

**CHARTER TOWNSHIP OF ELMWOOD  
PLANNING COMMISSION  
SPECIAL MEETING**

**THURSDAY, January 9, 2025 at 6:30 PM**

**Location: Township Hall (10090 E. Lincoln Road, Traverse City, MI)**

**Commission  
Members:**

Rick Bechtold, Chair

Jeff April, Vice-  
Chair

Jonah Kuzma,  
Secretary

Doug Roberts

Kendra Luta

Nathan McDonald

Chris Mikowski

A. Call to Order

B. Pledge of Allegiance

C. Roll Call

D. Limited Public Comment-**Only on Agenda Items with no Public Hearing** - See Rules on Agenda

E. Agenda Modifications/Approval

F. Declaration of Conflict of Interest

G. Purpose of the Special Meeting

1. Minutes – November 13, 2024

2. Consent Calendar: Approve/Receive and File

The purpose of the Consent Calendar is to expedite business by grouping non-controversial items together to be dealt with in one motion without discussion. Any member of the public, board, or staff may ask that any item of the consent calendar be removed and placed elsewhere on the agenda for full discussion.

ZA Report

Annual Report

'Let's Talk About Housing' Flyer for 1/8/25

3. Selection of Officers

4. Introduction, PD (SPR/SUP) 2025-01 – Request by Cornerstone Architects Inc regarding property at 13272, 12340, and 0 S West-Bay Shore Dr (Parcels 033-080-00, 033-077-00, 033-074-00) for work described as the Freshwater Research and Innovation Center. This is a proposed Planned Development.

5. 2025 Meeting Schedule

H. Discussion on Zoning Ordinance

I. Comments from the Chair

J. Comments from the Planning Commissioners

K. Comments from the Staff

L. Public Comment

M. Adjourn

**Public Comment Rules:**

This is an input option. The Commission will not comment or respond to presenters. Silence or non-response from the board should not be interpreted as disinterest or disagreement by the board.

- Speakers are asked, but not required, to identify themselves by name and address
- Limit comments to 3 minutes for limited public comment and 2 minutes for public comment at the end of the agenda
- Comments shall be addressed to the chair, not individual board members or others in the audience



**Charter Township of Elmwood  
Planning Commission Regular Meeting  
10090 E. Lincoln Rd.  
November 13, 2024 at 6:30 PM**

**A. Call to Order:** Chairman Bechtold called the meeting to order at 6:30 PM.

**B. Pledge of Allegiance:** The Chair led the Pledge of Allegiance.

**C. Roll Call: Present:** Jeff Aprill, Doug Roberts, Chris Mikowski, Rick Bechtold, Kendra Luta, Jonah Kuzma. Excused: Nate McDonald

**D. Limited Public Comment:** None

**E. Agenda Modifications/Approval:** *MOTION BY COMMISSIONER APRILL, SECONDED BY COMMISSIONER ROBERTS TO APPROVE THE AGENDA AS PRINTED. MOTION PASSED 6-0.*

**F. Minutes- October 15, 2024:** *MOTION BY COMMISSIONER LUTA, SECONDED BY COMMISSIONER KUZMA TO APPROVE THE MINUTES OF OCTOBER 15, 2024 AS PRESENTED. MOTION APPROVED UNANIMOUSLY.*

**G. Consent Calendar:** *MOTION BY COMMISSIONER ROBERTS, SECONDED BY COMMISSIONER LUTA TO ACCEPT THE CONSENT CALENDAR FOR FILING. MOTION PASSED UNANIMOUSLY.*

**H. Declaration of Conflict of Interest:** None

**I. Old Business:** None

**J. New Business:**

**1.) SPR 2024-06 Request by TCWC Holding Company, LLC regarding property at 9432 S Center Hwy. (Parcel 004-008-009-20) for a Distillery Tasting Room, visitor's center, and offices for TC Whiskey. Note: this review is for the site plan associated with SPR/SUP 2022-05; the SPR portion of that approval has expired. (48:45)**

Chris Frederickson, representative for Traverse City Whiskey, resident at 12055 S. Woodwinds Circle stated the site plan presented to the Commission is nearly identical to what they reviewed in the past, he just wanted to take a minute and thank the Planning Commission for their patience with their project.

Staff noted on the Staff report is the draft findings of fact and it calls out the modifications explicitly. Commissioner Kuzma commented that he didn't have any questions, it looked like it was all there and there was a lot in the packet that was substantiated.

The Commission proceeded through Standards for Site Plan approval and Findings of Fact. Staff noted with the recommended conditions of approval, in the italicized text, she indicated most of the Findings are carried over from the previous approval, and the Commission granted an extension of 1 year for the SUP at the last meeting. The updated condition of approval would be condition 14 which was copy and pasted from the recommended conditions from the Fire Chief within his most recent review.

The Commission made no modifications to the conditions included within the prepared Draft Findings of Fact. These conditions include:

- 1) *(from SPR/SUP 2022-05)* Snow storage shall not be located within the clear vision area nor shall it be located within the RoW without County approval.
- 2) *(from SPR/SUP 2022-05)* The distillery is licensed or will be licensed prior to occupancy by the appropriate Federal, State, and Local agencies. Evidence of this must be provided to the Zoning Administrator prior to occupancy.
- 3) *(from SPR/SUP 2022-05)* The distillery must be operated according to generally accepted agricultural management principles and the parcel shall have a minimum of five (5) planted acres of crop that is used for the on-site production of spirits.
- 4) *(from SPR/SUP 2022-05)* Prior to issuance of a Land Use Permit, a performance guarantee, or other such documents deemed sufficient by Counsel to ensure crops will be planted within one year of commencement of construction.
- 5) *(from SPR/SUP 2022-05)* As required by the Ordinance, the maximum size of tasting room shall be 2000 sq ft. The Commission is approving the requested 1,917 sq ft tasting room and said tasting room shall not be expanded without the appropriate approval.
- 6) *(from SPR/SUP 2022-05)* The project shall comply with all requirements of the Zoning Ordinance in effect at the time of approval, including, but not limited to Section 9.8.L.
- 7) *(from SPR/SUP 2022-05)* The property owner is responsible for obtaining all other applicable permits. This shall be done prior to obtaining a Land Use Permit.
- 8) *(from SPR/SUP 2022-05)* The Planning Commission is not approving any signage under this Site Plan Review. Any proposed signage will need to comply with the Zoning Ordinance and the property owner shall obtain a sign permit from the Zoning Administrator.
- 9) *(from SPR/SUP 2022-05)* In accordance with Section 6.5.4 of the Zoning Ordinance, All non-residential outdoor lighting fixtures, including display lighting, shall be turned off after close-of-business unless needed for safety or security, in which case the lighting shall be reduced to the minimum level necessary or an infrared sensor security fixture is used. Lighting for a parking area shall be installed so that the light is directed into the parking area only. Parking lot lights shall be extinguished after working hours or shall be placed on an infrared sensor. Further, Any installed parking lot lighting shall comply with the following requirements: 1. All pole-mounted lighting of parking or display areas shall be fully shielded, and in no case shall the light be permitted to extend above the horizontal plane of ninety (90) degrees. 2. Pole mounting height for any outdoor lighting shall not exceed twenty- five (25) feet.
- 10) *(from SPR/SUP 2022-05)* Landscaping shall be maintained in a healthy, growing condition. Diseased or dead materials shall be replaced within the current or next planting season.
- 11) *(from SPR/SUP 2022-05)* Once the project has been completed, the property owner or their representative shall submit As-Built plans in accordance with Section 8.6 of the Zoning Ordinance.
- 12) *(from SPR/SUP 2022-05)* Southern most entrance must be maintained in the winter for emergency access.
- 13) *(from SPR/SUP 2022-05)* A fire suppression easement be granted to the Fire Department, in accordance with Counsel.
- 14) Recommendations proposed by the Fire Chief in his 10/30/2024 letter will be made a condition of approval. These recommendations include:

- a. Applicant shall comply with IFC standards for clear widths and the maintenance of all fire apparatus access lanes. This includes snow removal and maintenance of fire lanes approved for construction with "grass pavers." *Reference: IFC 503.2.1 & 503.4.*
- b. Applicant shall provide address identification visible from the public right-of-way and at other approved locations to facilitate emergency response. Address identification and approved locations will comply, at a minimum, with IFC standards. *Reference: IFC 505.1.*
- c. Applicant shall maintain clear access to the existing on-site fire suppression water tank and hydrants *Reference: IFC 507.5.4.*
- d. Applicant shall place and maintain signage designating "NO PARKING - FIRE LANE" along the rear (west side) FAAL and near the hydrants to discourage obstruction. Signs shall be conspicuously spaced to discourage parking in these areas. Signage should substantially meet the IFC Appendix D Fire Apparatus Access Roads - Section D103.6: Signs. Any proposed alternatives to the standard shall be approved by the Fire Chief. *Reference: IFC 503.3 & D103.6.*
- e. Applicant shall ensure gates installed across fire apparatus access lanes are approved by the fire chief and have an approved means of operation. *Reference: IFC 503.6.*
- f. Applicant shall install a key box (Knox Box ®) for fire department access in a location approved by the fire chief. *Reference: IFC 506.1.*

15) Prior to issuance of a Land Use Permit, a signed set of plans shall be provided to staff.

*MOTION BY COMMISSIONER ROBERTS, SECONDED BY COMMISSIONER KUZMA TO ADOPT THE FINDINGS OF FACT AS PRESENTED. MOTION APPROVED BY A UNANIMOUS VOTE.*

*MOTION BY COMMISSIONER LUTA, SECONDED BY COMMISSIONER KUZMA TO APPROVE BASED ON THE FINDINGS OF FACT THEY JUST ADOPTED WITH THE CONDITIONS LISTED. MOTION PASSED UNANIMOUSLY.*

## **2.) Capital Improvement Plan. Public Hearing followed by Planning Commission deliberations.**

Chairman Bechtold read the statement to open the public hearing. Public hearing opened at 6:44 p.m.

**Public comment opened at 6:47 p.m. No comment was given. Public comment closed at 6:48 p.m. MOTION BY COMMISSIONER KUZMA, SECONDED BY COMMISSIONER APRILL TO CLOSE THE PUBLIC HEARING. MOTION PASSED UNANIMOUSLY.**

Staff noted before them is the drafted CIP memo she prepared indicates 3 things that changed since it last went before the Commission for introduction including updating the date of public hearing, the contributing fund for projects, and providing additional information for the fiber glass pump boxes. All of those items have been resolved.

*MOTION BY COMMISSIONER LUTA, SECONDED BY COMMISSIONER KUZMA TO RECOMMEND TO THE TOWNSHIP BOARD TO ADOPT THE CIP. MOTION APPROVED UNANIMOUSLY.*

**3.) Master (Comprehensive) Plan:** The Chair noted the Commission had some chapters they reviewed and their consultant Sara Kopriva of Beckett and Raeder will lead discussion.

Kopriva relayed that provided a memo in the packet that briefly explains what they have going on in this process. She also included some of the chapters because as they read through, it will help them get an idea of where other items may be, why they're not fully explained in some of these chapters or where they'll be located instead. She's not planning on walking through all of it, more like community engagement and here are the results, are there any comments about the information or any surprises or anything they'd like them to explore further, specifically with the community engagement summary. She did mention in the memo not to worry about the formatting part of it because it won't be in word in the future, it'll be laid out better, so a lot of these issues don't worry about now, she's looking for general policy and content to see if there's anything they need to work on.

The Commission went through the chapters with Sara and asked questions and gave comment. They will review the Master (Comprehensive) Plan again at a later date.

**K. Discussion on Zoning Ordinance: N/A**

**L. Comments from the Chair:** Chairman Bechtold thanked the Commissioners for their excellent preparation, good questions, and thoughtful review of all the information.

**M. Comments from Planning Commissioners:** Commissioner Mikowski said she would be staying on for 2 more years after being appointed at the Board meeting last night.

**N. Comments from Staff:** Staff thanked Commissioner Mikowski for staying on. Also, in the new year she'll send along training info. She then relayed that the State has adopted new GAAMPS, including ones specific to farm markets. The draft GAAMPS are still online, but once they are adopted, she'll add those to the consent calendar. She noted the housing summit has all the materials online.

**O. Public Comment:** None

**P. Adjourn:** *MOTION BY COMMISSIONER LUTA, SECONDED BY COMMISSIONER APRILL TO ADJOURN MEETING AT 7:24 PM. MOTION PASSED UNANIMOUSLY.*

To: Elmwood Township Board  
From: Sarah Clarren, Planner/Zoning Administrator  
RE: November 2024 Planning and Zoning Report

| PERMITS:               | 11/2024    | 11/2023 | YTD 2024   | YTD 2023   |
|------------------------|------------|---------|------------|------------|
| Single Family Dwelling | 1          | 0       | 18         | 12         |
| Attached SFD           | 0          | 0       | 0          | 0          |
| Accessory Building     | 0          | 0       | 4          | 4          |
| AG Building            | 0          | 0       | 2          | 5          |
| Residential Addition   | 0          | 0       | 3          | 10         |
| Deck                   | 0          | 0       | 12         | 8          |
| Sign                   | 0          | 0       | 3          | 3          |
| Commercial             | 1          | 0       | 6          | 4          |
| B&B                    | 0          | 0       | 3          | 0          |
| Misc.                  | 1          | 0       | 8          | 9          |
| Total Permits          | 3          | 0       | 60         | 56         |
| Fees Collected         | \$1,157.72 | 0       | \$7,194.29 | \$5,640.31 |

**Zoning Board of Appeals:**

**November 6**, Regular Meeting. *Cancelled due to no new hearings.*

**December 4**, Regular Meeting. TC Whiskey Extension Request for 15’ height variance.

**Planning Commission:**

**November 13**, Regular Meeting. 1) SPR 2024-06 (no public hearing required). Request by TCWC Holding Company, LLC regarding property at 9432 S Center Hwy (Parcel 004-008-009-20) for a Distillery Tasting Room, visitor’s center, and offices for TC Whiskey. *Note: this review is for the site plan associated with SUP 2022-05; the SPR portion of that approval has expired – approved with conditions.* 2) Master (Comprehensive) Plan. Commission review and discussion on prepared chapters – *Planning Commission made minor suggestions based on presented chapters. Discussion to follow in 2025.* 3) Capital Improvement Plan. Public Hearing followed by Commission deliberations – *Planning Commission recommended that the Township Board adopt the plan as presented.*

**December 10**, Regular Meeting. *Cancelled.*

**Office Updates:**

**STRs.** 93 licenses for 2024 have been issued. 13 applications are on waitlist. Renewal period ran 10/1 – 10/31; office did not receive renewal applications for 7 properties. Staff is currently working through renewal applications and as of 12/3 has issued 31 licenses for 2025; Staff is on track to review and issue all renewals by 12/31.

**Trainings/Conferences.** Staff attended an informal local Planners/Zoning lunch group in November. This informal group used to meet regularly and will likely be meeting quarterly in 2025.

**Parks.** Consultant has revised Conceptual Plan 3 pursuant to the Board’s comments; due to the number of agenda items on the Board’s November meeting, this matter was postponed to the December agenda. Equipment update: Staff discussed installing woodchips this year, but due to snowfall, will likely be postponed until spring 2025 after the remaining equipment has been installed.

**Northwest Regional Airport Authority (NRAA) Joint Airport Zoning Board.** Next meeting scheduled for 1/8/25.

**Master (Comprehensive) Plan.** Beckett & Raeder continuing to work on chapters which will likely be discussed by the Commission in early 2025.

**TTCI.** Staff (and working group) have been working with Road Commission on application for funding for work on Cherry Bend. Applications are due on 12/6.





# Charter Township of Elmwood Planning Commission 2024 Annual Report

## 1. Introduction

The Planning Commission is an administrative body of seven residents comprised of six appointed officials and one elected official. The Planning Commission (PC) holds regular monthly meetings, typically, on the third Tuesday of each month. The Planning Commission is tasked with reviewing applications for site plan review, special land uses, planned developments, and zoning amendments (map and text).

## 2. Purpose of the Annual Report

The Michigan Planning Enabling Act (MPEA) contains language of the requirement of the Planning Commission to prepare an annual report to the Township Board. Further, by preparing an annual report, it increases information-sharing between staff, boards, commission, and the governing body. It is also an opportunity for Staff to thank the Planning Commission for their dedication to civic service, attention to detail, and thorough review of every application.

## 3. Membership

| Planning Commission Member           | Term Expiration   |
|--------------------------------------|-------------------|
| Rick Bechtold, Chair                 | May 31, 2025      |
| Jeff Aprill, Vice-Chair              | June 7, 2026      |
| Jonah Kuzma, Secretary               | May 31, 2024      |
| Chris Mikowski – Township Board Rep. | November 20, 2028 |
| Doug Roberts                         | June 7, 2026      |
| Kendra Luta                          | June 21, 2025     |
| Nathan McDonald                      | June 21, 2025     |

## 4. Meetings (Michigan Planning Enabling Act requires four meetings annually)

The Elmwood Township Planning Commission met 13 times in 2024; three of which were special meetings. This meets the requirements of MPEA. In 2024, the Commission met 19 times.

| Meetings 2024   | Rick Bechtold<br>Chair | Jeff Aprill<br>Vice-Chair | Jonah Kuzma<br>Secretary | Doug Roberts | Nate McDonald | Kendra Luta  | Chris Mikowski<br>Town Board |
|---|------------------------|---------------------------|--------------------------|--------------|---------------|--------------|------------------------------|
| January 16  | P                      | P                         | P                        | P            | E             | P            | P                            |
| February 20   | P                      | P                         | P                        | E            | E             | P            | P                            |
| *March 5  | P                      | P                         | P                        | E            | P             | P            | P                            |
| March 19  | P                      | P                         | P                        | E            | E             | E            | P                            |
| April 16  | P                      | P                         | P                        | P            | P             | P            | P                            |
| *June 13  | P                      | P                         | E                        | P            | P             | P            | P                            |
| June 18   | P                      | P                         | P                        | P            | P             | P            | P                            |
| *August 15  | P                      | P                         | P                        | P            | E             | P            | P                            |
| August 20   | P                      | P                         | P                        | P            | E             | P            | P                            |
| September 17  | P                      | P                         | P                        | P            | E             | P            | P                            |
| October 15  | P                      | P                         | P                        | P            | A             | P            | P                            |
| November 13   | P                      | P                         | P                        | P            | E             | P            | P                            |
| December 4  | P                      | P                         | P                        | P            | E             | P            | P                            |
| <b>Total Meetings Attended</b>  | <b>13/13</b>           | <b>13/13</b>              | <b>12/13</b>             | <b>10/13</b> | <b>4/13</b>   | <b>12/13</b> | <b>13/13</b>                 |
| <b>Meeting Attendance: P=Present E=Excused A=Absent * = Special Meeting</b> |                        |                           |                          |              |               |              |                              |

## 5. Master (Comprehensive) Plan Review

The Township has contracted with Beckett and Raeder, Inc. as a consultant to assist the Commission in its preparation of the Plan. A survey was mailed to all residents and property owners in summer 2024 and the Commission held an open house. Beckett and Raeder continues to work on chapters which the Commission will review throughout 2025.

## 6. Development Reviews (Planning Commission) and Variance Requests (ZBA)

| Project Type | Location                                    | Brief Description  | Status                   | Action Date |
|--------------|---|--|--------------------------|-------------|
| SPR          | 13051 S West-Bay Shore Dr (Township Marina) | Phase 3a-c of Elmwood Township Marina Project  | Approved with condition  | 1/16        |
| SPR          | 0, 13223, 13240, 13272, 13271, and          | Discovery Pier Phase II and III (Elements from previously approved Planned Development; parking lot landward of M22) | Approved with conditions | 3/19        |

|          |                           |  |                          |       |
|----------|---------------------------|--|--------------------------|-------|
|          | 13170 S West-Bay Shore Dr |  |                          |       |
| SPR/SUP  | 8525 E Lincoln Road       | Bay View Distillery Tasting Room   | Approved with conditions | 4/16  |
| SPR      | 0 S Lake Leelanau Dr      | TART Trailhead Parking Improvements  | Approved with conditions | 4/16  |
| Variance | 10195 S West-Bay Shore Dr | Reduce 30' front setback for front entry to 18'  | Approved with conditions | 5/1   |
| Variance |                           | Reduce 10' side setback to alter existing nonconforming garage to replace roof trusses and construct storage space above existing garage.  | Approved with conditions | 5/1   |
| Variance | 10989 S West-Bay Shore Dr | Reduce 30' front setback to 12' to construct front porch; Proposed front porch would not encroach further into front setback than existing home.   | Approved                 | 9/4   |
| SPR/SUP  | 10051 S Lake Leelanau Dr  | Expansion and relocation of the Agricultural Commercial Enterprise (Farm Market) building previously approved by the Planning Commission on 10/24/2023.  | Approved with conditions | 9/17  |
| SPR      | 9432 S Center Hwy         | Distillery Tasting Room, visitor's center, and offices for TC Whiskey. <i>Note: this review was for the site plan associated with SPR/SUP 2022-05; the SPR portion of that approval has expired.</i> | Approved with conditions | 11/13 |

## 7. Zoning Ordinance Text and Map Amendments

- ZO 2017-04-17. A Zoning Ordinance Amendment to Amend Section 2.2 Definitions to add definitions for 'Active Farm Operation,' 'Festival,' and 'Special Event Facilities;' amend Section 5.4 to allow for Special Event Facilities within the Agricultural-Rural Zoning District, with a Special Use Permit and to renumber the subsequent uses within the Land Use and Zoning District Table; amend Section 6.1.3 to add minimum required parking spaces for Special Event Facilities; amend Section 9.8.H to include standards and regulations specific to Special Event Facilities. **Action:** adopted by the Township Board, effective 6/28/24.
- ZO 2017-04-22. A Zoning Ordinance amendment to amend Section 2.2 to add a definition for Dwelling, Multi and to modify the existing definitions for Parcel, Lot, lot Area and Net Lot Area; amend Section 3.14 to reintroduce development requirements for Multi-Dwelling developments; add Note 'I' to Section 5.6 to reference residential density requirements to Section 3.14; modify Section 7.1.2 so residential base density is determined using net acreage; modify Section 7.2.2 so residential density is based off of net lot area; modify Section 8.4.12 to have Site Plan Review applicants submit the gross lot area and net lot area. **Action:** adopted by the Township Board, effective 6/28/24.
- ZO 2017-04-23. A Zoning Ordinance amendment to amend Section 2.2 to add definitions for Alcohol, Beer, Brewer, Brewery, Distiller, Micro Brewer, Small Distiller, Small Wine Maker, Spirits, Tasting Room, Wine Maker, revise definitions for Distillery, Wine, Winery, and eliminate definitions for Distillery Tasting Room, Wine, Brandy, Wine Drink, Mixed, Wine Related Beverages, and Wine Tasting Room; amend Section 5.4 to eliminate Distillery Tasting Rooms, Microbreweries/ Distilleries, and Wine Tasting Room, Add 'Distillery and/or Brewery' and 'Tasting Room' as permitted uses under Site Plan Review or Special Use Permit in certain zoning districts, allow Winery as a use within the General Commercial and Light Industrial districts under Site Plan Review, renumber uses; amend Section 5.5.K to eliminate two requirements for Temporary Produce Stands and renumber subsequent requirements; add Section 5.5.N to contain requirements for Wineries, Distilleries, and Breweries; amend Section 6.1.3 to list parking requirements for Wineries, Distilleries, and Breweries; amend Section 9.8.J to contain requirements for Tasting Rooms for Wineries, Distilleries, and Breweries; eliminate Section 9.8.L Distillery Tasting Room and its requirements and reserve Section 9.8.L for future use. **Action:** adopted by the Township Board, effective 12/27/24.

## 8. In Closing & Looking Forward

The Commission and ZBA have had a busy year. Throughout 2025, in addition to reviewing applications as they are submitted, the Commission will also continue the process for updating the Master (Comprehensive) Plan, review existing CIP and update as necessary, as required by Michigan Planning Enabling Act, review Zoning Ordinance for any necessary updates, and will hold quarterly work session meetings for review of policies and ordinance, if necessary. The Commission has no recommendations to the Township Board at this time.

Approved by Planning Commission:  
Submitted to Township Board:



# LET'S TALK ABOUT HOUSING

## LEELANAU COUNTY

Please join the Leelanau County Housing Collaborative Committee members for a Housing Workshop on January 8th from 6-8 p.m. at the Leelanau County Government Center (Community meeting room). The Collaborative is comprised of organizations working on housing solutions in Leelanau County and includes Sleeping Bear Gateway Council, Leelanau Peninsula Economic Foundation, Leelanau County Housing Action Committee, Leelanau Peninsula Chamber of Commerce, Peninsula Housing and Housing North.

**When: January 8th  
6-8PM, 2025**

**Where: Leelanau County  
Government Center (Community  
Meeting Room)**

We will share resources and materials from the Leelanau Housing Ready Program" to help Leelanau communities evaluate their own standards, strategies, plans and ordinances in addressing housing solutions. This workshop is ideal for key partners, housing advocates, and community leaders dedicated to promoting housing solutions in Leelanau County. [Here is a link](#) to register for the workshop. Refreshments provided.

For questions, contact our Executive Director Yarrow Brown at [yarrow@housingnorth.org](mailto:yarrow@housingnorth.org).

[Housingnorth.org/events](https://Housingnorth.org/events)





To: Elmwood Planning Commission  
From: Sarah Clarren, Planner / Zoning Administrator  
Date: 12/30/2024  
RE: PD (SPR/SUP) 2025-01, Freshwater Research and Innovation Center Introduction

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Below you will find a staff report, using the template for Findings of Fact. Consistent with other applications and their reviews, staff has listed the requirements of the Ordinance and where those required elements can be found within the application.

The matter is currently before the Commission for introduction where the Commission is tasked with determining if it is a complete application based on the requirements (not standards) of the Ordinance. If the Planning Commission finds the application to be complete, the following motion may be used:

**Motion:** To schedule a public hearing for PD (SPR/SUP) 2025-01, Freshwater Research and Innovation Center at the next available Planning Commission meeting.

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**ELMWOOD CHARTER TOWNSHIP  
PLANNING COMMISSION**

STAFF REPORT

PD (SPR/SUP) 2025-01, Freshwater Research and Innovation Center

|               |  |           |  |
|---------------|--|-----------|--|
| Applicant:    | Cornerstone Architects Inc.<br>122 S. Union St. Suite 200<br>Traverse City, MI 49684   | Owner:    | Discovery Center Great Lakes dba Discovery Pier<br>13170 S West-Bay Shore Dr, Suite 100<br>Traverse City, MI 49684 |
| Engineer:     | Gozling Czubak<br>1280 Business Park Drive<br>Traverse City, MI 49684  | Surveyor: | Same as Engineer   |
| Hearing Date: | TBD  |           |  |
| Case Number:  | PD (SPR/SUP) 2025-01 – Request by Cornerstone Architects Inc regarding property at 13272, 12340, and 0 S West-Bay Shore Dr (Parcels 033-080-00, 033-077-00, 033-074-00) for work described as the Freshwater Research and Innovation Center. This is a proposed Planned Development. |           |  |

PROPERTY DESCRIPTION

Parcel ID #                    004-033-080-00 (13272 S West-Bay Shore Dr., 6.97 acres)  
                                      004-033-077-00 (12340 S West-Bay Shore Dr., 2.27 acres)  
                                      004-033-074-00 (0 S West-Bay Shore Dr., 4.00 acres)

The above referenced parcels are located in the General Commercial (GC) Zoning District. These parcels are located within Section 33 of Elmwood Township.

APPLICATION

On behalf of Discovery Center, Cornerstone Architects has filed a Planned Development (PD) application for the Freshwater Research and Innovation Center. PDs are permitted within the GC Zoning District with a Special Use Permit (SUP). Pursuant to the Zoning Ordinance, “The provisions of the PD are designed to permit a degree of flexibility not available through conventional underlying zoning districts that results in a development that fully

utilizes the assets of the subject property, meets and exceeds the objectives of the Elmwood Township Master Plan and adopted subarea plans, and integrates successfully with surrounding properties and neighborhood.” Our Zoning Ordinance also clearly lists that the intent of Planned Developments are authorized to be created for the purposes of

1. Encouraging the use of land in accordance with its character and adaptability.
2. Conserving natural resources, natural features, energy, and improving water quality.
3. Encouraging innovation in land use planning by providing walkable neighborhoods and districts, and increasing vehicular and pedestrian connectivity between properties and land uses.
4. Encouraging enhanced housing, employment, shopping, recreational/open space opportunities for the people of Elmwood Township.
5. Bringing about a greater compatibility of design and use between neighboring properties.
6. Encouraging quality design and construction of building and site amenities.
7. Permitting mixed uses within the same building, or on the same parcel.
8. Facilitating the implementation of the Township Master Plan and adopted subarea plans.

As previously noted, PD’s are permitted with a Special Use Permit. The Ordinance indicates that “...approval of a PD does not constitute approval of the PD site plan. The PD Plan site plan review process commences once the PD Plan is approved by the Planning Commission. The Applicant, at its discretion, can concurrently submit for review the PD Plan and Site Plan.” In this case, the Applicant has requested both approvals simultaneously. This means that during this review, the Planning Commission must ensure the requirements and all standards of Article 7 (PD), Article 8 (Site Plan Review), and Article 9 (Special Use Permits) are met.

The use, on face value, is quite unique and doesn’t fit into any one use within our Zoning Ordinance. However, when one examines Section 5.4, one can see that the proposed use is a culmination of many permitted uses within the GC Zoning District (schools, business and professional offices, museums, conference center and banquet facilities, light industrial, light fabrication, restaurant). Regardless, Exhibit B within the application indicates that “The Freshwater Research & Innovation Center is a commercial building primarily used for research along with community outreach education. Research & community outreach education uses are not specifically identified in the Zoning Ordinance Section 5.4 Land Use and Zoning District Table nor Section 6.1.3 (off-street parking) Spaces Required, thus we are requesting a variation to allow for our proposed Use-Type and minimum parking space requirements through a Planned Development (PD). Exhibit A outlines how Freshwater Research & Innovation Center will help facilitate the Township Sub-Area Master Plan as well as fulfill the intents and purposes of a PD. The building is compatible with all the General Commercial (GC) Zoning District Requirements including Section 5.6 Table of Dimensional Requirements...” Staff would note that light posts fall under the definition of structure and therefore setbacks apply; the lights do not meet the 30’ wetland and water’s edge setback. Other than these items, the Applicant has not indicated that they are seeking any other variations from the Ordinance as permitted through a PD. Exhibit B also contains a parking table indicating the uses and parking calculation. Bike parking is shown on Sheet C200 and it is important to note that the plans do call for a future TART Trail connection.

In regards to rendering a decision, after having held a public meeting and public hearing on *TO BE SCHEDULED* with due notice as required by law, the Planning Commission having heard the statements of the applicant and agents, the Planning Commission having considered documents and testimony submitted by members of the public, the Planning Commission having considered all exhibits and the Planning Commission having reached a decision on this matter, state that the below Findings are based on the entire record regardless of whether a specific exhibit is not listed under a specific Finding or Standard. In addition, the Planning Commission recognizes that, pursuant to law, the applicant has the burden of establishing that applicable standards and requirements have been met.

