by appropriate instrument in writing duly recorded in the Office of the Livingston County Register of Deeds.

ARTICLE X  
SEVERABILITY

If any provision of this Master Deed shall be determined to be invalid or unenforceable by a court of competent jurisdiction, such determination shall not render this entire Master Deed invalid or unenforceable, and the provisions of this Master Deed not subject to such determination shall survive, unaffected thereby.

ARTICLE XI  
CONTROLLING LAW

The provisions of the Act, and of the other laws of the State of Michigan, shall be applicable to and govern this Master Deed and all activities related hereto.

*SIGNATURES NEXT PAGE*



**EXHIBIT A**

**CONDOMINIUM BYLAWS**

**OF**

**2025 EULER ROAD BUSINESS PARK**

DEVELOPER:  
4M GENOA, LLC  
2244 Euler Road  
Brighton, Michigan 48114

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**CONDOMINIUM BYLAWS**

**OF**

**2025 EULER BUSINESS PARK**

**ARTICLE I**

**THE CONDOMINIUM**

Section 1. **Organization.** 2025 Euler Business Park, a medical and business office condominium located in the Genoa Charter Township, Livingston County, Michigan (the “Condominium”), shall be administered by an association of Co-Owners (the “Association”), which shall be organized as a nonprofit corporation under the laws of the State of Michigan. The Association will be responsible for the management, maintenance, operation and administration of the Common Elements, easements and, generally, the affairs of the Condominium in accordance with the Master Deed, these Condominium Bylaws, the Articles of Incorporation, Rules and Regulations of the Association, and the laws of the State of Michigan.

Section 2. **Compliance.** All present and future Co-Owners (who shall be “Members” of the Association as provided in Article II, Section 1, below; the terms “Member” and “Co-Owner” are used interchangeably herein), Mortgagees, tenants and all other persons who may in any manner use, enter upon or acquire any interest in the Condominium Premises, or any Condominium Unit, shall be subject to and comply with the provisions of the Act, the Master Deed, these Condominium Bylaws, and the Articles of Incorporation, Rules and Regulations of the Association including, without limitation, any provision thereof pertaining to the use and operation of the Condominium Premises and the Condominium. The acceptance of a deed or conveyance, the taking of a mortgage, the execution of a lease, the act of occupying a Unit, or presence in the Condominium shall constitute an acceptance of the provisions of these documents and an agreement to comply therewith.

Section 3. **Purpose of Bylaws.** These Condominium Bylaws govern the general operation, maintenance, administration, use and occupancy of the Condominium, and all such activities shall be performed in accordance with the provisions hereof. Capitalized terms used herein and not defined to the contrary shall have the meanings set forth in the Master Deed.

**ARTICLE II**

**MEMBERSHIP AND VOTING**

Section 1. **Membership.** Each Co-Owner of a Condominium Unit, present and future, shall be a Member of the Association during the terms of such ownership, and no other person or entity shall be entitled to Membership. Neither Association Membership nor the share of a Member in the Association funds and assets shall be assigned, pledged or transferred in any manner, except as an appurtenance to a Condominium Unit, and any attempted assignment, pledge or transfer in violation of this provision shall be wholly void.

Section 2. Voting Rights. Except as limited in the Master Deed and in these Condominium Bylaws, the Members owning each Unit shall collectively be entitled to one vote, the value of which shall equal the total Percentage of Value assigned to the Unit or Units owned by them in Article VI, Section B of the Master Deed. Voting shall be by value, except in those instances where voting is specifically required to be by number, or both by value and by number, and no accumulation of votes shall be permitted.

Section 3. Persons Entitled to Vote. If one person owns a Unit, it shall establish its Membership in the Association and its right to vote by presenting evidence of its ownership. If more than one person owns a Unit, or the Unit is leased, all of the record owners of the Unit shall sign and file with the Secretary of the Association a certificate designating the person entitled to exercise the Unit's Membership in the Association, to cast the vote for the Unit and to receive all notices and other communications from the Association. Such certificate shall state the name and address of the individual representative designated, the number or numbers of the Unit or Units owned, the name and address of the person or persons, firm, corporation, partnership, association, trust or other legal entity who is the Co-Owner thereof, and shall be signed and dated by all Co-Owners of record. All certificates shall be valid until revoked, until superseded by a subsequent certificate, or until a change occurs in the record ownership of the Unit concerned. The Developer shall, at any meeting, be entitled to cast a vote on behalf of each Unit it owns without submitting any proof of ownership.

Section 4. Method of Voting. Votes on a specific issue may be cast in person. In addition, any person entitled to vote at any meeting may also appear and vote via telecommunications equipment by which all persons participating in the meeting may hear each other; provided that all participants are advised of the communications equipment and the names of the participants in the conference are divulged to all participants, or appear and vote (either specifically on an issue or by the general designation of a person to cast a vote) by written proxy. Proxies may be made by any person entitled to vote. They shall be valid only for the particular meeting designated, and any adjournment thereof, and must be filed with the Association before the appointed time of the meeting.

Section 5. Majority. At any meeting of the Members at which a quorum is present, fifty-one percent (51%) in value of the Members voting, whether in person, by telecommunications or by proxy, on any particular matter, shall constitute a majority for the approval of such matter, except as otherwise required herein, by the Master Deed or by law.

### ARTICLE III MEETINGS AND QUORUM

Section 1. First Meeting of Members. The first meeting of the Members of the Association may be convened only by the Board of Directors and may be called at any time upon ten (10) days' written notice to all Members. In no event, however, shall the first meeting be held later than: (a) one hundred twenty (120) days after legal or equitable title to seventy-five percent (75%) of the Condominium Units in the Condominium Project that may be created has been conveyed to non-Developer Co-Owners; or (b) fifty-four (54) months after the first conveyance of legal or equitable title to a Condominium Unit to a non-Developer Co-Owner, whichever first occurs. The Board of Directors may call meetings of Members of the Association for informational



or other appropriate purposes prior to the first meeting of Members, but no such meeting shall be construed as the first meeting of Members.

Section 2. Advisory Committee. The Board of Directors shall establish an Advisory Committee of non-Developer Members upon the passage of: (a) one hundred twenty (120) days after legal or equitable title to thirty-three and one-third percent (33 1/3 %) of Condominium Units in the Condominium Project that may be created have been conveyed to non-Developer Co-Owners; or (b) one (1) year after the initial conveyance of legal or equitable title to a Condominium Unit to a non-Developer Co-Owner, whichever first occurs. The Advisory Committee shall meet with the Board of Directors to facilitate communication with the non-Developer Members and to aid in transferring control from the Developer to non-developer Members. The Advisory Committee shall be composed of not less than one (1) nor more than three (3) non-Developer Members, who shall be appointed by the Board of Directors in any manner it selects, and who shall serve at the pleasure of the Board of Directors. The Advisory Committee shall automatically dissolve following the election of a majority of the Board of Directors by non-Developer Co-Owners. The Advisory Committee shall meet at least semiannually with the Board of Directors. Reasonable notice of such meetings shall be provided to all Members of the Advisory Committee, and such meetings may be open or closed, in the discretion of the Board of Directors.

Section 3. Annual Meeting of Members. Following the first meeting of Members, and in addition to subsequent meetings called for the purpose of electing Directors, as provided in Article IV, Section 1, below, an annual meeting of the Members shall be held each year on September 15 and at such place as determined by the Board of Directors. At least ten (10) days but not more than sixty (60) days prior to the date of an annual meeting, written notice of the time, place and purpose of such meeting shall be sent by first-class mail, postage prepaid, to each person entitled to vote at the meeting.

Section 4. Special Meetings of Members. It shall be the duty of the President to call a special meeting of the Members upon a petition of one of the Members and presented to the Secretary of the Association or upon the direction of a majority of the Board of Directors. Notice of any special meeting shall state the time and place of such meeting and the purposes thereof and shall be given at least ten (10) days but not more than sixty (60) days prior to the date of such meeting. No business shall be transacted at a special meeting except as stated in the notice.

Section 5. Quorum of Members. Unless otherwise provided herein, the presence, in person or by proxy, of fifty-five percent (55%) in number and value of the Members entitled to vote shall constitute a quorum of Members. If a quorum shall not be present at any meeting, the Members present may adjourn the meeting for not more than thirty (30) days.

#### ARTICLE IV ADMINISTRATION

Section 1. Board of Directors. The affairs of the Association shall be governed by a Board of Directors all of whom must be Members of the Association or Officers, partners, trustees, employees, agents or spouses of Members of the Association except for the first Board of Directors and any Directors thereafter designated to the Board of Directors by the Developer as hereinbelow provided in this Article IV. Directors shall serve without compensation; provided, however, that

Directors may be reimbursed for reasonable travel and other expenses incurred in discharging their duties pursuant to and in accordance with such reimbursement policies as may be from time to time established by the Board of Directors or by the Members of the Association. The Board of Directors shall be established and selected in the following manner:

(a) The First Board of Directors shall be composed of those three (3) persons selected by the incorporator of the Association and such first Board of Directors shall manage the affairs of the Association until a successor Board of Directors is established as provided by this Article IV. Each subsequent Board of Directors shall be composed of not less than three (3) nor more than five (5) persons. The number of persons comprising each such subsequent Board of Directors shall be determined by the Developer until the earlier of such date as (i) legal or equitable title to seventy-five (75%) percent of the Units in the Condominium Project that may be created are conveyed to non-Developer Co-Owners, or (ii) shall be fifty-four (54) months after the date of the first conveyance of legal or equitable title of a Unit to a non-Developer Co-Owner. Thereafter, the number of persons comprising each subsequent Board of Directors shall be determined by vote of the Members prior to the establishment of each such Board of Directors; provided, however, that if a motion is not made and carried to increase or decrease the number of Directors, then the Board of Directors shall consist of the same number of persons as theretofore comprised the full Board of Directors.

(b) Not later than one hundred twenty (120) days after such date as legal or equitable title to twenty-five (25%) percent of the Units in the Condominium Project that may be created are conveyed to non-Developer Co-Owners, a special meeting of Members shall be held for the purpose of selecting a Board of Directors to replace the First Board of Directors. It shall be the duty of the President to call such meeting, and the duty of the Secretary to provide notice thereof to each Co-Owner, as otherwise provided by these Condominium Bylaws. At such meeting, the non-Developer Co-Owners shall elect at least one (1) Director and not less than twenty-five (25%) percent of all Members of the full Board of Directors being established, in accordance with the other applicable provisions of these Condominium Bylaws. The Developer shall be entitled to appoint all other persons to serve as Directors on such Board of Directors.

(c) Unless the Board of Directors shall already contain the number of non-Developer Co-Owner elected Directors hereinbelow set forth, then not later than one hundred twenty (120) days after such date as legal or equitable title to fifty (50%) percent of the Units in the Condominium Project that may be created are conveyed to non-Developer Co-Owners, a special meeting of Members shall be held for the purpose of selecting a Board of Directors to replace the Second Board of Directors. It shall be the duty of the President to call such meeting, if necessary, and the duty of the Secretary to provide notice thereof to each Co-Owner, if such meeting is called, as otherwise provided by these Condominium Bylaws. At such meeting, if any, the non-Developer Co-Owners shall elect at least one (1) Director and not less than thirty-three and one-third (33-1/3%) percent of all Members of the full Board of Directors being established, in accordance with the other applicable provisions of these Condominium Bylaws. The Developer shall be entitled to appoint all other persons to serve as Directors on such Board of Directors.

(d) Notwithstanding anything in subsections (b) and (c) of this Article IV to the contrary, except as otherwise provided by Subsection (e) below, not later than one hundred twenty (120) days after such date as legal or equitable title to seventy-five (75%) percent of the Units in

the Condominium Project that may be created are conveyed to non-Developer Co-Owners, and before conveyance of ninety (90%) percent of such Units, a special meeting of Members shall be held for the purpose of selecting a new Board of Directors, all the Members of which shall be elected by majority vote of the non-Developer Co-Owners. It shall be the duty of the President to call such meeting, and the duty of the Secretary to provide notice thereof to each Co-Owner, as otherwise provided by these Condominium Bylaws.

(e) Notwithstanding anything in this Article IV to the contrary, the Developer shall be entitled to appoint one (1) Director to the Board of Directors each and every time a new Board of Directors is established so long as, at the time any such new Board of Directors is created, the Developer owns and offers for sale ten (10%) percent or more of the Units in the Condominium Project or owns ten (10%) percent or more of the remaining Units that may be created.

(f) In lieu of holding any special meeting of Members for the purpose of establishing a new Board of Directors containing the number of non-Developer Co-Owners elected Directors required by subsections (b), (c), (d) or (g) of this Section, such new Board of Directors may be established, and non-Developer Co-Owner elected Directors may be elected, at the First or any subsequent annual meeting of Members held on or before such date as may be the latest date permitted by such provisions for reconstituting the Board of Directors as thereby required. Notice of the fact that a new Board of Directors will be established, and non-Developer Co-Owner elected Directors will be elected, at any such annual meeting need not be specified in the notice of such meeting given to Co-Owners as required by these Condominium Bylaws. Except as may be otherwise required by subsections (c), (d), and (g) of this Section, a Board of Directors established at any annual or special meeting of Members shall hold office and manage the affairs of the Association until the election of successor Directors at the next annual meeting of Members.

(g) Except as otherwise provided by subsection (e) of this Section, fifty-four (54) months from and after such date as legal or equitable title to a Unit in the Condominium Project is conveyed to a non-Developer Co-Owner, the non-Developer Co-Owners shall have the right to elect such number of Members of the Board of Directors as shall be equal to the Percentage of Units they hold, and the Developer shall be entitled to appoint such number of Members of the Board of Directors as shall be equal to the Percentage of Units owned by the Developer and for which all assessments are payable by the Developer. In addition, the Developer shall have the right to appoint one Member of the Board of Directors as provided by subsection (e) of this Section. Any Director or non-Developer Co-Owner may request a special meeting of the Members of the Association for the purpose of electing Directors as provided by this subsection (g) by giving written notice of such person's desire for such meeting to the President. Upon receipt of any such notice, it shall be the duty of the President to call such meeting for such a date as shall be no later than sixty (60) days subsequent to the date of its receipt of such request, and the duty of the Secretary to provide notice thereof to each Co-Owner, as otherwise provided by these Condominium Bylaws. Absent a special meeting of Members of the Association for purposes of electing Directors as provided by this Section, the Board of Directors then in office shall continue to serve until the next annual meeting of Members, at which time Directors shall be elected as provided by this or the then applicable subsection of this Section.

(h) As used in subsections (a) through (g) of this Section, and Sections 1 and 2 of Article III, the phrase "Units in the Condominium Project that may be created" means the

maximum number of Units stated in the Master Deed that may be built by the Developer in all phases of the Condominium Project assuming the Developer fully exercises its right to expand the Condominium Project by adding additional land thereto or converting convertible areas as permitted thereby.

(i) For clarity since this is intended to be a Project containing two Units, with each Unit comprising fifty percent (50%), the Board of Directors shall consist of three members, one each elected by Units 1 and 2 and one member elected by the Developer, as long as the Developer owns a Unit. After the Developer no longer owns a Unit, the Members may jointly agree upon a third member. In the event they cannot agree upon a third member or, if while operating they reach an impasse that prevents the reasonable operation of the Project, one or both may petition the then President of the Livingston County Association of Realtors for the appointment of a professional management agent, as defined in Section 3 below, to be appointed to the Board of Directors to assist with the Project. Such appointment shall be entitled to reasonable compensation for their services and shall be held harmless for all actions and decisions made in good faith and constitute reasonable business decisions.

Section 2. Powers and Duties. The Association shall have all powers and duties necessary for the administration of the affairs of the Condominium and may do all things which are not prohibited by law or the Condominium Documents or required thereby to be done by the Co-Owners. The powers and duties to be exercised by the Association through the Board shall include, but shall not be limited to, the power and duty:

(a) To manage and administer the affairs of and to maintain the Condominium, all appurtenances thereto and the Common Elements, property and easements thereof;

(b) To levy and collect assessments against and from the Members of the Association and to use the proceeds therefrom for the purposes of the Association, and to enforce assessments through liens and foreclosure proceedings where, in the judgment of the Directors, appropriate;

(c) To carry insurance and to collect and allocate the proceeds thereof;

(d) To restore, repair or rebuild the Common Elements of the Condominium, or any portion thereof, and any improvements located thereon, after the occurrence of a casualty and to negotiate on behalf of Co-Owners in connection with the taking of the Condominium, or any portion thereof, by eminent domain;

(e) To contract for and employ, supervise, and discharge, persons or business entities to assist in the management, operation, maintenance and administration of the Condominium;

(f) To make and amend reasonable rules and regulations consistent with the Michigan Condominium Act, the Master Deed and these Condominium Bylaws affecting Co-Owners and their tenants, guests, employees and invitees concerning the use and enjoyment of the Condominium and to enforce such regulations by all legal methods, including, but not limited, the imposition of fines and late payment charges, eviction proceedings or legal proceedings (copies of all such regulations and amendments thereto shall be furnished to all Members and shall become

effective ten (10) days after mailing or delivery thereof to the designated voting representative, as provided for in Article II, Section 3 above, of each Member, and any such regulation or amendment may be revoked at any time at any duly convened meeting of the Association by the affirmative vote of more than fifty (50%) percent of all Members in number and in value, except that the Members may not revoke any regulation or amendment prior to the first meeting of the Association;

(g) To own, maintain and improve, and to buy, sell, convey, assign, mortgage, license, rent or lease (as landlord or tenant) any real or personal property, including, but not limited to, any Common Elements or Unit in the Condominium, easements, rights-of-way or licenses or any other real property, whether or not contiguous to the Condominium, for the purpose of generating revenues, providing benefit to the Members of the Association or in furtherance of any other appropriate purposes of the Association;

(h) To borrow money and issue evidences of indebtedness in furtherance of any and all of the purposes of the business of the Association, and to secure the same by mortgage, pledge or other lien on property owned by the Association; provided, however, that any such action shall first be approved by the affirmative vote of all of the Members of the Association in value at a meeting of the Members duly called;

(i) To establish such committees as it deems necessary, convenient or desirable and to appoint persons thereto, for the purpose of implementing the administration of the Condominium and to delegate such committees any functions or responsibilities which are not by law or the Condominium Documents required to be performed by the Board;

(j) To enforce the provisions of the Master Deed and Bylaws of the Condominium, the Articles of Incorporation, and the Rules and Regulations of the Association as may hereafter be adopted, and to sue on behalf of the Condominium or the Members and to assert, defend or settle claims on behalf of the Members with respect to the Condominium;

(k) To do anything required of or permitted by it as administrator of said Condominium by the Master Deed, the Condominium Bylaws or the Michigan Condominium Act, as amended;

(l) To provide services to Co-Owners;

(m) In general, to enter into any kind of activity; to make and perform any contract and to exercise all powers necessary, incidental or convenient to the administration, management, maintenance, repair, replacement and operation of the Condominium and to the accomplishment of any of the purposes thereof not forbidden, and with all powers conferred upon nonprofit corporations by the laws of the State of Michigan.

Provided, however, that, except in the cases of licenses, leases or rental arrangements having a duration of one (1) year or less, neither the Board nor the Association shall, by act or omission, abandon, partition, subdivide, encumber, sell or transfer the Common Elements, or any of them, unless at least one (1) of the first Mortgagees (based upon one (1) vote for each mortgage owned) and all of the Members in number and value have consented thereto. The Board may, however, grant easements for public utilities or other public purposes consistent with the intended use of the

Common Elements by the Condominium, and no such grant shall be deemed a transfer for the purposes hereof.

Section 3. Managing Agent. The Board may employ, at a compensation established by it, a professional management agent for the Condominium to perform such duties and services as the Board shall authorize, including, but not limited to, the powers and duties set forth in Section 2 of this Article. A “professional management agent” shall mean a person or organization having proven expertise, either from prior experience or by education, in the operation and management of real property. Prior to the Transitional Control Date, the Developer, or any related person or entity, may serve as professional managing agent if so appointed. In no event shall the Board be authorized to enter into any contract with a professional management agent, or any contract providing for services by the Developer or its affiliates, in which the maximum term is greater than three (3) years or which is not terminable by the Association upon the Transitional Control Date or within ninety (90) days thereafter and upon thirty (30) days’ written notice for cause. Upon the Transitional Control Date, or within ninety (90) days thereafter, the Board of Directors may terminate a service or management contract with the Developer or its affiliates. In addition, the Board of Directors may terminate any management contract which extends beyond one (1) year after the Transitional Control Date by providing notice of termination to the management agent at least thirty (30) days before the expiration of the one (1) year.

Section 4. Officers.

(a) The Officers of the Association (“Officers”) shall be a President, Secretary and a Treasurer, who shall all be members of the Board of Directors. The Secretary and Treasurer may be held by the same Board member.

(b) The Officers of the Association shall be elected annually by the Board of Directors at the organization meeting of each new Board and shall hold office at the pleasure of the Board.

(c) Upon affirmative vote of a majority of the members of the Board of Directors, any officer may be removed either with or without cause, and their successor elected at any regular meeting of the Board of Directors, or at any special meeting of the Board called in whole or in part for such purpose.

(d) The President shall be the chief executive officer of the Association. They shall preside at meetings of the Association and of the Board of Directors. They shall have all of the general powers and duties which are usually vested in the office of the president of a corporation, including, but not limited to, the power to appoint committees from among the members of the Association from time-to-time as they may in their discretion deem appropriate to assist in the conduct of the affairs of the Association.

(e) The Secretary shall keep the minutes of all meetings of the Board of Directors and the minutes of all meetings of the members of the Association; they shall have charge of the corporate seal and of such books and papers as the Board of Directors may direct; and they shall, in general, perform all duties incident to the office of the Secretary.

(f) The Treasurer shall have responsibility for the Association funds and securities and shall be responsible for keeping full and accurate accounts of all receipts and disbursements, specifying the operating expenses clearly, in books belonging to the Association. They shall be responsible for the deposit of all moneys and other valuable effects in the name and to the credit of the Association, in such depositories as may, from time-to-time, be designated by the Board of directors. They shall ensure that expenditures for the maintenance and repair of common elements and any other expenses incurred by or on behalf of the Condominium are properly recorded. In accordance with Article V, Section 3, of the Condominium Bylaws, the Treasurer shall prepare and distribute to each member at least once per year the Association financial statement.

(g) The Officers shall have such other duties, powers and responsibilities as shall, from time-to-time, be authorized by the Board of Directors.

Section 5. Actions Prior to First Meeting. Subject to the provisions of Section 2 of this Article IV, all of the actions (including, without limitation, the adoption of these Condominium Bylaws, any Rules and Regulations for the Association, and any undertakings or contracts entered into with others on behalf of the Association) of the first Board of Directors of the Association designated by its Incorporator, or their appointed successors, before the first meeting of Members, shall be binding upon the Association in the same manner as though such actions had been authorized by a Board of Directors duly elected by the Members of the Association at the first or any subsequent meeting of Members so long as such actions are within the scope of the powers and duties which may be exercised by any Board of Directors as provided in the Condominium Documents.

Section 6. Indemnification of Officers and Directors. The Association shall indemnify every Association Director and officer against all expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by them as a consequence of their being made a party to or being threatened to be made a party to any threatened, pending or contemplated action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of their being or having been a Director or officer of the Association, except in such cases wherein they are adjudged guilty of willful and wanton misconduct or gross negligence in the performance of their duties or adjudged to have not acted in good faith and in a manner they reasonably believed to be in or not opposed to the best interests of the Association and its Members, and with respect to any criminal action or proceeding, they are adjudged to have had no reasonable cause to believe that their conduct was unlawful; provided that, if a Director or officer claims reimbursement or indemnification hereunder based upon their settlement of a matter, they shall be indemnified only if the Board of Directors (with any director seeking reimbursement abstaining) approves such settlement and reimbursement as being in the best interests of the Association and, if a majority of the Members request it, such approval is based on an opinion of independent counsel supporting the propriety of such indemnification and reimbursement. The foregoing right of indemnification shall be in addition to and not exclusive of all other rights such director or officer may have. The Board of Directors shall notify all Members that it has approved an indemnification payment at least ten (10) days prior to making such payment.

ARTICLE V  
OPERATION OF THE PROPERTY

Section 1. Personal Property. The Association shall be assessed as the person or entity in possession of any tangible personal property of the Condominium owned or possessed in common by the Co-Owners, and personal property taxes based thereon shall be treated as Expenses of Administration.

Section 2. Costs and Receipts to be Common. All costs incurred by the Association in satisfaction of any liability arising within, or caused by or in connection with, the Common Elements or the administration of the Condominium shall be Expenses of Administration (as defined in subsection 4 below). All sums received as proceeds of, or pursuant to, any policy of insurance carried by the Association securing the interests of the Co-Owners against liabilities or losses arising within, caused by or connected with the General Common Elements or the administration of the Condominium shall be receipts of administration.

Section 3. Books of Account. The Association shall keep or cause to be kept detailed books of account showing all expenditures and receipts affecting administration of the Condominium. Such books of account shall specify the maintenance and repair expenses of the Common Elements and any other expenses incurred by or on behalf of the Association of Co-Owners and shall be open for inspection by the Co-Owners and their Mortgagees during reasonable working hours in normal working days at a place to be designated by the Association. The books of account shall be audited at least annually by independent accountants, but such audit need not be a certified audit, nor must the accountants be certified public accountants. The cost of such audit, and all accounting expenses, shall be an Expense of Administration. Any institutional holder of a first mortgage lien on any Unit in the Condominium shall be entitled to receive a copy of the audit report within ninety (90) days following the end of the Association's fiscal year upon request therefor. At least once a year, the Association shall prepare and distribute to each Co-Owner a statement of its financial condition, the contents of which shall be defined by the Association.

Section 4. Regular Assessments. The Board of Directors shall establish an annual budget in advance for each fiscal year for the Condominium, and such budget shall contain a statement of the estimated funds required to defray the Expenses of Administration for the forthcoming year, which shall mean all items specifically defined as such in these Condominium Bylaws and all other common expenses. The common expenses shall consist, among other things, of such amounts as the Board may deem proper for the operation, management and maintenance of the Condominium Project to the extent of the powers and duties delegated to it hereunder, and in the Master Deed, and shall include, without limitation, amounts to be set aside for working capital of the Condominium, the cost of fulfilling the Association's maintenance, repair and replacement responsibilities, management wages, fees and salaries, common area utilities, common area landscaping maintenance and replacement, common area cleaning, supplies, snow removal, licenses and permits, banking, legal and accounting fees, insurance, and creation and maintenance of a an appropriate reserve fund. Each purchaser of a Unit in the Condominium is required to pay the Association an amount equal to two (2) months' assessment as a non-refundable working capital contribution. As provided in Section 11 below, an adequate reserve fund for maintenance, repair and replacement of the General Common Elements must be established in the budget and must be funded by regular assessments rather than by special assessments. The budget shall also allocate and assess all Expenses of Administration against all Co-Owners in accordance with the Percentage of Value allocated to each Unit by the Master Deed, without increase or decrease for the existence of any rights to the use of the Common Elements.



The Board shall advise each non-Developer Co-Owner in writing of the amount of assessment payable by him and shall furnish copies of each budget on which such assessments are based to all Co-Owners, although failure to deliver a copy of the budget to each Co-Owner shall not affect the liability of any Co-Owner for any existing or future assessments. A Co-Owner shall be responsible for payment of the assessment commencing with the acquisition of legal or equitable title to a Unit by any means. If the closing occurs at a time other than the commencement of the fiscal year, the Co-Owner shall only be responsible for paying that prorated portion of the annual assessment attributable to the remaining portion of the fiscal year. Should the Board at any time determine, in its sole discretion, that the assessments levied are or may prove to be insufficient (1) to pay the cost of operation and management of the Condominium, (2) to provide for the maintenance, repair or replacement of existing Common Elements, (3) to provide additions to the General Common Elements not exceeding Ten Thousand Dollars (\$10,000) annually, or (4) to provide for emergencies not exceeding Ten Thousand Dollars (\$10,000) annually, the Board shall have the authority to increase the general assessments or to levy such additional assessment or assessments as it shall deem be necessary. Such assessments shall be payable when and as the Board shall determine. Members shall pay all assessments levied in accordance with this Section 4 in twelve (12) equal monthly installments, commencing with acquisition of title to a Unit by any means.

Any sums owed to the Association by any individual Co-Owner may be assessed to and collected from the responsible Co-Owner as an addition to the monthly assessment installment next coming due. The discretionary authority of the Board to levy assessments pursuant to this Section will rest solely with the Board for the benefit of the Association and the Members thereof and will not be enforceable by any creditors of the Association or its Members.

Section 5. Special Assessments. Special assessments, in addition to those provided for in Section 4 above, may be levied by the Board from time to time, following approval by the Co-Owners as hereinafter provided, to meet other needs, requirements or desires of the Association, including, but not limited to, (1) assessments for capital improvements for additions to the General Common Elements at a cost exceeding Five Thousand Dollars (\$5,000) per year, (2) assessments to purchase a Unit upon foreclosure of the lien for assessments as described in Section 6 hereof, or (3) assessments for any other appropriate purpose not elsewhere herein described. Special assessments referred to in this Section 5 (but not including regular assessments referred to in Section 4 above, which shall be levied in the sole discretion of the Board) shall not be levied without the prior approval of all Members in value and in number, which approval shall be granted only by a vote of the Co-Owners taken at a meeting of the Co-Owners called in accordance with the provisions of Article III hereof. The discretionary authority of the Board to levy assessments pursuant to this Section will rest solely with the Board for the benefit of the Association and the Members thereof and will not be enforceable by any creditors of the Association or its Members.

Section 6. Collection of Assessments. When used in this Section 6 and Section 11 below, and wherever else appropriate in these Condominium Bylaws, the term "assessment" shall include all regular and special assessments referred to in Sections 4 and 5 above and, in addition, all other charges whatsoever levied by the Association against any Co-Owner. This Section 6 is designed to provide the Association with a vehicle for collection.

Each Co-Owner, whether one or more persons, shall be and shall remain personally obligated for the payment of all assessments, or a prorated portion thereof, levied with regard to its Unit during the time that it is the owner thereof, and no Member may exempt himself from liability for its contribution toward the Expenses of Administration by waiver of the use or enjoyment of any of the Common Elements or by the abandonment of its Unit. If any Co-Owner defaults in paying an assessment, interest at the maximum legal rate shall be charged on such assessment from the due date and further penalties or proceedings may be instituted by the Board in its discretion. The payment of an assessment shall be in default if such assessment is not paid in full on or before the due date established by the Board for such payment. In the event of default by any Co-Owner in the payment of any installment of the annual assessment levied against its Unit, the Association shall have the right to declare all unpaid installments of the annual assessment for the pertinent fiscal year immediately due and payable. The Association may also discontinue the furnishing of any services to a Co-Owner if default upon seven (7) days' written notice to such Co-Owner of its intent to do so. A Co-Owner in default on the payment of any assessment shall not be entitled to vote at any meeting of the Association so long as such default continues. The Board may, but need not, report such a default to any first Mortgagee of record; provided, however, that if such default is not cured within sixty (60) days, the Association shall give the notice required by Section 2 of Article IX of these Condominium Bylaws. Any first Mortgagee of a Unit in the Condominium may consider a default in the payment of any assessment a default in the payment of its mortgage. When a Co-Owner is in arrearage to the Association for assessments, the Association may give written notice of arrearage to any person occupying its Unit under a lease or rental agreement, and such person, after receiving the notice, shall deduct from rental payments due the Co-Owner the arrearage and future assessments as they fall due and pay them to the Association. The deductions shall not be a breach of the rental agreement or lease by the occupant.

would this include not maintaining the common areas?

Unpaid assessments shall constitute a lien upon the Unit prior to all other liens except unpaid ad valorem real estate taxes and special assessments imposed by a governmental entity and sums unpaid on a first mortgage of record. The Association may enforce collection of delinquent assessments by a suit at law for a money judgment or by foreclosure of the lien that secures payment of assessments. Each Co-Owner, and every other person, except a first Mortgagee, who from time to time has any interest in the Condominium, shall be deemed to have granted to the Association the unqualified right to elect to foreclose such lien either by judicial action or by advertisement (in accordance with the provisions of Chapter 32 of the Michigan Revised Judicature Act, as amended). The provisions of Michigan law pertaining to foreclosure of mortgages by judicial action and by advertisement, as the same may be amended from time to time, are incorporated herein by reference for the purposes of establishing the alternative procedures to be followed in lien foreclosure actions and the rights and obligations of the parties to such actions. The Association is hereby granted what is commonly known as a "power of sale." Further, each Co-Owner and every other person, except a first Mortgagee, who from time to time has any interest in the Condominium shall be deemed to have authorized and empowered the Association to sell or to cause to be sold the Unit with respect to which the assessment is delinquent and to receive, hold and distribute the proceeds of such sale in accordance with the priorities established by applicable law. Each Co-Owner acknowledges that at the time of acquiring title to its Unit, it was notified of the provisions of this section and that it voluntarily, intelligently and knowingly waived notice of any proceedings brought by the Association to foreclose by

advertisement the lien for nonpayment of assessments and a hearing on the same prior to the sale of the subject Unit.

Notwithstanding the foregoing, neither a judicial foreclosure action nor a suit at law for money judgment shall be commenced, nor shall any notice of foreclosure by advertisement be published, until the expiration of ten (10) days after mailing of a written notice that an assessment, or any part thereof, levied against its Unit is delinquent, and the Association may invoke any of its remedies hereunder if the default is not cured within ten (10) days after the date of mailing. Such notice shall be mailed by certified mail, return receipt requested, and postage prepaid, and shall be addressed to the individual representative of the delinquent Co-Owner designated in the certificate filed with the Association pursuant to Section 3 of Article II above, at the address set forth in such certificate or at its last known address. Such written notice shall be accompanied by a written affidavit of an authorized representative of the Association that sets forth (i) the affiant's capacity to make the affidavit, (ii) the statutory and other authority for the lien, (iii) the amount outstanding (exclusive of interest, costs, attorneys' fees and future assessments), (iv) the legal description of the subject Unit, and (v) the name of the Co-Owner of record. Such affidavit shall be recorded in the Office of the Livingston County Register of Deeds prior to the commencement of any foreclosure proceeding, but it need not have been recorded as of the date of mailing. If the delinquency is not cured within the ten (10) day period, the Association may take such remedial action as may be available to it hereunder or under Michigan law. In the event the Association elects to foreclose the lien by advertisement, the Association shall so notify the individual representative designated above and shall inform such representative that it may request a judicial hearing by bringing suit against the Association. The expenses incurred in collecting unpaid assessments, including interest, costs, actual attorneys' fees (not limited to statutory fees) and advances for taxes or other liens paid by the Association to protect its lien, shall be chargeable to the Co-Owner in default and shall be secured by the lien on its Unit. If any Member defaults in the payment of any installment of the annual assessment levied against its Unit, the Association shall have the right to declare all unpaid installments of the annual assessment for the pertinent fiscal year immediately due and payable. In a judicial foreclosure action, a receiver may be appointed to collect a reasonable rental for the Unit from the Co-Owner thereof or any persons claiming under him, and each Co-Owner hereby consents to the appointment of such a receiver. The Association may purchase a Unit at any foreclosure sale hereunder.

If the holder of a first mortgage on a Unit in the Condominium obtains title to the Unit as a result of foreclosure of the mortgage, deed in lieu of foreclosure or similar remedy, or any other remedy provided in the mortgage, such person, and its successors and assigns, or other purchaser at a foreclosure sale shall not be liable for unpaid assessments chargeable to the Unit which became due prior to the acquisition of title to the Unit by such person; provided, however, that all assessments chargeable to the Unit subsequent to the acquisition of title shall be the responsibility of such person as hereinbefore provided with respect to all Co-Owners.

Section 7. Maintenance and Repair. As provided in the Master Deed, the Association shall maintain and repair the General Common Elements and the Limited Common Elements, to the extent set forth in the Master Deed. The costs thereof shall be charged to all the Members as a common expense, unless necessitated by the negligence, misuse or neglect of a Member, in which case such expense shall be charged to such Member. The Association or its agent shall have access

to each Unit at all times without notice for making emergency repairs necessary to prevent damage to the other Unit, the Common Elements, or both.

The obligation to maintain and repair the General Common Elements shall specifically include the landscaping at the Condominium. Unless otherwise approved by the Genoa Charter Township, the landscaping shall be maintained at a level consistent with or better than the landscaping plan included with the Site Plan for the Condominium. Prior to the first meeting of the Members as described in Article III hereof, the Developer shall have the responsibility to maintain the landscaping in the area designated as General Common Element. After the first meeting of the Members, the responsibility shall be transferred to the Association.

Each Member shall provide the Association means of access to its Unit and any Limited Common Elements appurtenant thereto during all periods of absence, and if such Member fails to provide a means of access, the Association may gain access in such manner as may be reasonable under the circumstances and shall not be liable to such Member for any necessary damage to its Unit or any Limited Common Elements appurtenant thereto caused thereby or for the repair or replacement of any doors or windows damaged in gaining such access, the costs of which damage shall be borne by such Member. Unless otherwise provided herein or in the Master Deed, damage to a Unit or its contents caused by the repair or maintenance activities of the Association, or by the Common Elements, shall be repaired at the expense of the Association.

All other maintenance and repair obligations shall, as provided in the Master Deed, rest on the individual Member. Each Member shall maintain its Unit and any Limited Common Elements appurtenant thereto for which it has maintenance responsibility in a safe, clean and sanitary condition. Each Member shall also use due care to avoid damaging any of the Common Elements, including, but not limited to, the telephone, water, gas, plumbing, electrical or other utility conduits and systems and any other Common Elements in any Unit which are appurtenant to or which may affect any other Unit. Each Member shall be responsible for damages or costs to the Association resulting from negligent damage to or misuse of any of the Common Elements by it, its guests, tenants, agents or invitees, unless such damages or costs are actually reimbursed from insurance carried by the Association, in which case there shall be no such responsibility (if reimbursement to the Association is excluded by virtue of a deductible provision, the responsible Member shall bear the expense to the extent of the deductible amount, anything else in these Condominium Bylaws to the contrary notwithstanding). Any costs or damages to the Association that are herein or elsewhere in the Condominium Documents assigned to the individual Member may be assessed to and collected from the responsible Member in the manner provided for regular assessments in Article V, Section 4, hereof.

The provisions of this Section 7 shall be subject to those of Article VI, Sections 1-3, in the event of repair or replacement on account of a casualty loss.

Section 8. Taxes. Subsequent to the year in which the Condominium is established, all special assessments and property taxes shall be assessed against the individual Units and not upon the total property of the Condominium or any part thereof. Taxes and special assessments which have become a lien against the property of the Condominium in the year of its establishment (as provided in Section 231 of the Act) shall be Expenses of Administration and shall be paid by the Association. Each Unit shall be assessed a percentage of the total bill for such taxes and

assessments equal to the Percentage of Value allocated to it in the Master Deed, and the Members owning those Units shall reimburse the Association for their Unit's share of such bill within ten (10) days after they have been tendered a statement therefor.

Section 9. Documents to Be Kept. The Association shall keep current copies of the approved Master Deed, all amendments thereto, and all other Condominium Documents available for inspection at reasonable hours by Members, prospective purchasers and prospective Mortgagees of Condominium Units.

Section 10. Reserve for Major Repairs and Replacement. The Association shall maintain a reserve fund for major repairs and replacement of Common Elements in an amount equal to at least ten percent (10%) of the Association's current annual budget on a noncumulative basis. Moneys in the reserve fund shall be used only for major repairs and replacement of Common Elements. THE MINIMUM STANDARDS REQUIRED BY THIS SECTION MAY PROVE INADEQUATE FOR A PARTICULAR PROJECT. The Association of Members should carefully analyze the Condominium Project to determine if a greater amount should be set aside, or if additional reserve funds should be established for other purposes.

Section 11. Statement of Unpaid Assessments. Pursuant to the provisions of the Act, the purchaser of any Unit may request a statement from the Association as to the outstanding amount of any unpaid assessments thereon, whether regular or special. Upon written request to the Association accompanied by a copy of the executed purchase agreement pursuant to which the purchaser holds a right to acquire a Unit, the Association shall provide a written statement of such unpaid assessments as may exist or a statement that none exist, which statement shall be binding upon the Association for the period stated therein. Upon the payment of that sum within the period stated, the Association's lien for assessments as to such Unit shall be deemed satisfied; provided, however, that the failure of a purchaser to request such statement at least five (5) days prior to the closing of the purchase of such Unit shall render any unpaid assessments and the lien securing the same fully enforceable against such purchaser and the Unit itself.

## ARTICLE VI INSURANCE; REPAIR OR REPLACEMENT

Section 1. Insurance. The Association shall carry all-risk property coverage and liability insurance (including, without limitation, Directors' and Officers' coverage), workers' compensation insurance, if applicable, and such other insurance coverage as the Board may determine to be appropriate with respect to the ownership, use and maintenance of the general and Limited Common Elements of the Condominium and the administration of Condominium affairs. Such insurance shall be carried and administered in accordance with the following provisions:

(a) All such insurance shall be purchased by the Association for the benefit of the Association, the Members and their Mortgagees, as their interests may appear, and provision shall be made for the issuance of certificates of insurance with Mortgagee endorsements to the Mortgagees of Members' Units. It shall be each Member's responsibility to obtain insurance coverage for the Unit, all related appurtenances and structures against fire and other perils covered by a standard all-perils coverage endorsement in an amount equal to the maximum insurable replacement value, excluding foundation and excavation costs, and to insure its personal property

located within the Unit or elsewhere in the Condominium and for its personal liability for occurrences within its Unit or upon Limited Common Elements appurtenant to its Unit. The Association shall have absolutely no responsibility for obtaining such coverage. The Association and all Members shall use their best efforts to see that all property and liability insurance carried by the Association or any Member shall contain appropriate provisions whereby the insurer waives its right of subrogation as to any claims against any Member, the Association or the Developer, and, subject to the provisions of Article V, Section 7, hereof, the Association and each Member hereby waive, each as to the other, any right of recovery for losses covered by insurance. The liability of carriers issuing insurance obtained by the Association shall not, unless otherwise required by law, be affected or diminished on account of any additional insurance carried by any Member, and vice versa.

(b) Public liability insurance shall be carried in such limits as the Board may from time to time determine to be appropriate, and shall cover the Association, each Member, Director and officer thereof, and any managing agent. The policy shall name the Developer as an additional insured.

(c) All premiums upon insurance policies purchased by the Association pursuant to these Condominium Bylaws shall be Expenses of Administration, except as otherwise provided in subsection (b) above.

(d) Proceeds of all insurance policies owned by the Association shall be received by the Association, held in a separate account, and distributed to the Association, the Members and their Mortgagees as their interests may appear; provided, however, whenever Section 3 of this Article requires the repair or reconstruction of the Condominium, any insurance proceeds received by the Association as a result of any loss requiring repair or reconstruction shall be applied for such purpose. Hazard insurance proceeds shall never be used for any purpose other than for repair, replacement or reconstruction of the Project unless all of the Mortgagees in the Condominium have given their prior written approval.

(e) All insurance carried by the Association shall, to the extent possible, provide for cross-coverage of claims by one insured against another.

(f) Fidelity bonds may be required by the Board of Directors from all persons handling or responsible for Association funds, the amount of such bonds shall be determined by the Board in its sole discretion, and the premium for such bonds shall be a common expense of the Association.

Section 2. Appointment of Association. Each Member, by ownership of a Unit in the Condominium, shall be deemed to appoint the Association as its true and lawful attorney-in-fact to act in connection with all matters concerning insurance pertinent to the Condominium and the Common Elements thereof. Without limitation on the generality of the foregoing, the Association as said attorney shall have full power and authority to purchase and maintain such insurance to collect and remit premiums therefor, to collect proceeds and to distribute the same to the Association, the Members and respective Mortgagees, as their interests may appear (subject always to the Condominium Documents), to execute releases of liability, and to execute all

documents and to do all things on behalf of such Members and the Condominium as shall be necessary or convenient to accomplish the foregoing.

Section 3. Reconstruction or Repair. If any part of the Condominium shall be damaged, the determination of whether or not, and how, it shall be reconstructed or repaired shall be made in the following manner:

(a) If a Common Element or a Unit is damaged, such property shall be rebuilt or repaired if any Condominium Unit is tenable, unless the Members unanimously vote that the Condominium shall be terminated and each Mortgagee of a Condominium Unit has given its prior written approval of such termination.

(b) If the Condominium is so damaged that one or both Units are not tenable, and if each Mortgagee of a Condominium Unit has given its prior written approval to the termination of the Condominium, the damaged, property shall not be rebuilt and the Condominium shall be terminated, unless all the Members in value and in number agree to reconstruction by vote or in writing within ninety (90) days after the destruction.

(c) Subject to complying with the applicable requirements of Genoa Charter Township and all other applicable laws and regulations, any reconstruction or repair shall be performed substantially in accordance with the Master Deed and the plans and specifications for the Condominium to a condition as similar as possible to the condition existing prior to damage, unless the Members and each Mortgagee of a Condominium Unit shall unanimously decide otherwise.

(d) Each Member shall be responsible for the reconstruction and repair of its own Unit, including all related appurtenances, (but not any Common Elements).

(e) The Association shall be responsible for the reconstruction and repair of the Common Elements, and for any incidental damage to a Unit and the contents thereof caused by such Common Elements or the reconstruction or repair thereof. Immediately after a casualty occurs causing damage to property for which the Association has the responsibility of maintenance, repair and reconstruction, the Association shall obtain reliable and detailed estimates of the cost to return the damaged property to a condition as good as that existing before the damage.

(f) Any insurance proceeds received, whether by the Association or a Member, shall be used for reconstruction or repair when reconstruction or repair is required by these Condominium Bylaws. If the insurance proceeds are not sufficient to pay the estimated costs of reconstruction or repair required to be performed by the Association, or if at any time during such reconstruction or repair, or upon completion of such reconstruction or repair, the funds for the payment of the costs thereof are insufficient, assessments shall be made against all Members for the cost of reconstruction or repair of the damaged property in sufficient amounts to provide funds to pay the estimated or actual cost of repair. Such assessments shall be levied in the same manner as the regular monthly assessments, as set forth in Article V, Section 4, hereof.

Section 4. Eminent Domain. The following provisions shall control upon any taking by eminent domain:

(a) The Association, acting through its Board of Directors, may negotiate on behalf of all Members for any taking of Common Elements. Any negotiated settlement shall be subject to the approval of all of the Members in number and in value and shall thereupon be binding on all Members.

(b) If an entire Unit is taken by eminent domain, the award for such taking shall be paid to the Member whose Unit has been taken. After acceptance of such award by the Member and its Mortgagee, they shall be divested of all interest in the Condominium. The undivided interest in the Common Elements belonging to the Member whose Unit has been taken shall thereafter appertain to the remaining Unit, including those restored or reconstructed under the provisions of this section.

(c) If any condemnation award shall become payable to any Member whose Unit is not wholly taken by eminent domain, then such award shall be paid by the condemning authority to the Member and its Mortgagee, as their interests may appear. If only a part of any Unit is taken, the Member shall, if practical, use the award to rebuild the same to the extent necessary to make it habitable.

(d) If any portion of the Condominium other than any Unit is taken, the condemnation proceeds relative to such taking shall be paid to the Association, and the affirmative vote of more than fifty (50%) percent of the Members in number and in value at a meeting duly called shall determine whether to rebuild, repair or replace the portion so taken or to take such other action as they deem appropriate. If no such affirmative vote is obtained, such condemnation proceeds shall be remitted to the Members and their respective Mortgagees, as their interests may appear, in accordance with their respective Percentages of Value set forth in Article VI of the Master Deed.

(e) If the Condominium Project continues after a taking by eminent domain, then the remaining portion of the Condominium Project shall be resurveyed and the Master Deed amended accordingly, subject to complying with the applicable requirements of Genoa Charter Township and all other applicable laws and regulations, and, if any Unit shall have been taken, then Article VI of the Master Deed shall be amended to reflect such taking and to proportionately readjust the Percentages of Value of the remaining Members based upon a continuing value for the Condominium of one hundred (100%) percent. Such amendment may be effected by an officer of the Association duly authorized by the Board of Directors without the necessity of execution or specific approval thereof by any Members, but only with the prior written approval of all Mortgagees of individual Units in the Project.

(f) If any Condominium Unit, or any portion thereof, or the Common Elements or any portion thereof, is made the subject matter of any condemnation or eminent domain proceeding or is otherwise sought to be acquired by a condemning authority, the Association promptly shall so notify each mortgagee of the Condominium Units.

(g) If the taking of a portion of a Condominium Unit makes it impractical to rebuild the partially taken Unit to make it habitable, then the entire undivided interest in the Common Elements appertaining to that Condominium Unit shall thenceforth appertain to the remaining Condominium Units, and shall be allocated to them in proportion to their respective undivided



interests in the Common Elements. The remaining portion of that Condominium Unit shall thenceforth be a Common Element.

(h) Votes in the Association of Members and liability for future Expenses of Administration appertaining to a Condominium Unit taken or partially taken (as provided in subsection (g) hereof) by eminent domain shall thenceforth appertain to the remaining Condominium Units, and shall be allocated to them in proportion to their relative voting strength by value in the Association.

Section 5. Construction Liens. The following provisions shall control the circumstances under which construction liens may be applied against the Condominium or any Unit thereof:

(a) Except as provided below, a construction lien for work performed on a Condominium Unit or upon a Limited Common Element may attach only to the Unit upon or for the benefit of which the work was performed.

(b) A construction lien for work authorized by the Developer and performed upon the Common Elements may attach only to Units owned by the Developer at the time of recording of the claim of lien.

(c) A construction lien for work authorized by the Association may attach to each Unit only to the proportional extent that the Member owning the Unit is required to contribute to the Expenses of Administration as provided by the Condominium Documents.

(d) A construction lien may not arise or attach to a Unit for work performed on the Common Elements not contracted for by the Developer or the Association.

If a Member is advised or otherwise learns of a purported construction lien contrary to the foregoing, it shall immediately notify the Board of Directors. Upon learning of the purported construction lien, the Board shall take appropriate measures to remove any cloud on the title of Units improperly affected thereby.

Section 6. Mortgages. Nothing contained in the Condominium Documents shall be construed to give a Condominium Unit Co-Owner, or any other party, priority over any rights of Mortgagees of Condominium Units pursuant to their mortgages in the case of a distribution to a Condominium Unit Co-Owner of insurance proceeds or condemnation awards for losses to or a taking of Condominium Units, Common Elements or both.

## ARTICLE VII USE AND OCCUPANCY RESTRICTIONS; ENFORCEMENT

Section 1. Establishment of Restrictions. In order to provide for congenial occupancy of the Condominium, and for the protection of the value of the Units, the use of Condominium property shall be subject to the following limitations:

(a) Property Subject to These Restrictions. All of the Units in the Condominium Project shall be subject to these restrictions.

(b) Building and Use Restrictions.

(i) Modification or Alteration. No Member shall alter the exterior appearance or structurally modify its Unit or change the configuration of the limited or General Common Elements from the way it or they were originally constructed by the Developer, including, without limitation, location of sidewalk or parking areas, nor shall any Member damage, modify or make attachments to Common Elements, which alterations in any way impair the overall use of the Project, without the express written approval of the Board of Directors, and subject to complying with the applicable requirements of Genoa Charter Township and all other applicable laws and regulations. The Board of Directors, in its sole discretion, may disapprove any such request. However, it may only approve such alterations as do not impair the structural soundness, safety, utility, integrity or appearance of the Condominium. The Board of Directors may appoint an Environmental Control Committee and may delegate to it the responsibility for establishing rules relating to the appearance of Units and common areas, and the approval of the construction, maintenance and repair thereof. Even after approval, a Member shall be responsible for all damages to any other Units and their contents or to the Common Elements resulting from any such alteration.

(ii) Nuisance. No immoral, improper, unlawful or offensive activity shall be carried on in any Unit or upon the limited or General Common Elements, nor shall anything be done which may be or become an annoyance or a nuisance to the Members or their business tenants, nor shall any unreasonably noisy activity be carried on in any Unit or on the Common Elements. No Member owning any Unit shall do or permit anything to be done to keep or permit to be kept in its Unit or on the Common Elements anything that will increase the insurance rate on the Condominium or any Unit without the written approval of the Association. Each Member who is the cause thereof shall pay to the Association the increased cost of insurance premiums resulting from any such activity or the maintenance of any such condition.

(iii) Trash. Neither the limited nor General Common Elements shall be used to store supplies, materials, personal property, trash or refuse of any kind, except as designated by the Association. Trash receptacles shall be maintained in areas designated therefor at all times and shall not be permitted elsewhere on the Common Elements except for such short period of time as may be reasonably necessary to permit the periodic collection of trash.

(iv) Common Elements. The use of Common Elements shall be limited to such times and in such manner as the Association shall determine by duly adopted regulations. In general, no activity shall be carried on nor condition maintained by a Member, either in its Unit or upon the Common Elements, which unreasonably spoils the appearance of the Condominium. Sidewalks, yards, landscaped areas, roads, parking areas, and, in general, all of the Common Elements, shall not be obstructed in any way nor shall they be used for purposes other than for which they are reasonably and obviously intended.

(v) Advertising. No signs or other advertising devices shall be displayed which are visible from the exterior of a Unit or on the Common Elements, including "For Rent" signs, without written permission from the Association, which permission shall not be unreasonably withheld. It being understood that the Members may desire to advertise office space

for lease in a Unit, the Board shall endeavor to develop guidelines for such advertising that is aesthetically pleasing and that complies with applicable Township ordinances.

(vi) Rules. Reasonable regulations consistent with the Act, the Master Deed and these Condominium Bylaws concerning the use of the Common Elements may be made and amended from time to time by any Board of Directors of the Association, including the Board of Directors appointed by the Incorporator and its successors. Copies of all such regulations and amendments thereto shall be furnished to all Members and shall become effective ten (10) days after mailing or delivery thereof to the designated voting representative of each Member. Any such regulation or amendment may be revoked at any time by the affirmative vote of more than fifty (50%) percent of all Members in number and in value at any duly convened meeting of the Association, except that the Members may not revoke any regulation or amendment prior to the first meeting of the Association.

(vii) Landscaping. No Member shall perform any landscaping or plant any trees, shrubs or flowers or place any ornamental materials upon the Common Elements without the express written approval of the Board of Directors.

Section 2. Enforcement. Developer shall have the right to enforce these restrictions. Developer may assign, in whole or in part, its rights and responsibilities hereunder to the Association, and when the last Unit in the Condominium Project has been conveyed, this assignment shall occur automatically. The Association's cost of exercising its rights and administering its responsibilities hereunder shall be Expenses of Administration (as defined in Article V above), provided that the Association shall be entitled to recover its cost of proceeding against a breach by a Co-Owner as provided in Article XII below. All present and future Co-Owners, tenants and any other persons or occupants using the facilities of the Condominium in any manner are subject to and shall comply with the Act, the Master Deed, these Condominium Bylaws, the Articles of Incorporation, and Rules and Regulations of the Association. Failure to comply with any of the terms of the Act, the Master Deed, these Condominium Bylaws, the Articles of Incorporation, or Rules and Regulations of the Association, shall be grounds for relief, which may include, without limitation, an action to recover sums due for such damages, injunctive relief, and any other remedy that may be appropriate to the nature of the breach. The failure of the Association to enforce any right, provision, covenant or condition which may be granted by the Act, the Master Deed, these Condominium Bylaws, the Articles of Incorporation, or Rules and Regulations of the Association shall not constitute a waiver of the right of the Association to enforce such right, provision, covenant or condition in the future.

## ARTICLE VIII APPROVAL OF LEASE

Section 1. Notice of Desire and Intent. If a Unit has been occupied exclusively by a Co-Owner with no rentals in its Unit for over 12 months, a Co-Owner who desires to rent or lease its Condominium Unit or any portion thereof for any term shall provide notice of its intent to the Board of Directors at least ten (10) days prior to presenting a lease form to a potential lessee. All leases must be in writing, and the Member shall provide the Board a copy of the lease upon request. Tenants and non-Co-Owner occupants shall comply with all of the conditions of the Condominium Documents and all of the provisions of the Act, and all leases and rental agreements shall so state.

Section 2. Non-Co-Owner Compliance.

(a) All non-Co-Owner occupants shall comply with all of the terms and conditions of the Condominium Documents and the provisions of the Act, as well as complying with the applicable requirements of Genoa Charter Township and all other applicable laws and regulations.

(b) If the Association determines that a non-Co-Owner occupant has failed to comply with the conditions of the Condominium Documents, the provisions of the Act, or the applicable requirements of Genoa Charter Township and all other applicable laws and regulations the Association shall take the following action:

(i) The Association shall advise the appropriate Member by certified mail of the alleged violation by a person occupying its Unit.

(ii) The Member shall have fifteen (15) days after receipt of the notice to investigate and correct the alleged breach or advise the Association that a violation has not occurred.

(iii) If after fifteen (15) days the Association believes that the alleged breach has not been cured or may be repeated, it may institute on its behalf, or derivatively by the Members on behalf of the Association if it is under the control of the Developer, an action for eviction against the non-Co-Owner occupant and simultaneously, for money damages against the Member and non-Co-Owner occupant for breach of the conditions of the Condominium Documents or of the Act. The relief set forth in this section may be by any appropriate proceeding. The Association may hold both the non-Co-Owner occupant and the Member liable for any damages caused to the Condominium.

ARTICLE IX  
MORTGAGES

Section 1. Notice of Mortgage. A Member who mortgages a Unit shall notify the Association of the name and address of its Mortgagee and shall file a conformed copy of the note and mortgage with the Association, which shall maintain such information in a book entitled "Mortgages of Units."

Section 2. Notice of Default. The Association shall give to the holder of any mortgage covering any Unit in the Project written notification of any default in the performance of the obligations of the Member owning such Unit that is not cured within sixty (60) days.

Section 3. Acquisition of Title by Mortgagee. As provided in Article V, Section 6, any first Mortgagee who obtains title to a Unit pursuant to the remedies provided in the mortgage, or a deed in lieu thereof, shall not be liable for such Unit's unpaid assessments which accrue prior to acquisition of title by the first Mortgagee.

ARTICLE X  
AMENDMENTS

Section 1. Proposal. Amendments to these Condominium Bylaws may be proposed by the Board of Directors of the Association acting upon the vote of a majority of the Directors or by one of the Members by an instrument in writing signed by them.

Section 2. Meeting to Be Held. If such an amendment is proposed, a meeting for consideration of the same shall be duly called in accordance with the provisions of the Condominium Documents.

Section 3. Vote Required. These Condominium Bylaws may be amended by an affirmative vote of all Members in number and in value and one-half (1/2) of all Mortgagees at any regular meeting, or at a special meeting called for such purpose. For purposes of such voting, each Mortgagee shall have one (1) vote for each mortgage held. Notwithstanding the foregoing, no amendment of these Bylaws or any related condominium documents may be made without the prior written consent of the Genoa Charter Township, if such amendment would affect a right of the Genoa Charter Township set forth or reserved within these Bylaws or in the condominium documents.

Section 4. Amendments Not Materially Changing Condominium Bylaws. The Board of Directors may enact amendments to these Condominium Bylaws without the approval of any Member or Mortgagee, provided that such amendments shall not materially alter or change the rights of a Member or Mortgagee, subject to obtaining the prior written consent of the Genoa Charter Township, if such amendment would affect a right of the Genoa Charter Township set forth or reserved within these Bylaws or in the condominium documents.

Section 5. Amendments Concerning Leases. Provisions in these Condominium Bylaws relating to the ability or terms under which a Member may rent its Unit may not be modified and amended without the consent of each affected Member and Mortgagee and, prior to the Transitional Control Date, without the consent of the Developer.

Section 6. Effective Date. Any amendment to these Condominium Bylaws shall become effective upon the recording of such amendment in the Office of the Register of Deeds in the county where the Condominium is located. Without the prior written approval of all holders of mortgage liens on any Unit in the Condominium, no amendment to these Condominium Bylaws shall become effective which involves any change, direct or indirect, any provision hereof that alters or changes materially the rights of any Member or Mortgagee.

Section 7. Costs of Amendment. Any person causing or requesting an amendment to these Condominium Bylaws shall be responsible for the costs and expenses of considering, adopting, preparing and recording such amendment; provided, however, that such costs and expenses relating to amendments adopted pursuant to Article X, Section 3, or pursuant to a decision of the Advisory Committee shall be Expenses of Administration.

Section 8. Notice; Copies of Amendment. Members and Mortgagees of record of Condominium Units shall be notified of proposed amendments not less than ten (10) days before the amendment is recorded. A copy of each amendment to these Condominium Bylaws shall be

furnished to every Member after recording; provided, however, that any amendment to these Condominium Bylaws that is adopted in accordance with this Article or the Act shall be binding upon all persons who have an interest in the Project irrespective of whether such persons actually receive a copy of the amendment.

ARTICLE XI  
DEFINITIONS

All terms used herein shall have the same meanings as set forth in the Act or as set forth in the Master Deed to which these Condominium Bylaws are attached as an exhibit.

ARTICLE XII  
REMEDIES FOR DEFAULT

Section 1. Relief Available. Any default by a Member shall entitle the Association or another Member or Members to the following relief:

(a) Failure to comply with any of the terms or conditions of the Condominium Documents shall be grounds for relief, which may include, without limitation, an action to recover sums due for damages, for injunctive relief, for foreclosure of lien (if in default in payment of an assessment) or any combination thereof, and such relief may be sought by the Association, or, if appropriate, by an aggrieved Member or Members.

(b) In any proceeding arising because of an alleged default by any Member, the Association, if successful, shall be entitled to recover the costs of the proceeding and such reasonable attorneys' fees (not limited to statutory fees) as may be determined by the Court, but in no event shall any Member be entitled to recover such attorneys' fees.

(c) Such other reasonable remedies as provided in the rules and regulations promulgated by the Board of Directors, including, without limitation, the levying of fines against Members after notice and opportunity for hearing, as provided in the Association rules and regulations, and the imposition of late charges for nonpayment of assessments.

(d) The violation of any of the provisions of the Condominium Documents shall also give the Association or its duly authorized agents the rights set forth above, to enter, where reasonably necessary, upon the limited or General Common Elements, or into any Unit, and summarily remove and abate, at the expense of the violating Member, any structure, thing or condition existing or maintained contrary to the provisions of the Condominium Documents.

Section 2. Failure to Enforce. The failure of the Association or of any Member to enforce any right, provision, covenant or condition which may be granted by the Condominium Documents shall not constitute a waiver of the right of the Association or of any such Member to enforce such right, provision, covenant or condition in the future.

Section 3. Rights Cumulative; Governing Law; Jurisdiction. All rights, remedies and privileges granted to the Association or any Member or Members pursuant to any terms, provisions, covenants or conditions of the Condominium Documents shall be deemed to be cumulative, and the exercise of any one or more shall not be deemed to constitute an election of

remedies, nor shall it preclude the party exercising the same from exercising such other and additional rights, remedies or privileges as may be available to such party at law or in equity. These Condominium Bylaws shall be governed by and construed in accordance with the laws of the State of Michigan without regard to conflicts of laws provisions. The state courts located in Livingston County, Michigan or the appropriate federal courts located in the Eastern District of Michigan shall have exclusive jurisdiction for the enforcement and interpretation of this Agreement.

ARTICLE XIII  
SEVERABILITY

If any of the terms, provisions or covenants of these Condominium Bylaws or the Condominium Documents are held to be partially or wholly invalid or unenforceable for any reason whatsoever, such holding shall not affect, alter, modify or impair in any manner whatsoever any of the other terms, provisions or covenants of such documents or the remaining portions of any terms, provisions or covenants held to be partially invalid or unenforceable.

ARTICLE XIV  
CONFLICTING PROVISIONS

In the event of a conflict between the provisions of the Act (or other laws of the State of Michigan) and any Condominium Document, the Act (or other laws of the State of Michigan) shall govern. In the event of any conflict between the provisions of any one or more Condominium Documents, the following order of priority shall prevail, and the provisions of the Condominium Document having the highest priority shall govern:

- (1) the Master Deed, including the Condominium Subdivision Plan;
- (2) these Condominium Bylaws;
- (3) the Articles of Incorporation of the Association; and
- (4) the Rules and Regulations of the Association.

PRELIMINARY SITE PLAN FOR  
**2025 EULER ROAD**  
 BEING PART OF SECTION 13, T2N,R5E, GENOA TOWNSHIP  
 LIVINGSTON COUNTY, MICHIGAN



LOCATION MAP  
 SCALE: 1/4" = 1000'

**LEGAL DESCRIPTION SUBSEQUENT TO SURVEY**

Also described as related to the Grid North of State Plane Coordinated System as defined in Michigan Coordinate System Act 9 of 1964, Section 5a(c) as follows:

Situated in the Township of Genoa, County of Livingston and State of Michigan,

as described as follows:

Commencing at the Northwest Corner of Section 13, Town 2 North, Range 5 East, Genoa Township, Livingston County, Michigan;

thence N88°06'58"E 1308.19 feet (recorded as N88°12'13"E 1305.90 feet) along the North line of said Section 13 to the nominal centerline of Euler Road (33-foot wide 1/2 Right-of-Way) and the PLACE OF BEGINNING;

thence continuing N88°06'58"E (recorded as N88°47'01"E) 1220.41 feet along said North line to a Brass Cap stamped "Livingston Co. Remonumentation Witness" as recorded in L.C.R.C. Document No. 2021CR-0020;

thence continuing N88°06'58"E (recorded as N88°47'01"E) 129.89 feet to the North 1/4 Corner (as calculated) of said Section 13, said Corner being under water;

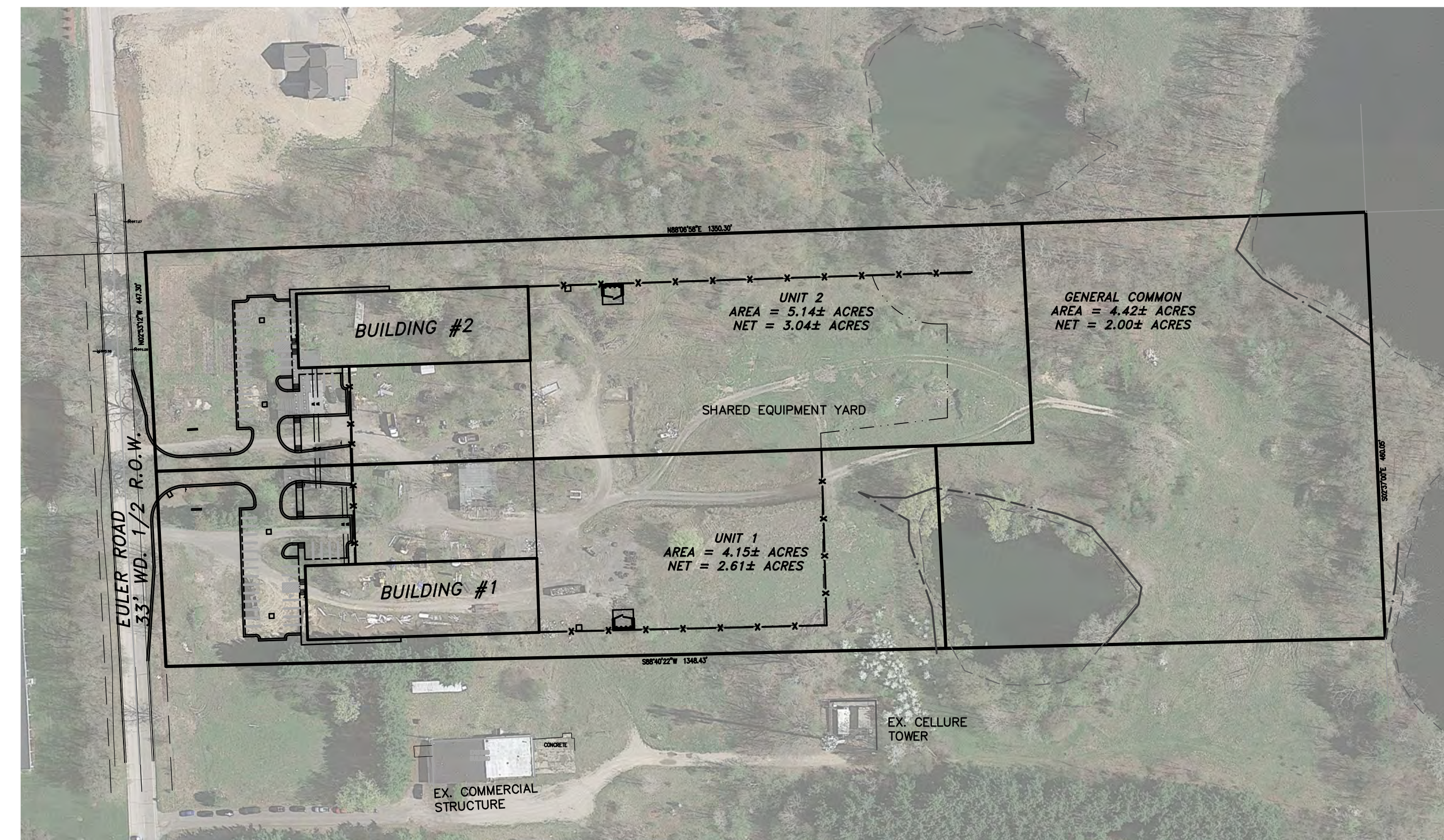
thence S02°37'00"E (recorded as S01°58'40"E) 129.95 feet (as calculated) along the North-South 1/4 line of said Section 13 to a Brass Cap stamped "Livingston Co. Remonumentation Witness" as recorded in said L.C.R.C.;

thence continuing S02°37'00"E (recorded as S01°58'40"E) 330.10 feet along said North-South 1/4 line of said Section 13 to North line of the South 200 feet of the North 1/2 of the Northeast 1/4 of the Northwest 1/4 of said Section 13 as monumented;

thence S88°40'22"W 1348.43 feet (recorded as S88°47'01"W 1348.63 feet) along said North line of the South 200 feet of the North 1/2 of the Northeast 1/4 of the Northwest 1/4 of Section 13 as monumented to said nominal centerline of Euler Road;

thence N02°53'12"W 446.98 feet (recorded as N02°30'21"W 460.00 feet) to the Place of Beginning.

Being a part of the Northwest 1/4 of Section 13, Town 2 North, Range 5 East, Genoa Township, Livingston County, Michigan. Containing 14.05 acres of land, more or less (which includes the bottom lands of ponds). Subject to the rights of the public over the Westerly 33 feet thereof as occupied by Euler Road, also subject to and together with all easements and restrictions affecting title to the above described premises.



**SHEET INDEX**

- EX EXISTING CONDITIONS PLAN
- SP SITE PLAN
- SPD SITE PLAN DETAIL
- UT1 UTILITY PLAN
- UT2 WATERMAIN & SANITARY SEWER PROFILES
- UT3 DETENTION BASIN AND CONTROL STRUCTURE PROFILE & CALCULATIONS
- GR1 GRADING PLAN
- GR2 GRADING PLAN
- SE1 SOIL EROSION CONTROL PLAN
- SE2 SOIL EROSION CONTROL NOTES & DETAILS
- LS1 LANDSCAPE PLAN
- LS2 LANDSCAPE PLAN
- LS3 LANDSCAPE NOTES & DETAILS
- WS WATERSHED PLAN
- DT1 SITE & PAVEMENT NOTES & DETAILS
- DT2 STORM SEWER NOTES & DETAILS
- DT3 FENCING NOTES & DETAILS
- MHOG STANDARD SANITARY SEWER AND WATERMAIN DETAILS
- PHOTOMETRIC SITE PLAN
- ARCHITECTURAL PLANS, UNIT #1
- A1.01 LOWER LEVEL FLOOR PLAN
- A1.02 UPPER LEVEL FLOOR PLAN
- A2.01 BUILDING ELEVATIONS
- ARCHITECTURAL PLANS, UNIT #2
- A1.01 LOWER LEVEL FLOOR PLAN
- A1.02 UPPER LEVEL FLOOR PLAN
- A2.01 BUILDING ELEVATIONS

**OWNER/DEVELOPER**  
 4M GENOA LLC  
 2244 EULER ROAD  
 BRIGHTON, MICHIGAN 48114

**CIVIL ENGINEER / LAND SURVEYOR**  
 DESINE, INC.  
 2183 PLESS DRIVE  
 BRIGHTON, MICHIGAN 48114  
 810-227-9533



ISSUED	SCALE:	AS NOTED
NOV. 3, 2023	PROJECT No.:	234463
	DWG NAME:	4463 COV
	PRINT:	DEC. 19, 2023



NORTHWEST CORNER  
SECTION 13  
T. 2 N. R. 5 E.  
GENOA TOWNSHIP  
LIVINGSTON COUNTY  
MICHIGAN

PARCEL No.  
4711-13-100-030  
ZONED: PID

PARCEL No.  
4711-12-300-006  
ZONED: CE

PARCEL No.  
4711-13-100-010  
ZONED: INDUSTRIAL

PARCEL No.  
4711-13-200-009  
ZONED: NC-PUD

EULER ROAD  
33' WD 1/2 R.O.W.