#### **SECTION 7.2.2.E. Planned Development (PD) Plan.**

It is the responsibility of the Applicant to provide pertinent and useful information to the Planning Commission upon which to base their decision. If the PD is to be developed in phases, the PD Plan shall show all phases. The PD Plan shall contain, or include with it:

1. A narrative statement together with supporting charts, maps and documents describing the project. Information shall include, but is not limited, to the following:
  - a. The total number of acres in the project. *Provided (application; 15.6acres, (13.24))*

- b. The number of acres to be occupied by each type of use. **Provided (application; 1.8 acres; needs clarification prior to a public hearing)**
  - c. The number of residential units *N/A*
  - d. A residential density calculation indicating the total number of dwelling units divided by the net lot area, and a more detailed residential density calculation that divides the number of a specific unit type by the net lot area associated with that specific unit type. *N/A*
  - e. The number of acres and/or square feet and type of nonresidential uses. *N/A*
  - f. The number of acres and/or square feet to be preserved as common open or recreational space. **Provided; per representative, Approximately 2 acres are preserved “for the purpose of constructing amenities to facilitate public recreation” through a Public Access Easement as required for the Michigan Natural Resources Trust Fund grant, see Exhibit G. It was executed back in 2021 and will be recorded when we close out the grant after the current construction is complete.**
  - g. The relationship of the proposed PD to the Township Master Plan and adopted subarea plans. **Provided (Exhibit A)**
  - h. The implementation phases of the PD, the approximate time frame to complete each phase, and a specific schedule of the intended development and construction schedule details, including anticipated construction start and completion dates. **Provided (application)**
  - i. Proposed utility services and how they are to be provided, including, but not limited to, water, sanitary sewer, telecommunications, and storm water **Provided (C300, C400, C502, C503)**
2. Plans shall be drawn at a conventional scale that is appropriate to the size of the property and the proposed planned development. The PD Plans shall contain the following:
- a. The name of the PD, the applicant’s name, the name and address of the firm or individual who prepared the preliminary development plan, date, scale, and north arrow. **Provided (application)**
  - b. Property lines, dimensions of all property lines, and size of the PD (and individual phases) in acres. **Provided (C100, application)**
  - c. Existing zoning and land uses of all abutting properties. **Provided (C100)**
  - d. Significant natural features on the site as defined in Section 7.2.2.E.1(l) above. **Provided (creek and wetlands)**
  - e. Existing buildings and structures on the site and those located on abutting land within fifty (50) feet of a common property line. **Provided (C100)**
  - f. Proposed uses, buildings, and their locations. **Provided (various sheets and application)**
  - g. Rights-of-way and pavement edges or curb lines of existing streets abutting the PD. **Provided (various sheets)**
  - h. Locations of proposed access drives, parking lots, and streets within the PD. **Provided (various sheets)**
  - i. Proposed walkways or pedestrian paths. **Provided (Sheet C200)**
  - j. Proposed methods of providing water, sanitary sewer, and storm water drainage facilities.
  - k. Layout and typical dimensions of proposed lots. **Provided (various sheets)**
  - l. The general improvements that constitute a part of the development, including, but not limited to lights, signs, service areas, dumpsters, mechanisms designed to reduce noise, utilities, and visual screening features. **Provided (various sheets)**
  - m. Specifications for exterior building materials for structures proposed in the project. **Provided (Sheet A002)**
  - n. Elevations for proposed buildings or building types. **Provided (Sheet A002)**
  - o. Photometric plans for the project area. **Provided (Sheet E004)**

#### **SECTION 8.4 REQUIREMENTS FOR SITE PLAN APPROVAL**

The following information shall be provided with the site plan as indicated, unless waived by the Zoning Administrator when such information is not applicable. The site plan must be drawn at a scale of one (1) inch equals one hundred feet (1”=100’) or less. Required site plan elements shall include:

1. Applicant's name, address, and telephone number. **Provided (application, Sheet ATS).**
2. Property owner's name, address, telephone number, and signature. **Provided (application, Sheet ATS).**
3. Proof of property ownership, and whether there are any options or liens on the property. **Provided (Exhibit D1, D2, D3)**
4. A signed and notarized statement from the owner of the property that the applicant has the right to act as the owner's agent. **Provided (Exhibit C)**
5. The address and/or parcel number of the property, complete legal description and dimensions of the property, width, length, acreage, and frontage. **Provided (Sheet C100, Exhibit D1, D2, D3).**
6. Seal of the registered engineer, architect, and landscape architect who prepared the plan, as well as their names, addresses, and telephone numbers. **Provided (Sheet ATS stamped by architect).**
7. Project title or name of the proposed development. **“Freshwater Research and Innovation Center”**

8. Statement of proposed use of land, project completion schedule, and any proposed development phasing. *Provided (Application: "Bidding to occur in Spring 2025, Construction to start between August – November 2025 and construction completion in November 2026 – February 2027")*.
9. Statements regarding the project impacts on existing infrastructure, including traffic, schools, existing utilities, and the natural environment on and adjacent to the site. *Provided (Exhibit F)*.
10. Total number of units, employees, bedrooms, offices, total and usable floor area, amount and type of recreation or open space proposed, and similar information required to evaluate compliance with the Ordinance. *Provided (Application: "The building will include 10 labs, the Discovery Center offices (5 individual offices & an open office area), and education-type spaces, with a total number people ranging from 40-60 people. Total gross building area is 37,528 square feet; please see Sheet A001 for gross area breakdown per floor. Total usable area is 21,040 square feet. Approximately 2 acres are preserved "for the purpose of constructing amenities to facilitate public recreation" through a Public Access Easement as required for the Michigan Natural Resources Trust Fund grant, see Exhibit G"*
11. A vicinity map showing the area and road network surrounding the property. *Provided (Sheet ATS & C100)*
12. The gross and net acreage of the parcel. *Provided (C200) but questions remain on accuracy. Says gross is 15.86 and net is 9.57, but the project area is only on three of the previously listed 4 parcels. This should be clarified prior to a public hearing.*
13. Land uses, zoning classification, and existing structures on the subject parcel and adjoining parcels. *Provided (Application / Sheet C100).*
14. Location of proposed and/or existing property lines, dimensions, legal descriptions, setback lines, and monument locations. *Provided (Sheets C100).*
15. Existing topographic elevations at two (2) foot intervals, except at five-foot intervals where slopes exceed 18%. *Provided (Sheets C100).*
16. The location & type of existing soils on the site, and any certifications of borings. *Provided (C100, C300, C504).*
17. Location and type of significant existing vegetation. *Provided (C100, C101).*
18. Location and elevations of existing water courses and water bodies, including county drains and man-made surface drainage ways, floodplains, wetlands, and sand dunes. *Provided (Sheet C100).*
19. Location of existing and proposed buildings and intended uses thereof, as well as the length, width, and height of each building or building envelope. *Provided (Various; C100, C200, A001).*
20. Proposed location of all proposed structures, buildings, equipment, and uses. *Provided (Various; C200, A001)*
21. Elevation drawings of typical proposed structures and accessory structures. *Provided (Sheet A002).*
22. Location of existing public roads, rights-of-way, easements of record, and abutting streets. *Provided (various sheets (C100))*
23. Location and dimensions of proposed streets, drives, curb cuts, and access easements, as well as acceleration, deceleration, and passing lanes, including those within 100 feet of the property. *Provided (various sheets C200, C500).*
24. Location, design, and dimensions of existing and/or proposed curbing, barrier-free access, carports, parking areas (including indication of all spaces and method of surfacing), fire lanes, and all lighting thereof. *Location shown on various sheets (C200, C500)*
25. Location, size, and characteristics of all loading and unloading areas. *Provided (C200)*
26. Location and design of all sidewalks, walkways, bicycle paths, and area for public use. *Provided (C200, C500)*



27. Location of water supply lines and or wells, including fire hydrants and shut off valves; and the location and design of storm sewers, retention or detention ponds, waste water lines, and clean-out locations; and connection points and treatment systems (including septic system if applicable). *Provided (C400, C501, C502, C503)*
28. Location of all other utilities on the site, including, but not limited to, natural gas, electric, cable TV, telephone, and steam. *Provided (C400).*
29. Proposed location, dimensions, and details of common open spaces, and common facilities such as community buildings or swimming pools, if applicable. *N/A*
30. Location, size, and specifications of all signs and advertising features, including cross-sections. *Provided (C200 shows location; signs permitted by ZA in accordance with Sec. 6.6 of the Ordinance).*
31. Exterior lighting locations, with area of illumination illustrated as well as the type of fixtures and shielding to be used. *Provided (E003, E004, E005, E006; note that they are close to the creek and wetlands)*
32. Location and specifications for all fences, walls, and other screening features, with cross sections shown. *Provided (C200, C500)*
33. Location and specifications for all proposed perimeter and internal landscaping and other buffering features. The proposed sizes of landscape materials (not previously existing) must be indicated. All vegetation to be retained on site must also be indicated, as well as its typical size by general location, or range of sizes as appropriate. *Very partially provided. Location of proposed vegetation shown on C200, but no indication on what will remain and no landscape specifications provided. In conversations with representative, Applicant currently developing landscaping plan; the Township currently has limited requirements for landscaping/buffering for commercial projects not adjacent to residential use/lots, which is why staff is moving this forward for introduction without this information in-hand.*
34. Location, size, and specifications for screening of all trash receptacles and other solid waste disposal facilities. *Provided (C200, C500)*
35. Location and specifications for any existing or proposed (above or below ground) storage facilities for any chemicals, salts, flammable materials, or hazardous materials. Include any containment structures or clear zones required by county, state, or federal government authorities. *N/A*
36. Identification of any significant site amenities or unique natural features, and whether they will be preserved. *Provided (Sheet C100)*
37. North arrow, scale, and date of original submittal and last revision. *Provided, various sheets.*

### **SECTION 7.2.3 Standards and Requirements For Approval**

- A. When the Planning Commission makes a decision regarding a PD Plan in any zoning district a PD is allowed, they shall make them based on compliance with the standards in Article 9 and the following standards. If there is a conflict between these standards and the standards in Article 9, these standards shall prevail.
  1. Land uses shall be consistent with the intent of the underlying zoning district and the Elmwood Township Master Plan and adopted sub-area plans.
  2. The PD shall meet the minimum land area requirements specified for the underlying zoning district.
  3. A PD shall comply with all dimensional and use regulations of the underlying zoning district, unless variations are otherwise approved by the Planning Commission. (Also see requirements for Rural Resort District Below) Such proposals shall be accompanied by supporting material demonstrating that the variations would provide equal or greater protection to adjacent or nearby properties.
  4. The lands comprising a PD must be subject to unified ownership or control so that the person or legal entity applying for PD approval has proprietary responsibility for the completion of the development, if approved. If multiple persons or legal entities have ownership interests in the land, all such persons or entities shall sign the PD application. If the application is signed by a prospective purchaser or person who has optioned the land, written consent by all owners of the land must be submitted with the application.

5. As provided for in this paragraph, except for on-site septic systems and wells, water supply and sanitary sewage disposal in and for a PD shall only be accomplished by public or community water supply and sanitary sewer systems. These must be approved by the Health Department and other agencies having jurisdiction and be in compliance with applicable Township ordinances. If approved by the Health Department, on-site septic systems and wells may be permitted for individual residential lots containing a single-family dwelling.
6. The PD Plan must be consistent with the intent of this Article, as described in Section 7.2.1, and it must also represent a development opportunity for the community that could not be achieved through conventional zoning.
7. The PD Plan and its proposed uses must be compatible with the type, character, and density of land uses on adjacent and nearby lands based on the future land use map in the Elmwood Township Master Plan and adopted subarea plans.
8. The proposed PD must be compatible with the capacities of public services and facilities affected by the development.
9. The proposed PD must preserve significant natural features, if any.
10. If a proposed PD lies partially outside the jurisdictional boundary of the township, then the minimum parcel size shall be based on the total size of the project and not just that portion located within the township.
11. The proposed PD must provide for useable open space which meets the following standards:
  - a. At least ten (10) percent of the parcel(s) acreage or square footage.
  - b. Acreage or square footage provided shall be for recreation use and shall be accessible to the occupants or users of the PD.
  - c. No area which exceeds twelve (12) percent grade shall be allocated or designated as useable open space. Page 7-12 Article 7- Land Development Options
  - d. At least 40% of the total area required as usable open space shall be landscaped and maintained.
  - e. Any useable open space which is not planted shall be developed to encourage outdoor recreational use and shall include such elements as decks, sports courts, outdoor seating, decorative paved areas, and walkways which do not serve as entrance walkways.
  - f. No area designated for off-street parking and loading areas, service areas, driveways, required walkways, or portions thereof, or any features that are used for required access to dwelling units shall be counted as satisfying any useable open or recreation space area requirement.
12. Landscaping must be provided to insure that proposed uses will be adequately buffered from one another and from surrounding public and private property meeting the minimum requirements of Section 6.4, as applicable.
13. Motor vehicle access to the uses within a PD shall be from interior roads only unless approved otherwise by the Planning Commission or the Leelanau County Road Commission. Safe, convenient and well-defined vehicular and pedestrian circulation within, and access to, the development must be provided.

#### **SECTION 8.5 REVIEW AND APPROVAL**

- A. All applications for site plan approval shall be reviewed against the standards and requirements of this Ordinance. Only when satisfied that the application meets all standards and requirements shall the Planning Commission approve, or approve with conditions, an application for site plan approval to ensure the health, safety, and welfare of the residents of Elmwood Township.
- B. **Standards for Site Plan Approval.** The Planning Commission shall make a finding that the following standards are met prior to approving a site plan:
  1. All required site plan and application information has been provided as specified in this Article.
  2. All required permits and approvals from outside agencies have been secured, or have been made a condition of site plan approval. Further, all applicable standards of agencies including, but not limited, to the Township Fire Department, Michigan Department of Transportation, Leelanau County Road Commission, Leelanau County Drain Commission, Health Department, and the Michigan Department of Environmental Quality (MDEQ) have been met or can be made a condition of site plan approval.

3. Adequate essential facilities and services including highways, streets, police, fire protection, drainage structures, refuse disposal, water and sewage facilities, and schools are available, or the provision of such facilities and services has been assured.
4. Compliance with all non- zoning ordinances adopted by the Township, including, but not limited to the private road ordinance.
5. All buildings and structures shall be designed, constructed, operated, and maintained so as to be harmonious, compatible, and appropriate in appearance with the existing or intended character of the general vicinity.
6. The buildings, structures, and entryway thereto proposed are situated, designed, and screened/buffered so as to minimize any adverse effects upon owners and occupants of adjacent properties and the neighborhood.
7. All buildings and structures are accessible to emergency vehicles.
8. Complete and safe pedestrian, non-motorized and vehicular circulation is provided.
9. The percentage of impervious surface has been limited on the site to the extent practicable.
10. Efforts have been made to protect the natural environment to the greatest extent possible.
11. There exists within the site plan sufficient protection to accommodate storm water runoff on the site location.
12. The proposal furthers the goals and objectives of the Master Plan.

### **SECTION 9.3 STANDARDS, REQUIREMENTS AND FINDINGS**

The Planning Commission shall review the particular circumstances of the special land use permit application in accordance with the requirements of this Article and Article 8. Approval of the special land use application shall be contingent upon approval of the site plan and a finding of compliance with all of the General Standards and Specific Requirements listed below:

#### **A. General Standards.**

1. The proposed special land use meets the objectives, intent, and purposes of this Article and the zoning district in which the proposed special land use is to be located.
2. The proposed special land use is designed, and is intended to be constructed, operated, maintained, and managed so as to be consistent with the existing or intended character of parcels within the zoning district.
3. The proposed special land use meets or exceeds the minimum requirements for the zoning district in which it is requested to be located.
4. The proposed special land use will be served adequately by essential public utilities, facilities, and services such as water supply, wastewater disposal, highways, roads, police and fire protection, drainage structures, and refuse disposal. Alternatively, such services, if adequate to serve the proposed special land use, may be provided privately or by a combination of public and private providers.
5. The proposed special land use will not adversely impact existing or future neighboring uses. For example, but without limitation, the proposed special land use shall be designed as to location, size, intensity, site layout, and periods of operation to eliminate any possible conflicts. Additionally, it shall not be detrimental to any persons, property, or the general welfare by reason of excessive smoke, fumes, glare, noise, vibration, and odors, nor have

adverse environmental impacts and detrimental effects on the general aesthetics or appearance of the character of existing or future neighborhood uses.

6. The proposed special land use shall not have an adverse effect on the natural environment beyond the normal impacts of permitted principal uses in the same zoning district, and shall not result in impairments, pollution or destruction of the air, surface, ground water, vegetation, and other natural resources.
7. The proposed special land use will not create excessive additional requirements or costs for public facilities, utilities and services.
8. The proposed special land use has met or will meet all requirements of other Township, County, State, and Federal ordinance and code requirements.
9. The following specific requirements shall be met to the extent applicable to the proposed special land use:
  - a. Ingress and egress for the special land use shall be controlled to ensure maximum vehicular and pedestrian safety, convenience, and minimum traffic impact on adjacent roads and highways, drives, and nearby uses including, but not limited to:
    - a. Minimization of the number of ingress and egress points through elimination, minimization, and consolidation of drives and curb cuts;
    - b. Proximity and relation of driveway to intersections;
    - c. Minimization of pedestrian and vehicular traffic conflicts;
    - d. Adequacy of sight distances between road and driveway intersections as specified in Section 6.2, Access Management.
    - e. Location and accessibility of off-street parking, loading, and unloading for automotive vehicles, including buses and trucks;
    - f. Location and potential use of ingress and egress drives to access special land use parcels for the purpose of possibly reducing the number of access points necessary to serve the parcels.
    - g. Adequate maneuverability and circulation for emergency vehicles.
  - b. Screening shall be provided along all sides and rear property lines by a buffer area, and along the front property line by a greenbelt in accordance with Section 6.4, unless it can be demonstrated that the proposed special land use can be adequately controlled through some other means, such as restrictions on the hours of operation, or reducing the impact by the type and level of activity to be conducted on the site.

## Freshwater Research and Innovation Center

The Great Lakes face threats from invasive species, PFAs, microplastics, climate impacts, and more. Advancements and investments in better technology and a skilled workforce are needed to understand and address these challenges to our Great Lakes and other freshwater systems.

In 2021, a unique partnership formed around the idea of co-locating higher education, research & development, and business incubation in the emerging field of freshwater and marine technology. On the shores of Grand Traverse Bay in Traverse City, Michigan, the Freshwater Center for Research and Innovation will be a place where water education, research, and innovation translate directly into “Blue Tech” sector jobs & new businesses, and new technology is developed to provide scientists and decision makers better tools to understand and manage our water resources.

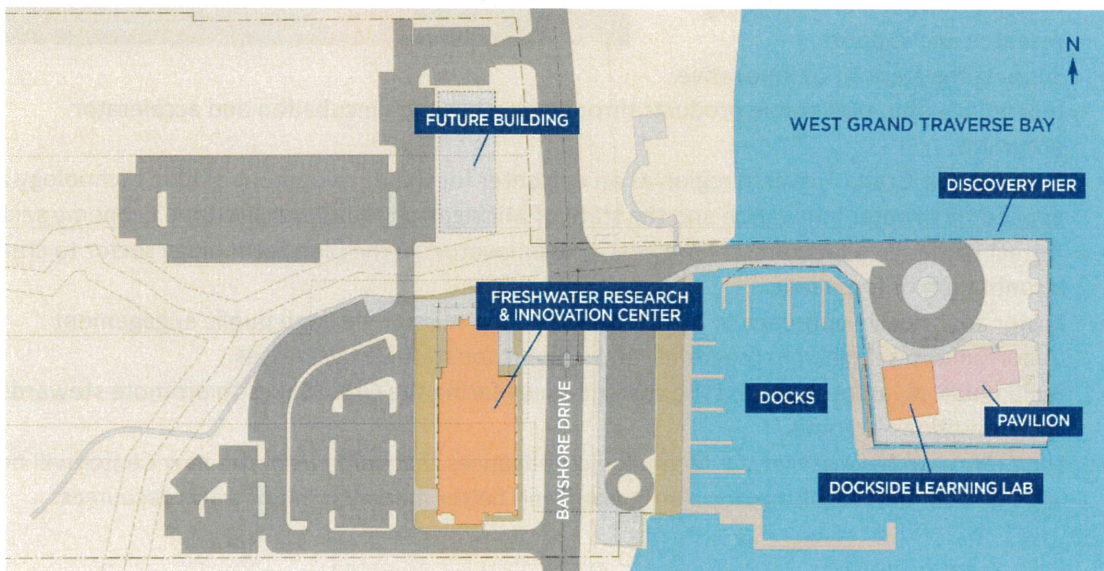
### The Vision

A state-of-the-art facility that provides a unique environment for smart collaboration between students, researchers, innovators, entrepreneurs, and the developing workforce.

A shared physical space and community where ideas become solutions, technologies become ventures, and opportunities become careers.



The Freshwater Center will be located directly across the road and part of the newly redeveloped Discovery Pier on West Grand Traverse Bay which will provide dock space for research vessels and a planned Dockside Learning Lab which will be a space for hands-on, freshwater technology education.



There are four “pillars” that support this vision:

**EDUCATION** – Through partnerships with leading colleges and universities, the Center will provide unique space for nationally recognized career programs for Freshwater Studies and Freshwater & Marine Technology to strengthen and feed the workforce pipeline.

**RESEARCH** – With direct access to Lake Michigan, research vessels, and high-tech lab space and equipment, researchers will develop new methods and systems to understand our freshwater and marine environments, informing discoveries that bring about a better future for the lands, waters, and inhabitants of the Great Lakes region and beyond.

**INNOVATION** – By aligning education and research with innovation space, experts can lean into cycles of learning, development, and refinement to fast-track the creation of new technologies and advance our understanding, management, and preservation of freshwater.

**ECONOMIC DEVELOPMENT** – The Center will include new business incubation and accelerator space and programs to remove barriers and support the transformation of top innovations into successful companies and careers. Our ability to facilitate the transfer of innovative technology into marketable products and a trained workforce will make us unique and a key contributor to the blue technology sector.

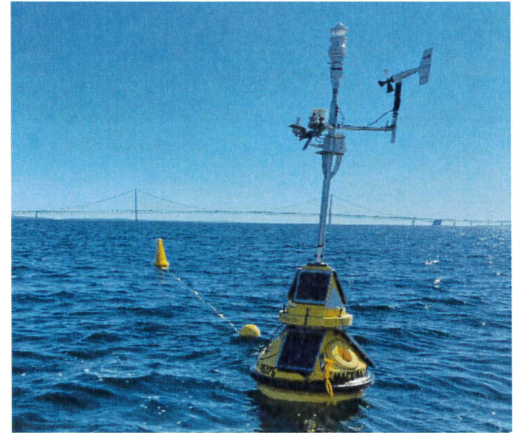
### Our Goals

- Inspire and grow a strong workforce pipeline through hands-on education and professional certifications.
- Promote the development of freshwater technologies and innovative solutions with immediate access to working pier space on Lake Michigan, high-tech lab space and equipment, expert thought-partners, and on-going research and support.
- Support the transfer of innovative technology into marketable products through new business incubation and accelerator programs.
- Establish the Grand Traverse region as an epicenter for the development of blue technology and applied freshwater innovation and the state of Michigan as a leader in the Blue Economy sector.
- Attract students, educators, researchers, and innovators in the blue technology sector to create a continuum of top talent.
- Foster an inclusive approach to attract others to our mission through public engagement opportunities, scholarship programs, and support for start-up businesses.
- Build public awareness around the current issues facing the Great Lakes to promote stewardship for generations to come.
- Long term, we believe that the technological advances that come from the new Center will be used by scientists to inform decision-making and better management of water resources.



### Areas of Focus

- Emerging Technologies & Innovation – Future technologies (e.g. contamination sensor technology - PFAS, microplastics, etc. and remediation technology), innovation hub/start-up space, and smart Great Lakes initiatives
- Water quality & analysis, watershed and fisheries management
- Autonomous and Remote Technology – Machine learning & AI, Marine shipping/freight & logistics research and development, acoustic communication, and simulations
- Great Lakes Modeling – Observation platforms, data collection & processing (e.g. climate and risk modeling)



### “Founding” Partners



Discovery Center & Pier – public engagement & education, 9-12 programming

Northwestern Michigan College – education and professional development & certifications

Michigan Technological University – research & development

20 Fathoms – ‘Blue Tech’ start-up business incubation and acceleration assistance

Traverse Connect – economic development

### Emerging Partners

Grand Valley State University – education and research

Central Michigan University – education and research

US Coast Guard – Center of Excellence for Oil Response

Great Lakes Fisheries Commission – FishPass Project ‘overflow’ labs and public education space

Michigan State University – early discussions

### Financial Sustainability:

Committed anchor tenants, researchers in residence, visiting university teams, dock berths, and office & lab leasing to blue-tech start-ups provide sustainable long-term funding for ongoing operations, facility management, and building maintenance.

### Our Need

The 38,000 sf Freshwater Center is estimated to cost \$31.6 million. Our project timeline is driven primarily by the federal government’s requirements tied to a large ARPA grant we were awarded July 2023. All ARPA funds must be spent by December 31, 2026. For our project, this means all funds for the new Center must be pledged by the time we need to sign our main contract for the construction of the new Center (early 2025) to meet the requisite timeline. However, we won’t need the majority of the private philanthropic funds (from private donors and foundations) until January of 2027, as we will be using the ARPA funds first for construction costs. To date, we have raised \$25.2 million. The Discovery Pier is able to accept gifts of stock and multi-year pledges for this project.





# The Freshwater Research & Innovation Center

TRAVERSE CITY, MICHIGAN



## OVERVIEW



The Freshwater Research and Innovation Center is a 38,000-square-foot technology facility dedicated to providing space for education, research, innovation, incubation, and commercialization in freshwater technology on the Discovery Pier's campus in Traverse City, Michigan.

The facility has been designed for Great Lakes research and as launchpad for the development and

innovation of emerging blue technologies. With flexible lab spaces, extensive lab support services and broader blue-tech ecosystem support, the Center will be a collaborative environment where water education, research, and innovation translate directly into "Blue Tech" sector jobs and new businesses.



## BUILDING AMENITIES

The facility will support multiple research, innovation, and product development needs with an extensive list of service-based amenities that include the following:

- Conference rooms
- Seminar / classroom
- Shared spaces
- Kitchenette/Cafe
- Office support (copier, printer, mailroom, etc.)
- Makerspace equipment with 3-D printers, electronics lab, welding and paint booth
- High bay space with indoor water tank and gantry crane with 3,000 lb. capacity
- Decontamination autoclave
- Centralized DI water system
- Chemical and biological storage and disposal area
- Glassware washing equipment
- Dedicated storage

## OUR FOUR PILLARS

### EDUCATION

Through partnerships with leading colleges and universities, the Center will host nationally recognized career programs for Freshwater Studies and Freshwater & Marine Technology to strengthen and feed the workforce pipeline.

### RESEARCH

With direct access to Lake Michigan, research vessels, and high-tech lab space and equipment, researchers will develop new methods and systems to understand our natural world, informing discoveries that bring about a better future for the lands, waters, and inhabitants of the Great Lakes region and beyond.

### INNOVATION

By aligning education and research with innovation space, experts can lean into cycles of learning, development, and refinement to fast-track the creation of new technologies and advance our understanding, management, and preservation of freshwater.

### ECONOMIC DEVELOPMENT

The Center will include new business incubation and accelerator space and programs to remove barriers and support the transformation of top innovations into successful companies and careers. Our ability to facilitate the transfer of innovative technology into marketable products and a trained workforce will make us unique and a key contributor to the blue technology sector.

#### CONTACT:

**Matt McDonough**  
Chief Executive Officer  
Discovery Pier  
231.409.4285  
matt@discoverypier.org

**Ed Bailey**  
Marine Center Director  
Northwestern Michigan College  
231.995.1215  
ebailey@nmc.edu

The Freshwater Research & Innovation Center | 13170 S West Bay Shore Dr., Traverse City, Michigan 49684

## COMMUNAL SPACES

The Freshwater Research and Innovation Center layout supports community with both public spaces on the main level and private user spaces on the second level.



### First Floor / Main Lobby

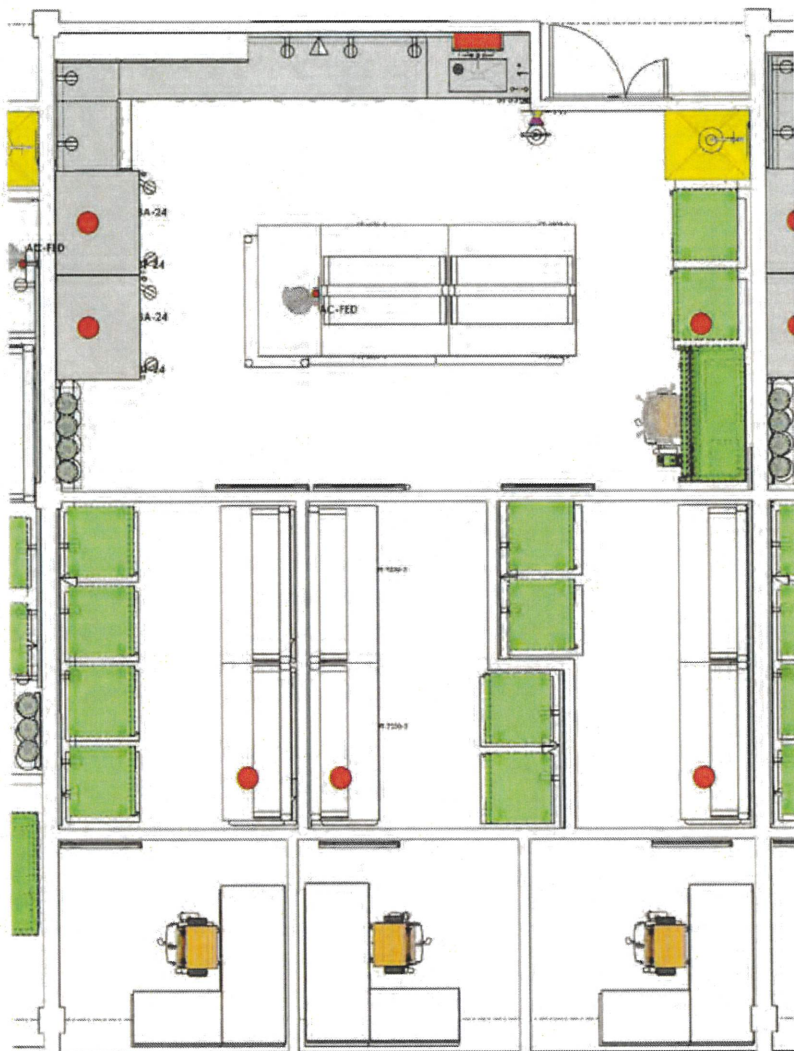
Interactive public display space showcasing the building's activities and work being undertaken in the Great Lakes with an emphasis on the role of marine technology in data collection and use.



### Second Floor

Building-specific community space that supports research collaboration and meetings along with a cafe.