EXIST. WATER LEAD SHALL BE  
ABANDONED AT MAIN PER  
MHOQ STANDARDS.

5' WD CONV FOR  
PUBLIC UTILITY  
L. 2784, PG. 665

**EXIST. STRUCTURE  
INVENTORY**

CATCH BASIN #1  
LOW POINT 977.86  
WESTERLY 12" RCP 974.16  
EASTERLY 18" RCP 975.41

CATCH BASIN #2  
LOW POINT 977.97  
EASTERLY 12" RCP 974.02  
SOUTHERLY 18" RCP

NOTE: PIPE TOO FAR TO OBTAIN INVERT  
NORTHERLY 18" RCP TOP PIPE 972.32

CATCH BASIN #3  
LOW POINT 975.09  
SOUTHERLY 18" RCP 971.39  
SOUTHERLY 6" CPV 971.84  
EASTERLY 12" RCP

NOTE: PIPE TOO FAR TO OBTAIN INVERT

CATCH BASIN #4  
LOW POINT 975.02  
WESTERLY 12" RCP 971.62

SANITARY MANHOLE #1  
WESTERLY RW 976.40  
SOUTHERLY 10" PVC 966.85  
NOTE: EMPTY - DRY

STORM MANHOLE #2  
EASTERLY RW 975.52  
NORTHERLY 18" / 20"

NOTE: PIPE TOO FAR TO OBTAIN INVERT  
NORTHWESTERLY 6" CPV 971.52  
WESTERLY 12" RCP 971.47  
EASTERLY 12" RCP

NOTE: PIPE TOO FAR TO OBTAIN INVERT

SANITARY MANHOLE #4  
WESTERLY RW 976.96  
NORTHERLY 2" PVC 971.56  
NORTHERLY 10" PVC 966.21  
SOUTHERLY 10" PVC 966.06

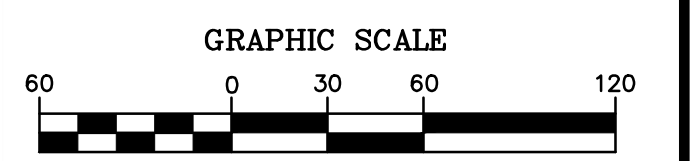
**TREE SCHEDULE**

No.	DESCRIPTION	No.	DESCRIPTION	No.	DESCRIPTION
1	OAK 26"	46	WILLOW 48" TWIN	91	OAK 26"
2	BLACKCHERRY 16"	47	WILLOW 36"	92	OAK TWIN 12"
3	BLACKCHERRY 16"	48	WILLOW 36" MULTI	93	CHERRY 12"
4	SMOOTHCHERRY 16"	49	OAK 24"	94	CHERRY 12"
5	OAK 30"	50	WILLOW 12"	95	OAK 18"
6	OAK 14"	51	WILLOW 20"	96	OAK 12"
7	OAK 40"	52	WILLOW 28"	97	BEECH 28"
8	MAPLE 60"	53	OAK 28"	98	OAK 28"
9	OAK 32"	54	OAK 20"	99	CHERRY 12" TWIN
10	OAK 54"	55	OAK 20"	100	CHERRY 12"
11	OAK 48"	56	OAK 12"	101	ELM 32"
12	OAK 48"	57	ELM 48"	102	ELM 18"
13	OAK 24"	58	OAK 32"	103	ELM 48"
14	OAK 32"	59	OAK 24"	104	ELM 22"
15	OAK 14"	60	PINE 12"	105	ELM 18"
16	PINE 30"	61	OAK 32"	106	ELM TWIN 12"
17	HICKORY 28"	62	OAK 36" TWIN	107	ELM TRI 48"
18	HICKORY 20"	63	OAK 48" TWIN HALF DEAD	108	OAK TWIN 18"
19	HICKORY 20"	64	ELM 12"	109	OAK 18"
20	OAK 40"	65	ELM 12"	110	OAK 24"
21	OAK 38"	66	OAK 18"	111	OAK 12"
22	SPRUCE 20"	67	OAK 24"	112	OAK 16"
23	SPRUCE 20"	68	OAK 28"	113	OAK 22"
24	SPRUCE 24"	69	OAK 12"	114	OAK 18"
25	SPRUCE 20"	70	OAK 32"	115	OAK TWIN 18"
26	SPRUCE 20"	71	CHERRY 12"	116	OAK 32"
27	SPRUCE 20"	72	CHERRY 12"	117	OAK 12"
28	SPRUCE 20"	73	CHERRY 18"	118	OAK 28"
29	SPRUCE 12"	74	CHERRY 16"	119	OAK 28"
30	SPRUCE 26"	75	BEECH 16"	120	OAK 28"
31	SPRUCE 26"	76	OAK 20"	121	OAK 12"
32	SPRUCE 12"	77	OAK 20"	122	OAK 14"
33	SPRUCE 18"	78	OAK 20"	123	OAK 14"
34	SPRUCE 18"	79	OAK 16"	124	OAK TWIN 16"
35	SPRUCE 18"	80	OAK 20"	125	OAK 18"
36	SPRUCE 18"	81	OAK 20"	126	OAK 48"
37	SPRUCE 18"	82	OAK 36"	127	OAK 16"
38	SPRUCE 20"	83	OAK 12"	128	OAK 18"
39	SPRUCE 20"	84	OAK 36"	129	OAK 16"
40	SPRUCE 28"	85	ELM 26" MULTI	130	OAK 16"
41	SPRUCE 12"	86	OAK 32"	131	OAK 26"
42	SPRUCE 32"	87	OAK 36"	132	OAK 30"
43	SPRUCE 24"	88	ELM 27"	133	OAK 30"
44	SPRUCE 28"	89	ELM 30" MULTI	134	OAK 30"
45	OAK 32"	90	ELM 14"	135	OAK 48"

T.B.R. = TO BE REMOVED

**DEMOLITION NOTES:**

- The demolition specifications of the Local Municipality are a part of this work. Refer to the General Notes on the project plans for additional requirements.
- Contractor shall contact the 811 Underground Public Utility Locating System or other appropriate local underground utility locating Agency, a minimum of three (3) working days prior to performing demolition work. Existing utility information on the project plans may be from information disclosed to this firm by the Utility Companies, Local, County or State Agencies, and/or various other sources. No guarantee is given as to the completeness or accuracy thereof. Prior to construction, locations and depths of all existing utilities (in possible conflict with the proposed improvements) shall be verified in the field.
- Contractor shall contact the appropriate Agencies to coordinate disconnect of the electric, gas, phone, cable and other public utilities as necessary prior to performing demolition work.
- Contractor shall contact the appropriate Agencies to coordinate removal and/or relocation of any underground and/or overhead public utility lines as necessary prior to performing demolition work.
- Contractor shall recycle and/or dispose of all demolition material and debris in accordance with the appropriate Local, County, State and Federal regulations.
- All bituminous and concrete pavement that is to be removed shall be saw cut at the limits of removal to provide for a clean straight edge for future abutment.
- All existing irrigation lines that are to be removed shall be terminated at the limits of demolition or as necessary to allow for construction of the proposed site improvements. Ends of pipe shall be capped and the location of marked for future connection.
- All existing water main and sanitary sewer that is to be removed shall be terminated at the limits of demolition or as indicated on the project plans. Temporary plugs shall be installed in the ends of pipe in accordance with the appropriate Agency and the locations of marked for future connection. Permanent plugs shall be installed in the ends of pipe in accordance with the appropriate Agency. The Contractor shall record the location of all permanent plugs and provide the location information to the appropriate Agency.
- All existing storm sewer that is to be removed shall be terminated at the limits of demolition or as indicated on the project plans. Temporary plugs shall be installed in the ends of pipe in accordance with the appropriate Agency and the locations of marked for future connection. Permanent bulkheads shall be installed in the ends of pipe and/or openings in terminating structures in accordance with the appropriate Agency. The Contractor shall record the location of all permanent bulkheads and provide the location information to the appropriate Agency.
- All existing light sources to be removed shall have their power cables removed up to the power source or properly terminated for future connection at the limits of demolition or as necessary to allow for construction of the proposed site improvements. Removal and termination of power cables shall be performed in accordance with local electric codes.
- All existing utility meters that are to be removed shall be properly removed to allow for reuse. Any existing utility meters that are not to be reused as a part of this project shall be returned to the appropriate



- ( IN FEET )  
1 INCH = 60 FEET
- EXIST. BRUSH LINE
  - DECIDUOUS TREE
  - EVERGREEN TREE
  - WETLAND LINE
  - EDGE OF WATER
  - OVERHEAD UTILITY LINE
  - UTILITY POLE
  - GUY ANCHOR
  - EXIST. STORM SEWER
  - CATCHBASIN
  - DRAINAGE MANHOLE
  - FLARED END SECTION
  - EXIST. WATERMAIN
  - HYDRANT
  - WATER VALVE
  - EXIST. SANITARY SEWER
  - SANITARY MANHOLE
  - U/G GAS LINE
  - EXIST. 1' CONTOUR
  - EXIST. 5' CONTOUR
  - PROP. WATERMAIN
  - PROP. HYDRANT
  - PROP. VALVE IN WELL
  - PROP. STORM SEWER
  - PROP. CATCHBASIN
  - PROP. DRAINAGE MANHOLE
  - PROP. FLARED END SECTION
  - PROP. SANITARY SEWER
  - PROP. SANITARY MANHOLE

NOTE:  
WETLAND DELINEATION PREPARED BY:  
ASTI ENVIRONMENTAL

**BENCHMARK**  
DATA BASED ON NCS OPUS SOLUTION  
REPORT, DATED APRIL 17, 2023 AT 9:28AM

BENCHMARK #201  
ARROW ON HYDRANT, LOCATED NEAR THE WEST  
SIDE OF EULER ROAD AND 544 FEET SWLY OF  
THE SWLY PARCEL CORNER.  
ELEVATION = 980.62 (NAVD 88)

BENCHMARK #203  
SPK IN THE NELY SIDE OF AN UTILITY POLE,  
LOCATED NEAR THE NORTHERLY PROPERTY LINE  
AND 240 FEET EAST OF EULER ROAD.  
ELEVATION = 976.22 (NAVD 88)

BENCHMARK #204  
STEAMER ON HYDRANT, LOCATED NEAR THE  
WESTERLY SIDE OF EULER ROAD AND 184 FEET  
SWLY OF CATCH BASIN #3.  
ELEVATION = 977.94 (NAVD 88)



**DESIGN INC**  
(810) 227-9533  
CIVIL ENGINEERS  
LAND SURVEYORS  
2183 PLESS DRIVE  
BRIGHTON, MICHIGAN 48114

DESIGN: WMP	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG	1	12-19-23	REVISED PER REVIEW COMMENTS			
CHECK: WMP						

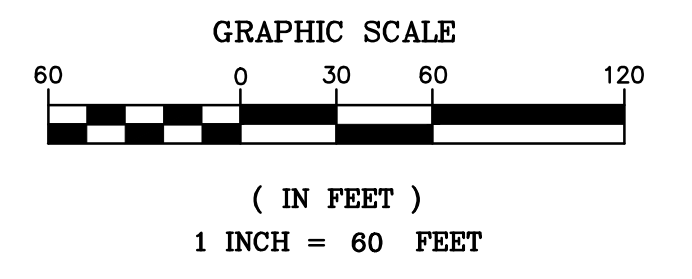
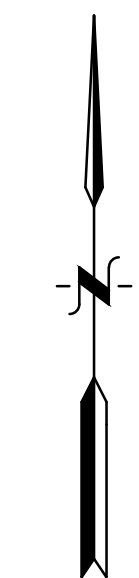
**2025 EULER ROAD  
DEVELOPMENT**

**EXISTING CONDITIONS  
AND  
DEMOLITION PLAN**

CLIENT:  
4M GENOA LLC  
2244 EULER ROAD  
BRIGHTON, MICHIGAN 48114  
810-217-7471

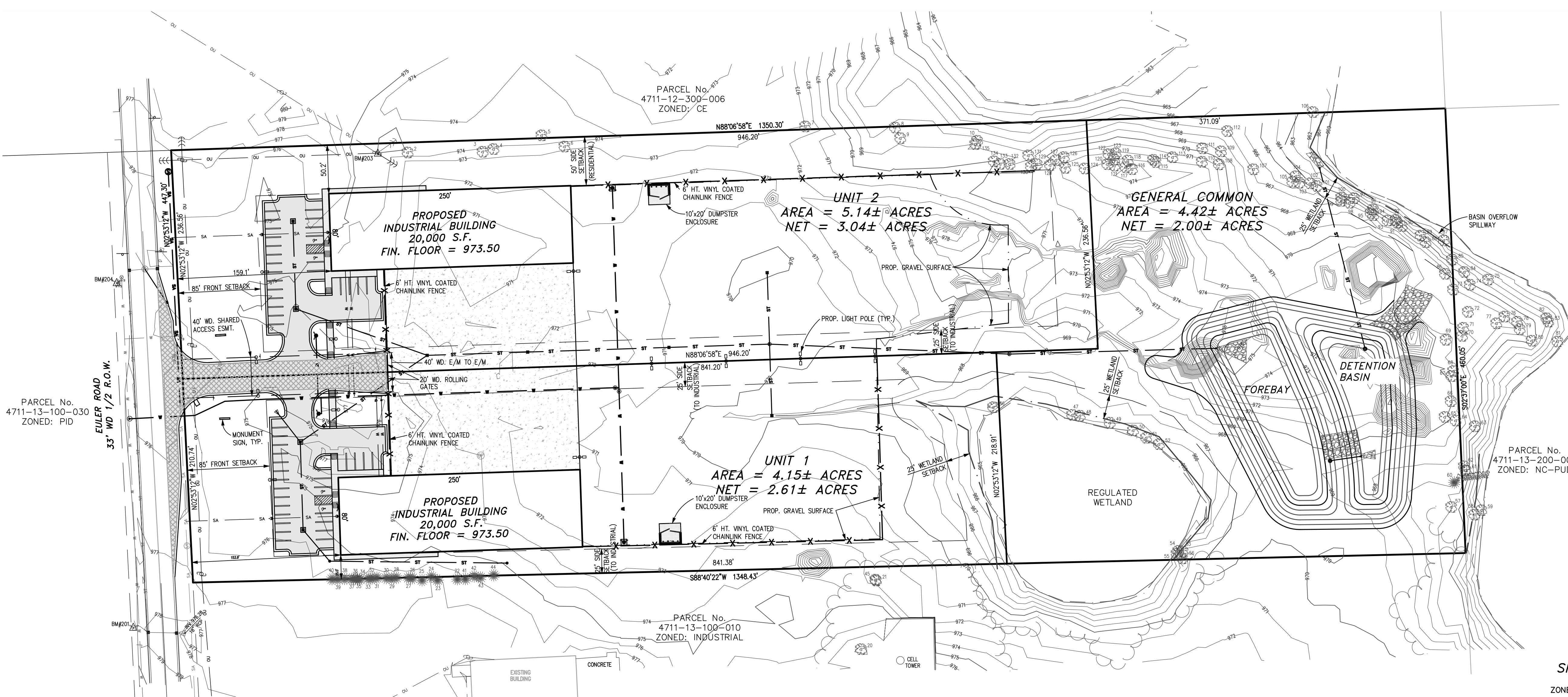
SCALE: 1in. = 60ft.  
PROJECT No.: 234463  
DWG NAME: 4463 EX  
ISSUED: DEC. 19, 2023

**EX**



**LEGEND**

	PARCEL BOUNDARY
	R.O.W. LINE
	BUILDING SETBACK
	EASEMENT LINE
	EXIST. CONC. CURB
	EXIST. EDGE OF GRAVEL
	EXIST. EDGE OF PAVEMENT
	EXIST. BRUSH LINE
	EVERGREEN TREE
	DECIDUOUS TREE
	WETLAND LINE
	EDGE OF WATER
	OVERHEAD UTILITY LINE
	UTILITY POLE
	GUY ANCHOR
	EXIST. STORM SEWER
	CATCHBASIN
	DRAINAGE MANHOLE
	FLARED END SECTION
	EXIST. WATERMAIN
	HYDRANT
	WATER VALVE
	EXIST. SANITARY SEWER
	SANITARY MANHOLE
	U/G GAS LINE
	EXIST. 1' CONTOUR
	EXIST. 5' CONTOUR
	PROP. WATERMAIN
	PROP. HYDRANT
	PROP. VALVE IN WELL
	PROP. FDC
	PROP. STORM SEWER
	PROP. CATCHBASIN
	PROP. DRAINAGE MANHOLE
	PROP. FLARED END SECTION
	PROP. SANITARY SEWER
	PROP. SANITARY MANHOLE
	PROP. CONC. CURB
	PROP. LIGHT POLE
	PROP. CONC. WALK
	PROP. CONC. PAVEMENT
	PROP. STANDARD DUTY BITUMINOUS PAVEMENT
	PROP. HEAVY DUTY BITUMINOUS PAVEMENT



**NOTES:**

- ACCESS GATE, WHETHER MANUAL OR AUTOMATIC, SHALL BE PROVIDED WITH AN APPROPRIATE RAPID ACCESS DEVICE; EITHER KNOX PADLOCK ON SECURITY CHAIN OR KNOX KEY SWITCH INTEGRATED INTO ACCESS PAD.
- ACCESS ROADS TO THE SITE SHALL BE PROVIDED AND MAINTAINED DURING CONSTRUCTION.
- ACCESS ROADS SHALL BE CONSTRUCTED TO BE CAPABLE OF SUPPORTING FIRE APPARATUS WITH A MINIMUM LOAD OF 84,000 LBS.
- A MINIMUM VERTICAL CLEARANCE OF 13.5' SHALL BE MAINTAINED ALONG ALL FIRE ACCESS DRIVES.
- BUILDINGS SHALL BE CONSTRUCTED WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA 13, STANDARD FOR THE INSTALLATION OF AUTOMATIC SPRINKLER SYSTEMS.
- BUILDING SHALL INCLUDE AN ADDRESS SIGN WITH NUMBERS IN CONTRASTING COLORS, AT A MINIMUM HEIGHT OF 6". LOCATION AND SIZE TO BE VERIFIED WITH BRIGHTON AREA FIRE AUTHORITY PRIOR TO INSTALLATION.

**REQUIRED PARKING (PER BUILDING)**

LIGHT INDUSTRIAL: 1.5 SPACES PER 1,000 S.F. GROSS FLOOR AREA  
APPROXIMATE LIGHT INDUSTRIAL FLOOR AREA: 11,490 S.F.  
REQUIRED PARKING SPACES: 18 SPACES

WAREHOUSING: 1 SPACE PER 1,500 S.F. GROSS FLOOR AREA  
APPROXIMATE WAREHOUSE FLOOR AREA: 13,600 S.F.  
REQUIRED PARKING SPACES: 10 SPACES

REQUIRED SPACES PER BUILDING: 28 SPACES  
REQUIRED BARRIER FREE SPACES: 2 SPACES FOR 26-50 REQUIRED TOTAL SPACES

TOTAL REQUIRED SPACES: 56 SPACES  
TOTAL REQUIRED BARRIER FREE SPACES: 4 SPACES

**28 SPACES (PROVIDED)**

**SITE COVERAGE**

**UNIT 1**  
TOTAL AREA: 180,684 S.F. (4.15 AC.)  
TOTAL BUILDING FOOTPRINT: 20,000 S.F. (0.46 AC.)  
BUILDING COVERAGE: 11.1% (40% MAX. ALLOWABLE)  
TOTAL PAVEMENT AREA: 38,611 S.F. (0.89 AC.)  
TOTAL GRAVEL AREA: 57,673 S.F. (1.32 AC.)  
TOTAL IMPERVIOUS AREA: 116,284 S.F. (2.67 AC.)  
IMPERVIOUS COVERAGE: 64.4% (85% MAX. ALLOWABLE)

**UNIT 2**  
TOTAL AREA: 223,802 S.F. (5.14 AC.)  
TOTAL BUILDING FOOTPRINT: 20,000 S.F. (0.46 AC.)  
BUILDING COVERAGE: 8.9% (40% MAX. ALLOWABLE)  
TOTAL PAVEMENT AREA: 38,309 S.F. (0.88 AC.)  
TOTAL GRAVEL AREA: 85,781 S.F. (1.97 AC.)  
TOTAL IMPERVIOUS AREA: 144,090 S.F. (2.85 AC.)  
IMPERVIOUS COVERAGE: 64.4% (85% MAX. ALLOWABLE)

**BUILDING FLOOR SPACE**

APPROXIMATE BLDG. FLOOR SPACE FOR INDUSTRIAL USE: 13,600 S.F. (PER BUILDING)  
APPROXIMATE BLDG. FLOOR SPACE FOR OFFICE USE: 12,100 S.F. (PER BUILDING)

**SITE CHARACTERISTICS**

ZONED:	INDUSTRIAL
AREA:	ALLOWED MIN. 1 ACRE
WIDTH:	150'
SETBACKS:	
FRONT:	85'/50' PARKING 153.9' / 85.1' PARKING
SIDE:	25'/50' RESID. 25.0'/50.2'
REAR:	40' 437.1'
PARKING:	20'/10' SIDE & REAR
BUILDING HEIGHT:	30'

**BENCHMARK**

DATUM BASED ON NAD 83  
REPORT, DATED APRIL 17, 2023 AT 9:26AM

BENCHMARK #201  
ARROW ON HYDRANT, LOCATED NEAR THE WEST SIDE OF EULER ROAD AND 544 FEET SWLY OF THE SWLY PARCEL CORNER.  
ELEVATION = 980.62 (NAVD 88)

BENCHMARK #203  
SPIKE IN THE NEELY SIDE OF AN UTILITY POLE, LOCATED NEAR THE NORTHERLY PROPERTY LINE AND 240± FEET EAST OF EULER ROAD.  
ELEVATION = 976.22 (NAVD 88)

BENCHMARK #204  
STEAMER ON HYDRANT, LOCATED NEAR THE WESTERLY SIDE OF EULER ROAD AND 18± FEET SWLY OF CATCH BASIN #3.  
ELEVATION = 977.94 (NAVD 88)

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(810) 227-9533  
CIVIL ENGINEERS  
LAND SURVEYORS  
2183 PLESS DRIVE  
BRIGHTON, MICHIGAN 48114

DESIGN:WMP	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG	1	12-19-23	REVISED PER REVIEW COMMENTS			
CHECK: WMP						

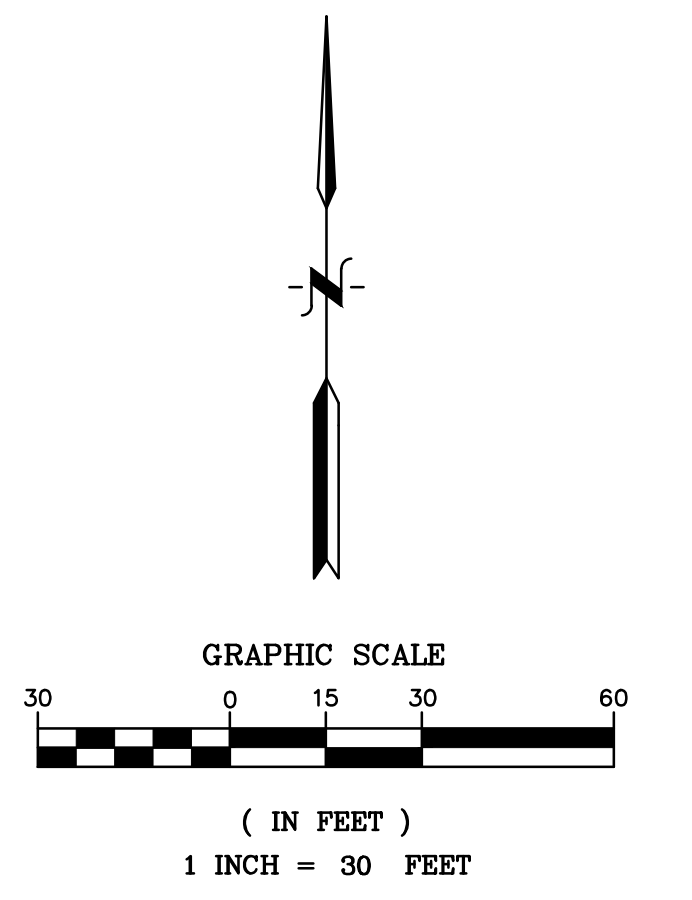
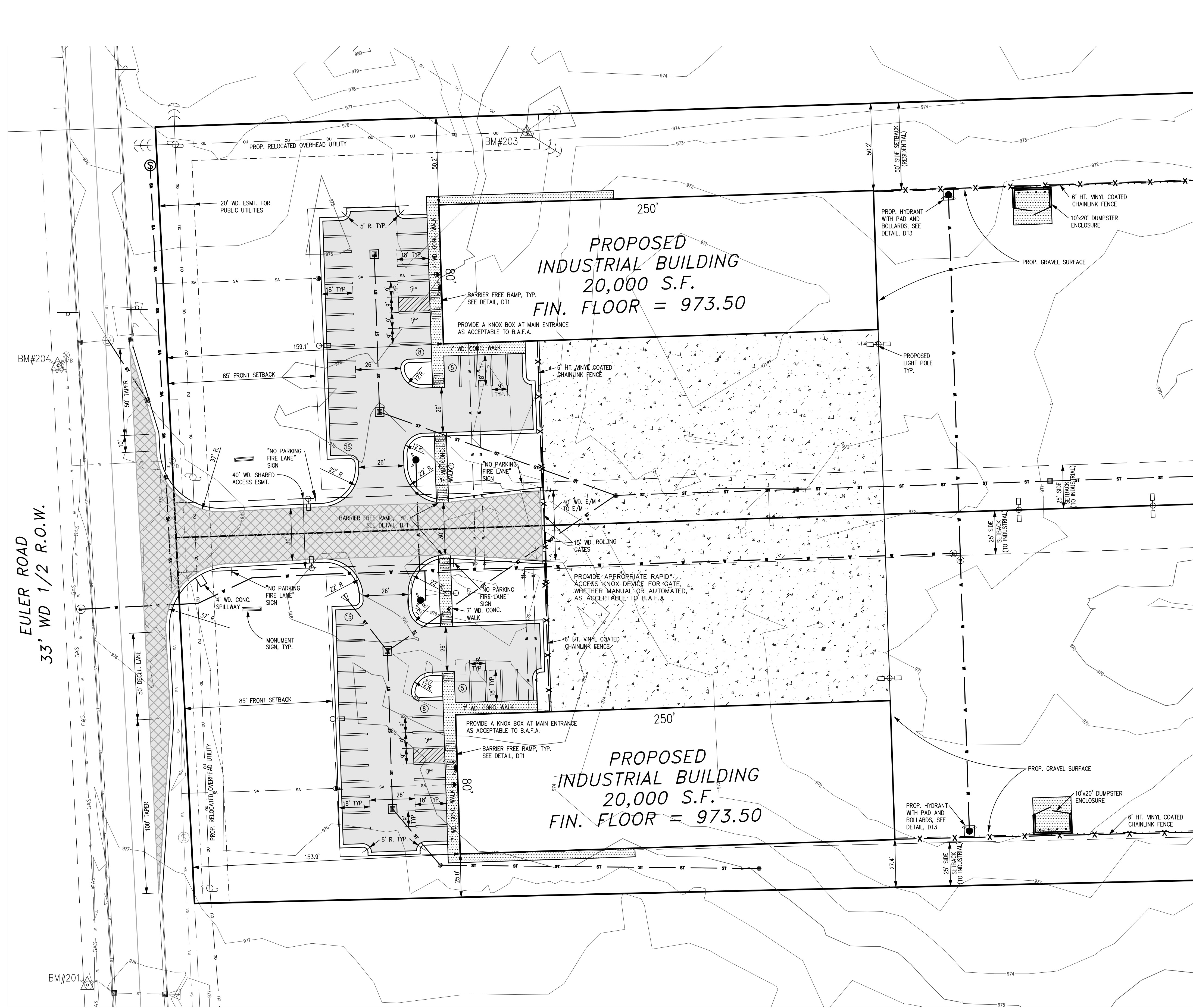
**2025 EULER ROAD DEVELOPMENT**

**SITE PLAN**

CLIENT:  
4M GENOA LLC  
2244 EULER ROAD  
BRIGHTON, MICHIGAN 48114  
810-217-7471

SCALE: 1in. = 60ft.  
PROJECT No.: 234463  
DWG NAME: 4463 SP  
ISSUED: DEC.19, 2023

**SP**



**LEGEND**

--- (dashed line)	PARCEL BOUNDARY
--- (dashed line)	R.O.W. LINE
--- (dashed line)	BUILDING SETBACK
--- (dashed line)	EASEMENT LINE
--- (dashed line)	EXIST. CONC. CURB
--- (dashed line)	EXIST. EDGE OF GRAVEL
--- (dashed line)	EXIST. EDGE OF PAVEMENT
--- (dashed line)	EXIST. BRUSH LINE
--- (dashed line)	DECIDUOUS TREE
--- (dashed line)	EVERGREEN TREE
--- (dashed line)	WETLAND LINE
--- (dashed line)	EDGE OF WATER
--- (dashed line)	OVERHEAD UTILITY LINE
--- (dashed line)	UTILITY POLE
--- (dashed line)	GUY ANCHOR
--- (dashed line)	EXIST. STORM SEWER
--- (dashed line)	CATCHBASIN
--- (dashed line)	DRAINAGE MANHOLE
--- (dashed line)	FLARED END SECTION
--- (dashed line)	EXIST. WATERMAIN
--- (dashed line)	HYDRANT
--- (dashed line)	WATER VALVE
--- (dashed line)	EXIST. SANITARY SEWER
--- (dashed line)	SANITARY MANHOLE
--- (dashed line)	U/G GAS LINE
--- (dashed line)	EXIST. 1' CONTOUR
--- (dashed line)	EXIST. 5' CONTOUR
--- (dashed line)	PROP. WATERMAIN
--- (dashed line)	PROP. HYDRANT
--- (dashed line)	PROP. VALVE IN WELL
--- (dashed line)	PROP. FDC
--- (dashed line)	PROP. STORM SEWER
--- (dashed line)	PROP. CATCHBASIN
--- (dashed line)	PROP. DRAINAGE MANHOLE
--- (dashed line)	PROP. FLARED END SECTION
--- (dashed line)	PROP. SANITARY SEWER
--- (dashed line)	PROP. SANITARY MANHOLE
--- (dashed line)	PROP. CONC. CURB
--- (dashed line)	PROP. LIGHT POLE
--- (dashed line)	PROP. CONC. WALK
--- (dashed line)	PROP. CONC. PAVEMENT
--- (dashed line)	PROP. STANDARD DUTY BITUMINOUS PAVEMENT
--- (dashed line)	PROP. HEAVY DUTY BITUMINOUS PAVEMENT

EULER ROAD  
33' WD 1/2 R.O.W.

**PROPOSED INDUSTRIAL BUILDING**  
20,000 S.F.  
FIN. FLOOR = 973.50

**PROPOSED INDUSTRIAL BUILDING**  
20,000 S.F.  
FIN. FLOOR = 973.50

**BENCHMARK**  
DATUM BASED ON NCS OPUS SOLUTION  
REPORT, DATED APRIL 17, 2023 AT 9:26AM

**BENCHMARK #201**  
ARROW ON HYDRANT, LOCATED NEAR THE WEST  
SIDE OF EULER ROAD AND 544 FEET SWLY OF  
THE SWLY PARCEL CORNER.  
ELEVATION = 980.62 (NAVD 88)

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SPIKE IN THE NEELY SIDE OF AN UTILITY POLE,  
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AND 240± FEET EAST OF EULER ROAD.  
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**BENCHMARK #204**  
STEAMER ON HYDRANT, LOCATED NEAR THE  
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BRIGHTON, MICHIGAN 48114

DESIGN: WMP	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG	1	12-19-23	REVISED PER REVIEW COMMENTS			
CHECK: WMP						

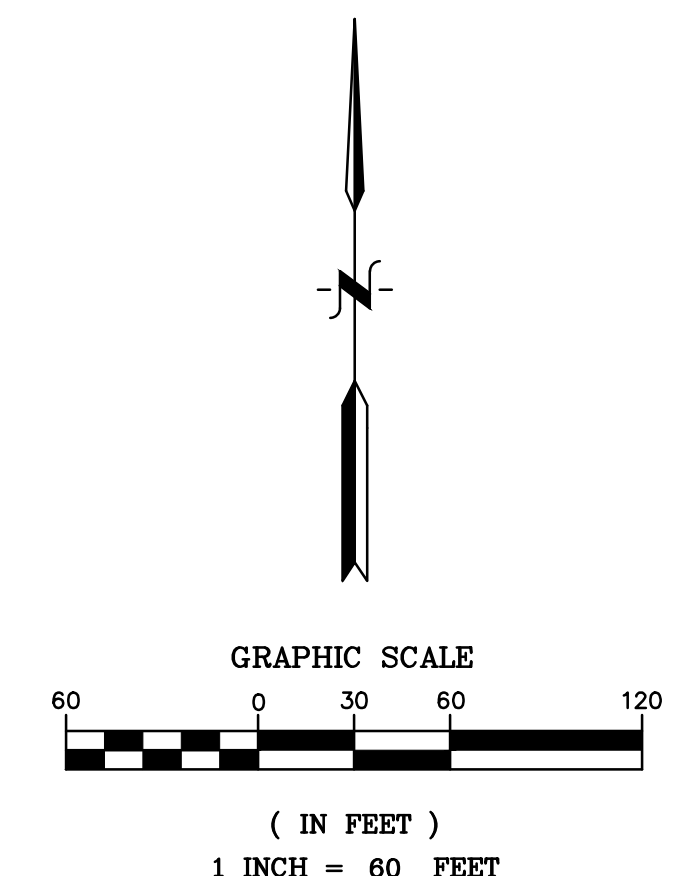
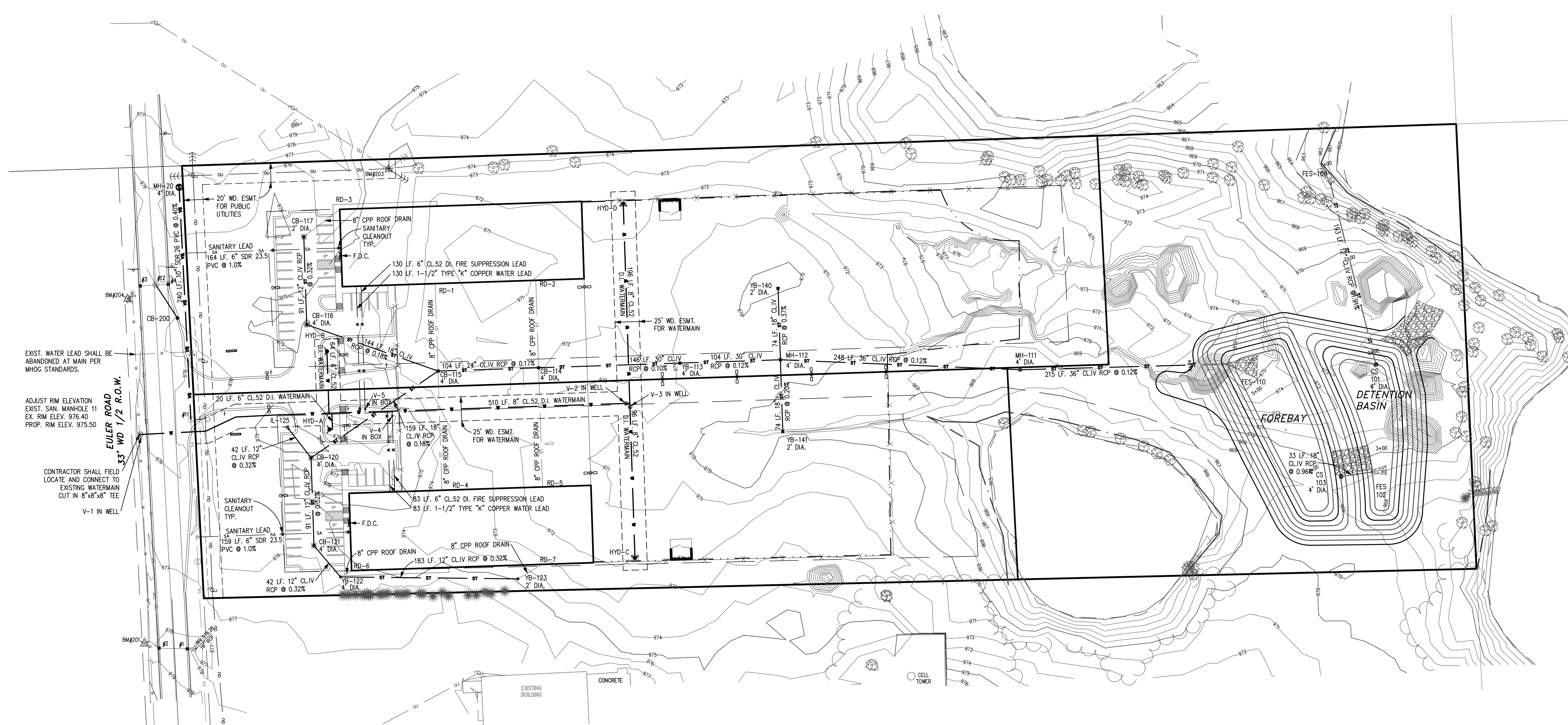
**2025 EULER ROAD  
DEVELOPMENT**

**SITE PLAN DETAIL**

CLIENT:  
4M GENOA LLC  
2244 EULER ROAD  
BRIGHTON, MICHIGAN 48114  
810-217-7471

SCALE: 1in. = 30ft.  
PROJECT No.: 234463  
DWG NAME: 4463 SP  
ISSUED: DEC. 19, 2023

**SPD**



- LEGEND**
- PARCEL BOUNDARY
  - R.O.W. LINE
  - BUILDING SETBACK
  - EASEMENT LINE
  - EXIST. CONC. CURB
  - EXIST. EDGE OF GRAVEL
  - EXIST. EDGE OF PAVEMENT
  - EXIST. BRUSH LINE
  - DECIDUOUS TREE
  - EVERGREEN TREE
  - WETLAND LINE
  - EDGE OF WATER
  - OVERHEAD UTILITY LINE
  - UTILITY POLE
  - GUY ANCHOR
  - EXIST. STORM SEWER
  - CATCHBASIN
  - DRAINAGE MANHOLE
  - FLARED END SECTION
  - EXIST. WATERMAIN
  - HYDRANT
  - WATER VALVE
  - EXIST. SANITARY SEWER
  - SANITARY MANHOLE
  - U/G GAS LINE
  - EXIST. 1' CONTOUR
  - EXIST. 5' CONTOUR
  - PROP. WATERMAIN
  - PROP. HYDRANT
  - PROP. VALVE IN WELL
  - PROP. F.D.C.
  - PROP. STORM SEWER
  - PROP. CATCHBASIN
  - PROP. DRAINAGE MANHOLE
  - PROP. FLARED END SECTION
  - PROP. SANITARY SEWER
  - PROP. CONC. CURB

EXIST. WATER LEAD SHALL BE ABANDONED AT MAIN PER MHOG STANDARDS.

ADJUST RIM ELEVATION EXIST. SAN. MANHOLE 11 EX. RIM ELEV. 976.40 PROP. RIM ELEV. 975.50

CONTRACTOR SHALL FIELD LOCATE AND CONNECT TO EXISTING WATERMAIN CUT IN 8"x8" TEE

**EXIST. STRUCTURE INVENTORY**

CATCH BASIN #1  
LOW POINT 977.86  
WESTERLY 12" RCP 974.16  
EASTERLY 18" RCP 975.41

CATCH BASIN #2  
LOW POINT 979.97  
EASTERLY 12" RCP 974.02  
SOUTHERLY 18" RCP

NOTE: PIPE TOO FAR TO OBTAIN INVERT  
NORTHERLY 18" RCP TOP PIPE 973.32

CATCH BASIN #3  
LOW POINT 975.09  
SOUTHERLY 18" RCP 971.39  
SOUTHERLY 6" CPV 971.84  
EASTERLY 12" RCP

NOTE: PIPE TOO FAR TO OBTAIN INVERT

CATCH BASIN #4  
LOW POINT 975.02  
WESTERLY 12" RCP 971.62

SANITARY MANHOLE #11  
WESTERLY RIM 976.40  
SOUTHERLY 10" PVC 966.85  
NOTE: EMPTY - DRY

STORM MANHOLE #12  
EASTERLY RIM 975.52  
NORTHERLY 18" / 20"  
NOTE: PIPE TOO FAR TO OBTAIN INVERT  
NORTHWESTERLY 6" CPV 971.52  
WESTERLY 12" RCP 971.47  
EASTERLY 12" RCP  
NOTE: PIPE TOO FAR TO OBTAIN INVERT

Design Criteria: 10 year event (I = 175h + 25) RCP n= 0.013 HDPE n= 0.010

From MH#	To MH#	Inc. Area	Elev. 100% CA	Total Area 100% CA	T. Min.	I. Per Hour	Q (c.f.s.)	Dia. of pipe inch	Slope %	Slope H.G. %	Length of line ft.	Vel. Flow full ft./sec.	Time of flow min.	Cap. of pipe c.f.s.	H.G. Elev. upper end	Ground Elev. Upper end	Invert Elev. Lower end	
RD7	123	0.11	0.90	0.10	0.10	15.0	4.38	8	1.00	0.06	110	4.50	0.4	1.57	969.67	973.00	969.67	
123	122	0.35	0.19	0.07	0.17	15.4	4.33	12	0.32	0.04	183	2.57	1.2	2.02	969.19	972.50	966.30	
RD6	122	0.12	0.90	0.11	0.11	15.0	4.38	8	1.00	0.09	165	4.50	0.6	1.57	969.53	973.00	969.53	
122	121	0.48	0.19	0.09	0.37	16.6	4.21	1.56	12	0.32	0.19	42	2.57	0.3	2.02	969.11	972.50	967.48
121	120	0.17	0.61	0.10	0.47	16.9	4.18	1.96	12	0.32	0.30	91	2.57	0.6	2.02	969.03	971.93	967.38
125	120	0.59	0.37	0.22	0.22	15.0	4.38	0.96	12	0.32	0.07	42	2.57	0.3	2.02	968.78	971.00	967.22
120	115	0.35	0.74	0.26	0.95	17.5	4.12	3.92	18	0.18	0.14	159	2.52	1.1	4.46	968.75	971.62	966.69
RD3	117	0.23	0.90	0.21	0.21	15.0	4.38	0.92	8	1.00	0.34	300	4.50	1.1	1.57	970.62	973.00	970.62
117	116	0.37	0.38	0.14	0.35	16.1	4.26	1.49	12	0.32	0.17	91	2.57	0.6	2.02	968.78	971.93	967.35
116	115	0.45	0.62	0.28	0.63	16.7	4.20	2.64	18	0.18	0.06	144	2.52	1.0	4.46	968.62	971.82	966.66
RD1	115	0.12	0.90	0.11	0.11	15.0	4.38	0.48	8	1.00	0.09	90	4.50	0.3	1.57	968.61	973.40	967.97
RD4	115	0.12	0.90	0.11	0.11	15.0	4.38	0.48	8	1.00	0.09	122	4.50	0.5	1.57	968.64	973.40	967.97
115	114	0.50	0.90	0.45	2.25	18.5	4.02	9.05	24	0.17	0.16	104	2.97	0.6	9.33	968.53	971.21	966.00
RD2	114	0.11	0.90	0.10	0.10	15.0	4.38	0.44	8	1.00	0.08	90	4.50	0.3	1.57	968.43	973.40	967.79
RD5	114	0.11	0.90	0.10	0.10	15.0	4.38	0.44	8	1.00	0.08	122	4.50	0.5	1.57	968.46	973.40	968.11
114	113	0.50	0.90	0.45	2.90	18.1	3.97	11.51	30	0.10	0.06	146	2.64	0.9	12.97	968.36	971.21	965.28
113	112	0.70	0.85	0.60	3.50	20.0	3.89	13.61	30	0.12	0.11	104	2.89	0.6	14.21	968.25	971.20	965.18
141	112	1.03	0.85	0.88	0.88	15.0	4.38	3.85	18	0.20	0.13	74	2.65	0.5	4.70	968.23	971.20	966.00
140	112	1.61	0.85	1.37	1.37	15.0	4.38	5.99	18	0.37	0.33	74	3.62	0.3	6.39	968.38	971.20	966.13
112	111	0.00	0.00	0.00	5.75	20.6	1.1	36	0.12	0.11	246	3.27	1.3	23.10	968.13	971.60	964.66	
111	110	0.00	0.00	0.00	5.75	21.9	3.6	36	0.12	0.10	215	3.27	1.1	23.10	967.86	971.60	964.26	
OUTLET PIPES DESIGNED TO CARRY THE EXTENDED DETENTION DISCHARGE RATE																		
101	100							0.17	12	1.91	0.00	193	8.15	0.4	6.40	965.68	967.64	962.00
Downstream Pipe Crown Elevation																		
103	102							6.29	18	1.00	0.21	33	7.73	0.1	13.66	964.57	966.98	963.00
Downstream Pipe Crown Elevation																		

**BENCHMARK**  
DATUM BASED ON NAD 83 SOLUTION  
REPORT, DATED APRIL 17, 2023 AT 9:26AM

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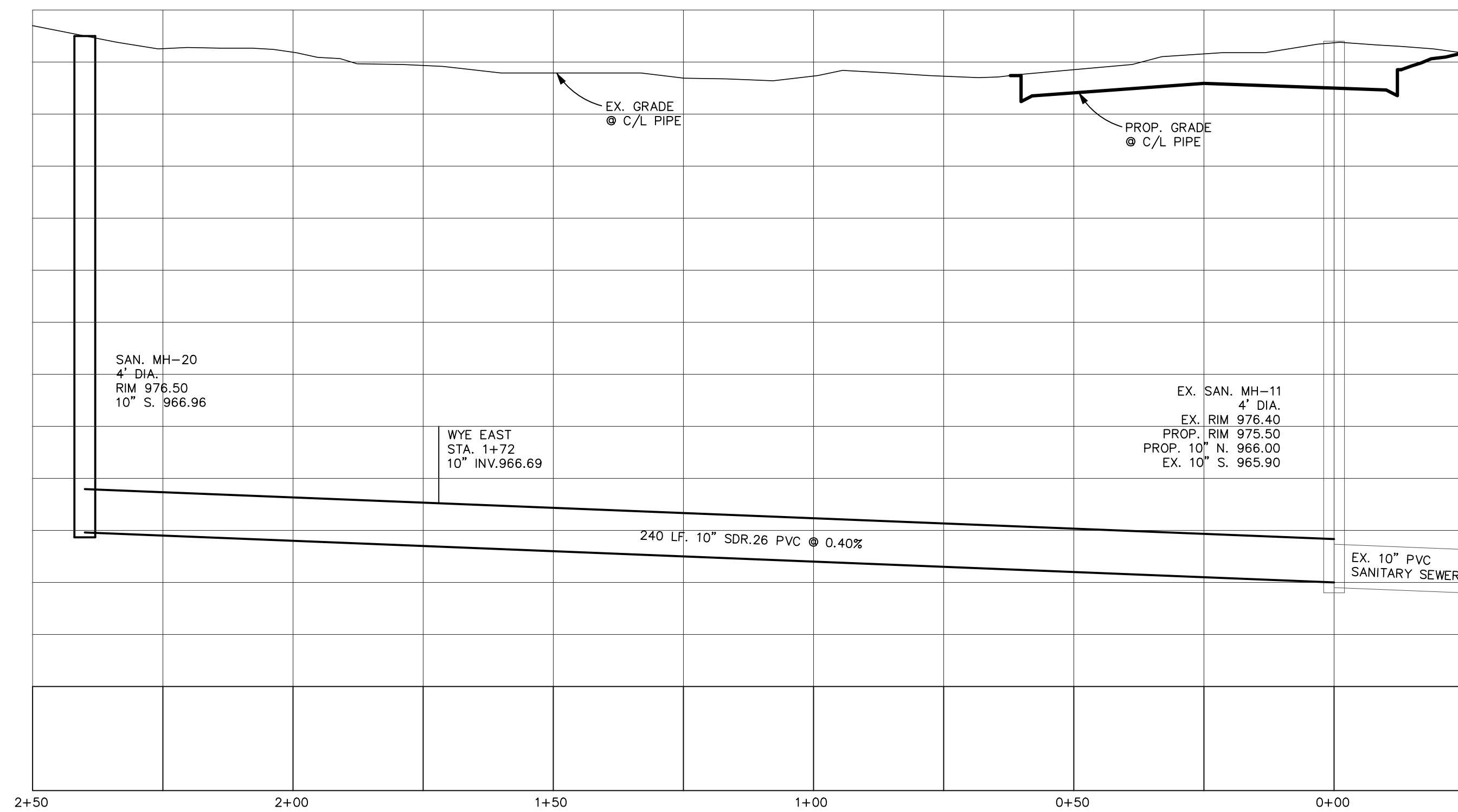
**DESIGN INC.**  
(810) 227-9533  
CIVIL ENGINEERS  
LAND SURVEYORS  
2183 PLESS DRIVE  
BRIGHTON, MICHIGAN 48114

DESIGN:WMP	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG	1	12-19-23	REVISED PER REVIEW COMMENTS			
CHECK: WMP						

# 2025 EULER ROAD DEVELOPMENT

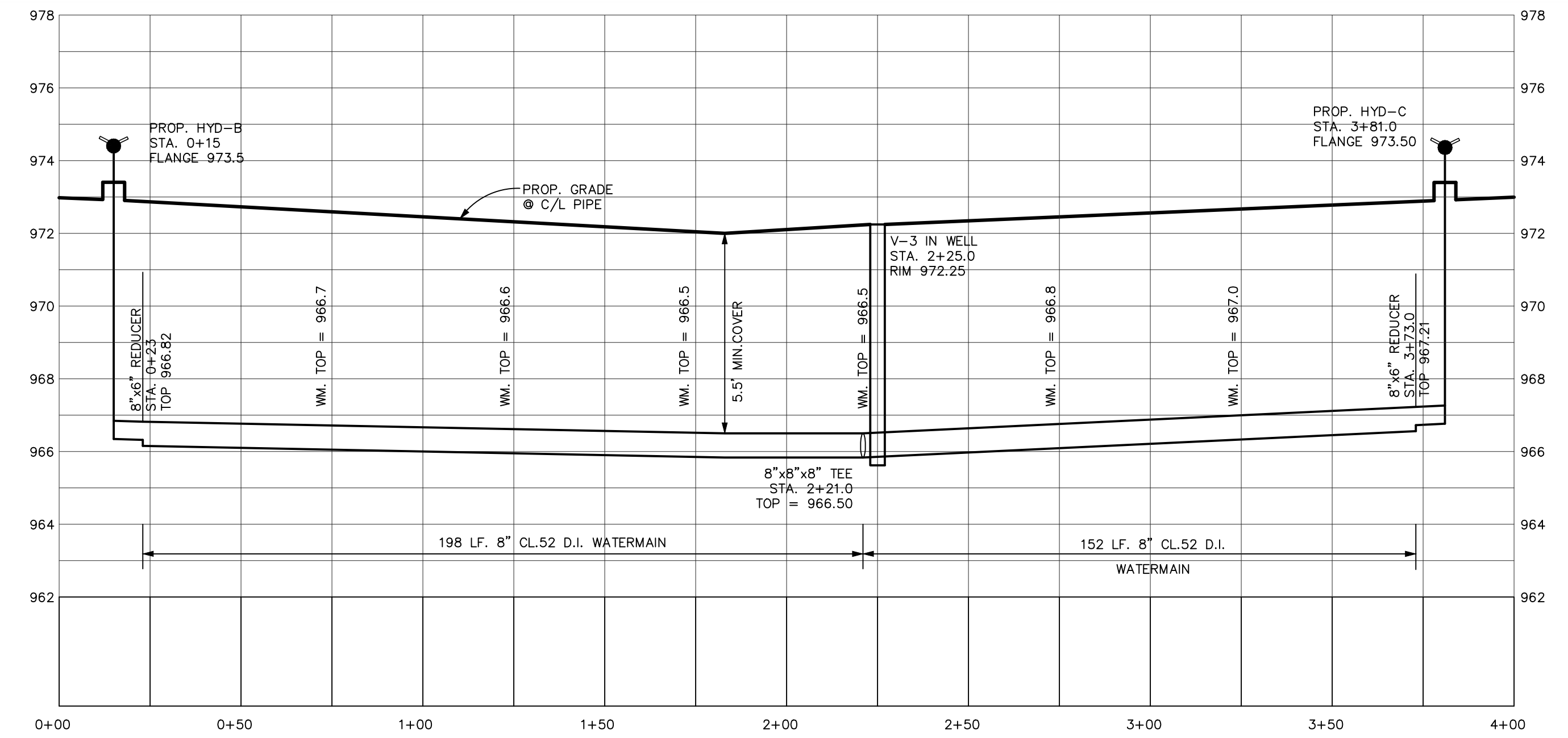
## UTILITY PLAN

CLIENT: 4M GENOA LLC 2244 EULER ROAD BRIGHTON, MICHIGAN 48114 810-217-7471	SCALE: 1in. = 60ft. PROJECT No.: 234463 DWG NAME: 4463 UT ISSUED: DEC. 19, 2023	UT1
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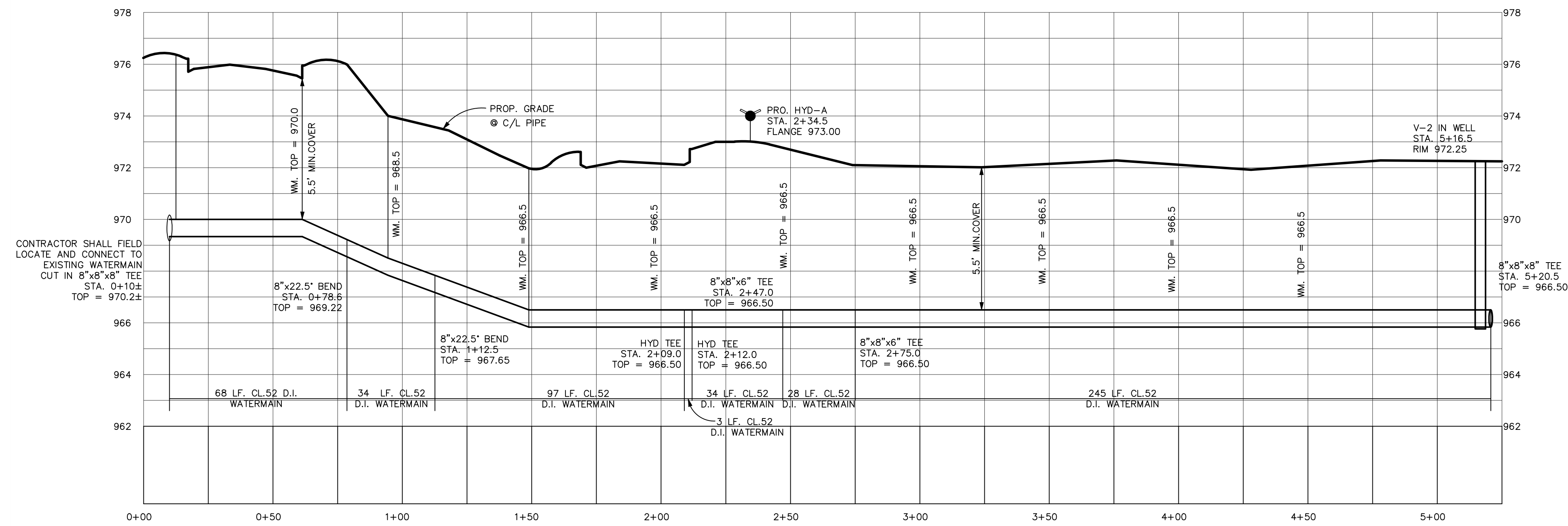
**SANITARY SEWER PROFILE: MH-20 TO EX. MH-11**

SCALE: HORIZ. 1in. = 20ft.  
VERT. 1in. = 2ft.



**WATERMAIN PROFILE: HYD-B TO HYD-C**

SCALE: HORIZ. 1in. = 30ft.  
VERT. 1in. = 3ft.



**WATERMAIN PROFILE: EXISTING MAIN TO TEE**

SCALE: HORIZ. 1in. = 30ft.  
VERT. 1in. = 3ft.

**BENCHMARK**  
DATA BASED ON NCS OPUS SOLUTION  
REPORT, DATED APRIL 17, 2023 AT 9:26AM

**BENCHMARK #201**  
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STEAMER ON HYDRANT, LOCATED NEAR THE  
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SWLY OF CATCH BASIN #3.  
ELEVATION = 977.94 (NAVD 88)

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DRAFT: JHG	1	12-19-23	REVISED PER REVIEW COMMENTS
CHECK: WMP			

REVISION #	DATE	REVISION-DESCRIPTION

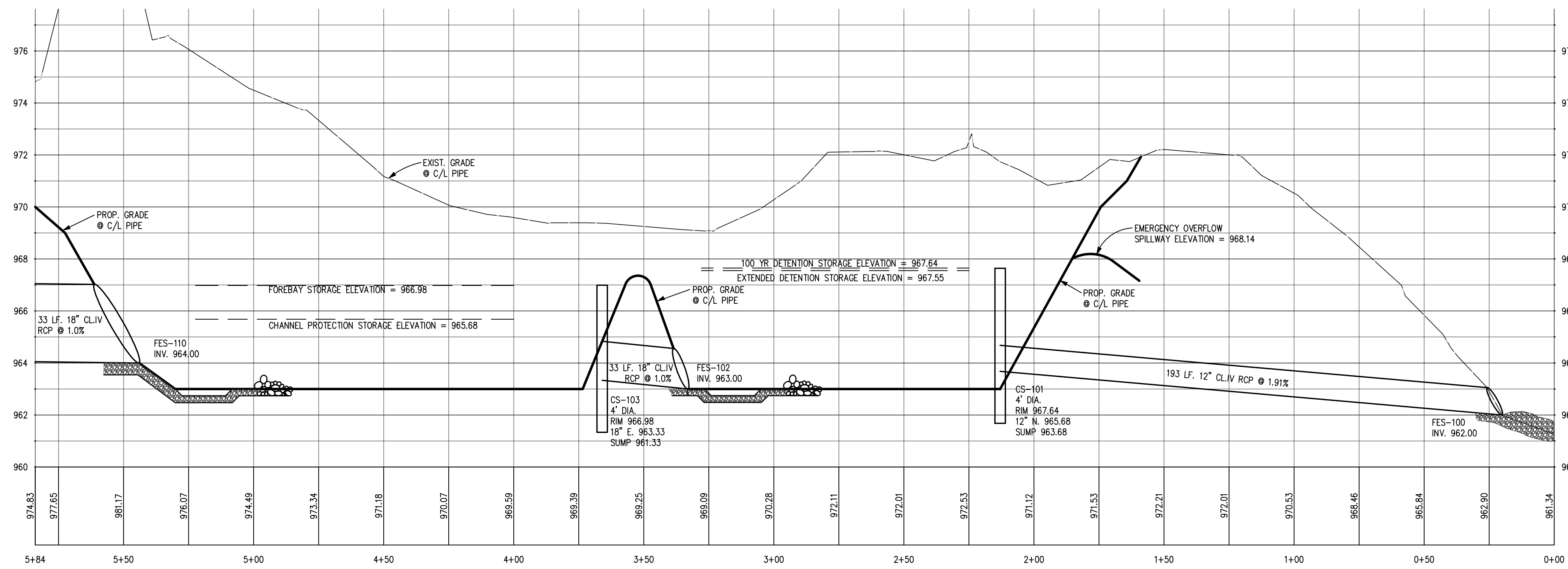
**2025 EULER ROAD  
DEVELOPMENT**

**WATERMAIN & SANITARY  
SEWER PROFILES**

CLIENT:  
4M GENOA LLC  
2244 EULER ROAD  
BRIGHTON, MICHIGAN 48114  
810-217-7471

SCALE: AS NOTED  
PROJECT No.: 234463  
DWG NAME: 4463 UT  
ISSUED: **DEC. 19, 2023**

**UT2**



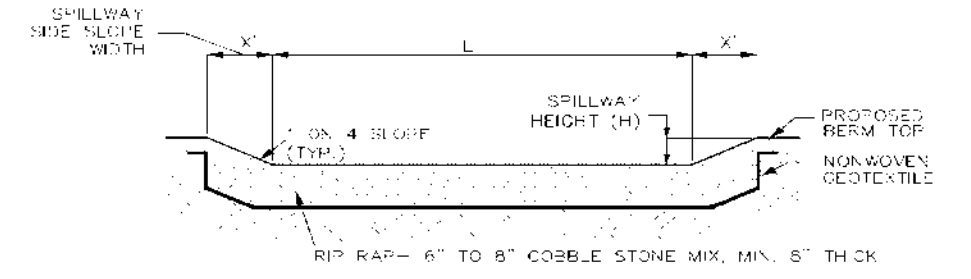
**DETENTION BASIN OVERFLOW SPILLWAY CALCULATION**

Where:  
 C = 0.43  
 A = 9.94 Ac.  
 I = 5.56 in. (100 Yr. Intensity)  
 Q = 23.77 cfs (Computed flow per rational method)  
 H = 0.5 ft (Spillway Height)  
 L<sub>min</sub> = 10 ft. (Required Minimum Spillway cross section width)

Therefore:  
 L<sub>min</sub> = 20 ft.

Spillway Velocity Check (V<sub>s</sub> < 1.50 fps):

Q<sub>100</sub> = 23.77 cfs  
 Spillway L = 30.00 ft.  
 Spillway H = 0.50 ft.  
 Side Slope Width X = 2.00 ft.  
 Spillway Area = 16.00 sf.  
 Spillway Velocity = 1.49 fps



TYPICAL SPILLWAY X-SEC  
 NOT TO SCALE

An overall spillway width of 34 ft. is being proposed for construction.

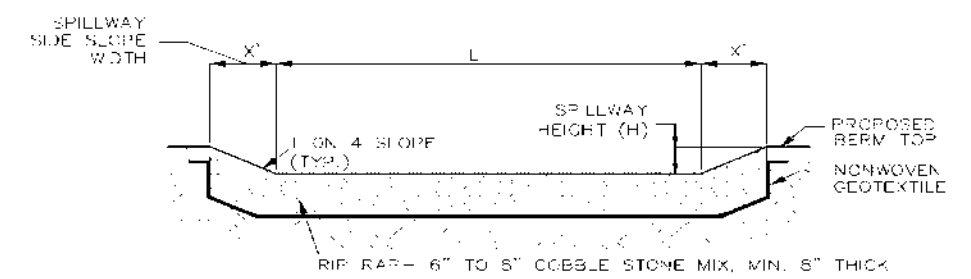
**SEDIMENT BASIN SPILLWAY CALCULATION**

Where:  
 C = 0.43  
 A = 9.94 Ac.  
 I = 4.74 in. (10 Yr. Intensity)  
 Q = 20.25 cfs (Computed flow per rational method)  
 H = 0.50 ft (Spillway Height)  
 L<sub>min</sub> = 9 ft. (Required Minimum Spillway cross section width)

Therefore:  
 L<sub>min</sub> = 17 ft.

Spillway Velocity Check (V<sub>s</sub> < 1.50 fps):

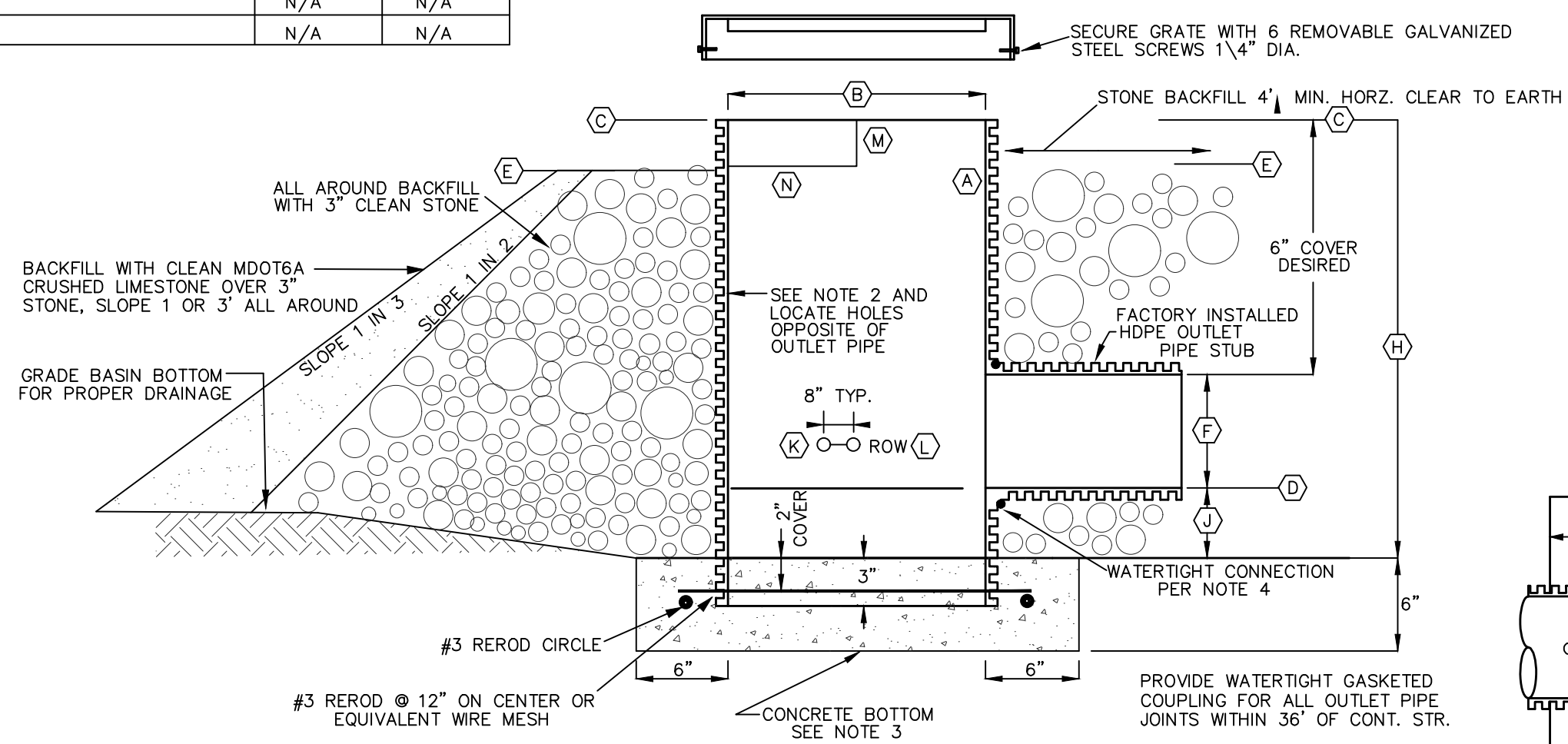
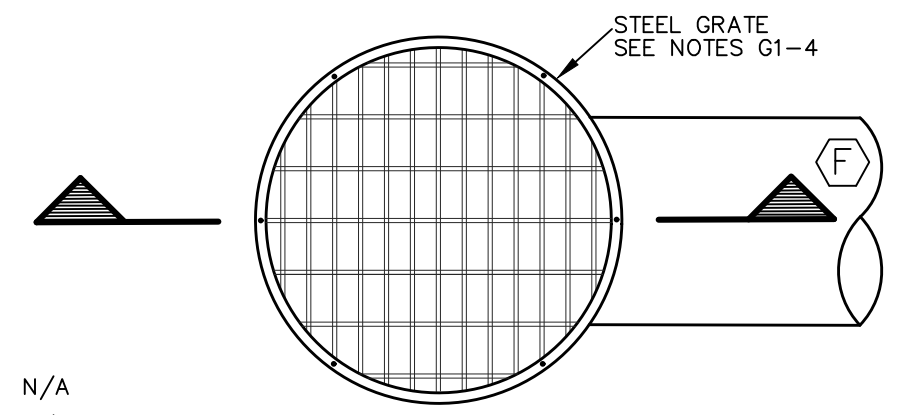
Q<sub>100</sub> = 20.25 cfs  
 Spillway L = 26.00 ft.  
 Spillway H = 0.50 ft.  
 Side Slope Width X = 2.00 ft.  
 Spillway Area = 14.00 sf.  
 Spillway Velocity = 1.45 fps



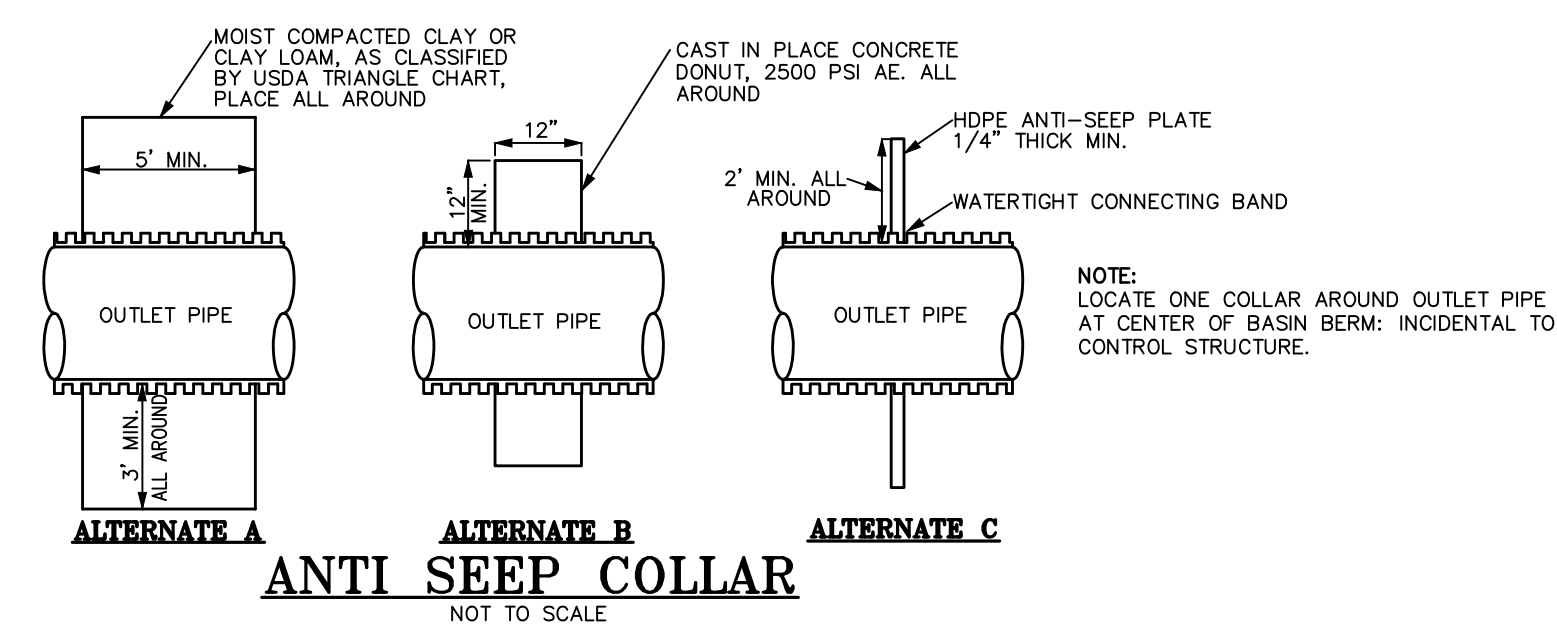
TYPICAL SPILLWAY X-SEC  
 NOT TO SCALE

An overall spillway width of 30 ft. is being proposed for construction.

KEY		
CONTROL STRUCTURE DESIGNATION	CS-103	CS-101
A MATERIAL TYPE - SEE NOTE 2	HDPE	HDPE
B STRUCTURE INSIDE DIAMETER	4'	4'
C RIM ELEVATION WITHOUT GRATE	966.98	967.64
D INVERT ELEVATION OUTLET PIPE	963.33	965.68
E TOP OF STONE ELEVATION	966.75	967.50
F OUTLET PIPE DIAMETER	18"	12"
G OUTLET PIPE MATERIAL	HDPE	HDPE
H STRUCTURE HEIGHT WITHOUT GRATE	5.65'	3.96'
J SUMP HEIGHT	2'	2'
K CENTERLINE ELEV. OF BOTTOM ROW HOLES	966.04	965.72
L NUMBER OF HOLES & SIZE IN BOTTOM ROW	6 @ 1"	5 @ 1"
M WER DEPTH	N/A	N/A
N WIER WIDTH	N/A	N/A



**BASIN CONTROL STRUCTURE (CS)**  
 NOT TO SCALE



**ANTI SEEP COLLAR**  
 NOT TO SCALE

**BASIN A FOREBAY CONTROL STRUCTURE CALCULATIONS**

Tributary Area:	A = 9.94 Acres
Compound Runoff Coefficient:	C = 0.43
Orifice Flow Coefficient:	c = 0.60
Allowable Outflow Rate:	Q <sub>a</sub> = 0.17 CFS
Forebay Storage Volume:	V <sub>f</sub> = 15,515 CF
Low Water Level:	LWL = 966.00
Forebay Storage Elevation:	XF = 967.55
Forebay Outlet Control:	
Q <sub>d</sub> = V <sub>f</sub> * (1 / 24 hrs) * (1 / 3600 sec) =	0.1796 CFS
H <sub>d</sub> = XF - LWL =	1.55 FT
A <sub>d</sub> = Q <sub>d</sub> / (c * SQRT(2 * 32.2 * H <sub>d</sub> )) =	0.0303 SF
D = Orifice Diameter	1.000 inch dia.
N = A <sub>d</sub> / D	5.6 Orifices
Use N =	6 Orifices at Centerline Elevation = 966.04

**BASIN A CONTROL STRUCTURE CALCULATIONS**

Tributary Area:	A = 9.94 Acres
Compound Runoff Coefficient:	C = 0.43
Orifice Flow Coefficient:	c = 0.60
Allowable Outflow Rate:	Q <sub>a</sub> = 6.29 CFS
100 Year Detention Volume =	V <sub>100</sub> = 31,766 CF
Extended Detention Volume =	V <sub>ed</sub> = 29,479 CF
Channel Protection Volume =	V <sub>cp</sub> = 20,170 CF
Channel Protection Elevation:	X <sub>cp</sub> = 965.68
Extended Detention Elevation:	X <sub>ed</sub> = 967.55
100 Year Storage Elevation:	X <sub>100</sub> = 967.64
Design HWL Elevation:	HWL = 968.14
Extended Detention:	
Q <sub>ed</sub> = V <sub>ed</sub> * (1 / 48 hrs) * (1 / 3600 sec) =	0.1706 CFS
H <sub>ed</sub> = X <sub>ed</sub> - X <sub>cp</sub> =	1.87 FT
A <sub>ed</sub> = Q <sub>ed</sub> / (c * SQRT(2 * 32.2 * H <sub>ed</sub> )) =	0.0259 SF
D = Orifice Diameter	1.000 inch dia.
N <sub>ed</sub> = A <sub>ed</sub> / D	4.8 Orifices
Use N <sub>ed</sub> =	5 Orifices at Centerline Elevation = 965.72
Approx. Extended Detention Discharge Duration =	45.66 hours
100-Year Detention Storage:	
Q <sub>ed</sub> = [c * N <sub>ed</sub> * Pi(D/24) <sup>2</sup> * SQRT(2 * 32.2 * (X <sub>100</sub> - X <sub>ed</sub> ))] =	0.1838 CFS
Q <sub>100</sub> = Q <sub>a</sub> - Q <sub>ed</sub> =	6.1024 CFS
Use a rectangular weir -	
Depth (X <sub>100</sub> - X <sub>ed</sub> ) =	0.59 FT
Width =	50.00 Inches
Weir Flow Calculation:	Q = 3.33 (L-0.2H) <sup>1.5</sup> H <sup>1.5</sup>
	6.160 CFS

**DETENTION VOLUME CALCULATION 100 YEAR STORM DETENTION**

Tributary Area (A) =	9.94 Acres
Compound Runoff Coefficient (C) =	0.43
Water Quality Control Volume:	(3,630)(A)(C) = 15,515 cf
Channel Protection Volume:	(4,719)(A)(C) = 20,170 cf
Extended Detention Volume:	(6,897)(A)(C) = 29,479 cf
Forebay Volume:	
Downstream Infiltration Provided = V <sub>in</sub> =	15,515 cf
Upstream Infiltration (15% of WQC Vol):	2,327 cf
100 Year Storm Inlet Rate calculation:	
T <sub>in</sub> =	23.0 (from storm sewer calculations)
Q <sub>100</sub> =	21.65 cfs
100 Year Storm Outlet Rate calculation:	
Allowed Outlet Rate is lesser of Q <sub>in</sub> or restricted release rate for the drain	
County Drain Restricted Rate =	N/A cfs
Variable Release Rate =	6.29 cfs
(Variable Release Rate capped at 1.0 cfs/acre for Area < 2 acres)	
(Variable Release Rate = 0.15 cfs/acre for Area > 100 acres)	
ALLOWABLE 100 YEAR OUTLET RATE =	Q <sub>out</sub> = 6.29 cfs
100 Year Required Storm Detention Volume calculation:	
Storage Curve Factor = R =	0.39
100 Year Storage Volume in = V <sub>100in</sub> =	81,145.69 cf
Calculated 100 Year Storage Volume = V <sub>100out</sub> =	31,766 cf
REQUIRED VOLUME: V <sub>100out</sub> > V <sub>100in</sub>	31,766 cf
Extended Detention Discharge Rate: V <sub>100</sub> / T <sub>100</sub> =	0.171 cfs

**PROPOSED FOREBAY and CHANNEL PROTECTION VOLUME**

POND DEPTH (FT)	ELEV.	DETENTION CONTOUR AREA (SF)	DETENTION BASIN VOLUME (CF)	FOREBAY CONTOUR AREA (SF)	FOREBAY BASIN VOLUME (CF)	TOTAL STORAGE VOLUME (CF)
0.0	963.00	4.605	0			0
1.0	964.00	6.614	5.579			5.579
2.0	965.00	8.874	13.296			13.296
3.0	966.00	11.354	23.375	14.537	0	23.375
4.0	967.00	14.007	36.022	17.329	15.913	51.934
5.0	968.00	16.813	50.531			85.972
6.0	969.00	40.570	99.207			124.648

**Forebay Storage Elevation Calculation:**

ELEV.	VOLUME	VOLUME REQ.	ELEVATION
Lower	966.00	0	15,515
Higher	967.00	15,913	966.98

**Channel Protection Storage Elevation Calculation:**

ELEV.	VOLUME	VOLUME REQ.	ELEVATION
Lower	965.00	13,296	20,170
Higher	966.00	23,375	965.68

**PROPOSED DETENTION BASIN VOLUME**

POND DEPTH (FT)	ELEV.	DETENTION CONTOUR AREA (SF)	DETENTION BASIN VOLUME (CF)
1.3	965.68	10.461	0
2.3	967.00	14.007	16.867
2.3	968.00	36.813	40.576
3.3	969.00	40.570	79.253

**100 Yr. Detention Storage Elevation Calculation:**

ELEV.	VOLUME	VOLUME REQ.	ELEVATION
Lower	967.00	16,067	31,766
Higher	968.00	40,576	967.64

**Extended Detention Storage Elevation Calculation:**

ELEV.	VOLUME	VOLUME REQ.	ELEVATION
Lower	967.00	16,067	29,479
Higher	968.00	40,576	967.55

**BENCHMARK**  
 DATA BASED ON NCS OPUS SOLUTION REPORT, DATED APRIL 17, 2023 AT 9:24M

BENCHMARK #201  
 ARROW ON HYDRANT, LOCATED NEAR THE WEST SIDE OF EULER ROAD AND 544 FEET SWLY OF THE SWLY PARCEL CORNER.  
 ELEVATION = 980.62 (NAVD 88)

BENCHMARK #203  
 SPIKE IN THE NELY SIDE OF AN UTILITY POLE, LOCATED NEAR THE NORTHERLY PROPERTY LINE AND 240± FEET EAST OF EULER ROAD.  
 ELEVATION = 976.22 (NAVD 88)

BENCHMARK #204  
 STEAMER ON HYDRANT, LOCATED NEAR THE WESTERLY SIDE OF EULER ROAD AND 18± FEET SWLY OF CATCH BASIN #3.  
 ELEVATION = 977.94 (NAVD 88)

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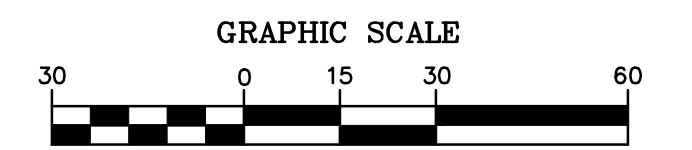
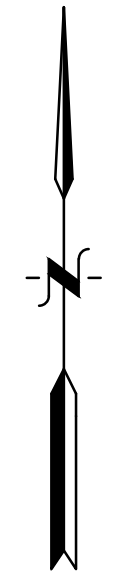
**DESIGN INC.**  
 (810) 227-9533  
 CIVIL ENGINEERS  
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 2183 PLESS DRIVE  
 BRIGHTON, MICHIGAN 48114

DESIGN:WMP	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG						
CHECK: WMP						

2025 EULER ROAD DEVELOPMENT

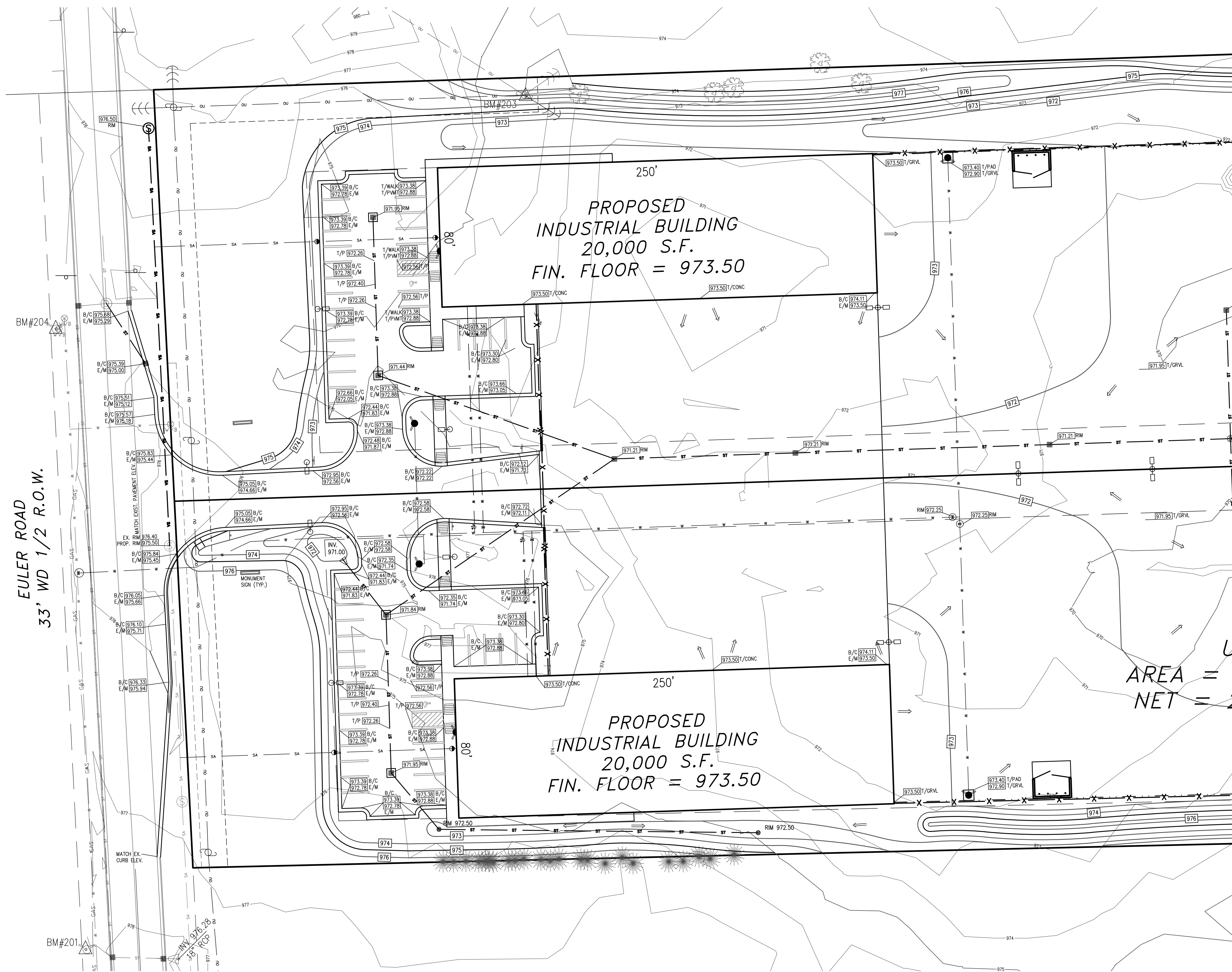
DETENTION BASIN AND CONTROL STRUCTURE PROFILE & CALCULATIONS

CLIENT: 4M GENOA LLC 2244 EULER ROAD BRIGHTON, MICHIGAN 48114 810-217-7471	SCALE: AS NOTED PROJECT No.: 234463 DWG NAME: 4463 UT ISSUED: DEC. 19, 2023	UT3
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( IN FEET )  
1 INCH = 30 FEET

- PARCEL BOUNDARY
- R.O.W. LINE
- BUILDING SETBACK
- EASEMENT LINE
- EXIST. CONC. CURB
- EXIST. EDGE OF GRAVEL
- EXIST. EDGE OF PAVEMENT
- EXIST. BRUSH LINE
- DECIDUOUS TREE
- EVERGREEN TREE
- WETLAND LINE
- EDGE OF WATER
- OVERHEAD UTILITY LINE
- UTILITY POLE
- GUY ANCHOR
- EXIST. STORM SEWER
- CATCHBASIN
- DRAINAGE MANHOLE
- FLARED END SECTION
- EXIST. WATERMAIN
- HYDRANT
- WATER VALVE
- EXIST. SANITARY SEWER
- SANITARY MANHOLE
- U/G GAS LINE
- EXIST. 1" CONTOUR
- EXIST. 5' CONTOUR
- PROP. WATERMAIN
- PROP. HYDRANT
- PROP. VALVE IN WELL
- PROP. FDC
- PROP. STORM SEWER
- PROP. CATCHBASIN
- PROP. DRAINAGE MANHOLE
- PROP. FLARED END SECTION
- PROP. SANITARY SEWER
- PROP. SANITARY MANHOLE
- PROP. CONC. CURB
- PROP. LIGHT POLE



AREA =  
NET =

**BENCHMARK**  
 DATUM BASED ON NCS OPUS SOLUTION  
 REPORT, DATED APRIL 17, 2023 AT 9:26AM

**BENCHMARK #201**  
 ARROW ON HYDRANT, LOCATED NEAR THE WEST  
 SIDE OF EULER ROAD AND 548 FEET SWLY OF THE  
 SWLY PARCEL CORNER.  
 ELEVATION = 980.62 (NAVD 88)

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 SPIKE IN THE NEELY SIDE OF AN UTILITY POLE,  
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DESIGN: WMP	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG	1	12-19-23	REVISED PER REVIEW COMMENTS			
CHECK: WMP						

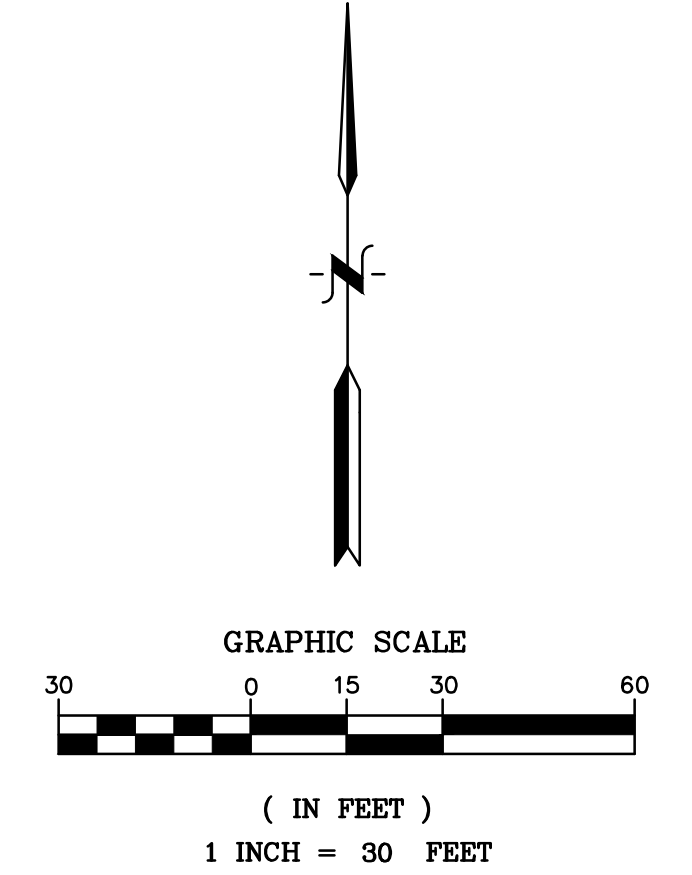
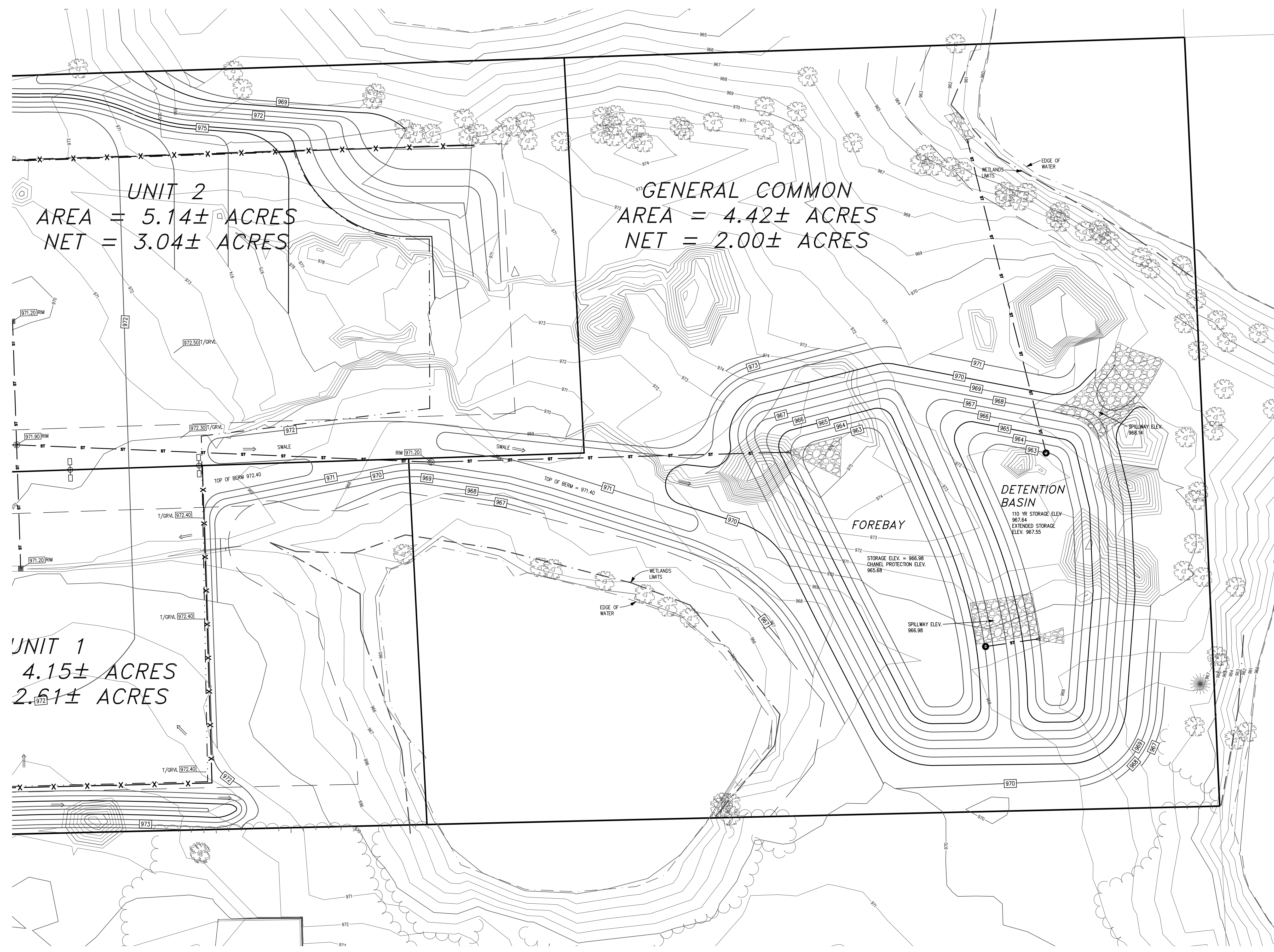
2025 EULER ROAD  
 DEVELOPMENT

GRADING PLAN

CLIENT:  
 4M GENOA LLC  
 2244 EULER ROAD  
 BRIGHTON, MICHIGAN 48114  
 810-217-7471

SCALE: 1in. = 30ft.  
 PROJECT No.: 234463  
 DWG NAME: 4463 GRD  
 ISSUED: DEC. 19, 2023

**GR1**



- ( IN FEET )  
1 INCH = 30 FEET
- PARCEL BOUNDARY
  - R.O.W. LINE
  - BUILDING SETBACK
  - EASEMENT LINE
  - EXIST. CONC. CURB
  - EXIST. EDGE OF GRAVEL
  - EXIST. EDGE OF PAVEMENT
  - EXIST. BRUSH LINE
  - DECIDUOUS TREE
  - EVERGREEN TREE
  - WETLAND LINE
  - EDGE OF WATER
  - OVERHEAD UTILITY LINE
  - UTILITY POLE
  - GUY ANCHOR
  - EXIST. STORM SEWER
  - CATCHBASIN
  - DRAINAGE MANHOLE
  - FLARED END SECTION
  - EXIST. WATERMAIN
  - HYDRANT
  - WATER VALVE
  - EXIST. SANITARY SEWER
  - SANITARY MANHOLE
  - U/G GAS LINE
  - EXIST. 1' CONTOUR
  - EXIST. 5' CONTOUR
  - PROP. WATERMAIN
  - PROP. HYDRANT
  - PROP. VALVE IN WELL
  - PROP. FDC
  - PROP. STORM SEWER
  - PROP. CATCHBASIN
  - PROP. DRAINAGE MANHOLE
  - PROP. FLARED END SECTION
  - PROP. SANITARY SEWER
  - PROP. SANITARY MANHOLE
  - PROP. CONC. CURB
  - PROP. LIGHT PILE A
  - PROP. LIGHT PILE B

**BENCHMARK**  
DATUM BASED ON NGS OPUS SOLUTION  
REPORT, DATED APRIL 17, 2023 AT 9:26AM

**BENCHMARK #201**  
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DESIGN:WMP	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG	1	12-19-23	REVISED PER REVIEW COMMENTS			
CHECK: WMP						

2025 EULER ROAD  
DEVELOPMENT

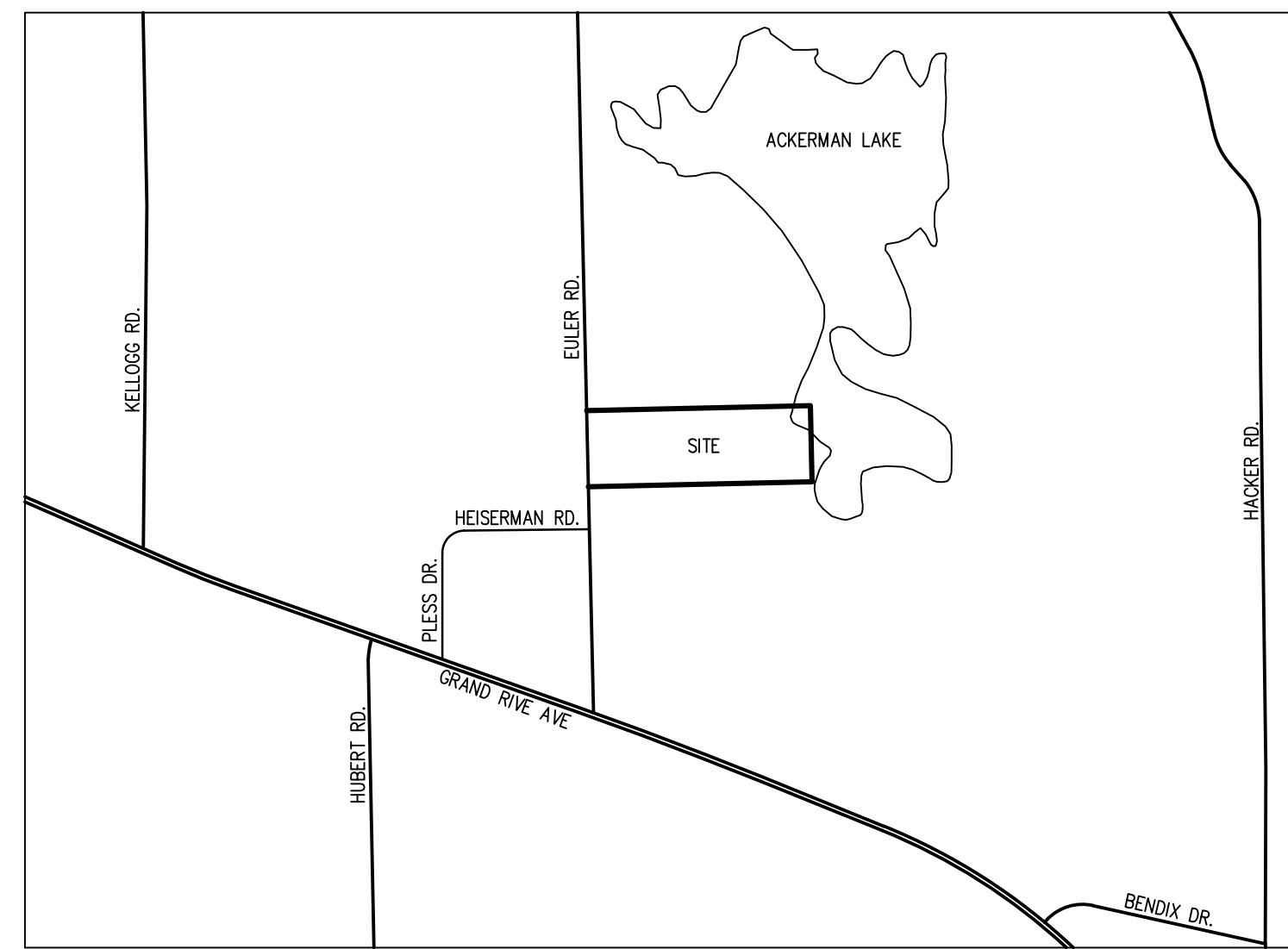
GRADING PLAN

CLIENT:  
4M GENOA LLC  
2244 EULER ROAD  
BRIGHTON, MICHIGAN 48114  
810-217-7471

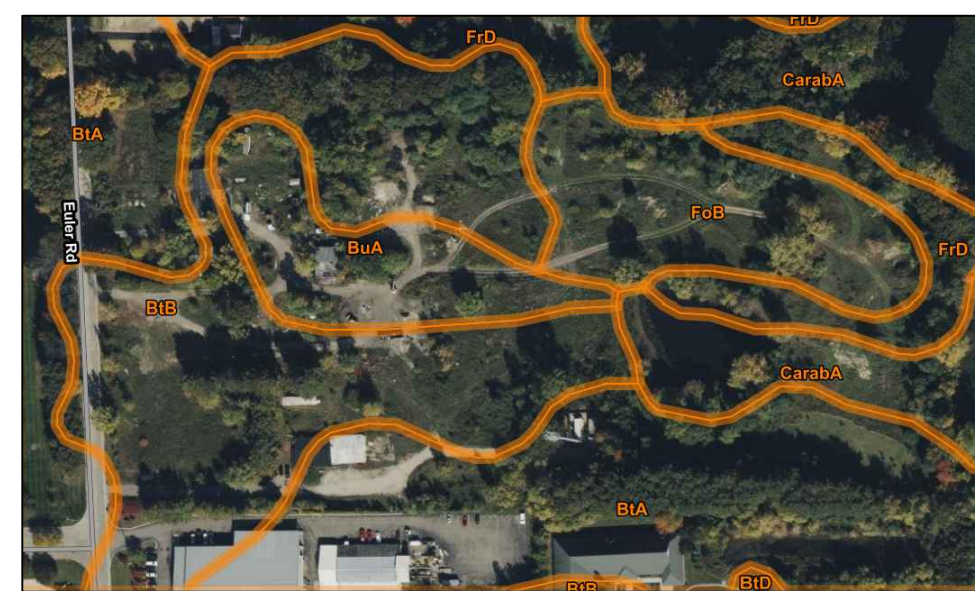
SCALE: 1in. = 30ft.  
PROJECT No.: 234463  
DWG NAME: 4463 GRD  
ISSUED: DEC. 19, 2023

**GR2**





LOCATION MAP  
SCALE: 1/8" = 1000'



SOILS MAP  
NOT TO SCALE

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
B/A	Boyer-Oakhamo loamy sands, 0 to 2 percent slopes	10.6	33.3%
B/B	Boyer-Oakhamo loamy sands, 2 to 6 percent slopes	8.7	27.3%
B/D	Boyer-Oakhamo loamy sands, 12 to 18 percent slopes	0.0	0.2%
B/A	Brawley loamy sand, 0 to 2 percent slopes	2.1	6.7%
Car/A	Carlsbad muck, 0 to 2 percent slopes	4.6	14.4%
F/S	Fox sandy loam, 2 to 6 percent slopes	3.0	9.4%
F/D	Fox-Boyer complex, 12 to 18 percent slopes	2.8	8.7%
Totals for Area of Interest		32.0	100.0%

**MAINTENANCE NOTES FOR SOIL EROSION CONTROL MEASURES:**

The Construction Site and all Soil Erosion Control Measures shall be inspected periodically in accordance with the appropriate local municipality/authority and the Michigan EGLE NPDES rules and regulations. At a MINIMUM, inspections shall be performed once a week and within 24 hours following a storm event resulting in 1" of rainfall or greater. Inspections shall be performed throughout the duration of the construction process and until the site is completely stabilized. Following construction, the owner (or its assignee) shall periodically inspect all permanent soil erosion control measures to ensure proper operation.

**MUD TRACKING CONTROL DEVICE / CONSTRUCTION ACCESS:** Mud tracking control devices shall be inspected for significant mud accumulation and to ensure the access is not eroding into public rights of way or drainage features. Add additional layers of stone or remove and replace stone each time the stone becomes covered with mud. All sediment dropped or eroded onto public rights of way shall be removed immediately. Sweeping of the public rights of way and/or paved access route shall be performed as necessary to maintain the access route free of sediment and debris.

**SEEDING:** Newly seeded areas shall be inspected until substantial vegetative growth is obtained. Seeded areas shall be inspected to ensure erosion is not occurring in the seeded area and vegetative growth is promoted. Eroded areas shall be finish graded as necessary to remove erosion channels or gulleys and new seed placed as soon as weather permits.

**SILT FENCE:** Silt fencing shall be inspected for soil accumulation/clogging, undercutting, overtopping and sagging. Soil accumulation shall be removed from the face of the silt fence each time it reaches half the height of the fence. Removed sediment shall be disposed of in a stable upland site or added to a spoils stockpile. When undercutting occurs, grade out areas of concentrated flow upstream of the silt fence to remove channels and/or gulleys and repair or replace silt fence ensuring proper trenching techniques are utilized. Silt fencing, which sags, falls over or is not staked in place shall be repaired or replaced immediately. Silt fencing fabric, which decomposes or becomes ineffective, shall be removed and replaced with new fabric immediately. Silt fencing shall be removed once vegetation is well established and the up-slope area is fully stabilized.

**STOCKPILES:** Temporary and permanent topsoil and spoils stockpiles shall be seeded to promote vegetative growth. Stockpiles shall be inspected to ensure excessive erosion has not occurred. When runoff or wind erosion is evident, reduce the side slopes of the stockpile or stabilize the stockpile with pieces of staked sod laid perpendicular to the slope. When filter fencing is used around a stockpile, the fencing shall be inspected to ensure piping has not occurred under the fencing and to ensure the fencing has not collapsed due to soil slippage or access by construction equipment. Repair or replace damaged fencing immediately. Berms at the base of stockpiles, which become damaged, shall be replaced.

**STORM STRUCTURE INLET FILTER:** Inlet filters shall be inspected for sediment accumulation, clogging and damage. When stone is used in conjunction with inlet filter fabric, replace the stone each time it becomes clogged with sediment. Clean or replace the inlet filter fabric each time it becomes clogged with sediment. Reinstall or replace fallen filter fabrics immediately. Replace damaged filter fabrics immediately.

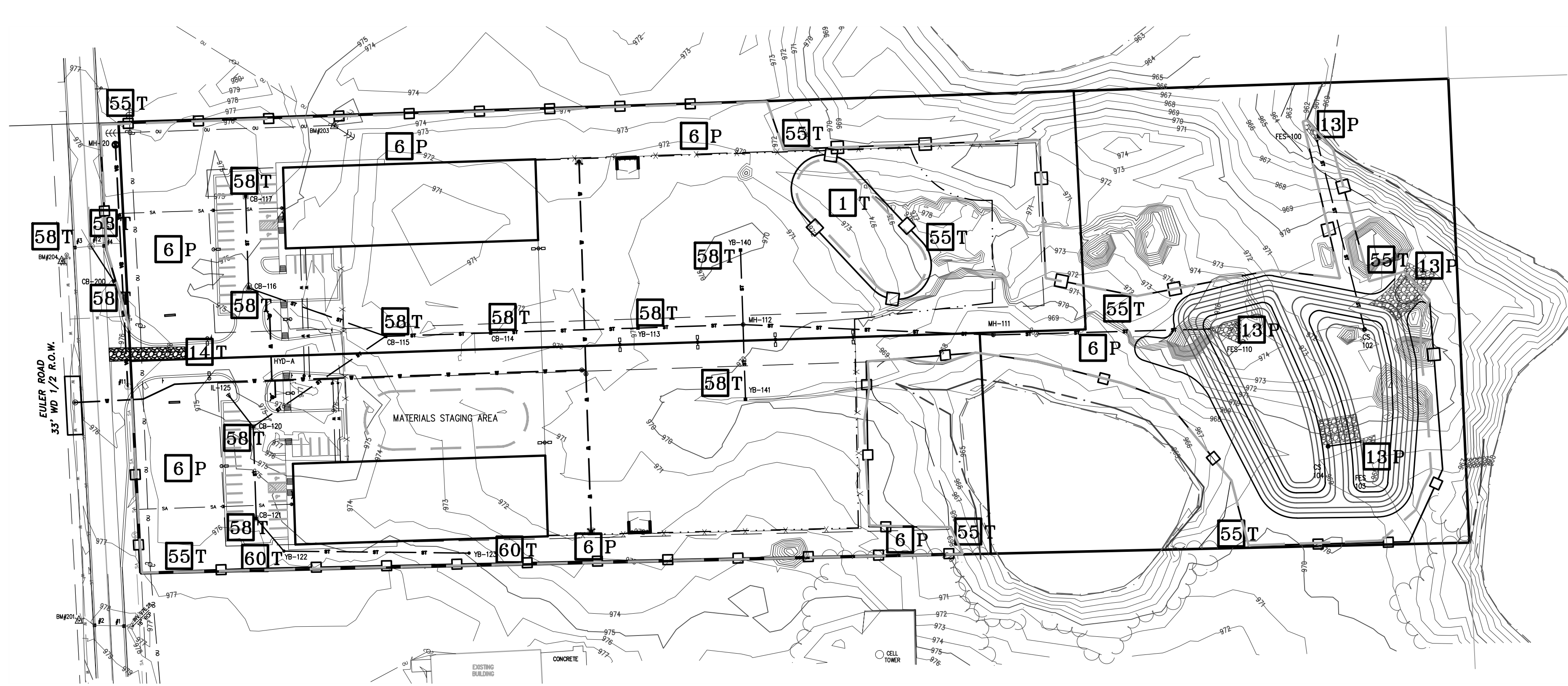
**SOIL EROSION AND SEDIMENTATION CONTROL NOTES:**

- The Soil Erosion and Sedimentation Control Specifications of the appropriate Local, County and/or State Agencies are a part of this work. Refer to the General Notes on the Project Plans for additional requirements.
- The Soil Erosion and Sedimentation Control (SESC) Permit Holder shall be responsible for compliance with the SESC Permit requirements for the duration of the project and until receipt of final approval from the Permitting Agency. For any site with an earth disturbance area of 1 acre or greater, the SESC Permit Holder shall retain a Certified Storm Water Operator in accordance with the SESC Permit requirements. The Certified Storm Water Operator shall perform routine inspections of the site and the SESC measures and file inspection reports in accordance with the SESC permit requirements. For any site with an earth disturbance area of 5 acres or greater, the SESC Permit Holder shall file a National Pollutant Discharge Elimination System (NPDES) Notice of Coverage Form with the State DEQ prior to any earth disruption.
- The Contractor shall install the appropriate Soil Erosion Control Measures in accordance with the Project Plans prior to massive earth disruption, including but not limited to; silt fence, mud tracking control mats and sediment filters on existing storm sewer structures. Demolition work may be necessary prior to installation of some soil erosion control measures. In such cases, postpone installation of affected soil erosion control measures until immediately following demolition work. Refer to the Project Plans and the Soil Erosion Control and Construction Sequence for additional requirements.
- The Contractor shall schedule work so as to minimize the period of time that an area is exposed and disturbed. The Contractor shall observe the grading limits and limits of disturbance in accordance with the Project Plans. The Contractor shall maintain an undisturbed vegetative buffer around the work when shown on the Project Plans.
- The Contractor shall install and maintain Soil Erosion Control Measures in accordance with the Project Plans during the appropriate phases of construction. The Project Plans show the minimum requirements for Soil Erosion Control Measures. The Contractor shall install additional Soil Erosion Control Measures as necessary due to site conditions and as directed by the Permitting Agency and/or Engineer. The Contractor shall perform routine inspection and maintenance of all Soil Erosion Control Measures to ensure compliance with the permit requirements and proper operation of the Soil Erosion Control Measures.
- The Contractor shall strip and stockpile topsoil from all areas of proposed disturbance. Topsoil stockpiles shall be located in accordance with the Project Plans. Topsoil stockpiles shall be stabilized with vegetative growth (or matted with straw during the non-growing season) to prevent wind and water erosion. A temporary diversion berm and/or silt fence shall encompass all earthen material stockpiles, including but not limited to topsoil, sand and gravel.
- The Contractor shall install Soil Erosion Control Measures associated with the proposed storm sewer system during storm sewer construction. Inlet structure filters shall be installed immediately following completion of each storm inlet structure. Riprap shall be installed immediately following the installation of each flared end section with the following exception: Storm drain outlets that do NOT empty into a Retention, Detention or Sedimentation Basin shall have a temporary 5' wide x 10' long x 3' deep sump installed at the termination of the storm sewer. Upon completion of the stabilization work, the sump area shall be filled and riprap shall be installed in accordance with the Project Plans.
- The Contractor shall install filter stone around the storm basin control structure(s) in accordance with the Project Plans immediately following installation of the control structure(s). The filter stone shall be monitored for sediment build up. The filter stone may need to be cleaned and/or replaced as site conditions require and as directed by the Permitting Agency and/or the Engineer.
- All disturbed areas outside of paved areas shall be restored within 15 days of finish grading. Proposed vegetative areas shall be restored with a minimum of 3-inches of topsoil, then seeded and mulched, unless noted otherwise on the Project Plans. During the non-growing season, temporary stabilization shall be provided using straw matting or as directed by the Permitting Agency and/or the Engineer.

**Seeding, Fertilizer and Mulch Bare Ground Ratio:** This information is provided as minimum guidance for acceptable application rates. Actual amounts depending on soil conditions and site topography shall be detailed on the construction plans.

- Top-Soil:** 3 inches in depth.
- Grass Seed:** 210 lbs. per acre.
- Fertilizer:** 150 lbs. per acre.
- Straw Mulch:** 3" in depth 1.5 to 2 tons per acre (All mulch must have a tie down, such as tackifier, net binding, etc.)
- Hydro-Seeding:** Hydro-seeding is not acceptable for slopes exceeding 1%, in such cases; stabilization shall be done with seed and straw mulch with a tackifier.

Following complete site restoration and stabilization; sediment shall be removed from all storm sewer structures, paved areas and storm basins. The SESC Permit Holder shall contact the Permitting Agency to request closure of the SESC Permit. For any site with an earth disturbance area of 5 acres or greater, the SESC Permit Holder shall file a NPDES Notice of Termination Form with the State DEQ.



**NOTES:**

- The permit is not for individual building units. It is required that temporary stabilization of the entire site be completed and approval from the Livingston County Drain Commissioner's office be obtained prior to the issuance of permits for individual building units.
- Any dewatering required shall have a dewatering plan submitted prior to starting any activity that may require EGLE approval.
- Construct Retention/Detention and Sedimentation Basins, including associated spillways, in accordance with the project plans. Finish grade, top soil, seed and mulch in Retention/Detention and Sedimentation Basins, tacked and ringed with silt fence prior to massive earth disruption. Install temporary Soil Erosion Control Measures as necessary to stabilize Retention/Detention and Sedimentation Basins.

DISTANCE TO NEAREST WATER = ON-SITE  
AREA OF DISTURBANCE = 10.10 ac.

**SOIL EROSION CONTROL AND CONSTRUCTION SEQUENCE:**

- Obtain all necessary Soil Erosion and Sedimentation Control related permits from the appropriate Local, County and/or State Agencies. Refer to the General Notes on the project plans for additional requirements.
- Prior to commencement of any earth disruption, install Silt Fence, Tree Protection, Mud Tracking Control Devices, Culvert Sediment Traps on existing culvert inlets and Inlet Sediment Filters at existing storm sewer catch basins in accordance with the Soil Erosion and Sedimentation Control Plan and the Soil Erosion and Sedimentation Control Permit.
- Inspect and maintain all Soil Erosion Control Measures daily. Maintain all Soil Erosion Control Measures as necessary and as directed by the Engineer and/or the Permitting Agency.
- Perform demolition and tree clearing work. Install appropriate Soil Erosion Control Measures in accordance with the Soil Erosion and Sedimentation Control Plan and/or as directed by the Engineer and/or the Permitting Agency.
- Strip and stockpile topsoil. Dispose of excess topsoil offsite. Perform mass grading and land balancing. Install appropriate Soil Erosion Control Measures in accordance with the Soil Erosion and Sedimentation Control Plan and/or as directed by the Engineer and/or the Permitting Agency.
- Construct building in accordance with the Project Plans. Install appropriate Soil Erosion Control Measures in accordance with the Soil Erosion and Sedimentation Control Plan and/or as directed by the Engineer and/or the Permitting Agency.
- Construct underground utilities including sanitary sewer lead, sanitary sewer main, water leads, water main, storm sewer, and conduit for underground public utilities. Install appropriate Soil Erosion Control Measures, including Inlet Sediment Filters on new catch basins and Culvert Sediment Traps on new culverts, in accordance with the Soil Erosion and Sedimentation Control Plan and/or as directed by the Engineer and/or the Permitting Agency.
- Install light pole bases and fixtures and underground electric. Install appropriate Soil Erosion Control Measures in accordance with the Soil Erosion and Sedimentation Control Plan and/or as directed by the Engineer and/or the Permitting Agency.
- Construct curb & gutter, sidewalk and paved parking and roadway areas. Install appropriate Soil Erosion Control Measures in accordance with the Soil Erosion and Sedimentation Control Plan and/or as directed by the Engineer and/or the Permitting Agency.
- Backfill curb and sidewalks and finish grade all disturbed areas outside of pavement areas. Install appropriate Soil Erosion Control Measures in accordance with the Soil Erosion and Sedimentation Control Plan and/or as directed by the Engineer and/or the Permitting Agency.
- Place sod / topsoil / hydroseed / seed & mulch within 5 days of finish grade for establishment of vegetative ground cover outside of pavement and mulched landscape bed areas. Install appropriate Soil Erosion Control Measures in accordance with the Soil Erosion and Sedimentation Control Plan and/or as directed by the Engineer and/or the Permitting Agency.
- Landscape site in accordance with the Project Landscape Plan. Install appropriate Soil Erosion Control Measures in accordance with the Soil Erosion and Sedimentation Control Plan and/or as directed by the Engineer and/or the Permitting Agency.
- Following establishment of sufficient vegetative ground cover and receipt of approval from the Permitting Agency, remove all temporary Soil Erosion Control Measures, clean all storm sewer structures, and repair any permanent Soil Erosion Control Measures as directed by the Engineer and/or the Permitting Agency.

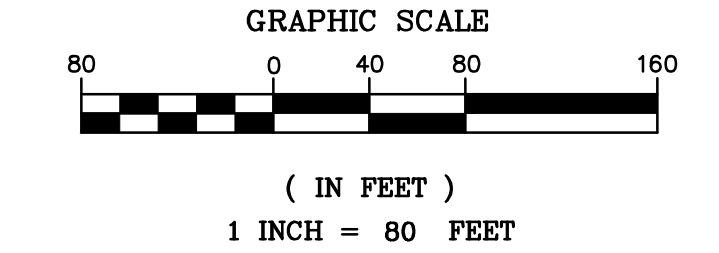
**TIME LINE OF SOIL EROSION CONTROL AND CONSTRUCTION SEQUENCE**

CONSTRUCTION & WORK CATEGORIES*	CONSTRUCTION PERIOD								
	Month	1	2	3	4	5	6	7	8
1. OBTAIN PERMITS									
2. INSTALL INITIAL SESC MEASURES									
3. INSPECT & MAINTAIN SESC MEASURES									
4. DEMOLITION WORK									
5. EARTH WORK									
6. BUILDING CONSTRUCTION									
7. UNDERGROUND UTILITY WORK									
8. SITE LIGHTING WORK									
9. CURB, SIDEWALK & PAVEMENT WORK									
10. BACKFILL & FINISH GRADE WORK									
11. TOPSOIL, SEED & MULCH									
12. LANDSCAPE WORK									
13. REMOVE TEMPORARY SESC MEASURES									

\*REFER TO THE MAJOR WORK ITEMS OUTLINED IN THE SOIL EROSION CONTROL AND CONSTRUCTION SEQUENCE NOTES.

**SOIL EROSION CONTROL LEGEND**

1	STRIPPING & STOCKPIILING TOPSOIL	TOPSOIL MAY BE STOCKPILED ABOVE BORROW AREAS TO ACT AS A DIVERSION STOCKPILE SHOULD BE TEMPORARILY SEEDED
6	SEEDING WITH MULCH AND/OR WAITING	FACILITATES ESTABLISHMENT OF VEGETATIVE COVER EFFECTIVE FOR ORGANISMS WITH LOW VELOCITY EASILY PLACED IN SMALL QUANTITIES BY INDEPENDENT PERSONNEL SHOULD INCLUDE PREPARED TOPSOIL BEL
13	RIPPRAP, RUBBLE, CARBONS	USED WHERE VEGETATION IS NOT EASILY ESTABLISHED EFFECTIVE FOR HIGH VELOCITIES OR HIGH CONCENTRATION PERMITS RUNOFF TO INFILTRATE SOIL REDUCES ENERGY FLOW AT STORM OUTLETS
14	AGGREGATE COVER	STABILIZES SOIL SURFACE, HELPS MINIMIZE EROSION PERMITS CONSTRUCTION TRAFFIC IN ADVERSE WEATHER MAY BE USED AS PART OF PERMANENT BASE CONSTRUCTION OF PAVED AREAS
55	GEOTEXTILE SILT FENCE	USES GEOTEXTILE AND POSTS OR POLES MAY BE CONSTRUCTED OR PREPACKAGED EASY TO CONSTRUCT AND LOCATE AS NECESSARY
58	INLET SEDIMENT FILTER	USES PREPACKAGED GEOTEXTILE SACKS FILLED WITH SAND FROM RUNOFF AT CATCH BASIN INLET
60	INLET FILTER CASE	PREVENTS SEDIMENT FROM ENTERING STORM SYSTEM AT STRUCTURES USES GEOTEXTILE FABRIC AND PREPARED WIRE CASE SILT FENCE CAN NOT BE USED



—	DECIDUOUS TREE
—	EVERGREEN TREE
—	WETLAND LINE
—	EDGE OF WATER
—	OVERHEAD UTILITY LINE
—	UTILITY POLE
—	GUY ANCHOR
—	EXIST. STORM SEWER
—	CATCHBASIN
—	DRAINAGE MANHOLE
—	FLARED END SECTION
—	EXIST. WATERMAIN
—	HYDRANT
—	WATER VALVE
—	EXIST. SANITARY SEWER
—	SANITARY MANHOLE
—	U/G GAS LINE
—	EXIST. 1' CONTOUR
—	EXIST. 5' CONTOUR
—	PROP. WATERMAIN
—	PROP. HYDRANT
—	PROP. VALVE IN WELL
—	PROP. FDC
—	PROP. STORM SEWER
—	PROP. CATCHBASIN
—	PROP. DRAINAGE MANHOLE
—	PROP. FLARED END SECTION
—	PROP. SANITARY SEWER
—	PROP. SANITARY MANHOLE
—	PROP. CONC. CURB

**BENCHMARK**  
DATUM BASED ON NGS PLUS SOLUTION REPORT, DATED APRIL 17, 2023 AT 9:26AM

BENCHMARK #201  
ARROW ON HYDRANT, LOCATED NEAR THE WEST SIDE OF EULER ROAD AND 544 FEET SWLY OF THE SWLY PARCEL CORNER.  
ELEVATION = 980.62 (NAVD 88)

BENCHMARK #203  
SPIKE IN THE NEELY SIDE OF AN UTILITY POLE, LOCATED NEAR THE NORTHERLY PROPERTY LINE AND 2404 FEET EAST OF EULER ROAD.  
ELEVATION = 978.22 (NAVD 88)

BENCHMARK #204  
STEMMER ON HYDRANT, LOCATED NEAR THE WESTERLY SIDE OF EULER ROAD AND 184 FEET SWLY OF CATCH BASIN #3.  
ELEVATION = 977.94 (NAVD 88)

**LEGAL DESCRIPTION SUBSEQUENT TO SURVEY**

Also described as related to the Grid North of State Plane Coordinated System as defined in Michigan Coordinate System Act 9 of 1964, Section 5(a) as follows:

Situated in the Township of Genoa, County of Livingston and State of Michigan, as described as follows:  
Commencing at the Northwest Corner of Section 13, Town 2 North, Range 5 East, Genoa Township, Livingston County, Michigan; thence N88°06'58"E 1308.19 feet (recorded as N88°21'17"E 1305.90 feet) along the North line of said Section 13 to the nominal centerline of Euler Road (33-foot wide 1/2 Right-of-Way) and the PLACE OF BEGINNING; thence continuing N88°06'58"E (recorded as N88°47'01"E) 1220.41 feet along said North line to a Brass Cap stamped Livingston Co. Remuneration Witness as recorded in L.C.R.C. Document No. 202108-0020; thence continuing N88°06'58"E (recorded as N88°47'01"E) 129.89 feet to the North 1/4 Corner (as calculated) of said Section 13, said Corner being under water; thence S02°37'00"E (recorded as S01°56'40"E) 129.89 feet (as calculated) along the North-South 1/4 line of said Section 13 to a Brass Cap stamped Livingston Co. Remuneration Witness as recorded in said L.C.R.C.; thence continuing S02°37'00"E (recorded as S01°56'40"E) 330.10 feet along said North-South 1/4 line of said Section 13 to North line of the South 200 feet of the North 1/2 of the Northeast 1/4 of the Northwest 1/4 of said Section 13 as monumented; thence S88°40'22"W 1348.43 feet (recorded as S88°47'01"W 1348.63 feet) along said North line of the South 200 feet of the North 1/2 of the Northeast 1/4 of the Northwest 1/4 of said Section 13 as monumented to said nominal centerline of Euler Road; thence N02°53'12"W 446.98 feet (recorded as N02°30'21"W 460.00 feet) to the Place of Beginning.  
Being a part of the Northwest 1/4 of Section 13, Town 2 North, Range 5 East, Genoa Township, Livingston County, Michigan, containing 14.05 acres of land, more or less (which includes the bottom lands of ponds). Subject to the rights of the public over the Westerly 33 feet thereof as occupied by Euler Road, also subject to and together with all easements and restrictions affecting title to the above described premises.

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2183 PLYERS DRIVE  
BRIGHTON, MICHIGAN 48114

DESIGN:WMP	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG						
CHECK: WMP						

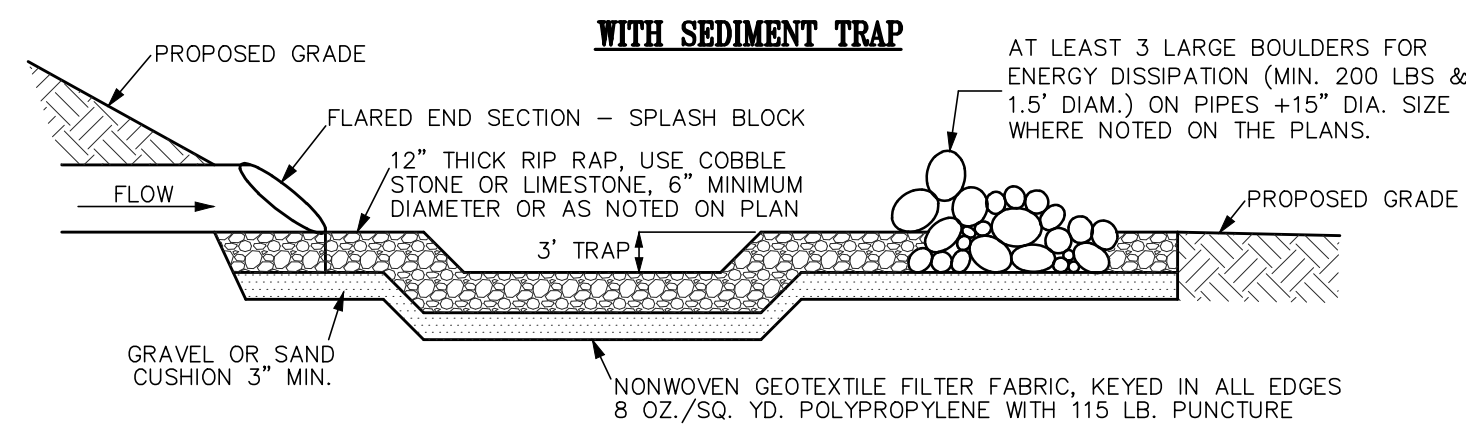
2025 EULER ROAD DEVELOPMENT

SOIL EROSION CONTROL PLAN

CLIENT:  
4M GENOA LLC  
2244 EULER ROAD  
BRIGHTON, MICHIGAN 48114  
810-217-7471

SCALE: 1in. = 80ft.  
PROJECT No.: 234463  
DWG NAME: 4463 SE  
ISSUED: DEC. 19, 2023

SE1



**13 RIP RAP CROSS SECTION**  
NOT TO SCALE

NOTES:

NOTES:

1. GROUT RIP-RAP WITH A 6" THICK CEMENT SLURRY FOR SLOPES STEEPER THAN 20%; 5 ON 1.
2. PROVIDE ANIMAL GUARDS ON ALL STORM SEWER 15" DIA. OR GREATER, INCIDENTAL TO FES PIPE.
3. STORM DRAIN OUTLETS THAT DO NOT EMPTY INTO THE DETENTION BASIN SHALL HAVE INSTALLED A TEMPORARY SEDIMENT TRAP AT THE TERMINATION OF THE STORM SEWER (5'x10'x3' TYP.). UPON COMPLETION OF THE STABILIZATION WORK, THE SUMP AREA SHALL BE FILLED AND RIP-RAPPED.

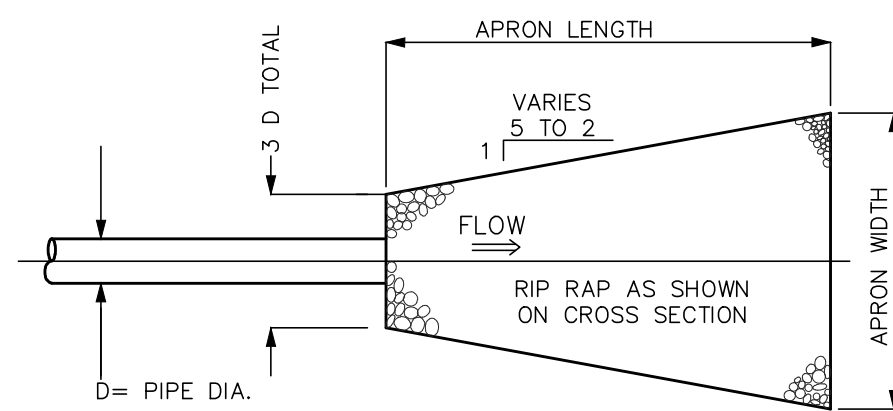
**MIN. RIP RAP DIMENSIONS**

PIPE DIAMETER (inch)	APRON LENGTH (feet)	(2) ALTERNATE APRON WIDTH (feet)	
		(1)	(2)
12	12	8	16
15	15	10	20
18	18	12	24
21	21	14	28
24	24	16	32
30	30	20	40
36	36	24	48
42	42	28	56

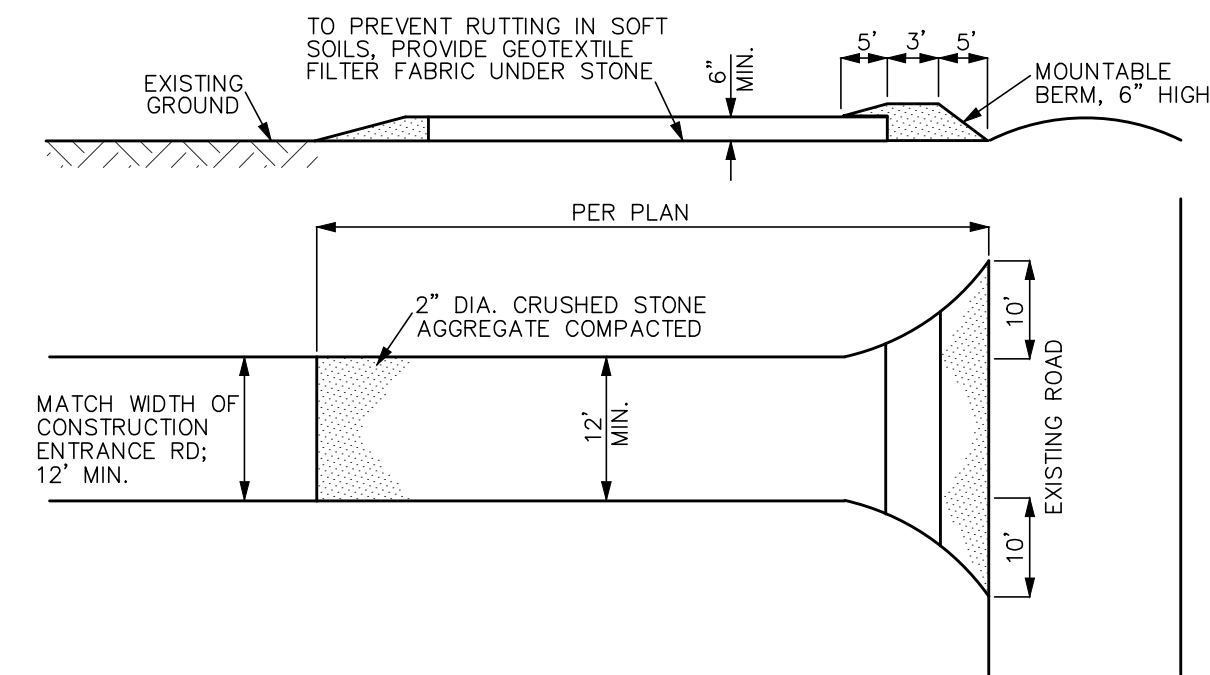
UNLESS SHOWN OTHERWISE ON PLANS. May be varied to match natural features; ie when meeting ex. ditch, apron width to match channel bottom extending up sides to a depth of 1/2 pipe dia.

(1) APRON WIDTH FOR USE IN DITCHES AND SWALES

(2) APRON WIDTH FOR USE IN FLAT AREAS WHERE SHEET FLOW DESIRED

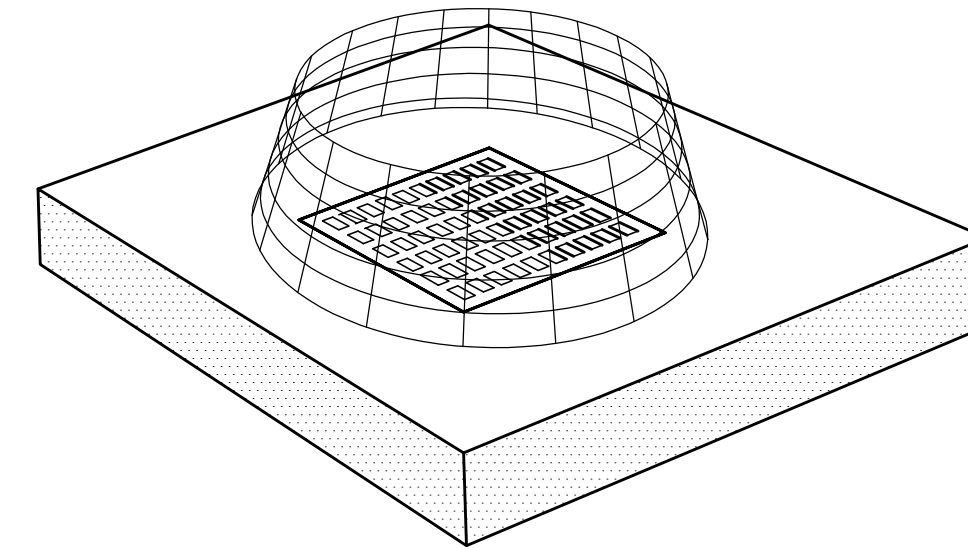


**13 RIP RAP PLAN**  
NOT TO SCALE



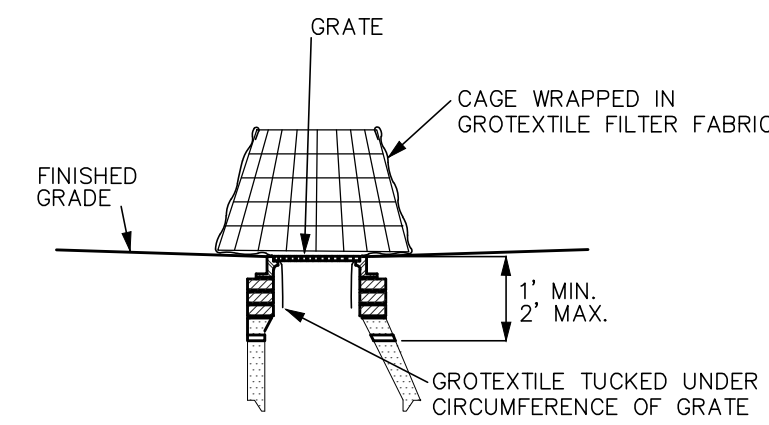
**14 MUD TRACKING CONTROL DEVICE**  
NOT TO SCALE

NOTE: WHEN ACCEPTABLE TO ENGINEER, CONTRACTOR MAY INSTALL STONE BELOW THE SUBGRADE ELEVATION; THUS STONE MAY BE LEFT IN PLACE BELOW PAVEMENT.



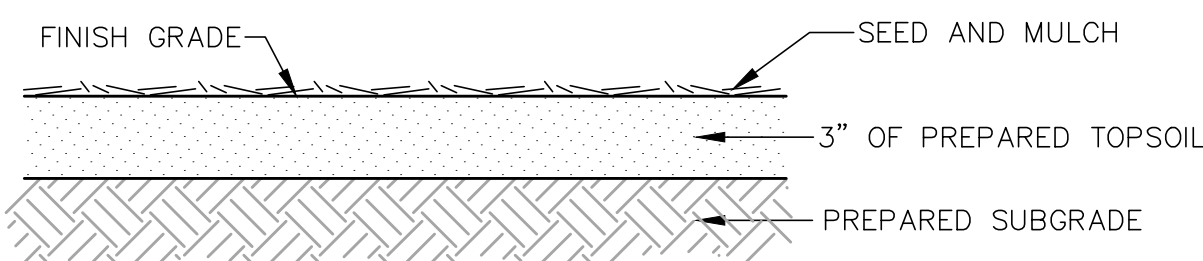
**ISOMETRIC VIEW**

54" CAGE  
FITS SQUARE GRATES FROM 24" X 24" THROUGH 36" X 36"  
FITS ROUND GRATES FROM 24" DIA. THROUGH 40" DIA.  
FITS RECTANGULAR GRATES WITH A DIAGONAL BETWEEN 28" AND 41" ( $a^2 + b^2 = c^2$ )



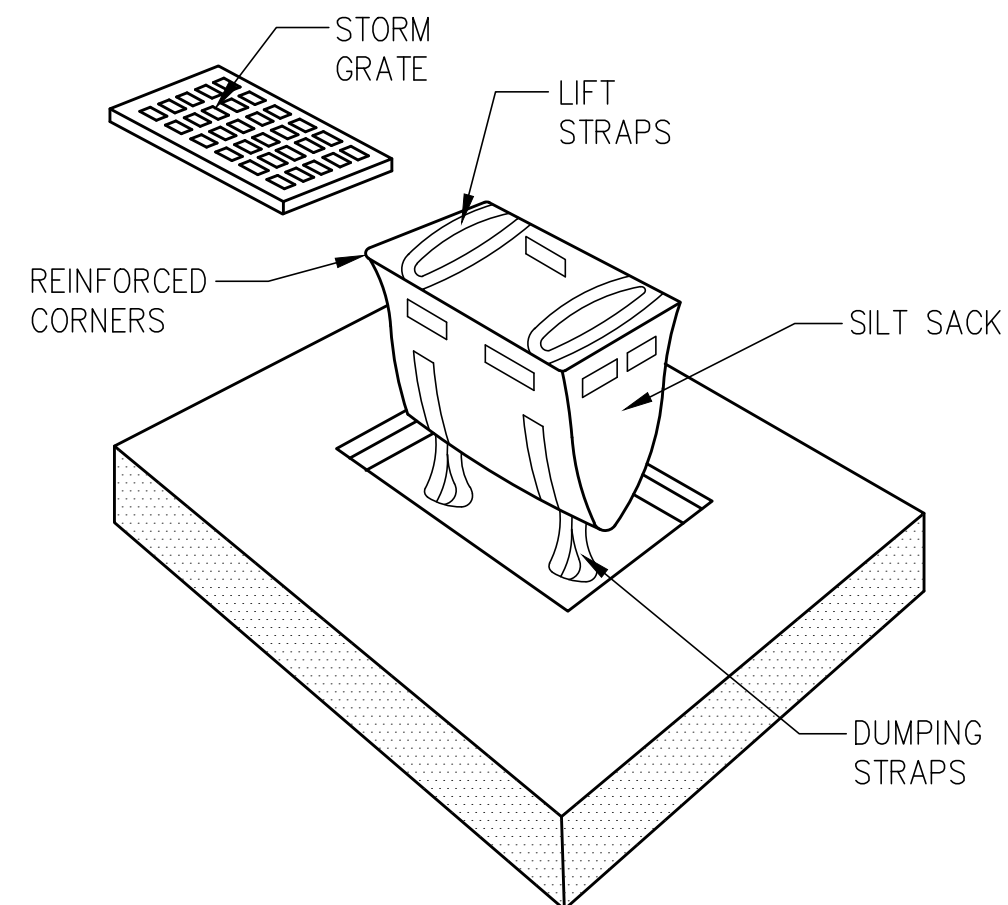
**PROFILE**

1. INLET PROTECTION SHALL BE INSTALLED AT THE TIME OF THE STRUCTURE IS SET.
2. TO INSTALL, TUCK FABRIC UNDER GRATE.
3. REMOVE SEDIMENT IF IT ACCUMULATES TO ONE HALF THE HEIGHT OF THE CAGE.
4. THE AREA AROUND THE CAGE SHOULD BE AS FLAT AS POSSIBLE TO INCREASE EFFECTIVENESS AND REDUCE MAINTENANCE REQUIREMENTS.
5. AS WITH ALL INLET PROTECTION DEVICES, CHECK TO SEE HOW DEEP THE WATER COULD RISE IF THE INLET WERE BLOCKED ENTIRELY.
6. DO NOT INSTALL IN LOCATIONS THAT COULD CAUSE PROPERTY DAMAGE OR POSE A SAFETY HAZARD TO TRAFFIC.



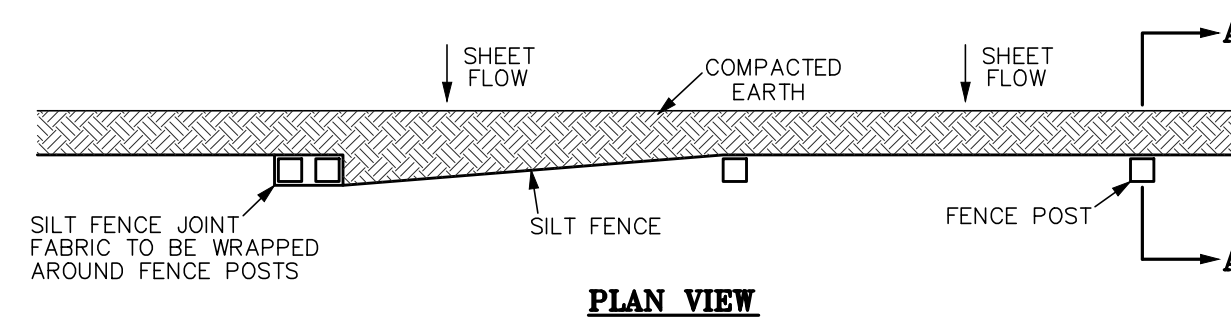
**SEEDING DETAIL**  
NOT TO SCALE

1. Seed mixture shall consist of 10% - Kentucky Blue Grass, 20% - Perennial Ryegrass, 30% - Hard Fescue, 40% - Creeping Red Fescue. Seed shall be uniformly applied at a rate of 210 pounds per acre.
2. Topsoil shall be a dark, organic, natural surface soil free of clay lumps, peat or muck, subsoil, noxious weeds or other foreign matter such as roots, sticks, rocks over 1/2" in diameter and not frozen or muddy. Material shall meet with approval of the Engineer.
3. Straw mulching shall be a minimum depth of 3" applied at a rate of 1.5 to 2 tons per acre. All mulching must have a tie down, such as tackifier, net binding, etc.
4. Fertilizer shall be evenly applied at a rate which will provide 150 pounds per acre of chemical fertilizer nutrients, in equal portions, (10-10-10), of Nitrogen, Phosphoric Acid and Potash.
5. Hydroseeding is not acceptable for slopes exceeding 1%. In such cases, stabilization shall be done with seed and straw mulch with a tackifier.
6. The earthen areas to receive topsoil shall be at the required grade and properly trimmed. Topsoil shall be spread on the prepared areas to a depth of 3 inches. After spreading, any large clods and lumps of topsoil shall be broken up and pulverized. Stones and rocks over 1/2" in diameter, roots, litter, and all foreign matter shall be raked up and disposed of by the contractor. Place topsoil only when it can be followed within a reasonable time by seeding operations.