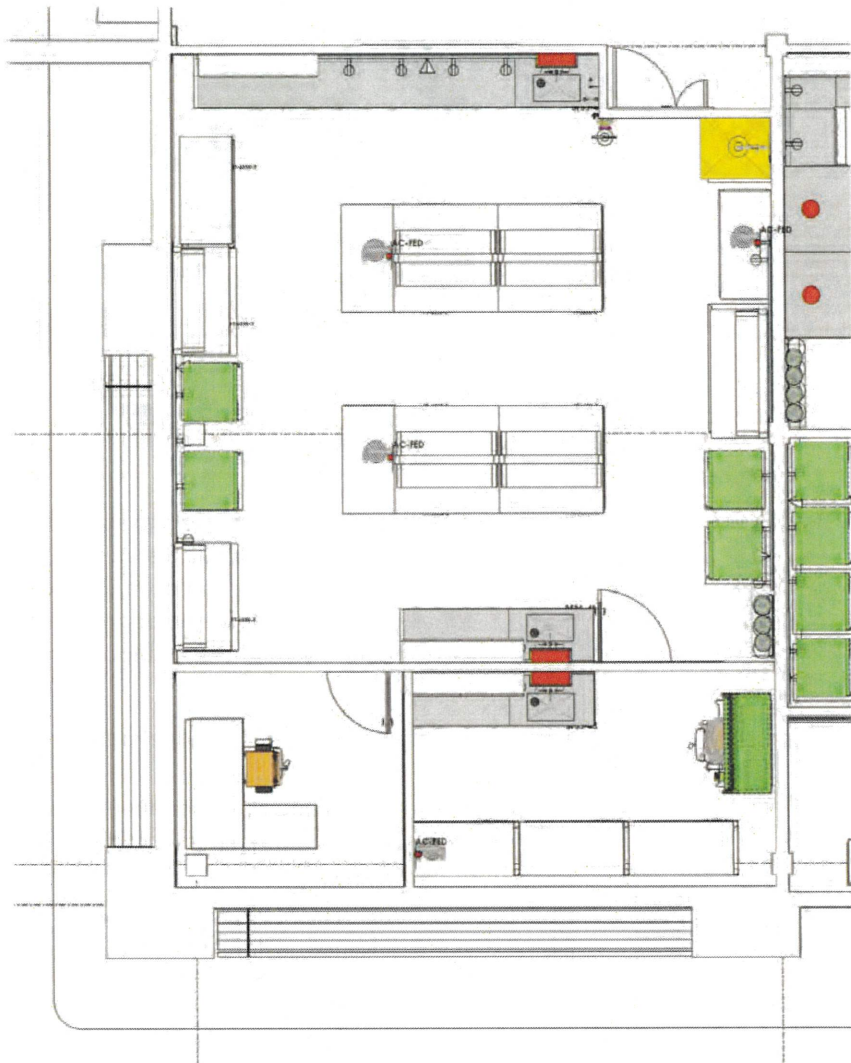
## MINI LAB



The mini-labs are designed to support the operations of up to three distinct entities or researchers with a common/shared area for equipment. Each of the approximately 1,000-square-foot labs is equipped with the following amenities:

- Three dedicated individual private lab areas
- Three dedicated individual office areas
- One large shared lab equipped with the following:
  - Fume hoods (upper floors only)
  - Equipment exhaust snorkel
  - Emergency power
  - DI water
- Flexible casework
- Space for user-dedicated equipment

## WET LAB



The wet labs are designed to support the operations of a single entity or researcher. Each of the approximately 1,000-square-foot labs is equipped with the following amenities:

- Large common area lab space
- Separated offices area
- Shared lab each equipped with the following:
  - Fume hoods (upper floors only)
  - Equipment exhaust snorkel
  - Emergency power
  - DI water
- Flexible casework
- Space for user-dedicated equipment

November 8, 2024

Sarah Clarren  
Planner/Zoning Administrator  
Elmwood Township  
10090 E Lincoln Rd.  
Traverse City, MI 49684


Re: Freshwater Research & Innovation Center

Dear Sarah,

In reference to the attached Application and Submission Package for the Freshwater Research & Innovation Center Project, we are seeking both a Planned Development Review concurrent with a Site Plan Review.

If there are any questions, please feel free to contact me.

Sincerely,



John E. Dancer, AIA  
Principal







## CHARTER TOWNSHIP OF ELMWOOD

### Planning and Zoning

10090 E. Lincoln Rd, Traverse City, MI 49684

(231) 946-0921 Fax (231) 946-9320

Email: [planner@elmwoodtownship.net](mailto:planner@elmwoodtownship.net)

### Planned Development Application

Applications will not be accepted unless containing all the following information:

- 1) Completed application form with owner's signature
- 2) Planned Development Plan with all required information
- 3) IF seeking concurrent Site Plan Approval, submit Site Plan with all required information
- 4) Escrow Policy with escrow amount as determined by Planner (any and all unused escrow funds will be returned per the escrow agreement)
- 5) Payment of an application fee (\$1,000)

Applications are to be submitted 30 days prior to the Planning Commission meeting. Regular meetings are the 3<sup>rd</sup> Tuesday of each month.

The Planned Development process is summarized below (See Section 7.2.2 for more detail)

1. Pre-Application Conference. An informal meeting with the Zoning Administrator to discuss the proposal, design elements, ordinance requirements, etc.
2. Submission of Application and Subsequent PD Plan Review. Applicant submits application and plans to the Zoning Administrator; once its reviewed it will be placed on next available Planning Commission meeting. When the Commission finds the application to be complete, they will vote to schedule a public hearing. Public Hearing. On the appointed date and time, the Planning Commission shall conduct the public hearing. Action of the Planning Commission. Upon completion of the Planning Commission's review and completion of the public hearing, the Commission shall make findings to determine if the application meets the required standards and requirements.
3. Recording of Affidavit. Project shall have a recording in the chain of title that identifies the project and any conditions imposed. Township attorney shall review prior to recording.
4. Site Plan Review. Planning Commission reviews site plan for project or phases. Can be done concurrently with Planned Development Plan Review. Separate application is required if done separately.
5. Land Use Permit. Requires application and fee
6. As Built Plans. The Applicant shall provide the Township with a complete set of "as-built" drawings for the PD and/or each completed phase in Adobe® PDF and the most recent release of AutoCAD®.

Charter Township of Elmwood  
Application for Special Use Permit

**Applicant**

Cornerstone Architects Inc.  
Name  
122 S. Union St. Suite 200  
Street Address  
Traverse City MI 49684  
City State Zip  
231-947-2177  
Phone Number  
jdancer@cornerstone-arch.com  
Email Address

**Owner (if different)**

Discovery Center Great Lakes dba Discovery Pier  
Name  
13170 S. West Bay Shore Dr. Suite 100  
Street Address  
Traverse City MI 49684  
City State Zip  
231-409-4285  
Phone Number  
Matt@discoverypier.org  
Email Address

**Engineer**

Gosling Czubak  
Name  
1280 Business Park Dr.  
Street Address  
Traverse City MI 49686  
City State Zip  
231-946--9191  
Phone Number  
rmverschaeve@goslingczubak.com  
Email Address

**Surveyor**

Gosling Czubak  
Name  
1280 Business Park Dr.  
Street Address  
Traverse City MI 49686  
City State Zip  
231-946-9191  
Phone Number  
rmverschaeve@goslingczubak.com  
Email Address

Contact Person (All communications from the Township will be sent to this individual regarding the submitted application)  Applicant  Owner  Engineer  Surveyor

**Property Information:**

Property Address: 13170, 13240, 13272 S West Bay Shore Dr., Traverse City, MI 49684  
Parcel Number: 45-004-033 - 080 - 00 Current Master Plan Designation  
Zoning District: GC, General Commercial Current Use of Property: Boat storage & Former Children's Museum

Additional Parcel Numbers:  
004-033-074-00, 004-033-077-00

**PD Review requires certain materials to be submitted and standards/requirements be met. Please use the below tables to detail (with additional pages as necessary) how the proposed project meets the required standards and requirements for a PD and Special Use Permit.**

**As required by Section 7.2.2.E.1 of the Zoning Ordinance, A narrative statement together with supporting charts, maps and documents describing the project is required as part of the PD review. Information shall include, but is not limited, to the following:**

| <u>Narrative/Supporting Information Requirement</u>  | <u>Applicant Review</u>   | <u>Office Use Only</u> |
|--|---|------------------------|
| a. The total number of acres in the project.   | 15.6 acres  |                        |
| b. The number of acres to be occupied by each type of use.   | 1.8 acres   |                        |
| c. The number of residential units.  | N/A   |                        |
| d. A residential density calculation indicating the total number of dwelling units divided by gross site area, and a more detailed residential density calculation that divides the number of a specific unit type by the gross site area associated with that specific unit type. | N/A   |                        |
| e. The number of acres and/or square feet and type of nonresidential uses.   | 1.84 acres  |                        |
| f. The number of acres and/or square feet to be preserved as common open or recreational space.  | Approx. 2 acres are preserved "for the purpose of constructing amenities to facilitate public recreation" through Public Access Easement, see Exhibit G |                        |
| g. The relationship of the proposed PD to the Township Master Plan and adopted subarea plans.  | See Master Plan Compliance - Exhibit A  |                        |
| h. The implementation phases of the PD, the approximate time frame to complete each phase, and a specific schedule of the intended development and construction schedule details, including anticipated construction start and completion dates.                                   | Bidding to occur in Spring 2025, Construction to start between August – November 2025 and construction completion in November 2026 – February 2027      |                        |
| i. Proposed utility services and how they are to be provided, including, but not limited to, water, sanitary sewer, telecommunications, and storm water management. Where applicable, the Applicant shall use low impact development storm water best management practices.        | Refer to sheet C300 & C400  |                        |

|   |   |
|---|---|
| j. Proposed deed restrictions, covenants, or similar legal instruments to be applied within the PD.   | Please refer to Exhibit D1-D3 for deed  |
| k. Variations from ordinance regulations that are being sought, and the reasons to support the requested variations.  | See Zoning Compliance - Exhibit B   |
| l. Areas of the site containing significant natural features, including a breakdown of the approximate square feet/acres by type of significant natural feature. Significant natural features shall include: wetlands, flood plains, water bodies, woods, slopes in excess of eighteen (18) percent, active agricultural land, or any other unique natural features as determined by a local, state, or federal department or agency authorized by law to designate or classify a unique natural feature. | 10.7 acres  |
| m. Signatures of all parties having an interest in the property with a statement of the nature of their interest and their intention to see the development of the property completed in accordance with the approval, if granted.  | Please refer to Exhibit C for letter from the owner   |
| n. Written recommendations from the Leelanau County Road Commission or MDOT as to access and road improvement needs and/or contributions toward necessary upgrades, if any.   | The proposed PD has been discussed & coordinated with MDOT in regards to proposed curb cuts and pedestrian crossings. Refer to Exhibit E1 |

**As required by Section 7.2.2.E.2 of the Zoning Ordinance, PD plans must contain the following:**

| <u>Narrative/Supporting Information Requirement</u>  | <u>Applicant Review</u>   | <u>Office Use Only</u> |
|--|---|------------------------|
| a. The name of the PD, the applicant's name, the name and address of the firm or individual who prepared the preliminary development plan, date, scale, and north arrow. | Cornerstone Architects Inc; 122 S. Union St. Suite 200, Traverse City, MI 49684; (231) 947-2177 |                        |
| b. Property lines, dimensions of all property lines, and size of the PD (and individual phases) in acres.  | Refer to sheet C100 for property lines, dimensions, and legal description.                      |                        |

|  |   |
|--|---|
| c. Existing zoning and land uses of all abutting properties.   | GC, General Commercial  |
| d. Significant natural features on the site as defined in Section 7.2.2.E.1(l) above.  | Significant natural features present on the site include an unnamed creek and wetlands.   |
| e. Existing buildings and structures on the site and those located on abutting land within fifty (50) feet of a common property line.  | Refer to sheet C100 for locations of five existing buildings on the site and one within 50 feet of the south property line.   |
| f. Proposed uses, buildings, and their locations.  | The proposed use of land is a Research & Education Center. Refer to sheet C200 for buildings & locations  |
| g. Rights-of-way and pavement edges or curb lines of existing streets abutting the PD.   | Refer to sheet C100 for existing M-22 right of way and existing driveway curb cuts  |
| h. Locations of proposed access drives, parking lots, and streets within the PD.   | Refer to sheet C200 site plan for locations of proposed drive, parking lot, and site circulation  |
| i. Proposed walkways or pedestrian paths.  | Refer to sheet C200 site plan for locations of sidewalks and paths.   |
| j. Proposed methods of providing water, sanitary sewer, and storm water drainage facilities.   | Refer to sheets C300 & C400 for plans showing municipal water, municipal sewer, and on-site stormwater controls.  |
| k. Layout and typical dimensions of proposed lots.   | No new "lots" are proposed. Refer to sheet C200 for overall site plan   |
| l. The general improvements that constitute a part of the development, including, but not limited to lights, signs, service areas, dumpsters, mechanisms designed to reduce noise, utilities, and visual screening features. | Refer to sheet C200 for site plan showing pervious pavement & bioswales limiting stormwater impacts. Trash and service area is minimal for the use and placed in rear area. Significant existing woodland and wetland remain undisturbed providing buffering and screening. |
| m. Specifications for exterior building materials for structures proposed in the project.  | Please refer to sheet A002 for exterior elevations & proposed materials   |
| n. Elevations for proposed buildings or building types.  | Please refer to sheet A002 for exterior elevations & proposed materials   |
| o. Photometric plans for the project area.   | Please refer to sheet E004 for photometric site lighting plans  |

**As required by Section 7.2.3 of the Zoning Ordinance, when the Planning Commission makes a decision regarding a PD Plan in any zoning district a PD is allowed, they shall make them based on compliance with the standards in Article 9 (Special Use Permit) and the following standards. If there is a conflict between these standards and the standards in Article 9, these standards shall prevail.**

| <u>PD Standards and Requirements for Approval</u>   | <u>Applicant Review</u>  | <u>Office Use Only</u> |
|---|--|------------------------|
| 1. Land uses shall be consistent with the intent of the underlying zoning district and the Elmwood Township Master Plan and adopted sub-area plans. | See Master Plan Compliance - Exhibit A & Zoning Compliance - Exhibit B |                        |

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|--|---|
| <p>2. The PD shall meet the minimum land area requirements specified for the underlying zoning district.</p>   | <p>Yes, the PD will meet minimum land area requirements.</p>  |
| <p>3. A PD shall comply with all dimensional and use regulations of the underlying zoning district, unless variations are otherwise approved by the Planning Commission. (Also see requirements for Rural Resort District Below) Such proposals shall be accompanied by supporting material demonstrating that the variations would provide equal or greater protection to adjacent or nearby properties.</p>  | <p>Yes complies. Refer to sheet C200 &amp; Zoning Compliance - Exhibit B</p>  |
| <p>4. The lands comprising a PD must be subject to unified ownership or control so that the person or legal entity applying for PD approval has proprietary responsibility for the completion of the development, if approved. If multiple persons or legal entities have ownership interests in the land, all such persons or entities shall sign the PD application. If the application is signed by a prospective purchaser or person who has optioned the land, written consent by all owners of the land must be submitted with the application.</p>    | <p>The land comprising of this PD is singularly owned by Discovery Center Great Lakes dba Discovery Pier.</p>   |
| <p>5. As provided for in this paragraph, except for on-site septic systems and wells, water supply and sanitary sewage disposal in and for a PD shall only be accomplished by public or community water supply and sanitary sewer systems. These must be approved by the Health Department and other agencies having jurisdiction and be in compliance with applicable Township ordinances. If approved by the Health Department, on-site septic systems and wells may be permitted for individual residential lots containing a single-family dwelling.</p> | <p>Yes, municipal utilities will provide water and sanitary sewer for this development in compliance with this standard. Refer to sheet C400 for utility plans.</p> |

|  |  |  |
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| <p>6. The PD Plan must be consistent with the intent of this Article, as described in Section 7.2.1, and it must also represent a development opportunity for the community that could not be achieved through conventional zoning.</p>        | <p>See Master Plan Compliance - Exhibit A &amp; Zoning Compliance - Exhibit B</p>      |  |
| <p>7. The PD Plan and its proposed uses must be compatible with the type, character, and density of land uses on adjacent and nearby lands based on the future land use map in the Elmwood Township Master Plan and adopted subarea plans.</p> | <p>See Master Plan Compliance - Exhibit A</p>  |  |
| <p>8. The proposed PD must be compatible with the capacities of public services and facilities affected by the development.</p>  | <p>Yes the proposed PD is consistent with the Master Plan and sub-area Master Plan</p> |  |
| <p>9. The proposed PD must preserve significant natural features, if any.</p>  | <p>The creek, wetlands, and woodlands present at this site will remain.</p>            |  |
| <p>10. If a proposed PD lies partially outside the jurisdictional boundary of the township, then the minimum parcel size shall be based on the total size of the project and not just that portion located within the township.</p>            | <p>N/A</p>   |  |
| <p>11. The proposed PD must provide for useable open space which meets the following standards:</p>  | <p><b>13.8 acres (68%)</b></p>   |  |
| <p>a. At least ten (10) percent of the parcel(s) acreage or square footage.</p>  | <p><b>Yes</b></p>  |  |
| <p>b. Acreage or square footage provided shall be for recreation use and shall be accessible to the occupants or users of the PD.</p>  | <p>Yes</p>   |  |
| <p>c. No area which exceeds twelve (12) percent grade shall be allocated or designated as useable open space.</p>  | <p>No area exceed 12% grade</p>  |  |
| <p>d. At least 40% of the total area required as usable open space shall be landscaped and maintained.</p>   | <p>Natural wetlands and upland vegetation to be maintained in these areas.</p>         |  |

|   |   |
|---|---|
| <p>e. Any useable open space which is not planted shall be developed to encourage outdoor recreational use and shall include such elements as decks, sports courts, outdoor seating, decorative paved areas, and walkways which do not serve as entrance walkways.</p> <p>f. No area designated for off-street parking and loading areas, service areas, driveways, required walkways, or portions thereof, or any features that are used for required access to dwelling units shall be counted as satisfying any useable open or recreation space area requirement.</p> | <p>Usable open space is existing natural areas with provisions for future TART trail connection</p> |
| <p>12. Landscaping must be provided to insure that proposed uses will be adequately buffered from one another and from surrounding public and private property meeting the minimum requirements of Section 6.4, as applicable.</p>  | <p>N/A</p>  |
| <p>13. Motor vehicle access to the uses within a PD shall be from interior roads only unless approved otherwise by the Planning Commission or the Leelanau County Road Commission. Safe, convenient and well-defined vehicular and pedestrian circulation within, and access to, the development must be provided.</p>  | <p>Will comply. Refer to sheet C200</p>   |
|   | <p>Will comply. Refer to sheet C200</p>   |

**Please note that certain PD within the Rural Resort Zoning District has additional requirements. Please see Section 7.2.3.B of the Zoning Ordinance and submit documentation showing how the additional requirements have been met.**

| <u>Special Use Permit General Standard</u>  | <u>Applicant Review</u>                  | <u>Office Use Only</u> |
|---|--|------------------------|
| <p>1. The proposed special land use meets the objectives, intent, and purposes of this Article and the zoning district in which the proposed special land use is to be located.</p> | <p>See Zoning Compliance - Exhibit B</p> |                        |



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|--|---|--|
| <p>2. The proposed special land use is designed, and is intended to be constructed, operated, maintained, and managed so as to be consistent with the existing or intended character of parcels within the zoning district.</p>  | <p>See Zoning Compliance - Exhibit B</p>  |  |
| <p>3. The proposed special land use meets or exceeds the minimum requirements for the zoning district in which it is requested to be located.</p>  | <p>See Zoning Compliance - Exhibit B</p>  |  |
| <p>4. The proposed special land use will be served adequately by essential public utilities, facilities, and services such as water supply, wastewater disposal, highways, roads, police and fire protection, drainage structures, and refuse disposal. Alternatively, such services, if adequate to serve the proposed special land use, may be provided privately or by a combination of public and private providers.</p>   | <p>Yes, proposed land use will be served adequately by essential public utilities, facilities, and services</p>   |  |
| <p>5. The proposed special land use will not adversely impact existing or future neighboring uses. For example, but without limitation, the proposed special land use shall be designed as to location, size, intensity, site layout, and periods of operation to eliminate any possible conflicts. Additionally, it shall not be detrimental to any persons, property, or the general welfare by reason of excessive smoke, fumes, glare, noise, vibration, and odors, nor have adverse environmental impacts and detrimental effects on the general aesthetics or appearance of the character of existing or future neighborhood uses.</p> | <p>The proposed special land use will not adversely impact existing or future neighboring uses. Also refer to Master Plan Compliance - Exhibit A</p>  |  |
| <p>6. The proposed special land use shall not have an adverse effect on the natural environment beyond the normal impacts of permitted principal uses in the same zoning district, and shall not result in impairments, pollution or destruction of the air, surface, ground water, vegetation, and other natural resources.</p>   | <p>The proposed use will not have an adverse effect on the natural environment and will not produce any toxic waste or off-gassing. The proposed PD is being coordinated with EGLE to reduce the project's impact on the surrounding environment.</p> |  |

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| 7. The proposed special land use will not create excessive additional requirements or costs for public facilities, utilities and services.   | The proposed land use will not create excessive additional requirements or costs for public facilities, utilities, and services.                                |
| 8. The proposed special land use has met or will meet all requirements of other Township, County, State, and Federal ordinance and code requirements.  | Will comply.  |
| 9. The following specific requirements shall be met to the extent applicable to the proposed special land use:   |   |
| a. Ingress and egress for the special land use shall be controlled to ensure maximum vehicular and pedestrian safety, convenience, and minimum traffic impact on adjacent roads and highways, drives, and nearby uses including, but not limited to: | The site plan has been coordinated with MDOT M-22 proposed road reconstruction. Please refer to Exhibit E1 for email correspondence and communication with MDOT |
| i. Minimization of the number of ingress and egress points through elimination, minimization, and consolidation of drives and curb cuts;   | Refer to Master Plan Compliance - Exhibit A   |
| ii. Proximity and relation of driveway to intersections;   | Coordinated and discussed with MDOT. Refer to Exhibit E1  |
| iii. Minimization of pedestrian and vehicular traffic conflicts;   | Coordinated and discussed with MDOT. Refer to Exhibit E1 and sheet C200   |
| iv. Adequacy of sight distances between road and driveway intersections as specified in Section 6.2, Access Management.  | See sheet C200  |
| v. Location and accessibility of off-street parking, loading, and unloading for automotive vehicles, including buses and trucks;   | See sheet C200  |
| vi. Location and potential use of ingress and egress drives to access special land use parcels for the purpose of possibly reducing the number of access points necessary to serve the parcels.  | (2) existing curb cuts are to be removed. New curb cut locations have been coordinated with MDOT  |
| vii. Adequate maneuverability and circulation for emergency vehicles.  | Site plan has been preliminary reviewed by Elmwood Township Fire Department. See exhibit E2 and C200  |

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| <p>b. Screening shall be provided along all sides and rear property lines by a buffer area, and along the front property line by a greenbelt in accordance with Section 6.4, unless it can be demonstrated that the proposed special land use can be adequately controlled through some other means, such as restrictions on the hours of operation, or reducing the impact by the type and level of activity to be conducted on the site.</p> | <p>Section 6.6.4 requires buffer between residential and non-residential uses. The neighboring parcels to the west which are zoned R-1 are buffered by significant existing forest and wetlands to remain undisturbed. Over 600 feet of forest and wetland will be maintained between the creek and residential parcels on the west side of the TART trail.</p> |
|--|---|

**Below listed Site Plan Review Standards and Requirements ONLY are required if seeking Site Plan Review concurrent with Planned Development.**

| <u>Site Plan Review Standard</u>   | <u>Applicant Review</u>   | <u>Office Use Only</u> |
|--|---|------------------------|
| 1. All required site plan and application information has been provided as specified in this Article.  | <b>Yes, provided</b>  |                        |
| 2. All required permits and approvals from outside agencies have been secured, or have been made a condition of site plan approval.  | Approvals from outside agencies have been made a condition of site plan approval  |                        |
| 3. Adequate essential facilities and services including highways, streets, police, fire protection, drainage structures, refuse disposal, water and sewage facilities, and schools are available, or the provision of such facilities and services has been assured.   | The proposed PD has had begun the initial review process with MDOT, Leelanau Drain Commissioner, Elmwood Fire Department, and EGLE and will further coordinate with each agency to ensure provision for such facilities and services has been assured. Refer to Exhibits E1-E4. |                        |
| 4. All applicable standards of agencies including, but not limited, to the Township Fire Department, Michigan Department of Transportation, Leelanau County Road Commission, Leelanau County Drain Commission, Health Department, and the Michigan Department of Environmental Quality (MDEQ) have been met. | The proposed PD has had begun the initial review process with MDOT, Leelanau Drain Commissioner, Elmwood Fire Department, and EGLE and will further coordinate with each agency to ensure all applicable standards are met. Refer to Exhibits E1-E4.                            |                        |
| 5. Compliance with all non-zoning ordinances adopted by the Township, including, but not limited to the private road ordinance.  | Yes, complies.  |                        |

|  |  |
|--|--|
| <p>6. All buildings and structures shall be designed, constructed, operated, and maintained so as to be harmonious, compatible, and appropriate in appearance with the existing or intended character of the general vicinity.</p> | <p>Yes, see Master Plan Compliance - Exhibit A</p>   |
| <p>7. The buildings, structures, and entryway thereto proposed are situated, designed, and screened/buffered so as to minimize any adverse effects upon owners and occupants of adjacent properties and the neighborhood.</p>      | <p>Yes, Exhibit A for building compliance with Master Plan.</p>  |
| <p>8. All buildings and structures are accessible to emergency vehicles.</p>   | <p>Yes, the proposed PD has had an initial review with Elmwood Township Fire Department. See exhibit E2 for email correspondence and initial comments.</p>                           |
| <p>9. Complete and safe pedestrian, non-motorized and vehicular circulation is provided.</p>   | <p>The site plan has been coordinated with MDOT M-22 proposed road reconstruction. Please refer to Exhibit E1 for email correspondence and communication with MDOT</p>               |
| <p>10. The percentage of impervious surface has been limited on the site to the extent practicable.</p>  | <p>The area proposed to be redeveloped is within the existing developed area. The impervious surface proposed within this area is limited to the necessary amount to provide the</p> |
| <p>11. Efforts have been made to protect the natural environment to the greatest extent possible.</p>  | <p>The creek, wetlands, and woodlands present at this site will remain.</p>  |
| <p>12. There exists within the site plan sufficient protection to accommodate storm water runoff on the site location.</p>   | <p>Yes, the stormwater runoff controls are sufficient and able to be permitted under the current stormwater control ordinance</p>  |
| <p>13. The proposal furthers the goals and objectives of the Master Plan.</p>  | <p>See Master Plan Compliance - Exhibit A</p>  |

**SECTION 8.4 REQUIREMENTS FOR SITE PLAN APPROVAL**

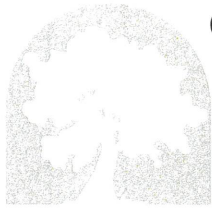
The Ordinance requires specific information be included in each application for Site Plan Approval. Please use the following table to ensure that you have included the required information either on your plan (which must be drawn at a scale of one (1) inch equals one hundred feet (1"=100') or less) or included elsewhere in your application. Please use additional pages, as necessary.

| <u>Site Plan Review Requirement</u>   | <u>Applicant Review</u>  | <u>Office Use Only</u> |
|---|--|------------------------|
| 1. Applicant's name, address, and telephone number.   | Comerstone Architects; 122 S. Union St. Suite 200, Traverse City, MI 49684; (231) 947-2177                                       |                        |
| 2. Property owner's name, address, telephone number, and signature.                         | Discovery Center Great Lakes dba Discovery Pier, 13170 S. West Bay Shore Drive Suite 100, Traverse City, MI 49684; (231)409-4265 |                        |
| 3. Proof of property ownership, and whether there are any options or liens on the property. | <b>Please refer to Exhibit D1-D3 for deed</b>  |                        |

|  |   |  |
|--|---|--|
| <p>4. A signed and notarized statement from the owner of the property that the applicant has the right to act as the owner's agent.</p>  | <p>Please refer to Exhibit C for letter from the owner</p>  |  |
| <p>5. The address and/or parcel number of the property, complete legal description and dimensions of the property, width, length, acreage, and frontage.</p>   | <p>See sheet C100 &amp; C200</p>  |  |
| <p>6. Seal of the registered engineer, architect, and landscape architect who prepared the plan, as well as their names, addresses, and telephone numbers.</p>   | <p>See sheets ATS, C100-C500, C501-C504</p>   |  |
| <p>7. Project title or name of the proposed development.</p>   | <p>Freshwater Research &amp; Innovation Center</p>  |  |
| <p>8. Statement of proposed use of land, project completion schedule, and any proposed development phasing.</p>  | <p>Bidding to occur in Spring 2025. Construction to start between August – November 2025 and construction completion in November 2026 – February 2027</p>   |  |
| <p>9. Statements regarding the project impacts on existing infrastructure, including traffic, schools, existing utilities, and the natural environment on and adjacent to the site.</p>  | <p>Refer to Exhibit F</p>   |  |
| <p>10. Total number of units, employees, bedrooms, offices, total and usable floor area, amount and type of recreation or open space proposed, and similar information required to evaluate compliance with the Ordinance.</p> | <p>The building will include 10 labs, the Discovery Center offices (5 individual offices &amp; an open office area), and education-type spaces, with a total number people ranging from 40-60 people. Total gross building area is 37,528 square feet; please see Sheet A001 for gross area breakdown per floor. Total usable area is 21,040 square feet. Approximately 2 acres are preserved "for the purpose of constructing amenities to facilitate public recreation" through a Public Access Easement as required for the Michigan Natural Resources Trust Fund grant, see Exhibit G</p> |  |
| <p>11. A vicinity map showing the area and road network surrounding the property.</p>  | <p>See sheet ATS &amp; C100</p>   |  |
| <p>12. The gross and net acreage of the parcel.</p>  | <p>See sheet C200 for gross/net acreage of parcel</p>   |  |
| <p>13. Land uses, zoning classification, and existing structures on the subject parcel and adjoining parcels.</p>  | <p>See sheet C100</p>   |  |
| <p>14. Location of proposed and/or existing property lines, dimensions, legal descriptions, setback lines, and monument locations.</p>   | <p>See sheet C100</p>   |  |
| <p>15. Existing topographic elevations at two (2) foot intervals, except at five-foot intervals where slopes exceed 18%.</p>   | <p>See sheet C100</p>   |  |
| <p>16. The location and type of existing soils on the site, and any certifications of borings.</p>   | <p>See sheet C100 &amp; C504</p>  |  |

|   |   |
|---|---|
| 17. Location and type of significant existing vegetation.   | Refer to sheet C102 for existing vegetation types as well as those to remain/be removed |
| 18. Location and elevations of existing water courses and water bodies, including county drains and man-made surface drainage ways, floodplains, wetlands, and sand dunes.  | See sheet C100  |
| 19. Location of existing and proposed buildings and intended uses thereof, as well as the length, width, and height of each building or building envelope.  | See sheets A001, A002, & C200   |
| 20. Proposed location of all proposed structures, buildings, equipment, and uses.   | See sheet C200  |
| 21. Elevation drawings of typical proposed structures and accessory structures.   | Please refer to sheet A002  |
| 22. Location of existing public roads, rights-of-way, easements of record, and abutting streets.  | See sheet C100  |
| 23. Location and dimensions of proposed streets, drives, curb cuts, and access easements, as well as acceleration, deceleration, and passing lanes, including those within 100 feet of the property.  | See sheet C200  |
| 24. Location, design, and dimensions of existing and/or proposed curbing, barrier-free access, carports, parking areas (including indication of all spaces and method of surfacing), fire lanes, and all lighting thereof.  | See sheet C200  |
| 25. Location, size, and characteristics of all loading and unloading areas.   | See sheet C200  |
| 26. Location and design of all sidewalks, walkways, bicycle paths, and area for public use.   | See sheet C200  |
| 27. Location of water supply lines and or wells, including fire hydrants and shut off valves; and the location and design of storm sewers, retention or detention ponds, waste water lines, and clean-out locations; and connection points and treatment systems (including septic system if applicable). | See sheet C400  |

|  |  |  |
|--|--|--|
| <p>28. Location of all other utilities on the site, including, but not limited to, natural gas, electric, cable TV, telephone, and steam.</p>  | <p>See sheet C400</p>  |  |
| <p>29. Proposed location, dimensions, and details of common open spaces, and common facilities such as community buildings or swimming pools, if applicable.</p>   | <p>N/A</p>   |  |
| <p>30. Location, size, and specifications of all signs and advertising features, including cross-sections.</p>   | <p>Please refer to sheet C200. All exterior signage to be in compliance with signage requirements of Section 6.6 of the Elmwood Township Zoning Ordinance.</p> |  |
| <p>31. Exterior lighting locations, with area of illumination illustrated as well as the type of fixtures and shielding to be used.</p>  | <p>Please refer to sheets E003, E004, E004, and L001</p>   |  |
| <p>32. Location and specifications for all fences, walls, and other screening features, with cross sections shown.</p>   | <p><b>See sheets C200 &amp; C503</b></p>   |  |
| <p>33. Location and specifications for all proposed perimeter and internal landscaping and other buffering features. The proposed sizes of landscape materials (not previously existing) must be indicated. All vegetation to be retained on site must also be indicated, as well as its typical size by general location, or range of sizes as appropriate.</p> | <p>See sheet C100 &amp; C200</p>   |  |
| <p>34. Location, size, and specifications for screening of all trash receptacles and other solid waste disposal facilities.</p>  | <p><b>See sheet C200 &amp; C500</b></p>  |  |
| <p>35. Location and specifications for any existing or proposed (above or below ground) storage facilities for any chemicals, salts, flammable materials, or hazardous materials. Include any containment structures or clear zones required by county, state, or federal government authorities.</p>  | <p>N/A</p>   |  |
| <p>36. Identification of any significant site amenities or unique natural features, and whether they will be preserved.</p>  | <p><b>See sheet C100</b></p>   |  |
| <p>37. North arrow, scale, and date of original submittal and last revision.</p>   | <p><b>See sheets C100 - C400</b></p>   |  |



# CHARTER TOWNSHIP OF ELMWOOD



## Planning and Zoning

10090 E. Lincoln Rd, Traverse City, MI 49684  
(231) 946-0921 Fax (231) 946-9320  
Email: planner@elmwoodtownship.net

The applicant will forward copies of the site plan to the Leelanau County Road Commission, Leelanau County Drain Commissioner, Benzie-Leelanau District Health Department, the Elmwood Township Fire Department, Department of Public Works and Michigan Department of Transportation, as applicable, for their review and comments. Any review comments will be forwarded to the Zoning Administrator.