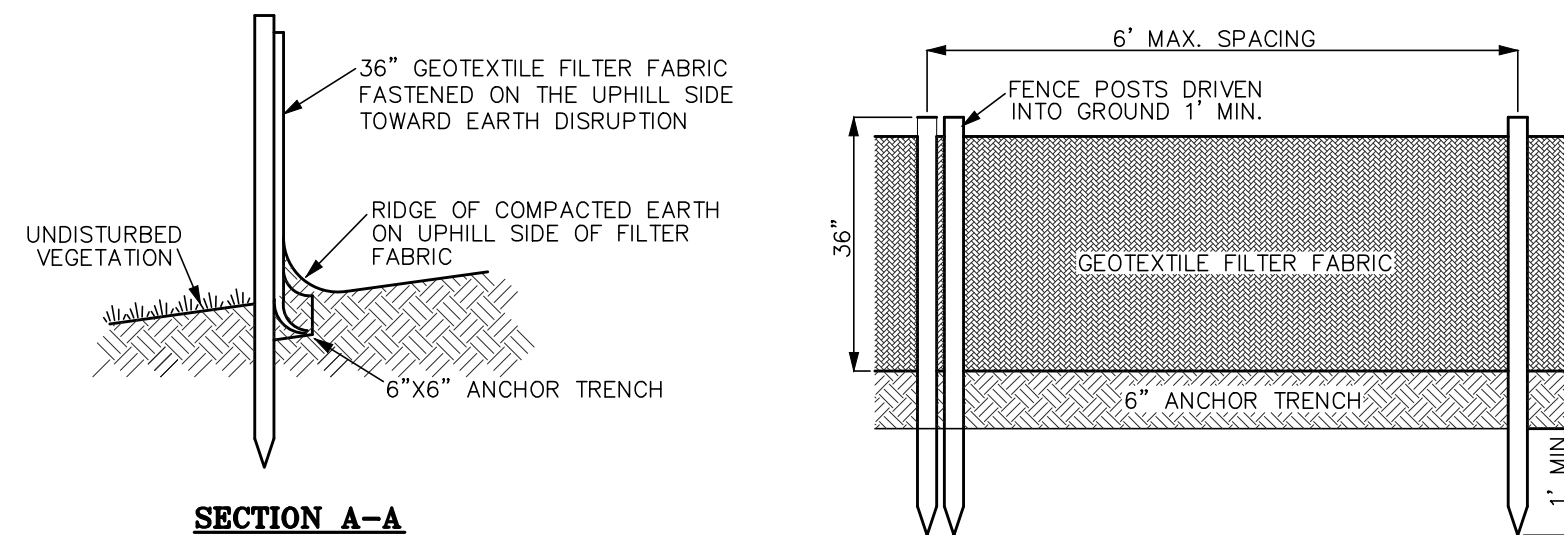


**58 INLET SEDIMENT FILTER**  
NOT TO SCALE

**60 YARD INLET FILTER CAGE**  
NOT TO SCALE



**PLAN VIEW**



**SECTION A-A**

**FRONT VIEW**

**55 SILT FENCE**  
NOT TO SCALE

NOTES:

1. REPAIR AND REPLACE SILT FENCE AS NEEDED, INCIDENTAL.
2. FIELD LOCATE SILT FENCE TO FOLLOW CONSTANT CONTOUR ELEVATIONS.
3. OVERLAP FENCES AT JOINTS.
4. INSTALL FILTER BERM AT LOW POINTS WHERE INDICATED ON PLANS.

DESIGN: WMP	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG						
CHECK: WMP						

2025 EULER ROAD  
DEVELOPMENT

SOIL EROSION CONTROL  
NOTES & DETAILS

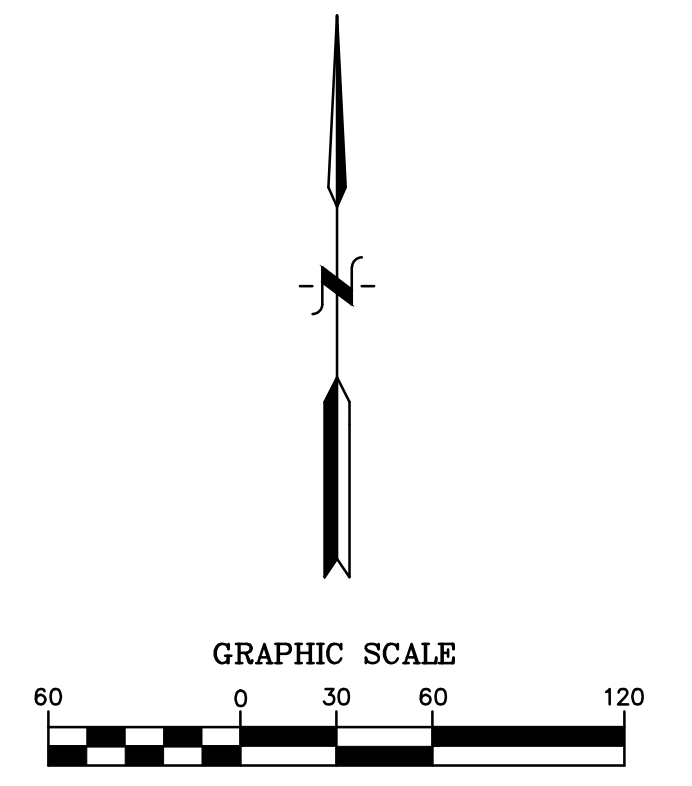
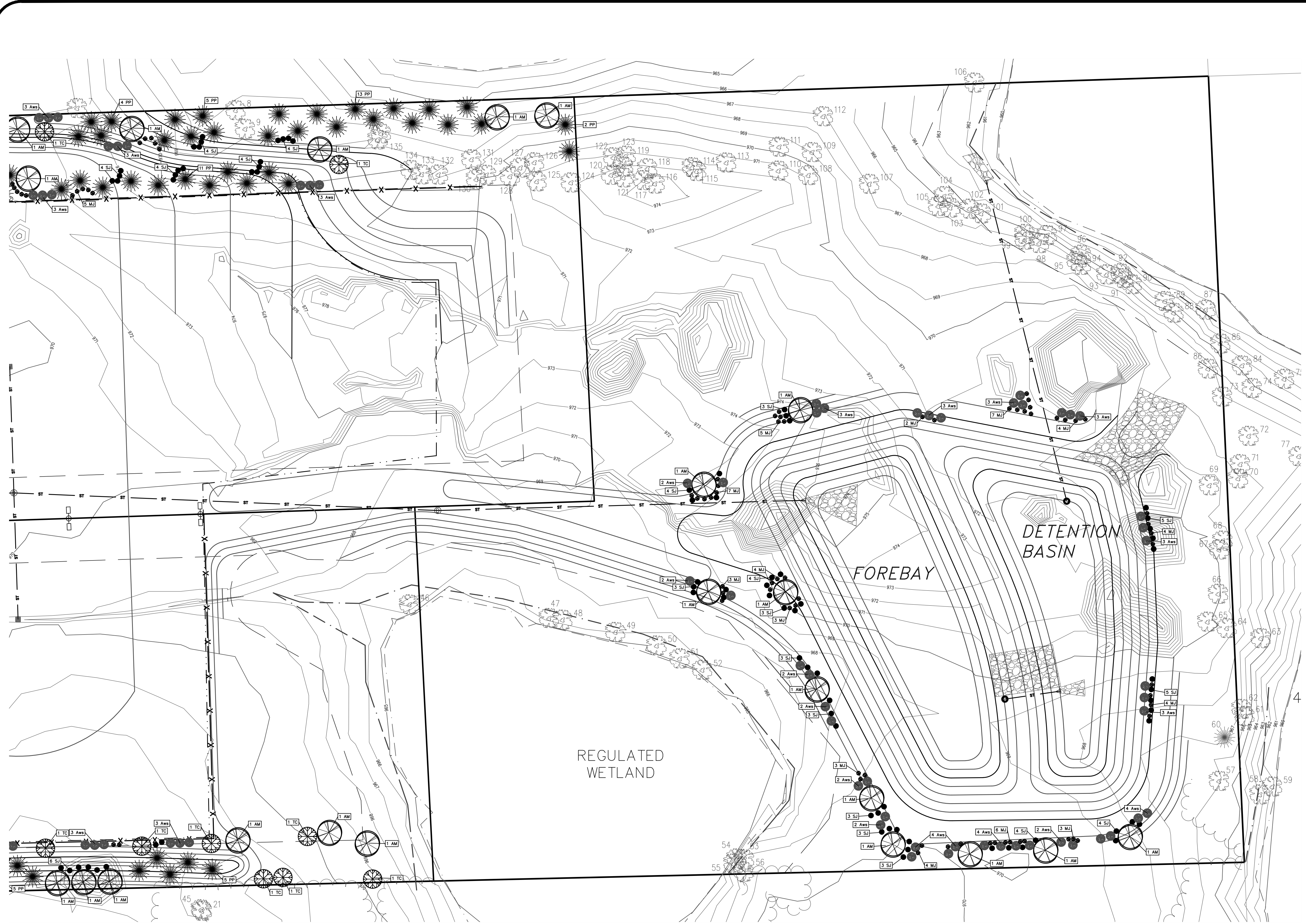
CLIENT:  
4M GENOA LLC  
2244 EULER ROAD  
BRIGHTON, MICHIGAN 48114  
810-217-7471

SCALE: AS NOTED  
PROJECT No.: 234463  
DWG NAME: 4463 SE  
ISSUED: DEC. 19, 2023

SE2

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- DECIDUOUS TREE
- EVERGREEN TREE
- WETLAND LINE
- EDGE OF WATER
- OVERHEAD UTILITY LINE
- UTILITY POLE
- GUY ANCHOR
- EXIST. STORM SEWER
- CATCHBASIN
- DRAINAGE MANHOLE
- FLARED END SECTION
- EXIST. WATERMAIN
- HYDRANT
- WATER VALVE
- EXIST. SANITARY SEWER
- SANITARY MANHOLE
- U/G GAS LINE
- EXIST. 1' CONTOUR
- EXIST. 5' CONTOUR
- PROP. WATERMAIN
- PROP. HYDRANT
- PROP. VALVE IN WELL
- PROP. FDC
- PROP. STORM SEWER
- PROP. CATCHBASIN
- PROP. DRAINAGE MANHOLE
- PROP. FLARED END SECTION
- PROP. SANITARY SEWER
- PROP. SANITARY MANHOLE
- PROP. CONC. CURB

REGULATED WETLAND

FOREBAY

DETENTION BASIN

PLANTING SCHEDULE

TREES		QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE
21	AM	21	AM	QUERCUS RUBRA	AMUR MAPLE	3" CAL.
9	TC	9	TC	TILIA CARDATA "GREENSPIRE"	LITTLE LEAF LINDEN	2.5" CAL.
42	PP	42	PP	PICEA PUNGENS	COLORADO SPRUCE	3" CAL.
SHRUBS		QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE
62	MJ	62	MJ	JUNIPERUS SCOPULORUM "MEDORA"	MEDORA JUNIPER	3' HT.
62	AwS	62	AwS	SPIRAEA BUMALDA "AWS"	ANTHONY WATERER SPIREA	24" HT.
80	SJ	80	SJ	SPIRAEA J. 'SHIROBANA'	SHIROBANA SPIRAEA	24" HT.

**BENCHMARK**  
DATUM BASED ON NGS OPUS SOLUTION  
REPORT, DATED APRIL 17, 2023 AT 9:26AM

BENCHMARK #201  
ARROW ON HYDRANT, LOCATED NEAR THE WEST  
SIDE OF EULER ROAD AND 548 FEET SW/4 OF  
THE SW/4 PARCEL CORNER.  
ELEVATION = 980.62 (NAVD 88)

BENCHMARK #203  
SPIKE IN THE NEELY SIDE OF AN UTILITY POLE,  
LOCATED NEAR THE NORTHERLY PROPERTY LINE  
AND 240± FEET EAST OF EULER ROAD.  
ELEVATION = 976.22 (NAVD 88)

BENCHMARK #204  
STEAMER ON HYDRANT, LOCATED NEAR THE  
WESTERLY SIDE OF EULER ROAD AND 18± FEET  
SW/4 OF CATCH BASIN #3.  
ELEVATION = 977.94 (NAVD 88)

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DESIGN: WMP	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG						
CHECK: WMP						

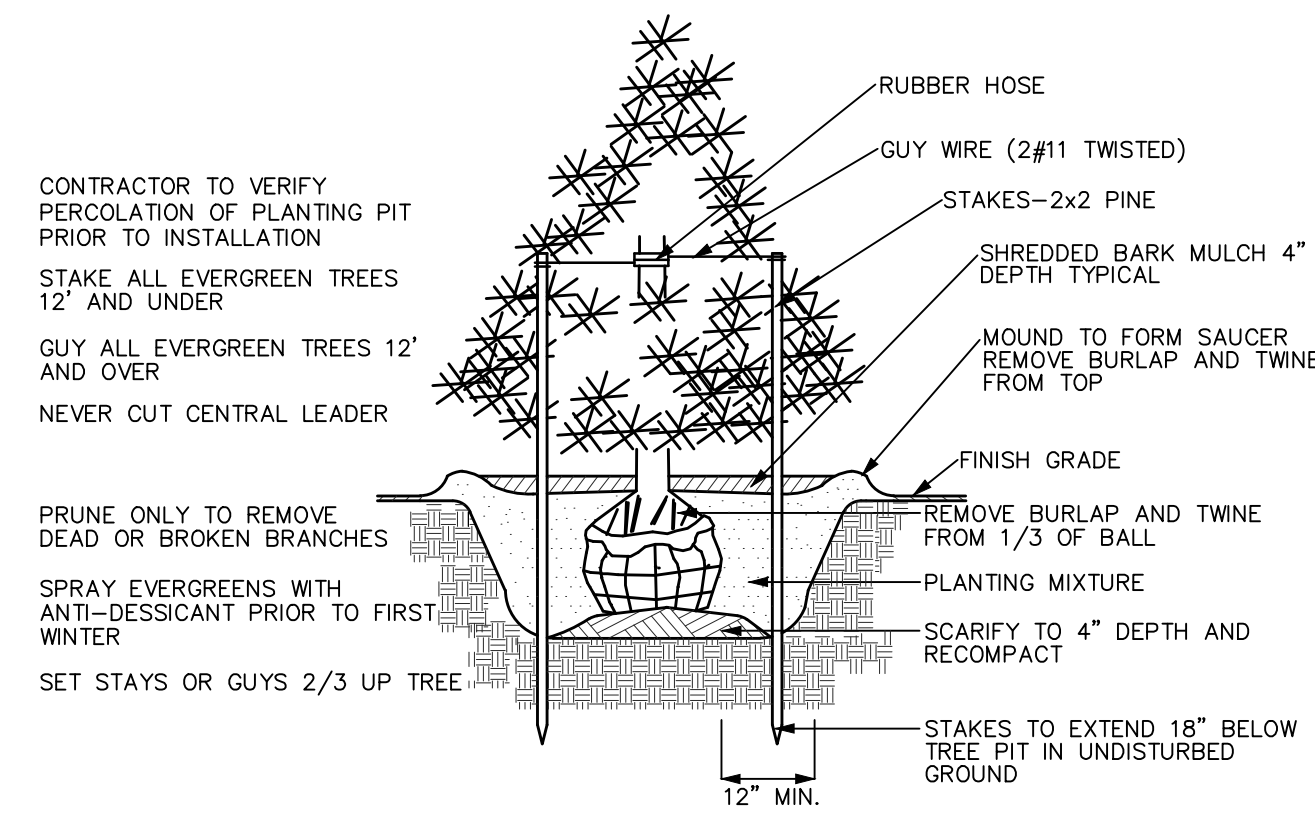
2025 EULER ROAD DEVELOPMENT

LANDSCAPE PLAN

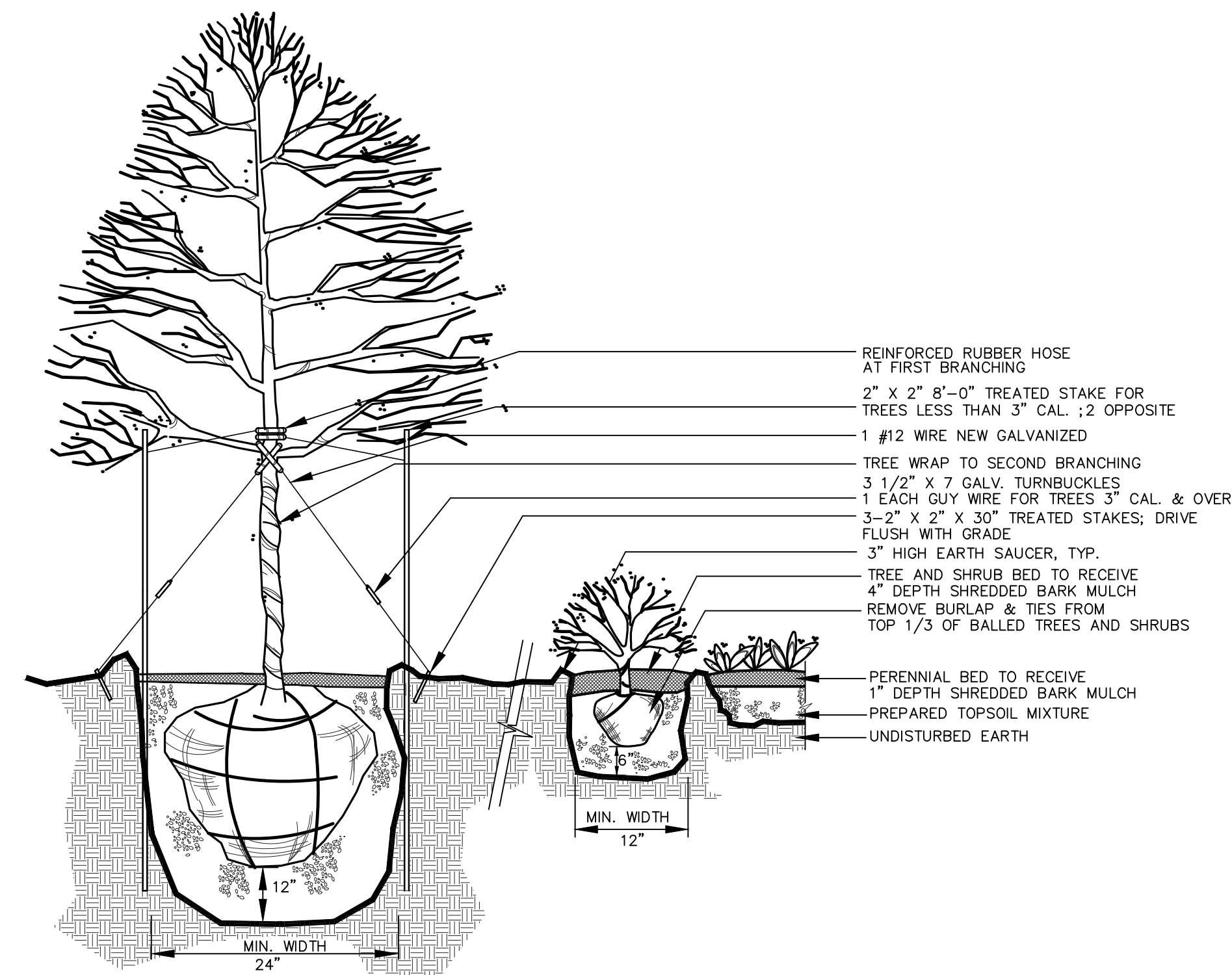
CLIENT:  
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2244 EULER ROAD  
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810-217-7471

SCALE: 1in. = 60ft.  
PROJECT No.: 234463  
DWG NAME: 4463 LS  
ISSUED: DEC. 19, 2023

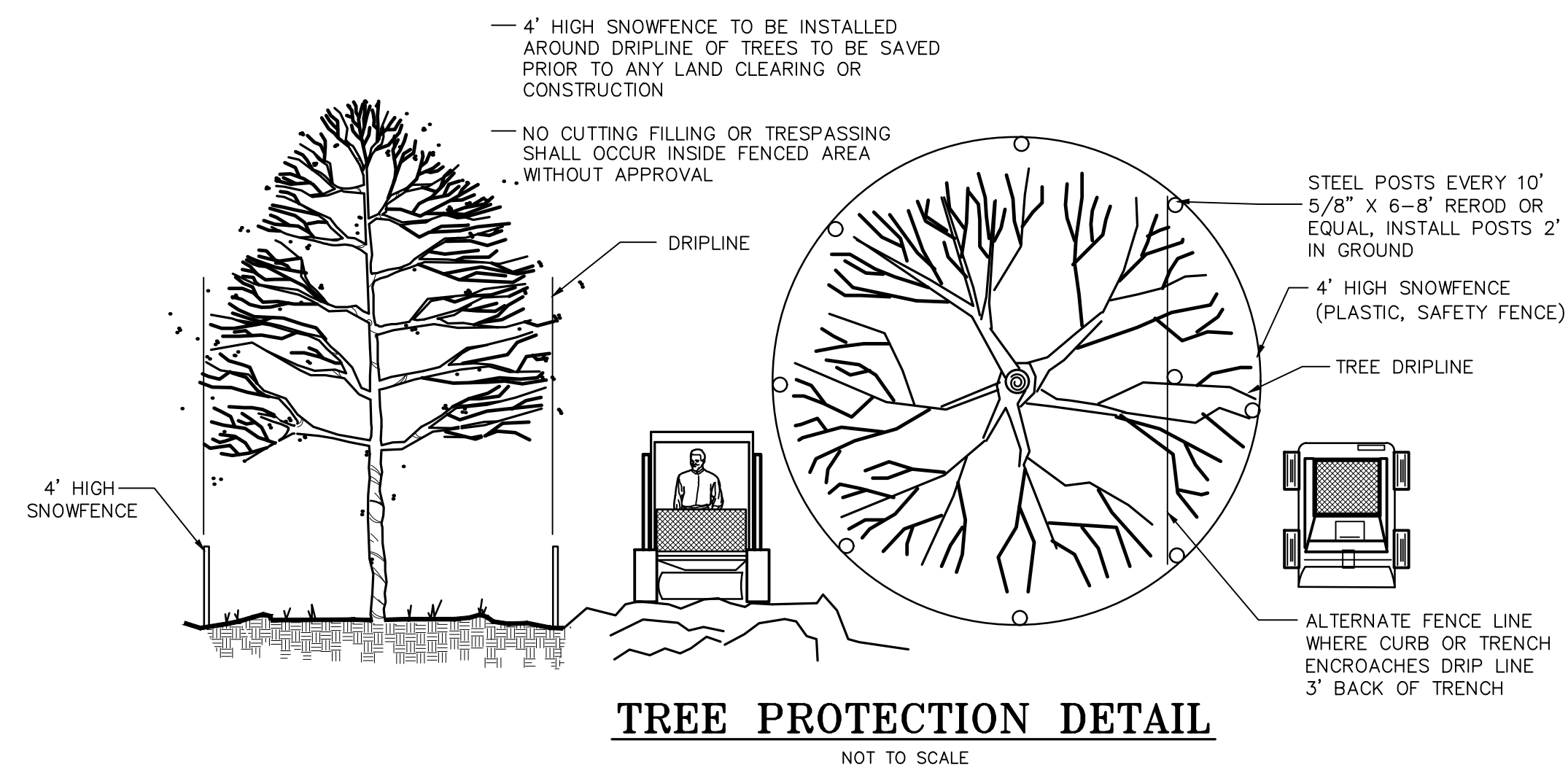
LS2



**TYPICAL EVERGREEN TREE PLANTING**  
NOT TO SCALE



**TYPICAL TREE/SHRUB/PERENNIAL PLANTING**  
NOT TO SCALE



**TREE PROTECTION DETAIL**  
NOT TO SCALE

**GENERAL NOTES:**

- ALL PLANTING SIZES SHOWN SHALL BE AT TIME OF PLANTING.
  - ALL PLANT MATERIAL SHALL BE FREE OF DISEASE AND INSECTS AND SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK OF THE AMERICAN ASSOCIATION OF NURSERYMEN.
  - ALL LANDSCAPING SHALL BE MAINTAINED A HEALTHY CONDITION, ANY DEAD OR DISEASED PLANTINGS SHALL BE REMOVED AND REPLACED WITHIN 1 YEAR.
  - ALL LANDSCAPE BEDS TO BE MULCHED WILL HAVE CYPRESS MULCH UNLESS OTHERWISE NOTED.
  - ALL PLANT MATERIAL TO BE USED SHALL BE AS SPECIFIED OR APPROVED EQUAL.
  - ALL UNPAVED AREAS AND AREAS NOT OTHERWISE PROPOSED AS A LANDSCAPE BED OR AN AREA TO BE CYPRESS MULCHED SHALL BE SEEDED TO ESTABLISH A VEGETATIVE LAWN COVER.
- NOTE: TREES WITH (TBR) ARE TO BE REMOVED, UNLESS OTHERWISE SPECIFIED ALL OTHER TREES ARE TO REMAIN.

**BENCHMARK**  
DATUM BASED ON NCS OPUS SOLUTION REPORT, DATED APRIL 17, 2023 AT 9:26AM

BENCHMARK #201  
ARROW ON HYDRANT, LOCATED NEAR THE WEST SIDE OF EULER ROAD AND 548 FEET SWLY OF THE SWLY PARCEL CORNER.  
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SPIKE IN THE NEELY SIDE OF AN UTILITY POLE, LOCATED NEAR THE NORTHERLY PROPERTY LINE AND 240± FEET EAST OF EULER ROAD.  
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BENCHMARK #204  
STEAMER ON HYDRANT, LOCATED NEAR THE WESTERLY SIDE OF EULER ROAD AND 18± FEET SWLY OF CATCH BASIN #3.  
ELEVATION = 977.94 (NAVD 88)

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BRIGHTON, MICHIGAN 48114

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CHECK: WMP						

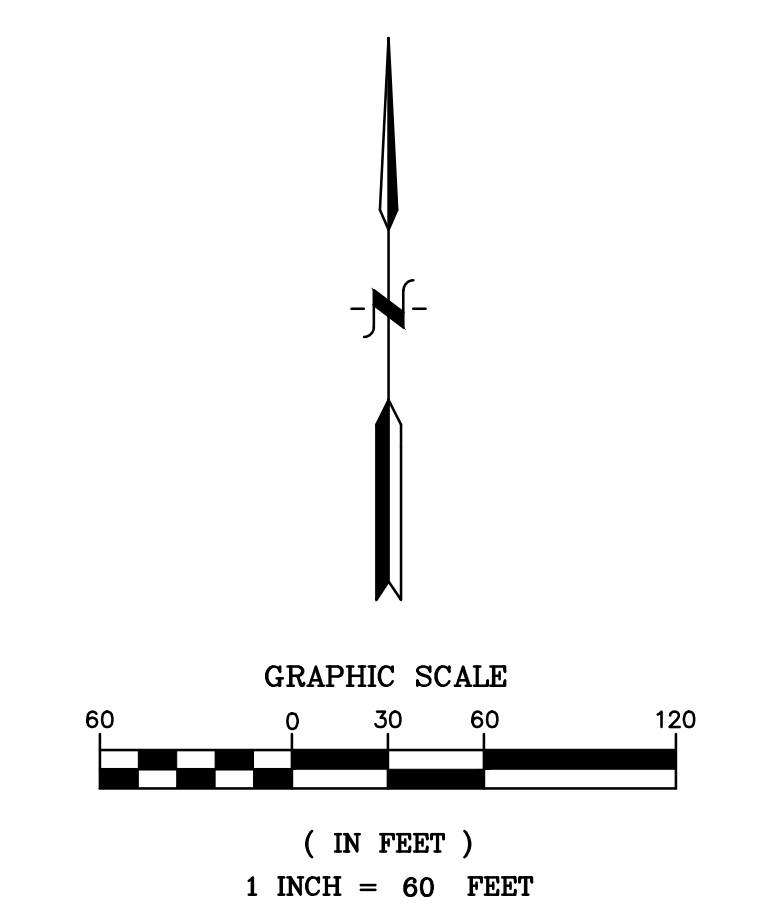
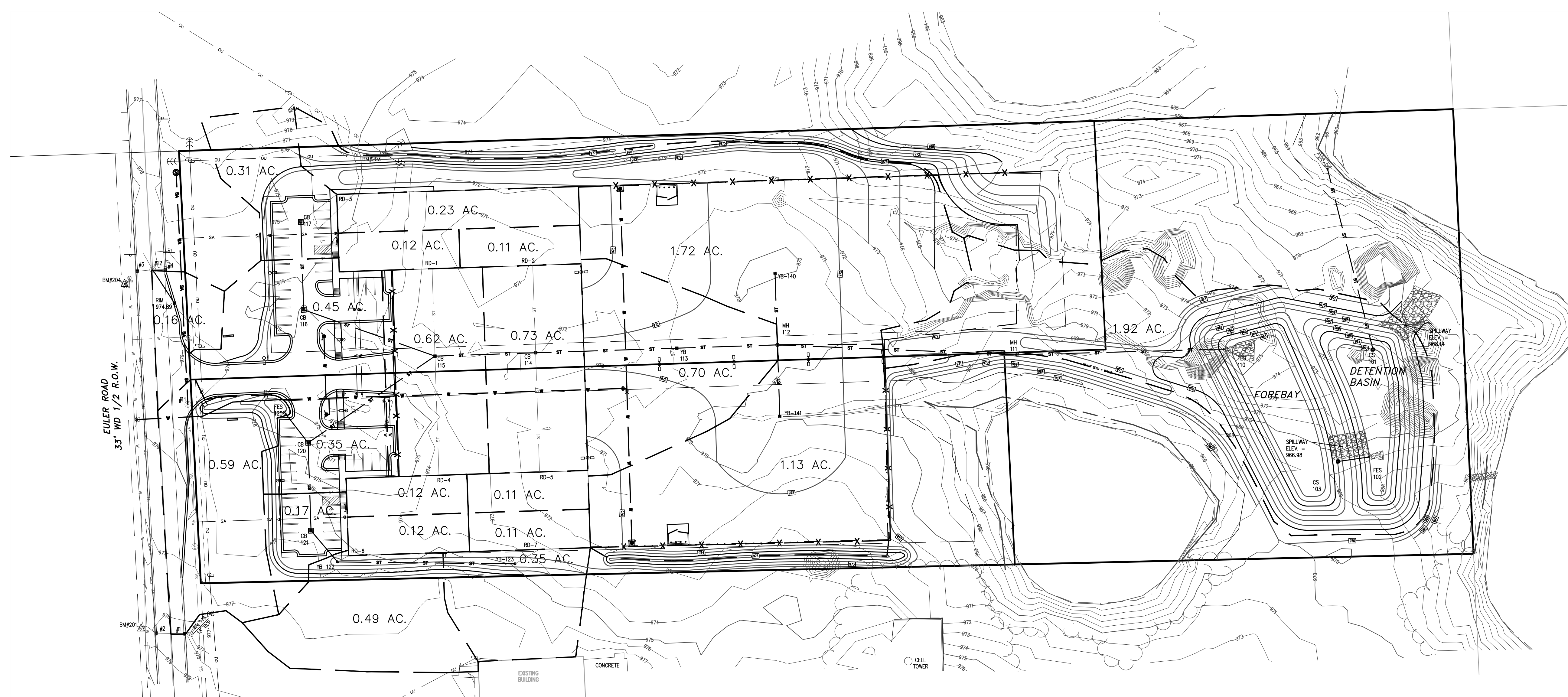
2025 EULER ROAD  
DEVELOPMENT

LANDSCAPE  
NOTES & DETAILS

CLIENT:  
4M GENOA LLC  
2244 EULER ROAD  
BRIGHTON, MICHIGAN 48114  
810-217-7471

SCALE: AS NOTED  
PROJECT No.: 234463  
DWG NAME: 4463 LS  
ISSUED: DEC. 19, 2023

**LS3**



- PARCEL BOUNDARY
- R.O.W. LINE
- BUILDING SETBACK
- EASEMENT LINE
- EXIST. CONC. CURB
- EXIST. EDGE OF GRAVEL
- EXIST. EDGE OF PAVEMENT
- EXIST. BRUSH LINE
- DECIDUOUS TREE
- EVERGREEN TREE
- WETLAND LINE
- EDGE OF WATER
- OVERHEAD UTILITY LINE
- UTILITY POLE
- GUY ANCHOR
- EXIST. STORM SEWER
- CATCHBASIN
- DRAINAGE MANHOLE
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- EXIST. WATERMAIN
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- U/G GAS LINE
- EXIST. 1' CONTOUR
- EXIST. 5' CONTOUR
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- PROP. FDC
- PROP. STORM SEWER
- PROP. CATCHBASIN
- PROP. DRAINAGE MANHOLE
- PROP. FLARED END SECTION
- PROP. SANITARY SEWER
- PROP. SANITARY MANHOLE
- PROP. CONC. CURB
- PROP. LIGHT POLE

"Area"	PROPOSED STORM WATER RUN-OFF						(ACRES)	"C" Factor
	Pavement	Gravel	0.90	0.25	0.18	1.00		
141	0.00	1.03	0.00	0.00	0.00	1.03	0.85	
140	0.00	1.61	0.00	0.00	0.00	1.61	0.85	
125	0.14	0.00	0.00	0.45	0.00	0.59	0.37	
123	0.00	0.00	0.00	0.14	0.21	0.35	0.19	
122	0.00	0.00	0.00	0.14	0.34	0.48	0.19	
121	0.10	0.00	0.00	0.07	0.00	0.17	0.61	
120	0.27	0.00	0.00	0.08	0.00	0.35	0.74	
117	0.10	0.00	0.00	0.08	0.19	0.37	0.38	
116	0.27	0.00	0.00	0.18	0.00	0.45	0.62	
115	0.50	0.00	0.00	0.00	0.00	0.50	0.90	
114	0.50	0.00	0.00	0.00	0.00	0.50	0.90	
113	0.00	0.70	0.00	0.00	0.00	0.70	0.85	
RD1	0.00	0.00	0.12	0.00	0.00	0.12	0.90	
RD2	0.00	0.00	0.11	0.00	0.00	0.11	0.90	
RD3	0.00	0.00	0.23	0.00	0.00	0.23	0.90	
RD4	0.00	0.00	0.12	0.00	0.00	0.12	0.90	
RD5	0.00	0.00	0.11	0.00	0.00	0.11	0.90	
RD6	0.00	0.00	0.12	0.00	0.00	0.12	0.90	
RD7	0.00	0.00	0.11	0.00	0.00	0.11	0.90	
BASIN	0.00	0.19	0.00	0.00	1.40	1.92	0.39	
0.54 ACRES								
"C" =							0.43	

**BENCHMARK**  
 DATUM BASED ON NCS OPUS SOLUTION  
 REPORT, DATED APRIL 17, 2023 AT 9:26AM

BENCHMARK #201  
 ARROW ON HYDRANT, LOCATED NEAR THE WEST  
 SIDE OF EULER ROAD AND 548 FEET SWLY OF  
 THE SWLY PARCEL CORNER.  
 ELEVATION = 980.62 (NAVD 88)

BENCHMARK #203  
 SPIKE IN THE NEVLY SIDE OF AN UTILITY POLE,  
 LOCATED NEAR THE NORTHERLY PROPERTY LINE  
 AND 240± FEET EAST OF EULER ROAD.  
 ELEVATION = 976.22 (NAVD 88)

BENCHMARK #204  
 STEAMER ON HYDRANT, LOCATED NEAR THE  
 WESTERLY SIDE OF EULER ROAD AND 18± FEET  
 SWLY OF CATCH BASIN #3.  
 ELEVATION = 977.94 (NAVD 88)

3 WORKING DAYS  
 BEFORE YOU DIG  
 CALL 811 OR 1-800-482-7171  
 (TOLL FREE)  
 OR VISIT CALL811.COM

(810) 227-9533  
**CIVIL ENGINEERS**  
**LAND SURVEYORS**  
 2183 PLESS DRIVE  
 BRIGHTON, MICHIGAN 48114

DESIGN-WMP	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG	1	12-19-23	REVISED PER REVIEW COMMENTS			
CHECK: WMP						

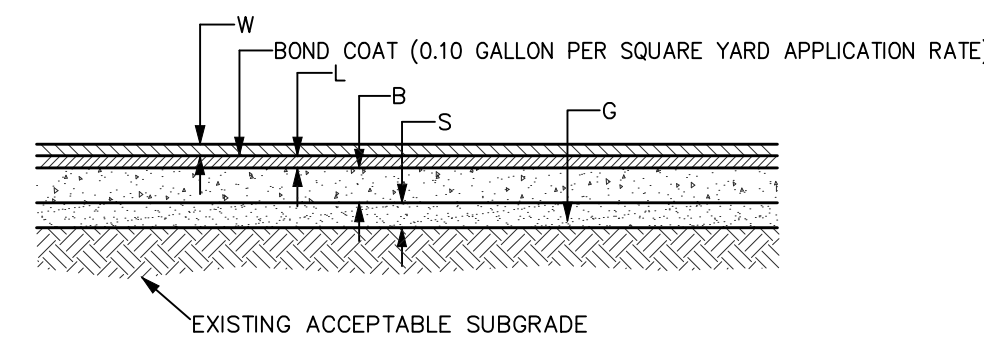
## 2025 EULER ROAD DEVELOPMENT

## WATERSHED PLAN

CLIENT:  
 4M GENOA LLC  
 2244 EULER ROAD  
 BRIGHTON, MICHIGAN 48114  
 810-217-7471

SCALE: 1in. = 60ft.  
 PROJECT No.: 234463  
 DWG NAME: 4463 WS  
 ISSUED: DEC. 19, 2023



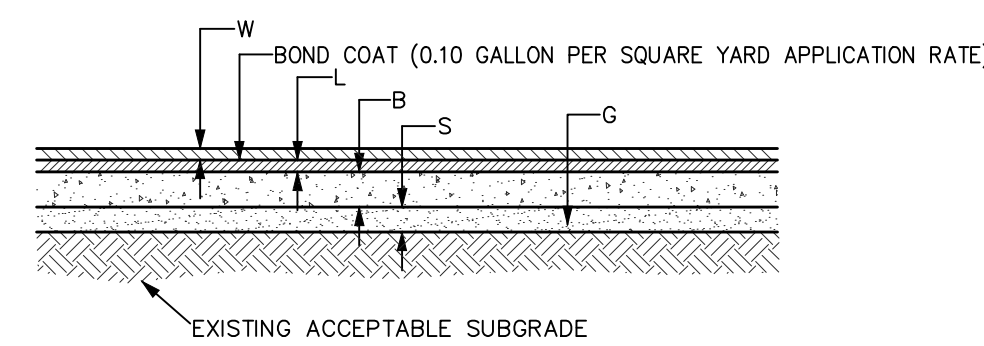


**STANDARD DUTY BITUMINOUS PAVEMENT CROSS SECTION**  
NOT TO SCALE

KEY	DESCRIPTION	MATERIAL SPECIFICATION	MINIMUM COMPACTED THICKNESS
W	WEARING COURSE	MDOT 36A	1.5"
L	LEVELING COURSE	MDOT 13A	1.5"
B	AGGREGATE BASE	MDOT 21AA	8"
S	GRANULAR SUBBASE	MDOT CLASS II	6"
G	GEOGRID	N/A	N/A

**BITUMINOUS PAVEMENT NOTES:**

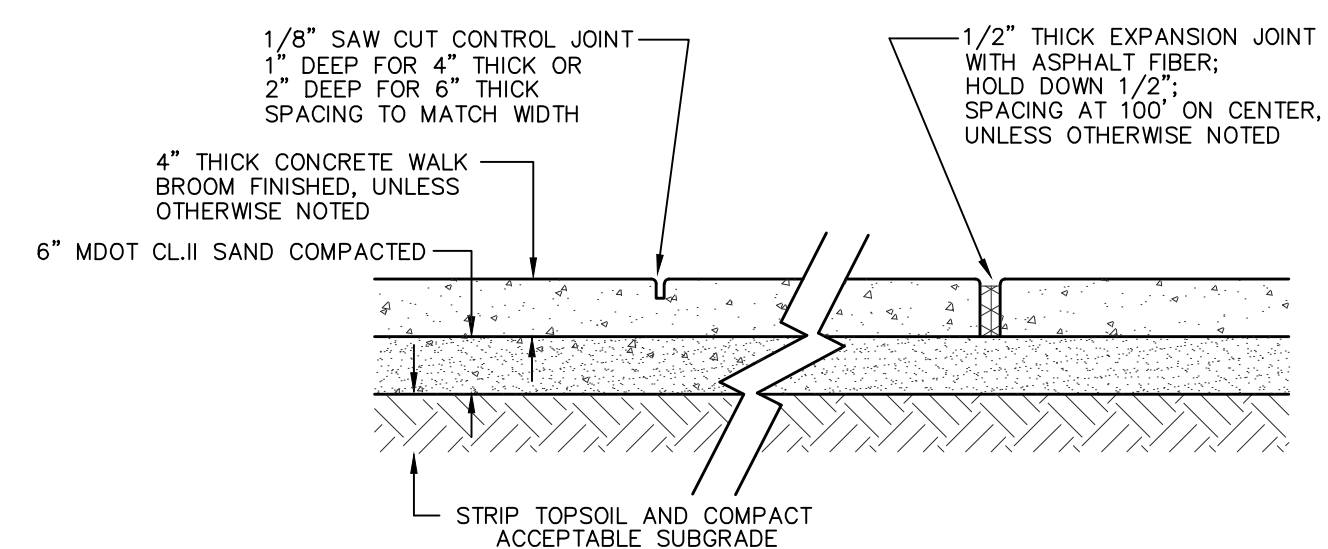
- The construction specifications of the appropriate Local Municipality are a part of this work. Refer to the General Notes, Road and/or Parking Lot Construction Notes and Typical Road and/or Pavement Cross Section details on the project plans for additional requirements.
- Unsuitable soils found within the 1 on 1 influence zone of the pavement, such as muck, peat, topsoil, marl, silt or other unstable materials shall be excavated and replaced up to the proposed subgrade elevation with MDOT Class III granular material compacted to 95% maximum unit weight, modified proctor.
- Contractor shall proof roll prepared subgrade as directed by Engineer. Unacceptable areas of subgrade shall be undercut and replaced as directed by Engineer.



**HEAVY DUTY BITUMINOUS PAVEMENT CROSS SECTION**  
NOT TO SCALE

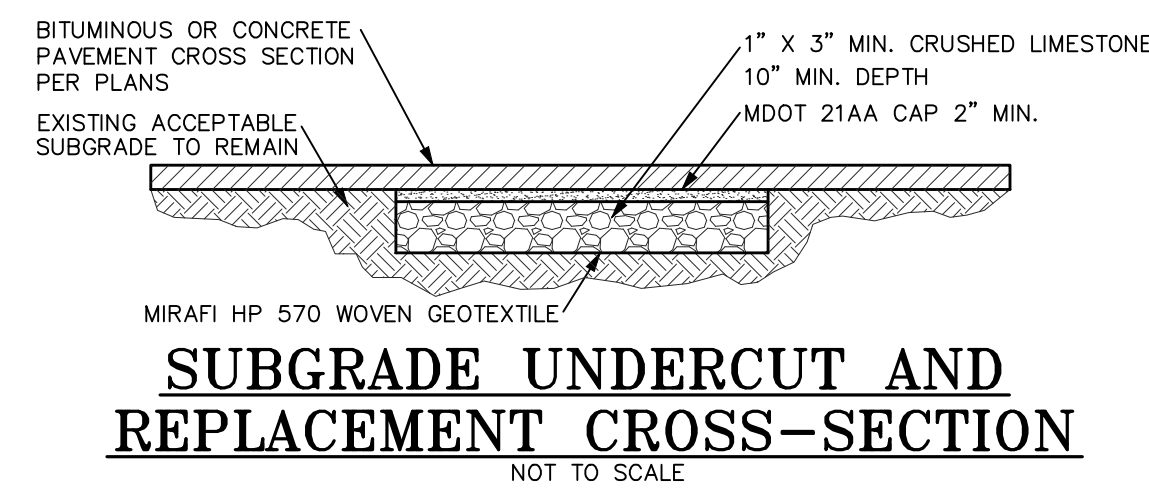
KEY	DESCRIPTION	MATERIAL SPECIFICATION	MINIMUM COMPACTED THICKNESS
W	WEARING COURSE	MDOT 5E3	1.5"
L	LEVELING COURSE	MDOT 4E3	2"
LB	LEVELING BASE COURSE	MDOT 3E3	3"
B	AGGREGATE BASE	MDOT 22A	7"
S	GRANULAR SUBBASE	MDOT CLASS II	6"
G	GEOGRID	N/A	N/A

NOTE: MATCHES LIVINGSTON COUNTY ROAD COMMISSION REQUIREMENTS FOR ROAD BITUMINOUS PAVEMENT CROSS SECTION.



**SIDEWALK CROSS SECTION**  
NOT TO SCALE

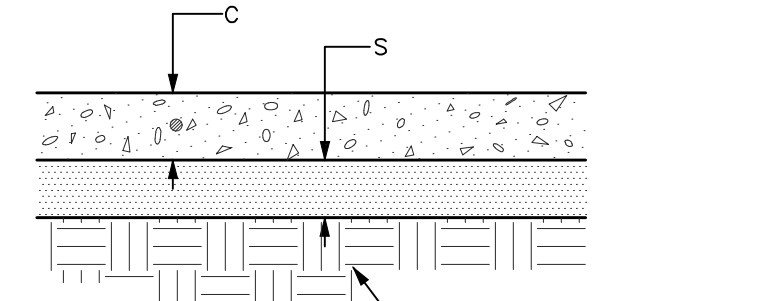
- NOTES:  
1. SEE PLAN FOR WIDTH OF SIDEWALK.  
2. PROVIDE CONCRETE TYPE PER LOCAL CODE. (3500 PSI AIR ENTRAINED)



**SUBGRADE UNDERCUT AND REPLACEMENT CROSS-SECTION**  
NOT TO SCALE

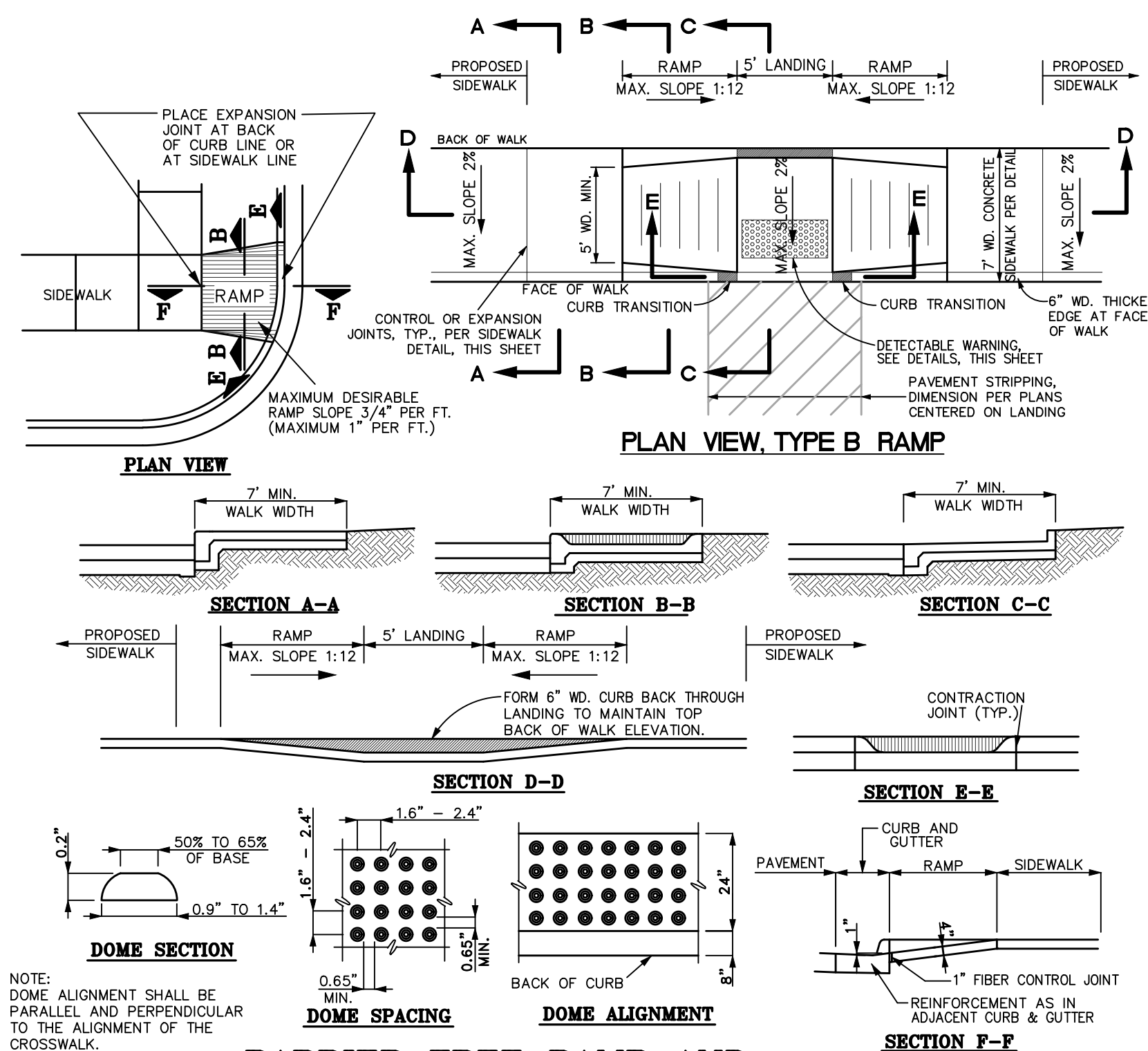
**PAVEMENT SUBGRADE UNDERCUT NOTES:**

- Areas of pavement subgrade that do not pass a proof roll inspection shall be undercut when directed by the Material Testing Engineer and/or Project Engineer. All undercut work shall be witnessed and field measured by the Material Testing Engineer and/or Project Engineer. Copies of the field notes depicting the field measurements of the undercut areas shall be provided to the General Contractor and/or Earthwork Subcontractor and Owner.
- Undercut areas shall be excavated to a depth of 12" below the proposed subgrade elevation using an Excavator or Backhoe with a Smooth Edged Ditching Bucket so as not to scarify the underlying soils. Undercut areas shall remain free of all construction traffic and equipment to avoid rutting and/or tracking of the underlying soils.
- Mirafi HP 570 Woven Geotextile Fabric (or approved equal) shall be placed over all undercut areas per the Manufacturer's specifications. Overlap all seams a minimum of 12" unless specified otherwise by the Manufacturer.
- Backfill the undercut areas with 1" x 3" minimum size crushed angular limestone and cap with 21AA crushed angular limestone up to the proposed subgrade elevation. Crushed concrete material shall NOT be substituted for crushed limestone material. The backfill material shall be spread with a Wide Track Dozer to minimize loading on the underlying soils. Static roll the backfill material with a large smooth drum roller.
- Construct the appropriate Bituminous or Concrete Pavement Cross Section over the undercut areas per the Project Plans.

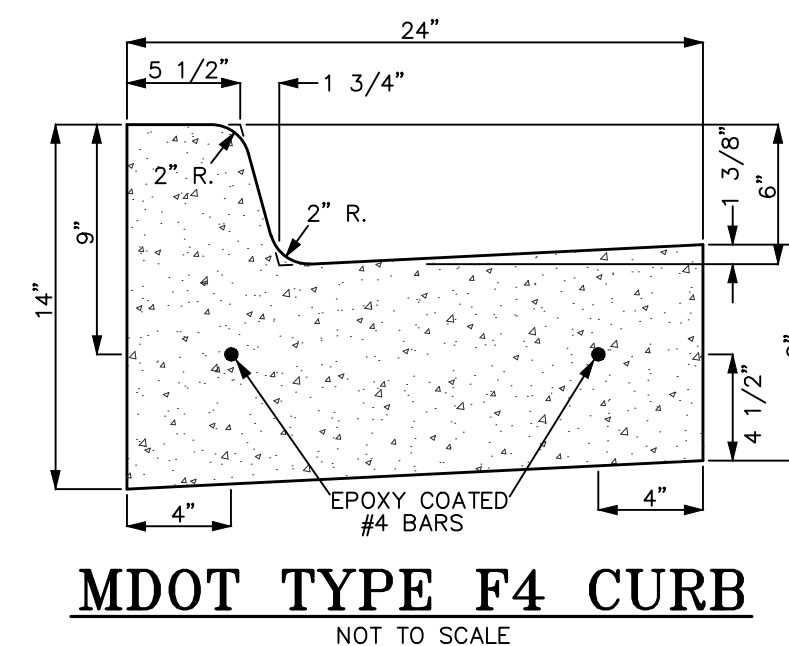


**CONCRETE PAVEMENT CROSS-SECTION**  
NOT TO SCALE

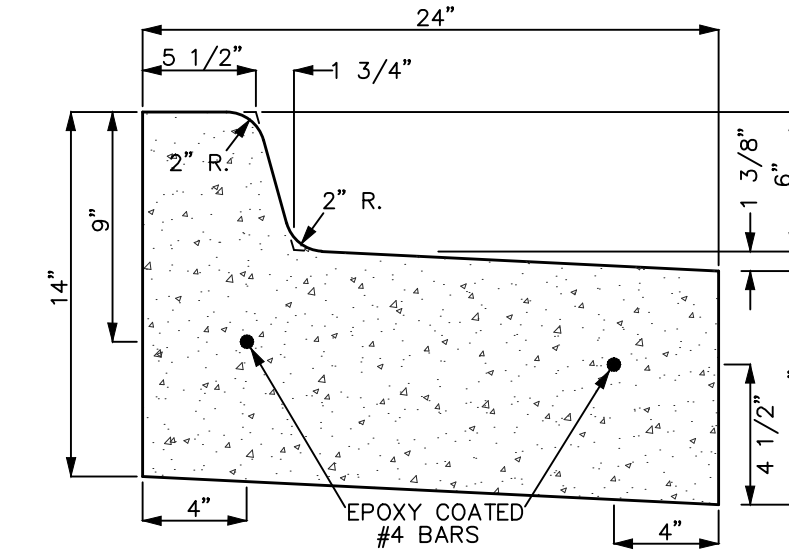
KEY	DESCRIPTION	MATERIAL SPEC.	MIN. THICKNESS
C	CONCRETE	MDOT P1-1A - 6 SACK	6"
S	GRANULAR SUBBASE	MDOT CLASS II	6"



**BARRIER FREE RAMP AND DETECTABLE WARNING DETAILS**  
NOT TO SCALE



**MDOT TYPE F4 CURB**  
NOT TO SCALE



**MDOT TYPE F4 CURB REVERSE PITCH**  
NOT TO SCALE

**CONCRETE CURB NOTES:**

- Refer to the project plans for the proposed locations of the specific curb types.
- The construction specifications of the appropriate Local Municipality are a part of this work. Refer to the General Notes and Curb Cross Section Details on the project plans for additional requirements.
- Extend the base and/or subbase material of the appropriate adjacent pavement cross-section horizontally to 1 foot behind the back of curb. Concrete curb shall be constructed on no less than 6" of combined depth of compacted base/subbase material.
- Concrete material shall meet or exceed the specification requirements of the appropriate Local Municipality. If not specified by the Local Municipality, then the concrete material shall be MDOT P1 (I-A) 6.0 sack concrete pavement mixture with a minimum 28 day design compressive strength of 4,000 PSI and 6.5% (+/-1.5%) entrained air. Contractor shall submit concrete mix design and aggregate mechanical analysis report to the Local Municipality and Engineer for review and approval prior to use.
- Install transverse contraction control joints in accordance with the Local Municipality requirements. If not specified by the Local Municipality, then install transverse contraction control joints in curb with 1" minimum depth at 10' on center. Tool joints in fresh concrete or saw cut within 8 hours.
- Install transverse expansion control joints in accordance with the Local Municipality requirements. If not specified by the Local Municipality, then install transverse expansion control joints in curb as follows: 400' maximum on center, at spring points of intersecting streets and within 10' on each side of catch basins. Transverse expansion control joints shall be 1" thick asphalt fiber joint filler matching entire curb cross section.
- Provide 1" asphalt fiber control joint between back of curb and all other concrete structures, such as concrete sidewalks and concrete driveways.
- Curb Contractor shall provide final adjustment of catch basin castings in curb line. Castings shall be tucked pointed to structure water tight with concrete or mortar inside and outside of casting.
- Install curb cuts for all existing and proposed sidewalks and pedestrian ramps in accordance with the American Disabilities Act and the Barrier Free Design requirements of the appropriate Local, County and/or State Agency. Refer to MDOT Standard Plan R-28, latest revision. Install curb cuts for all existing and proposed vehicular ramps and drives as noted on the project plans.

**GENERAL NOTES:**

- Contractor shall perform the work in accordance with the requirements of the appropriate Local, County and State Agencies and all other Government and Regulatory Agencies with jurisdiction over the project. Contractor shall notify the appropriate Agencies in advance of each stage of work in accordance with each Agency's requirements.
- Contractor shall comply with all permit, insurance, licensing and inspection requirements associated with the work. Prior to construction, Contractor and Owner/Developer shall determine who is responsible for obtaining each required permit. Contractor shall verify that the each required permit has been obtained prior to commencement of the stage of work associated with the required permit(s).
- Contractor shall furnish liability insurance and property damage insurance to save harmless the Owner, Developer, Architect, Engineer, Surveyor and Government Agencies for any accident occurring during the construction period. Refer to the appropriate Local, County and State Agencies for additional requirements. Copies of insurance certifications shall be made available to the Owner/Developer.
- Contractor shall conduct and perform work in a safe and competent manner. Contractor shall perform all necessary measures to provide for traffic and pedestrian safety from the start of work and through substantial completion. Contractor shall determine procedures and provide safety equipment such as traffic controls, warning devices, temporary pavement markings and signs as needed. Contractor shall comply with the safety standards of the State Department of Labor, the occupational health standards of the State Department of Health and safety regulations of the appropriate Local, County, State and Federal Agencies. Refer to the safety specifications of the appropriate Regulatory Agencies. The Contractor shall designate a qualified employee with complete job site authority over the work and safety precautions; said designated employee shall be on site at all times during the work.
- Contractor shall coordinate scheduling of all work in the proper sequence, including work by Subcontractors. Additional costs due to improper planning by Contractor or work done out of sequence as determined by standard acceptable construction practices, shall be Contractor's responsibility.
- Contractor shall contact the 811 Underground Public Utility Locating System or other appropriate local underground utility locating Agency, a minimum of three (3) working days prior to construction. Existing utility information on the project plans may be from information disclosed to this firm by the Utility Companies, Local, County or State Agencies, and/or various other sources. No guarantee is given as to the completeness or accuracy thereof. Prior to construction, locations and depths of all existing utilities (in possible conflict with the proposed improvements) shall be verified in the field.
- Contractor shall coordinate scheduling a Pre-Construction Meeting with Engineer prior to commencement of work.
- The Local Municipality, County and/or State in which the project is located may require an Engineer's Certification of construction of the proposed site improvements. Contractor shall verify the certification requirements with Engineer prior to commencement of work. Contractor shall coordinate construction staking, testing, documentation submittal and observation with the appropriate Agency, Surveyor and/or Engineer as required for Engineer's Certification and Government Agency Acceptance. All materials used and work done shall meet or exceed the requirements of certification and acceptance, the contract documents and the material specifications noted on the project plans. Any materials used or work done that does not meet said requirements, contract documents and/or specifications shall be replaced and/or redone at Contractor's expense. The Owner/Developer may wait for test results, certifications and/or Agency reviews prior to accepting work.
- Engineer may provide subsurface soil evaluation results, if available, to Contractor upon request. Subsurface soil evaluation results, soils maps and/or any other documentation does NOT guarantee existing soil conditions or that sufficient, acceptable on-site granular material is available for use as structural fill, pipe bedding, pipe backfill, road subbase or use as any other granular material specified on the project plans. On-site granular material that meets or exceeds the material specifications noted on the project plans may be used as structural fill, pipe bedding, pipe backfill and/or road subbase material. On-site granular material shall be stockpiled and tested as acceptable to the appropriate Agency and/or Engineer prior to use.
- During the performance of their work, Contractor shall be solely responsible for determining soil conditions and appropriate construction methods based on the actual field conditions. Contractor shall furnish, install and maintain sheeting, shoring, bracing and/or other tools and equipment and/or construction techniques as needed for the safety and protection of the workers, pedestrians and vehicular traffic and for protection of adjacent structures and site improvements.
- Contractor shall install temporary and permanent soil erosion and sedimentation control devices at the appropriate stages of construction in accordance with the appropriate regulatory Agencies. Refer to Soil Erosion and Sedimentation Control Plans and Notes on the project plans.
- Structural fill shall be placed as specified on the project plans and within the 1 on 1 influence zone of all structures, paved areas and other areas subject to vehicular traffic. Structural fill shall be placed using the controlled density method (12" maximum lifts, compacted to 95% maximum unit weight, modified proctor). Fill material shall meet or exceed the specifications noted on the project plans or as directed by Engineer when not specified on the project plans.
- All existing monuments, property corners, ground control and benchmarks shall be protected and preserved; and if disturbed by Contractor, shall be restored at Contractor's expense. Contractor shall notify Surveyor of any conflicts between existing monuments, property corners, ground control and/or benchmarks and the proposed site improvements.
- Contractor shall notify Owner/Developer and Engineer immediately upon encountering any field conditions, which are inconsistent with the project plans and/or specifications.
- When noted on the project plans for demolition and/or removal, Contractor shall remove existing structures, building and debris and recycle and/or dispose of in accordance with Local, County, State and Federal regulations.
- Contractor shall remove excess construction materials and debris from site and perform restoration in accordance with the project plans and specifications. Disposing of excess materials and debris shall be performed in accordance with Local, County, State and Federal regulations.
- Construction access to the site shall be located as acceptable to the Owner/Developer and to the appropriate Local, County and/or State Agency with jurisdiction over the road(s) providing access to the site. Construction access shall be maintained and cleaned in accordance with the appropriate Local, County and/or State Agencies and as directed by Owner/Developer and/or Engineer.
- Contractor shall take necessary precautions to protect all site improvements from heavy equipment and construction procedures. Damage resulting from Contractor actions shall be repaired at Contractor's expense.

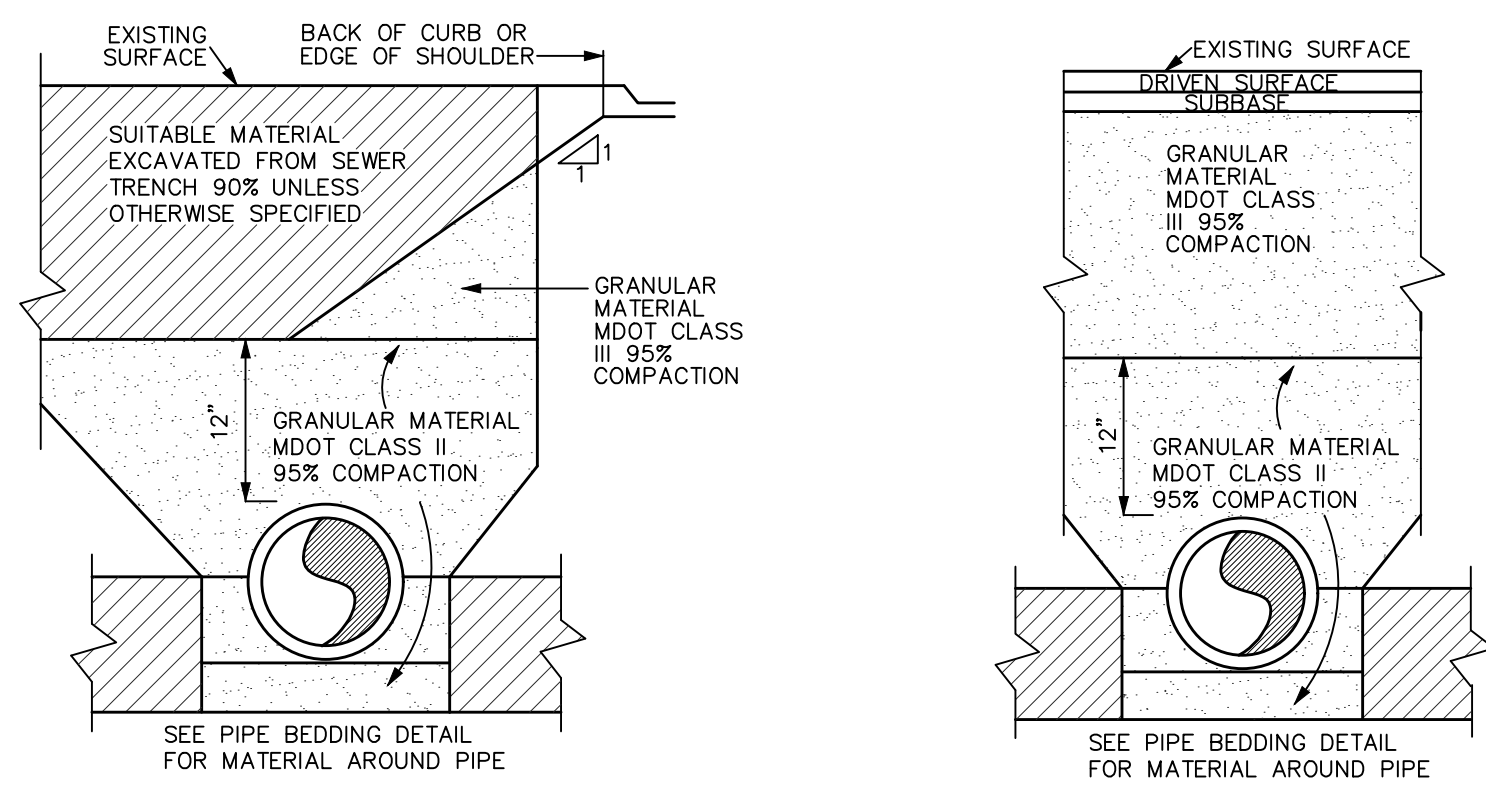
DESIGN: WMP	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG	1	12-19-23	REVISED PER REVIEW COMMENTS			
CHECK: WMP						

2025 EULER ROAD DEVELOPMENT

SITE & PAVEMENT NOTES AND DETAILS

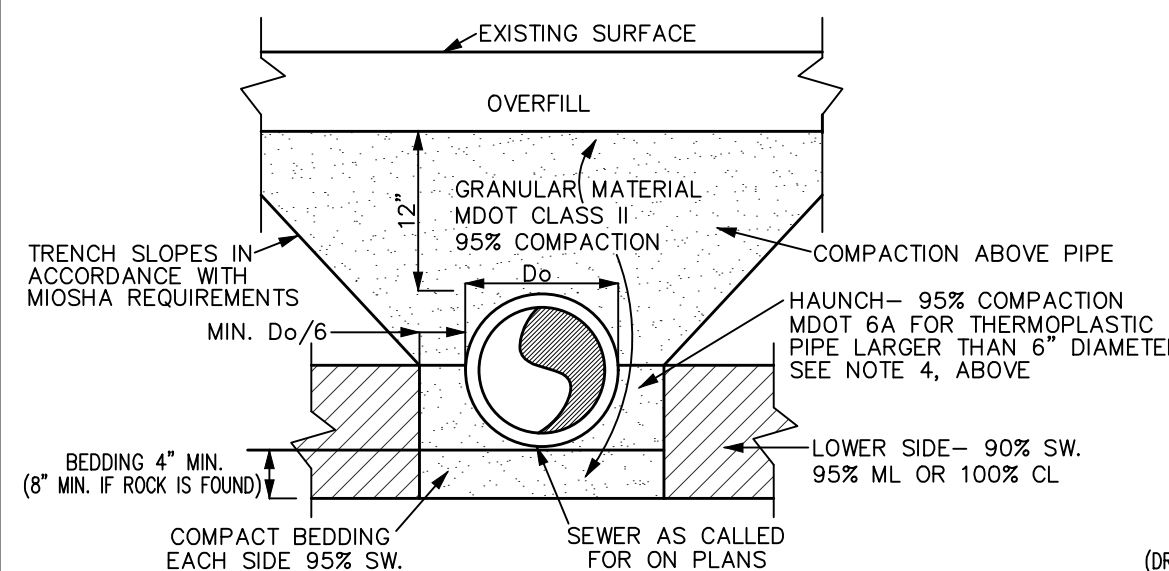
CLIENT: 4M GENOA 2244 EULER ROAD BRIGHTON, MICHIGAN 48114 810-217-7471	SCALE: N/A PROJECT No.: 214052 DWG NAME: 4052 DT ISSUED: DEC. 19, 2023
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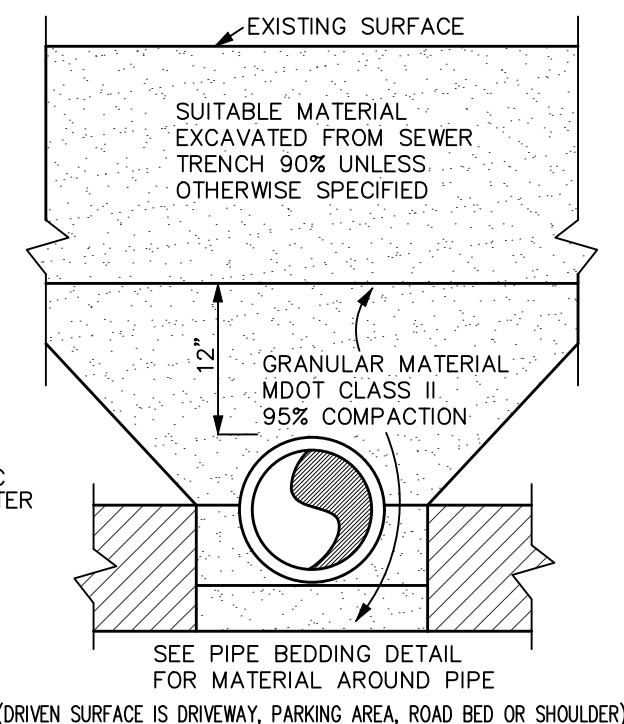


**TRENCH A - PIPE UNDER OR WITHIN INFLUENCE OF DRIVEN SURFACE**  
NOT TO SCALE

- NOTES:
1. COMPACTION PRESENTED AS STANDARD PROCTOR VALUES.
  2. SOIL TYPES: AASHTO DESIG.  
GRAVEL SANDY (SW) A1, A3  
SANDY SILTY (ML) A2, A4  
SILTY CLAY (CL) A5, A6, A7
  3. SOIL IN HAUNCH AND LOWER SIDE ZONES OUTSIDE OF  $D_o/6$  FROM SPRING LINE SHALL BE COMPACTED TO AT LEAST THE SAME COMPACTION AS THE SOIL IN THE OVERFILL ZONE.
  4. MATERIALS AROUND THERMO. PLASTIC PIPE WITH DIAMETER 6 INCHES SHALL PASS 0.5 INCH SIEVE. MATERIALS AROUND OTHER PIPES SHALL PASS 1.5 INCH SIEVE.