### Affidavit:

The undersigned affirms that he/she or they is (are) the owner, or authorized agent of the owner, and that the answers and statements herein contained and the information submitted are in all respects true and correct. In addition, the undersigned represents that he/she or they is authorized and does hereby grant a right of entry to Township officials for the purpose of inspecting the premises and uses thereon for the sole purpose of gathering information regarding this request.

|   |                  |
|---|------------------|
|   | November 5, 2024 |
| _____   | _____            |
| Owner Signature   | Date             |
|  | November 6, 2024 |
| _____   | _____            |
| Applicant Signature   | Date             |

### OFFICE USE ONLY:

Case Number: \_\_\_\_\_ Fee: \_\_\_\_\_ Paid: \_\_\_\_\_  
PC Decision: \_\_\_\_\_ Date: \_\_\_\_\_



## Charter Township of Elmwood Escrow Policy

Accordingly, the procedure for the handling and processing of escrow deposits henceforth shall be as follows:

- A. In connection with any application for a special land use, site plan approval, zoning amendment, cluster residential development review, site condominium review, planned unit development review, appeal, interpretation, variance, or other application as required by this Ordinance, the Township may require the applicant to pay in advance into an escrow fund established to cover the reasonable costs of reviewing the application. These costs may include staff costs or consultant fees covering planning, engineering, environmental analysis, wetland delineation, legal review, and other professional and technical services required for a proper and thorough review of the application. No application shall be reviewed further or considered complete, and no permit shall be issued, until all costs have been paid and/or the escrow fund has been replenished as outlined below. The Township shall account for the expenditure of all escrow funds, and the Township Clerk shall refund any unexpended funds within sixty (60) days of final action.
  
- B. Should the escrow fund ever dip below fifty (50%) of the original fund amount, the applicant shall be advised and required to replenish said escrow fund to the full original amount within five (5) business days of having been so notified by the Township Clerk.
  
- C. The applicant may seek an accounting from the Township Clerk of expenditures from the escrow fund when a request is made by the Township to replenish the fund and/or after a final decision on the application has been made. However, the applicant has no authority to approve or deny expenditures.

Amount of Escrow Deposit Required: \_\_\_\_\_

Amount of Escrow Deposit Received: \_\_\_\_\_

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Name: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_



**DISCOVERY PIER**  
  
 **EXPLORE. LEARN. CONNECT.**  
**FRESHWATER RESEARCH & INNOVATION CENTER**

**EXHIBITS**

FOR ELMWOOD TOWNSHIP  
PLANNED DEVELOPMENT & SITE PLAN REVIEW SUBMISSION

NOVEMBER 8, 2024



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## Exhibit A

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### Freshwater Research & Innovation Center

#### Greiklickville Commercial Corridor Sub-Area Master Plan Compliance

##### Building Character:

The building is designed to be harmonious and compatible in appearance with the intended character of the vicinity. The glass entry lobby is ringed by an upper level observation deck with a floating roof that is supported by a series of exposed columns that are designed to represent sailboat masts with cable rigging. The facade is clad in a combination of clapboard and shake shingle siding with the second floor set on piers or piles with steel cross bracing, thus alluding to historic water front architecture.

##### Compliance with District Wide Initiatives:

1. **Establish Community Public Spaces**
  - The Freshwater Research and Innovation Center will bring year-round activity, through education, research, innovation and economic development that is supported by the existing waterfront assets and the M-22 corridor. The new facility will provide a waterfront destination for researchers and the community by providing exhibits and outreach education.
  - The Freshwater Center will provide a public access link to the newly redeveloped Discovery Pier. The site plan has been developed in coordination with MDOT to provide a pedestrian safe walkway across M-22.
2. **Corridor Redevelopment / Density of Land Uses**
  - The Freshwater Center redevelopment is concentrated around the Discovery Center node.
  - The development replaces the existing boat storage and obsolete single story buildings with a higher and better use Research & Education Center.
  - The building's architecture reinforces and further establishes the waterfront character of the corridor.
3. **District Parking Strategies**
  - Parking for the Freshwater Center is located at the rear of the building and is designed to accommodate a future bridge that will link to shared parking on the north side of the stream.
4. **District Connectivity / M-22 Right-Of-Way Improvements / Non-Motorized Infrastructure.**
  - The site plan has been coordinated with MDOT, including the elimination of the two existing curb cuts, the location of the new curb cut and location of the pedestrian crossing.
  - The Fresh Water Center includes a public pedestrian plaza that connects with the proposed sidewalk along M-22 and pedestrian cross-walk.
  - The new M-22 pedestrian walkway provides a link to Discovery Pier
  - The site plan provides a location for future tart trail connection that facilitates a braided trail network
5. **Environmental/Sustainable Development**
  - The Freshwater Center has an extensive Brownfield plan that mitigates existing contamination. Otwell Mawby, P.C. Consulting Engineers provided a Remedial Investigation Status Report, dated September 2024
  - The site plan embraces the existing wetland and stream, and utilizes bioswales with underground detention systems to mitigate stormwater.
  - The walkways and pedestrian plaza utilize pervious pavers that reduce impervious surface and mitigate stormwater management.
  - The landscape incorporates rain gardens with native plants and dune grass.
  - The Freshwater Research & Innovation Center includes education space with interpretive exhibits that illustrate threats to the Great Lakes and the importance of freshwater.

# Exhibit B

## Freshwater Research & Innovation Center Zoning Compliance

The Freshwater Research & Innovation Center is a commercial building primarily used for research along with community outreach education. Research & community outreach education uses are not specifically identified in the Zoning Ordinance Section 5.4 Land Use and Zoning District Table nor Section 6.1.3 (off-street parking) Spaces Required, thus **we are requesting a variation to allow for our proposed Use-Type and minimum parking space requirements through a Planned Development (PD). Exhibit A outlines how Freshwater Research & Innovation Center will help facilitate the Township Sub-Area Master Plan as well as fulfill the intents and purposes of a PD.** The building is compatible with all the General Commercial (GC) Zoning District Requirements including Section 5.6 Table of Dimensional Requirements:

|                              | <u>GC Zoning</u> | <u>Freshwater Research &amp; Innovation Center</u> |
|------------------------------|------------------|--|
| Minimum Lot Requirements     | 12,500 sq. ft.   | 679,536 sq. ft.                                    |
| Minimum Width, Road Frontage | 100'             | 293.37'  |
| Minimum Set Backs            |                  |  |
| Wetlands                     | 30'              | 30' (north side setback)                           |
| Water's Edge                 | N/A              |  |
| Front                        | 15'*             | 15' (parking on rear of structure)                 |
| Sides                        | 10'              | 28' (south side setback)                           |
| Rear                         | 20'              | 645' +   |
| Maximum Height               | 3 Stories **     | 2 Stories + Mechanical Penthouse                   |

\*15' if parking on side or rear of structure

\*\* Footnote D: Height Exemption #2 allows Mechanical Penthouse to exceed height limit

### Parking:

| PROPOSED USE | USE IN ORDINANCE                 | CALCULATION IN ORDINANCE                    | SPACES REQUIRED   |
|--------------|----------------------------------|---|---|
| OFFICE       | Business and professional office | 1 Space for every 150 sq. ft. of floor area | Open Office.....696 sf<br>Office.....93 sf<br>Office.....168 sf<br>Office .....137 sf<br>Office .....136 sf<br>Office.....137 sf<br><u>Work Area.....159 sf</u><br>Total.....1,526 sf<br><br><div style="text-align: right;">1,526 sf X 1 space/150 sf = <b>10 Spaces</b></div> |



# Exhibit B

| PROPOSED USE              | USE IN ORDINANCE               | CALCULATION IN ORDINANCE                               | SPACES REQUIRED   |
|---------------------------|--------------------------------|--|---|
| LABS INCLUDING MAKERSPACE | Light Industrial (Fabrication) | 5 spaces plus 1 per employee on largest shift          | <p>Wet Labs<br/>5 Labs @ 3 People = 25 people</p> <p>Mini Labs<br/><u>5 Labs @ 3 People = 15 people</u><br/>40 people</p> <p>Makerspace<br/>6 Benches @ 1 Person = 6 people<br/>40 people + 6 people +5 spaces = <b>51 spaces</b></p>           |
| SEMINAR/ LEARNING LAB     | Special Event                  | 1 space for every 3 people allowed by occupancy permit | <p>Occupant load per Michigan Building Code:<br/>1 person per 20 sf</p> <p>Seminar/Learning Lab Area: 1225 sf (classroom)</p> <p>Occupant Load: 1225 sf x 1 person/20 sf = 61 People</p> <p>61 people x 1 space/3 people = <b>20 spaces</b></p> |
| EDUCATIONAL DISPLAY LOBBY | Community Recreation Center    | 1 space per 200 sq. ft.                                | <p>First Floor Area: 2,505 sf<br/>Second Floor Area: 2,108 sf to be used by Lab Occupants Only for lounge, break-out, and collaboration.</p> <p>Total at Education Display Lobby:<br/>2,505 sf x 1 space/200 sf = <b>13 spaces</b></p>          |
| CAFE                      | Restaurant                     | 1 space for every 3 people allowed by occupancy permit | <p>Occupant load per Michigan Building Code - Actual Number Seating (actual number) = 9 people</p> <p>9 people x 1 space/3 people = <b>3 spaces</b></p>   |
| CONFERENCE ROOMS          | Rented Out                     | 1 space for every 3 people allowed by occupancy permit | <p>Occupant load per Michigan Building Code - Actual Number</p> <p>First Floor Conference Room: 10 people<br/>Second Floor Conference Room: 12 people<br/>Total: 22 people</p> <p>22 people x 1 space/3 people = <b>7 spaces</b></p>            |

# Exhibit B

| PROPOSED USE  | USE IN ORDINANCE | CALCULATION IN ORDINANCE | SPACES REQUIRED  |
|---------------|------------------|--------------------------|--|
| NATURAL AREAS |                  |                          | No Trail Connection in this Project Phase thus <b>0 spaces</b>                     |
|               |                  |                          | <i>Total Spaces Required.....104 spaces</i>  |
|               |                  |                          | <u>Spaces Provided</u><br>111 spaces + 5 handicap spaces = <b>116 total spaces</b> |

**Note:** It is unlikely the building will be fully occupied at the same time, however the parking layout includes a provision to add a bridge that will connect with future parking to the north, thus allowing for shared parking.

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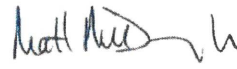
October 24, 2024

Sarah Clarren, Planner/Zoning Administrator  
Elmwood Township  
10090 E. Lincoln Rd  
Traverse City, MI 49684

Dear Sarah,

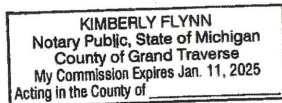
The Discovery Center Great Lakes dba Discovery Pier, hereby grants Cornerstone Architects, Inc. the right to act as agent for the Elmwood Township, Planned Development of the Freshwater Research and Innovation Center Site Plan Review. If you have any questions, I can be reached at [matt@discoverypier.org](mailto:matt@discoverypier.org) or 231-409-4285.

**Discovery Pier**

By:   
\_\_\_\_\_  
Matt McDonough  
Its: CEO

STATE OF MICHIGAN                    )  
  ) ss.  
COUNTY OF GRAND TRAVERSE        )

Subscribed and sworn to before me, a Notary Public, this 3rd day of December 2024, by **Matt McDonough**, as CEO for Discovery Center Great Lakes dba Discovery Pier.



  
\_\_\_\_\_  
Kimberly Flynn, Notary Public  
Grand Traverse County, Michigan  
Acting in Grand Traverse County, Michigan  
My commission expires: January 11, 2025

13170 SW Bay Shore Drive, Suite 100, Traverse City, MI 49684 ♦ 231.715.5200 ♦ [discoverypier.org](http://discoverypier.org)

REC'D LEELANAU COUNTY  
2018 DEC 31 9:00 AM

Leelanau County STATE OF MICHIGAN  
Dorothy M. Miller Register of Deeds



RECORDED  
December 31, 2018 10:30 AM  
Liber 1349 Page 570-573  
4P FEE: \$30.00



JG Liber 1349 Page 570 #2018007387

WARRANTY DEED

The Grantor, **Rotary Camps & Services Maritime Education Center, LLC**, a Michigan limited liability company, whose address is 202 E. Grandview Parkway, Suite 200, Traverse City, Michigan 49684,

for the sum of One Dollar (\$1.00), the receipt of which is hereby acknowledged,

conveys and warrants to the Grantee, **Discovery Center – Great Lakes**, a Michigan nonprofit corporation, whose address 13240 S. West Bay Shore Drive, Traverse City, Michigan 49684,

real property situated in the Township of Elmwood, County of Leelanau and State of Michigan, as more fully described on **Exhibit A** attached hereto and incorporated herein, subject to all easements, restrictions and reservations of record.

004-033-077-00 ✓ P-4  
004-037-080-00

Further, the real estate conveyed by this Warranty Deed (the "Property") shall at all times be used by the Grantee, its successors and assigns, principally as a location for a collaborative water related educational facility or facilities committed to the promotion of historic preservation, the importance of environmental stewardship, the joy of discovery, and the pleasure of water-based recreation. Other compatible, subordinate uses shall be permitted in order to support and sustain the principal use. Portions of the Property may be exchanged for adjacent real estate of an equivalent value, and the relinquished portion of the Property released from this covenant, so long as the replacement real estate is burdened by this covenant. This restrictive covenant shall run with and be appurtenant to the Property and may be enforced by any resident of Grand Traverse or Leelanau County.

This property may be located within the vicinity of farmland or farm operation. Generally accepted agricultural and management practices which may generate noise, dust, odors, and other associated conditions may be used and are protected by the Michigan Right to Farm Act.

The Grantor grants to the Grantee the right to make all permissible divisions of this property under Section 108 of the Land Division Act, Act No. 288 of the Public Acts of 1967.

This conveyance of real property is exempt from State and County Transfer Tax pursuant to MCL 207.505(a) and MCL 207.526(a).

TAX CERTIFICATION  
LEELANAU COUNTY LELAND, MICHIGAN 12/31/18  
I hereby certify, that according to our records, all taxes returned to this office are paid for five (5) years preceding the 30 day of 12/2018. This does not include taxes in the process of collection by Township, Cities or Villages, Board of Review changes, Michigan Tax Tribunal changes, or changes due to Homestead exemptions or corrections.

1

John A. Gallagher III Leelanau County Treasurer



**Exhibit A**

PART OF GOVERNMENT LOTS 1 AND 2, SECTION 33, TOWN 28 NORTH, RANGE 11 WEST, ELMWOOD TOWNSHIP, LEELANAU COUNTY, MICHIGAN, MORE FULLY DESCRIBED AS FOLLOWS: COMMENCING AT THE NORTH QUARTER CORNER OF SAID SECTION 33; THENCE ALONG THE NORTH-SOUTH QUARTER LINE OF SAID SECTION, SOUTH 00°19'20" WEST, 654.96 FEET (RECORD) TO THE CENTERLINE OF SAID GOVERNMENT LOT 1; THENCE ALONG SAID CENTERLINE SOUTH 89°39'00" EAST, 281.80 FEET (RECORD) TO THE EAST RIGHT-OF-WAY OF THE LEELANAU TRANSIT CO. RAILROAD; THENCE ALONG SAID RIGHT-OF-WAY, SOUTH 15°43'26" EAST, 257.42 FEET (M) -(RECORDED AS SOUTH 15°45' EAST, 257.42 FEET); THENCE SOUTH 13°20'26" EAST, 61.73 FEET (M) -(RECORDED AS SOUTH 13°22' EAST) TO THE POINT OF BEGINNING; THENCE SOUTH 13°20'26" EAST, 670.74 FEET (M) -(RECORDED AS SOUTH 13°22' EAST); THENCE LEAVING SAID RAILROAD RIGHT-OF-WAY, SOUTH 89°39'26" EAST, 258.04 FEET (M) -(RECORDED AS SOUTH 89°41' EAST, 258.18 FEET); THENCE NORTH 10°03'40" WEST, 103.31 FEET (M) -(RECORDED AS NORTH 10°07' WEST, 101.66 FEET); THENCE SOUTH 89°37'45" EAST, 868.97 FEET (M) -(RECORDED AS SOUTH 89°59'08" EAST, 868.31 FEET) TO THE SHORE OF GRAND TRAVERSE BAY; THENCE ALONG SAID SHORELINE, NORTH 01°54'28" EAST, 50.10 FEET (M) -(RECORDED AS NORTH 01°33'05" EAST, 50.10 FEET); THENCE LEAVING SAID SHORELINE, NORTH 89°07'06" WEST, 98.98 FEET (M) -(RECORDED AS NORTH 89°59'08" WEST, 98.66 FEET); THENCE NORTH 01°49'39" EAST, 99.96 FEET (M) -(RECORDED AS NORTH 01°33'05" EAST, 99.96 FEET); THENCE NORTH 89°42'34" WEST, 801.46 FEET (M) -(RECORDED AS NORTH 89°59'08" WEST, 801.46 FEET); THENCE NORTH 10°03'40" WEST, 406.78 FEET (M) -(RECORDED AS NORTH 10°07' WEST); THENCE NORTH 89°39'11" WEST, 297.05 FEET TO THE EAST RIGHT-OF-WAY OF THE LEELANAU TRANSIT CO. RAILROAD AND THE POINT OF BEGINNING.

A PART OF GOVERNMENT LOTS 1 AND 2, SECTION 33, TOWN 28 NORTH, RANGE 11 WEST, ELMWOOD TOWNSHIP, LEELANAU COUNTY, MICHIGAN, MORE FULLY DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF SAID GOVERNMENT LOT 1; THENCE ALONG THE SOUTH LINE OF GOVERNMENT LOT 1, NORTH 89°50'09" EAST, 729.30 FEET (M) (EAST 739.30') TO A STREET OF RECORD SURVEYED BY C.P. TULLER, AS THE POINT OF BEGINNING; THENCE NORTH 10°03'40" WEST, 50.83 FEET (R); THENCE SOUTH 89°42'34" EAST, 555.70 FEET (R) TO A POINT 300.00 FEET WEST OF THE CENTERLINE OF STATE HIGHWAY M-22; THENCE NORTH 01°55'26" EAST, 60.00 FEET (R) TO A POINT DESCRIBED IN PREVIOUS DEEDS AS BEING 543.50 FEET SOUTH OF THE EAST-WEST CENTERLINE OF GOVERNMENT LOT 1; THENCE SOUTH 89°42'34" EAST, 257.00 FEET (R) TO THE WESTERLY RIGHT-OF-WAY OF STATE HIGHWAY M-22, ALSO BEING A POINT DESCRIBED AS BEING 543.50 FEET FROM THE EAST-WEST CENTERLINE OF GOVERNMENT LOT 1; THENCE SOUTH 01°38'30" WEST, ALONG SAID RIGHT-OF-WAY OF STATE HIGHWAY M-22, 160.02 FEET; THENCE NORTH 89°42'34" WEST, 792.37 FEET (794.75 FEET R); THENCE NORTH 10°03'40" WEST, 50.83 FEET (R) TO THE POINT OF BEGINNING. SUBJECT TO THE RIGHTS OF THE PUBLIC IN STATE HIGHWAY M-22



REC'D LEELANAU COUNTY  
2018 DEC 31 9:00 AM

Leelanau County STATE OF MICHIGAN  
Dorothy M. Miller Register of Deeds



RECORDED  
December 31, 2018 10:30 AM  
Liber 1349 Page 567-569  
SP FEE: \$30.00



JG Liber 1349 Page 567 #2018007386

WARRANTY DEED

The Grantor, **Rotary Camps and Services of Traverse City**, a Michigan nonprofit corporation, whose address is 202 E. Grandview Parkway, Suite 200, Traverse City, Michigan 49684,

for the sum of One Dollar (\$1.00), the receipt of which is hereby acknowledged,

conveys and warrants to the Grantee, **Discovery Center – Great Lakes**, a Michigan nonprofit corporation, whose address 13240 S. West Bay Shore Drive, Traverse City, Michigan 49684,

real property situated in the Township of Elmwood, County of Leelanau and State of Michigan, as more fully described on **Exhibit A** attached hereto and incorporated herein, subject to all easements, restrictions and reservations of record. 004 - 033 - 073 - 00 ✓PH

This property may be located within the vicinity of farmland or farm operation. Generally accepted agricultural and management practices which may generate noise, dust, odors, and other associated conditions may be used and are protected by the Michigan Right to Farm Act.

The Grantor grants to the Grantee the right to make all permissible divisions of this property under Section 108 of the Land Division Act, Act No. 288 of the Public Acts of 1967.

This conveyance of real property is exempt from State and County Transfer Tax pursuant to MCL 207.505(a) and MCL 207.526(a).

*[The remainder of this page has been left blank intentionally; signature page follows.]*

TAX CERTIFICATION

LEELANU COUNTY LELAND, MICHIGAN 12/31/18  
I hereby certify, that according to our records, all taxes returned to this office are paid for five (5) years preceding the 20 day of 12/2018. This does not include taxes in the process of collection by Township, Cities or Villages, Board of Review changes, Michigan Tax Tribunal changes, or changes due to Homestead exemptions or corrections.

1

*[Signature]*  
Leelanau County Treasurer



EXHIBIT A TO WARRANTY DEED

Land situated in the Township of Elmwood, County of Leelanau, State of Michigan, described as follows:

Part of Government Lot 1, Section 33, Town 28 North, Range 11 West, Elmwood Township, Leelanau County, Michigan, more fully described as follows: Commencing at the North quarter corner of said Section 33; thence along the North-South quarter line of said Section, South 00° 19'20" West, 654.96 feet (R) to the centerline of Government Lot 1; thence along said centerline, South 89°39'00" East, 582.09 feet to the East Right-of-Way of the Leelanau Transit Co. Railroad; thence along said Right-of-Way, South 15°48'00" East (R & M) 257.57 feet (M) to the Point of Beginning; thence continuing along said Right-of-Way, South 10°03'40" East, 165.65 feet (R & M); thence South 89°39'00" East, 850.36 feet (R & M) to the West Right-of-Way of Highway M-22; thence along a curve to the left a distance of 154.66 feet (M) (Radius = 1721.86 feet,  $I=5^{\circ}08'47"$ , L.C. = North 4°46'57" West 154.61 feet); thence South 89° 57'16" West 380.17 feet (M); thence North 00° 06'25" West 8.64 feet (M); thence North 89°39'00" West 485.69 feet (M) = (485.14 feet- R) to the Point of Beginning.

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December 31, 2018 10:30 AM  
Liber 1349 Page 564-566  
3P FEE: \$30.00



JG Liber 1349 Page 564 #2018007385

**WARRANTY DEED**

The Grantor, **Rotary Community Harbor, L3C**, a Michigan low-profit limited liability company, whose address is 202 E. Grandview Parkway, Suite 200, Traverse City, Michigan 49684, for the sum of One Dollar (\$1.00), the receipt of which is hereby acknowledged, conveys and warrants to the Grantee, **Discovery Center – Great Lakes**, a Michigan nonprofit corporation, whose address 13240 S. West Bay Shore Drive, Traverse City, Michigan 49684, the real property situated in the Township of Elmwood, County of Leelanau and State of Michigan, as more fully described on **Exhibit A** attached hereto and incorporated herein, subject to all easements, restrictions and reservations of record, including the following:

004 - 033 - 074 - 00, 004 - 033 - 078 - 00, 004 - 033 - 079 - 00 ✓ 2H

1. The following restriction applies to Parcels 1 and 3: These Parcels and associated bottomlands shall at all times be used and will be made available to the public in a non-discriminatory manner, consistent with the reasonable operation of the property, principally as a location for a collaborative water related educational facility or facilities committed to the promotion of historic preservation, the importance of environmental stewardship, the joy of discovery, and the pleasure of water-based recreation. Other compatible subordinate uses shall be permitted in order to support and sustain the principal use. Nothing in this transfer or this provision is intended to create a park by either express or implied dedication.

2. The following restriction applies to Parcel 1: The north half of the Coal Dock shall be available and readily accessible from the water on the east and north sides and by land from the causeway for public access, wharves, landings, harbors, docks, and terminal facilities. This area may be used for municipal wharves, docks, piers, landing places and basins on a short-term, temporary basis by the City of Traverse City consistent with Section 151 of the City Charter. Usage of these areas shall be consistent with any bottomlands leases granted by the State of Michigan. No above grade permanent structures shall be built in this area without the express written permission of the City Manager of the City of Traverse City. Approval for scheduling, scope, and duration of the use of the dock shall be at the reasonable discretion of the Grantee consistent with the terms of a management agreement.

This property may be located within the vicinity of farmland or farm operation. Generally accepted agricultural and management practices which may generate noise, dust, odors, and other associated conditions may be used and are protected by the Michigan Right to Farm Act.

The Grantor grants to the Grantee the right to make all permissible divisions of this property under Section 108 of the Land Division Act, Act No. 288 of the Public Acts of 1967.

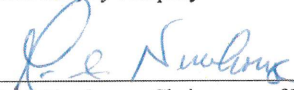
This conveyance of real property is exempt from State and County Transfer Tax pursuant to MCL 207.505(a) and MCL 207.526(a).

1 CERTIFICATION LEELANAU COUNTY LEELANAU, MICHIGAN 12/31/18  
I, Dorothy M. Miller, Register of Deeds, do hereby certify that the foregoing is a true and correct copy of the original as recorded in the office of the Register of Deeds, Leelanau County, Michigan, on December 31, 2018, at 10:30 AM. The fee for recording this document was \$30.00. The fee for recording this document was \$30.00.  
Dorothy M. Miller  
Register of Deeds  
Leelanau County, Michigan

GRANTOR:

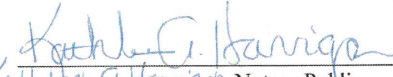
**Rotary Community Harbor, L3C**, a Michigan low-profit limited liability company

Dated: December 20, 2018

  
By: **Mark Newhouse**, Chairperson of Rotary Camps and Services of Traverse City, a Michigan nonprofit corporation, the sole Member of Grantor

STATE OF MICHIGAN                    )  
  )  
COUNTY OF GRAND TRAVERSE        )

On this 20th day of December, 2018, before me, a Notary Public, personally appeared **Mark Newhouse**, Chairperson of and on behalf of Rotary Camps and Services of Traverse City, a Michigan nonprofit corporation, the sole Member of Grantor, to me known to be the same person described in and who executed the within instrument, and who acknowledged the same to be his free act and deed.

  
Kathleen G. Harrigan, Notary Public  
Grand Traverse County, Michigan  
Acting in Grand Traverse County, Michigan  
My Commission Expires: 03-11-2019

***Prepared by and after recorded return to:***

Scott D. Harvey, Esq.  
PARKER HARVEY PLC  
901 S. Garfield Ave., Suite 200  
Traverse City, MI 49686  
(231) 929-4878

***Send subsequent tax bills to:*** Grantee.

***Parcel Identification Numbers:*** 004-033-074-00; 004-033-078-00; and 004-033-079-00.

This instrument was prepared at the specific request of the parties based solely on information supplied by one or more of the parties to this conveyance and without examination of title or abstract. The drafter assumes no liability for any errors, inaccuracy or omissions in this instrument resulting from the information provided. The parties hereto signify their assent to this disclaimer by the Grantor's execution and the Grantee's acceptance of this instrument.

EXHIBIT A TO WARRANTY DEED

Land situated in the Township of Elmwood, County of Leelanau, State of Michigan, more fully described as:

Parcel 1: That part of Sec. 33, T28N, R11W, described as follows: Commencing at the N ¼ post of said Sec. 33; th. E. along the N Sec. line of Sec. 33, 1443.10 ft.; th. S 4°24' E 1173.37 ft.; th. S 89°41' E, 73.64 ft. to the POB; th. S 89°50' E, 120.17 ft.; th. S 88°59' E, 413.13 ft.; th. S 1°14' W, 233.35 ft.; th. N 89°28' W, 204.53 ft.; th. N 6°16' W, 179.94 ft.; th. N 51°22' W, 31.12 ft.; th. N 88°22' W, 108 ft.; th. S 58°21' W, 36.48 ft.; th. S 3°50' W, 27 ft.; th. S 75°24' W, 127.73 ft.; th. N 85°48' W, 19.3 ft.; th. N 2°10' E, 100 ft. to the POB.

Parcel 2: All that part of the parcel described in L115, p 370, of the Leelanau County Register of Deeds office, lying W of State Highway M-22 and described as part of Gov't Lot 1 of Sec. 33, T28N, R11W, more fully described as follows: Commencing on Grand Traverse Bay 403.5 ft. S of the E and W centerline of Gov't Lot 1 of Sec. 33; th. W to a street surveyed by Tuller in 1901; th. S 200 ft.; th. E to a point 300 ft. W of the centerline of State Highway M-22; th. N 60 ft.; th. E 300 ft. to said centerline; th. N 40ft.; th. E to the shore of Grand Traverse Bay; th. N'ly along the shore of Grand Traverse Bay 100 ft, more or less to the Place of beginning covering entire Lots 13 and 14 of an unrecorded plat and the N 40 ft. of Lot 12 of an unrecorded plat lying W of the centerline of State Highway M-22, excepting parcel conveyed to John Akers and wife as recorded in L 70, p. 597; and excepting parcel conveyed to State of Michigan, State Highway Commissioner Charles Ziegler, Nov. 30, 1949, described as commencing on Grand Traverse Bay 403.5 ft. S of E and W centerline of Lot 1, Sec. 33; th. W to a street surveyed by Tuller in 1901; th. S 200 ft.; th. E to a point 300 ft. W of the centerline of State Highway M-22; th. N 60 ft.; th. E 300 ft. to said centerline; th. N 40 ft.; th. E to shore of Grand Traverse Bay; th. N'ly along shore of Grand Traverse Bay 100 ft. more or less to the Place of beginning which lies E'ly of a line 43 ft. W'ly of and measured at Right angles and parallel to the centerline of M-22.