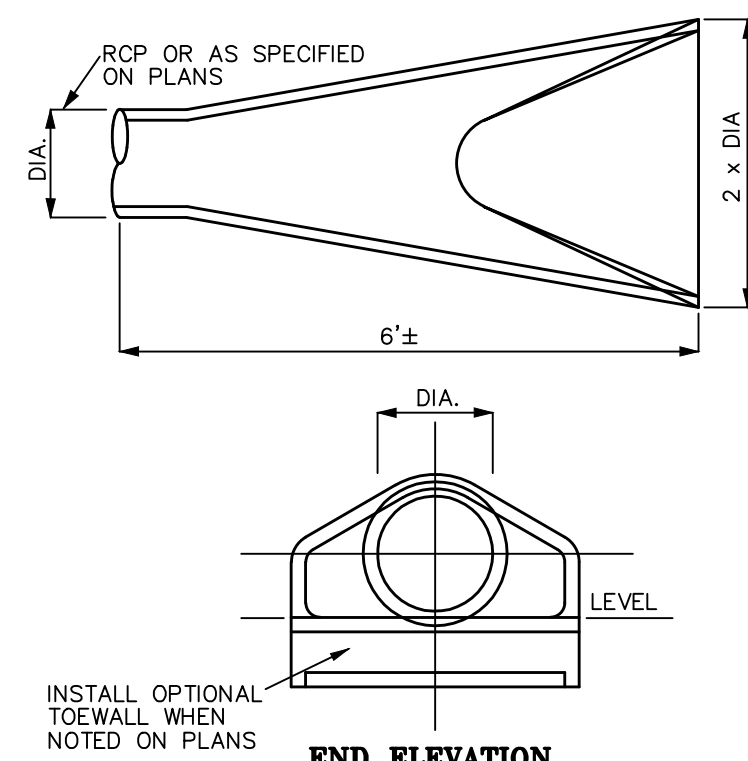


**PIPE BEDDING DETAIL**  
NOT TO SCALE



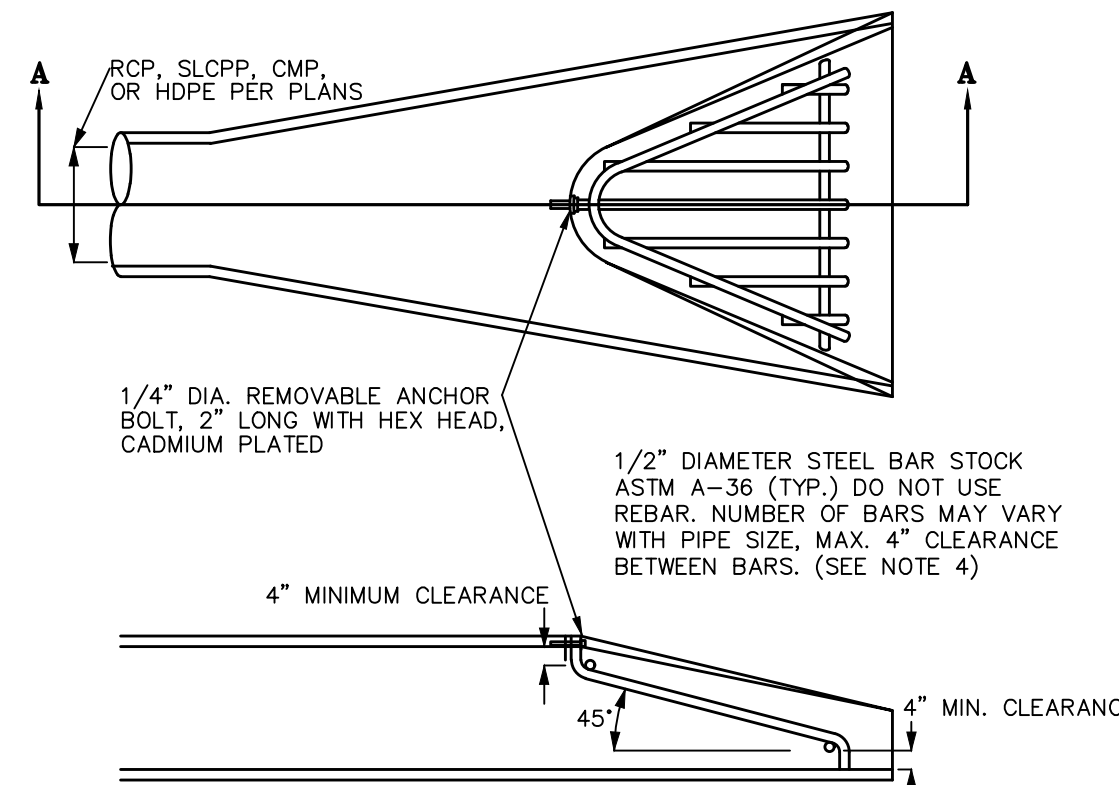
**TRENCH B - PIPE NOT UNDER DRIVEN SURFACES**  
NOT TO SCALE

**TRENCH DETAILS**  
NOT TO SCALE



**FLARED END SECTION**  
NOT TO SCALE

- NOTES:
1. RCP FLARED END SECTION SHOWN, PROVIDE SIMILAR FLARED END SECTION FOR CMP, SLOPP OR HDPE PIPE.
  2. PROVIDE RIP-RAP PER RIP-RAP DETAILS FOR ALL OUTLET FLARED END SECTIONS.
  3. INSTALL FLARED END SECTION WITH INVERT ELEVATION ELEVATION LEVEL AS VIEWED FROM END.



**ANIMAL GUARD**  
NOT TO SCALE

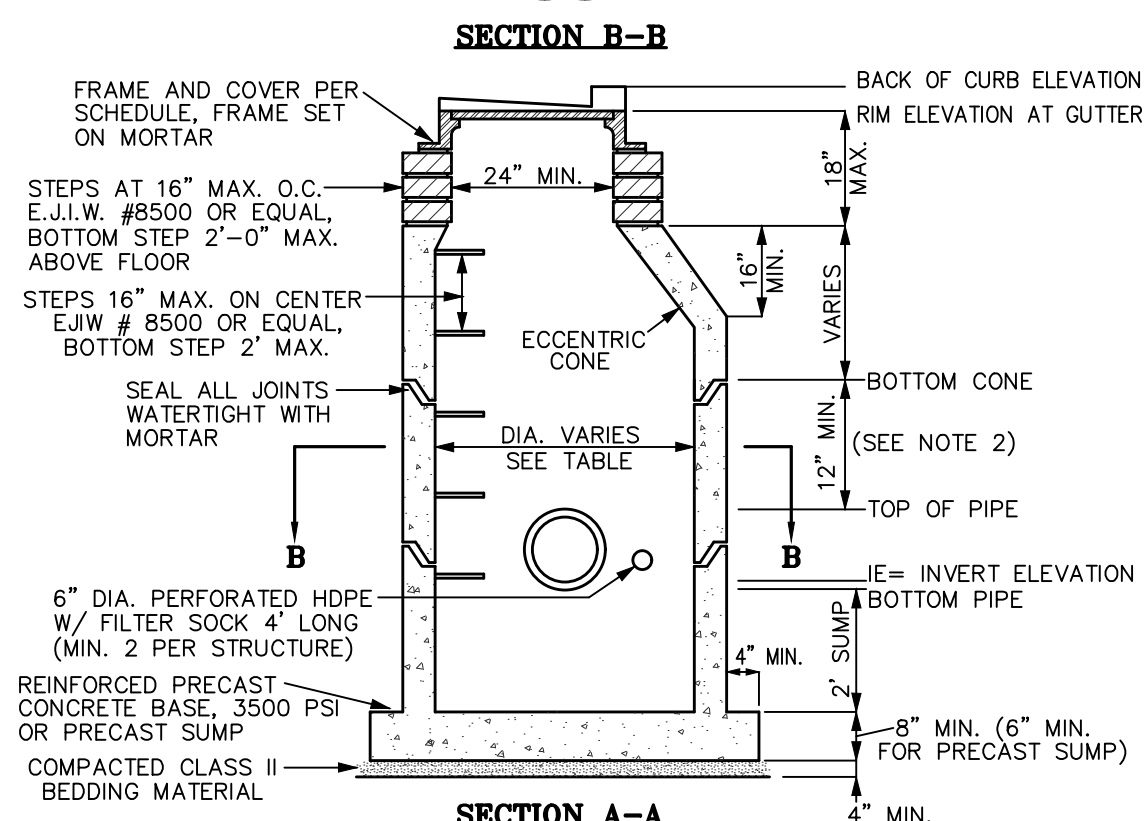
- NOTES:
1. ANIMAL GUARD REQUIRED ON ALL FLARED END SECTIONS OF 15" DIAMETER PIPE OR GREATER.
  2. CONTRACTOR MAY SUBSTITUTE ALTERNATE GRATING LAYOUT AS APPROVED BY OWNER/ENGINEER/AGENCY PRIOR TO INSTALLATION.
  3. DETAIL SHOWN FOR RCP FLARED END SECTION. PROVIDE SIMILAR ANIMAL GUARD FOR FLARED END SECTIONS ON CMP, HDPE, AND SLOPP.
  4. WELD ALL CONNECTIONS FULL STRENGTH PER AMERICAN WELDING SOCIETY STANDARDS.

PIPE SIZE	MIN. CATCH BASIN DIA.
12"-24"	4'-0" MIN.
24"-36"	5'-0" MIN.
42"-48"	6'-0" MIN.

(SEE NOTE 1)

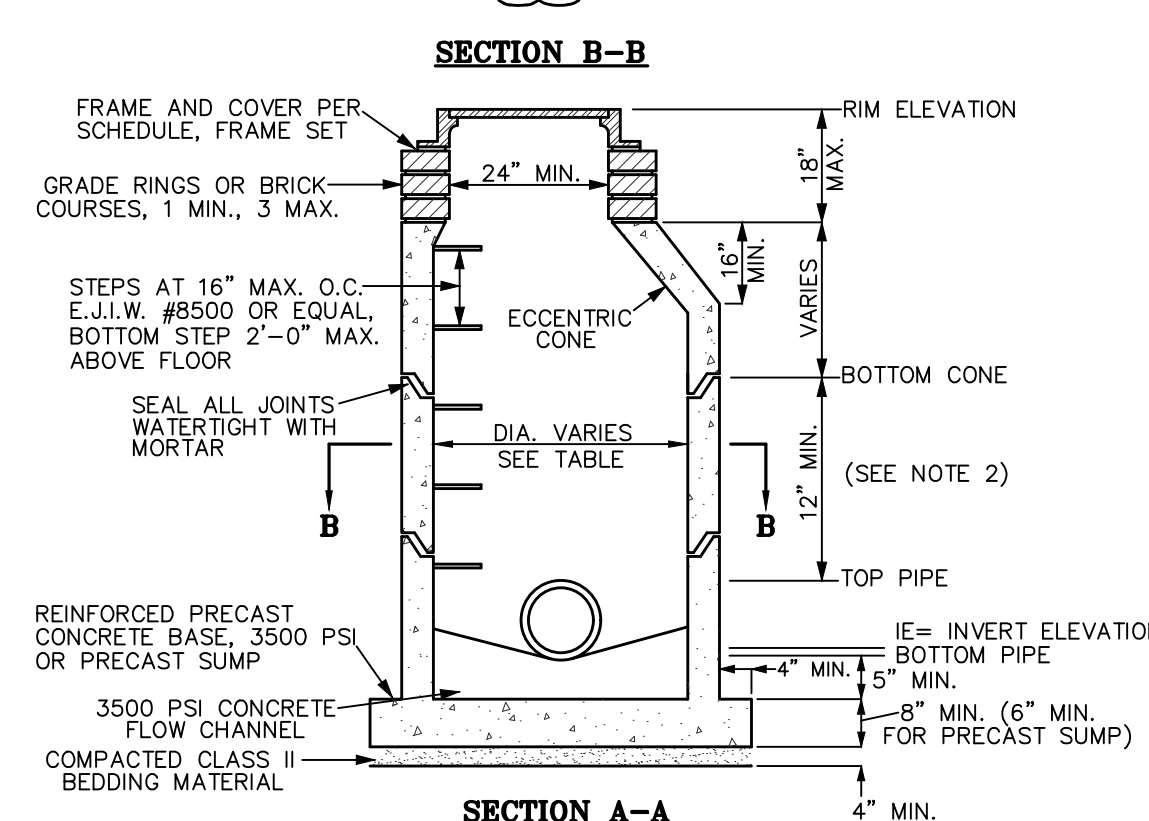
PIPE SIZE	MIN. MANHOLE DIA.
12"-24"	4'-0" MIN.
24"-36"	5'-0" MIN.
42"-48"	6'-0" MIN.

(SEE NOTE 1)



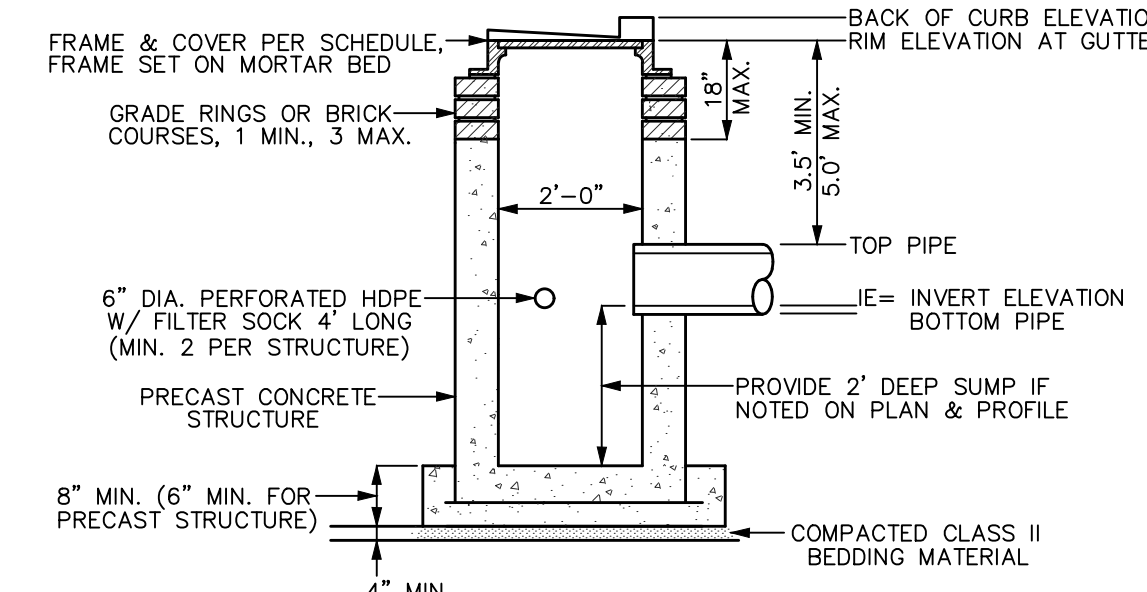
**STORM STRUCTURE "A"  
STANDARD CATCH BASIN**  
NOT TO SCALE

- NOTES:
1. FURNISH LARGER STRUCTURE DIAMETER AS NEEDED TO MAINTAIN 6" MIN CLEAR BETWEEN PIPE OPENINGS.
  2. FURNISH LOW PROFILE STRUCTURE ONLY WHEN NECESSARY TO MAINTAIN PROPER CLEARANCE ABOVE PIPES.



**STORM STRUCTURE "B"  
STANDARD MANHOLE**  
NOT TO SCALE

- NOTES:
1. FURNISH LARGER STRUCTURE DIAMETER AS NEEDED TO MAINTAIN 6" MIN CLEAR BETWEEN PIPE OPENINGS.
  2. FURNISH LOW PROFILE STRUCTURE ONLY WHEN NECESSARY TO MAINTAIN PROPER CLEARANCE ABOVE PIPES.



**STORM STRUCTURE "C"  
2' DIAMETER CATCH BASIN**  
NOT TO SCALE

- NOTES:
1. FURNISH LARGER STRUCTURE DIAMETER AS NEEDED TO MAINTAIN 6" MIN CLEAR BETWEEN PIPE OPENINGS.
  2. FURNISH LOW PROFILE STRUCTURE ONLY WHEN NECESSARY TO MAINTAIN PROPER CLEARANCE ABOVE PIPES.

**STORM SEWER NOTES:**

1. The storm sewer and stormwater management specifications of the Local Municipality are a part of this work. Refer to the General Notes on the project plans for additional requirements.
  2. Storm sewer work shall include clearing of vegetation and tree stumps, stripping and stockpiling of topsoil for reuse, excavation of pipe trench, placement of pipe bedding, placement of pipe and structures including castings, connection to existing structures, tuck pointing of structures, backfill of pipe trench, compaction of backfill, finish grading to provide positive drainage to structures, adjustment of castings to match finish grade, topsoil placement, seed & mulch, site cleanup and restoration, and other work as shown on the project plans and specifications.
  3. Existing and proposed grades shown in profile view, when provided on the project plans, may be in relation to the centerline of road or item other than the centerline of pipe. The pipe lengths and grades shown in profile view on the project plans may not be to scale.
  4. RCP when shown on the project plans shall be reinforced concrete pipe and shall conform to the specifications for reinforced concrete pipe per ASTM C76. RCP pipe joints shall be bell-and-spigot with rubber gaskets conforming to ASTM C433. Non-gasketed joints shall only be utilized when authorized by the Owner, Engineer AND Municipality. Non-gasketed joints of pipe having a diameter of 30 inches or greater shall be tuck-pointed on the inside with cement mortar after the backfill process is complete. Install reinforced concrete end sections incidental to work. Saw cut pipes to length as needed. When pipe class is not shown on the project plans, provide the following:  
Pipe cover to proposed grade: 0 to 4 feet Class V  
4.1 to 10 feet Class III\*  
10.1 to 18 feet Class IV  
18.1 feet and greater Class V
- \* Use Class IV under paved surfaces
5. CMP when shown on the project plans shall be corrugated metal pipe and shall conform to the specifications for corrugated metal pipe per ASTM Designation M36. CMP shall be 16-gauge steel minimum for 24 inch diameter or smaller and 14-gauge steel minimum for 30 inch diameter or greater. Install galvanized steel end sections and connection bands, incidental to work. Connection bands for CMP pipe joints located under paved surfaces shall be gasketed couplers. Saw cut pipes to length as needed.
  6. HDPE - Type S when shown on the project plans shall be high density polyethylene pipe with a smooth interior and shall conform to the specifications for high density polyethylene pipe per AASHTO Designation M252 Type S for pipes of 3" to 10" diameter and per AASHTO Designation M294 Type S for pipes of 12" to 60" diameter. HDPE - Type C when shown on the project plans shall be high density polyethylene pipe with a corrugated interior and shall conform to the specifications for high density polyethylene pipe per AASHTO Designation M252 for pipes of 3" to 10" diameter and per AASHTO Designation M294 Type S for pipes of 12" to 60" diameter. HDPE - Type C pipe joints shall be bell-and-spigot type conforming to ASTM D3212 with rubber gaskets conforming to ASTM F477. Tamp backfill at spring line of HDPE - Type S pipe. Install high density polyethylene end sections incidental to work. Saw cut pipes to length as needed.
  7. HDPE - Type C when shown on the project plans shall be high density polyethylene pipe with a corrugated interior and shall conform to the specifications for high density polyethylene pipe per AASHTO Designation M252 for pipes of 3" to 10" diameter and per AASHTO Designation M294 Type S for pipes of 12" to 60" diameter. HDPE - Type C pipe joints shall be bell-and-spigot type conforming to ASTM D3212 with rubber gaskets conforming to ASTM F477. Tamp backfill at spring line of HDPE - Type C pipe. Install high density polyethylene end sections incidental to work. Saw cut pipes to length as needed.
  8. CPVC when shown on the project plans shall be corrugated polyvinyl chloride pipe and shall conform to the specifications for corrugated polyvinyl chloride pipe per ASTM F794 and F949. CPVC pipe joints shall be bell-and-spigot type conforming to ASTM D3212 with rubber gaskets conforming to ASTM F477. Tamp backfill at spring line of CPVC pipe. Install high density polyethylene end sections incidental to work. Saw cut pipes to length as needed.
  9. PVC when shown on the project plans shall be polyvinyl chloride pipe and shall conform to the specifications for polyvinyl chloride pipe per ASTM D2751, maximum SDR of 26. PVC pipe joints shall be bell-and-spigot type conforming to ASTM D3212 with rubber gaskets conforming to ASTM F477 or solvent welded type conforming to ASTM D2564. Tamp backfill at spring line of PVC pipe. Saw cut pipes to length as needed.
  10. Concrete storm structures shall be pre-cast and shall conform to the specification of pre-cast concrete structures per ASTM C478. Joints of concrete storm structure sections shall be bell-and-spigot with rubber gaskets conforming to ASTM C433. Brick, concrete block or cast in place storm structures may be substituted for pre-cast storm structures ONLY when authorized by the Owner, Engineer AND Municipality; refer to MDOT standard plan R-1, latest revision. Pipe openings in pre-cast structures shall be factory installed. All temporary openings in storm structures shall be tuck-pointed watertight with cement mortar. Refer to MDOT standard plan R-2, latest revision, for alternate on-line storm structure details when pipe exceeds 42 inch diameter.
  11. Tap existing structures as acceptable to the Engineer and Municipality, incidental to work. All temporary openings in storm structures shall be tuck-pointed watertight with cement mortar.
  12. Backfill all storm sewer in accordance with the Pipe Trench details provided on the project plans. Provide pipe bedding that meets or exceeds both the specifications of the Pipe Trench details on the project plans and the recommendation of the pipe manufacturer, incidental to work.
  13. When edge drains and/or under drains are shown on the project plans, connection to storm structures is incidental to work. During storm sewer construction, install first 10 linear feet of edge drain and/or under drain from the storm structures in each specified direction and install temporary cap at end. Complete installation of edge drain following preparation of the subgrade when under paved surface or following finish grade when not under paved surface.
  14. Install removable plugs in storm sewer stubs as acceptable to Engineer and Municipality, incidental to work. Mark the end of all storm sewer stubs with a 2" x 4" wooden stake extending a minimum of 12" above finish grade, incidental to work.
  15. Storm structure castings shall be coated with water based asphaltic paint by the manufacturer. Seams and temporary openings between storm structures and castings shall be tuck-pointed water tight with cement mortar. Coordinate correct curb box / hood / "T" back as needed to match curb profile. See casting schedule on project plans for additional requirements.
  16. Provide 3.5' minimum cover from the top of pipe of all roof drain pipes to the proposed finish grade when site conditions allow. When pipe cover is less than 3.5', install 2" thick by 24" wide Styrofoam insulation centered over the top of pipe at 12" above top of pipe or as required by the Local Municipality.

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2183 PLESS DRIVE  
BRIGHTON, MICHIGAN 48114

DESIGN:WMP	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG						
CHECK: WMP						

2025 EULER ROAD  
DEVELOPMENT

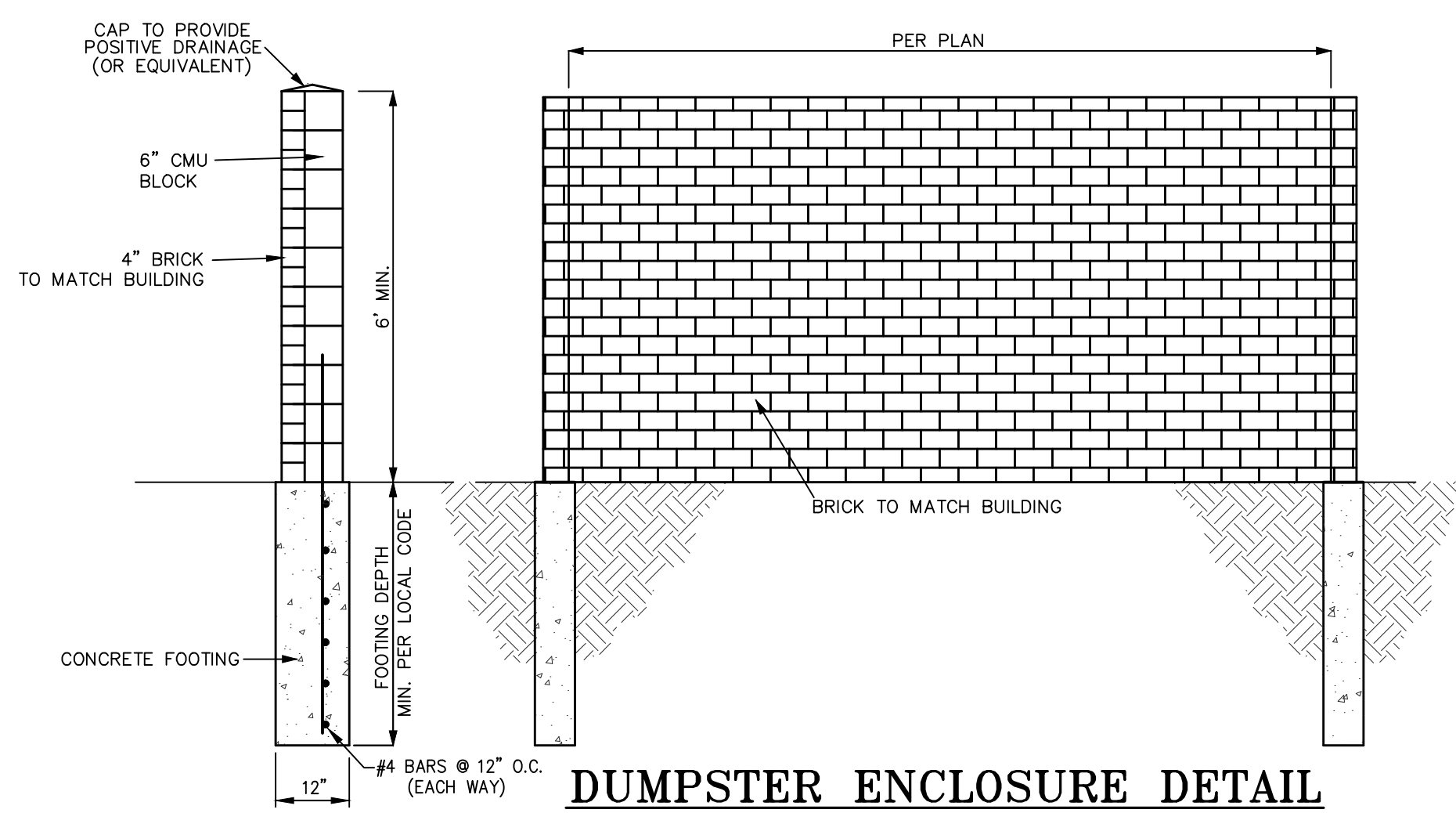
STORM SEWER  
NOTES AND DETAILS

CLIENT:  
4M GENOA LLC  
2244 EULER ROAD  
BRIGHTON, MICHIGAN 48114  
810-217-7471

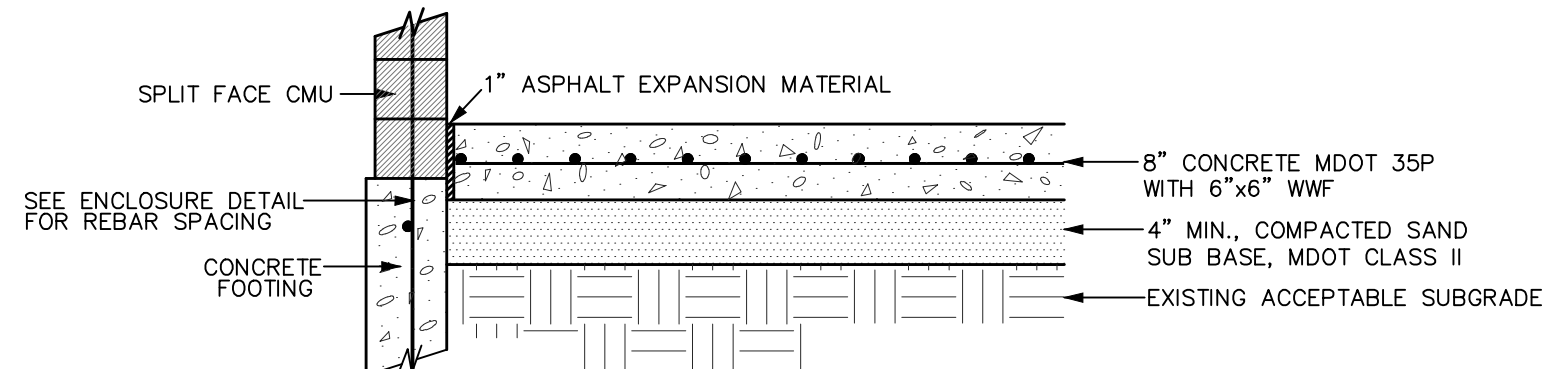
SCALE: N/A  
PROJECT No.: 234463  
DWG NAME: 4463 DT  
ISSUED: DEC. 19, 2023

DT2



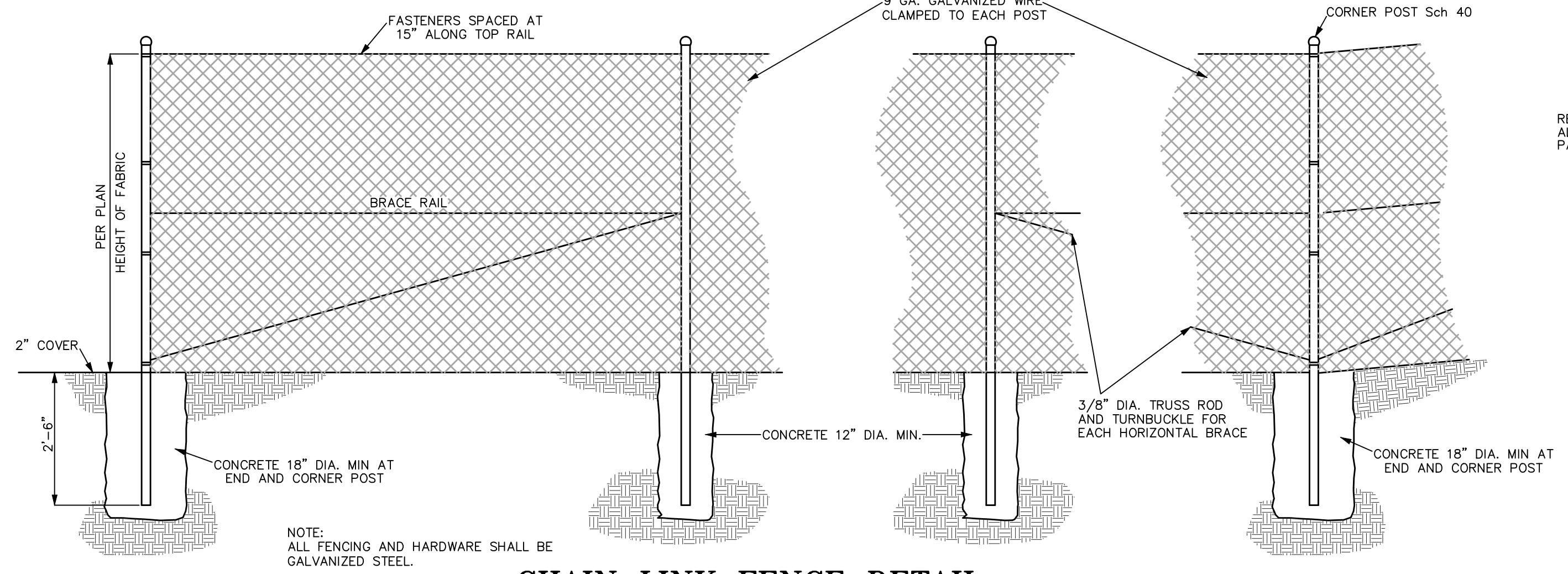


**DUMPSTER ENCLOSURE DETAIL**  
NOT TO SCALE

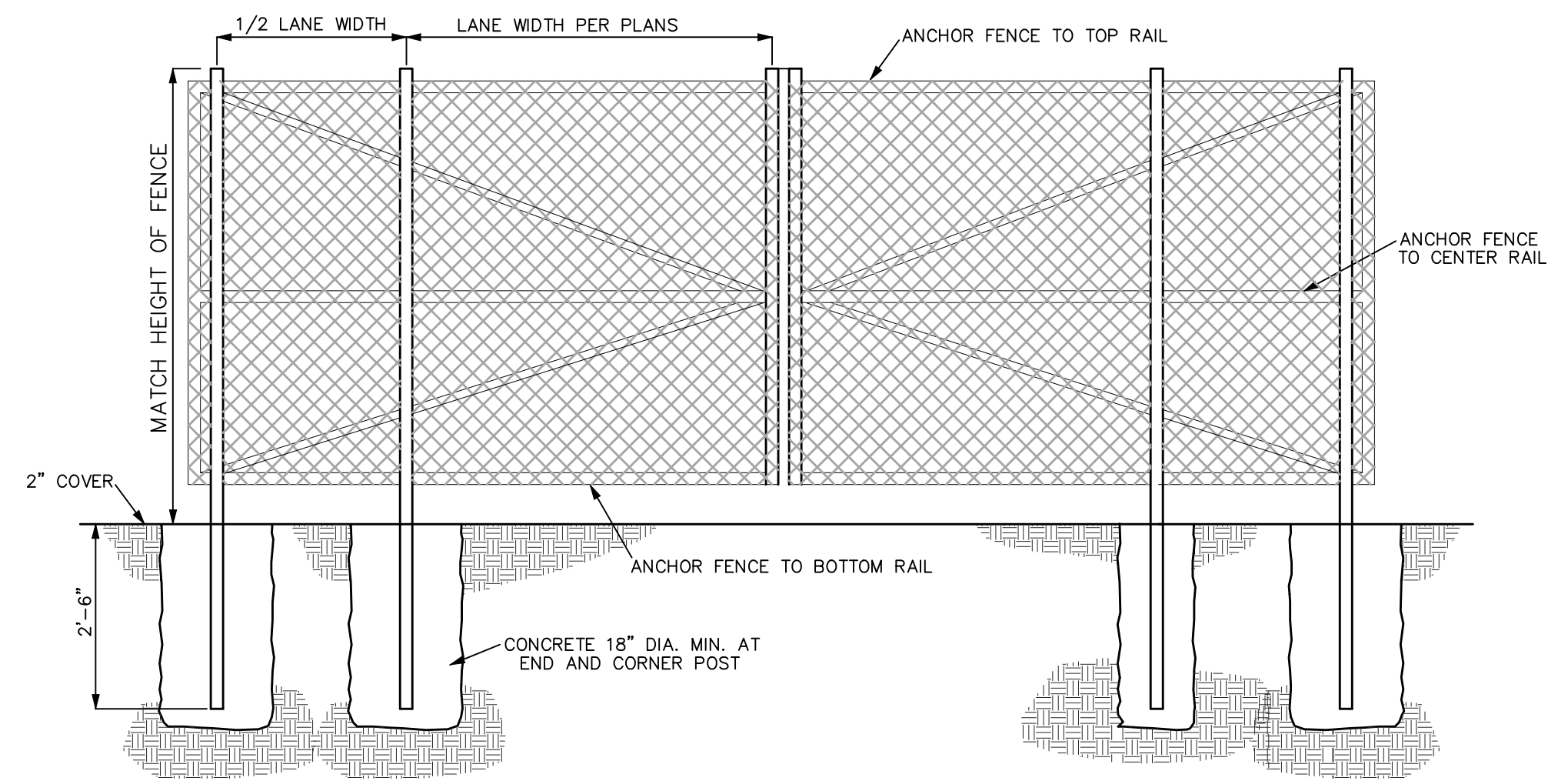


**DUMPSTER PAD SLAB CROSS-SECTION**  
NOT TO SCALE

**PAVEMENT NOTES:**  
 1. UNSUITABLE SOILS, SUCH AS MUCK, PEAT, TOPSOIL, MARL, SILT OR OTHER UNSTABLE MATERIALS, SHALL BE UNDERCUT AND REPLACED WITH COMPACTED SAND SUBGRADE FILL, WHERE INCIDENTAL TO ROUGH GRADING.  
 2. AREAS OF SUBGRADE FILL SHALL BE CONSTRUCTED USING 12" THICK LIFTS OF COMPACTED SAND, MDOT CLASS III OR EQUIVALENT ON-SITE MATERIAL, WHEN INSIDE ROAD INFLUENCE ZONE.

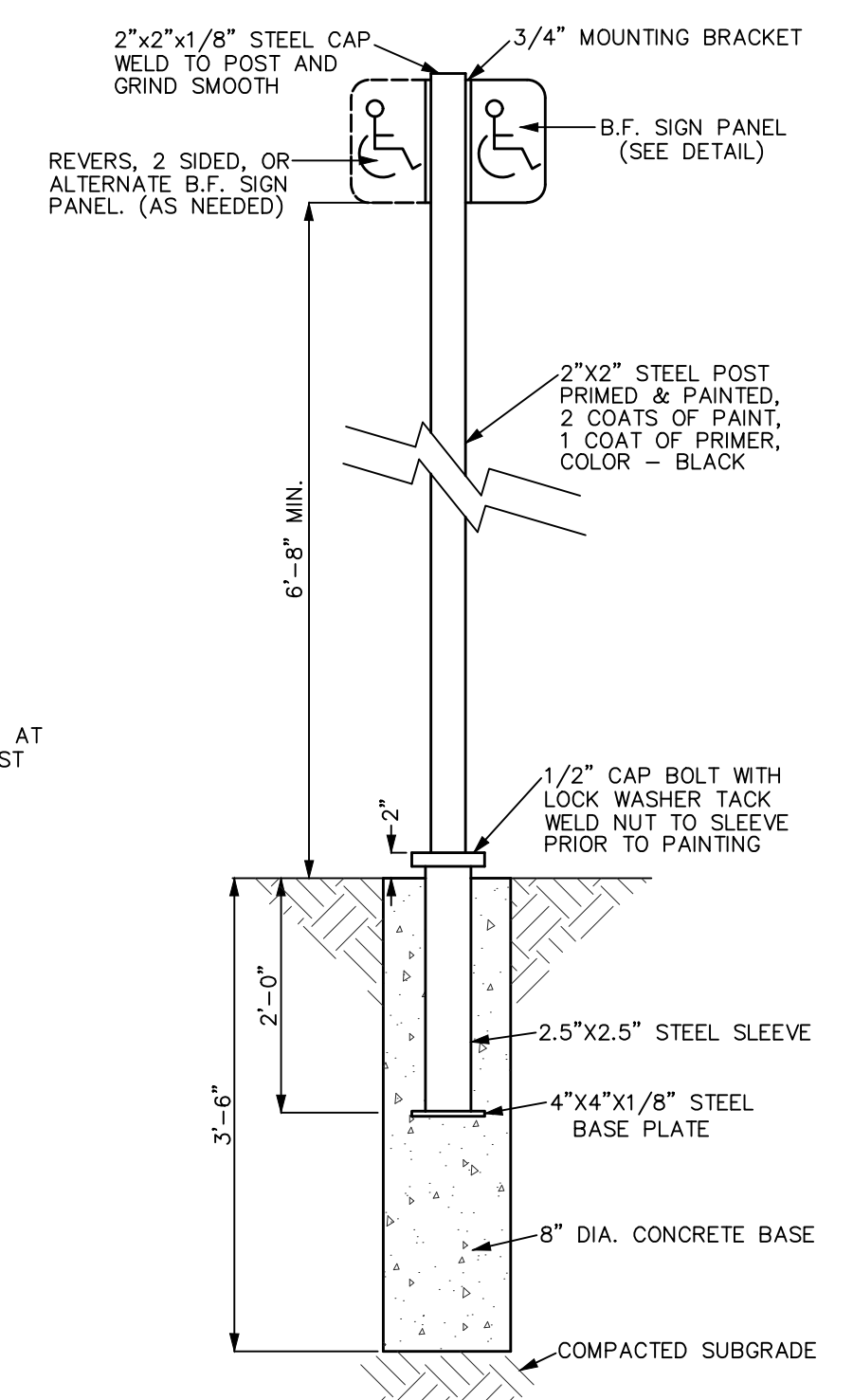


**CHAIN LINK FENCE DETAIL**  
NOT TO SCALE



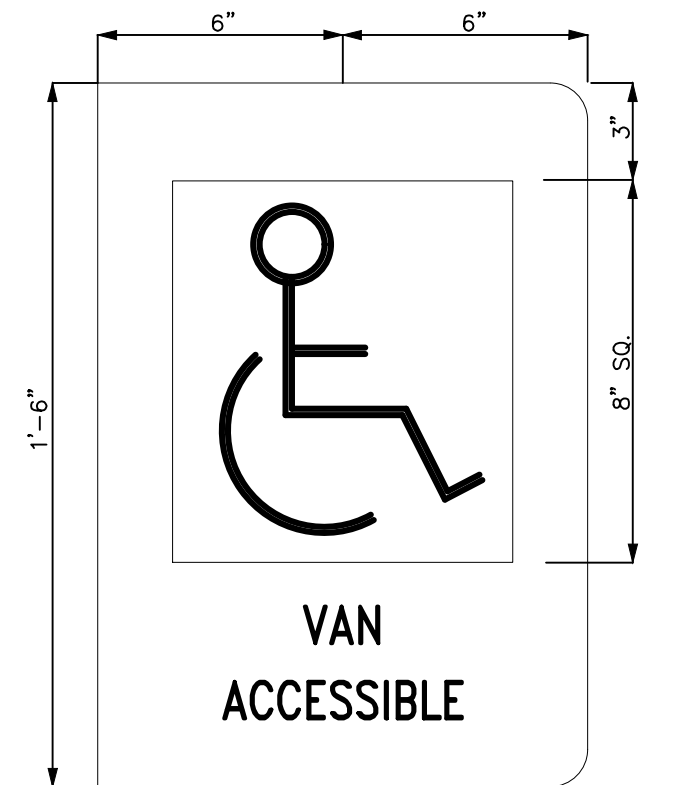
**CHAINLINK ROLLING GATE DETAIL**  
NOT TO SCALE

**NOTE:**  
 ALL POLES, RAILS AND HARDWARE SHALL BE GALVANIZED STEEL.  
 INSTALL A KNOX BOX AND KNOX LOCK PER BAFD.  
 PROVIDE APPROPRIATE RAPID ACCESS KNOX DEVICE, WHETHER MANUAL OR AUTOMATED, AS ACCEPTABLE TO B.A.F.A.



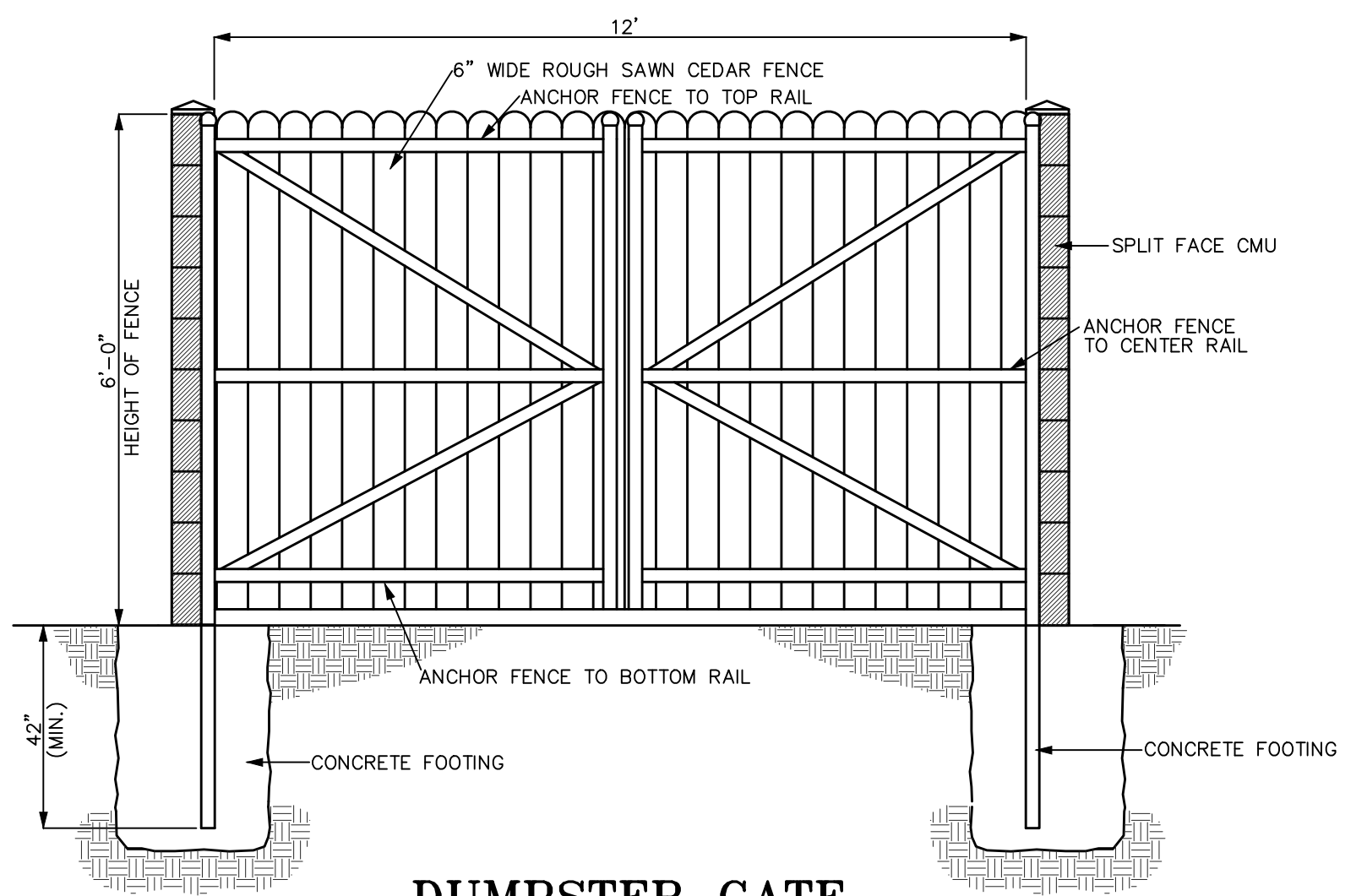
**SIGN POST DETAIL**  
NOT TO SCALE

**NOTE:**  
 ALL POSTS WHICH REQUIRE TWO SIGNS SHALL HAVE BOTH SIGNS MOUNTED AS SHOWN.



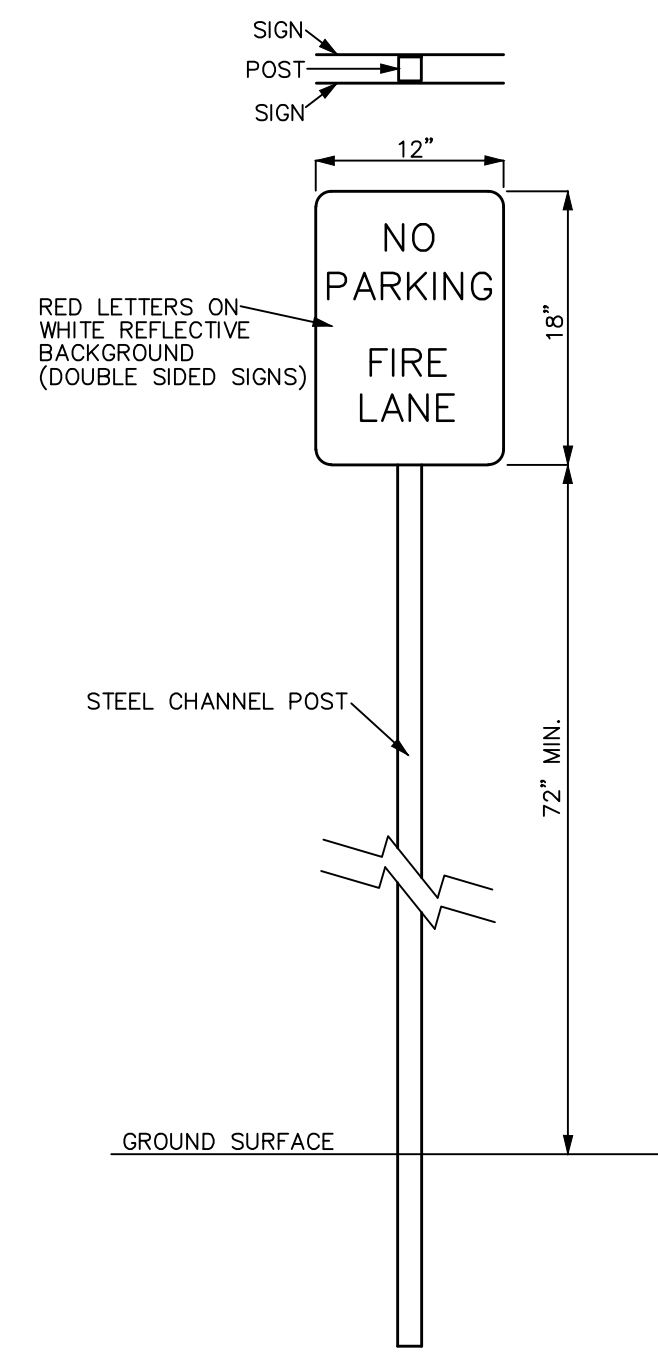
**B.F. SIGN PANEL DETAIL**  
NOT TO SCALE

**NOTES:**  
 1. SIGN PANEL TO BE 12"x18" 12 GA. SINGLE FACE MOUNT W/2 1/4" SOCKET HEAD BOLTS AND CEMENT ANCHORS. FIELD: WHITE SCOTCHLITE MTL. (3M) GRAPHIC SYMBOL: BLACK PANEL: BLUE  
 2. ALL SIGNS TO BE SHOP FABRICATED, PRIMED AND PAINTED PRIOR TO SHIPMENT. TEXT TYPE FACE TO BE HELVETICA REG. CONDENSED. SIGN PANELS PAINTED WITH 2-PART EPOXY ENAMEL; 2 COATS PAINT 1-COAT PRIMER, COLOR AS INDICATED, FRONT AND BACK PRIOR TO SCOTCHLITE.

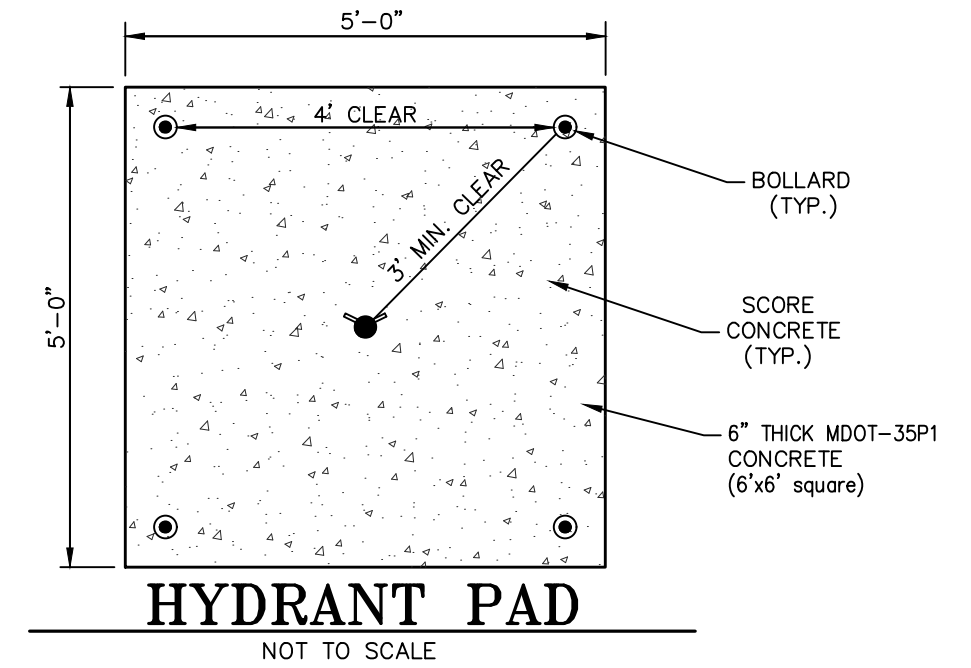


**DUMPSTER GATE**  
NOT TO SCALE

**NOTE:**  
 ALL POLES, RAILS AND HARDWARE SHALL BE GALVANIZED STEEL.



**FIRE LANE SIGN POST DETAIL**  
NOT TO SCALE



**HYDRANT PAD**  
NOT TO SCALE

DESIGN:WMP	REVISION #	DATE	REVISION-DESCRIPTION	REVISION #	DATE	REVISION-DESCRIPTION
DRAFT: JHG	1	12-19-23	REVISED PER REVIEW COMMENTS			
CHECK: WMP						

**2025 EULER ROAD DEVELOPMENT**

**FENCING NOTES AND DETAILS**

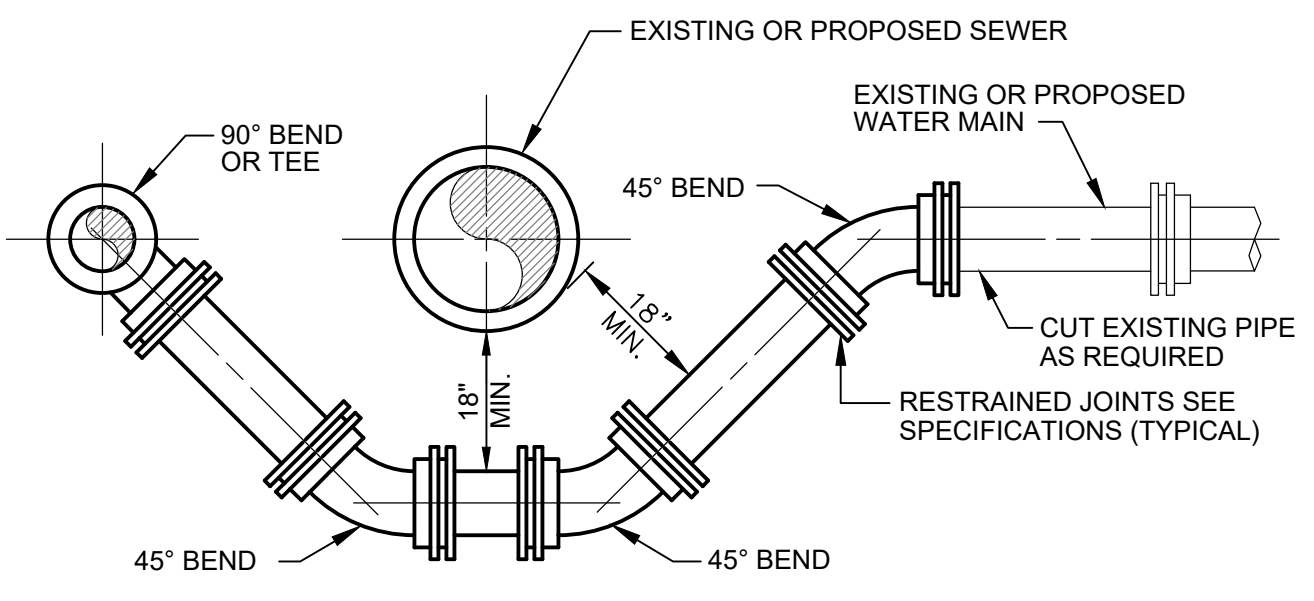
CLIENT:	SCALE: N/A
4M GENOA LLC 2244 EULER ROAD BRIGHTON, MICHIGAN 48114 810-217-7471	PROJECT No.: 224316 DWG NAME: 4463 DT ISSUED: DEC. 19, 2023

**DT3**

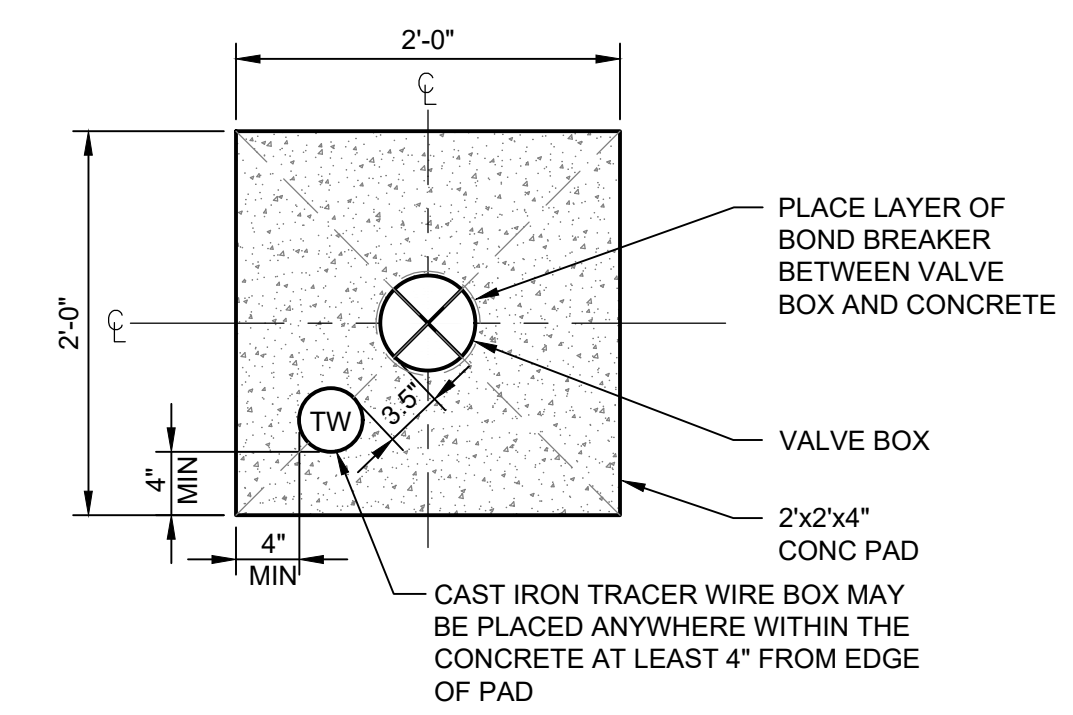


PIPE RESTRAINT SCHEDULE							
GROUND BURIED PRESSURE PIPE - POLYETHYLENE ENCASED DUCTILE IRON PIPE							
PIPE DIAMETER	TEES, 90° BENDS	45° BENDS	22-1/2° BENDS	11-1/4° BENDS	DEAD ENDS	REDUCERS (ONE SIZE REDUCTION)*	REDUCERS (TWO SIZE REDUCTION)*
4	13	5	3	1	40	--	--
6	19	8	4	2	58	31	--
8	24	10	5	2	75	30	70
12	34	14	7	3	107	57	116
16	43	18	9	4	139	59	137
20	52	22	10	5	169	59	134
24	61	25	12	6	199	60	132
30	73	30	15	7	242	85	168
36	84	35	17	8	281	84	168

- LENGTHS OF PIPE RESTRAINT ARE GIVEN IN FEET.
  - IF REQUIRED PIPE DIAMETER IS NOT LISTED IN THIS TABLE, THE NEXT LARGEST PIPE DIAMETER SHALL BE USED.
  - THIS TABLE IS BASED ON A TEST PRESSURE OF 180 PSI (OPERATING PRESSURE PLUS WATER HAMMER. FOR OTHER TEST PRESSURES, ALL VALUES TO BE INCREASED OR DECREASED PROPORTIONALLY.
  - THE VALUES PROVIDED OF RESTRAINT LENGTH ARE IN EACH DIRECTION FROM THE POINT OF DEFLECTION OR TERMINATION EXCEPT FOR TEES, AT WHICH ONLY THE BRANCH IN THE DIRECTION OF THE STEM.
  - IF TIE RODS ARE USED, USE FOUR RODS MINIMUM AND ADD 1/8-INCH TO BAR DIAMETER AS CORROSION ALLOWANCE.
  - SIZE REDUCTION IS BASED UPON THE PIPE DIAMETER SHOWN IN THIS TABLE.
- BASED UPON:
- |                    |           |
|--------------------|-----------|
| INTERNAL PRESSURE: | 180       |
| PIPE DEPTH:        | 5         |
| BEDDING CLASS:     | TYPE 4    |
| SOIL TYPE:         | GOOD SAND |
| SAFETY FACTOR:     | 2         |

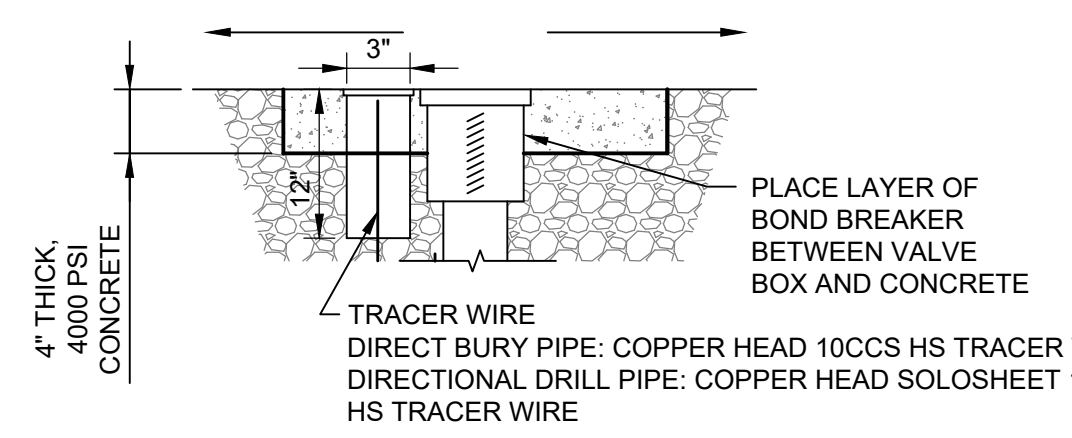


**WATER MAIN UTILITY OFFSET**



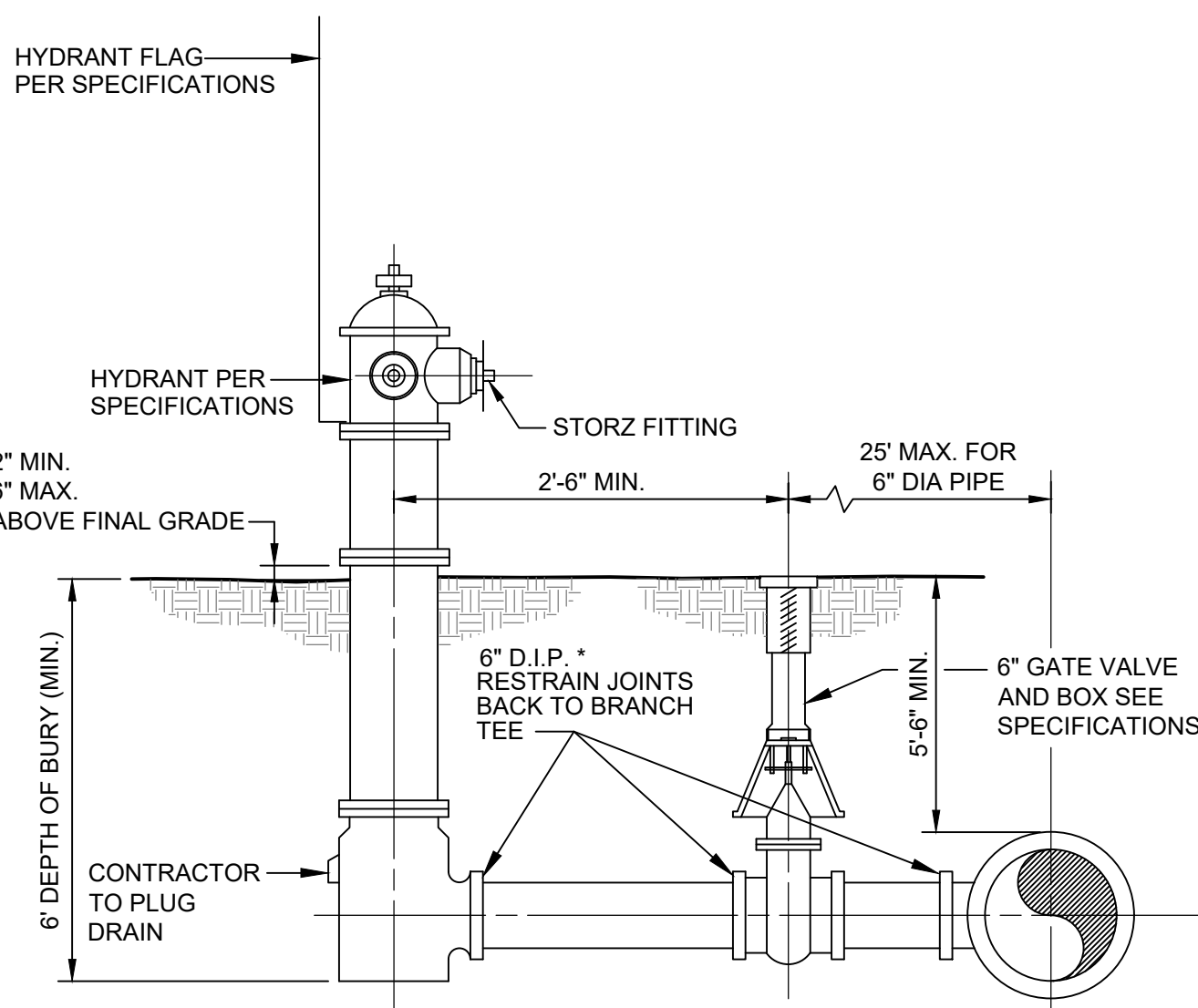
NOTE: ALL BOXES & ADJOINING TW BOXES SHALL BE ENCASED IN A CONC. PAD UNLESS OTHERWISE DETERMINED BY MHOG.

**PLAN**  
**VALVE/TRACER WIRE BOX IN CONCRETE DETAIL**  
NO SCALE



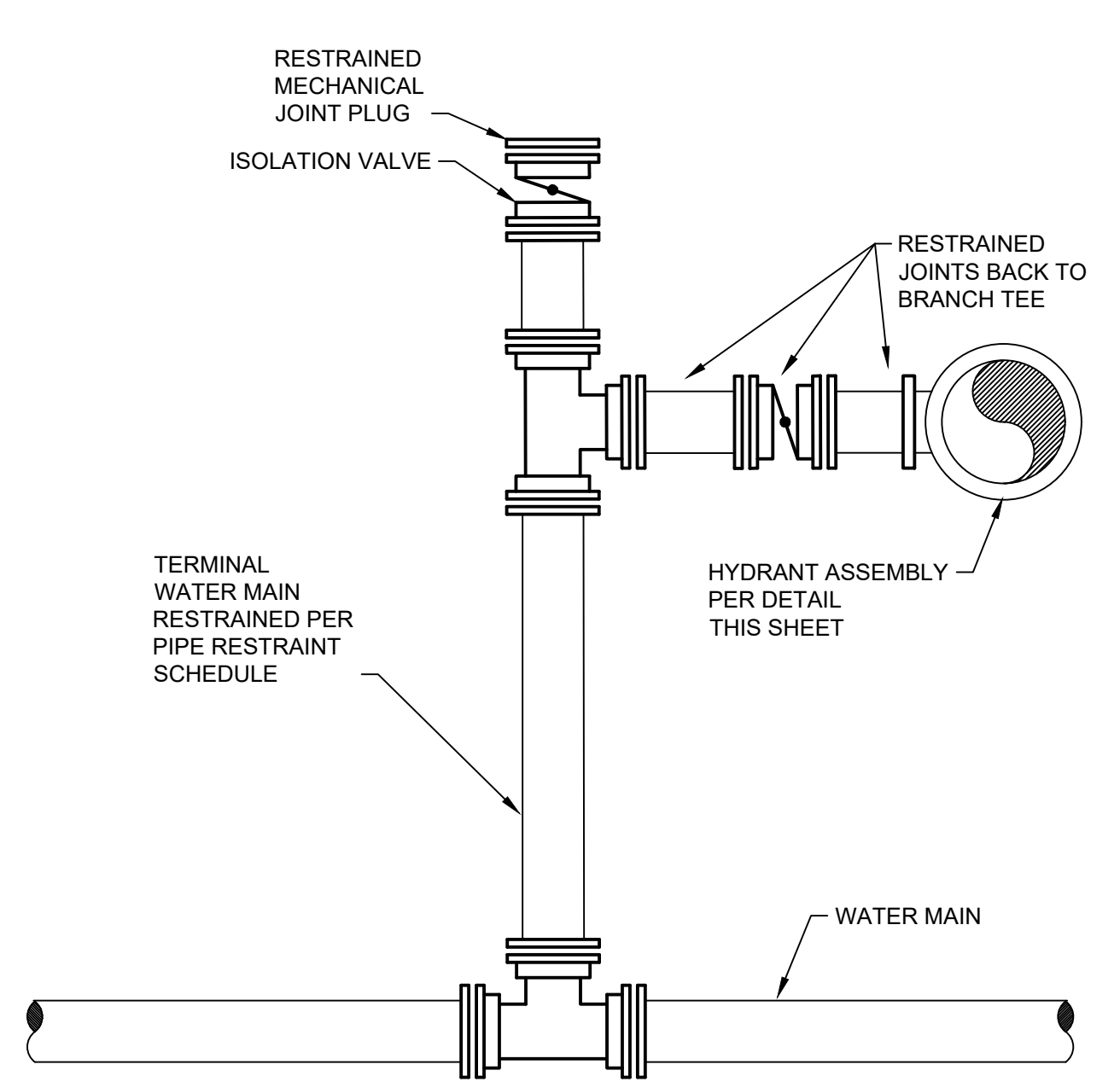
- NOTE:
- TRACER WIRE BOXES LOCATED WITHOUT A VALVE BOX ONLY REQUIRE AN 18" X 18" CONCRETE PAD.
  - TRACER WIRE BOX SHALL HAVE A LOCKING LID W/STANDARD AWWA PENTAGON KEY.
  - TRACER WIRE BOX SHALL BE COPPERHEAD RB14"TP IN ASPHALT INSTALLATIONS AND CD14"TP FOR ALL OTHER INSTALLATIONS.

**SECTION**

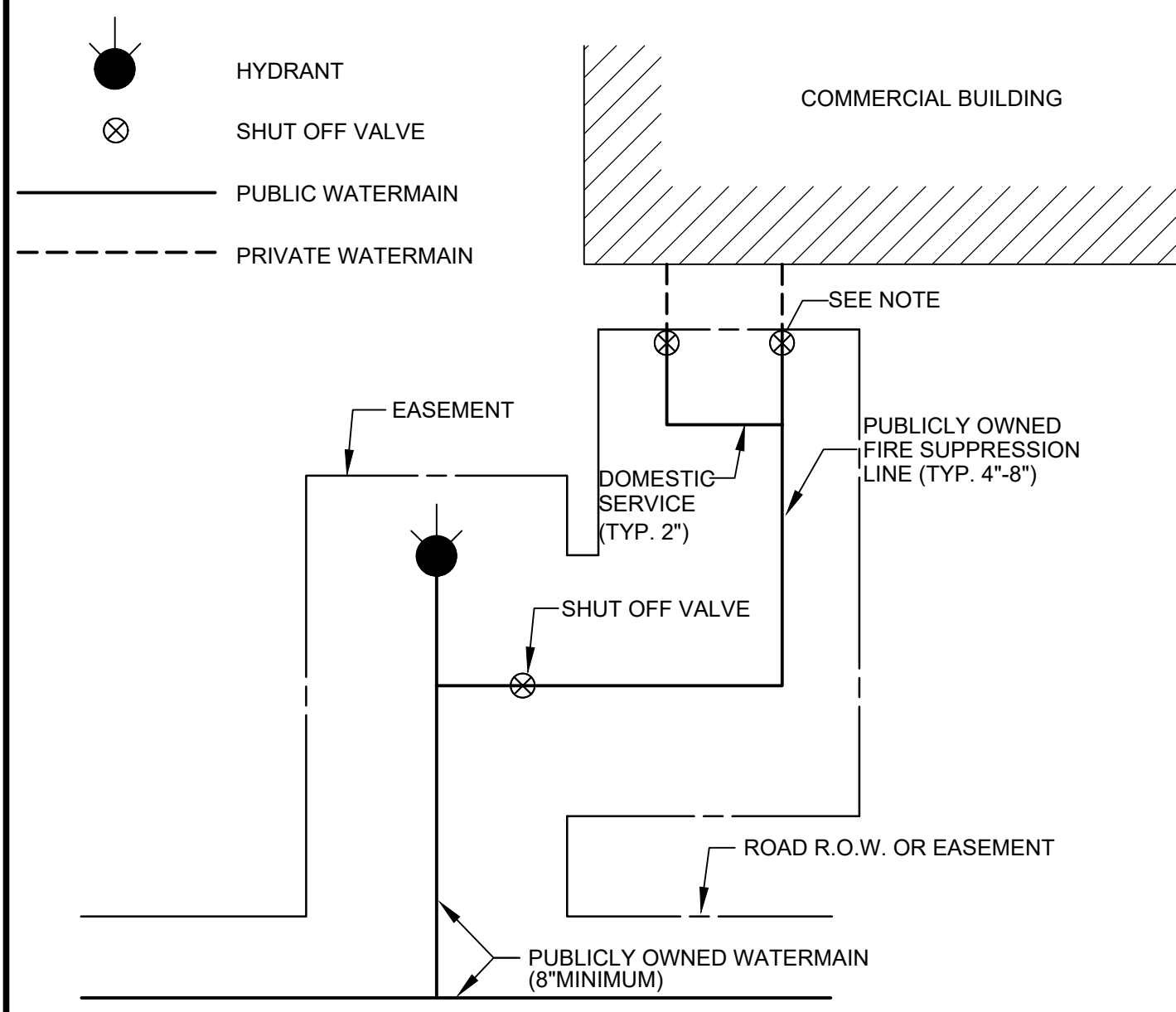


\* THE LENGTH OF 6" PIPE FROM THE MAIN TO THE HYDRANT ASSEMBLY CANNOT EXCEED 25'. ANY PIPE OVER 25 FEET SHALL BE 8" DIAMETER MINIMUM AND DESIGNED PER MHOG SPECIFICATIONS.