Parcel 3: That part of Gov't Lots 1 and 2, Sec. 33, T28N, R11W, more fully described as: Commencing at the North ¼ corner of said Sec. 33; th. East 1443.10 feet along the North line of said Sec. 33; th. South 4°24' East, 1173.37 feet; th. South 89°41' East, 73.64 feet; th. South 2°10' West, 100.00 feet to the point of beginning; th. South 85°48' East, 19.13 feet; th. North 75°24' East, 127.73 feet; th. South 3°50' West, 232.08 feet, along the face of a revetment fro Grand Traverse Bay; th. North 89°47' West, 134.61 feet to the Easterly right-of-way of State Highway M-22; th N 2°10' East, 200.37 feet, along said right-of-way to the point of beginning together with all land between the side-lines of the above described property extended Easterly to the waters edge.

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RE: Freshwater Research Center - Elmwood Township-Drive Coordination

**Subject:** RE: Freshwater Research Center - Elmwood Township-Drive Coordination  
**From:** Bob Verschaeve <rmverschaeve@goslingczubak.com>  
**Date:** 10/16/2024, 11:08 AM  
**To:** "PorathL@Michigan.gov" <PorathL@Michigan.gov>  
**CC:** "Matt McDonough (matt@discoverygreatlakes.org)" <matt@discoverygreatlakes.org>, Andy Lin <alin@cornerstone-arch.com>

Lucas,

I'm just following up and circling back with updated information to the request below I sent several weeks ago. Attached is an updated plan set that we are submitting to the Township for Site Plan Approval. Could we receive an email acknowledgement from MDOT that notes the driveway and crosswalk locations on the plan are acceptable to MDOT. They are shown per MDOT's design originally sent to Cornerstone Architects with adjustments to the width of the curb opening and slight shift north to end the radius at the property line.

If we can receive your acknowledgement and any comments in the next week, that will help us as we prepare the site plan review application.

Please let me know if you have any questions or comments.

Thank you,

--

Robert Verschaeve, P.E. | Project Manager  
**Gosling Czubak Engineering Sciences, Inc.**

231.946.9191 office | 231.933.5102 direct  
[rmverschaeve@goslingczubak.com](mailto:rmverschaeve@goslingczubak.com) | [www.goslingczubak.com](http://www.goslingczubak.com)

[Connect with us on LinkedIn!](#)

---

**From:** Bob Verschaeve  
**Sent:** Friday, September 13, 2024 9:40 AM  
**To:** PorathL@Michigan.gov  
**Subject:** Freshwater Research Center - Elmwood Township-Drive Coordination

Hi Lucas,

I'm working on the Freshwater Research & Innovation Center project in Elmwood Township with Cornerstone Architects. Andy Lin and John Dancer noted they have been working with MDOT on this site for some time and MDOT's design files for the upcoming reconstruction work had been shared with them. Attached is the schematic site plan that we've come up with and included the linework from the MDOT design files. There are a couple questions about the curbed entrance.

The south curb line is shown with the neighboring curb line along with the property line. The radius of the curb extends past the property line. Do we need to adjust it north? Is there an updated MDOT file I should be using? Could you provide it if there is one?

Please let me know if you have any questions.

Thank you,

# Exhibit E1



RE: Freshwater Research Center - Elmwood Township-Drive Coordination

--  
Robert Verschaeve, P.E. | Project Manager  
Gosling Czubak Engineering Sciences, Inc.

231.946.9191 office | 231.933.5102 direct  
[rmverschaeve@goslingczubak.com](mailto:rmverschaeve@goslingczubak.com) | [www.goslingczubak.com](http://www.goslingczubak.com)

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— Attachments: \_\_\_\_\_

GCES240259\_DD SET\_101424.pdf

15.1 MB

## Exhibit E1



Fwd: MDOT - Cornerstone Architects

Andy,

See below for a one drive link to our current base files for M-22 in dwg format.

- Alignment (proposed alignments)
- Construction (proposed linework)
- Drain (proposed drainage)
- ROW (existing right of way and parcels)
- Topo (existing topo and removals)
- Utility (existing utilities)

Let me know if you have any questions or issues with any of the files. If you feel something isn't included, don't hesitate to reach out either. These files don't reflect any changes to the entrances on the east side of M-22 that we discussed last week. I'll let you know when that is complete, and our 100' distance from the driveway to the HAWK signal is established.

Thanks,  
Matt

**From:** Andy Lin <alin@cornerstone-arch.com>  
**Sent:** Monday, January 22, 2024 8:24 AM  
**To:** Porath, Lucas (MDOT) <PorathL@michigan.gov>; Matt Seitz <MSeitz@rowepsc.com>  
**Cc:** Matt McDonough <Matt@discoverygreatlakes.org>; John Dancer <jdancer@cornerstone-arch.com>  
**Subject:** [EXTERNAL]: Re: MDOT - Cornerstone Architects

You don't often get email from [alin@cornerstone-arch.com](mailto:alin@cornerstone-arch.com). [Learn why this is important](#)

CAUTION: This email originated externally. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Lucas/Matt,

Could you send us the .dwg of the site plan you shared in the Zoom call last week when you get a chance?

Thanks

On 1/18/2024 10:13 AM, Porath, Lucas (MDOT) wrote:

Yes, I will get the notice out now.

**Lucas C. Porath, PE**  
Cost and Scheduling Engineer  
MDOT – Traverse City TSC  
Cell: 231-463-9719  
[PorathL@michigan.gov](mailto:PorathL@michigan.gov)

Fwd: MDOT - Cornerstone Architects

From: Matt McDonough <Matt@discoverygreatlakes.org>  
Sent: Thursday, January 18, 2024 10:13 AM  
To: John Dancer <jdancer@cornerstone-arch.com>; Porath, Lucas (MDOT) <PorathL@michigan.gov>;  
Andy Lin <alin@cornerstone-arch.com>  
Subject: RE: MDOT - Cornerstone Architects

**CAUTION: This is an External email. Please send suspicious emails to [abuse@michigan.gov](mailto:abuse@michigan.gov)**

Hi Lucas,

Are we meeting today at 3?

Matt

Matt McDonough, CEO  
Discovery Center & Pier  
13170 S West Bayshore Dr.  
Traverse City, MI 49684  
cell 231.409.4285



From: Matt McDonough  
Sent: Wednesday, January 17, 2024 10:49 AM  
To: John Dancer <jdancer@cornerstone-arch.com>; Porath, Lucas (MDOT) <PorathL@michigan.gov>;  
Andy Lin <alin@cornerstone-arch.com>  
Subject: RE: MDOT - Cornerstone Architects

Lucas,

Would you like to meet in person or via Zoom or Teams? If the latter, please send us a meeting invite for 3:00 tomorrow.

Thanks,

Matt

Matt McDonough, CEO  
Discovery Center & Pier  
13170 S West Bayshore Dr.  
Traverse City, MI 49684  
cell 231.409.4285



Fwd: MDOT - Cornerstone Architects

**From:** [jdancer@cornerstone-arch.com](mailto:jdancer@cornerstone-arch.com) <[john.dancer.arch@gmail.com](mailto:john.dancer.arch@gmail.com)> **On Behalf Of** John Dancer  
**Sent:** Wednesday, January 17, 2024 09:15 AM  
**To:** Matt McDonough <[Matt@discoverygreatlakes.org](mailto:Matt@discoverygreatlakes.org)>; Porath, Lucas (MDOT) <[PorathL@michigan.gov](mailto:PorathL@michigan.gov)>;  
Andy Lin <[alin@cornerstone-arch.com](mailto:alin@cornerstone-arch.com)>  
**Subject:** Re: MDOT - Cornerstone Architects

Hi Matt & Lucas,

We're available tomorrow between 3-5 and Friday morning 9:30-10:15.

Thanks,

John

On 1/17/2024 8:42 AM, Matt McDonough wrote:

Lucas,  
My only windows are tomorrow between 3-5 and Friday morning 9:30-10:15.

John and Andy?

Matt

Matt McDonough, CEO  
Discovery Center & Pier  
13170 S West Bayshore Dr.  
Traverse City, MI 49684  
cell 231.409.4285



**From:** Porath, Lucas (MDOT) <[PorathL@michigan.gov](mailto:PorathL@michigan.gov)>  
**Sent:** Wednesday, January 17, 2024 08:25 AM  
**To:** Matt McDonough <[Matt@discoverygreatlakes.org](mailto:Matt@discoverygreatlakes.org)>  
**Subject:** RE: MDOT - Cornerstone Architects

Good morning, Matt,

Are you (and your designers, if desired) available for a touch base / coordination virtual meeting tomorrow or Friday?

Fwd: MDOT - Cornerstone Architects

Thanks,

**Lucas C. Porath, PE**  
Cost and Scheduling Engineer  
MDOT – Traverse City TSC  
Cell: 231-463-9719  
[PorathL@michigan.gov](mailto:PorathL@michigan.gov)

**From:** Matt McDonough <[Matt@discoverygreatlakes.org](mailto:Matt@discoverygreatlakes.org)>  
**Sent:** Monday, December 18, 2023 3:43 PM  
**To:** Matt Seitz <[mseitz@rowepsc.com](mailto:mseitz@rowepsc.com)>; Porath, Lucas (MDOT) <[PorathL@michigan.gov](mailto:PorathL@michigan.gov)>; John Dancer <[jdancer@cornerstone-arch.com](mailto:jdancer@cornerstone-arch.com)>; Andy Lin <[alin@cornerstone-arch.com](mailto:alin@cornerstone-arch.com)>  
**Cc:** Ed Bailey <[ebailey@nmc.edu](mailto:ebailey@nmc.edu)>  
**Subject:** MDOT - Cornerstone Architects

**CAUTION: This is an External email. Please send suspicious emails to [abuse@michigan.gov](mailto:abuse@michigan.gov)**

Hi everyone,

This is an email intro between MDOT staff and consultants (Lucas Porath from MDOT and Matt Seitz from Rowe) and Cornerstone Architects (John Dancer and Andy Lin).

John and Andy,

I just logged off a meeting with Lucas and Matt (and others) to discuss our pedestrian island location. MDOT is now saying that in order for our site to have a chance at getting any kind of lighted signal (flashing yellow – like they now have on 8<sup>th</sup> St. or Hawk signals – like on Grandview Pkwy) we need to have our crossing 100’ south of the Pier entrance (center line of Pier entrance). This is less than ideal for us, but please revise the site plan to show the island 100’ south of the Pier driveway. Also, please share that plan in .dwg with Matt and Lucas.

Thanks,  
Matt

Matt McDonough, CEO  
Discovery Center & Pier  
13170 S West Bayshore Dr.  
Traverse City, MI 49684  
cell 231.409.4285

RE: Freshwater Center Meeting

**Subject:** RE: Freshwater Center Meeting  
**From:** Keith Tampa <ktampa@elmwoodfire.org>  
**Date:** 10/15/2024, 12:15 PM  
**To:** Andy Lin <alin@cornerstone-arch.com>  
**CC:** Ed Bailey <ebailey@nmc.edu>, John Dancer <jdancer@cornerstone-arch.com>, Matt McDonough <Matt@discoverypier.org>

Hello everyone,

As mentioned at the meeting, the height of the building would require an access lane designed for an aerial fire apparatus. Access needs to be at least to one side of the structure. This can be accomplished in at least two ways.

- 1. East side. Use of S. West-Bay Shore Drive. There is at least one utility line that may be an issue.
- 2. West side. Use of the access driveway and parking lot. The access lane in the parking lot would need to provide a 26ft wide path for the ladder truck and its outriggers.

EFD does not have an aerial (ladder) truck so I had to get feedback from our mutual aid department, TCFD.

Both options may be available but with additional information or some modification. TCFD Fire Marshal, Keith Fritz, has provided some notes on the attached plan.

Please review and advise which option you'd like to use or if there is something else you'd like to suggest. There is also a note regarding the turn radius along the access driveway. This radius measurement is needed to determine if the TCFD ladder truck can access the rear of the structure IF the West side option is selected.

Feel free to contact me for any details.

Keith Tampa

EFD

**From:** Andy Lin <alin@cornerstone-arch.com>  
**Sent:** Monday, October 7, 2024 8:23 AM  
**To:** Keith Tampa <ktampa@elmwoodfire.org>  
**Cc:** Ed Bailey <ebailey@nmc.edu>; John Dancer <jdancer@cornerstone-arch.com>; Matt McDonough <Matt@discoverypier.org>  
**Subject:** Re: Freshwater Center Meeting

Hi Keith,

Please see attached drawings from our meeting at last week.

Thanks,

On 10/2/2024 9:08 AM, Matt McDonough wrote:

Hi Keith,  
Can you make 3:30 tomorrow work at my office?

Matt

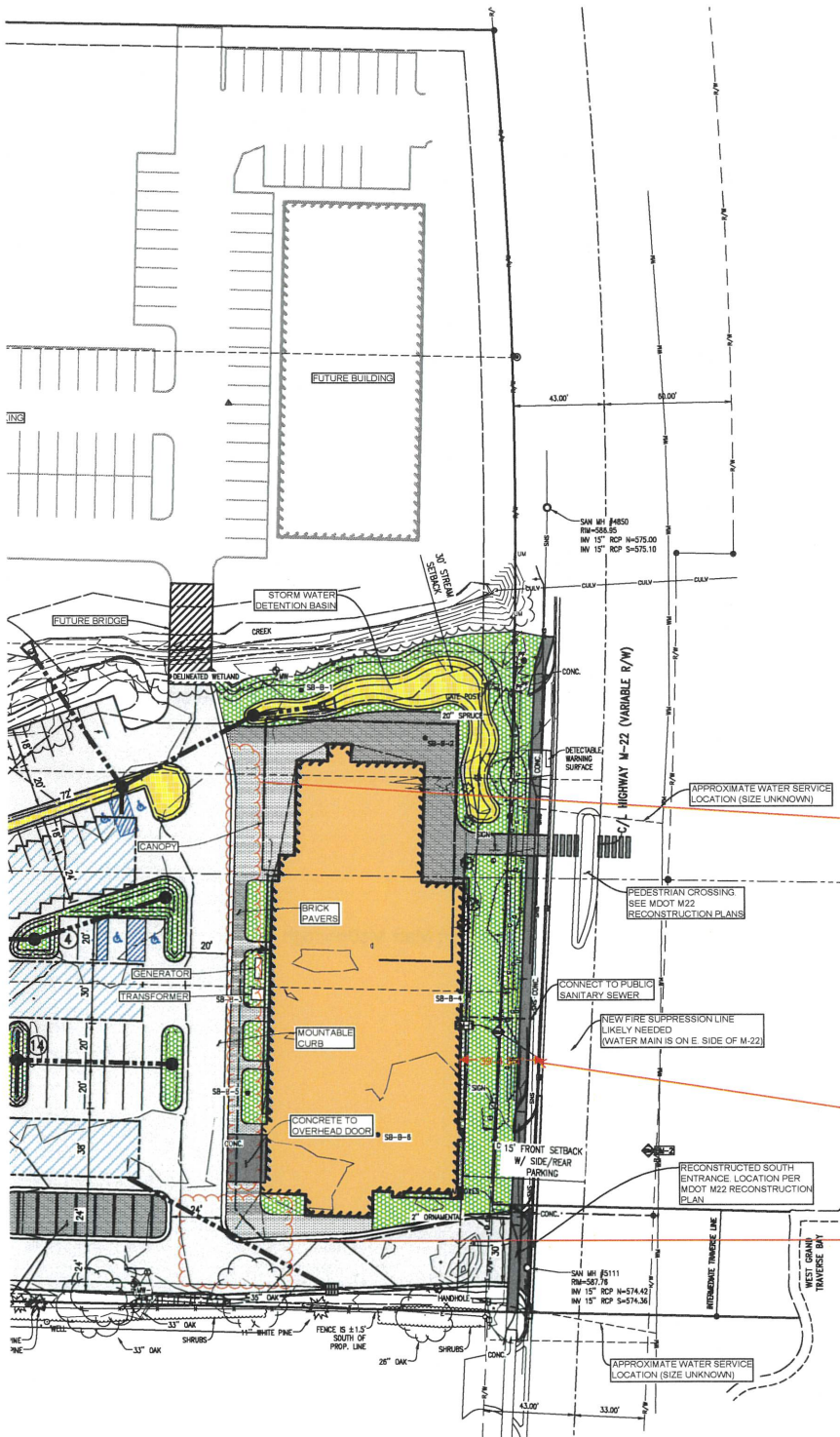
# Exhibit E2

**Goetting Crubak**  
 ENGINEERING SERVICES, LLC  
 1280 Business Park Dr.  
 Traverse City, Michigan  
 231.946.8191 phone  
 info@goettingcrubak.com  
 www.goettingcrubak.com

CIVIL ENGINEERING  
 SURVEYING  
 ENVIRONMENTAL SERVICES  
 GEOTECHNICAL  
 CONSTRUCTION SERVICES  
 DRILLING  
 LANDSCAPE ARCHITECTURE



SCALE 1" = 30'  
 0' 30' 60'



**PRELIMINARY PARKING COUNT:**  
 GCES PLAN = 102 SPACES  
 INCLUDING 5 ADA SPACES  
 PLUS 9 PAVER PARKING SPACES

If this part of the sidewalk is mountable and supports the weight of the ladder truck outriggers than it can be used as part of the 26 foot requirement.

I can't tell where the edge of the road is. If it is within 30 feet of the road, the road could be considered the Aerial-apparatus access, and the parking lot would not have to meet the requirements for it, this is also an AHJ decision.

What is the Turning radius of this corner?



FW: Discovery Center Freshwater Research center preliminary site plan

**Subject:** FW: Discovery Center Freshwater Research center preliminary site plan  
**From:** Bob Verschaeve <rmverschaeve@goslingczubak.com>  
**Date:** 10/25/2024, 9:02 AM  
**To:** "John Dancer (jdancer@cornerstone-arch.com)" <jdancer@cornerstone-arch.com>, Andy Lin <alin@cornerstone-arch.com>

John & Andy,  
Comments below are from Leelanau County Drain Commissioner Steve Christensen.

Robert Verschaeve, P.E. | Project Manager  
**Gosling Czubak Engineering Sciences, Inc.**

231.946.9191 office | 231.933.5102 direct  
[rmverschaeve@goslingczubak.com](mailto:rmverschaeve@goslingczubak.com) | [www.goslingczubak.com](http://www.goslingczubak.com)

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**From:** Steve Christensen <schristensen@leelanau.gov>  
**Sent:** Thursday, October 24, 2024 1:38 PM  
**To:** Bob Verschaeve <rmverschaeve@goslingczubak.com>  
**Subject:** RE: Discovery Center Freshwater Research center preliminary site plan



IRONSCALES couldn't recognize this email as this is the first time you received an email from this sender schristensen@leelanau.gov

**CAUTION:** This email originated from outside of GCES. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Bob,  
I am in receipt of the preliminary plan for the Discovery Center Research Center and anticipate only minor changes as we work through the permitting process.  
Thanks  
Steve

**From:** Bob Verschaeve <rmverschaeve@goslingczubak.com>  
**Sent:** Wednesday, October 16, 2024 10:50 AM  
**To:** Steve Christensen <schristensen@leelanau.gov>  
**Subject:** Discovery Center Freshwater Research center preliminary site plan

Steve,  
Since we spoke about the Discovery Center project this summer, we have developed a preliminary plan set to submit to Elmwood Township for Site Plan Approval. Those plans are attached.

## Exhibit E3



FW: Discovery Center Freshwater Research center preliminary site plan

They show a system with lined bioswales and underground detention which provides the required storage and prevents stormwater from exacerbating any of the contamination on the site.

Can we get a note from you that can be included with the site plan approval application that you have received the preliminary plan set and expect to work through a formal permit process when the construction plans are submitted to your office?

Let me know if you have any questions.

Thank you,  
Bob

--

Robert Verschaeve, P.E. | Project Manager  
**Gosling Czubak Engineering Sciences, Inc.**

231.946.9191 office | 231.933.5102 direct  
[rmverschaeve@goslingczubak.com](mailto:rmverschaeve@goslingczubak.com) | [www.goslingczubak.com](http://www.goslingczubak.com)

[Connect with us on LinkedIn!](#)

**Bob Verschaeve**

---

**From:** Andy Purvis  
**Sent:** Tuesday, November 5, 2024 11:52 AM  
**To:** Bob Verschaeve  
**Subject:** Fw: MiEnviro Portal - Submission Status Change Notification - HQ7-KE7K-VEW5J, 13240 S West Bay Shore Drive

MiEnviro submittal notification below.

Get [Outlook for iOS](#)

---

**From:** MiEnviro Support <EGLE-WRD-MiEnviro@michigan.gov>  
**Sent:** Wednesday, October 23, 2024 12:45:07 PM  
**To:** Andy Purvis <ajpurvis@goslingczubak.com>  
**Subject:** MiEnviro Portal - Submission Status Change Notification - HQ7-KE7K-VEW5J, 13240 S West Bay Shore Drive

**CAUTION:** This email originated from outside of GCES. Do not click links or open attachments unless you recognize the sender and know the content is safe.

MiEnviro Portal User,

This notification is to inform you of a status change on your submission of "Pre-Application Meeting Request Part 301 (Inland Lakes and Streams), Part 303 (Wetlands Protection)" (submission **HQ7-KE7K-VEW5J**) for 13240 S West Bay Shore Drive. The status has been updated to status "In Process" on 10/23/2024 12:39 PM.

The processor assigned to your submission is Sonya Hudson.

This is an automated notification generated by MiEnviro Portal.

**Statement regarding the project impacts on existing infrastructure, including traffic, schools, existing utilities, and the natural environment on and adjacent to the site:**

Existing municipal utilities serving the site include municipal water and sewer provided by Elmwood Township. The Freshwater Research & Innovation Center will be served by these existing services. The service lines will be relocated and resized as necessary for the new building without the need for expansion of the existing utilities.

A creek and wetlands are prominent on the site. The proposed development minimizes impacts to these natural features by conforming to the wetland setback. Stormwater will be managed through bioswales and a detention system to meet Leelanau County ordinances. Controlled release of stormwater back to the creek will prevent flooding and be permitted by the Michigan Department of Environment, Great Lakes, and Energy.

There are no schools operating in the immediate vicinity of this project. This project is a type of educational facility itself, and will provide a positive impact to freshwater research and education in the region.

The site is located along a major state highway with capacity to handle any traffic flow to and from the site.

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**Public Access Easement**

**Date:** September 15, 2021

**Grantor:** Discovery Center Great Lakes, a Michigan non-profit corporation, whose address is 13170 S. West Bayshore Drive, Traverse City, MI 49684

**Grantee:** Charter Township of Elmwood, a Michigan municipality, whose address is 10090 E. Lincoln Road Traverse City, MI 49684

**Property:** See Exhibit A

Whereas, the Grantor is the fee simple title owner of the Property. Grantee is the fee simple title owner of the Greilickville Harbor Park that is adjacent to the Property;

Whereas, the Grantee was awarded a grant from the Michigan Natural Resources Trust Fund for the purpose of constructing amenities to facilitate public recreation on the Property – Project number TF20-0117 (Grant);

Whereas, in order to receive the funds, the Michigan Department of Natural Resources requires that an easement be granted to the Grantee.

Therefore, the Grantor conveys to the Grantee a perpetual Public Access Easement over the Property.

The Grantee has the right to allow the public to have access to the Property.

Both Discovery Pier and Elmwood Township shall jointly agree pursuant to a written agreement between the parties to reasonably limit public access and public access hours from time to time to preserve the health, safety and welfare of the public.

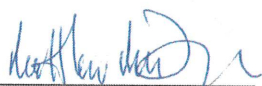
Nothing herein shall prevent the Grantor from utilizing the Property or portions of the Property for public or private educational programming, community uses, classes, gatherings, or special events, for free or for a fee. All improvements specifically funded by the Grant will be available to the public free of charge.

This conveyance is a gift from the Grantor to the Grantee and is therefore exempt from Transfer Tax pursuant to MCL 207.505(a) and 207.526(a).

**Term:** All subsequent owners of the Property are bound to all provisions of this Public Use Easement to the same extent as the Grantor and this Easement shall run with the land.

Law: This Easement shall be subject to the laws of the State of Michigan and venue for any disputes shall be in Leelanau County.

**GRANTOR**

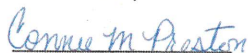


Matthew McDonough  
CEO, Discovery Center Great Lakes

Date: Sept 15, 2021

STATE OF MICHIGAN )  
LEELANAU COUNTY )

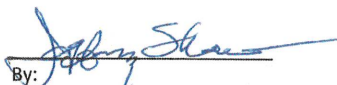
Acknowledged before me in Leelanau County, Michigan, on Sept 15, 2021, by Matthew McDonough, CEO, Discovery Center Great Lakes.



Name  
Notary public, State of Michigan, County of \_\_\_\_\_  
My commission expires \_\_\_\_\_  
Acting in the County of Leelanau

**CONNIE M. PRESTON**  
Notary Public, State of Michigan  
County of Leelanau  
My Commission Expires 10/07/2026

**GRANTEE**

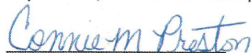


By: \_\_\_\_\_  
Supervisor, Charter Township of Elmwood

Date: Sept 15, 2021

STATE OF MICHIGAN )  
LEELANAU COUNTY )

Acknowledged before me in Leelanau County, Michigan, on Sept 15, 2021, by Jeff Shaw, Supervisor, Charter Township of Elmwood.



Name  
Notary public, State of Michigan, County of \_\_\_\_\_  
My commission expires \_\_\_\_\_  
Acting in the County of Leelanau

**CONNIE M. PRESTON**  
Notary Public, State of Michigan  
County of Leelanau  
My Commission Expires 10/07/2026

Exhibit A

Legal Description for Property

LEGAL DESCRIPTION PARCEL 1 & 3 REMAINDER:

PART OF GOVERNMENT LOTS 1 AND 2, SECTION 33, TOWN 28 NORTH, RANGE 11 WEST, ELMWOOD TOWNSHIP, LEELANAU COUNTY, MICHIGAN, DESCRIBED AS: COMMENCING AT THE NORTH 1/4 CORNER OF SAID SECTION 33; THENCE ALONG THE NORTH-SOUTH 1/4 LINE OF SAID SECTION 33 S01°23'49"W 1068.21 FEET; THENCE S88°56'05"E 1533.06 FEET TO THE WESTERLY RIGHT-OF-WAY LINE OF STATE HIGHWAY M-22; THENCE ALONG SAID WESTERLY RIGHT-OF-WAY LINE 98.97 FEET ALONG THE ARC OF A NON-TANGENT CURVE TO THE RIGHT, SAID CURVE HAVING A RADIUS OF 2821.98 FEET, A DELTA ANGLE OF 02°00'34" AND A LONG CHORD BEARING S00°34'29"E 98.97 FEET; THENCE S88°42'53"E 76.01 FEET TO THE EASTERLY RIGHT-OF-WAY LINE OF STATE HIGHWAY M-22 AND THE POINT OF BEGINNING; THENCE S88°29'13"E 125.37 FEET (RECORDED AS S89°50'E 120.27 FEET); THENCE S89°39'37"E 413.33 FEET (RECORDED AS S88°59'E 413.13 FEET); THENCE S02°35'23"W (RECORDED AS S01°14"W) 233.35 FEET; THENCE N88°06'37"W (RECORDED AS N89°28'W) 204.53 FEET; THENCE N04°54'37"W (RECORDED AS N06°16'W) 179.94 FEET; THENCE N50°00'37"W (RECORDED AS N51°22'W) 31.12 FEET; THENCE N87°00'37"W (RECORDED AS N88°22'W) 108.00 FEET; THENCE S84°16'50"W 31.05 FEET; THENCE S31°26'15"W 4.50 FEET; THENCE S87°40'32"W 29.44 FEET; THENCE S65°20'24"W 35.94 FEET; THENCE S01°56'54"W 252.10 FEET; THENCE N88°25'37"W (RECORDED AS N89°47'W) 85.18 FEET TO THE EASTERLY RIGHT-OF-WAY LINE OF STATE HIGHWAY M-22; THENCE ALONG SAID EASTERLY RIGHT-OF-WAY N02°52'10"E 177.99 FEET; THENCE CONTINUING ALONG SAID EASTERLY RIGHT-OF-WAY LINE 122.25 FEET ALONG THE ARC OF A CURVE TO THE LEFT, SAID CURVE HAVING A RADIUS OF 2897.98, DELTA ANGLE OF 02°25'01" AND A LONG CHORD BEARING N01°39'39"E 122.24 FEET TO THE POINT OF BEGINNING. CONTAINING 1.89 ACRES.

LEGAL DESCRIPTION ADDITIONAL PARCEL 1 & 3:

PART OF GOVERNMENT LOTS 1 AND 2, SECTION 33, TOWN 28 NORTH, RANGE 11 WEST, ELMWOOD TOWNSHIP, LEELANAU COUNTY, MICHIGAN, DESCRIBED AS: COMMENCING AT THE NORTH 1/4 CORNER OF SAID SECTION 33; THENCE ALONG THE NORTH-SOUTH 1/4 LINE OF SAID SECTION 33 S01°23'49"W 1068.21 FEET; THENCE S88°56'05"E 1533.06 FEET TO THE WESTERLY RIGHT-OF-WAY LINE OF STATE HIGHWAY M-22; THENCE ALONG SAID WESTERLY RIGHT-OF-WAY LINE 98.97 FEET ALONG THE ARC OF A NON-TANGENT CURVE TO THE RIGHT, SAID CURVE HAVING A RADIUS OF 2821.98 FEET, A DELTA ANGLE OF 02°00'34" AND A LONG CHORD BEARING S00°34'29"E 98.97 FEET; THENCE S88°42'53"E 76.01 FEET TO THE EASTERLY RIGHT-OF-WAY LINE OF STATE HIGHWAY M-22; THENCE CONTINUING ALONG SAID EASTERLY RIGHT-OF-WAY LINE 122.25 FEET ALONG THE ARC OF A CURVE TO THE RIGHT, SAID CURVE HAVING A RADIUS OF 2897.98, DELTA ANGLE OF 02°25'01" AND A LONG CHORD BEARING S01°39'39"W 122.24 FEET; THENCE SOUTH 02°52'10" WEST ALONG SAID RIGHT-OF-WAY 177.99 FEET TO THE POINT OF BEGINNING; THENCE S88°25'37"E (RECORDED AS S89°47'E) 85.18 FEET; THENCE S01°56'54"W 2.59 FEET; THENCE N88°25'37"W 23.25 FEET; THENCE S01°56'54"W 36.40 FEET; THENCE N88°25'37"W 62.56 FEET TO THE EASTERLY RIGHT-OF-WAY OF STATE HIGHWAY M-22; THENCE ALONG SAID RIGHT-OF-WAY N02°52'10"E 39.00 FEET TO THE POINT OF BEGINNING. CONTAINING 0.06 ACRES.