**FIRE HYDRANT ASSEMBLY**

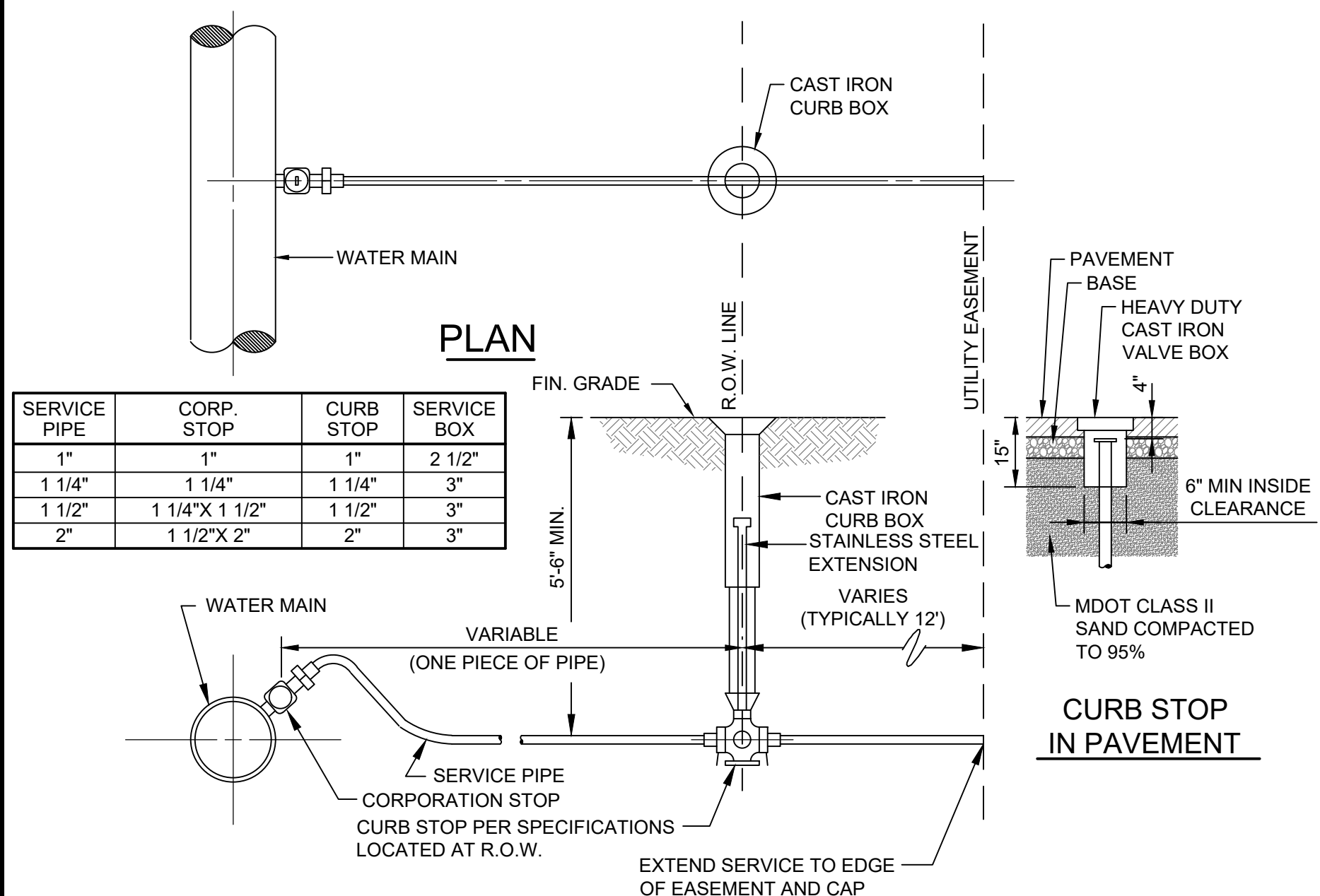


**TERMINAL HYDRANT DETAIL**

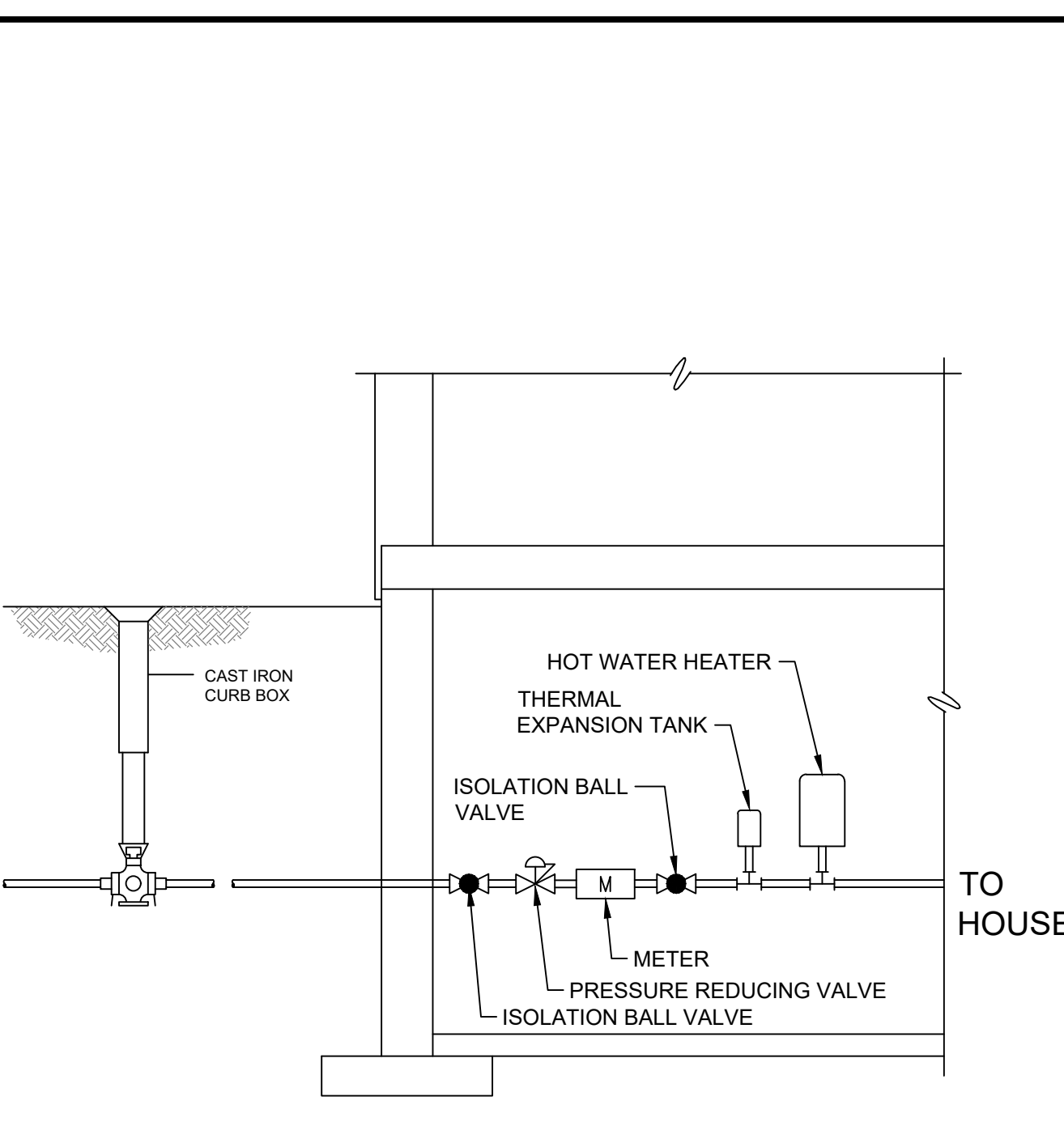


NOTE: FIRE SUPPRESSION LINE AND DOMESTIC SERVICE TO BE LOCATED WITHIN EASEMENT UP TO SHUTOFF VALVES OUTSIDE OF BUILDING.

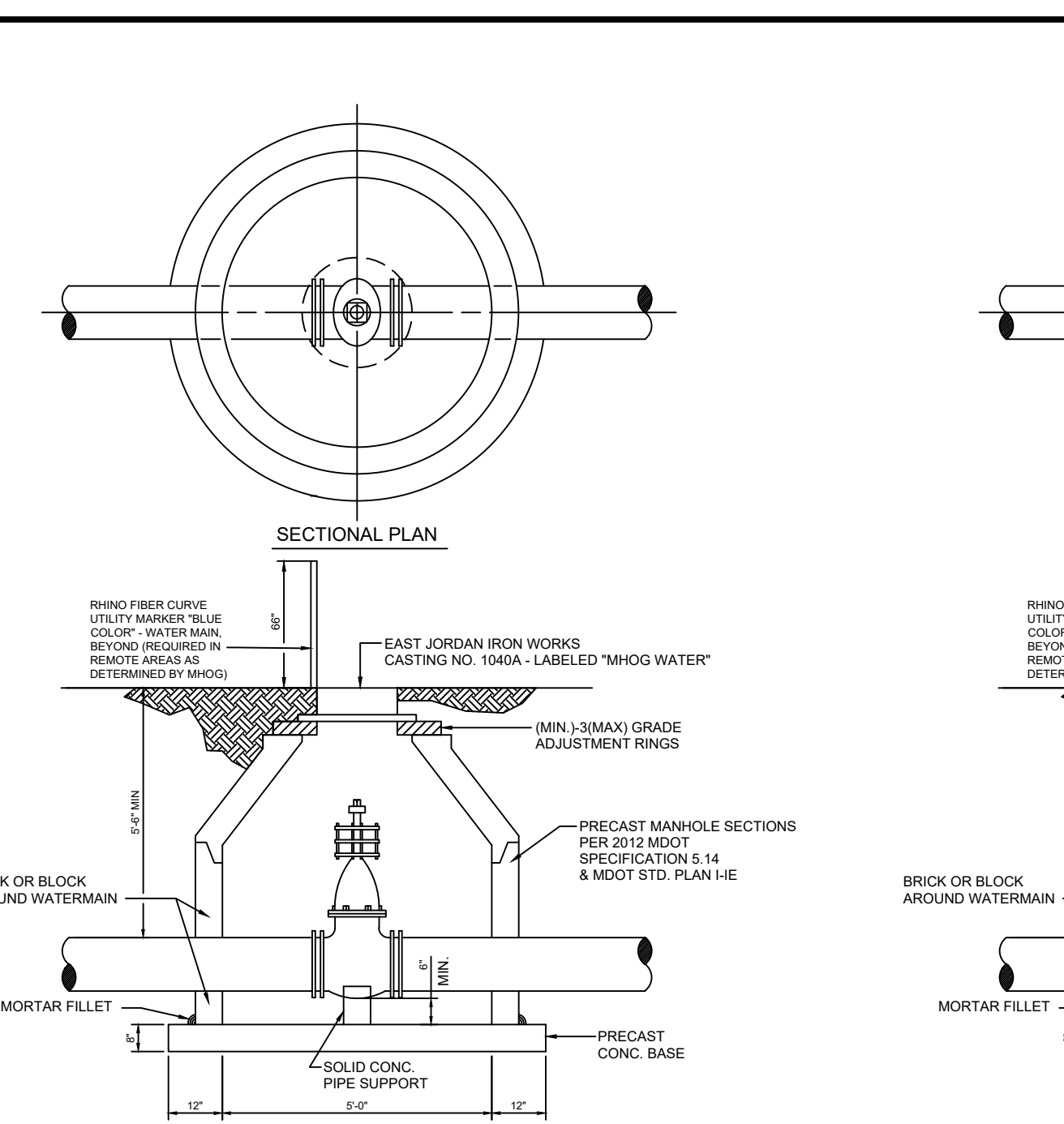
**COMMERCIAL BUILDING WATER SERVICE LAYOUT**



**SECTION**  
**WATER SERVICE LATERAL**

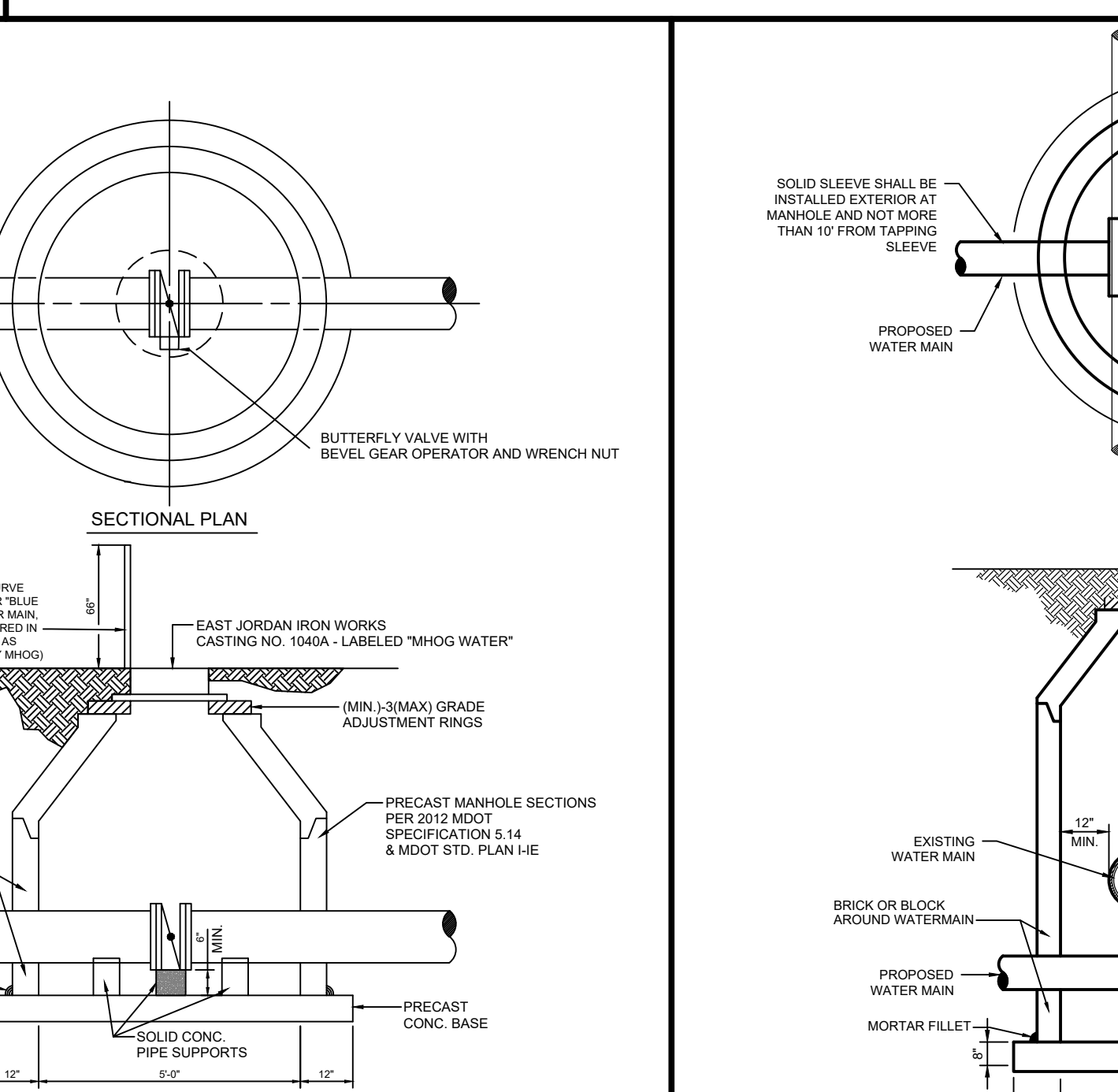


**PRIVATE RESIDENCE**  
**PRESSURE REDUCING VALVE (PRV)**



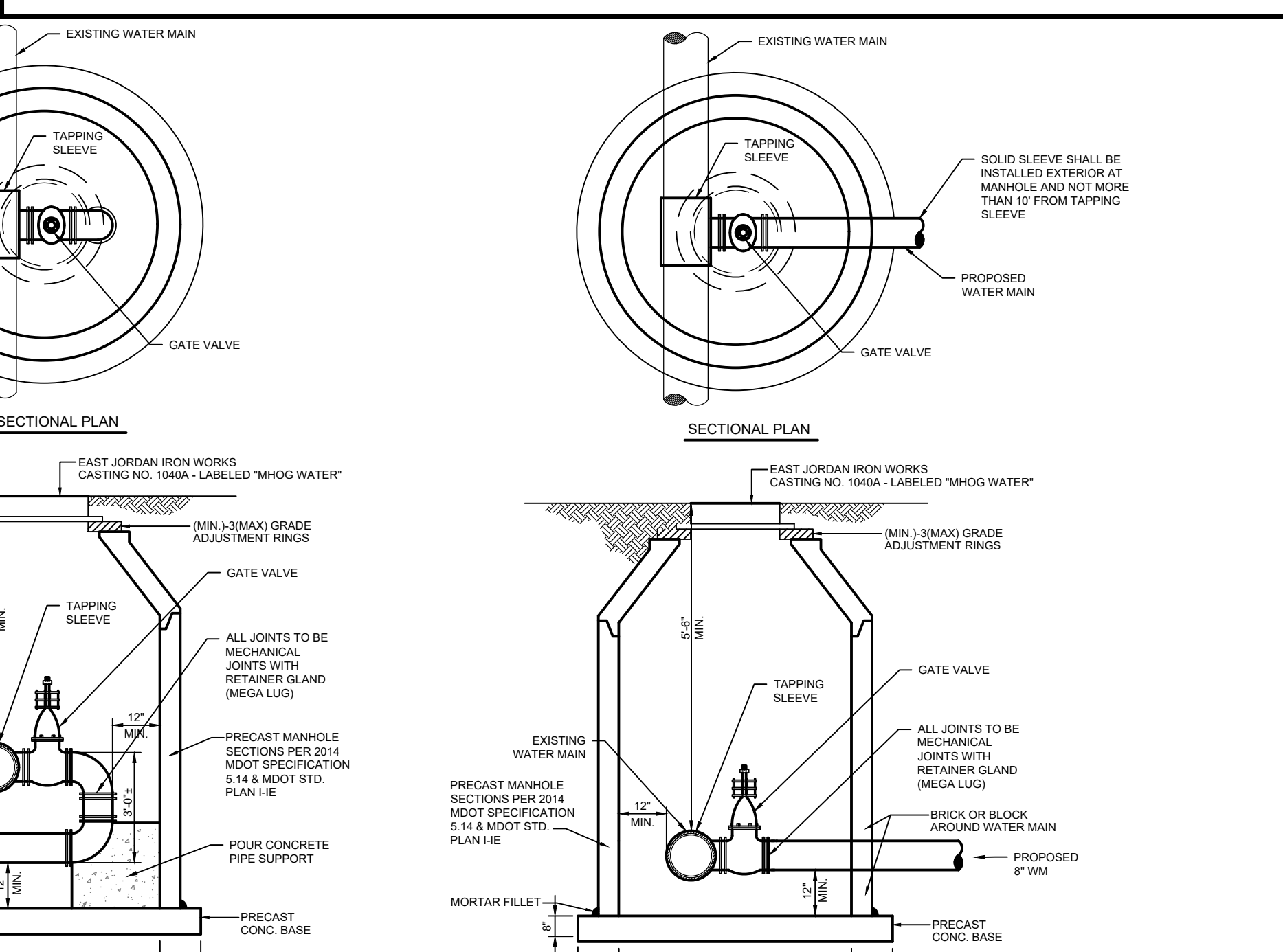
NOTES:  
1. ALL LIFT HOLES AND JOINTS SHALL BE MORTARED BOTH INSIDE AND OUTSIDE.  
2. BLOCK MANHOLES TO BE USED ONLY WITH ENGINEERS PERMISSION.  
3. NO STEPS PERMITTED.

**VALVE AND GATE WELL**



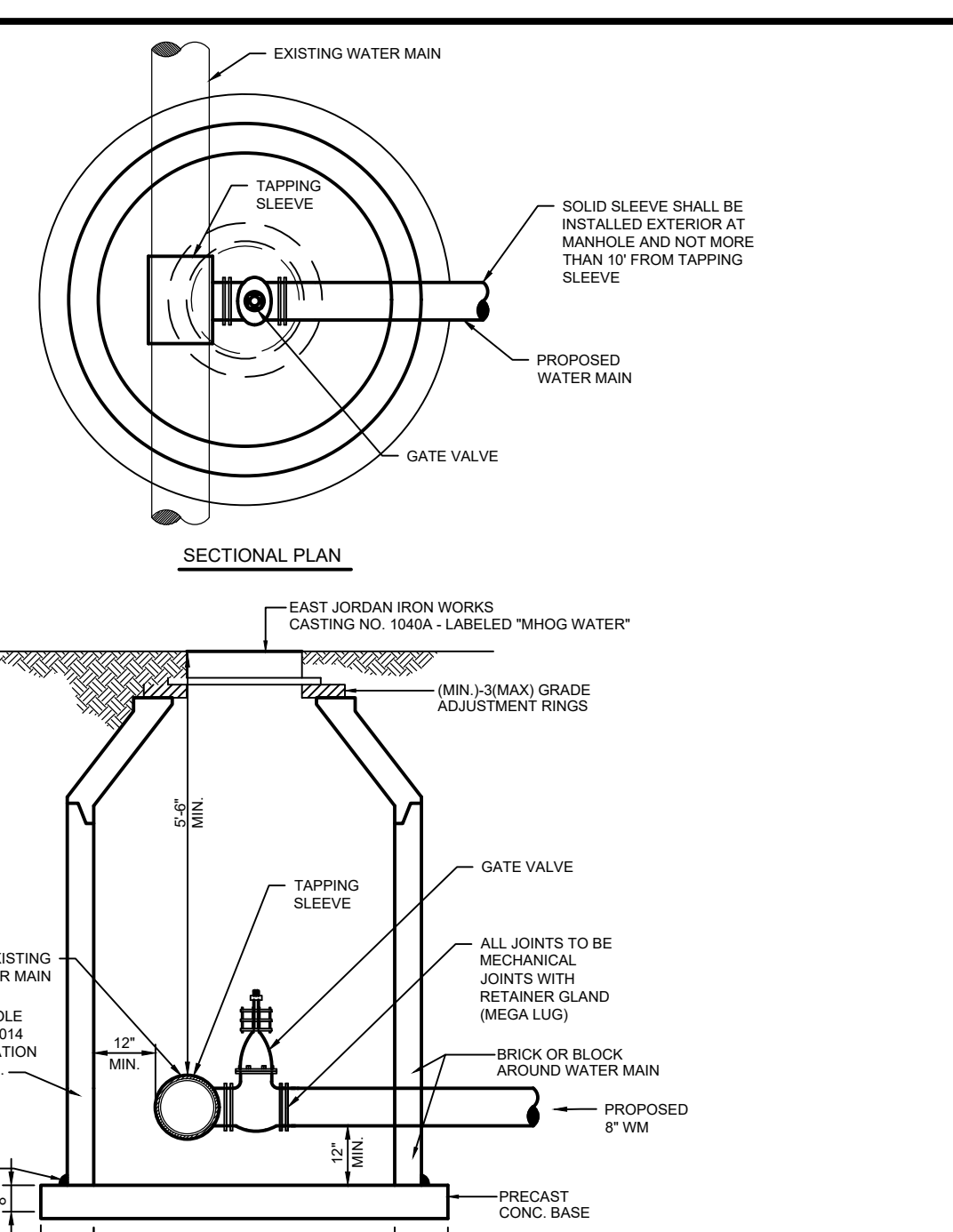
NOTES:  
1. ALL LIFT HOLES AND JOINTS SHALL BE MORTARED BOTH INSIDE AND OUTSIDE.  
2. BLOCK MANHOLES TO BE USED ONLY WITH ENGINEERS PERMISSION.  
3. NO STEPS PERMITTED.

**BUTTERFLY VALVE AND WELL**



NOTES:  
1. ALL LIFT HOLES AND JOINTS SHALL BE MORTARED BOTH INSIDE AND OUTSIDE.  
2. BLOCK MANHOLES TO BE USED ONLY WITH ENGINEERS PERMISSION.  
3. TAPPING SLEEVES ONLY PERMITTED FOR CONNECTIONS SMALLER THAN MAIN LINE.  
4. NO STEPS PERMITTED.

**REVERSE TAP GATE WELL**



NOTES:  
1. ALL LIFT HOLES AND JOINTS SHALL BE MORTARED BOTH INSIDE AND OUTSIDE.  
2. BLOCK MANHOLES TO BE USED ONLY WITH ENGINEERS PERMISSION.  
3. TAPPING SLEEVES ONLY PERMITTED FOR CONNECTIONS SMALLER THAN MAIN LINE.  
4. NO STEPS PERMITTED.

**REGULAR TAP GATE WELL**



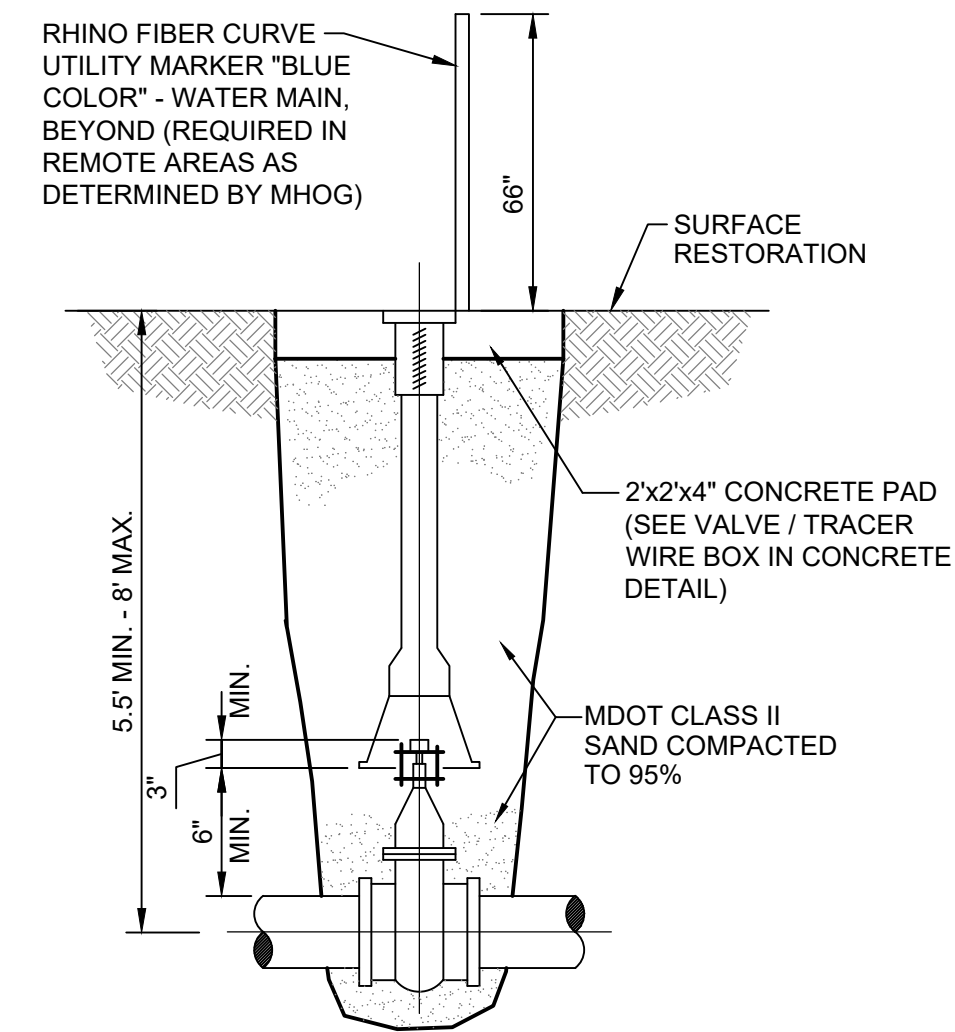
MARION HOWELL OCEOLA GENOA  
Sewer and Water Authority

Scale: NONE  
Issued Date: JANUARY - 2014  
UPDATED: MAY 2015  
UPDATED: FEBRUARY 2016  
UPDATED: APRIL 2016  
UPDATED: OCTOBER 2017  
UPDATED: FEBRUARY 2019  
UPDATED: NOVEMBER 2022

STANDARD DETAILS

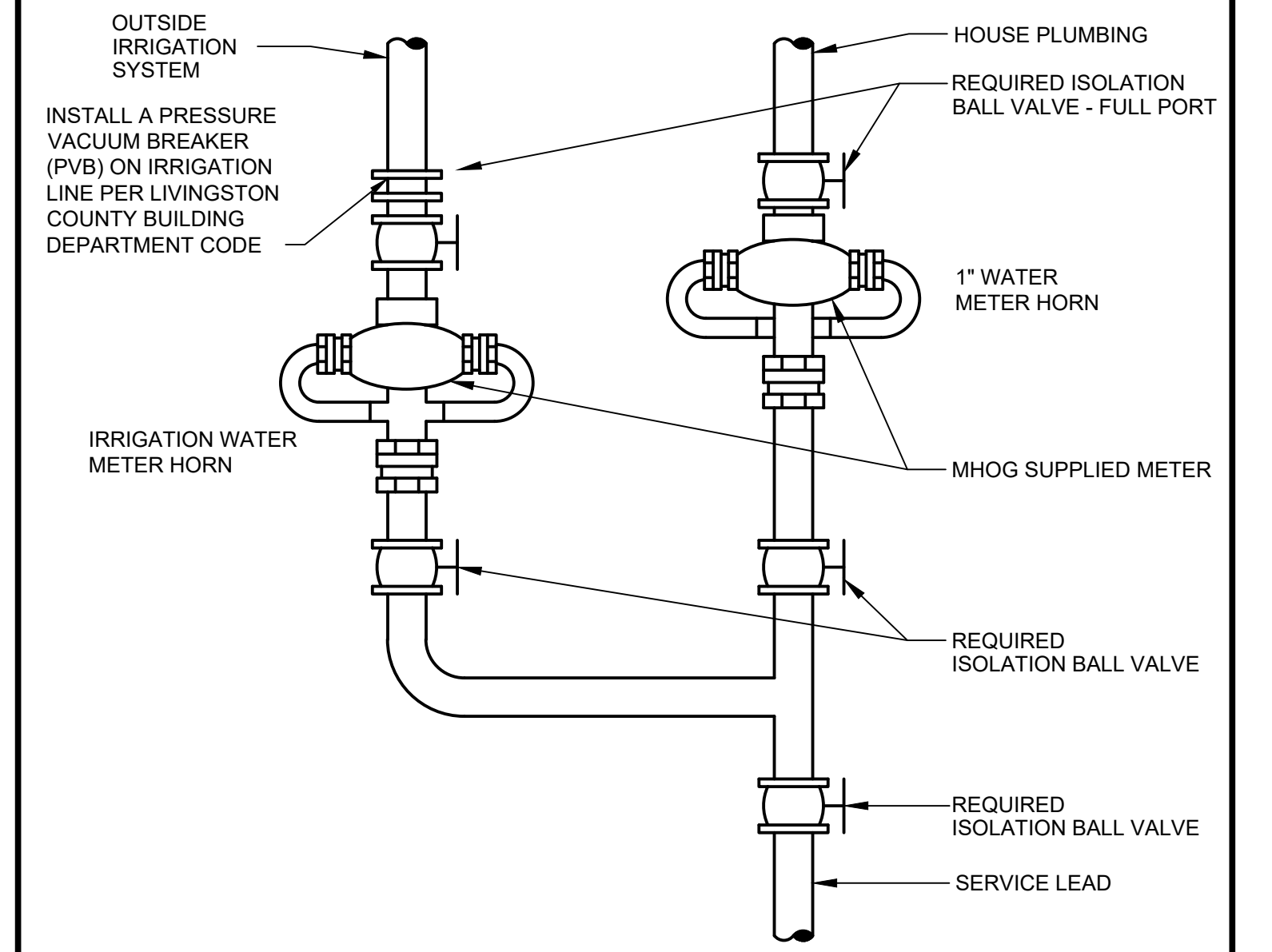
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Tuesday, November 8, 2022 1:47:13 PM DRAWING: C:\Projects\Lansing\12719\200-12719-00-000\CAD\SheetFiles\Mhog-std.dwg



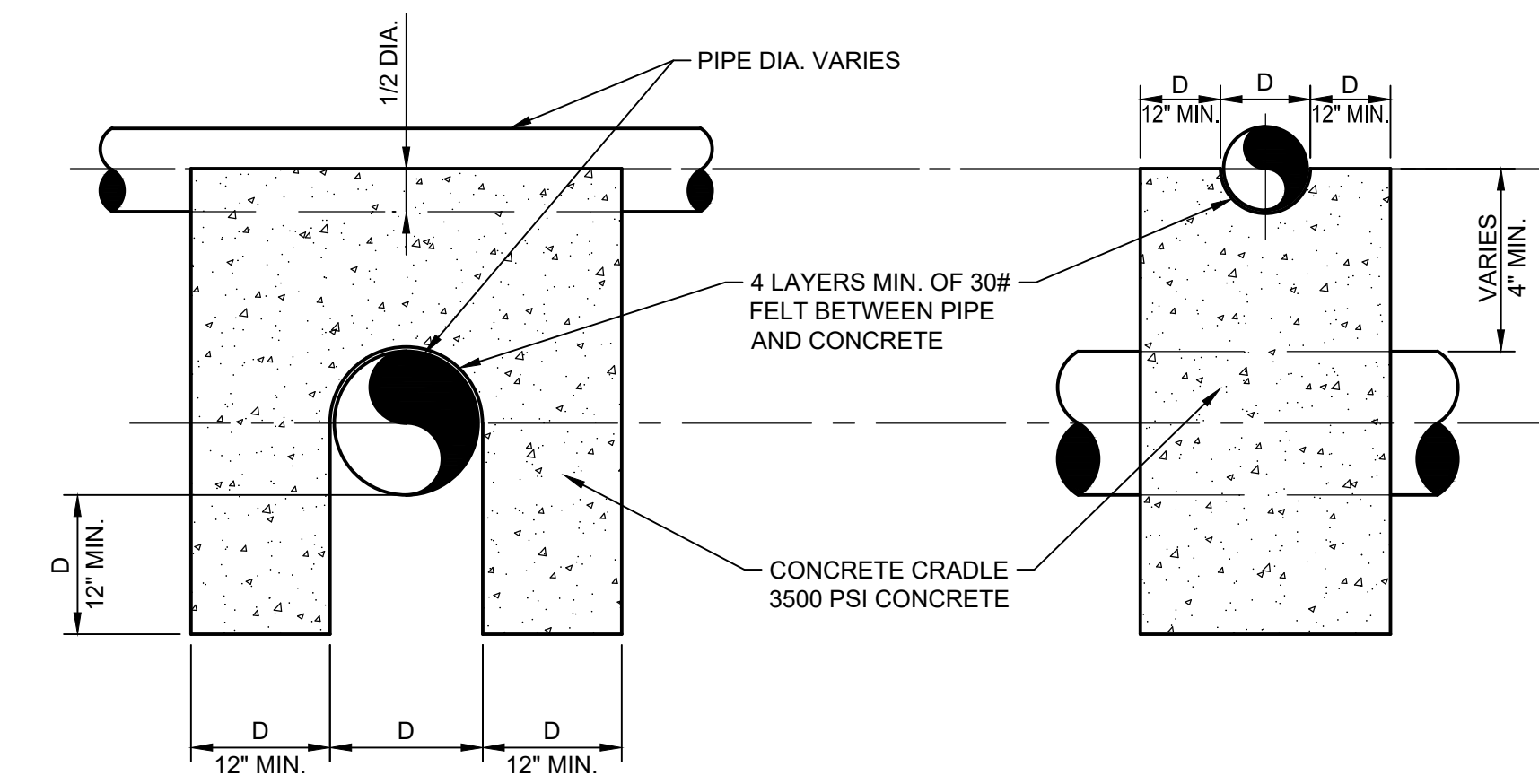
- NOTES:
1. VALVE BOX SHALL NOT REST ON VALVE OR MAIN LINE PIPE.
  2. A VALVE STEM EXTENSION WITH CENTERING RING IS REQUIRED FOR VALVES BURIED DEEPER THAN 6'.

**GATE VALVE AND BOX**



- NOTES:
1. ALL METERS ARE TO BE INSTALLED HORIZONTALLY IN A DRY, CLEAN, SANITARY LOCATION THAT IS READILY ACCESSIBLE. THIS DRAWING IS NOT TO SCALE & IS ONLY A REPRESENTATION OF HOW THE VALVES AND METERS SHOULD BE INSTALLED. THE SECOND METER IS OPTIONAL FOR IRRIGATION USAGE. METERS SHOULD NOT BE INSTALLED IN LINE (ONE RIGHT AFTER THE OTHER).
  2. PROPERTIES DESIGNATED "HIGH HAZARD" PER THE MHOG CROSS CONNECTION RULES MANUAL WILL REQUIRE THE INSTALLATION OF A REDUCED PRESSURE ZONE (RPZ) BACK FLOW PREVENTION DEVICE.

**TYPICAL METER HORN INSTALLATION**



**CONCRETE CRADLE DETAIL**  
SCALE: NONE



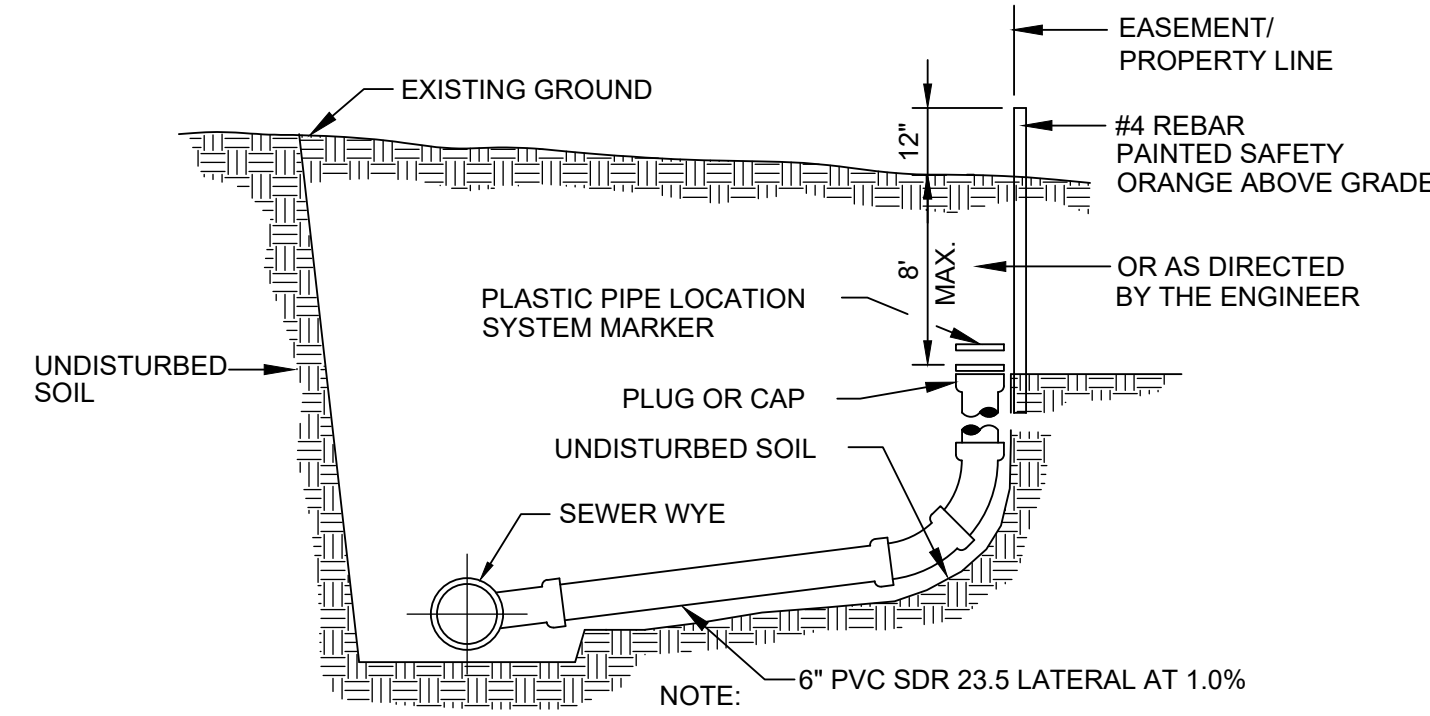
**MHOG CASTING DETAIL**  
NO SCALE



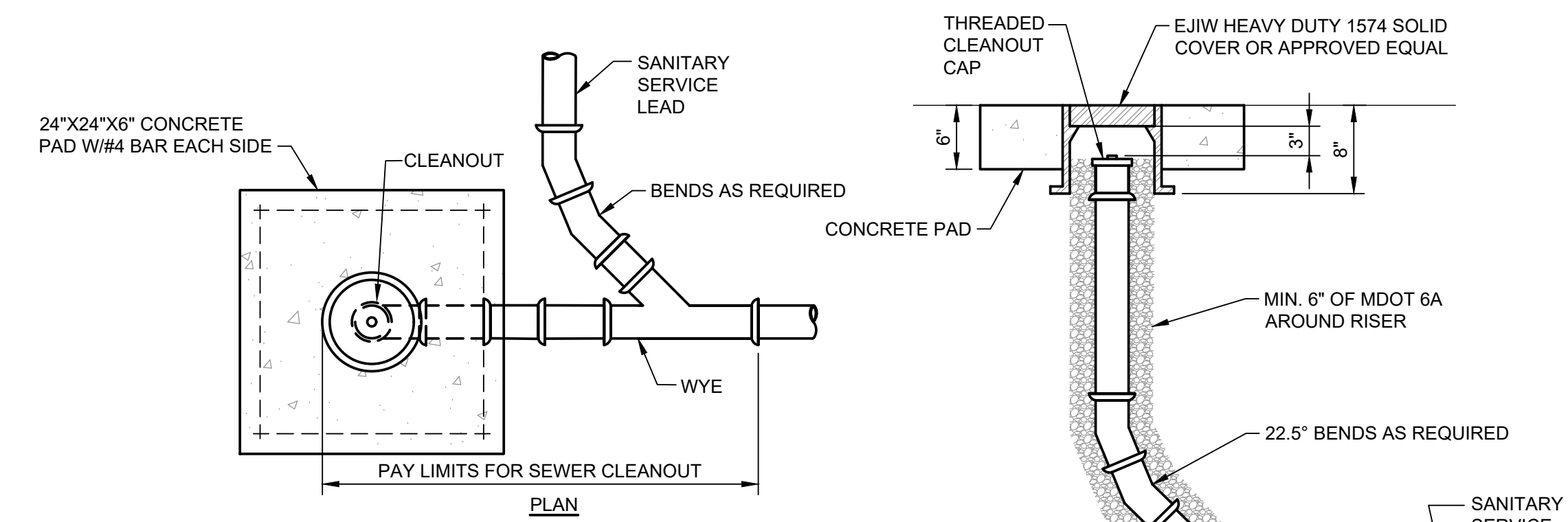
MARION HOWELL OCEOLA GENOA  
Sewer and Water Authority

STANDARD DETAILS

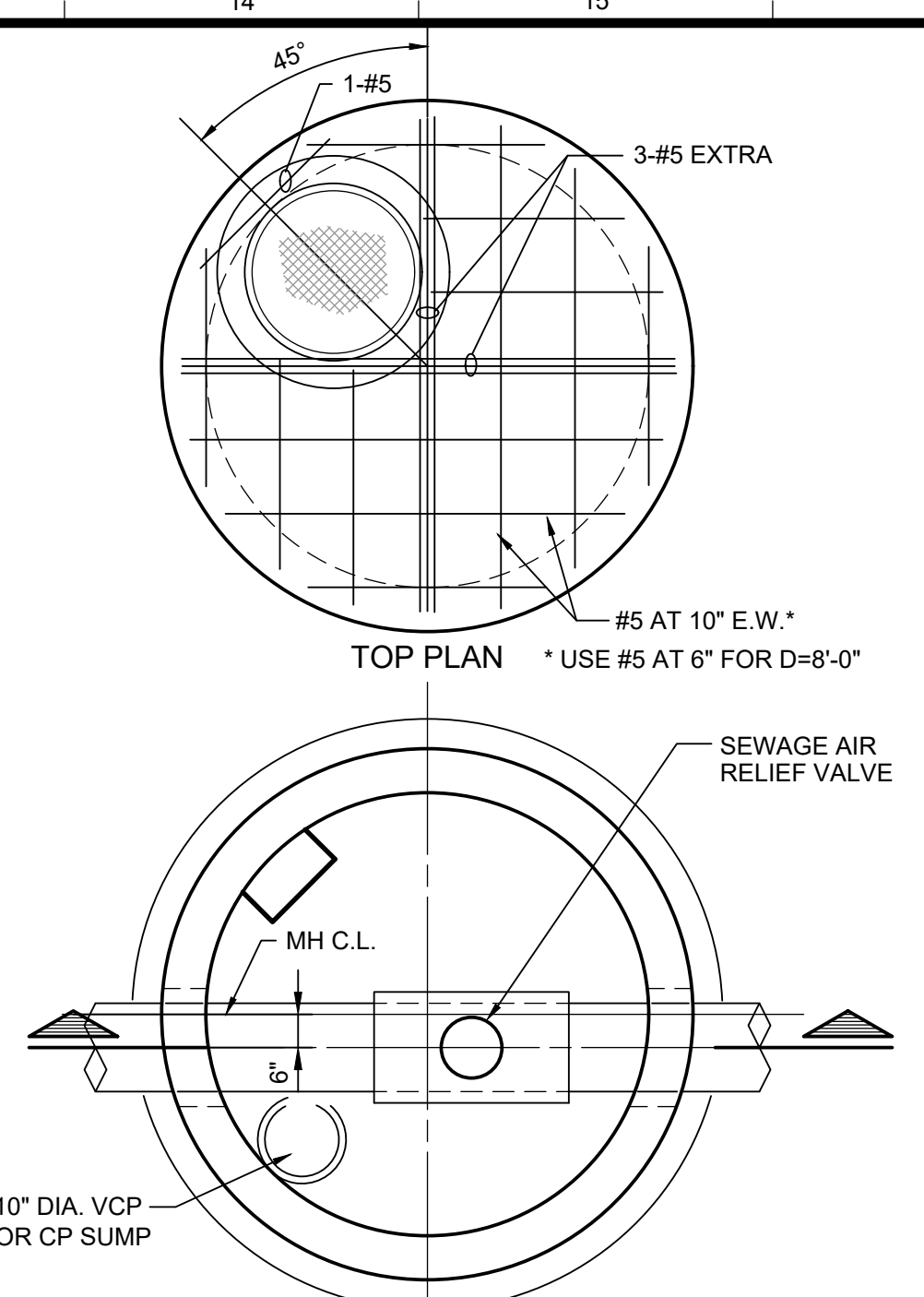
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 Issued Date: JANUARY - 2014  
 UPDATED: MAY 2015  
 UPDATED: FEBRUARY 2016  
 UPDATED: APRIL 2016  
 UPDATED: OCTOBER 2017  
 UPDATED: FEBRUARY 2019  
 UPDATED: NOVEMBER 2022



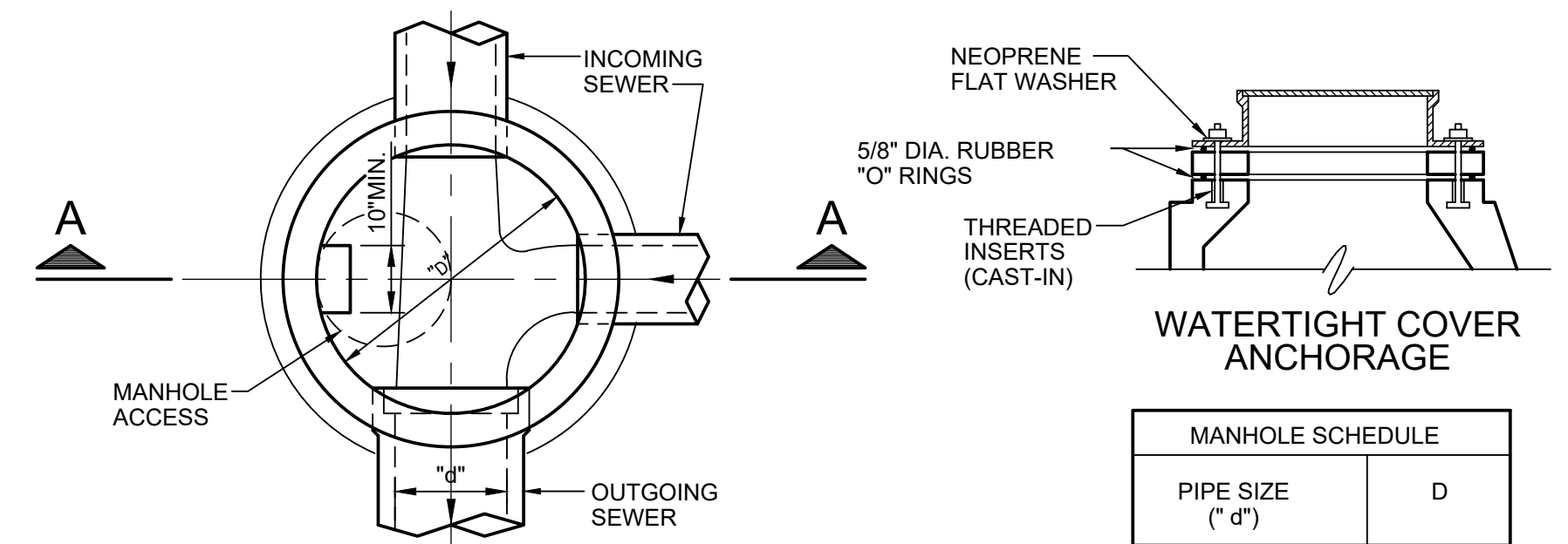
**SANITARY SEWER LATERAL**



**SEWER CLEANOUT DETAIL**

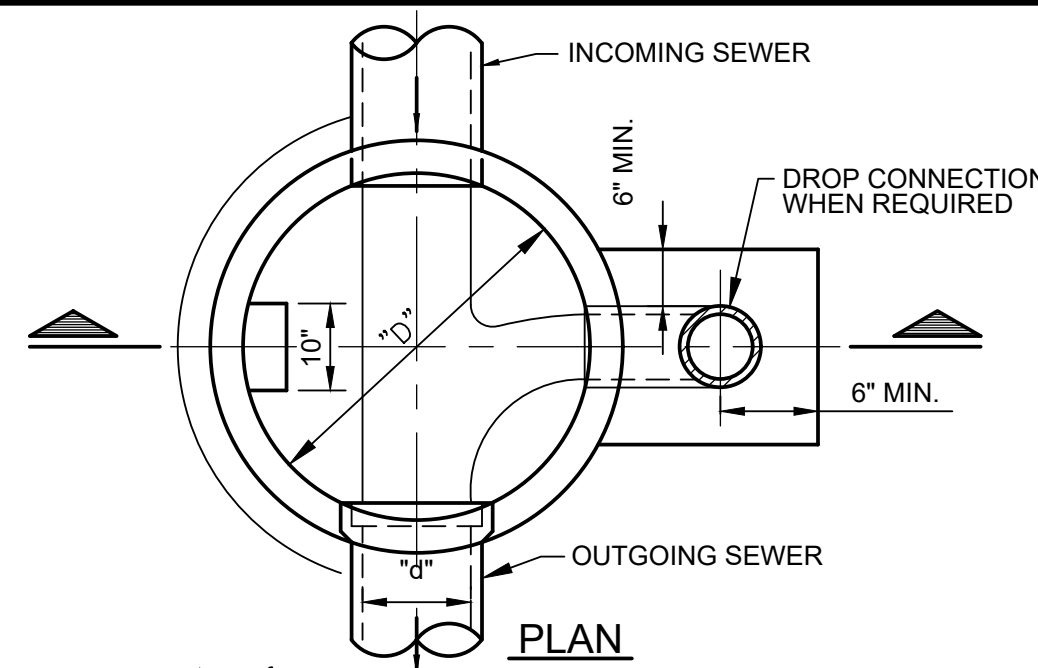


**AIR RELIEF STRUCTURE**

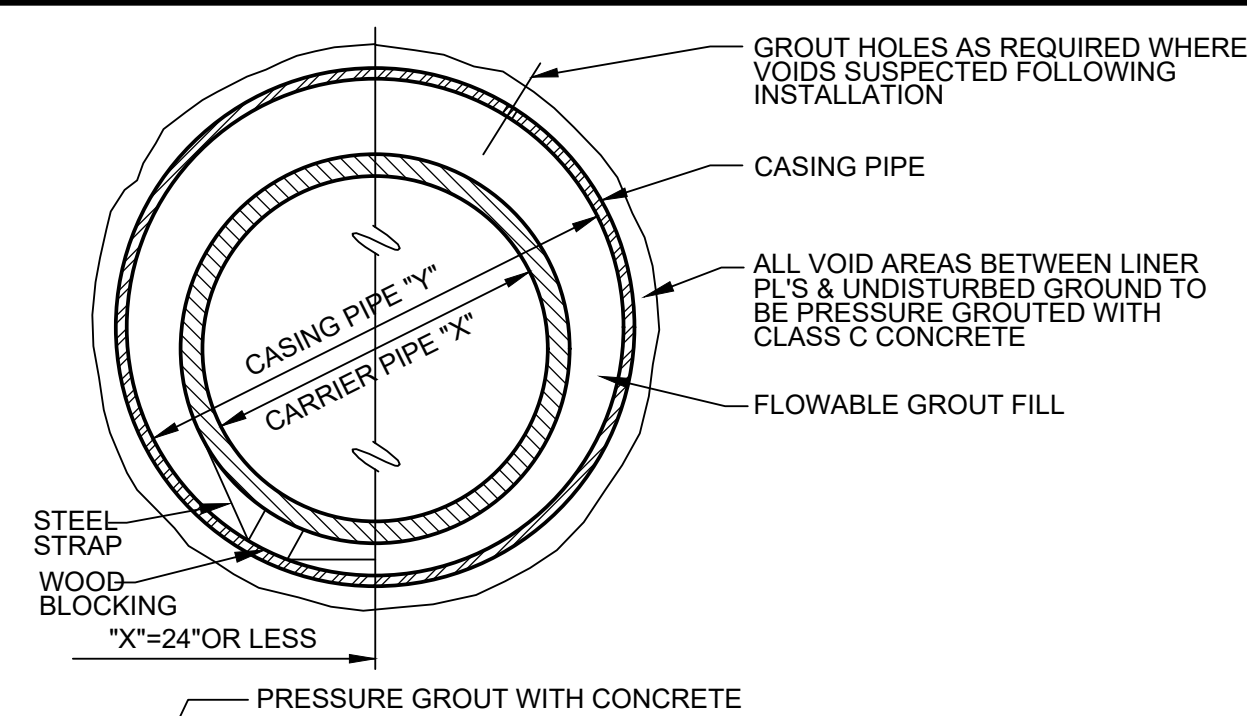


**WATERTIGHT COVER ANCHORAGE**

MANHOLE SCHEDULE	
PIPE SIZE ("d")	D
8"-24"	48"
27"-36"	60"
42"-48"	72"
54"	84"



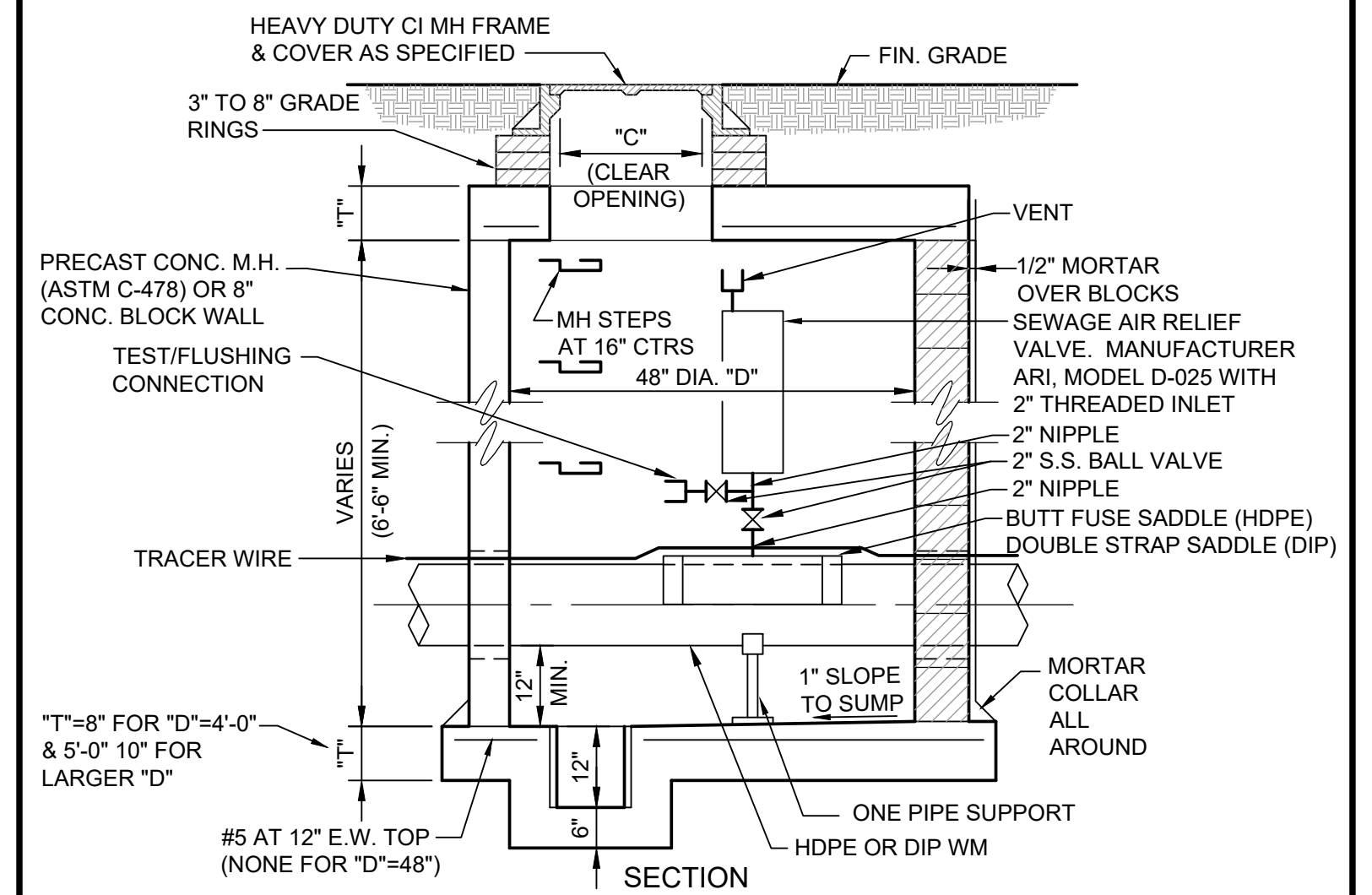
**DROP CONNECTION**



**CASING PIPE**

TABLE	
"X"	"Y"(MIN)
6"-8"	20"
10"-12"	24"
14"-15"	30"
18"-21"	36"
24"	42"

NOTE: SEE SPECIFICATIONS FOR ALTERNATE CONST. METHODS



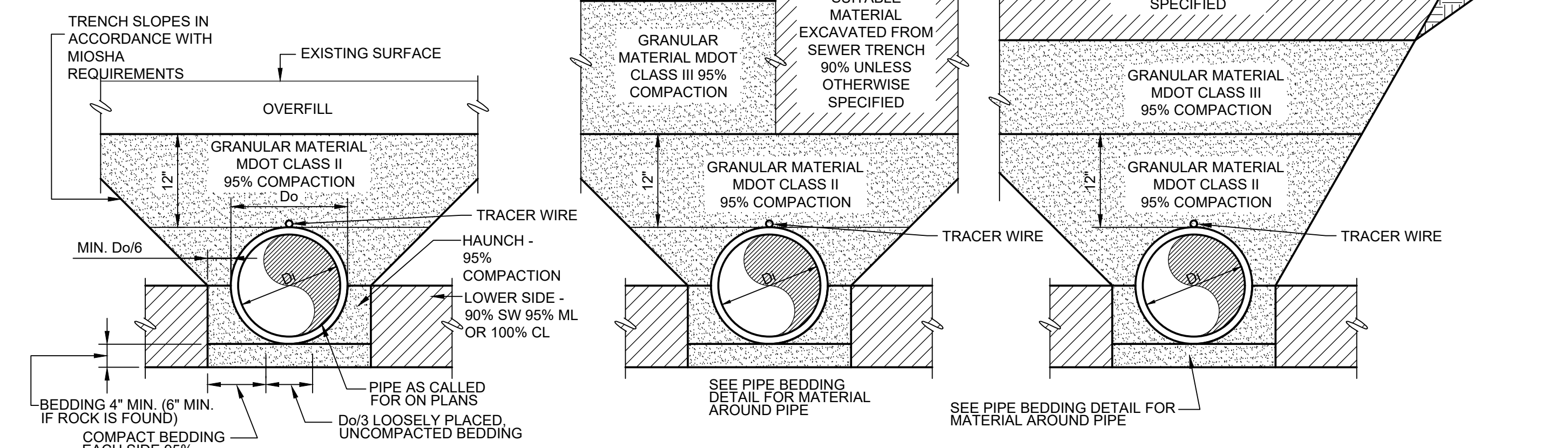
**SECTION A-A**

- NOTES:
- ALL SANITARY MANHOLES TO BE PRECAST REINFORCED CONCRETE WITH PREMIUM JOINTS. SEE SPECIFICATIONS FOR BASE SLAB AND PIPE OPENINGS AND CONNECTIONS.
  - MANHOLE CONES SHALL BE THE ECCENTRIC TYPE.
  - PROVIDE 6" OF COMPACTED GRANULAR MATERIAL UNDER ALL PRECAST CONCRETE BASE SLVC.
  - FORCE MAINS CONNECT DIRECTLY TO A MANHOLE SHALL BE INSTALLED SO THAT THE ELEVATION OF THE PIPE CROWNS MATCH. THE FORCE MAIN SHALL BE DIRECTED DOWNWARD INTO THE FLOW CHANNEL.
  - FOR SANITARY SEWERS ALL PIPES SHALL ENTER MANHOLE THROUGH RUBBER BOOTED CONNECTION.

FRAME & COVER FOR SANITARY SEWER MANHOLES			
TYPE	TYPE OF COVER	MANUFACTURER OR EQUAL	
		EAST JORDAN	NEENAH
MH	SANITARY - SOLID SELF-SEALING	1040.0000	R-1642
MH	SANITARY - SOLID WATERTIGHT	1040-APT	R-1916-F
CO	SOLID	1574A	R-1973-A

**STANDARD MANHOLE**

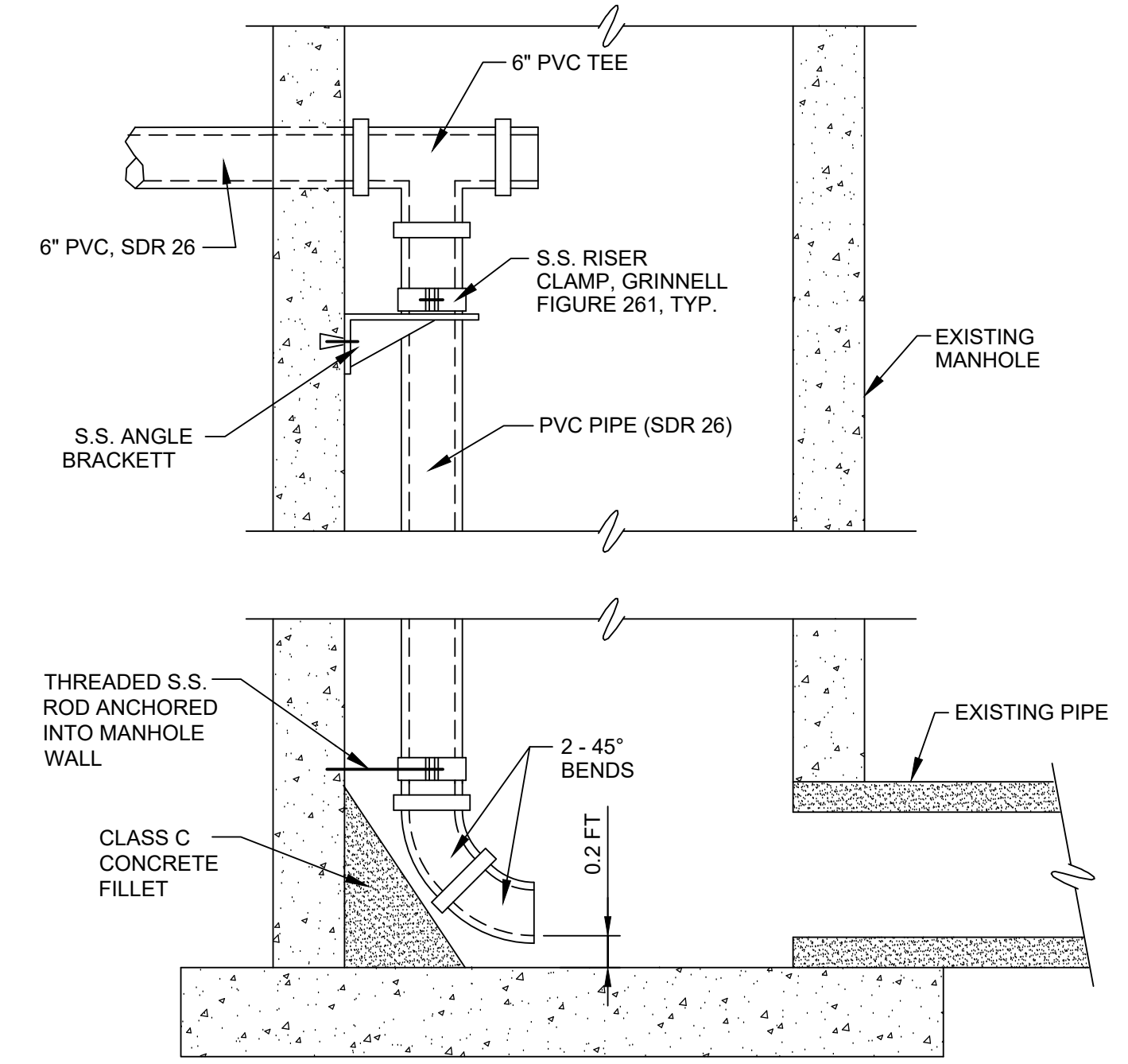
- NOTES:
- COMPACTION PRESENTED AS MINIMUM STANDARD PROCTOR VALUES.
  - MATERIALS AROUND THERMOPLASTIC PIPE WITH DIAMETER < 6 INCHES SHALL PASS 0.5 INCH SIEVE, MATERIALS AROUND OTHER PIPES SHALL PASS 1.5 INCH SIEVE.
  - MATERIALS AROUND HDPE PIPE TO BE MDOT 6A OR 21AA.
  - DRIVEN SURFACE IS DRIVEWAY, PARKING AREA, ROAD BED OR SHOULDER.
  - UTILITY TRENCHES LOCATED WITHIN A MDOT ROW SHALL CONFORM TO MDOT STANDARD DETAIL R-83.
  - TRACER WIRE IS REQUIRED ON FORCE MAIN ONLY AND SHALL BE BROUGHT TO GRADE AT A MINIMUM EVERY 1000 FEET IN A APPROVED CAST IRON TRACER WIRE BOX ENCASED IN CONCRETE OR WITH AN APPROVED GREEN MARKER POST.