LEGAL DESCRIPTION RELINQUISHED BOTTOMLANDS:

PART OF GOVERNMENT LOTS 1 AND 2, SECTION 33, TOWN 28 NORTH, RANGE 11 WEST, ELMWOOD TOWNSHIP, LEELANAU COUNTY, MICHIGAN, DESCRIBED AS: COMMENCING AT THE NORTH 1/4 CORNER OF SAID SECTION 33; THENCE ALONG THE NORTH-SOUTH 1/4 LINE OF SAID SECTION 33 S01°23'49"W



## Exhibit G



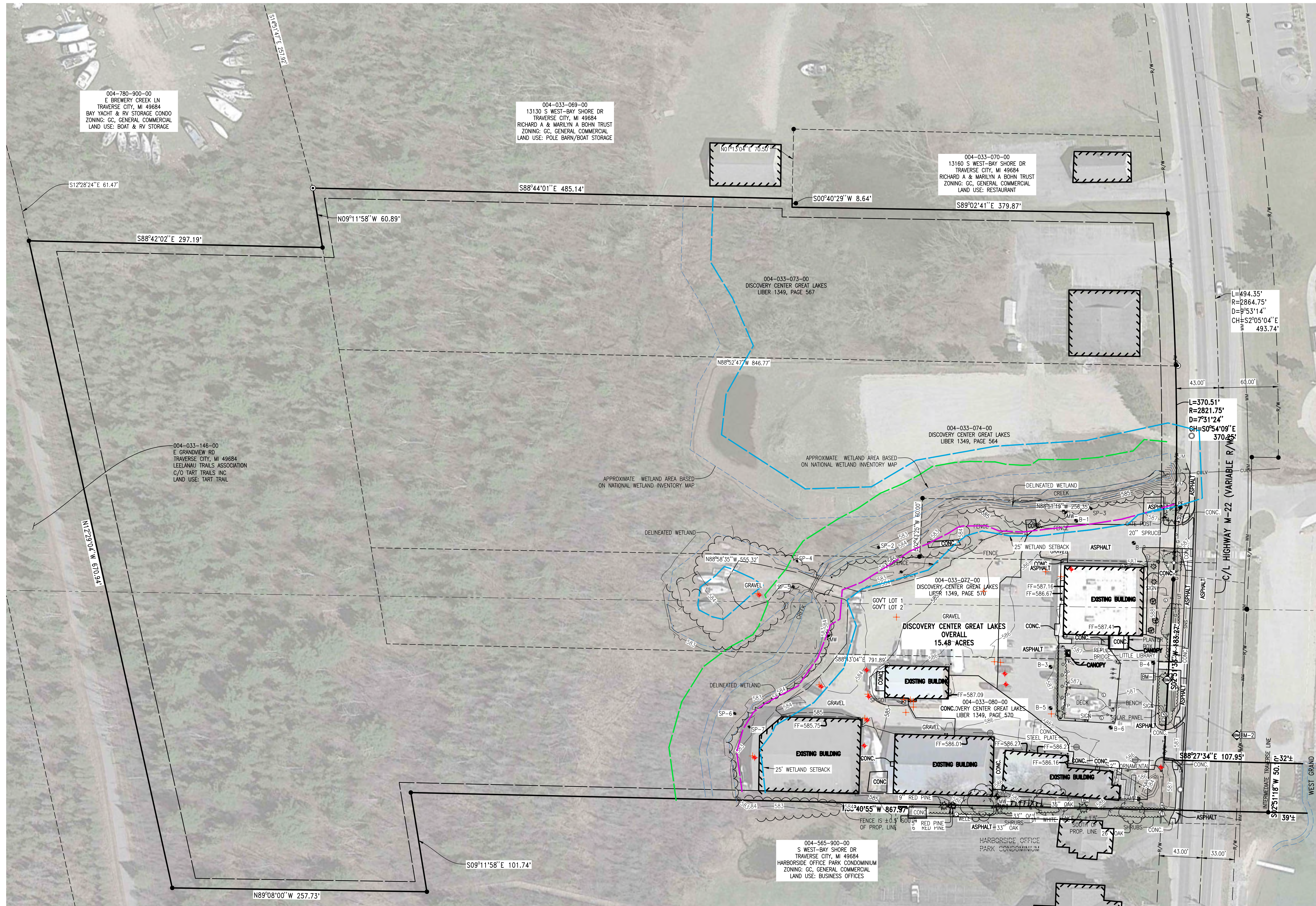
1068.21 FEET; THENCE S88°56'05"E 1533.06 FEET TO THE WESTERLY RIGHT-OF-WAY LINE OF STATE HIGHWAY M-22; THENCE ALONG SAID WESTERLY RIGHT-OF-WAY LINE 98.97 FEET ALONG THE ARC OF A NON-TANGENT CURVE TO THE RIGHT, SAID CURVE HAVING A RADIUS OF 2821.98 FEET, A DELTA ANGLE OF 02°00'34" AND A LONG CHORD BEARING S00°34'29"E 98.97 FEET; THENCE S88°42'53"E 76.01 FEET TO THE EASTERLY RIGHT-OF-WAY LINE OF STATE HIGHWAY M-22; THENCE ALONG SAID EASTERLY RIGHT-OF-WAY LINE 122.25 FEET ALONG THE ARC OF A CURVE TO THE RIGHT, SAID CURVE HAVING A RADIUS OF 2897.98, DELTA ANGLE OF 02°25'01" AND A LONG CHORD BEARING S01°39'39"W 122.24 FEET; THENCE CONTINUING ALONG SAID EASTERLY RIGHT-OF-WAY S02°52'10"W 177.99 FEET; THENCE S88°25'37"E (RECORDED AS S89°47'E) 85.18 FEET TO THE POINT OF BEGINNING; THENCE N01°56'54"E 252.10 FEET; THENCE N65°20'24"E 35.94 FEET; THENCE N87°40'32"E 29.44 FEET; THENCE N31°26'15"E 4.50 FEET; THENCE N84°16'50"E 31.05 FEET; THENCE S59°42'23"W (RECORDED AS S58°31'W) 36.48 FEET; THENCE S05°11'23"W 259.08 FEET (RECORDED AS 260.07 FEET); THENCE N88°25'37"W (RECORDED AS N89°47'W) 48.98 FEET TO THE POINT OF BEGINNING. CONTAINING 0.35 ACRES.

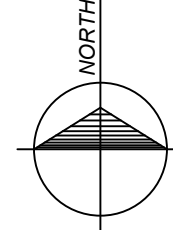
**END OF EXHIBITS**










  
 SCALE 1" = 50'  
 0' 50' 100'

  
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 Traverse City, Michigan  
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 info@goslingczubak.com  
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 DRILLING  
 LANDSCAPE ARCHITECTURE

| BENCHMARK DATA |                         |                    |
|----------------|-------------------------|--------------------|
| BENCHMARK      | DESCRIPTION             | ELEVATION (NAVD88) |
| BM-1           | SPIKE IN POWER POLE     | 588.67             |
| BM-2           | BENCH TIE IN POWER POLE | 588.08             |

- LEGEND**
- BENCHMARK
  - IRON FOUND
  - MONUMENT FOUND
  - EXISTING CLEAN OUT
  - EXISTING UTILITY POLE
  - EXISTING LIGHT
  - EXISTING MANHOLE (AS NOTED)
  - EXISTING ELECTRIC METER
  - EXISTING ELECTRIC TRANSFORMER
  - EXISTING GUY ANCHOR
  - EXISTING MONITOR WELL
  - EXISTING SOIL BORING
  - EXISTING SAMPLE POINT
  - EXISTING GAS METER
  - EXISTING CATCH BASIN - ROUND
  - EXISTING AIR CONDITIONER
  - EXISTING FLAG POLE
  - EXISTING PINFLAG
  - EXISTING POST
  - EXISTING SIGN
  - EXISTING UNDERGROUND MARKER
  - EXISTING GATE VALVE
  - EXISTING WATER WELL
  - EXISTING CONIFEROUS SHRUB
  - EXISTING CONIFEROUS TREE
  - EXISTING DECIDUOUS SHRUB
  - EXISTING DECIDUOUS TREE
- EXISTING BUILDING
  - EXISTING CONIFEROUS TREE LINE
  - EXISTING DECIDUOUS TREE LINE
  - EXISTING FENCE
  - EXISTING ELECTRIC - OVERHEAD
  - EXISTING GAS
  - EXISTING TELEPHONE - OVERHEAD
  - EXISTING TELEPHONE - UNDERGROUND
  - EXISTING ROAD RIGHT-OF-WAY
  - EDGE OF WETLANDS
  - EDGE OF WATER
  - 30' WATER'S EDGE SETBACK
  - 30' WETLAND SETBACK



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| Date     | Issued For         |
|----------|--------------------|
| 12/14/23 | REVIEW             |
| 05/21/24 | SCHEMATIC DESIGN   |
| 08/16/24 | SD REVISED         |
| 10/14/24 | DESIGN DEVELOPMENT |

**COMBINED OVERALL LEGAL DESCRIPTION (PARCELS 004-033-073-00, 004-033-074-00, 004-033-077-00, AND 004-033-080-00): SURVEY NOTES**

THAT PART OF GOVERNMENT LOTS 1 AND 2, SECTION 33, T28N, R11W, ELMWOOD TOWNSHIP, LEELANAU COUNTY, MICHIGAN DESCRIBED AS COMMENCING AT THE NORTH 1/4 CORNER OF SAID SECTION; THENCE ALONG THE NORTH-SOUTH 1/4 LINE SOUTH 1°23'49" WEST 655.81 FEET TO THE CENTERLINE OF SAID GOVERNMENT LOT 1; THENCE ALONG SAID CENTERLINE SOUTH 88°47'55" EAST 283.75 FEET (RECORDED AS 281.80 FEET) TO THE EAST RIGHT-OF-WAY OF THE FORMER LEELANAU TRANSIT COMPANY RAILROAD; THENCE ALONG SAID RIGHT-OF-WAY AND THE WEST LINE OF WEST BAY YACHT & RV STORAGE CONDOMINIUM SOUTH 14°45'27" EAST 257.42 FEET; THENCE CONTINUING ALONG SAID RIGHT-OF-WAY AND CONDOMINIUM SOUTH 12°28'24" EAST 61.47 FEET (RECORDED AS 61.73 FEET) TO THE POINT OF BEGINNING; THENCE ALONG THE SOUTH LINE OF SAID CONDOMINIUM SOUTH 88°42'02" EAST 297.19 FEET (RECORDED AS 297.05 FEET); THENCE ALONG THE EAST LINE OF SAID CONDOMINIUM NORTH 09°11'58" WEST 60.89 FEET; THENCE SOUTH 88°44'01" EAST 485.14 FEET (RECORDED AS 485.69 FEET); THENCE SOUTH 00°40'29" WEST 8.64 FEET; THENCE SOUTH 89°02'41" EAST 379.87 FEET (RECORDED AS 380.17 FEET) TO THE WEST RIGHT-OF-WAY OF STATE HIGHWAY M-22; THENCE 370.51 FEET ALONG SAID WEST RIGHT-OF-WAY AND A CURVE TO THE RIGHT HAVING A RADIUS OF 2821.75 FEET, A DELTA OF 7°31'24" AND A LONG CHORD BEARING SOUTH 00°54'09" EAST 370.29 FEET; THENCE CONTINUING ALONG SAID WEST RIGHT-OF-WAY SOUTH 02°51'18" WEST 107.95 FEET; THENCE SOUTH 88°40'55" WEST 867.97 FEET (RECORDED AS 868.31 FEET) BEING PARTIALLY ALONG THE NORTH LINE OF HARBORSIDE OFFICE PARK CONDOMINIUM; THENCE SOUTH 09°11'58" EAST 101.74 FEET (RECORDED AS 103.31 FEET); THENCE NORTH 89°08'00" WEST 257.73 FEET (RECORDED AS 258.04 FEET); THENCE ALONG THE EAST RIGHT-OF-WAY OF THE FORMER LEELANAU TRANSIT COMPANY RAILROAD NORTH 12°29'04" WEST 670.94 FEET (RECORDED AS 690.74 FEET) TO THE POINT OF BEGINNING, CONTAINING 15.68 ACRES AND SUBJECT TO ANY RESTRICTIONS OR EASEMENTS OF RECORD, INCLUDING ALL LANDS LYING BETWEEN THE INTERMEDIATE TRAVERSE LINE AND THE SHORE OF WEST GRAND TRAVERSE BAY.

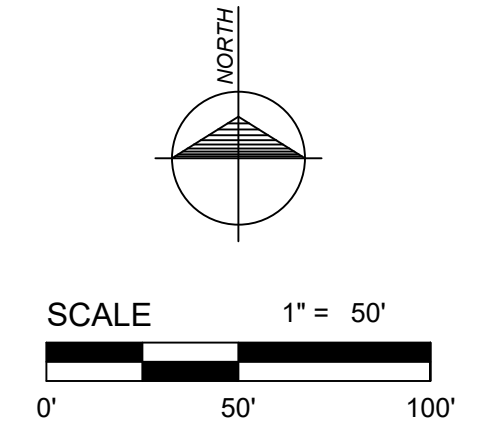
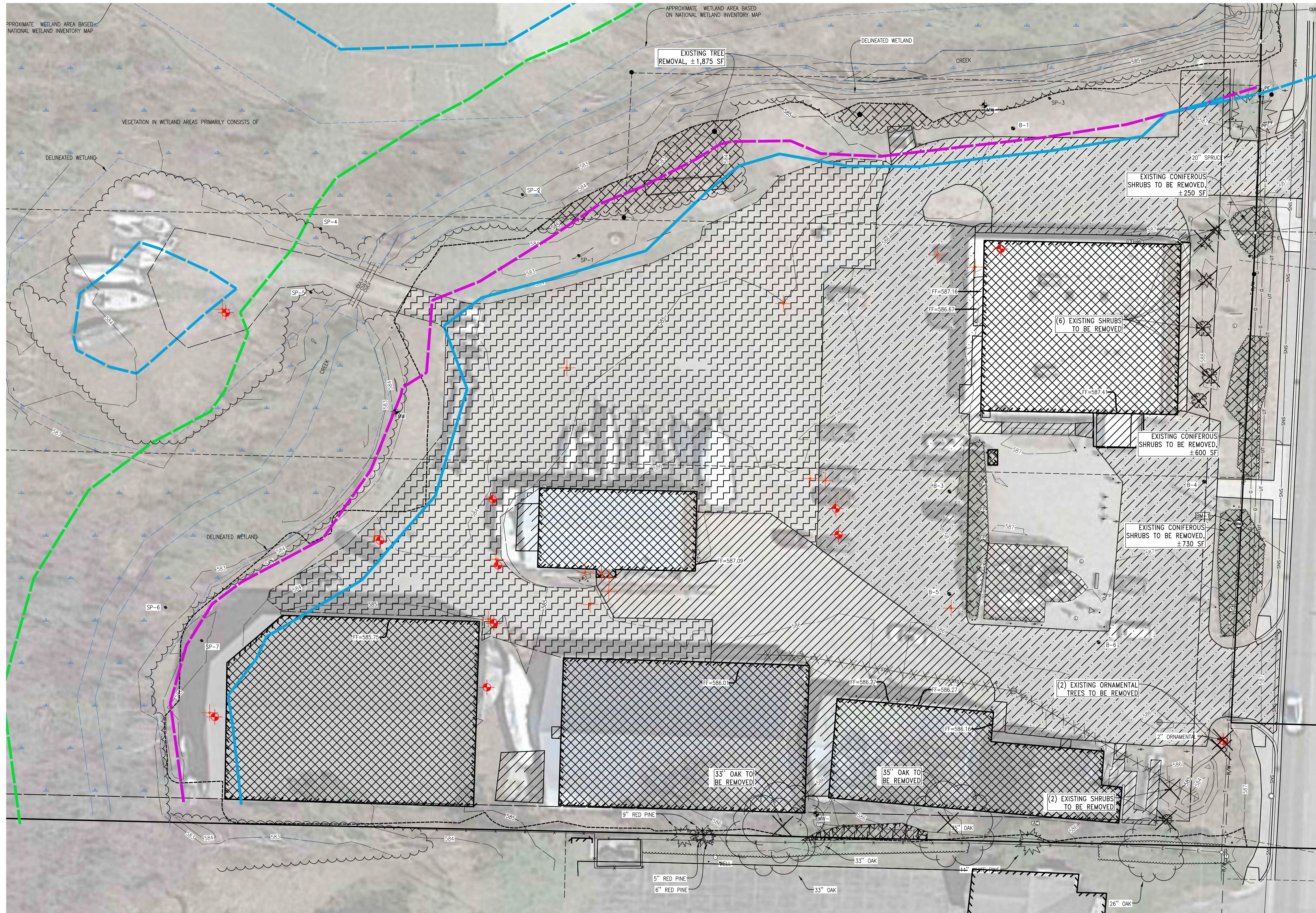
THIS DESCRIPTION IS BASED ON WARRANTY DEEDS RECORDED IN LIBER 1349, PAGE 564, 567, AND 570.

- THIS TOPOGRAPHIC MAP IS BASED UPON A FIELD SURVEY PERFORMED BY GOSLING CZUBAK ENGINEERING SCIENCES, INC. DURING MARCH 2024.
- BOUNDARY IS DEPICTED FOR INFORMATIONAL PURPOSES ONLY.
- THIS SURVEY HAS BEEN PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE SEARCH AND THEREFORE THIS PROPERTY MAY BE SUBJECT TO EASEMENTS, RIGHT-OF-WAY TAKINGS AND RESTRICTIVE COVENANTS THAT COULD ENCUMBER THIS PARCEL OF LAND.
- THE BEARING BASE AND COORDINATES OF THIS DRAWING ARE BASED UPON THE MICHIGAN STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, NAD 83, INTERNATIONAL FEET, 2011 ADJUSTMENT. CONTROL WAS ESTABLISHED BY GPS OBSERVATION USING THE AVAILABLE MDOT CONTINUOUSLY OPERATING STATIONS (CORS).
- THE VERTICAL DATUM OF THIS SURVEY IS BASED UPON NAVD 88. CONTROL WAS ESTABLISHED BY GPS OBSERVATION USING THE AVAILABLE MDOT CONTINUOUSLY OPERATING STATIONS (CORS).
- THE UTILITY INFORMATION SHOWN ON THIS SURVEY IS SHOWN BASED UPON A COMBINATION OF RECORD INFORMATION AND FIELD MEASUREMENTS. THE SURVEYOR DOES NOT GUARANTEE THAT ALL UNDERGROUND UTILITIES ARE SHOWN AND/OR POSITIONED PROPERLY ON THIS DRAWING DUE TO AMBIGUOUS PLANS AND RECORDS PROVIDED TO US. THE INFORMATION SHOWN ON THIS DRAWING IS INTENDED TO BE USED AS A GUIDE FOR POSSIBLE UNDERGROUND UTILITY CONFLICTS. IT IS THE RESPONSIBILITY OF OTHERS TO RESOLVE THE ACTUAL LOCATION OF ANY UNDERGROUND UTILITY THROUGH THE MISS DIG FIELD VERIFICATION SYSTEM PRIOR TO ANY SITE EXCAVATION. CALL 811 OR 800-482-7171.



**C100**

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 DRILLING  
 LANDSCAPE ARCHITECTURE

| BENCHMARK DATA |                         |                    |
|----------------|-------------------------|--------------------|
| BENCHMARK      | DESCRIPTION             | ELEVATION (NAVD88) |
| BM-1           | SPIKE IN POWER POLE     | 588.67             |
| BM-2           | BENCH TIE IN POWER POLE | 588.08             |

- LEGEND**
- BENCHMARK
  - IRON FOUND
  - MONUMENT FOUND
  - EXISTING CLEAN OUT
  - EXISTING UTILITY POLE
  - EXISTING ELECTRIC HAND HOLE
  - EXISTING LIGHT
  - EXISTING MANHOLE (AS NOTED)
  - EXISTING ELECTRIC METER
  - EXISTING ELECTRIC TRANSFORMER
  - EXISTING GUY ANCHOR
  - EXISTING MONITOR WELL
  - EXISTING SOIL BORING
  - EXISTING SAMPLE POINT
  - EXISTING GAS METER
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  - EXISTING AIR CONDITIONER
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  - EXISTING GATE VALVE
  - EXISTING WATER WELL
  - EXISTING CONIFEROUS SHRUB
  - EXISTING CONIFEROUS TREE
  - EXISTING DECIDUOUS SHRUB
  - EXISTING DECIDUOUS TREE

- ▬ EXISTING BUILDING
- ▬ EXISTING CONIFEROUS TREE LINE
- ▬ EXISTING DECIDUOUS TREE LINE
- ▬ EXISTING FENCE
- ▬ EXISTING ELECTRIC - OVERHEAD
- ▬ EXISTING GAS
- ▬ EXISTING TELEPHONE - OVERHEAD
- ▬ EXISTING TELEPHONE - UNDERGROUND
- ▬ EXISTING ROAD RIGHT-OF-WAY
- ▬ EDGE OF WETLANDS
- ▬ EDGE OF WATER
- ▬ 30' WATER'S EDGE SETBACK
- ▬ 30' WETLAND SETBACK

- DEMOLITION LEGEND**
- ▨ EXISTING BUILDING/DECK REMOVAL
  - ▨ EXISTING ASPHALT REMOVAL
  - ▨ EXISTING CONCRETE REMOVAL
  - ▨ EXISTING GRAVEL REMOVAL
  - ▨ EXISTING BRUSH REMOVAL
  - ⊗ EXISTING STORM SEWER REMOVAL
  - ⊗ PROPOSED DISTURBANCE LIMITS
  - ⊗ EXISTING FEATURE REMOVAL

**EXISTING VEGETATION NOTES**

THE WETLAND DELINEATION CONDUCTED BY GCES PROVIDED THE FOLLOWING SUMMARY OF THE VEGETATION ON THE PROPERTY:

- AREA OF STUDY HAS BEEN CLEARED OF NATIVE VEGETATION IN MUCH OF THE SITE, AND CULTIVATED GRASSES DOMINATE SOME OF THE UPLAND SAMPLE POINTS. WILLOWS (SALIX SP.), BOX ELDER (ACER NEGUNDO) ARE DOMINANT TREE SPECIES AT UPLAND POINTS.
- BALSAM POPLAR (POPULUS BALSAMIFERA) DOMINATES THE TREE STRATUM IN WETLAND AND UPLAND LOCATIONS AS WELL AS THE SHRUB STRATUM IN UPLAND LOCATIONS. OTHER SPECIES THAT ARE PRESENT BUT ARE NOT CONSIDERED DOMINATE INCLUDE, CHERRY (PRUNUS SP.) SILVER CINQUEFOIL (POTENTILLA ARGENTEA), ENGLISH PLANTAIN (PLANTAGO LANCEOLATA), AND HONEYSUCKLE (LONICERA, SP.) IN UPLAND AREAS.
- GLOSSY BUCKTHORN (FRANGULA ALNUS), RED-OSIER DOGWOOD (CORNUS SERICEA), RIVERBANK GRAPE (VITIS RIPARIA), AND TALL GOLDENROD (SALIDAGO ALTISSIMA) ARE FOUND IN BOTH UPLAND AND WETLAND AREAS.
- AT WETLAND SAMPLE POINTS, SEDGES (CAREX SP.), INCLUDING TUSsock SEDGE (CAREX STRICTA) ARE DOCUMENTED IN THE HERBACEOUS STRATUM. WILLOWS (SALIX SP.), INCLUDING PUSSY WILLOW (SALIX CAPREA), AND SPECKLED ALDER (ALNUS INCANA) ARE PRESENT IN THE TREE AND SHRUB STRATA AS WELL.



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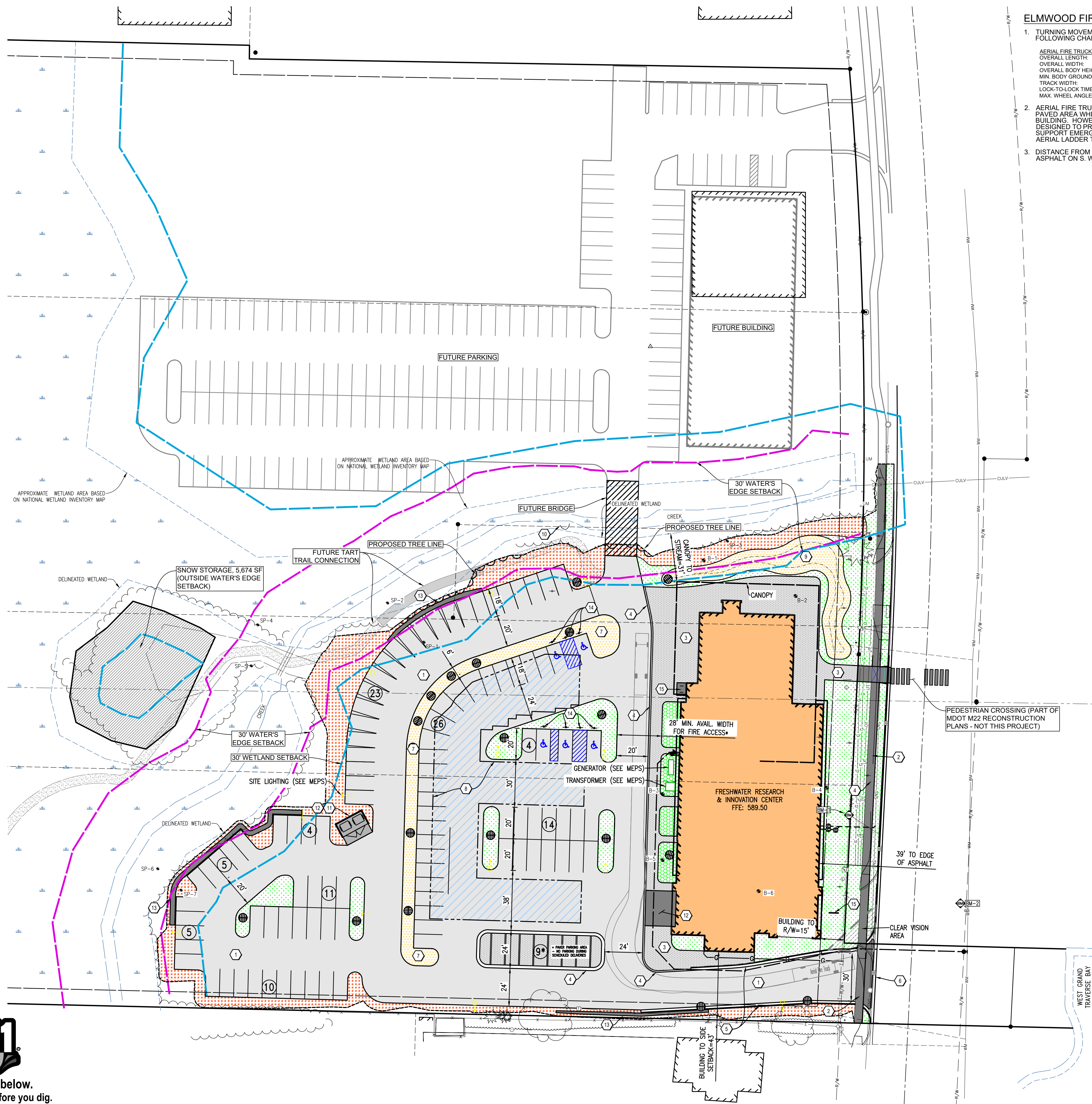
| Date     | Issued For         |
|----------|--------------------|
| 12/14/23 | REVIEW             |
| 05/21/24 | SCHEMATIC DESIGN   |
| 08/16/24 | SD REVISED         |
| 10/14/24 | DESIGN DEVELOPMENT |

PIC: \_\_\_\_\_  
 PM: \_\_\_\_\_  
 DRAFTS: \_\_\_\_\_  
 PROJECT NO: **24.502**  
 SHEET TITLE: **DEMOLITION & REMOVALS PLAN**

**C101**

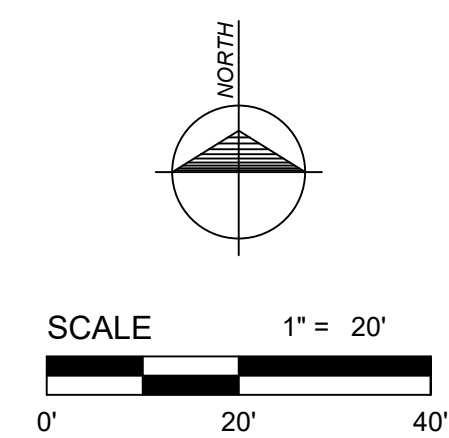


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**ELMWOOD FIRE & TCFD COMMENT NOTES**

- TURNING MOVEMENT FOR AERIAL FIRE TRUCK WITH THE FOLLOWING CHARACTERISTICS SHOWN ON PLAN:  
 AERIAL FIRE TRUCK  
 OVERALL LENGTH: 39 FT  
 OVERALL WIDTH: 8.167 FT  
 OVERALL BODY HEIGHT: 7.5 FT  
 MIN. BODY GROUND CLEARANCE: 0.75 FT  
 TRACK WIDTH: 8.167 FT  
 LOCK-TO-LOCK TIME: 5 SEC  
 MAX. WHEEL ANGLE: 45
- AERIAL FIRE TRUCK CAN MANUEVER WITHIN THE ASPHALT PAVED AREA WHILE TURNING NORTH, ALONG WEST SIDE OF BUILDING. HOWEVER, THE CONCRETE BAND & PAVERS ARE DESIGNED TO PROVIDE A DRIVEABLE SURFACE TO SUPPORT EMERGENCY SERVICES VEHICLES INCLUDING AERIAL LADDER TRUCK.
- DISTANCE FROM EAST FACE OF BUILDING TO EDGE OF ASPHALT ON S. WEST BAY SHORE DRIVE ADDED TO PLAN.