**PIPE BEDDING**

**PIPE UNDER/NOT UNDER DRIVEN SURFACE TRENCH EXCAVATION & PIPE BEDDING**

**PIPE WITHIN INFLUENCE OF DRIVEN SURFACE**



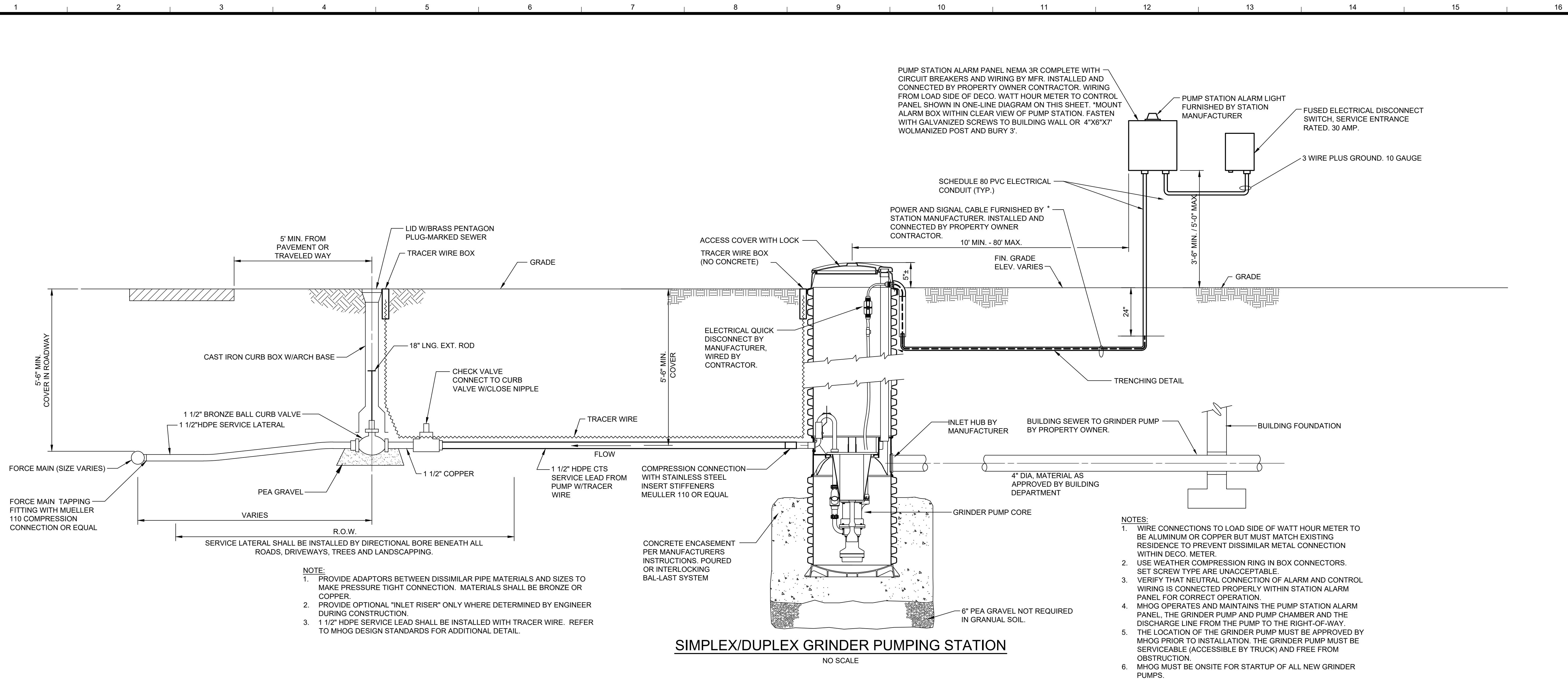
**INTERIOR SEWER LATERAL DROP CONNECTION**



MARION HOWELL OCEOLA GENOA Sewer and Water Authority

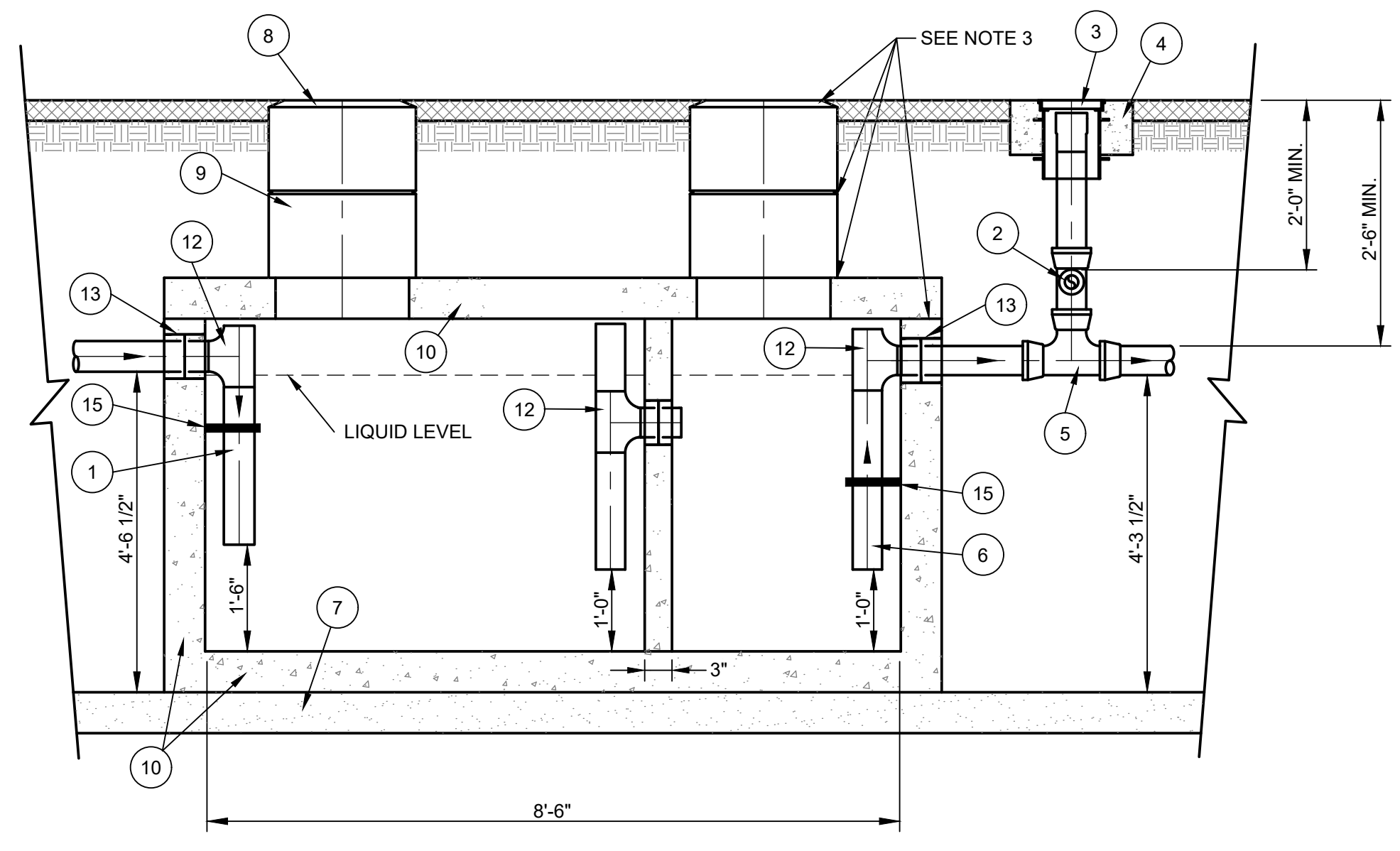
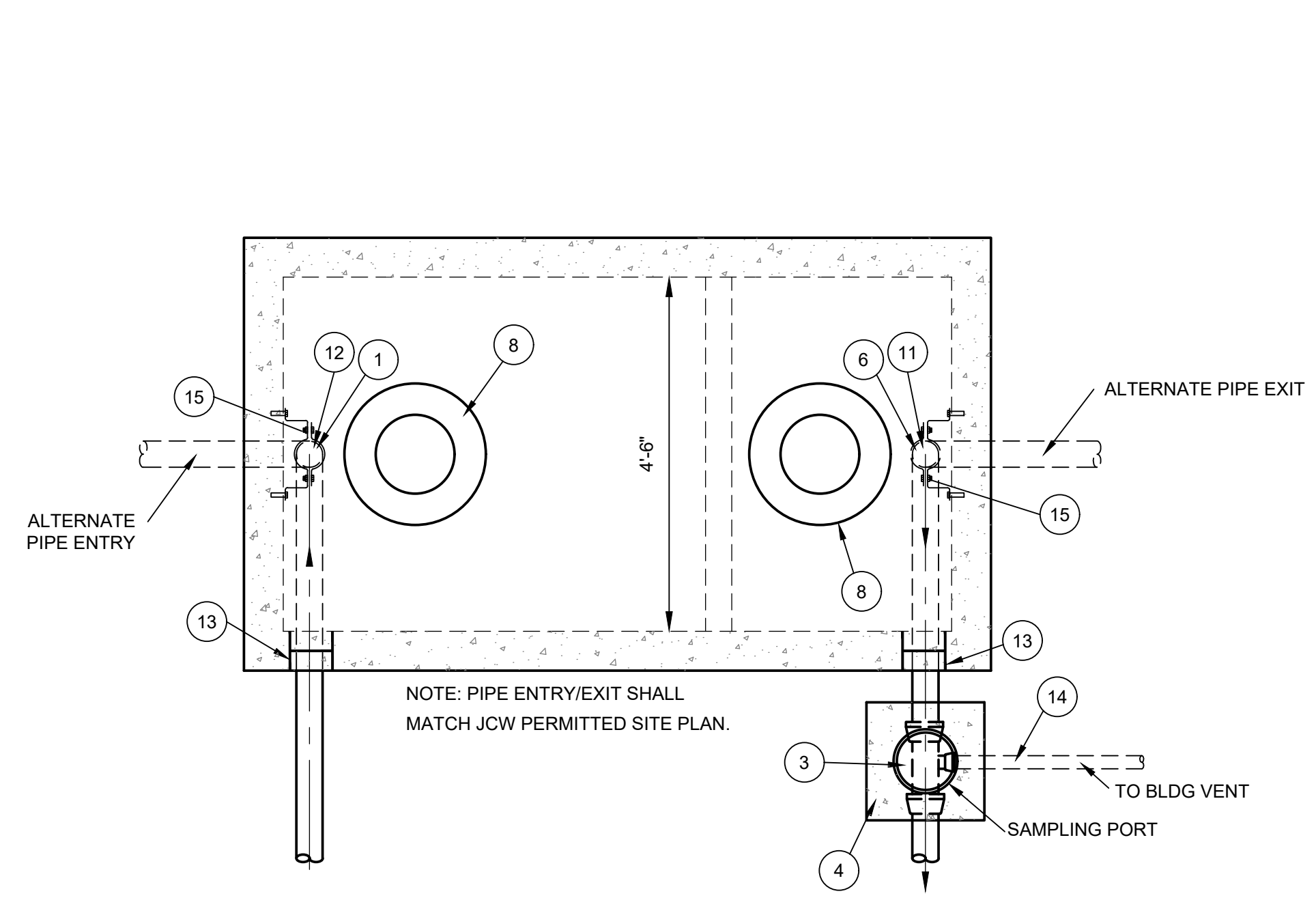
STANDARD DETAILS

Scale: NONE  
 Issued Date: JANUARY - 2014  
 UPDATED: MAY 2015  
 UPDATED: FEBRUARY 2016  
 UPDATED: APRIL 2016  
 UPDATED: OCTOBER 2017  
 UPDATED: FEBRUARY 2019



**SIMPLEX/DUPLEX GRINDER PUMPING STATION**  
NO SCALE

- NOTES:**
1. WIRE CONNECTIONS TO LOAD SIDE OF WATT HOUR METER TO BE ALUMINUM OR COPPER BUT MUST MATCH EXISTING RESIDENCE TO PREVENT DISSIMILAR METAL CONNECTION WITHIN DECO. METER.
  2. USE WEATHER COMPRESSION RING IN BOX CONNECTORS. SET SCREW TYPE ARE UNACCEPTABLE.
  3. VERIFY THAT NEUTRAL CONNECTION OF ALARM AND CONTROL WIRING IS CONNECTED PROPERLY WITHIN STATION ALARM PANEL FOR CORRECT OPERATION.
  4. MHOG OPERATES AND MAINTAINS THE PUMP STATION ALARM PANEL, THE GRINDER PUMP AND PUMP CHAMBER AND THE DISCHARGE LINE FROM THE PUMP TO THE RIGHT-OF-WAY.
  5. THE LOCATION OF THE GRINDER PUMP MUST BE APPROVED BY MHOG PRIOR TO INSTALLATION. THE GRINDER PUMP MUST BE SERVICEABLE (ACCESSIBLE BY TRUCK) AND FREE FROM OBSTRUCTION.
  6. MHOG MUST BE ONSITE FOR STARTUP OF ALL NEW GRINDER PUMPS.



**GREASE INTERCEPTOR 1000 GALLON**  
NO SCALE

ITEM	DESCRIPTION
1	4" PVC INLET PIPE*
2	4"x4"x2" TEE WITH 2" PIPE TO BUILDING VENT*
3	THREADED C/O CAP JOSAM 58860 OR APP EQUAL**
4	CONCRETE PAD
5	4"x4"x4" TWO-WAY CLEANOUT TEE*
6	4" PVC OUTLET*
7	4" - 6" GRAVEL BEDDING
8	HEAVY-DUTY CAST IRON FRAME AND COVER ***
9	CONCRETE ADJUSTMENT RINGS
10	REINFORCE AS REQUIRED FOR SERVICE CONDITIONS
11	4" PVC 90° ELBOW*
12	4" PVC TEE*
13	A-LOK OR PRESS SEAL PSX PIPE/WALL CONNECTOR
14	2" VENT PIPE (IDENTIFY PIPE TYPE, CLASS & JOINT AS REQUIRED FOR PROJECT)
15	STAINLESS STEEL PIPE SUPPORT CLAMP ****

\* 6" PIPE MAY BE SUBSTITUTED TO MATCH UPSTREAM PIPE DIAMETER.  
 \*\* REFER TO CLEAN OUT DETAIL(S) ON STANDARD DETAIL SHEET  
 \*\*\* CLAY & BAILEY 2008 BV OR EQUAL (FROST PROOF COVERS OPTIONAL)  
 \*\*\*\* FM STAINLESS FASTENERS #63 OR EQUAL. 1/2"x2-1/2" SS BRACKET W/ 1/2"x1-1/2" FULLY THREADED SS HEX BOLT WITH 1/2" SS WASHER AND 1/2"x1-3/4" SS ANCHORS. CLAMP TO BE FACTORY INSTALLED.

- NOTES:**
1. THREE COVERS AND RISERS SHOWN. TWO COVERS AND RISERS CENTERED OVER UPPER TWO BAFFLES ARE OPTIONAL.
  2. INTERCEPTOR SIZE - 1000 GAL MINIMUM (REVISE THE SIZE DIMENSIONS, AS NEEDED, FOR LARGER CAPACITY INTERCEPTORS)
  3. ALL JOINTS AT THE FRAME & COVER, CONCRETE ADJUSTMENT RINGS AND THE LID OF THE INTERCEPTOR SHALL BE SEALED WITH A MINIMUM OF TWO (2) ROWS OF 3/4 TO 1 INCH PREFORMED BUTYL JOINT SEALER AND A 6" BUTYL JOINT WRAP AROUND SLEEVE (EZ WRAP). THE ENDS OF THE 6" EZ WRAP SHALL OVERLAP BY 12".
  4. PIPING ON THE INTERIOR OF THE INTERCEPTOR SHALL BE PVC WITH SOLVENT-CEMENTED JOINTS.
  5. GREASE INTERCEPTOR INCLUDING ADJUSTMENT RINGS AND CASTINGS SHALL BE WATER TESTED FOR WATER TIGHTNESS AFTER THE BACKFILL OPERATIONS HAVE BEEN COMPLETED. WATER TESTING SHALL CONSIST OF THE FOLLOWING: 1. SEAL THE TANK, 2. FILL WITH WATER, 3. LET STAND FOR 24 HOURS, 4. REFILL TANK, 5. TANK IS APPROVED IS WATER LEVEL IS HELD FOR 1 HOUR.
  6. ONLY KITCHEN WASTE SHALL BE DIVERTED TO THE GREASE TRAP.



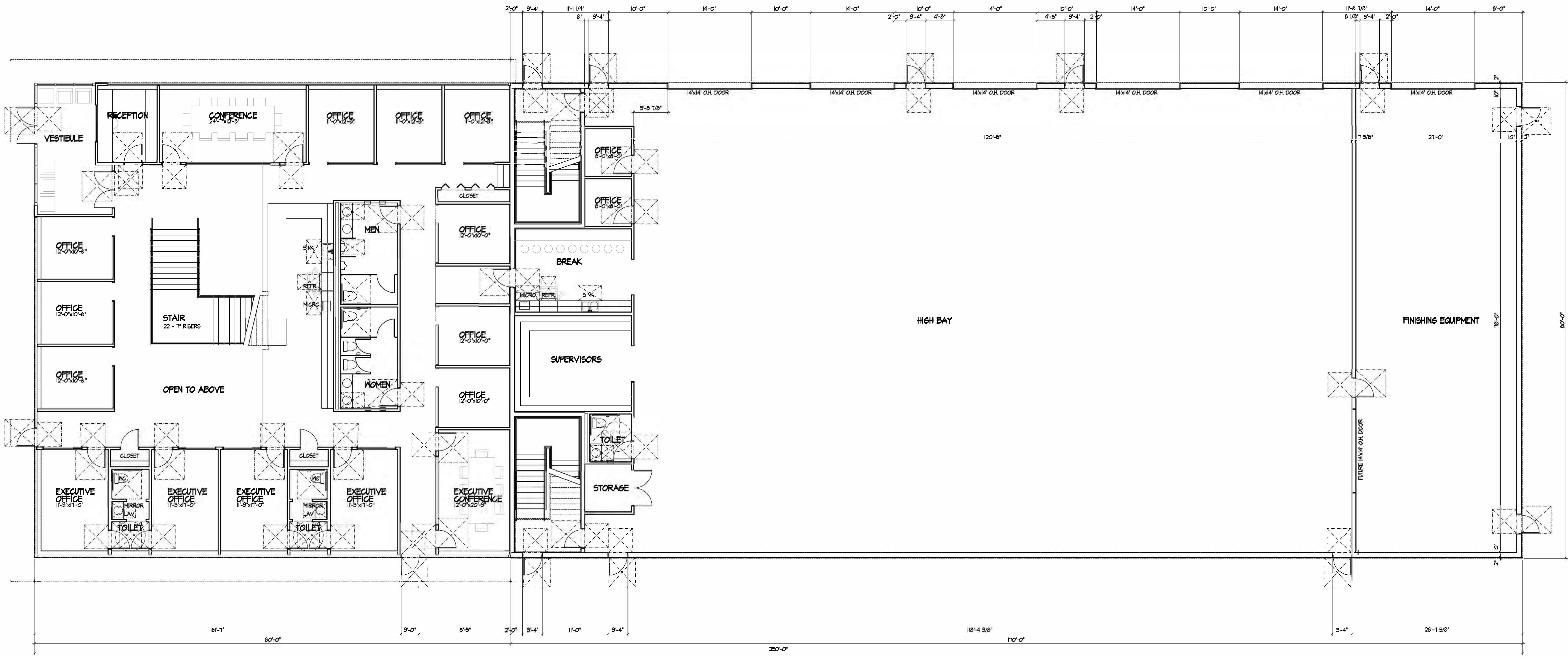
**MARION HOWELLS OCEOLA GENOA**  
Sewer and Water Authority

**STANDARD DETAILS**

Scale: NONE  
 Issued Date: JANUARY - 2014  
 UPDATED: MAY 2015  
 UPDATED: FEBRUARY 2016  
 UPDATED: APRIL 2016  
 UPDATED: OCTOBER 2017  
 UPDATED: FEBRUARY 2019  
 UPDATED: NOVEMBER 2022

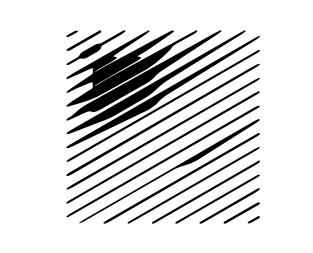
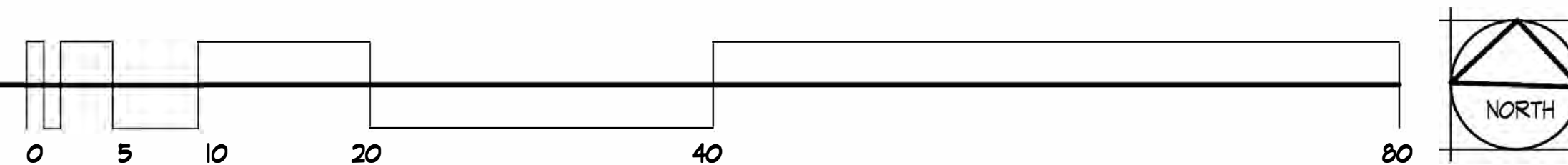
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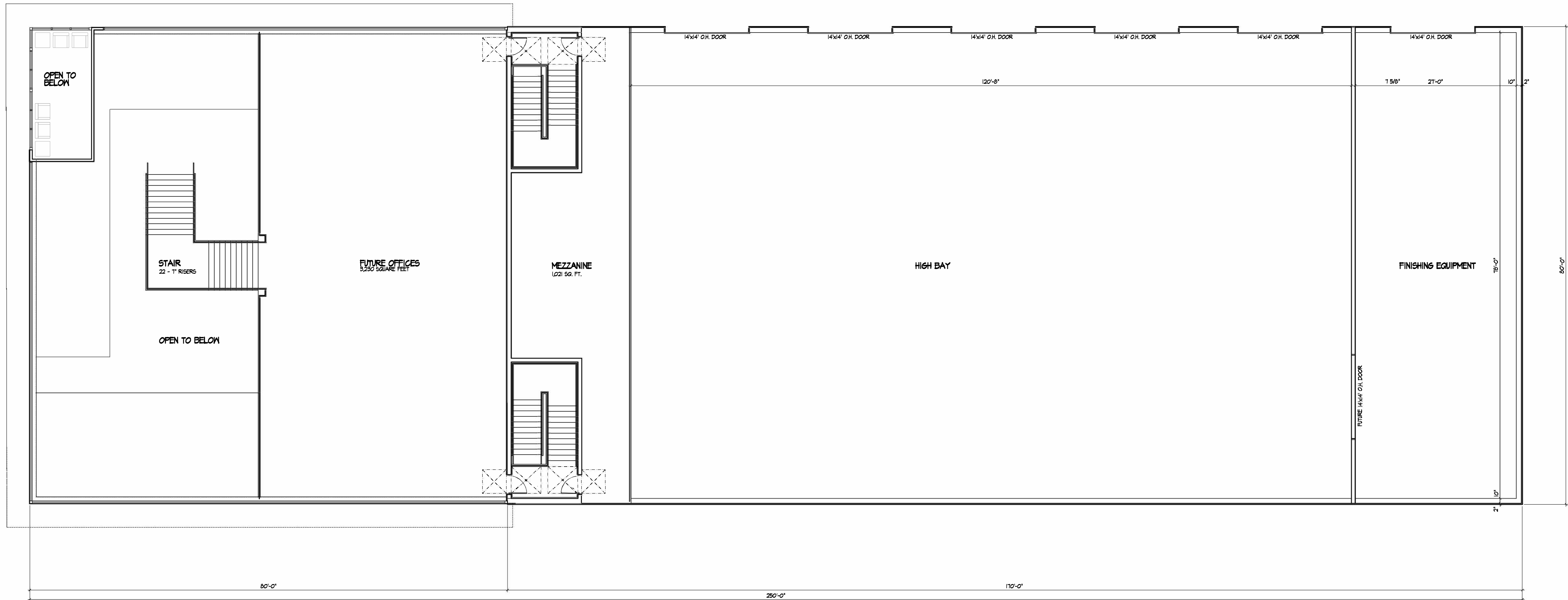




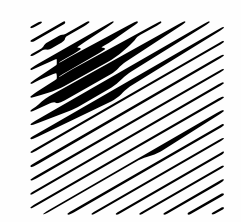
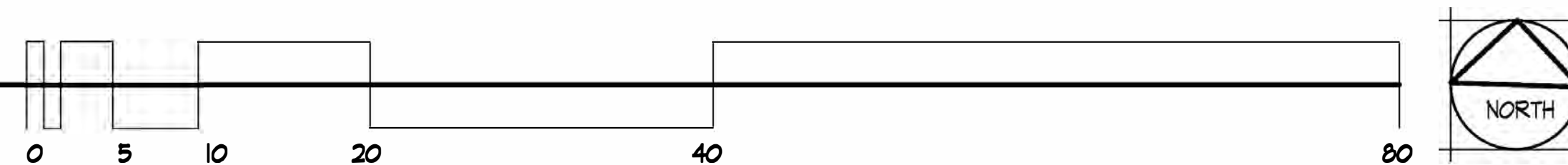
UNIT #1 - MRM CONSTRUCTION  
**PROPOSED LOWER LEVEL PLAN**

SCALE: 1/8" = 1'-0"

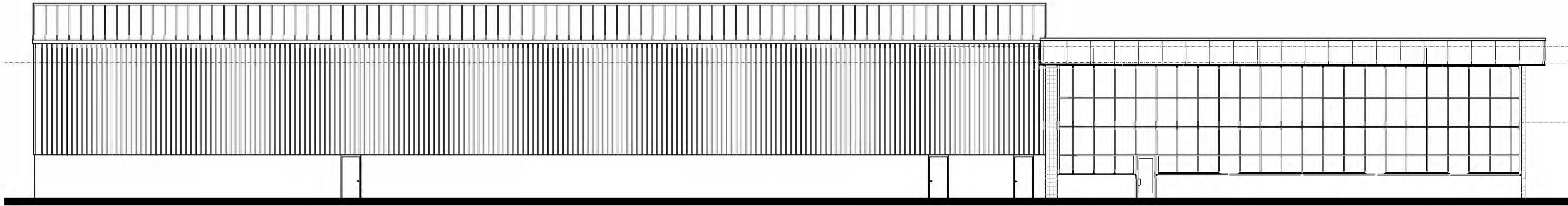




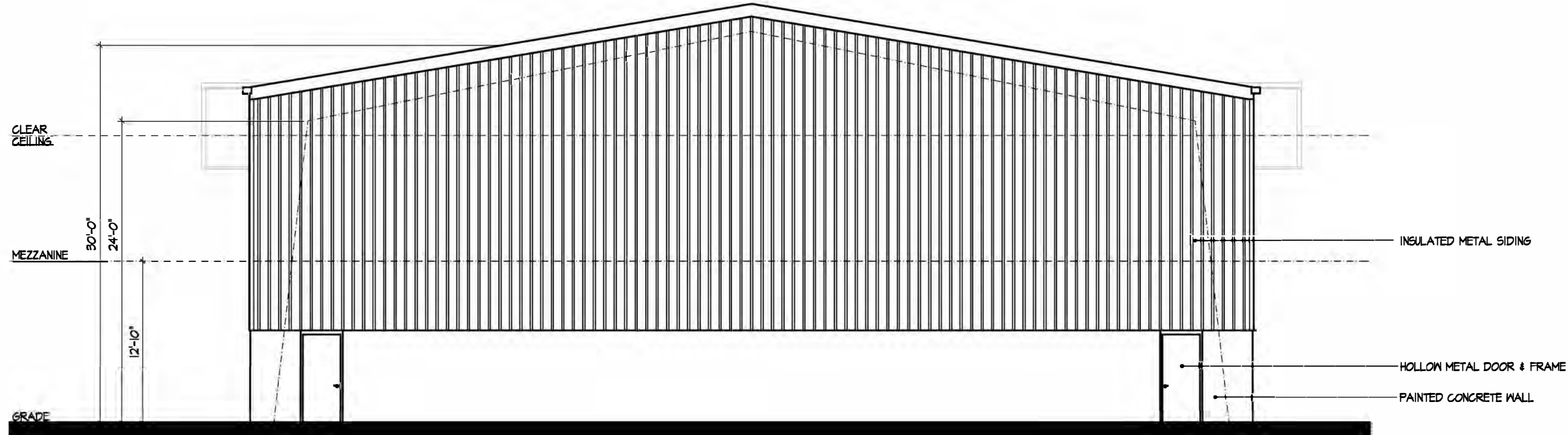
UNIT #1 - MRM CONSTRUCTION  
**PROPOSED UPPER LEVEL PLAN**  
 SCALE: 1/8" = 1'-0"



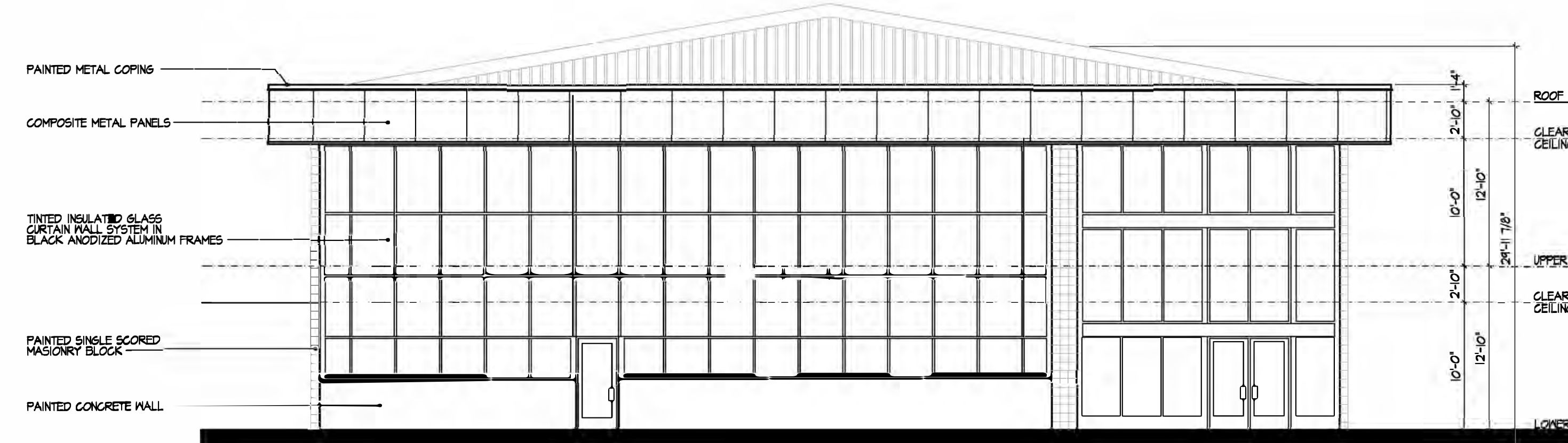




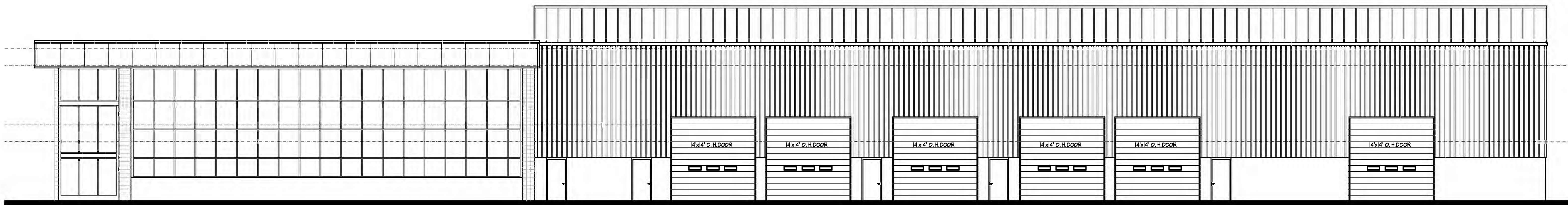
UNIT #2 - MERLO CONSTRUCTION  
**PROPOSED NORTHERN EXTERIOR ELEVATION**  
 SCALE: 1/8" = 1'-0"



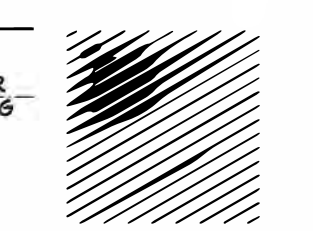
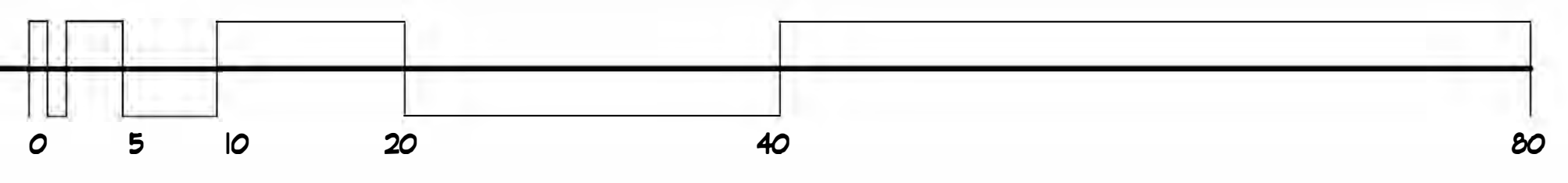
UNIT #2 - MERLO CONSTRUCTION  
**PROPOSED EASTERN EXTERIOR ELEVATION**  
 SCALE: 1/8" = 1'-0"

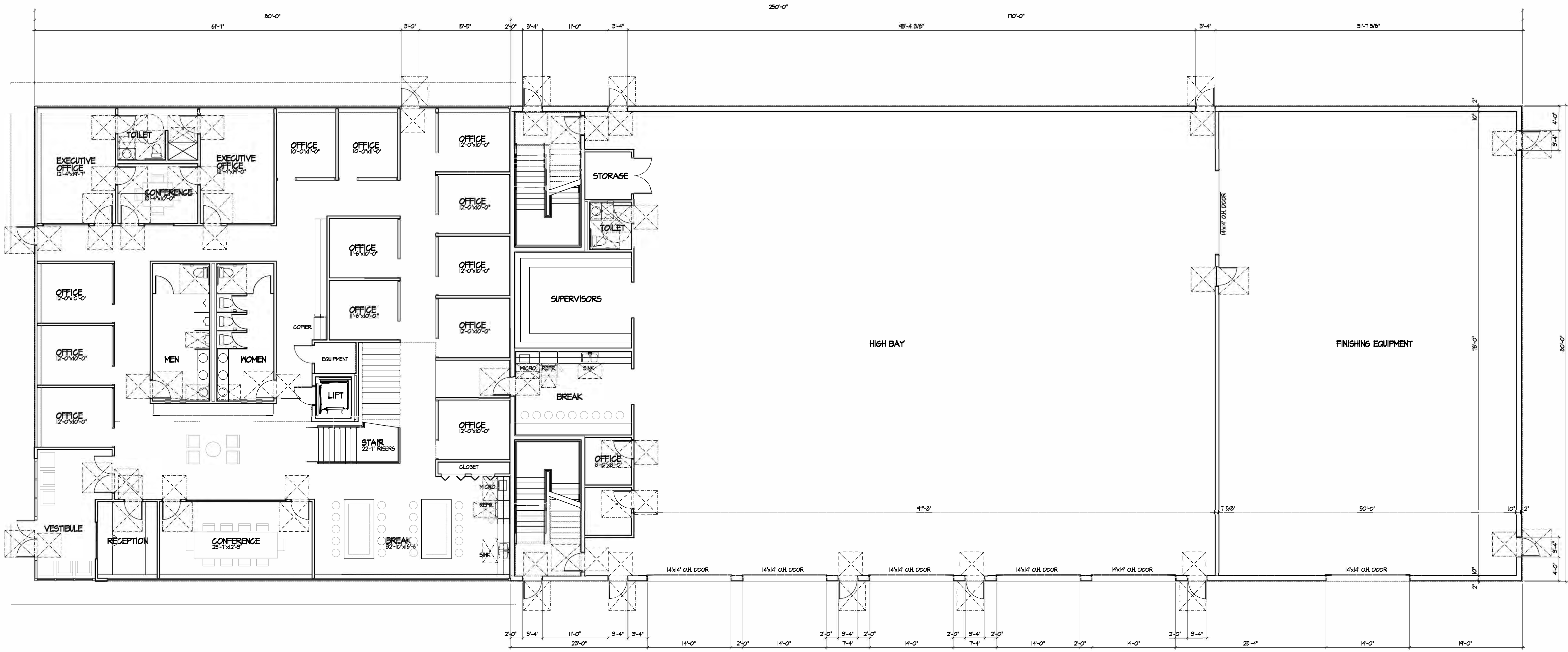


UNIT #2 - MERLO CONSTRUCTION  
**PROPOSED WESTERN EXTERIOR ELEVATION**  
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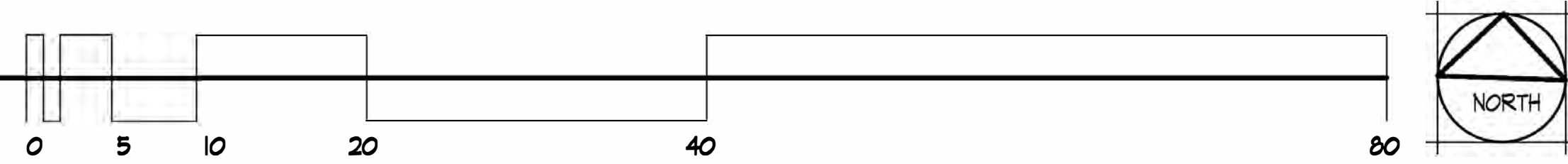


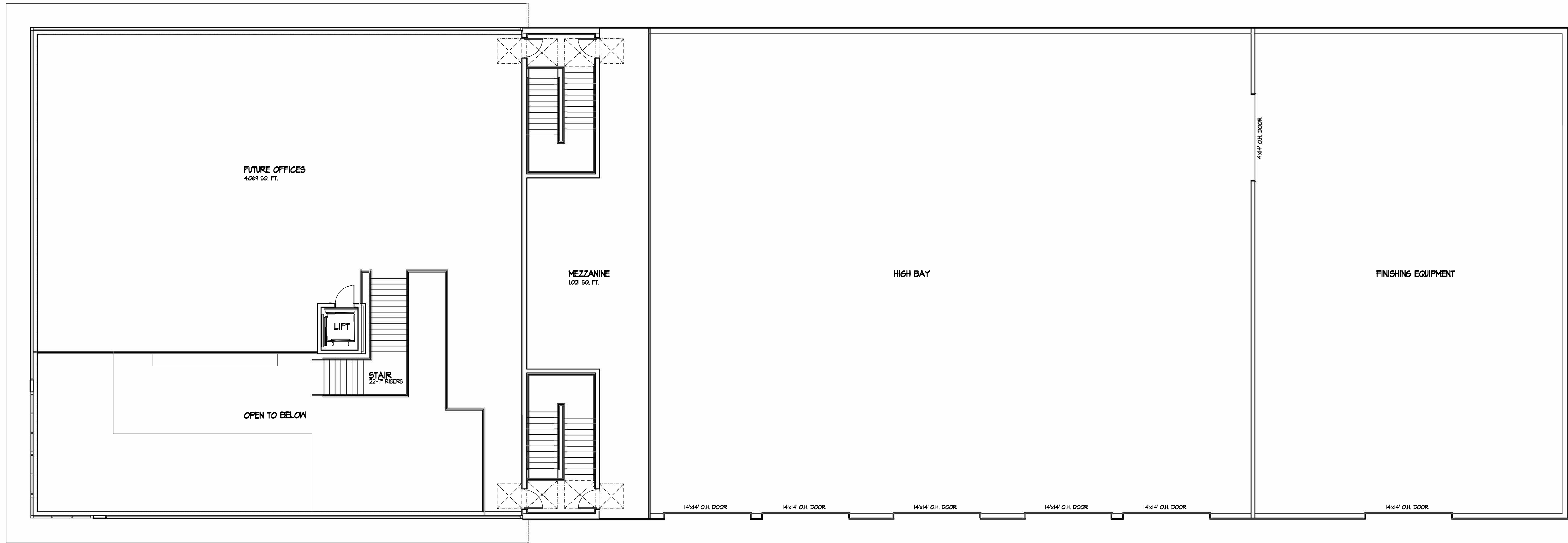
UNIT #2 - MERLO CONSTRUCTION  
**PROPOSED SOUTHERN EXTERIOR ELEVATION**  
 SCALE: 1/8" = 1'-0"



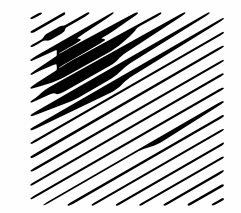
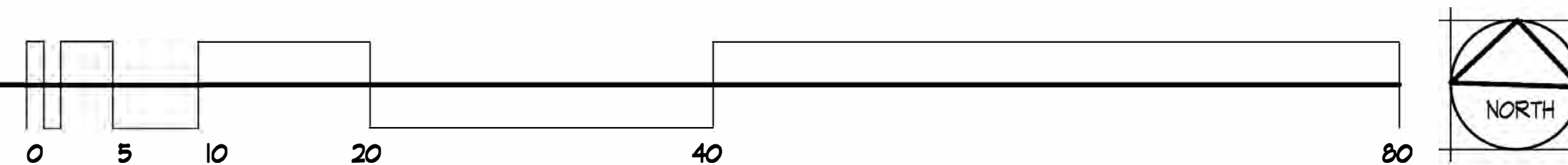


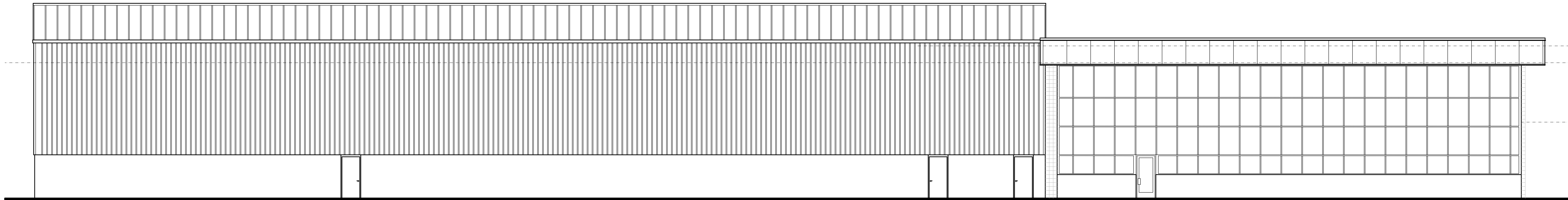
UNIT #2 - MERLO CONSTRUCTION  
**PROPOSED LOWER LEVEL PLAN**  
 SCALE: 1/8" = 1'-0"



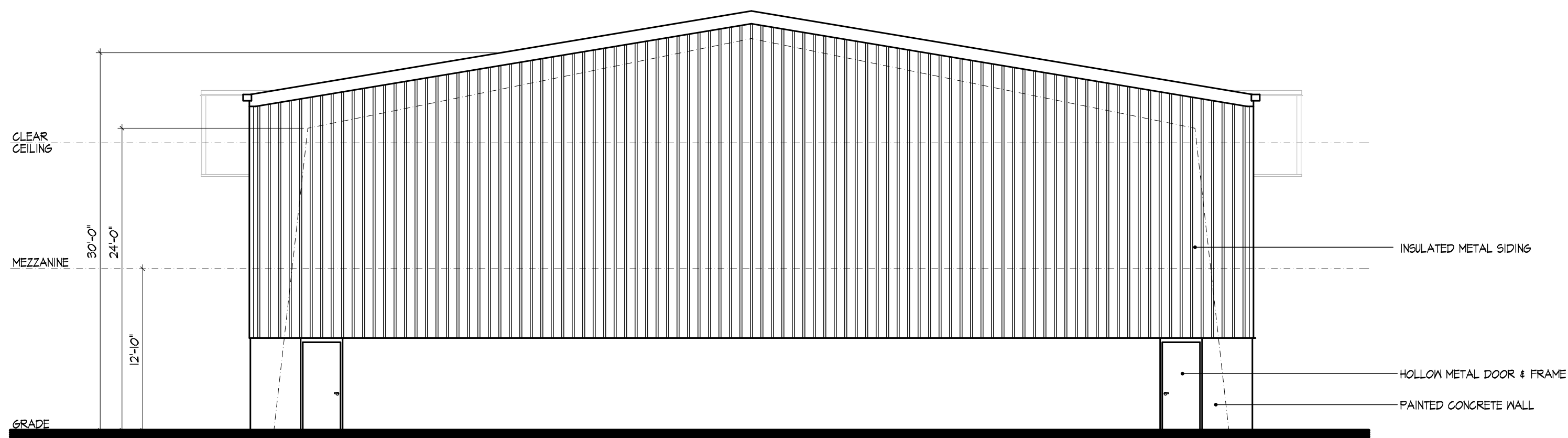


UNIT #2 - MERLO CONSTRUCTION  
**PROPOSED LOWER LEVEL PLAN**  
 SCALE: 1/8" = 1'-0"

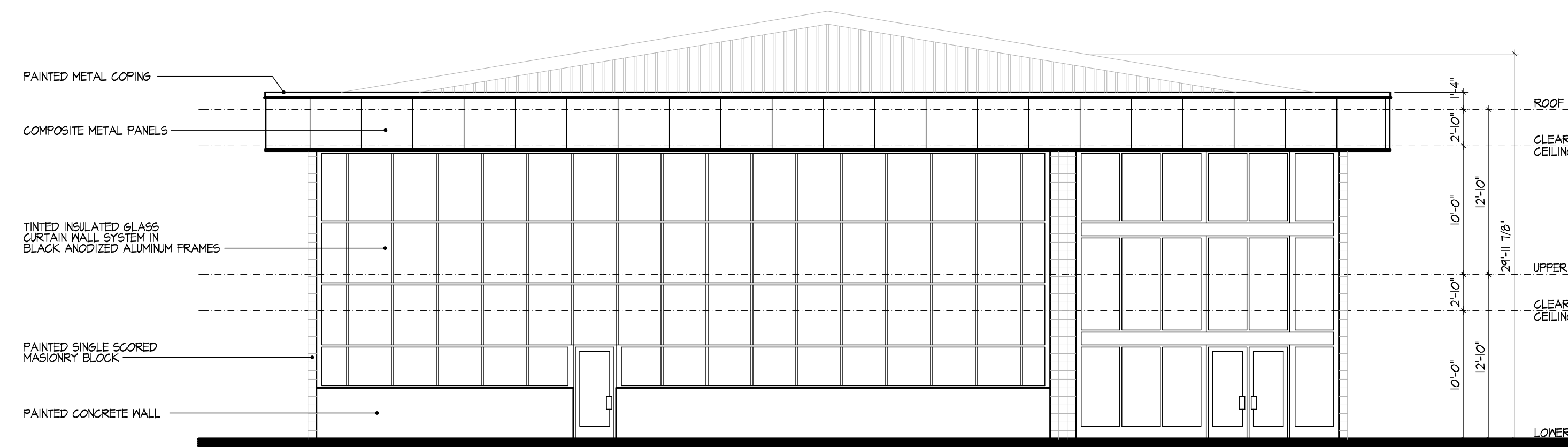




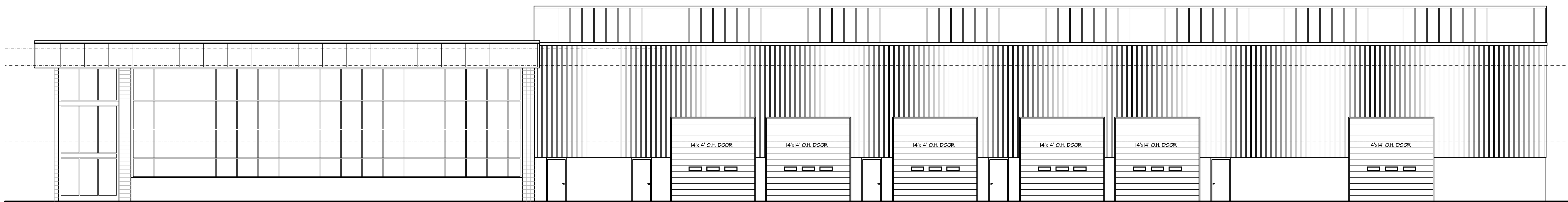
UNIT #2 - MERLO CONSTRUCTION  
**PROPOSED NORTHERN EXTERIOR ELEVATION**  
 SCALE: 1/8" = 1'-0"



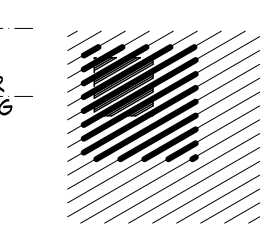
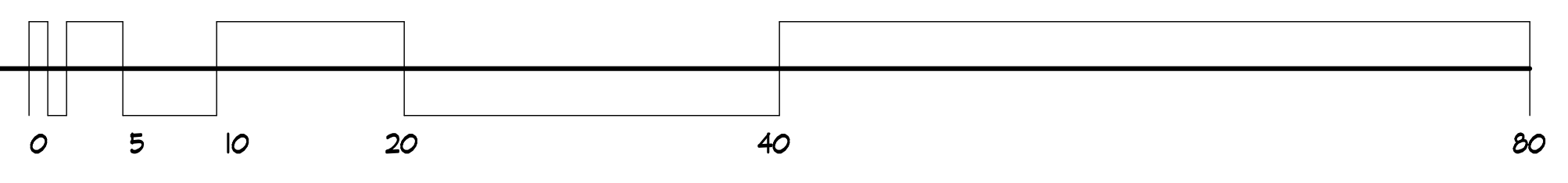
UNIT #2 - MERLO CONSTRUCTION  
**PROPOSED EASTERN EXTERIOR ELEVATION**  
 SCALE: 1/8" = 1'-0"



UNIT #2 - MERLO CONSTRUCTION  
**PROPOSED WESTERN EXTERIOR ELEVATION**  
 SCALE: 1/8" = 1'-0"



UNIT #2 - MERLO CONSTRUCTION  
**PROPOSED SOUTHERN EXTERIOR ELEVATION**  
 SCALE: 1/8" = 1'-0"



# ELEVATION MATERIAL SUMMARY

## 4M GENOA L.L.C.

FRONT W/ SHOP MATERIAL	2,456.841 TOTAL SQ.FT.		ALLOWED	DIFFERENCE	REMARKS
	AREA	%			
SHOP END WALL METAL	239.612	9.75%			
COMPOSITE METAL PANELS	401.479	16.34%			
TOTAL OF ALL METAL	641.091	26.09%	25.00%	1.09%	OVER
GLASS WINDOWS & DOORS	1,525.695	62.10%	75.00%	-12.90%	
MASONRY BLOCK	74.721	3.04%	100.00%	-96.96%	
DECORATIVE CONCRETE WALL	215.334	8.76%	25.00%	-16.24%	
	<b>2,456.841</b>	<b>1.000</b>			

FRONT W/O SHOP MATERIAL	2,217.229 TOTAL SQ.FT.		ALLOWED	DIFFERENCE	REMARKS
	AREA	%			
COMPOSITE METAL PANELS	401.479	18.11%	25.00%	-6.89%	
GLASS WINDOWS & DOORS	1,525.695	68.81%	75.00%	-6.19%	
MASONRY BLOCK	74.721	3.37%	100.00%	-96.63%	
DECORATIVE CONCRETE WALL	215.334	9.71%	25.00%	-15.29%	
	<b>2,217.229</b>	<b>100.00%</b>			

SIDE MATERIAL	2,196.946 TOTAL SQ.FT.		ALLOWED	DIFFERENCE	REMARKS
	AREA	%			
COMPOSITE METAL PANELS	388.668	17.69%	25.00%	-7.31%	
MASONRY BLOCK	104.610	4.76%	100.00%	-95.24%	
GLASS WINDOWS & DOORS	1,440.334	65.56%	75.00%	-9.44%	
DECORATIVE CONCRETE WALL	263.333	11.99%	25.00%	-13.01%	
	<b>2,196.945</b>	<b>1.000</b>			



# GENOA CHARTER TOWNSHIP APPLICATION

## Sketch Plan Review

**TO THE GENOA TOWNSHIP PLANNING COMMISSION:**

APPLICANT NAME & ADDRESS: Asselin, McLane Architectural Group, LLC 4488 W. Bristol Road, Flint, MI 48507  
*If applicant is not the owner, a letter of Authorization from Property Owner is needed.*

OWNER'S NAME & ADDRESS: Michigan Rod Products, Inc., 1326 Grand Oaks Dr., Howell, mi 48843

SITE ADDRESS: 1326 Grand Oaks Dr., Howell, MI 48843 PARCEL #(s): 4711-08-100-011

APPLICANT PHONE: (810 )230-9311 OWNER PHONE: ( 517 ) 552-9812

LOCATION AND BRIEF DESCRIPTION OF SITE: \_\_\_\_\_

West side of Grand Oaks Drive wooded 20 acre parcel with existing building, between Grand River Avenue and I-96

BRIEF STATEMENT OF PROPOSED USE: \_\_\_\_\_

Fabrication of steel components for automotive industry (manufacturing)

THE FOLLOWING IMPROVEMENTS ARE PROPOSED: \_\_\_\_\_

1,704 sq. ft. addition

**I HEREBY CERTIFY THAT ALL INFORMATION AND DATA ATTACHED TO AND MADE PART OF THIS APPLICATION IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.**

BY: Raymond L. Embach IV (AMAG)

ADDRESS: 4488 W. Bristol Rd., Flint, MI 48507

**Contact Information** - Review Letters and Correspondence shall be forwarded to the following:

1.) Raymond L. Embach IV of Asselin, McLane Architectural Group at rembach@amagarch.com  
Name Business Affiliation Email Address

**FEE EXCEEDANCE AGREEMENT**

All sketch plans are allocated one (1) consultant review and one (1) Planning Commission meeting. If additional reviews or meetings are necessary, the applicant will be required to pay the actual incurred costs for the additional reviews. If applicable, additional review fee payment will be required concurrent with submittal for a Land Use Permit. By signing below, applicant indicates agreement and full understanding of this policy.

SIGNATURE: Raymond L. Embach IV DATE: 11/29/2023  
PRINT NAME: Raymond L Embach IV PHONE: 810-230-9311

January 2, 2024

Planning Commission  
 Genoa Township  
 2911 Dorr Road  
 Brighton, Michigan 48116

<b>Attention:</b>	Amy Ruthig, Planning Director
<b>Subject:</b>	Michigan Rod Products – Sketch Plan Review #1
<b>Location:</b>	1326 Grand Oaks Drive – west side of Grand Oaks, south of Cleary Drive
<b>Zoning:</b>	IND Industrial District

Dear Commissioners:

At the Township’s request, we have reviewed the sketch plan submittal from Michigan Rod Products (dated 11/28/23) for expansion of the existing industrial building at 1326 Grand Oaks Drive.

**A. Summary**

1. The applicant should be prepared to present building material and color samples to the Commission.
2. If there is a significant increase and/or any parking issues have been documented for this site, the Township may require construction of some or all of the land-banked parking.
3. If there are landscaping deficiencies from the previously approved plan, or if required plantings are dead/diseased, the Township may require improvements/replacement plantings as part of this project.
4. If new lighting is proposed as part of this project, the applicant must provide details in accordance with Section 12.03.
5. The applicant must address any concerns raised by the Township Engineer or Brighton Area Fire Authority.

**B. Proposal/Process**

The applicant proposes a 1,704 square foot addition on the north side of the existing industrial building.

Given the scope of the proposal, Article 18 of the Township Zoning Ordinance allows the project to go through the sketch plan review process (as opposed to a full site plan review).

Procedurally, the Planning Commission has review and approval authority over sketch plans.

**C. Sketch Plan Review**

1. **Dimensional Requirements.** As shown in the table below, the existing and proposed conditions comply with the dimensional requirements of the IND:

	Min. Lot Req.		Minimum Yard Setbacks (feet)				Lot Coverage Ratio	Bldg. Height
	Area (acres)	Width (feet)	Front Yard	Side Yard	Rear Yard	Parking Lot	Max.	Max.
<b>IND</b>	1	150	85	25	40	20 front 10 side/rear	40% building 85% impervious	30'
<b>Proposal</b>	20	650	195	50 (S) 315 (N)	275	115 front 45 side	20% building 32% impervious	23.5'



*Aerial view of site and surroundings (looking north)*

- 2. Building Materials and Design.** The proposed addition is comprised of metal siding and a scored block base.

Details note that materials will match the existing building.

We request the applicant present material and color samples to the Commission for their consideration as part of this review.

- 3. Parking.** The site provides 132 parking spaces. An additional 152 spaces were land banked as part of previous site/sketch plan approvals.

Similar to previous discussions on this site, if there is a significant increase and/or any parking issues have been documented for this site, the Township may require construction of some or all of the land-banked parking.

However, if the current amount of parking remains sufficient for the anticipated employee count, the land-banked parking plan may remain in place.

- 4. Landscaping.** The plan does not identify any new landscaping.

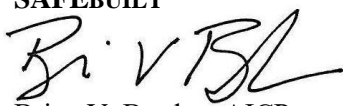
If there are landscaping deficiencies from the previously approved plan, or if required plantings are dead/diseased, the Township may require improvements/replacement plantings as part of this project.

- 5. Exterior Lighting.** The plan does not identify any new exterior site lighting.

If new lighting is proposed as part of this project, the applicant must provide details in accordance with Section 12.03.

Should you have any questions concerning this matter, please do not hesitate to contact our office.

Respectfully,  
**SAFE BUILT**

  
Brian V. Borden, AICP  
Michigan Planning Manager





January 2, 2023

Ms. Amy Ruthig  
Genoa Township  
2911 Dorr Road  
Brighton, MI 48116

**Re: Michigan Rod Addition  
Site Plan Review No. 1**

Dear Ms. Ruthig:

Tetra Tech conducted a review of the proposed Michigan Rod Addition site plan last dated November 28, 2023. The plan was prepared by Asselin, McLane Architectural Group, LLC on behalf of Michigan Rod Products, Inc. The site is located on the west side of Grand Oaks Drive, approximately 1,300 feet south of Cleary Drive. The Petitioner is proposing a 1,704 square foot addition to the existing 166,466 square foot building.

We offer the following comments for your consideration:

**GENERAL**

1. The proposed building addition appears to overlap with the existing fire lane. Rerouting of the fire lane around the addition should be shown more clearly on the site plan.
2. Approval from the Brighton Area Fire Authority should be obtained and provided to the Township prior to sketch plan approval. The existing building does not appear to be completely within a 500-foot hydrant coverage radius.
3. The existing water main and hydrant to the north of the building should be clearly labeled.

**DRAINAGE AND GRADING**

1. The site plan shows 2,888 square feet of added impervious surface but does not include any detail on what type of surface is proposed. The site plan should call out if any new gravel or pavement is proposed and should provide a cross section of the proposed surface.

We recommend the petitioner address the above comments and resubmit for additional review. Please call or email if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads 'Shelby Bytne'.

Shelby Bytne, P.E.  
Project Engineer



# BRIGHTON AREA FIRE AUTHORITY

615 W. Grand River Ave.  
Brighton, MI 48116  
o: 810-229-6640 f: 810-229-1619

December 22, 2023

Amy Ruthig  
Genoa Township  
2911 Dorr Road  
Brighton, MI 48116

RE: Michigan Rod Products addition  
1326 Grand Oaks Dr.  
Genoa Twp., MI

Dear Amy,

The Brighton Area Fire Department has reviewed the above-mentioned site plan. The plans were received for review on November 30, 2023 and the drawings are dated November 28, 2023. The project is based on an existing 168,170 square foot IIB industrial facility located on 19.988-acres, that is proposing a new 1,704 square foot addition. The plan review is based on the requirements of the International Fire Code (IFC) 2021 edition.

1. In 2019 the following recommendation was made, *"It should also be noted that it is the recommendation of the fire authority that the water main be extended an additional 450-feet along the drive and a new fire hydrant be placed across from the new addition in lieu of the wall hydrant. This will also provide water main for any future expansion or additional structures on the site."* This facility is at the point that municipal water extension must be completed for fire protection.
2. The addition shall be provided with an automatic sprinkler system in accordance with NFPA 13, *Standard for the Installation of Automatic Sprinkler Systems*.
3. The Northwest corner of the proposed addition overlaps the existing access drive. The access drive needs to be reconfigured and reconstructed to not be infringed upon by the addition.

**IFC 903**

Additional comments will be given during the building plan review process (specific to the building plans and occupancy). The applicant is reminded that the fire authority must review the fire protection systems submittals (sprinkler & alarm) prior to permit issuance by the Building Department and that the authority will also review the building plans for life safety requirements in conjunction with the Building Department.

If you have any questions about the comments on this plan review please contact me at 810-229-6640.

Cordially,

A handwritten signature in black ink, appearing to read "R. Boisvert".

Rick Boisvert, CFPS  
Fire Marshal

cc: Amy Ruthig [amy@genoa.org](mailto:amy@genoa.org)



# Livingston County Drain Commissioners Office

## Soil Erosion and Sedimentation Control (SESC) Division

Under the Provisions of Part 91 of Act 451 as Amended,  
and the Livingston County SESC Ordinance

2300 E. Grand River Ave., Suite 105, Howell, MI 48843  
Phone: 517-546-0040 Website: [www.livgov.com/drain](http://www.livgov.com/drain) E-mail: [drain@livgov.com](mailto:drain@livgov.com)

### COMMERCIAL SESC COMPLETION CERTIFICATION

In reference to: Michigan Rod Products Development/Project  
Project Name

Soil Erosion/Sediment Control Permit Number: SOI20 16 - 00697 in the

Township/City/Village of Genoa Twp. in Section: 8 in Livingston County, MI.

I, hereby, certify that the construction of the above stated project is complete and in accordance with the approved plans and specifications as filed with the Livingston County Drain Commissioner's Office, including the following:

1. Any storm drainage systems installed are in accordance with the approved plans and specifications and that the site is in compliance with the storm water detention/retention and drainage requirements as set by the Livingston County Drain Commissioner's Office.
2. The site has been stabilized in compliance with the requirements of Part 91 of Act 451, as amended.
3. The detention/retention basin/s, after construction was completed and the site was stabilized, contains the designed volume/s of 95,322 cubic feet, verified by survey, as shown on the approved plans or As-builts.

**Note:** As-Builts are required for all publicly maintained projects (433 Agreement is required), and for any project where changes were made to the approved plans during construction.



Registered Professional Engineer:

Christopher Brzezinski  
Print name

Signature: [Handwritten Signature]

Date: 7/21/2017, 20\_\_

### FOR THE RELEASE OF THE BOND AND COMPLETION OF THE COMMERCIAL SOIL EROSION CONTROL AND SEDIMENT CONTROL PERMIT.

#### THE FOLLOWING ITEMS ARE REQUIRED, IF REQUESTED BY THIS OFFICE:

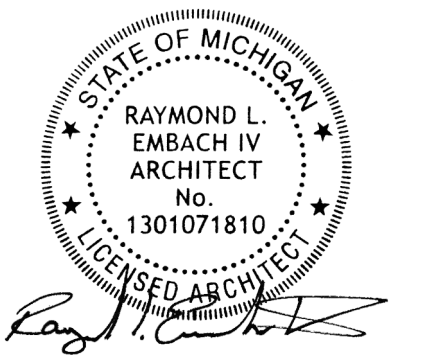
- ✓ All fees must be paid in full. An invoice will be issued from the Livingston County Drain Commissioner's Office once the inspector acknowledges the project is ready to final.
- ✓ This Certification form completed by the engineer stating that the project, including the storm drainage system, has been completed in accordance with the approved plans and permit requirements, and that the site has been re-stabilized.
- ✓ Certification from the engineer that the storm drainage structures and lines are clean, or receipts showing that the storm drainage structures and lines have been cleaned after the construction was completed and the site was re-stabilized.

Proposed Addition for:

# Michigan Rod Products 2023

1326 Grand Oaks Drive, Genoa Township, Livingston Co. MI

11-29-23  
FOR SKETCH PLAN REVIEW



Project Addition for:  
**Michigan Rod Products 2023**  
1326 Grand Oaks Drive, Genoa Township, Livingston Co. MI

Project Phase:  
Design   
Permit   
Construction

Date: 11-29-23

Rev. Description  
1 SKETCH PLAN

Project # 2354  
Drawn by: jja  
Checked by: rfe

COVER SHEET

CVR

## PROJECT TEAM

**OWNER:**  
MICHIGAN ROD PRODUCTS, INC.  
1326 GRAND OAKS DRIVE, HOWELL, MI 48843  
PHONE: (517) 552-9812

**ARCHITECT:**  
AMAG, LLC  
4488 WEST BRISTOL ROAD, FLINT, MI 48507  
PHONE: (810) 230-9311

**CONTRACTOR:**  
RHODADS & JOHNSON CONSTRUCTION  
285 N ALLOW DRIVE, FENTON, MI 48430  
PHONE: (810) 750-7630

## CODE INFORMATION

**CODE ENFORCED:** MICHIGAN BUILDING CODE 2015  
MICHIGAN FIRE CODE 2015  
MICHIGAN PLUMBING CODE 2015  
MICHIGAN MECHANICAL CODE 2015  
MICHIGAN ELECTRICAL CODE 2017  
NATIONAL ELECTRICAL CODE 2014

**USE GROUP:** F-2 W/ ACCESSORY USE

**USE SEPARATION:** N/A

**CONSTRUCTION TYPE:** IIB (602.4 & TABLE 601)

**FIRE PROTECTION:** FULLY SUPPRESSED

**BLDG. HEIGHT & AREA:** F-2  
AREA ALLOWED = UNLIMITED (SECTION 507.3)  
PROVIDED = EXISTING: 166,466 +/- S.F.  
NEW: 1,704 S.F.  
TOTAL: 168,170 +/- S.F.

ALLOWED HEIGHT = 75'-0" (TABLE 504.3)  
PROVIDED = 23'-6" +/- (EXISTING)

ALLOWED STORIES ABOVE GRADE = 4 (TABLE 504.4)  
PROVIDED = 1

**OCCUPANT LOAD:** PER TABLE 1004.1.2  
B USE  
8,000 / 100 = 80  
F-2 USE  
160,170 / 100 = 1601  
OVERALL TOTAL OCCUPANT LOAD = 1881

**ACCESSIBILITY:** ACCESSIBLE ROUTES: SEE PLAN

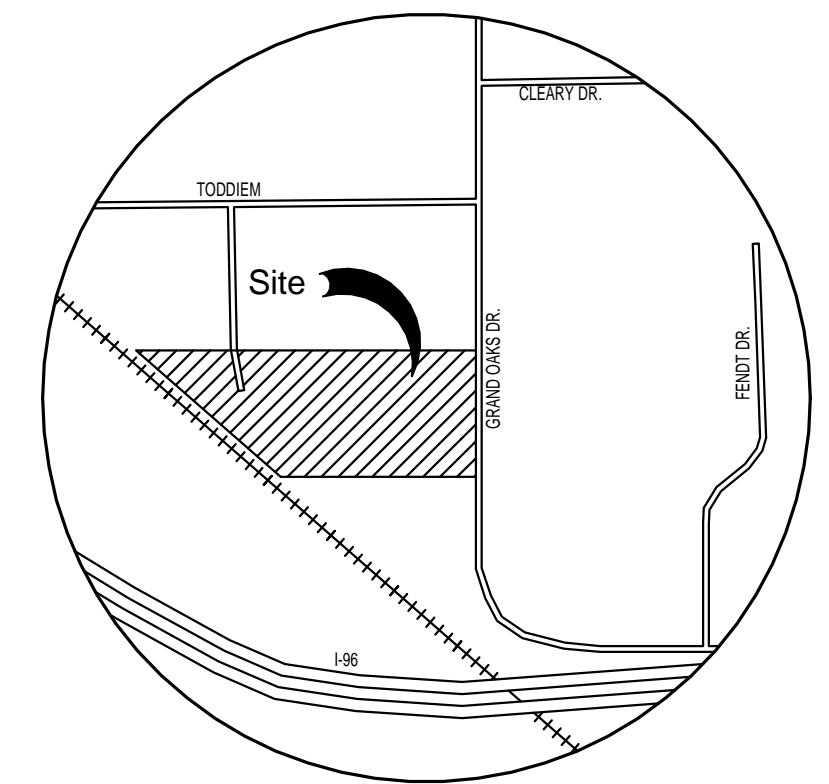
**EGRESS:** COMMON PATH OF TRAVEL: (TABLE 1006.2.1)  
B = 100 FEET  
F-2 = 100 FEET  
MAXIMUM TRAVEL DISTANCE (TABLE 1017.2)  
F-2 = 400 FEET  
B = 300 FEET  
NUMBER OF EXITS REQUIRED (TABLE 1006.3.1)  
B USE:  
REQUIRED = 2  
PROVIDED = 2  
F-2 USE:  
REQUIRED = 3  
PROVIDED = 11  
EGRESS WIDTH (1005.1)  
B USE:  
REQUIRED: 80 (0.2) = 16.0' REQUIRED  
PROVIDED: 72'  
F-2 USE:  
REQUIRED: 1601 (0.2) = 320.2' REQUIRED  
PROVIDED: 396'

**PLUMBING FIXTURES:** EXISTING TO REMAIN  
(NO NEW FIXTURES REQUIRED OR PROVIDED)  
WATER CLOSETS PROVIDED = 8  
LAVATORIES PROVIDED = 8  
DRINKING FOUNTAINS PROVIDED = 1  
SERVICE SINK PROVIDED = 1  
TOTAL WATER CLOSET OCCUPANT CAPACITY = 800  
TOTAL LAVATORY OCCUPANT CAPACITY = 800  
TOTAL DRINKING FOUNTAIN OCCUPANT CAPACITY = 400  
ACTUAL OCCUPANT LOAD FOR FIXTURE COUNT = 120 PERSONS

**OCCUPANCY NOTE:**  
DUE TO THE NATURE OF THIS BUSINESS, WITH MANY LARGE PRODUCTION MACHINES THE ACTUAL OCCUPANT LOAD OF THE BUILDING (NUMBER OF EMPLOYEES ON THE LARGEST WORKING SHIFT) FOR WHICH PLUMBING FIXTURES MUST BE PROVIDED IS LESS THAN 60 PERSONS AND AT NO TIME WOULD EXCEED 120 PERSONS.  
A SIGNED & NOTARIZED OWNER AFFIDAVIT WITH THE NOTED MAXIMUM BUILDING OCCUPANTS WAS PROVIDED TO LIVINGSTON COUNTY AUGUST 19, 2016



## VICINITY MAP



LOCATION MAP  
SCALE: N.T.S.