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| BENCHMARK DATA |                         |                    |
|----------------|-------------------------|--------------------|
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| BM-1           | SPIKE IN POWER POLE     | 588.67             |
| BM-2           | BENCH TIE IN POWER POLE | 588.08             |

**SITE PLAN LEGEND**

- PROPOSED BUILDING
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CONCRETE PAVEMENT
- PROPOSED CONCRETE PAVER
- PROPOSED BIOSWALE/DETENTION BASIN
- EDGE OF WETLANDS
- EDGE OF WATER
- 30' WATER'S EDGE SETBACK
- 30' WETLAND SETBACK
- PROPOSED LANDSCAPE PLANTING AREAS
- PROPOSED LOW MAINTENANCE MEADOW GRASS RESTORATION AREAS
- PROPOSED GRASS RESTORATION AREAS
- PROPOSED STORM CATCH BASIN
- PROPOSED STORM MANHOLE
- PROPOSED FLARED END SECTION

**SITE DATA TABLE**

|                                    |   |
|------------------------------------|---|
| PARCEL NUMBERS                     | 004-033-073-00, 004-033-074-00, 004-033-077-00, & 004-033-080-00  |
| PARCEL ADDRESS                     | 13170, 13240 & 13272 S WEST BAY SHORE DRIVE, TRAVERSE CITY, MI 49684  |
| PARCEL AREA (GROSS)                | 15.68 AC. (COMBINED)  |
| PARCEL AREA (NET)                  | 6.11 AC (GROSS AREA - 9.57 AC OF WETLANDS)  |
| APPLICANT                          | CORNERSTONE ARCHITECTS  |
| LAND OWNER INFORMATION             | DISCOVERY CENTER GREAT LAKES<br>13240 S WEST BAY SHORE DR<br>TRAVERSE CITY, MI 49684                                      |
| EXISTING LAND USE                  | BOAT STORAGE & FORMER CHILDREN'S MUSEUM   |
| PROPOSED LAND USE                  | RESEARCH & EDUCATION CENTER   |
| PROPOSED SCHEDULE                  | BIDDING TO OCCUR IN SPRING 2025.<br>CONSTRUCTION TO START IN AUGUST 2025 AND<br>CONSTRUCTION COMPLETION IN NOVEMBER 2026. |
| ZONING DISTRICT                    | GC, GENERAL COMMERCIAL  |
| MIN. LOT AREA                      | 12,500 SF (7.35 AC)   |
| MIN. LOT WIDTH                     | 100 FT  |
| MAX. HEIGHT OF STRUCTURE (STORIES) | 3   |
| WETLAND SETBACK (FT)               | 30  |
| FRONT SETBACK (FT)                 | 30 OR 15 FEET IF PARKING ON SIDE OF STRUCTURE   |
| SIDE SETBACK (FT)                  | 10  |
| REAR SETBACK (FT)                  | 20  |
| SNOW STORAGE REQUIRED              | 56,214 SF X 10 SF SNOW/100 SF PARKING = 5,621 SF  |

**CONSTRUCTION KEYED NOTES**

- DETAIL
- 1 ASPHALT PAVEMENT
  - 2 CONCRETE SIDEWALK
  - 3 BRICK PAVERS
  - 4 CONCRETE GUTTER
  - 5 STANDARD MDT C4 CURB & GUTTER
  - 6 MDT TYPE M OPENING
  - 7 STORM WATER BIOSWALE
  - 8 UNDERGROUND DETENTION SYSTEM
  - 9 STORM WATER DETENTION BASIN
  - 10 DETENTION SYSTEM OUTLET
  - 11 DUMPSTER ENCLOSURE
  - 12 THICKENED CONCRETE SLAB
  - 13 RETAINING WALL
  - 14 ACCESSIBLE PARKING SIGN
  - 15 MONUMENT SIGN MEETING SECTION 6.6 OF THE ELMWOOD TOWNSHIP ZONING ORDINANCE
  - 16 BIKE PARKING



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 Traverse City, MI 49684  
 440 Bayside St. NW  
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**Discovery Center & Pier**

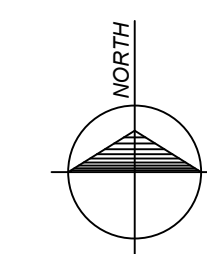
DISCOVERY CENTER  
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| Date     | Issued For         |
|----------|--------------------|
| 12/14/23 | REVIEW             |
| 05/21/24 | SCHEMATIC DESIGN   |
| 08/16/24 | SD REVISED         |
| 10/14/24 | DESIGN DEVELOPMENT |

PIC:  
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 DRAFTS:  
 PROJECT NO:  
**24.502**  
 SHEET TITLE:  
**OVERALL SITE PLAN**  
**C200**

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SCALE 1" = 20'  
0' 20' 40'

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engineering sciences, inc.  
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231.946.9191 phone  
info@goslingczubak.com  
www.goslingczubak.com

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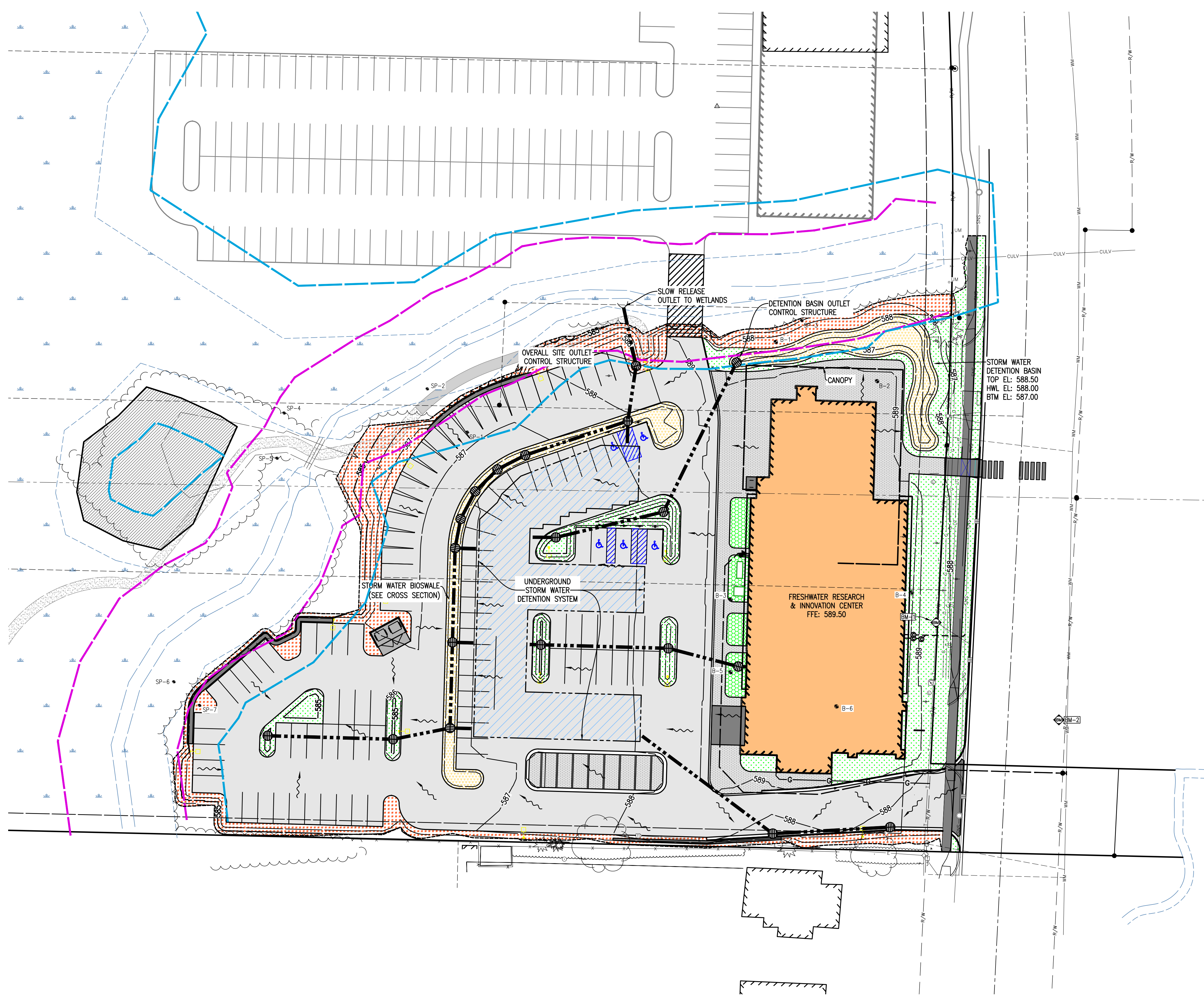


**DISCOVERY CENTER  
FRESHWATER RESEARCH &  
INNOVATION CENTER**  
13170 S. WEST BAY SHORE DR., TRAVERSE CITY, MI 49684

| BENCHMARK DATA |                         |                    |
|----------------|-------------------------|--------------------|
| BENCHMARK      | DESCRIPTION             | ELEVATION (NAVD88) |
| BM-1           | SPIKE IN POWER POLE     | 588.67             |
| BM-2           | BENCH TIE IN POWER POLE | 588.08             |

**GRADING PLAN LEGEND**

- 590 — EXISTING MAJOR CONTOUR
- 589 — EXISTING MINOR CONTOUR
- 590 — PROPOSED MAJOR CONTOUR
- 589 — PROPOSED MINOR CONTOUR
- PROPOSED DRAINAGE FLOW ARROW
- PROPOSED LIMITS OF DISTURBANCE
- - - - PROPOSED RIDGE/VALLEY
- PROPOSED STORM SEWER
- PROPOSED STORM CATCH BASIN
- PROPOSED STORM MANHOLE
- ◁ PROPOSED FLARED END SECTION
- EDGE OF WETLANDS
- EDGE OF WATER
- 30' WATER'S EDGE SETBACK
- 30' WETLAND SETBACK



**STORMWATER DESIGN SUMMARY**

PER LEELANAU COUNTY SOIL EROSION, SEDIMENTATION AND STORMWATER RUNOFF CONTROL (SESSRC) ORDINANCE GUIDELINES.

**DETENTION BASIN DESIGN STANDARDS**

DETENTION POND VOLUME REQUIRED = DEVELOPED SITE'S 25-YEAR, 24-HOUR STORM (4.89 INCHES)  
ALLOWABLE OUTFLOW = MOST RESTRICTIVE OF 0.2 CFS/ACRE OR A 2-YEAR, 24-HOUR STORM DURING PRE-EXISTING SITE CONDITIONS.

0.2 CFS/ACRE X 80,006 SF X 1 ACRE/43,560 SF = 0.37 CFS  
2-YEAR PRE-EXISTING = 0.22 CFS < CONTROLS >

**NORTH DETENTION BASIN**

| DESCRIPTION                | AREA     | CN |
|----------------------------|----------|----|
| PROPOSED ROOF              | 6,725 SF | 98 |
| PROPOSED CONCRETE/PAVERS = | 1,275 SF | 98 |

TOTAL AREA = 8,000 SF CN = 98  
TC = 15 MIN  
RUNOFF = 0.97 CFS  
VOLUME = 3,050 CF

**DETENTION BASIN PARAMETERS:**

TOP ELEV = 588.50  
OVERFLOW ELEV = 588.00  
BOTTOM ELEV = 587.00  
STORAGE VOLUME = 1,368 CF  
PEAK DISCHARGE TO AQUABOX = 0.17 CFS

**BIOSWALE & UNDERGROUND DETENTION BASIN**

| DESCRIPTION                | AREA      | CN |
|----------------------------|-----------|----|
| PROPOSED ASPHALT PAVEMENT  | 54,350 SF | 98 |
| PROPOSED ROOF =            | 13,535 SF | 98 |
| PROPOSED CONCRETE/PAVERS = | 4,116 SF  | 98 |

TOTAL AREA = 72,001 SF CN = 98  
TC = 15 MIN  
RUNOFF = 8.69 CFS  
VOLUME = 27,617 CF  
EXCESS VOLUME FROM NORTH DETENTION = 1,368 CF  
PEAK DISCHARGE = 8.69 CFS

**DETENTION SYSTEM PARAMETERS:**

BIOSWALE VOLUME = 993 CF  
AQUABOX UNDERGROUND = 28,139 CF  
TOTAL VOLUME = 29,132 CF  
PEAK DISCHARGE TO WETLANDS = 0.18 CFS < LESS THAN MAX ALLOWABLE (0.22 CFS) >

**GRADING & DRAINAGE PLAN NOTES**

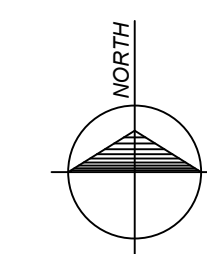
- CONTRACTOR RESPONSIBLE FOR CONSTRUCTION ALL WORK COMPLETED IN CONFORMANCE WITH CURRENT ADA STANDARDS.
- PROPOSED CONTOUR LINES AND SPOT ELEVATIONS REFLECT FINISH GRADES. HOLD DOWN SUBGRADE ELEVATIONS ACCORDINGLY. ADJUST RIM ELEVATIONS OR ALL UTILITIES AFFECTED BY WORK IN THIS CONTRACT. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE ON THE SITE. ANY AREA THAT APPEARS TO NOT PROPERLY DRAIN SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE LANDSCAPE ARCHITECT/ENGINEER FOR RESOLUTION.
- SPOT GRADES ARE FINISHED HARD SURFACE. SLOPE GRASS PAVEMENT TO MATCH DIRECTION OF ADJOINING CONCRETE SURFACE.



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| PROJECT NO:  | 24.502                          |
| SHEET TITLE: | OVERALL GRADING & DRAINAGE PLAN |
|              | C300                            |



SCALE 1" = 20'  
0' 20' 40'

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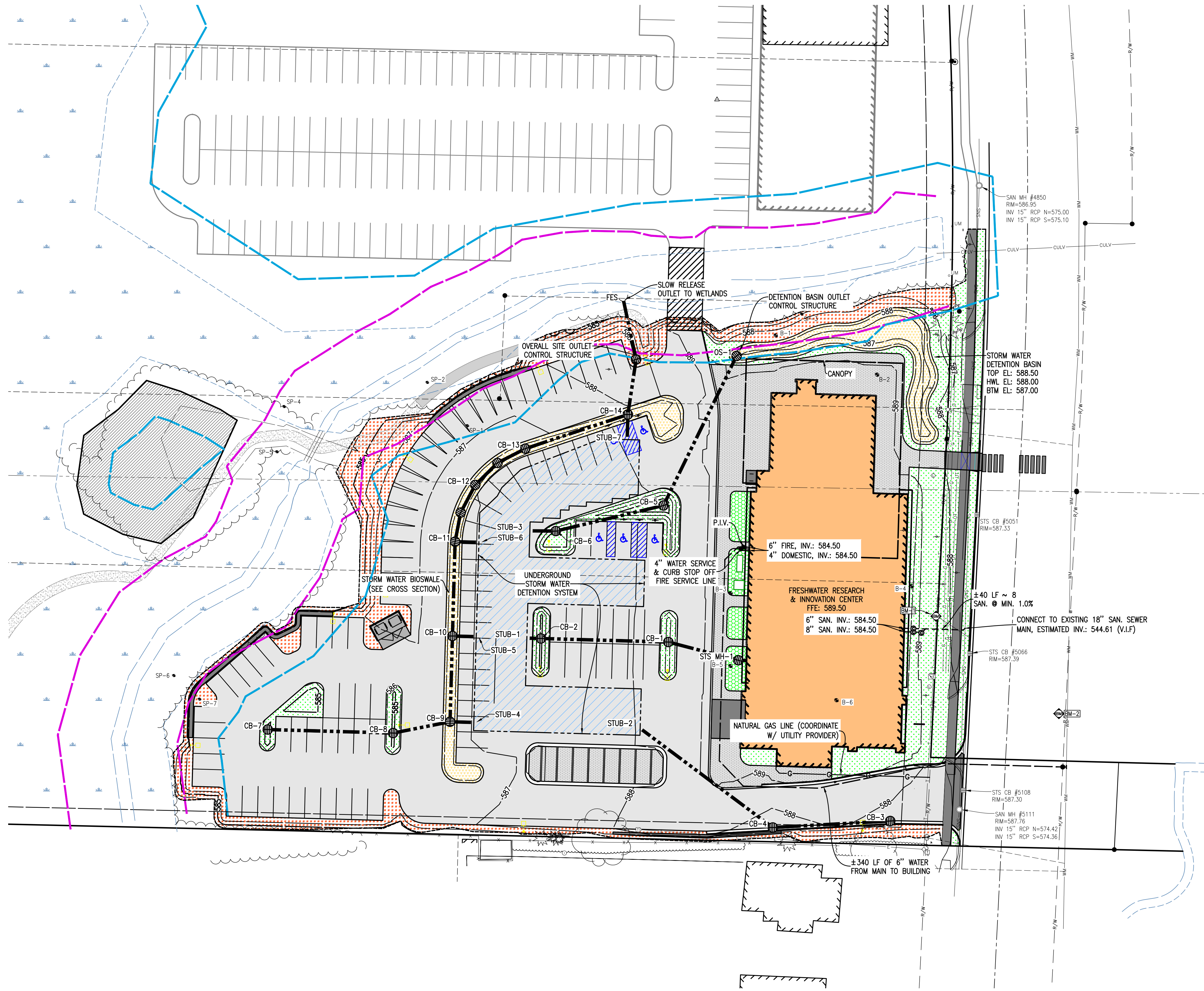
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| BENCHMARK DATA |                         |                    |
|----------------|-------------------------|--------------------|
| BENCHMARK      | DESCRIPTION             | ELEVATION (NAVD88) |
| BM-1           | SPIKE IN POWER POLE     | 588.67             |
| BM-2           | BENCH TIE IN POWER POLE | 588.08             |

| SITE PLAN LEGEND |   |
|------------------|---|
|                  | PROPOSED BUILDING                                       |
|                  | PROPOSED ASPHALT PAVEMENT                               |
|                  | PROPOSED CONCRETE PAVEMENT                              |
|                  | PROPOSED CONCRETE PAVER                                 |
|                  | PROPOSED BIOSWALE/DETENTION BASIN                       |
|                  | EDGE OF WETLANDS  |
|                  | EDGE OF WATER   |
|                  | 30' WATER'S EDGE SETBACK                                |
|                  | 30' WETLAND SETBACK                                     |
|                  | PROPOSED LANDSCAPE PLANTING AREAS                       |
|                  | PROPOSED LOW MAINTENANCE MEADOW GRASS RESTORATION AREAS |
|                  | PROPOSED GRASS RESTORATION AREAS                        |
|                  | PROPOSED STORM CATCH BASIN                              |
|                  | PROPOSED STORM MANHOLE                                  |
|                  | PROPOSED FLARED END SECTION                             |



| STORM STRUCTURE SCHEDULE |                    |                         |           |   |
|--------------------------|--------------------|-------------------------|-----------|---|
| STRUCTURE NUMBER         | STRUCTURE DIAMETER | MDOT FRAME & COVER TYPE | RIM ELEV. | CONNECTED PIPE INV. ELEV.                       |
| CB-1                     | 48"                | TYPE G                  | 586.70    | 12" W: 583.67<br>8" E: 583.67                   |
| CB-2                     | 48"                | TYPE K                  | 584.75    | 12" W: 582.30<br>12" E: 582.30                  |
| CB-3                     | 48"                | TYPE K                  | 587.67    | 8" W: 585.17                                    |
| CB-4                     | 24"                | TYPE K                  | 587.63    | 12" NW: 583.60<br>8" E: 583.60                  |
| CB-5                     | 48"                | TYPE G                  | 585.44    | 12" W: 583.00<br>12" NE: 583.00                 |
| CB-6                     | 48"                | TYPE G                  | 584.94    | 12" E: 581.75<br>12" W: 581.75                  |
| CB-7                     | 48"                | TYPE G                  | 585.44    | 12" E: 583.50                                   |
| CB-8                     | 48"                | TYPE G                  | 586.26    | 12" E: 582.98<br>12" W: 582.99                  |
| CB-9                     | 48"                | TYPE G                  | 587.22    | 18" N: 582.13<br>12" E: 582.13<br>12" W: 582.75 |
| CB-10                    | 48"                | TYPE G                  | 587.22    | 12" N: 582.13<br>12" E: 582.13<br>18" S: 582.13 |
| CB-11                    | 24"                | TYPE G                  | 587.22    | 12" N: 582.13<br>12" E: 582.13<br>18" S: 582.13 |
| CB-12                    | 24"                | TYPE G                  | 587.22    | 18" NE: 582.75<br>18" SW: 582.13                |
| CB-13                    | 24"                | TYPE G                  | 589.22    | 18" E: 582.13<br>18" SW: 582.13                 |
| CB-14                    | 48"                | TYPE G                  | 587.22    | 18" W: 582.13<br>12" S: 582.13<br>12" N: 582.13 |
| OS-1                     | 24"                | TYPE G                  | 587.43    | 12" SW: 584.00                                  |
| STS MH-1                 | 48"                | TYPE Q                  | 584.53    | 8" W: 584.45<br>8" E: 584.45                    |

- WATER MAIN & SEWER UTILITY NOTES**
1. WATER MAIN CONSTRUCTION SHALL CONFORM TO CURRENT ELMWOOD TOWNSHIP AND GRAND TRAVERSE COUNTY DEPARTMENT OF PUBLIC WORKS (DPW) STANDARD DETAILS AND SPECIFICATIONS. WORK SHALL BE COORDINATED WITH THE TOWNSHIP AND DPW AND PROVIDE THEM WITH 48 HOURS NOTICE PRIOR TO BEGINNING OF CONSTRUCTION.
  2. WATER MAIN TO MAINTAIN MIN. 18" VERTICAL AND 10' HORIZONTAL SEPARATION FROM ALL SANITARY AND STORM SEWERS AND STRUCTURES.
  3. ALL ON SITE WATER AND SEWER LEADS SHALL MAINTAIN MIN. 18" VERTICAL AND 5' HORIZONTAL SEPARATION FROM EACH OTHER AND RESPECTIVE STORM WATER PIPING, FRENCH DRAINS, ETC. IN COMPLIANCE WITH LOCAL CODES.
  4. WATER MAIN SHALL BE RIGID POLYVINYL CHLORIDE BELL AND SPIGOT TYPE PRESSURE PIPE AND FITTINGS SHALL BE DUCTILE IRON PIPE SIZE (DIPS), CONFORM TO AWWA C900/C905 STANDARDS, PRESSURE CLASS 235 PSI, AND DR 18 IN CONFORMANCE WITH THE DPW STANDARD SPECIFICATIONS.
  5. PLAN ELEVATIONS BASED ON NAVD88 DATUM.
  6. ADDITIONAL WATER MAIN SPECIFICATIONS ARE LOCATED IN THE PROJECT SPECIFICATIONS.

| Date     | Issued For         |
|----------|--------------------|
| 12/14/23 | REVIEW             |
| 05/21/24 | SCHEMATIC DESIGN   |
| 08/16/24 | SD REVISED         |
| 10/14/24 | DESIGN DEVELOPMENT |

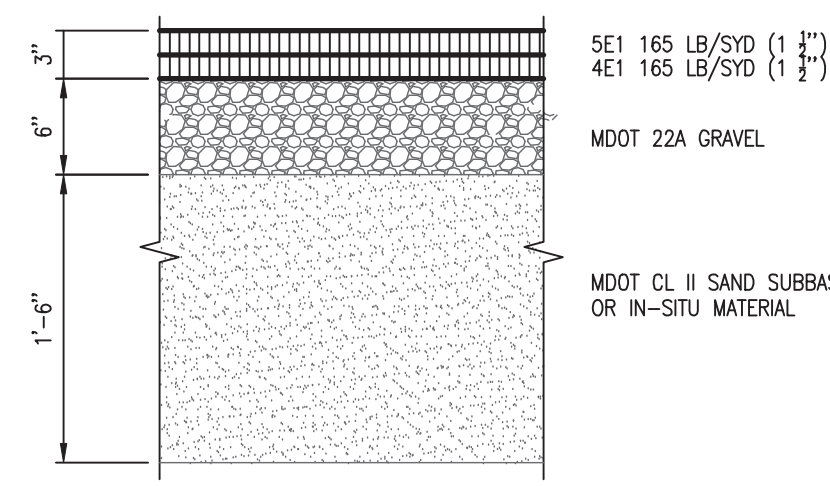
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PROJECT NO: **24.502**  
SHEET TITLE: **OVERALL UTILITY PLAN**

**C400**

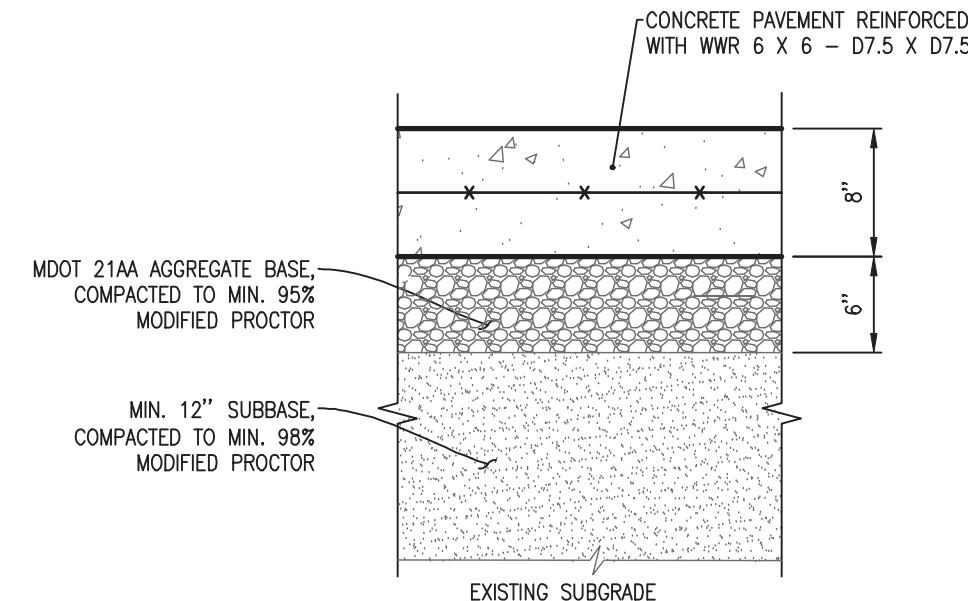


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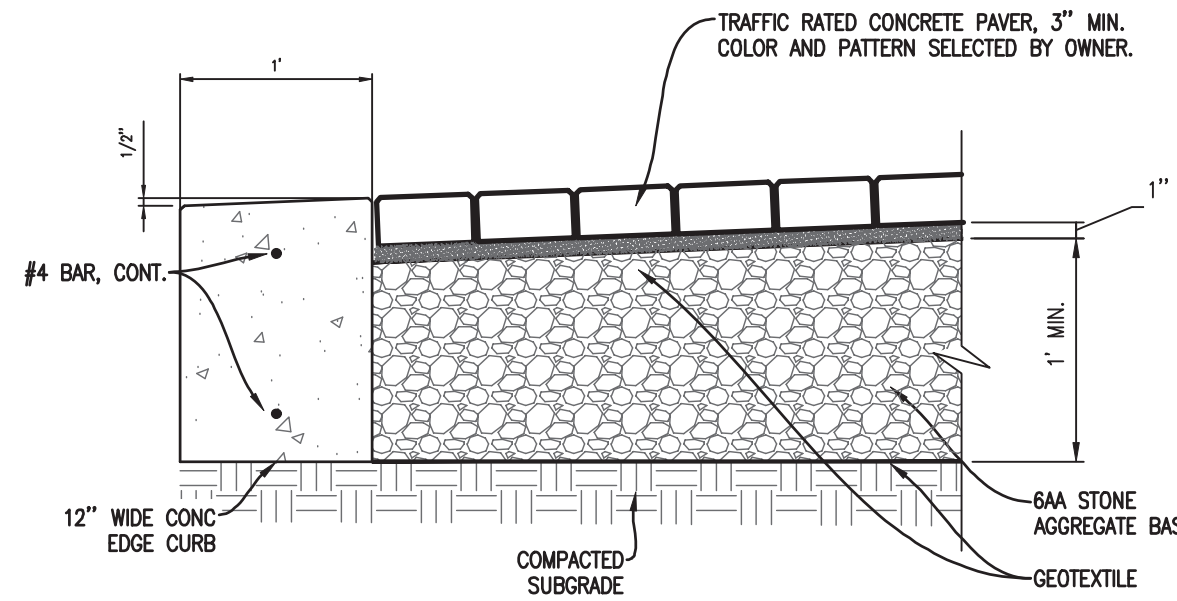
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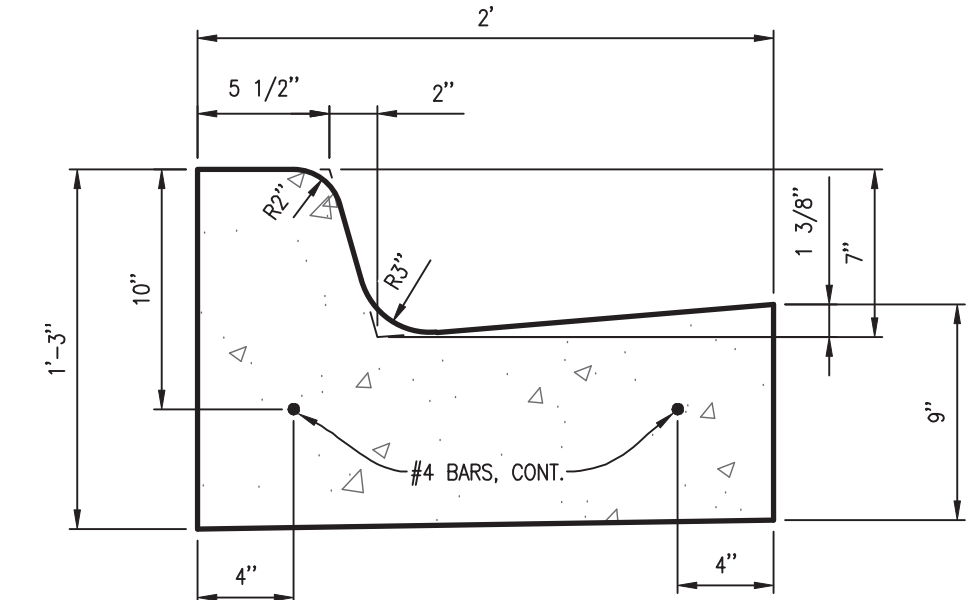
**1 TYPICAL PAVEMENT DETAIL**  
 NOT TO SCALE



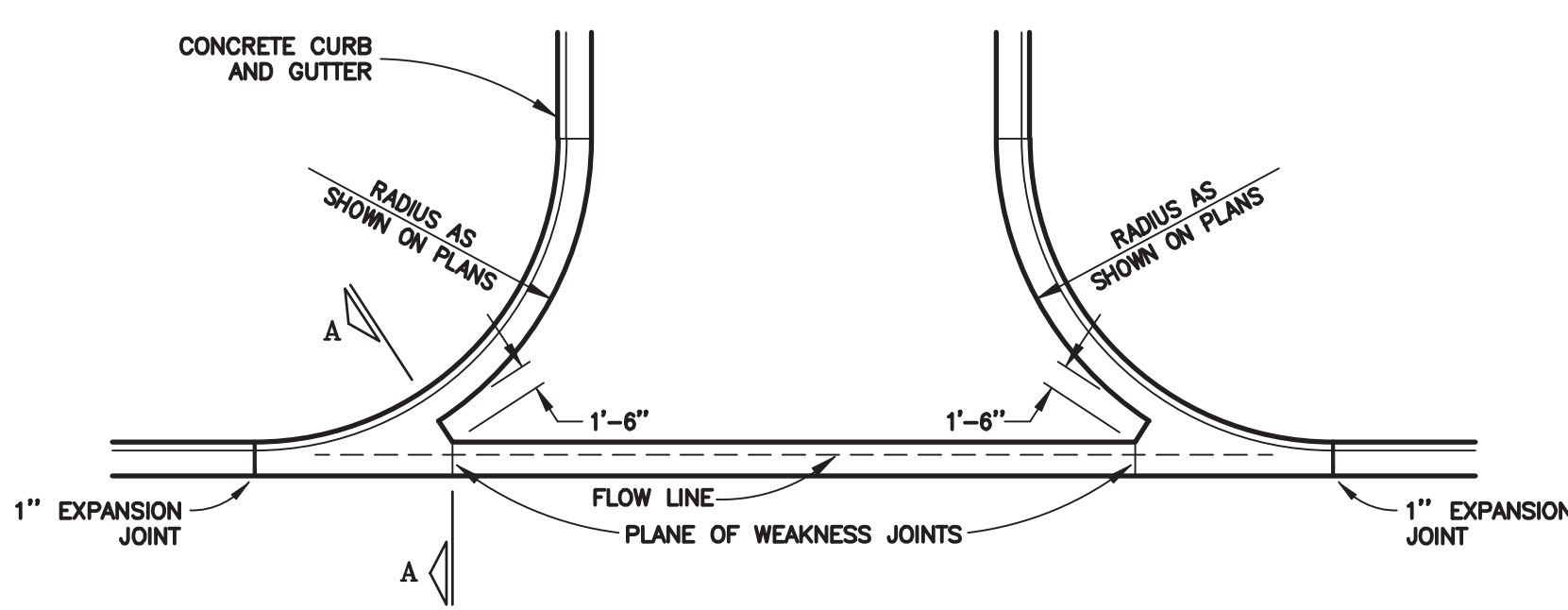
**2 REINFORCED CONCRETE SLAB DETAIL**  
 NOT TO SCALE