## LEGAL DESCRIPTION

SEC 8 T2N R5E, COMM N 1/4 COR, TH S 87°12'58"W 496.99 FT, TH S 02°06'23"E 739.81 FT TO POB, TH S 02°06'23"E 650.12 FT, TH S 88°02'55"W 989 FT, TH N 49°45'12"W 967.88 FT, TH N 69°08'E 1702.61 FT TO POB 20 AC ML 1984 SPLIT FR 001

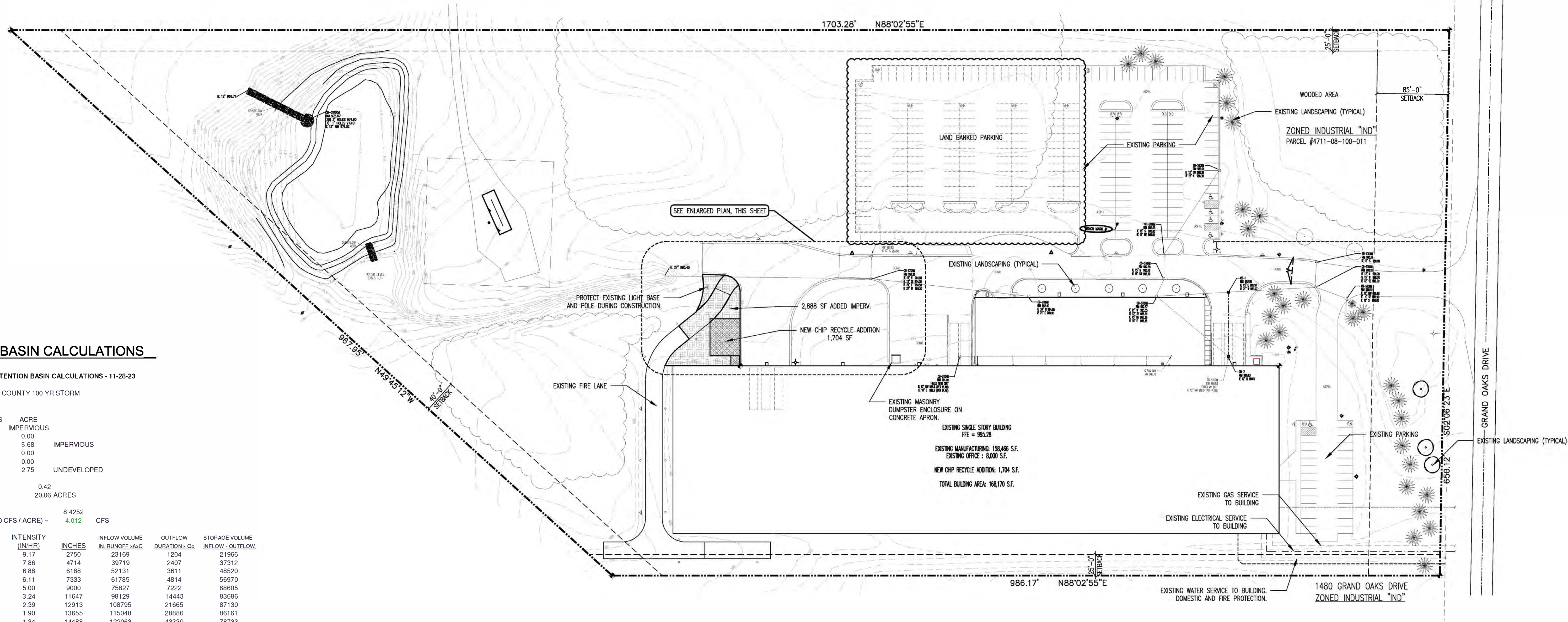
## SCHEDULE OF DRAWINGS

Shl. No.	Sheet Name	Date	Rev.
CVR	COVER SHEET	11-28-23	1
C101	SITE PLAN	11-29-23	1
C102	SOIL EROSION PLAN	11-29-23	1
A101	FLOOR PLAN	11-28-23	1
A201	ELEVATIONS	11-28-23	1

## SYMBOL LEGEND

	SECTION REFERENCE		DOOR NUMBER
	DETAIL REFERENCE		SPOT ELEVATION
	EXTERIOR ELEVATION		DATUM
	INTERIOR ELEVATION		NORTH ARROW
	CALLOUT REFERENCE		KEYNOTE
	ROOM NAME / NUMBER		MATERIAL KEYNOTE





**DETENTION BASIN CALCULATIONS**

MICHIGAN ROD DETENTION BASIN CALCULATIONS - 11-28-23  
LIVINGSTON COUNTY 100 YR STORM

AREA (AC)	IMPERVIOUS FACTOR	ACRE IMPERVIOUS	
0.00	0	0.00	
6.32	0.9	5.68	IMPERVIOUS
0.00	0	0.00	
0.00	0	0.00	
13.74	0.2	2.75	UNDEVELOPED

COMPOUND C: 0.42  
TOTAL DRAINAGE AREA: 20.06 ACRES

K1 = AxC (Design Constant) = 8.4252  
Qa = MAX ALLOW OUT (0.20 CFS / ACRE) = 4.012 CFS

DURATION (MIN)	DURATION (SEC)	INTENSITY (IN/HR)	INCHES	INFLOW VOLUME IN RUNOFF x AxC	OUTFLOW DURATION x Qa	STORAGE VOLUME INFLOW - OUTFLOW
5	300	9.17	2750	23169	1204	21966
10	600	7.86	4714	39719	2407	37312
15	900	6.88	6188	52131	3611	48520
20	1200	6.11	7333	61785	4814	56970
30	1800	5.00	9000	75927	7222	68605
60	3600	3.24	11647	98129	14443	83686
90	5400	2.39	12913	108795	21665	87130
120	7200	1.90	13655	115048	28886	86161
180	10800	1.34	14488	122063	43330	78733

REQUIRED 100 YEAR DETENTION VOLUME 87130 CF

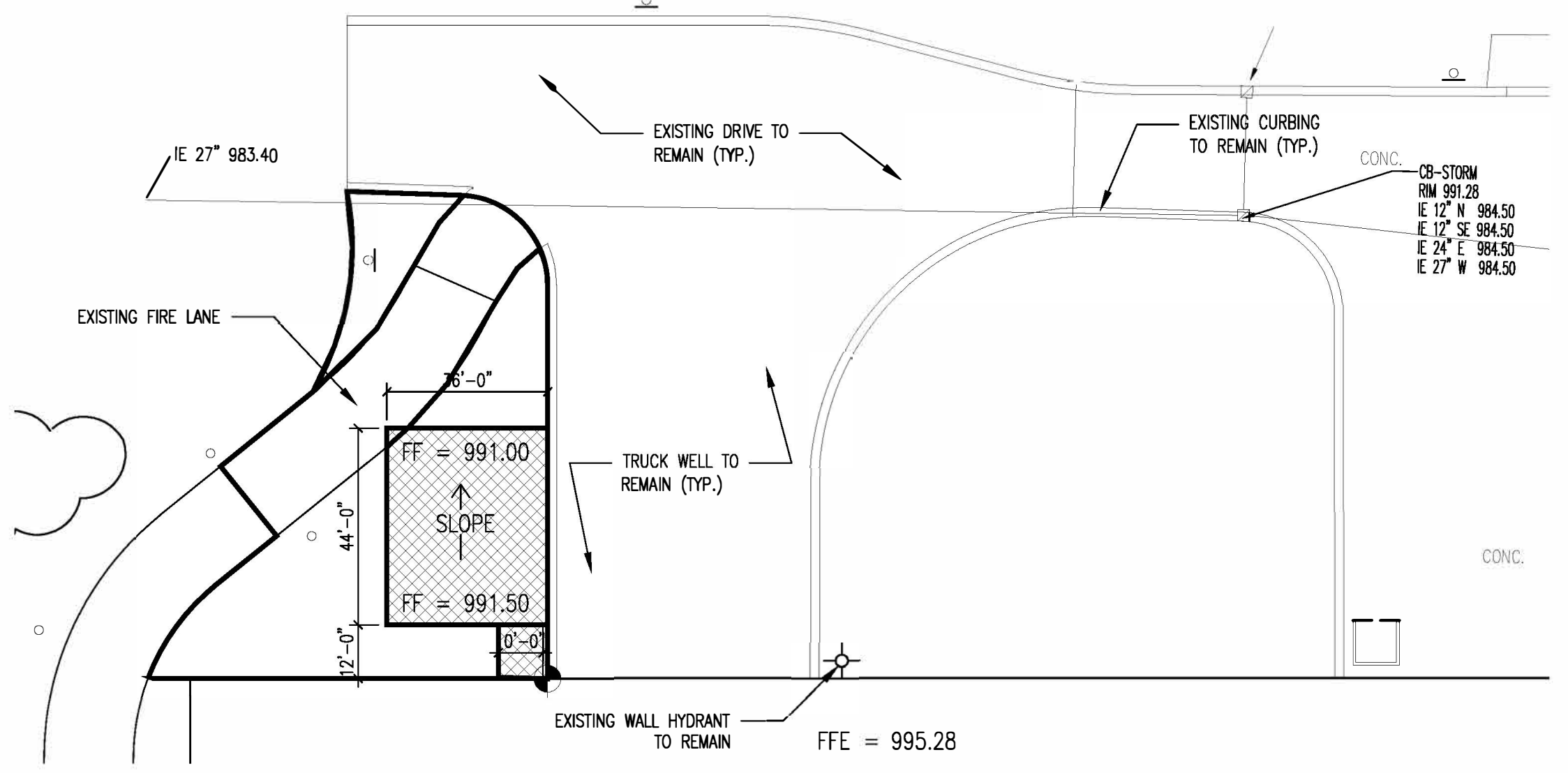
PROVIDED DETENTION VOLUME = 95,722 CF (PER SECC COMPLETION CERTIFICATE DATED 07-21-17)  
INCREASE IN IMPERVIOUS AREA = 2,888 SF

**GENERAL NOTES**

- DO NOT SCALE DRAWINGS!!! ALL NECESSITY DIMENSIONS ARE GIVEN. SHOULD ANY QUESTIONS ARISE REGARDING DIMENSIONS THEY SHOULD BE DIRECTED TO THE ATTENTION OF THE ARCHITECT
- ALL SITE INFORMATION WAS TAKEN FROM AN ARCHITECTURAL SURVEY
- ALL WORK TO BE DONE ACCORDING TO ALL APPLICABLE CODES AND ORDINANCES AS WELL AS THE BEST PRACTICE AND STANDARDS OF THE TRADE. ALL SUBCONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING PROPER PERMITS AND PAYING ALL APPLICABLE FEES.
- WATER SERVICE IS EXISTING TO REMAIN
- SANITARY SERVICE IS EXISTING TO REMAIN
- AREA OF PARCEL: 20.06 ACRES
- BUILDING AREA:  
EXISTING OFFICE = 8,000 S.F.  
EXISTING MANUFACTURING = 158,466 S.F.  
PROPOSED MANUFACTURING = 1,704 S.F.  
TOTAL BUILDING AREA = 168,170 S.F.
- EXISTING LAND USE: LIGHT MANUFACTURING  
PROPOSED LAND USE: LIGHT MANUFACTURING
- PARKING:  
1.5 SPACE PER 1000 G.S.F. (IND)(241) + 1/300 OFFICE (27)  
PARKING REQUIRED = 268 SPACES (PER ORDINANCE)  
EXISTING PARKING PROVIDED = 132 SPACES  
TOTAL EMPLOYEE COUNT = 75 ((46) 1ST SHIFT, (27) 2ND SHIFT AND (2) 3RD SHIFT).  
TO MINIMIZE WATER RUNOFF LAND BANKING OF UNNECESSARY PAVING IS PROPOSED.  
LAND BANKED SPACES PROVIDED = 152  
TOTAL PARKING SPACES SHOWN = 284
- LOT COVERAGE  
BUILDING COVERAGE ALLOWED = 40%  
BUILDING COVERAGE PROVIDED = 20% (NEW & EXISTING)  
TOTAL IMPERVIOUS COVERAGE ALLOWED = 85%  
TOTAL IMPERVIOUS COVERAGE PROVIDED = 32% (NEW & EXISTING)
- BUILDING HEIGHT  
HEIGHT ALLOWED = 30'  
HEIGHT PROVIDED = 23'-6"
- ADDITIONAL IMPERVIOUS = 6,515 S.F. (2.0% INCREASE)
- SITE IS ZONED: INDUSTRIAL "IND"
- ALL LANDSCAPE AND GREEN BELTS ARE EXISTING TO REMAIN
- NO NEW SIGNAGE OTHER THAN THE REQUIRED BUILDING ADDRESS AND FIRE LANE SIGNS ARE PROPOSED AS PART OF THIS PROJECT

**OVERALL SITE PLAN**

SCALE: 1" = 60'-0"

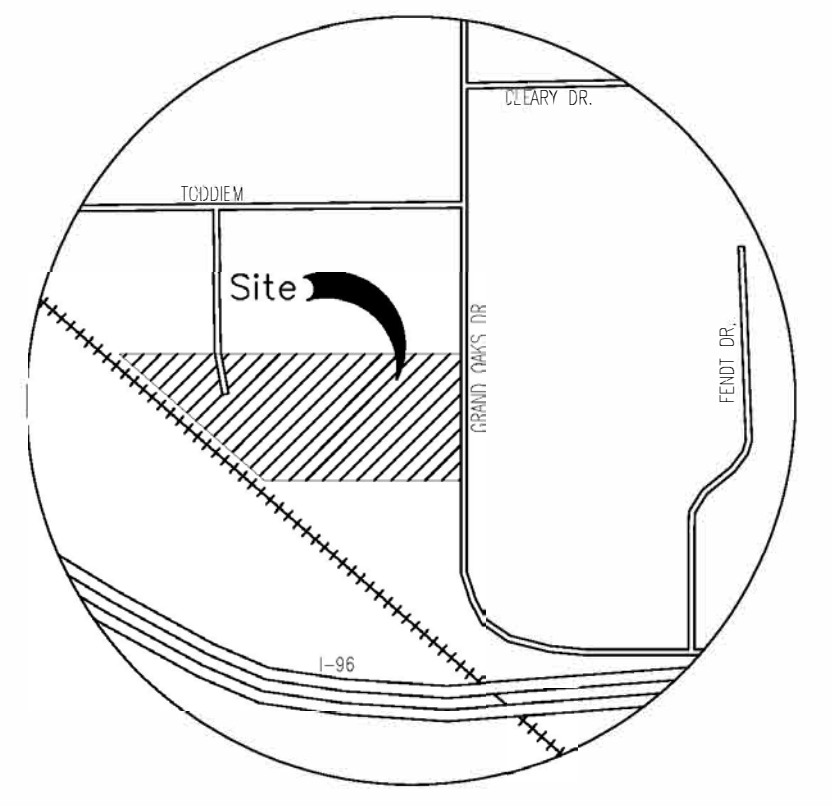


**ENLARGED SITE PLAN**

SCALE: 1" = 30'-0"

**LOCATION MAP**

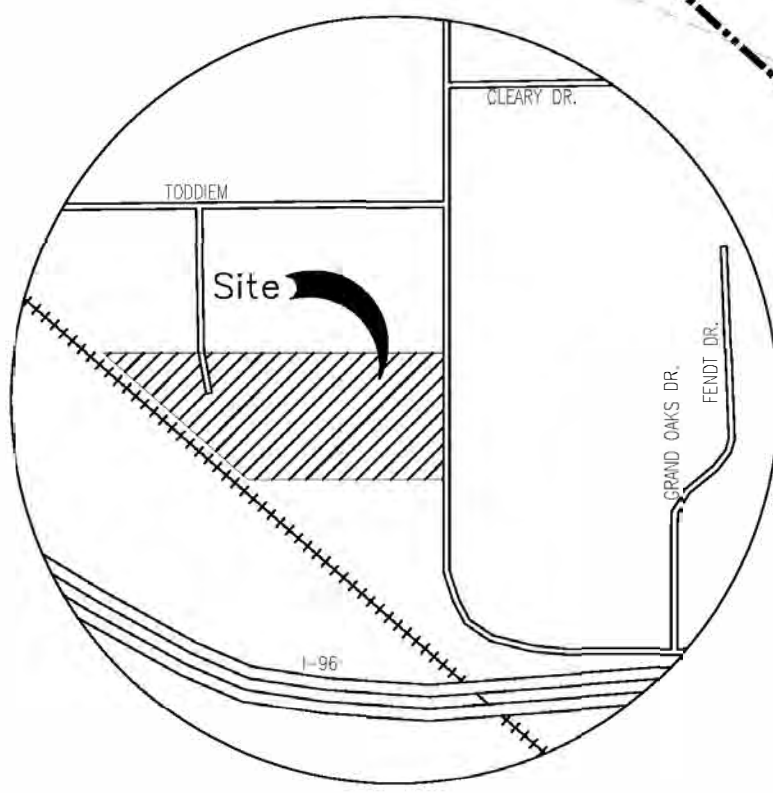
SCALE: N.T.S.



**LEGAL DESCRIPTION**

SEC 8 T2N R5E, COMM N 1/4 COR, TH S 87°12'58"W 496.99 FT, TH S 02° 06'23"E 739.81 FT TO POB, TH S 02°06'23"E 650.12 FT, TH S 88°02' 55"W 989 FT, TH N 49°45'12"W 967.88 FT, TH N 89°08'E 1702.61 FT TO POB 20 AC M/L 1984 SPLIT FR 001





**LOCATION MAP**  
SCALE: N.T.S.

**LEGAL DESCRIPTION**

SEC 8 T2N R5E, COMM N 1/4 COR, TH S 87°12'58"W 496.99 FT, TH S 02° 06'23"E 739.81 FT TO POB, TH S 02°06'23"E 650.12 FT, TH S 88°02' 55"W 989 FT, TH N 49°45'12"W 967.88 FT, TH N 89°08'E 1702.61 FT TO POB 20 AC M/L 1984 SPLIT FR 001

**MICHIGAN UNIFIED KEYING SYSTEM**

- 1 STRIPPING AND STOCKPILING TOPSOIL
- 2 GRADING & SHAPING (TYP. ENTIRE SITE)
- 6 SEED & MULCH
- 8 SOD (TYP. ALL EXPOSED AREAS)
- 13 RIP-RAP
- 14 STONE CONSTRUCTION ACCESS 20'x50' MIN. OVER GEOTEXTILE
- 15 HARD SURFACE PAVING
- 16 CURB & GUTTER
- 35 CATCH BASIN W/ FILTER
- 36 STORMWATER COLLECTION SYSTEM
- 54 36" SILT FENCE

**NOTE**  
CONTRACTOR SHALL CHECK AND MAINTAIN ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES, INCLUDING INSPECTING SILT FENCE DAILY AND REPAIRING AND RIPS AND TEARS, CHECKING STRAW BAIL FILTERS AND REPLACING IF NECESSARY. ALSO AFTER A HARD RAIN ALL CONTROL MEASURES WILL BE CHECKED AND REPAIRED IF NECESSARY INCLUDING ALL SLOPES ON SITE

**ADDITIONAL NOTES FOR SITE PLANS**

THE FOLLOWING NOTES ARE TO BE USED AS APPLICABLE WHEN SUBMITTING PLANS FOR REVIEW BY LDCD-WWS. USE ONLY THOSE APPLICABLE AND ADAPT THEM FOR THE SPECIFIC PROJECT.

- A. SANITARY SEWER SADDLE TAPS SHALL BE MADE BY LDCD-WWS PERSONNEL. THE DEVELOPER SHALL OBTAIN THE REQUIRED FEE FOR A SADDLE TAP.
- B. THE CONTRACTOR SHALL VERIFY THE SANITARY SEWER DEPTH AND BE RESPONSIBLE FOR PROVIDING ADEQUATE SLOPE OF SEWER TOWARD THE MAINLINE SEWER IN STRICT ACCORDANCE WITH LDCD-WWS STANDARD DETAILS AND SPECIFICATIONS.
- C. SANITARY SERVICE LEADS SHALL BE ENCASED IN 6AA CRUSHED LIMESTONE (A1) IN ACCORDANCE WITH LDCD-WWS STANDARD DETAILS AND SPECIFICATIONS.
- D. WATER SERVICE CONNECTION AND CURB BOX SHALL BE INSTALLED IN ACCORDANCE WITH LDCD-WWS STANDARD DETAILS AND SPECIFICATIONS.
- E. ALL WATER SERVICE LEADS SHALL BE "K" COPPER. THE MINIMUM SIZE SHALL BE 3/4".
- F. ALL WATERMAIN PRESSURE TAPS AND CUT IN VALVES 4" AND LARGER SHALL BE CONSTRUCTED WITH A CAST IRON OR STAINLESS STEEL TAPPING SLEEVES AND WITHIN A MANHOLE PER LDCD-WWS STANDARD DETAILS AND SPECIFICATIONS.
- G. SAND FILL UNDER ANY FLOOR SLAB, WALKS, PAVED AREAS, ETC. SHALL BE A MINIMUM MDOT CLASS II SAND BACKFILL (A5). THE SAND SHALL BE COMPACTED 95% OF MATERIAL THE UNIT WEIGHT BY MODIFIED PROCTOR.
- H. ALL EXISTING UTILITIES SERVING THE PROPERTY SHALL BE PROPERLY TERMINATED IN COMPLIANCE WITH LOCAL AND/OR COUNTY REGULATIONS. REMOVE ALL TREES, INCLUDING ROOT STRUCTURES, EXCEPT THOSE SPECIFICALLY NOTED TO REMAIN AND THOSE ON PROPERTY LINES. DO NOT CLEAR SITE PRIOR TO COORDINATING WITH THE OWNER AND THE LANDSCAPING PLAN TO DETERMINE WHICH TREES ARE TO REMAIN.
- I. FOR ANY DEMOLITION WORK, PLEASE SEE DEMOLITION NOTES ATTACHED HERewith.
- J. VERIFY EXACT LOCATION OF UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
- K. CONTRACTOR IS TO ADJUST ANY UTILITY ELEMENT MEANS TO FLUSH WITH GRADE (CLEAN OUT, VALVE BOXES, MANHOLES, CATCH BASINS, INLETS, ETC.) THAT IS AFFECTED BY SITE WORK OR GRADE CHANGES, WHETHER SPECIFICALLY NOTED ON PLANS OR NOT. THE CONTRACTOR SHALL OBTAIN ANY NECESSARY PERMITS FOR ADJUSTMENT AT THE CONTRACTOR'S EXPENSE.
- L. THE WATER SUPPLY FOR ALL COMMERCIAL AND INDUSTRIAL BUILDINGS SHALL BE EQUIPPED WITH A BACKFLOW PREVENTION DEVICE IN ACCORDANCE WITH BUILDING CODES.
- M. ALL ON SITE WATER SERVICE SHALL MEET THE REQUIREMENT OF LDCD-WWS STANDARD DETAILS AND SPECIFICATIONS.
- N. THE CONTRACTOR SHALL NOTIFY MISS DIG (1-800-482-7171) THREE (3) WORKING DAYS PRIOR TO STARTING ANY EXCAVATION WITH POWER EQUIPMENT.
- O. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, COUNTY, AND STATE REGULATIONS FOR ALL WORK THAT TAKES PLACE ON THE SITE.
- P. THE CONTRACTOR/DEVELOPER SHALL PAY FOR AND OBTAIN ALL PERMITS REQUIRED BY FEDERAL, STATE, LOCAL, OR PRIVATE AGENCIES AND PAY ALL CHARGES FOR INSPECTION AND TESTING.
- Q. THE CONTRACTOR SHALL PROVIDE ALL CONSTRUCTION LINES AND GRADE FOR THEIR WORK.
- R. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING UP THE PREMISES, AND UPON COMPLETION OF THE PROJECT, LEAVE THE SITE IN AN ACCEPTABLE CONDITION AS DETERMINED BY LDCD-WWS.
- S. COMMERCIAL BUILDINGS SHALL USE A 6" SANITARY RISER FROM THE MAIN TO THE STRUCTURE. THE SERVICE RISER SHALL CONNECT TO THE MAINLINE AND NOT AT A MANHOLE.
- T. FOR COMMERCIAL ESTABLISHMENTS THAT GENERATE GRIT OR GREASE, AN EXTERNAL GREASE/GRIT TRAP SHALL BE PROVIDED. SHOW THE DETAIL ON THE PLANS WITH APPROPRIATE NOTES. THE DOMESTIC SEWAGE SHALL BE DESIGNED TO BYPASS THE GREASE/GRIT TRAP.
- U. THE MINIMUM SLOPE FOR A COMMERCIAL LEAD IS 1" OF FALL PER 100 FEET OF PIPE. SHOW THE INVERT AT THE STRUCTURE AND THE SLOPE TO THE PROPERTY LINE.
- V. ALL SANITARY SEWER RISERS SHALL BE SDR-26 PVC.
- W. EACH PARCEL OF LAND SHALL HAVE AN INDIVIDUAL RISER.



**LIVINGSTON COUNTY STANDARD NOTES FOR SITE PLAN REVIEW**

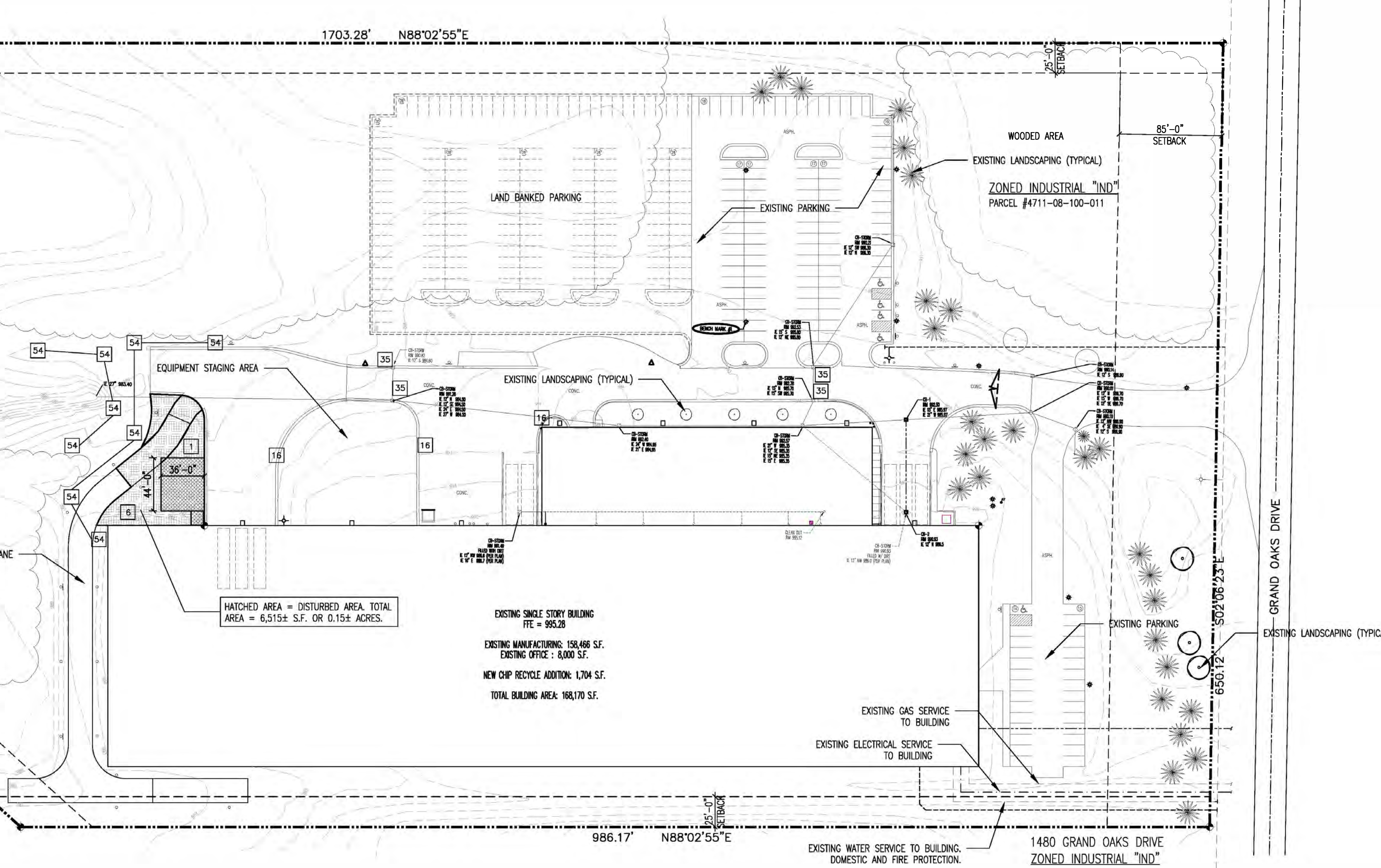
- 1. ALL PUBLIC SANITARY SEWER AND/OR WATER MAIN SHALL BE EXTENDED TO THE FURTHEST LIMITS OF THE PROPERTY, INCLUDING CORNER LOTS, WITH THE PIPE SIZE AND MATERIAL APPROVED BY LDCD-WWS. THIS IS NECESSARY FOR PLAN APPROVAL. FOR WATER SERVICE OF 1" OR LESS OR A BUILDING ON A CORNER LOT, THE REQUIREMENTS TO EXTEND THE PUBLIC WATER MAIN AND/OR SANITARY SEWER ALONG BOTH PROPERTY LINES WILL BE REVIEWED. FINAL DETERMINATION SHALL BE MADE BY LIVINGSTON COUNTY.
- 2. ALL PUBLIC WATER MAINS SHALL BE LOOPED WHENEVER POSSIBLE. THE PIPE SIZING SHALL BE APPROVED BY LIVINGSTON COUNTY.
- 3. AN INDUSTRIAL PRETREATMENT PERMIT IS REQUIRED FOR ALL COMMERCIAL AND INDUSTRIAL DISCHARGES. THE OWNER SHALL OBTAIN AN INDUSTRIAL PRETREATMENT DISCHARGE PERMIT PRIOR TO THE ISSUANCE OF A SEWER CONNECTION PERMIT. INDUSTRIAL DISCHARGE PERMITS ARE NON-TRANSFERABLE. CHANGES IN FACILITY USE WILL REQUIRE A NEW INDUSTRIAL DISCHARGE PERMIT - EXISTING PERMIT, NO CHANGE OF USE.
- 4. THE DEVELOPER SHALL SUBMIT A DETAILED SOIL EROSION AND SEDIMENTATION CONTROL PLAN AND OBTAIN AN ACT 451 PART 91, SOIL EROSION AND SEDIMENTATION PERMIT. THIS INCLUDES THE PAYMENT OF FEES AND THE PROVIDING OF NECESSARY BONDS. NO EARTH CHANGES OR EXCAVATION SHALL BE STARTED PRIOR TO THE ISSUANCE OF THIS PERMIT. THE DEVELOPER SHALL PROTECT ALL EXISTING AND PROPOSED STORM SEWER FACILITIES ON AND ADJACENT TO THE SITE DURING EXCAVATION AND CONSTRUCTION. ALL SEDIMENT SHALL BE CONTAINED ON SITE. ANY SILT IN COUNTY DRAINS, STORM SEWER, CULVERTS, ETC. AS A RESULT OF THIS PROJECT, SHALL BE REMOVED BY THE DEVELOPER AT THE COST OF THE DEVELOPER.
- 5. IF REQUIRED, THE DEVELOPER SHALL APPLY TO THE STATE OF MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY FOR A PERMIT FOR THE ALTERATION AND/OR OCCUPATION OF A FLOOD PLAN OR FLOOD WAY, AS REQUIRED UNDER PA 451. EVIDENCE OF THIS PERMIT MAY BE REQUIRED PRIOR TO PLAN APPROVAL BY LIVINGSTON COUNTY.
- 6. IF REQUIRED, THE OWNER OF THE PROPERTY SHALL OBTAIN A NPDES STORM WATER DISCHARGE PERMIT FOR CONSTRUCTION ACTIVITIES FROM MDEQ AS REQUIRED UNDER PUBLIC ACT 451. THE NOTICE OF COVERAGE FORM SHALL BE SUBMITTED THROUGH LIVINGSTON COUNTY WITH THE SOIL EROSION CONTROL PERMIT APPLICATION. ALL MDEQ FEES SHALL ACCOMPANY THE NOTICE OF COVERAGE. EVIDENCE OF THIS PERMIT MAY BE REQUIRED PRIOR TO PLAN APPROVAL BY LIVINGSTON COUNTY.
- 7. IF REQUIRED, AFTER THE APPROVAL OF THIS PRELIMINARY PLAT OR SITE PLAN, THE DEVELOPER SHALL SUBMIT A DETAILED PLAN FOR CONSTRUCTION OF ALL PUBLIC SANITARY SEWER AND WATERMAIN. THE PLANS MUST HAVE LIVINGSTON COUNTY APPROVAL, A S-PERMIT ISSUED, AND APPROVAL FROM THE MDEQ PRIOR TO BEGINNING CONSTRUCTION.
- 8. IF REQUIRED, THE DEVELOPER SHALL OBTAIN A PERMIT FROM THE LIVINGSTON COUNTY ROAD COMMISSION TO PERFORM WORK WITHIN THE LIVINGSTON COUNTY ROAD COMMISSION RIGHT-OF-WAY. ALL FEES FOR THE PERMIT, BONDS AND INSURANCE ARE THE RESPONSIBILITY OF THE DEVELOPER.
- 9. PRIOR TO THE ISSUANCE OF A BUILDING PERMIT BY THE LOCAL MUNICIPALITY, THE DEVELOPER SHALL BE REQUIRED TO OBTAIN (OR VERIFY) A SANITARY SEWER AND/OR WATER TAP-IN PERMIT FROM THE LOCAL MUNICIPALITY, IF AUTHORIZED, OR LIVINGSTON COUNTY.
- 10. IF REQUIRED, THE SANITARY SEWER AND WATERMAIN CONSTRUCTION PERMIT APPLICATION FROM THE MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY (MDEQ) SHALL BE SUBMITTED TO THE MDEQ AFTER RECEIVING APPROVAL FROM LIVINGSTON COUNTY. CONSTRUCTION SHALL NOT BEGIN UNTIL THESE STATE PERMITS ARE ISSUED.

EXISTING FIRE LANE

HATCHED AREA = DISTURBED AREA. TOTAL AREA = 6,515± S.F. OR 0.15± ACRES.

EXISTING SINGLE STORY BUILDING FTE = 995.28  
EXISTING MANUFACTURING: 158,466 S.F.  
EXISTING OFFICE: 8,000 S.F.  
NEW CHP RECYCLE ADDITION: 1,704 S.F.  
TOTAL BUILDING AREA: 168,170 S.F.

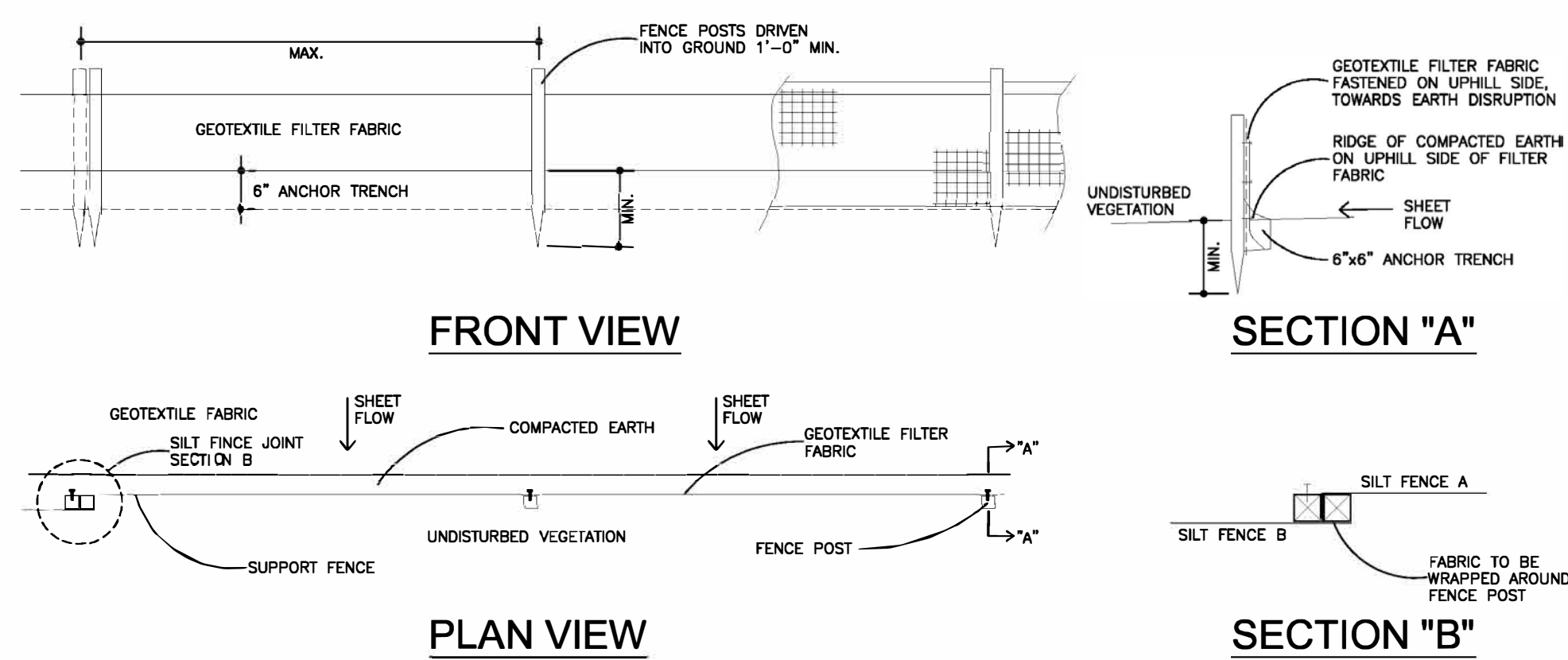
**SOIL EROSION PLAN**  
SCALE: 1" = 60'-0"



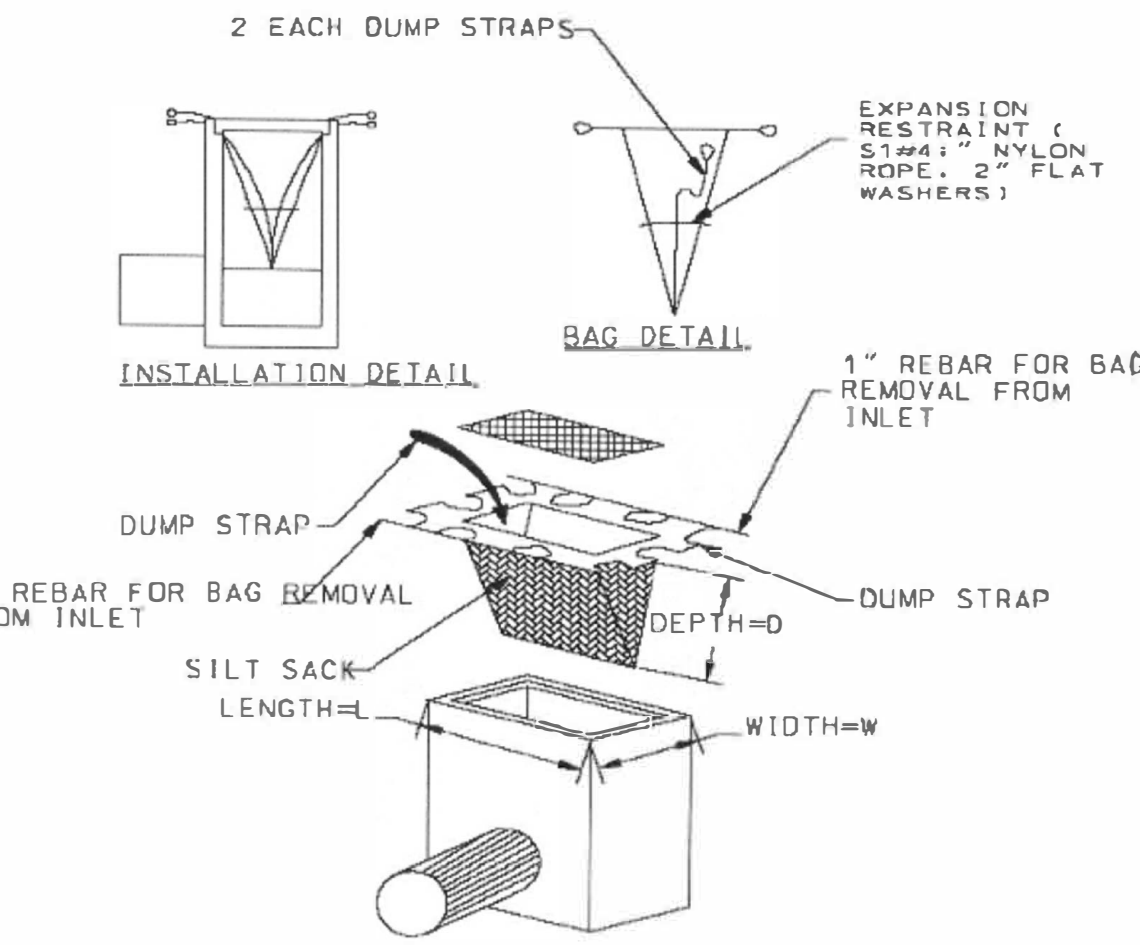
TOTAL DISTURBED AREA = 6,515 S.F. OR 0.15± ACRES

**SEEDING, FERTILIZER & MULCH RATIOS**

NOTE, THESE ARE THE MINIMUM ACCEPTABLE APPLICATION RATES.  
TOP SOIL: 3 INCHES IN DEPTH  
GRASS SEED: 210 LBS. PER ACRE  
FERTILIZER: 150 LBS. PER ACRE  
STRAW MULCH: 3" IN DEPTH, 1.5 - 2 TONS PER ACRE  
HYDRO-SEEDING: NOT ACCEPTABLE FOR SLOPES EXCEEDING 1%; IN SUCH CASES, STABILIZATION SHALL BE DONE WITH SEED AND STRAW MULCH WITH A TACKIFIER



**36" SILT FENCE DETAILS**  
SCALE: 1/2" = 1'-0"



**CATCH BASIN SILT-SACK DETAIL**

**SOIL EROSION IMPLEMENTATION SCHEDULE**

SOIL EROSION AND SEDIMENTATION CONTROL MEASURES ARE TO TAKE PLACE IN THE FOLLOWING ORDER

A) INSTALLATION OF SILT FENCE	04-15 THRU 04-16
B) ROUGH GRADE / SEDIMENTATION CONTROL	04-16 THRU 04-22
C) TEMP. CONSTRUCTION ROADS	N/A
D) DET. BASIN TOPSOILED, SEED & MULCH	04-16 THRU 04-22
E) STRIP AND STOCKPILE TOPSOIL	04-16 THRU 04-22
F) STORM FACILITIES	04-16 THRU 04-22
G) TEMP. CONTROL MEASURES	04-22 THRU 05-8
H) FOUNDATION / BUILDING RENOVATION	04-15 THRU 06-21
I) SITE IMPROVEMENTS	04-16 THRU 06-22
J) FINISH GRADING	05-15 THRU 06-21
K) PERMANENT CONTROL MEASURES	06-10 THRU 06-25
L) LANDSCAPING	06-1 THRU 06-15

**AMAG**  
4485 WEST BARTON ROAD, SUITE 200, FIRM, MI 48507 PH: (810) 236-9311

**RJ**  
RHODAS & JOHNSON

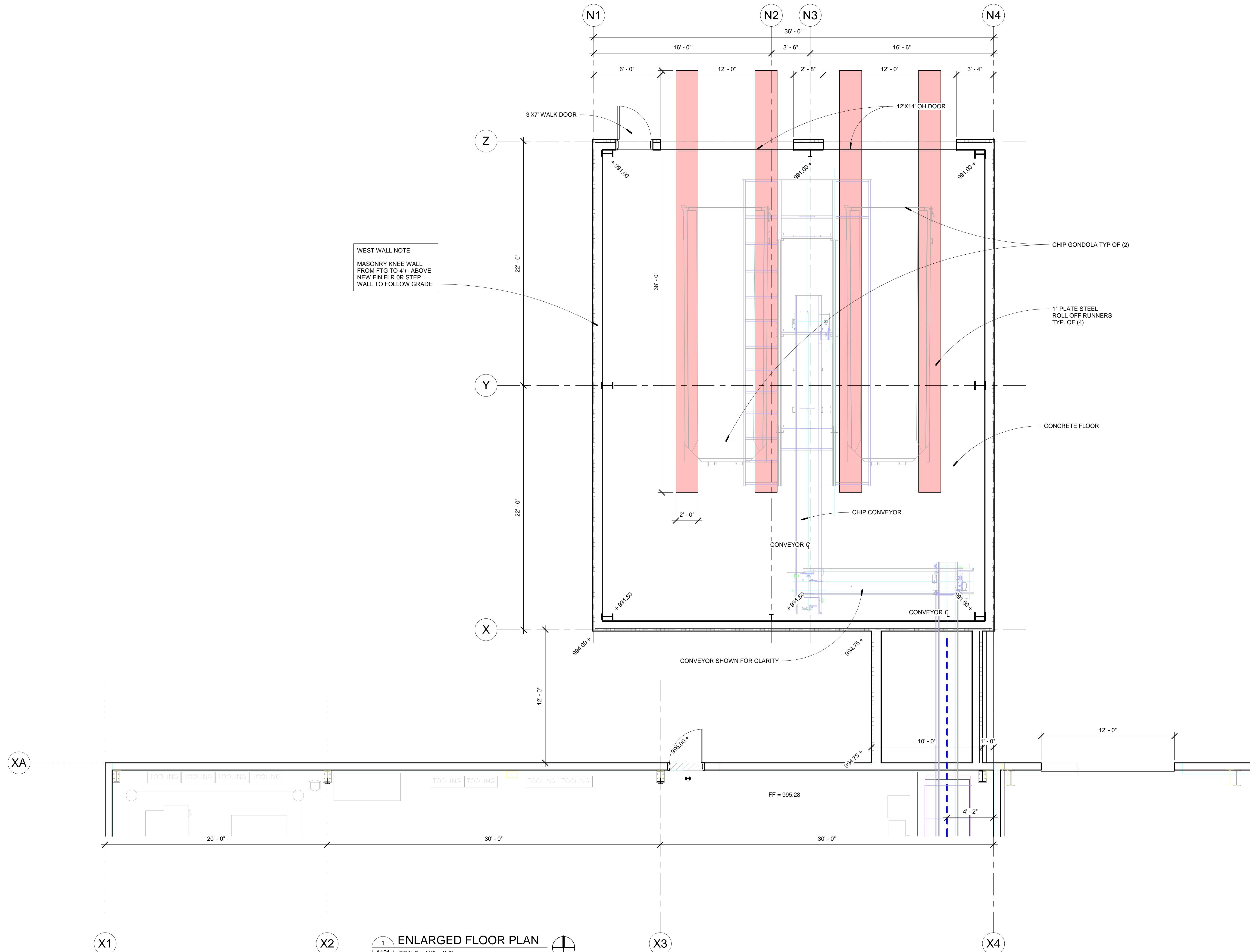
Project Phase:  
Design   
Permit   
Construction

Date: 11-29-23

Description: SHEET C102 - PLAN REVIEW

Project #: 2354  
Drawn by: jla  
Checked by: rfe

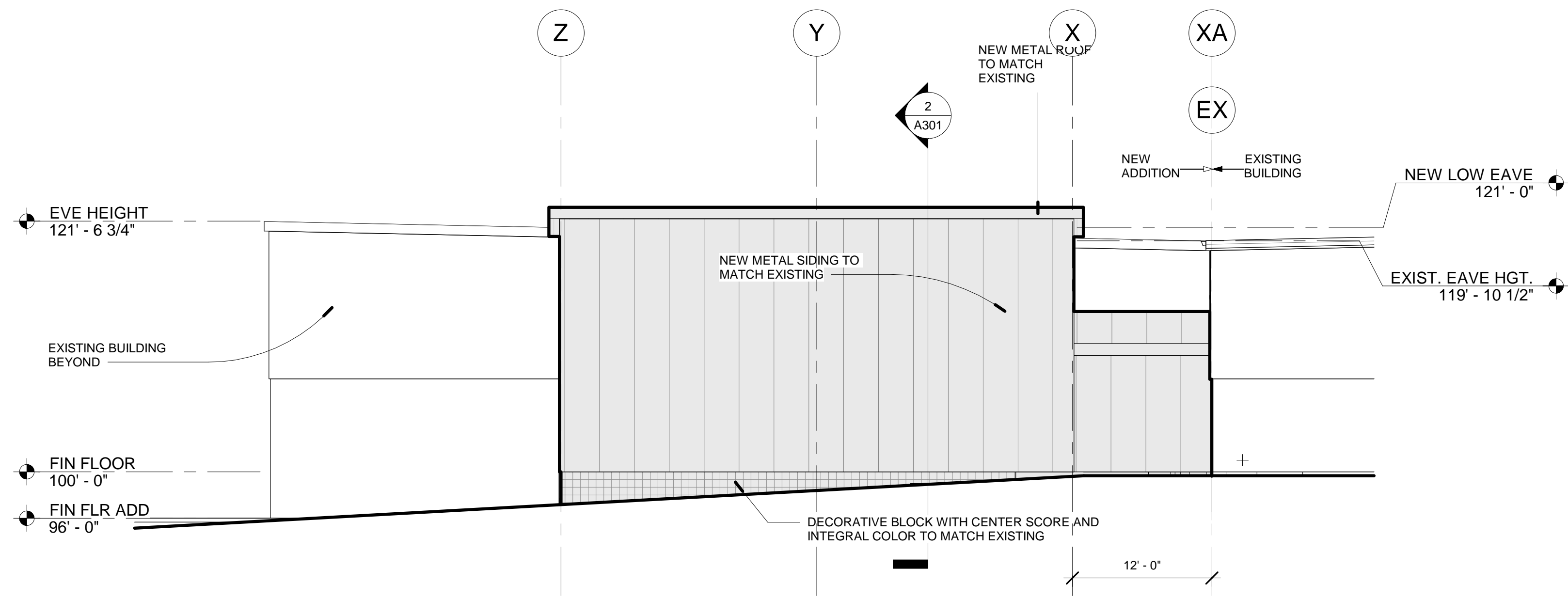
**SOIL EROSION PLAN**  
Sheet  
**C102**  
150



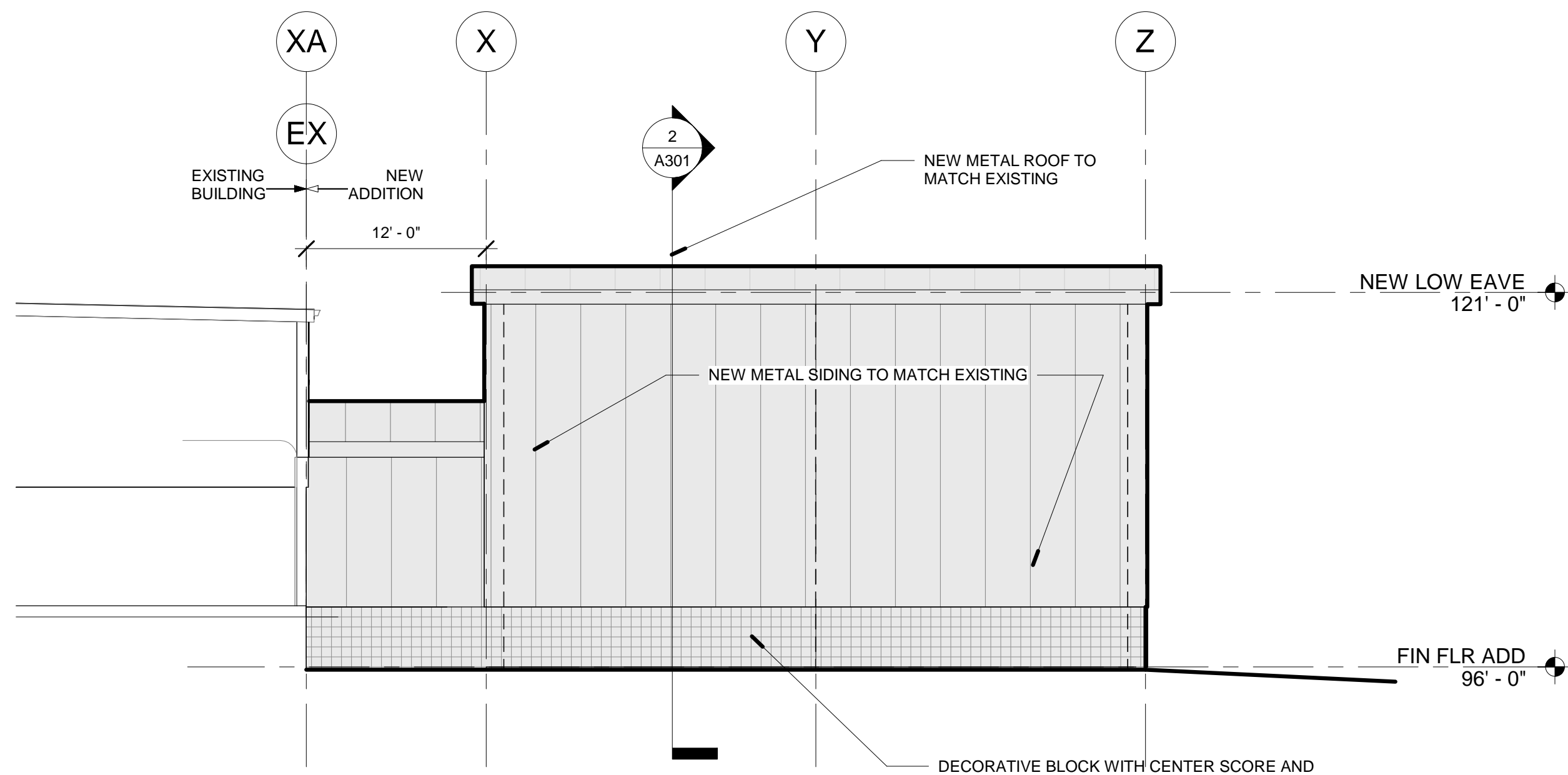
1 ENLARGED FLOOR PLAN  
 A101 SCALE: 1/4" = 1'-0"

**NOT FOR CONSTRUCTION**

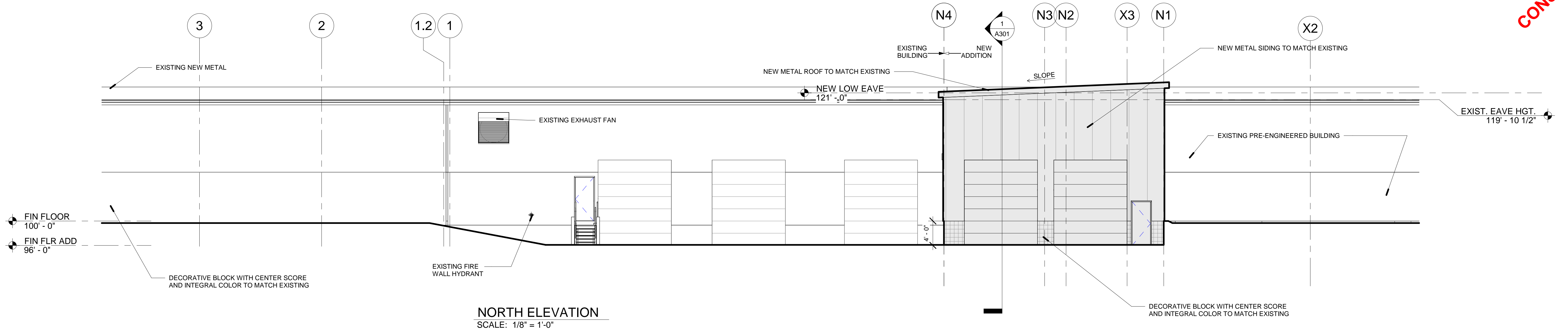
C:\Users\jla\OneDrive\Documents\FDDM\_Rod 2023.rvt



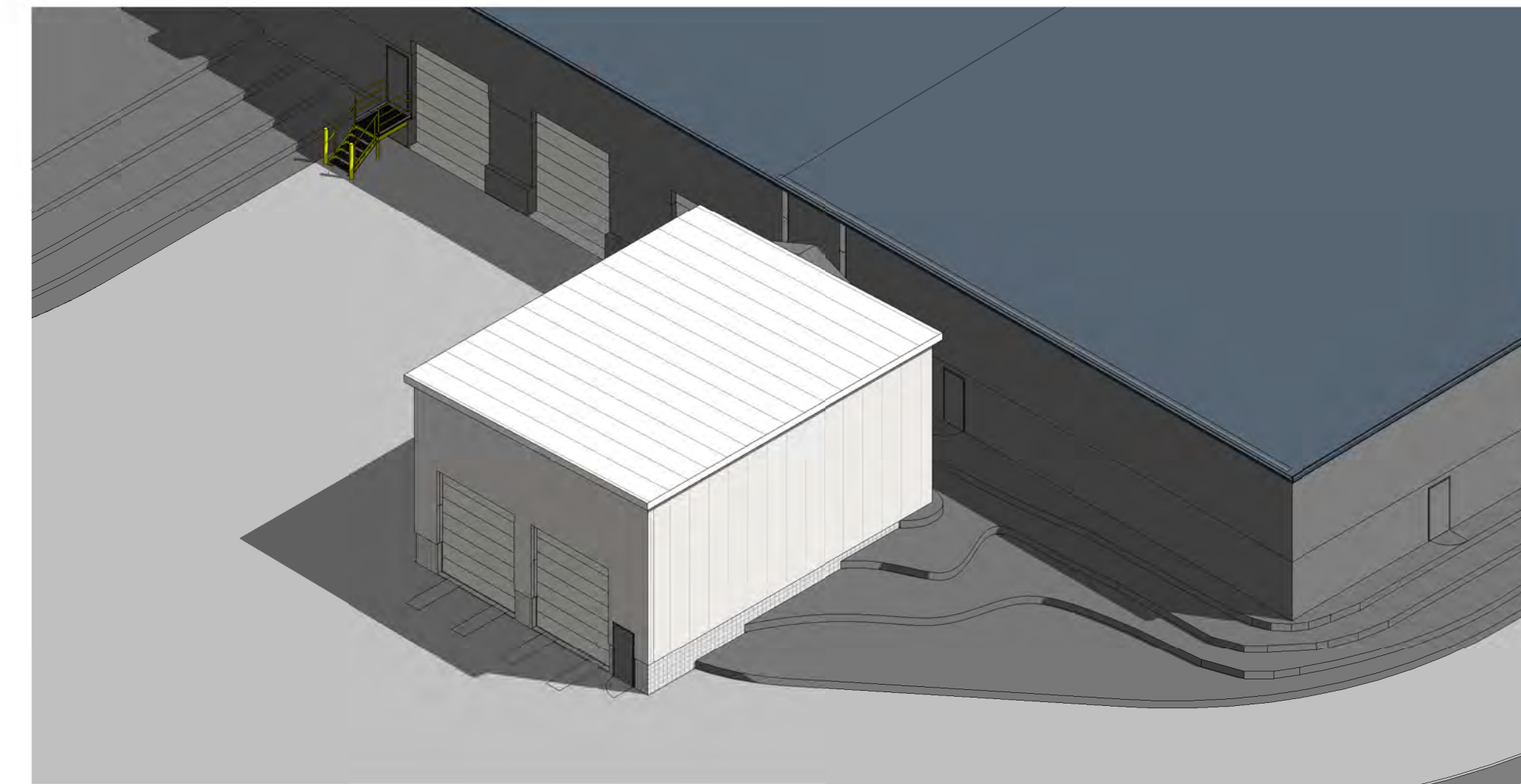
**WEST ELEVATION**  
SCALE: 1/8" = 1'-0"



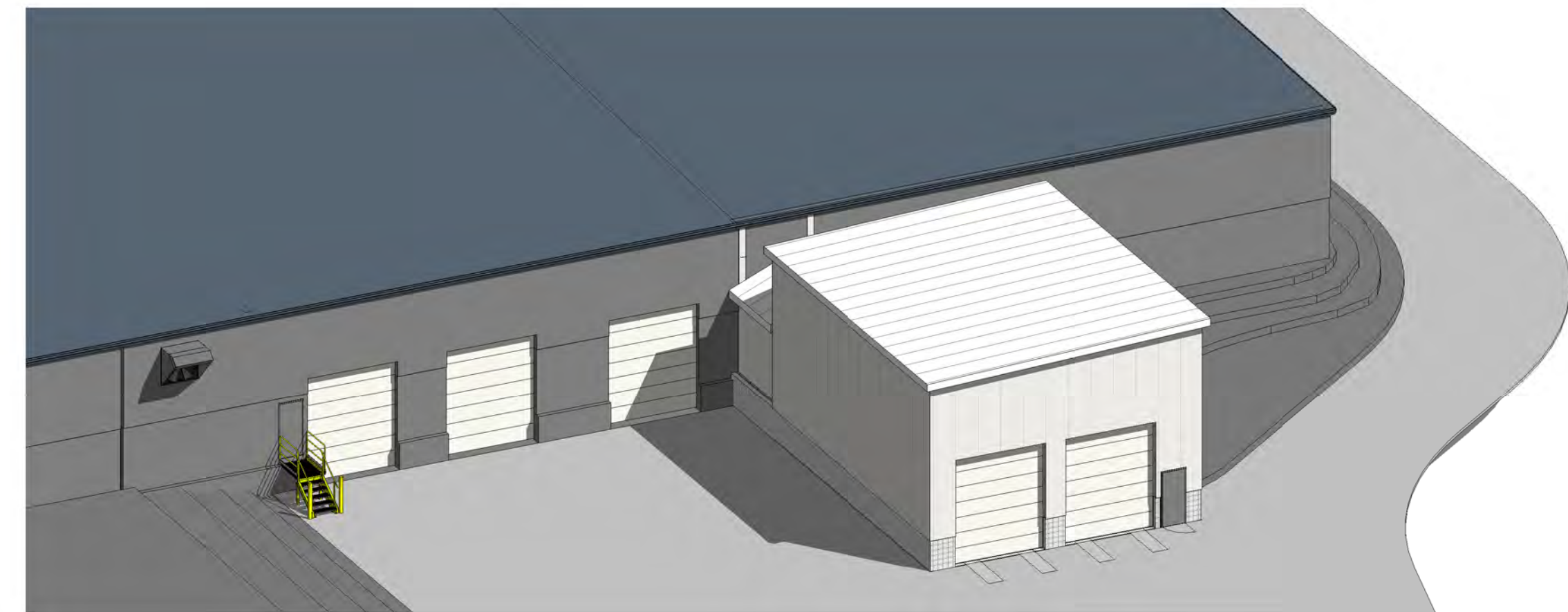
**EAST ELEVATION**  
SCALE: 1/8" = 1'-0"



**NORTH ELEVATION**  
SCALE: 1/8" = 1'-0"



5 VIEW FROM NW



1 VIEW FROM NE

**NOT FOR CONSTRUCTION**



## 2023 Planning Commission Annual Report

Meeting Date	Case #	Project Name	Review Type	Action
January 9	22-29	7777 Bendix Road	Rezoning	Approved
	23-01	Town Center Overlay Removal	Rezoning	Approved
		Master Plan Public Hearing		Left Open
February 13	22-27	Wonderland Marine Showroom	Site plan/Special Use	Approved
	23-02	Senior Survivor Park	Sketch Plan	Approved
		Master Plan	Adoption	Approved
March		**Canceled**		
April 10	22-24	Summerfield Pointe Estates	PUD Amend/Prelim Site	Postponed
	23-03	Tait Eye Center	Site Plan	Approved
	23-04	St. Joe's Site Grading	Site Plan	Approved
	23-05	Chestnut Development Grading	Site Plan	Approved
May 8	22-24	Summerfield Pointe Estates	PUD Amend/Prelim Site	Approved
	23-08	Our Lady of Fields Swing/Ropes	Sketch Plan	Approved
June 12	23-09	Collingwood B & B	Sketch Plan/Special Use	Postponed
	22-19	Legacy Apartments Final	Final Site Plan	Approved
	23-06	Solar Ordinance	Discussion Only	Discussion
July 10	23-10	Latson Rd-Versa PUD Rezoning	Rezoning/PUD Amend.	Postponed
	23-06	Solar Ordinance	Ordinance Amendment	Approved
August 14	23-11	Mt. Brighton Special Use	Site plan/Special Use	Postponed
	23-12	Aric's Auto Sales	Sketch Plan/Special Use	Approved
	23-13	VA Parking Site Plan Amendment	Site Plan Amendment	Approved
September 11		**Canceled**		
September 25	23-14	Drip Car Wash Site Plan Amend.	Site Plan Amendment	Approved
	23-15	Pinnacle Wealth Add-Special Use	Site plan/Special Use	Postponed
	23-17	Westbury Ph2 Elevations Rev.	Site Plan Amendment	Approved
October 10	23-11	Collingwood B & B	Sketch Plan/Special Use	Approved
	23-16	AAA Trailer Sales Rezoning	Rezoning	Approved
	23-19	Chestnut Dev. Grading Amend.	Site Plan Amendment	Postponed
October 19	23-10	Latson Rd-Versa PUD Rezoning	Rezoning/PUD Amend.	Denied
November 13	23-18	Fillmore Park Trails	Site Plan	Approved
	23-20	Mister Car Wash	Site plan/Special Use	Postponed
	23-21	S. Latson Commercial Dev.	Site plan/Special Use	Postponed
	23-22	Panda Express Site Plan Amend.	Site Plan Amendment	Part. App.
	23-23	Woodland Village Parking Exp.	Site Plan	Approved
December 11	23-19	Chestnut Grading Amendment	Site Plan Amendment	Postponed
	23-25	Brighton Equestrian Club	Site plan/Special Use	Approved
	23-28	Latson Rd-Versa Sign Amend	Sign Amendment	Approved

**GENOA CHARTER TOWNSHIP  
PLANNING COMMISSION  
PUBLIC HEARING  
December 11, 2023**

**MINUTES**

CALL TO ORDER: Chairman Grajek called the meeting of the Genoa Charter Township Planning Commission to order at 6:30 p.m. Present were Chris Grajek, Eric Rauch, Tim Chouinard, Glynis McBain, Marianne McCreary, and Greg Rassel. Absent was Jeff Dhaenens. Also present were Planning Director Amy Ruthig, Brian Borden of Safebuilt, and Shelby Byrne of Tetra Tech.

PLEDGE OF ALLEGIANCE: The pledge of allegiance was recited.

APPROVAL OF AGENDA:

**Moved** by Commissioner Rauch, seconded by Commissioner Chouinard, to approve the agenda as presented. **The motion carried unanimously.**

DECLARATION OF CONFLICT OF INTEREST:

None

CALL TO THE PUBLIC:

The call to the public was made at 6:31 pm with no response.

OLD BUSINESS:

**OPEN PUBLIC HEARING #1...** Consideration of a site plan amendment for revisions to the previously approved site grading on a 4.32-acre parcel (4711-06-200-101) on the north side of Grand River Avenue, just west of Char-Ann Drive. The request is petitioned by Chestnut Development.

- A. Recommendation of Environmental Impact Assessment (9-20-23)
- B. Disposition of Amended Site Plan (10-17-23)

Mr. Steve Gronow, the applicant, and Mr. Allan Pruss with Monument Engineering Group were present. Mr. Pruss requested to have their item tabled this evening as they will have a complete site plan forthcoming.

Commissioner McCreary questioned what is to prohibit the applicant from removing additional trees at this time. Ms. Ruthig stated that the applicant is not in site plan compliance so they are not allowed to do any work. She asked the applicant when they anticipate having the site plan ready for review. Mr. Gronow stated he has someone who is interested in the property. He anticipates being before the Planning Commission in June or July.

The call to the public was made at 6:33 pm.

Mr. Dan Hassett of 2955 Turning Leaf stated 40-50 trees were removed. He showed and submitted pictures of the tree density before and after the trees were removed. He is hoping that a berm and pine trees can be planted.

The call to the public was closed at 6:35 pm

**Moved** by Commissioner Rauch, supported by Commissioner Rassel, to postpone Agenda Item #1 for Parcel #4711-06-200-101 until the March 11, 2024 Planning Commission Meeting per the applicant's request. **The motion carried unanimously.**

NEW BUSINESS:

**OPEN PUBLIC HEARING # 2...** Consideration of a special use application, environmental Impact assessment and site plan for a commercial stable located at 7318 Herbst Road, south Side of Herbst Road, east of Hubert Road. The request is petitioned by the Nancy Merlo, Brighton Equestrian Club.

- A. Recommendation of Special Use Application
- B. Recommendation of Environmental Impact Assessment (4-22-22)
- C. Recommendation of Site Plan (4-21-22)

Ms. Kathy Riesterer, who represents the applicant, and Mr. Ray Merlo were present. Ms. Rister stated this was approved in 2022 with certain conditions but those conditions were not met, so the prior approval lapsed. They are requesting the same approval, and they have now completed the conditions of the previous approval.

She noted allowing the gravel was approved previously, instead of asphalt, as gravel is more advantageous for horses. The applicant agrees to limit the equipment to equestrian use. Mr. Merlo runs a construction company and he stores his equipment and trucks at a property near this site, but it is not stored there. Neighbors have noted that these trucks are on the site. She stated this is true; however, they are there to make deliveries or for construction purposes for the equestrian center or if Mr. Merlo visits the site in one of his work vehicles. They would like to reinstitute the fundraisers.

Mr. Borden reviewed his letter dated November 13, 2023:

1. Special Land Uses (Section 19.03):
  - a. The special land use standards of Section 19.03 are generally met.
  - b. Though the Zoning Map (AG) and Future Land Use Map (Low Density Residential) do not align, the proposal is compatible with the goals of the Master Plan.
  - c. In order to make favorable findings related to compatibility and impacts, the use conditions of Section 3.03.02(h) must be met to the Commission's satisfaction.
2. Commercial Stable Use Conditions (Section 3.03.02(h)):
  - a. The submittal demonstrates compliance with the applicable use conditions.

3. Site Plan Review:

- a. He confirmed that the Commission allowed gravel surfacing to remain for the drives and parking areas, provided dust control measures are applied.
- b. He recommends the Commission include conditions regarding storage of vehicles and equipment, similar to the 2022 conditional approval.

Also, the applicant must address any comments provided by the Township Engineer or Brighton Area Fire Authority regarding public facilities and services.

Ms. Byrne reviewed her letter dated November 13, 2023:

1. The provided site plan has been updated to include manure spreading locations, which was a condition of the previous approval.
2. Genoa Township Standards require that parking lots be paved with curb and gutter. Storm drainage facilities will also need to be incorporated into the parking lot improvements. The Petitioner does note proposed curb and gutter behind some of the proposed parking, but it does not appear that paving is proposed. The Planning Commission may choose to consider an aggregate parking lot as a Low Impact Development Alternative to the zoning requirements.

The Brighton Area Fire Marshal has no comments.

The call to the public was made at 6:49 pm.

Mr. Joe Cavanaugh of 2919 Hubert Road stated that he is the one who had cars parked on the vacant property to the north on July 22. The field is owned by Mike and Judy Daniels who let him use it for his son's graduation party.

Mr. Paul Cavanaugh is building a home at 6970 Herbst Road. He has had gravel trains running up and down Herbst so much of that truck traffic is from him. His property has been restored to a working farm and Mr. Merlo lent him his equipment. Mr. and Mrs. Merlo are very kind and helpful neighbors.

The call to the public was closed at 6:52 pm.

Commissioner McCreary noted there were several letters from neighbors regarding event parking. Ms. Reister and Mr. Merlo have seen the letters. He stated that what is said in those letters is egregious. They have never parked vehicles across from the property.

Commissioner McCreary noted that the heading on Page 2 is incorrect. She asked Mr. Merlo to confirm that they have not used the property for any uses other than what was approved. Mr. Merlo said they have not held the two foundation fundraiser events that they usually do because they were requested not to by the Township until the Special Use was approved. He stated that his company trucks and equipment are on the site to do work for the property and to make deliveries.

**Moved** by Commissioner Rauch, supported by Commissioner Chouinard, to approve the Special Use Application for 7318 Herbst Road as this Commission finds that the land use standards of Section 19.03 of the zoning ordinance are generally met, the use is compatible with the goals of the Master Plan, and it is compatible with the use conditions of Section 3.03.02(h). **The motion carried unanimously.**

**Moved** by Commissioner Rauch, supported by Commissioner McCreary, to approve the Environmental Impact Assessment dated April 22, 2022 for 7318 Herbst Road with the condition that the title be corrected. **The motion carried unanimously.**

**Moved** by Commissioner Rauch, supported by Commissioner Chouinard, to approve the Site Plan dated April 21, 2022 for 7318 Herbst Road with the following notes:

- The gravel driveway is acceptable to the Planning Commission as it is safer for the horses, zoned for agriculture and because appropriate dust control measures have been included in the impact assessment.
- The petitioner agrees that the operations of the spreading of manure be offset from the boundaries of the property 100 feet to diminish the potential negative impacts on adjacent property owners. The site plan shall be revised to show the 100' setback for manure management locations.
- Any comments within Tetra Tech' and the Brighton Area Fire Authority's letters shall be addressed.

**The motion carried unanimously.**

**OPEN PUBLIC HEARING #3...** Consideration of a sketch plan amendment to the previously approved design for Innovation Highway sign as part of the Versa Development (Latson Road) PUD. The proposed sign is located on vacant land (4711-09-300-043) on the east side of Latson Road and on the south side of I-96 at mile marker 140.2. The request is petitioned by Todd Wyett.

A. Disposition of Sketch Plan Amendment (1-27-22)

Mr. Todd Wyett was present and showed a colored rendering of the proposed sign, noting the changes that have been made.

Mr. Borden reviewed his letter dated December 7, 2023:

1. Per Paragraph 7 of the PUD Agreement, a project gateway sign is allowed north of Beck Road in the North Area of the development.
2. The Agreement further states that "the final Project gateway sign shall be subject to Planning Commission review and shall be approved if it contains the same quality and nature of materials and contains the Genoa Township gateway messaging in the same general character and design shown in Exhibit 7." Accordingly, Exhibit 7 of the Agreement includes a graphic depiction of the intended sign design and materials.

3. At their March 14, 2022 meeting, the Planning Commission granted conditional approval of the project gateway sign; however, the approved sign was never constructed and that approval has lapsed. Also, the previous approval had the conditions of the submittal also depicts a landscaped berm, though no details are provided

Commissioner McCreary questioned why it had been changed. Mr. Wyett stated the new sign is half of the cost of the original sign proposed.

The call to the public was made at 7:06 pm with no response.

Ms. McCreary asked if the sign will have lighting. Mr. Wyett stated it is back lit.

Commissioner Rauch likes the change. It has clean, simple lines.

**Moved** by Commissioner Rauch, supported by Commissioner McCreary, to approve the Sketch Plan Amendment dated January 27, 2022 for Innovation Highway sign as part of the Versa Development (Latson Road) PUD. with the following conditions:

- The updated sign design shall be as the one depicted in the drawing emailed to staff on Friday, December 8, 2023 as it better details the berm.
- The landscape plan and details will be provided and approved prior to sign permit issuance.
- An exact location map will be provided prior to sign permit issuance.

**The motion carried unanimously.**

#### ADMINISTRATIVE BUSINESS:

##### **Staff Report**

Ms. Ruthig stated there will be six items on the January Planning Commission meeting agenda and potentially five cases on the February agenda.

After a discussion, it was decided to hold a second Planning Commission meeting on Tuesday, January 9, 2024.

##### **Approval of the November 13, 2023 Planning Commission meeting minutes**

Needed changes were noted.

**Moved** by Commissioner McCreary, seconded by Commissioner Rassel, to approve the minutes of the November 13, 2023 Planning Commission Meeting as amended. **The motion carried unanimously.**

##### **Member Discussion**

There were no items to discuss this evening.

**Adjournment**

**Moved** by Commissioner Rauch, seconded by Commissioner Rassel, to adjourn the meeting at 7:31 pm. **The motion carried unanimously.**

Respectfully Submitted,

Patty Thomas, Recording Secretary

DRAFT