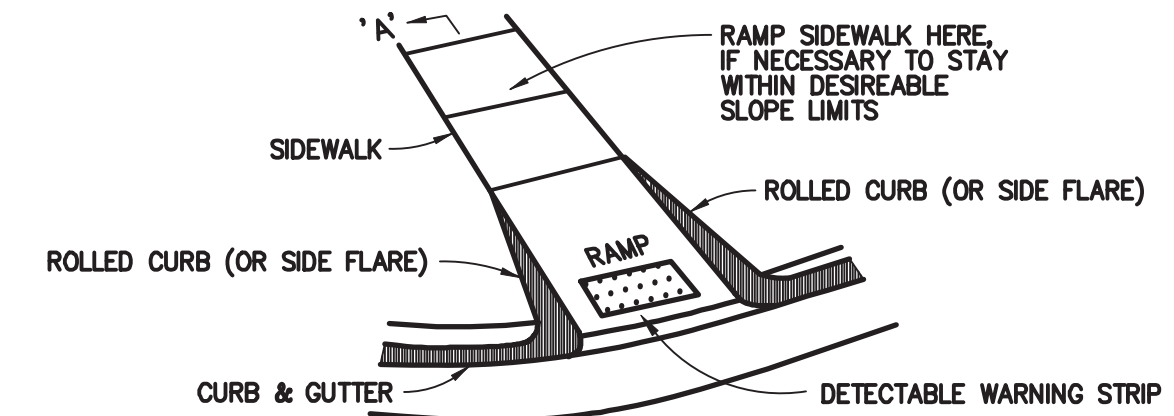
**3 CONCRETE BAND & PAVER DETAIL**  
 NOT TO SCALE



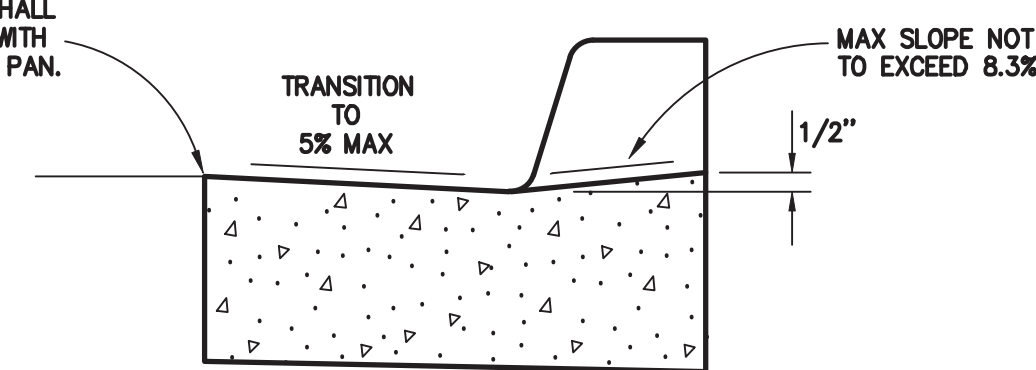
**3 STANDARD M.D.O.T. C4 CONCRETE CURB & GUTTER DETAIL**  
 NOT TO SCALE



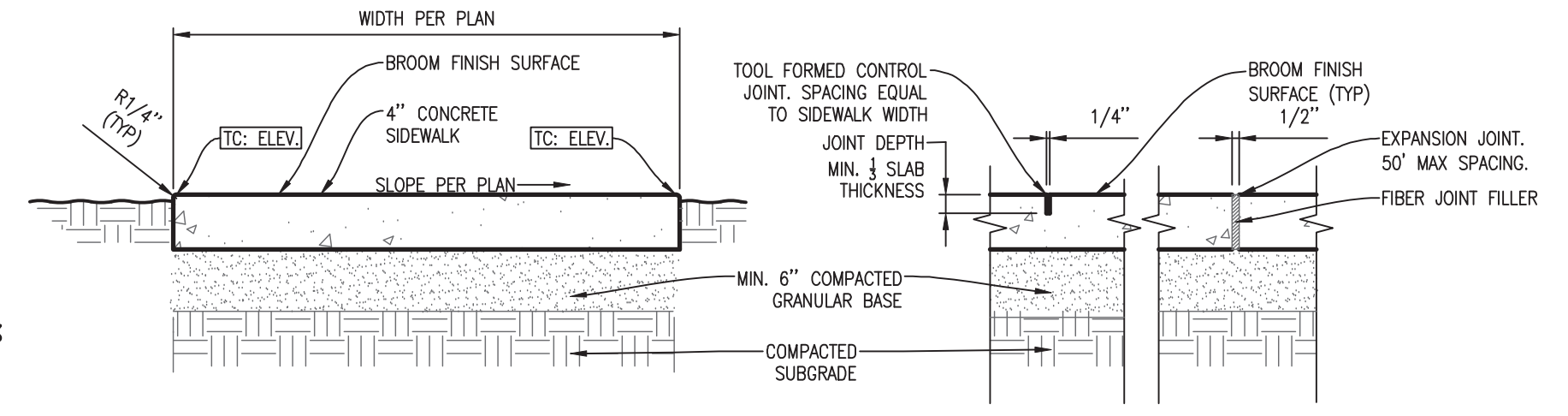
**4 MDOT DETAIL 'M' DRIVE OPENING**  
 NOT TO SCALE



**SIDEWALK RAMP**

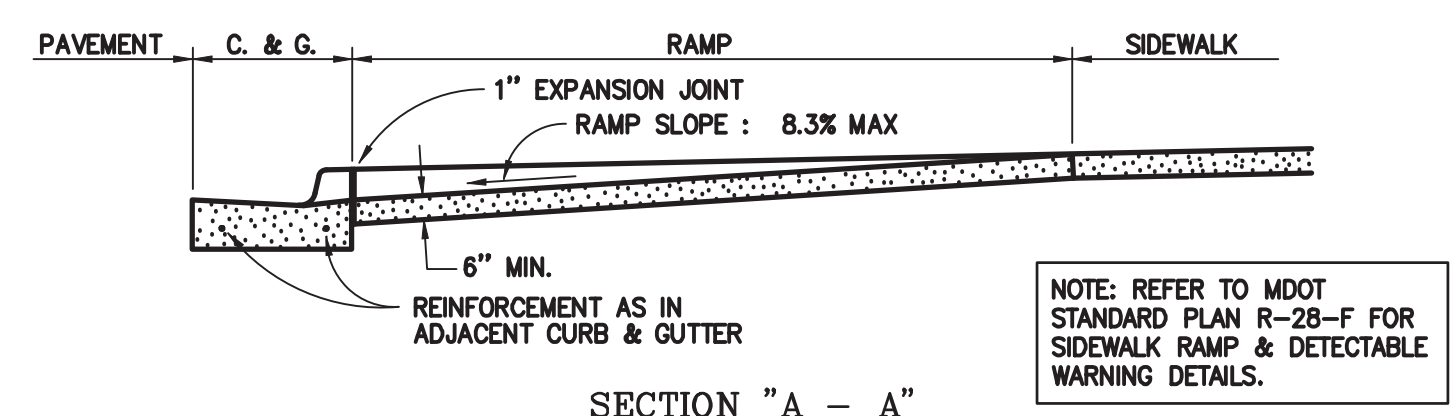


**SECTION THRU CURB CUT**

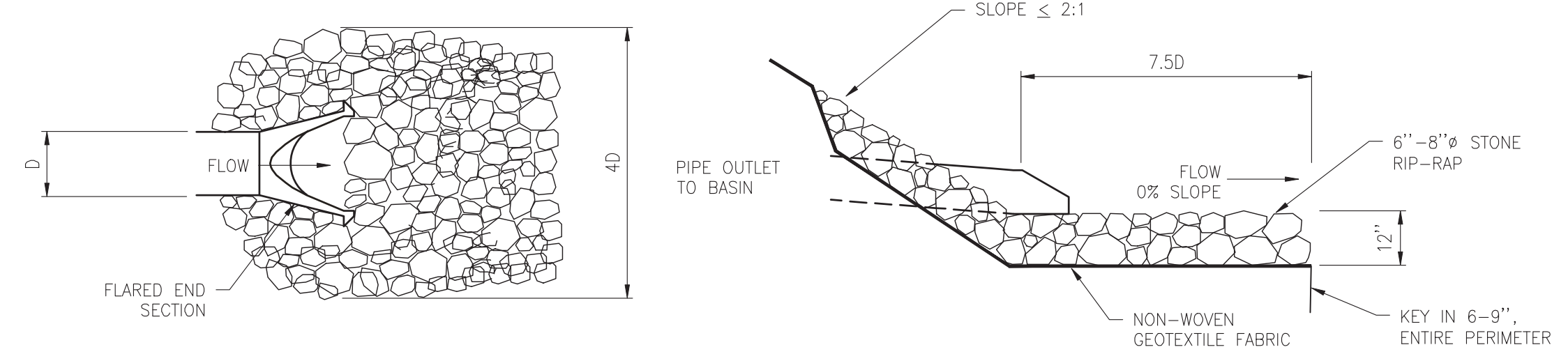


**PERPENDICULAR SECTION LONGITUDINAL SECTION**

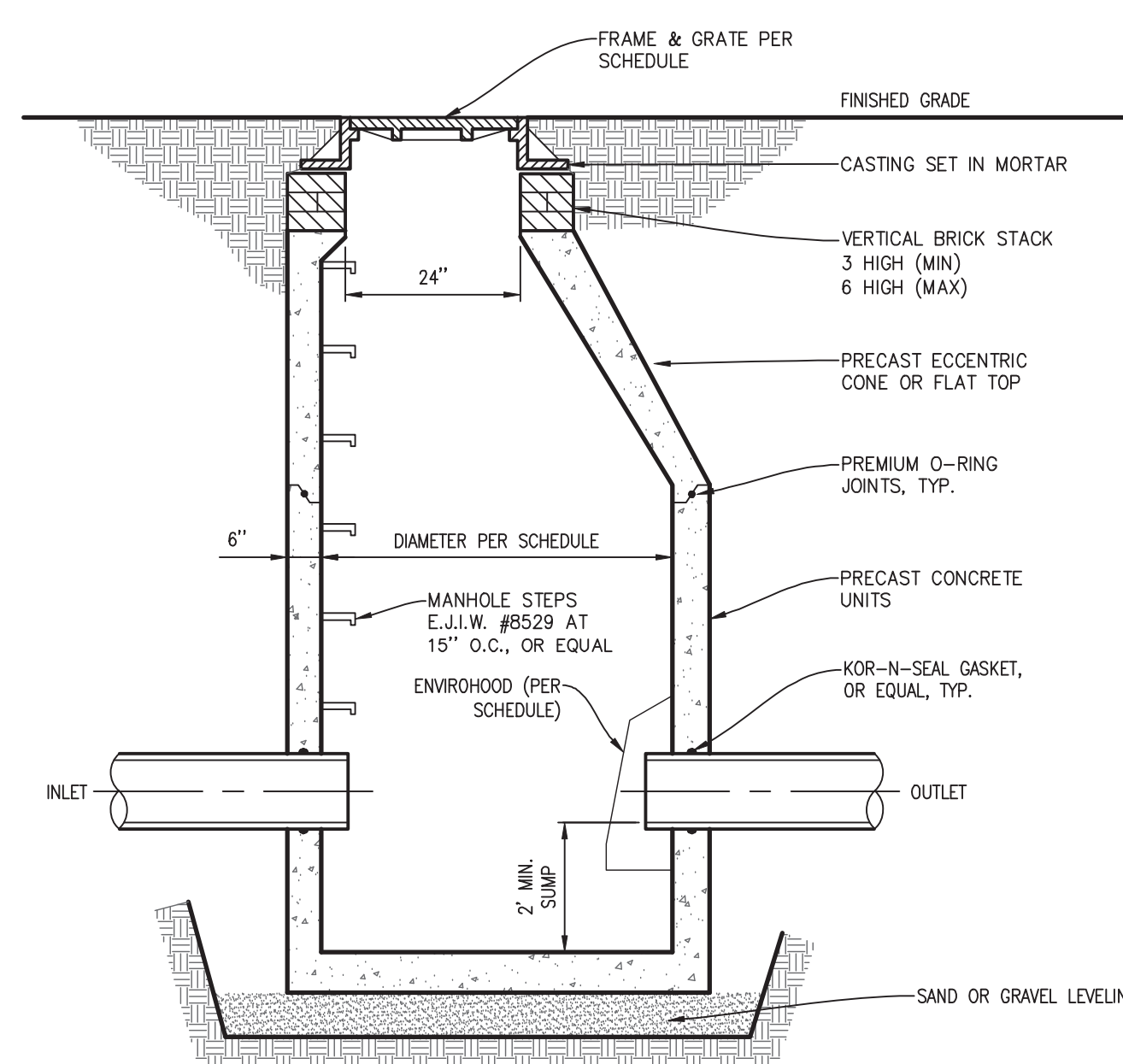
**6 CONCRETE SIDEWALK DETAIL**  
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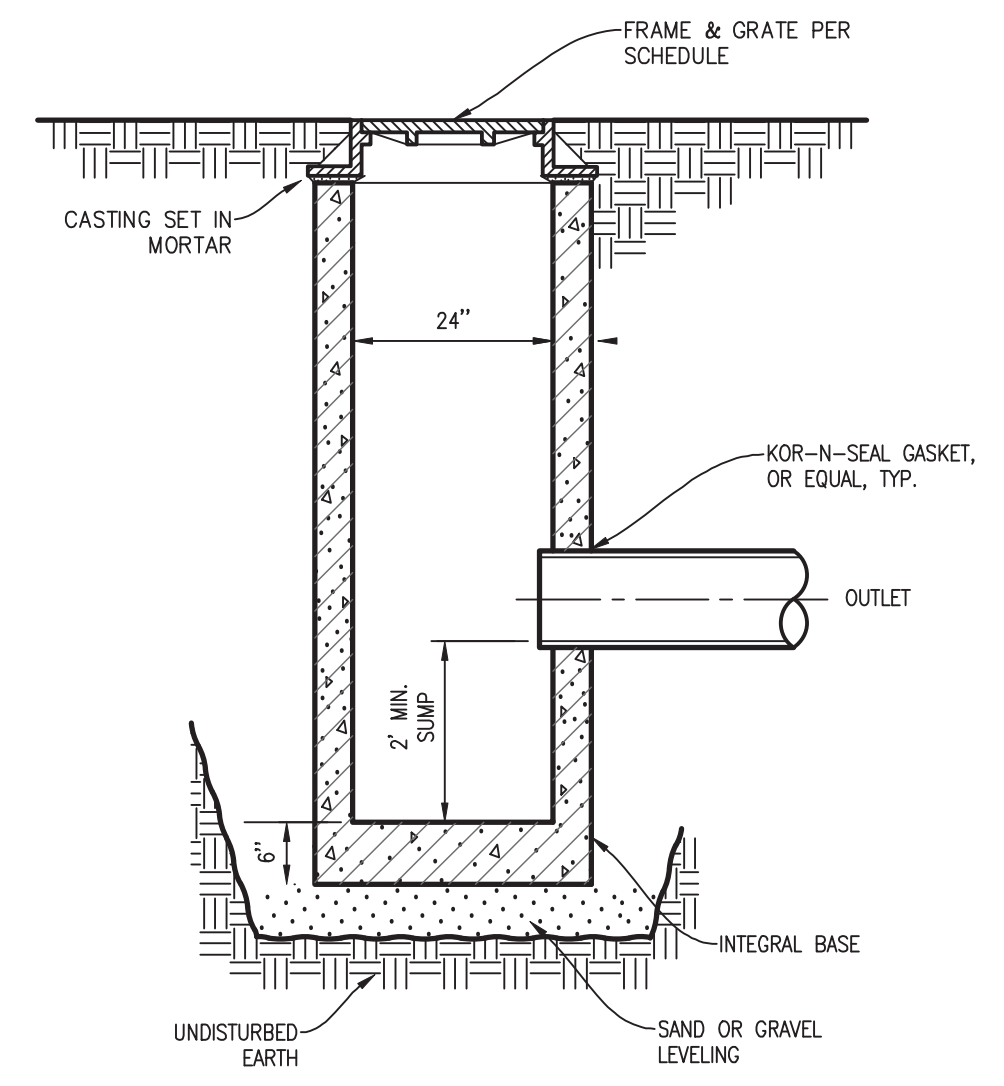
**5 CONCRETE SIDEWALK RAMP DETAIL**  
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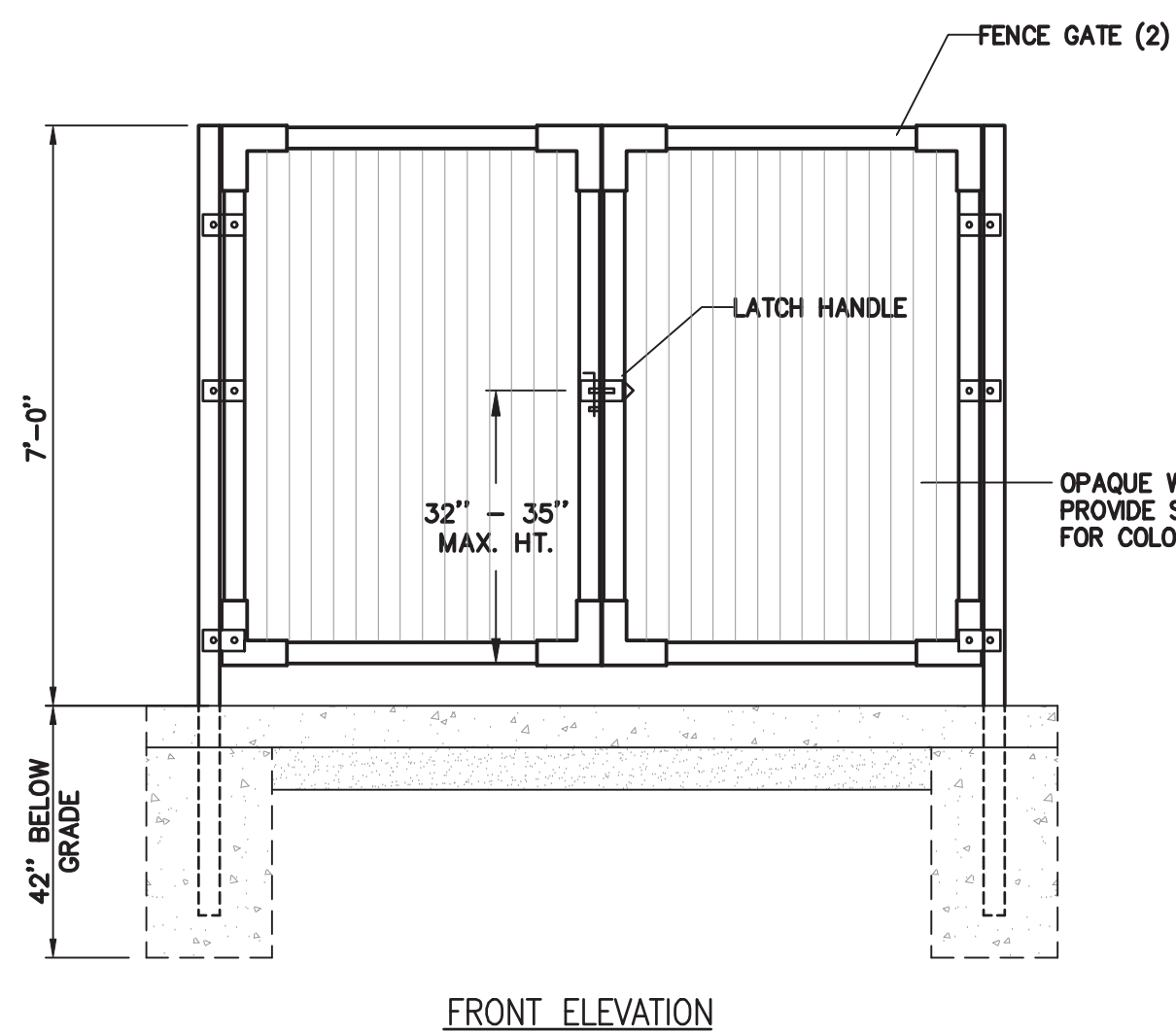
**7 OUTLET PIPE RIP-RAP DISSIPATER DETAIL**  
 NO SCALE



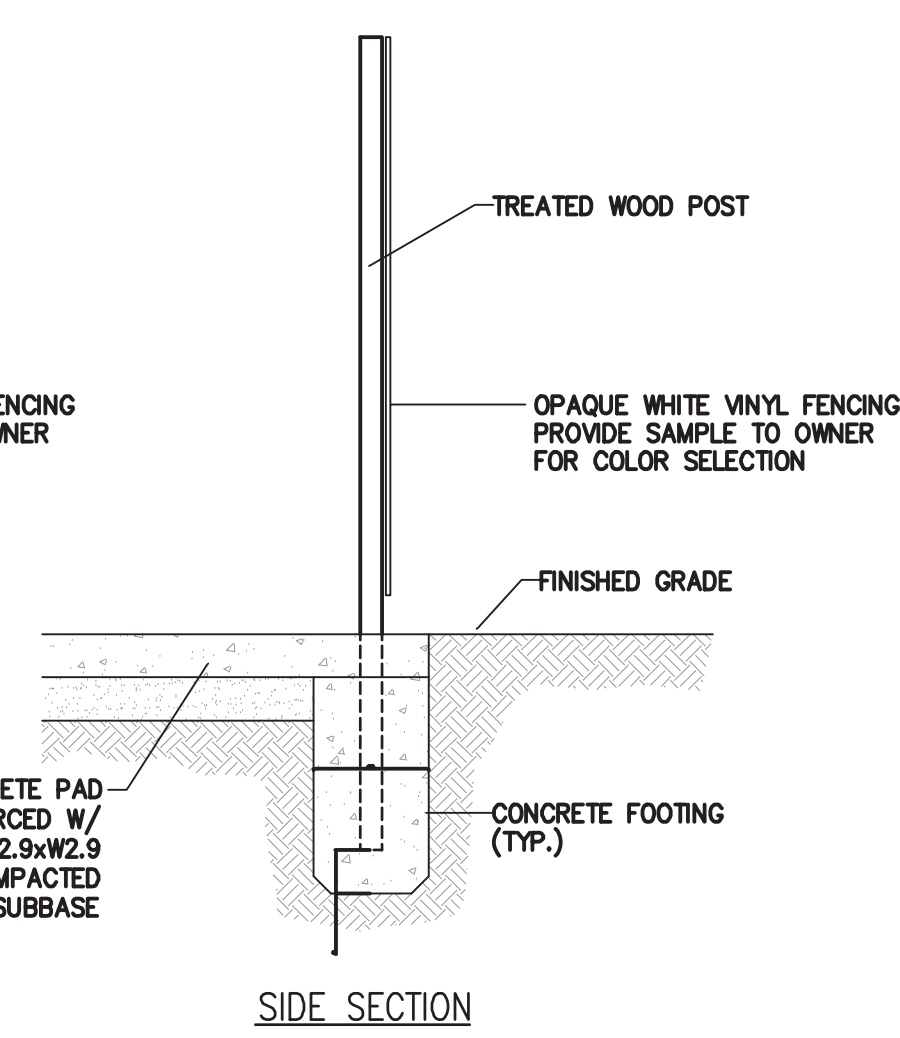
**8 TYPICAL CATCH BASIN / MANHOLE DETAIL**  
 NOT TO SCALE



**9 2' DIA. CATCH BASIN DETAIL**  
 NOT TO SCALE



**10 DUMPSTER ENCLOSURE DETAIL**  
 NOT TO SCALE



**11 ACCESSIBLE PARKING SIGN DETAIL**  
 NOT TO SCALE

| Date     | Issued For          |
|----------|---------------------|
| 12/14/23 | REVIEW              |
| 05/21/24 | SCHEMATIC DESIGN    |
| 08/16/24 | SD REVISED          |
| 10/14/24 | DESIGN DEVELOPMENT  |
| 11/08/24 | PD/SITE PLAN REVIEW |

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 PROJECT NO:  
**24.502**  
 SHEET TITLE:  
**CONSTRUCTION DETAILS**

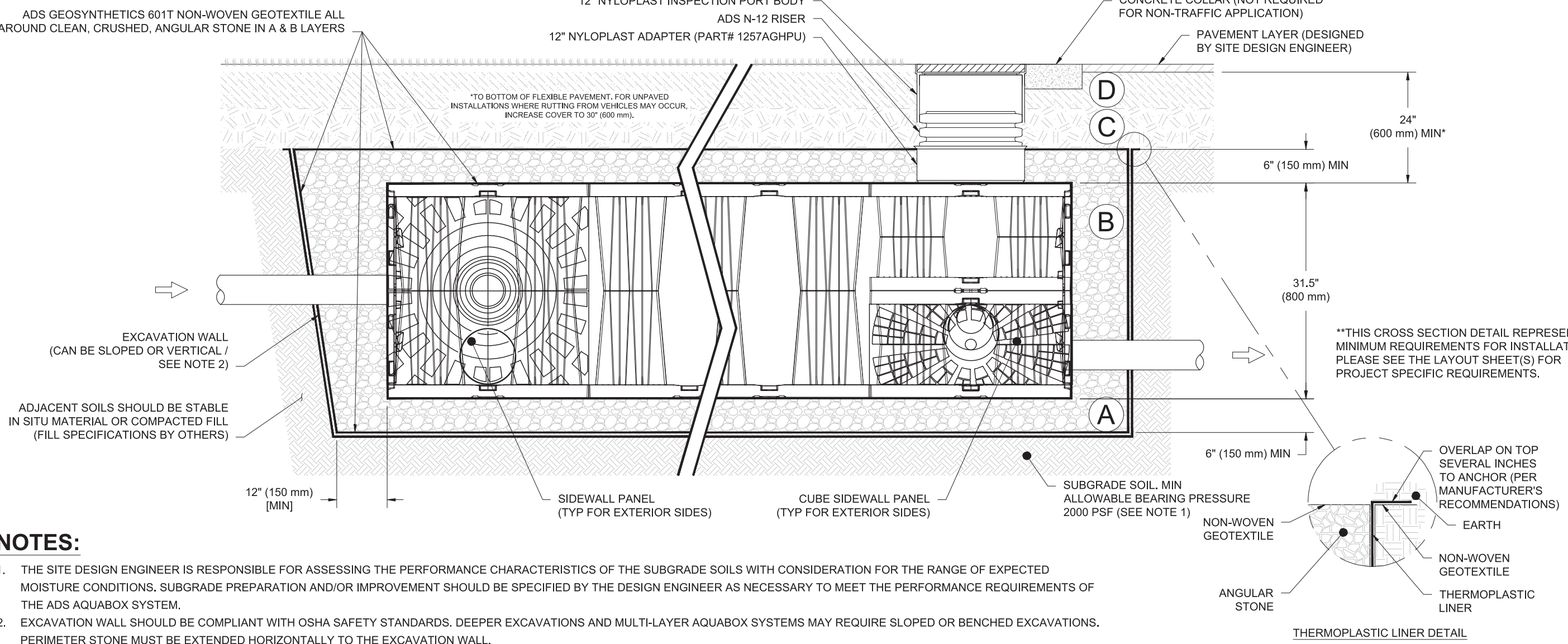
**C500**

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**ACCEPTABLE FILL MATERIALS : AQUABOX-1**

| MATERIAL LOCATION | DESCRIPTION   | AASHTO MATERIAL CLASSIFICATIONS  | COMPACTION / DENSITY REQUIREMENT  |
|-------------------|---|--|---|
| D                 | FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.         | ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.  | N/A   |
| C                 | INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE AQUABOX MODULES. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER. | GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE.<br>MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER. | AASHTO M145*<br>A-1, A-2-4, A-3<br>OR<br>AASHTO M43*<br>3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10 |
| B                 | PERIMETER STONE: FILL SURROUNDING THE AQUABOX MODULES FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.   | CLEAN, CRUSHED, ANGULAR STONE  | AASHTO M43*<br>467, 5, 56, 57   |
| A                 | FOUNDATION STONE: FILL BELOW AQUABOX MODULES FROM THE SUBGRADE UP TO THE BOTTOM OF THE AQUABOX MODULE.  | CLEAN, CRUSHED, ANGULAR STONE  | AASHTO M43*<br>467, 5, 56, 57   |

- PLEASE NOTE:
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #57 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 57 (AASHTO M43) STONE".
  - ADS AQUABOX COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
  - WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT ADS FOR COMPACTION REQUIREMENTS.
  - ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

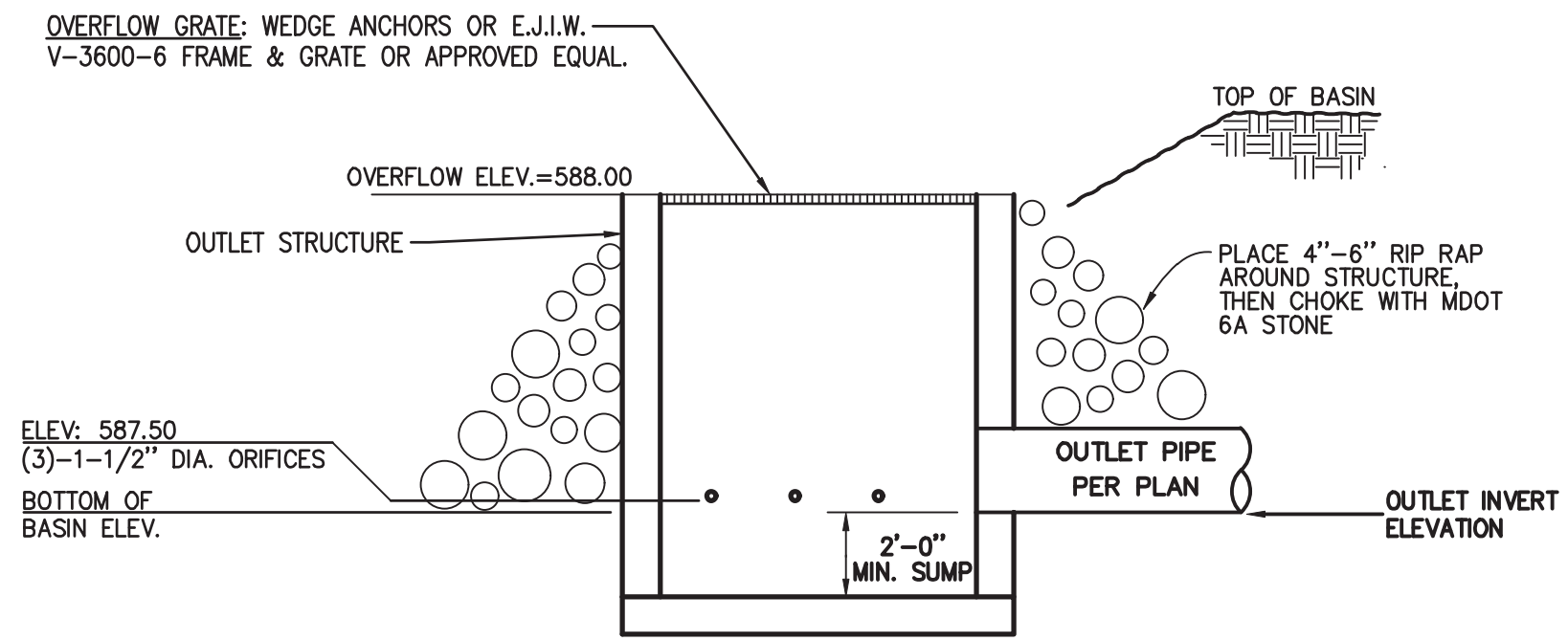


- NOTES:**
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE PERFORMANCE CHARACTERISTICS OF THE SUBGRADE SOILS WITH CONSIDERATION FOR THE RANGE OF EXPECTED MOISTURE CONDITIONS. SUBGRADE PREPARATION AND/OR IMPROVEMENT SHOULD BE SPECIFIED BY THE DESIGN ENGINEER AS NECESSARY TO MEET THE PERFORMANCE REQUIREMENTS OF THE ADS AQUABOX SYSTEM.
  - EXCAVATION WALL SHOULD BE COMPLIANT WITH OSHA SAFETY STANDARDS. DEEPER EXCAVATIONS AND MULTI-LAYER AQUABOX SYSTEMS MAY REQUIRE SLOPED OR BENCHED EXCAVATIONS. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL.

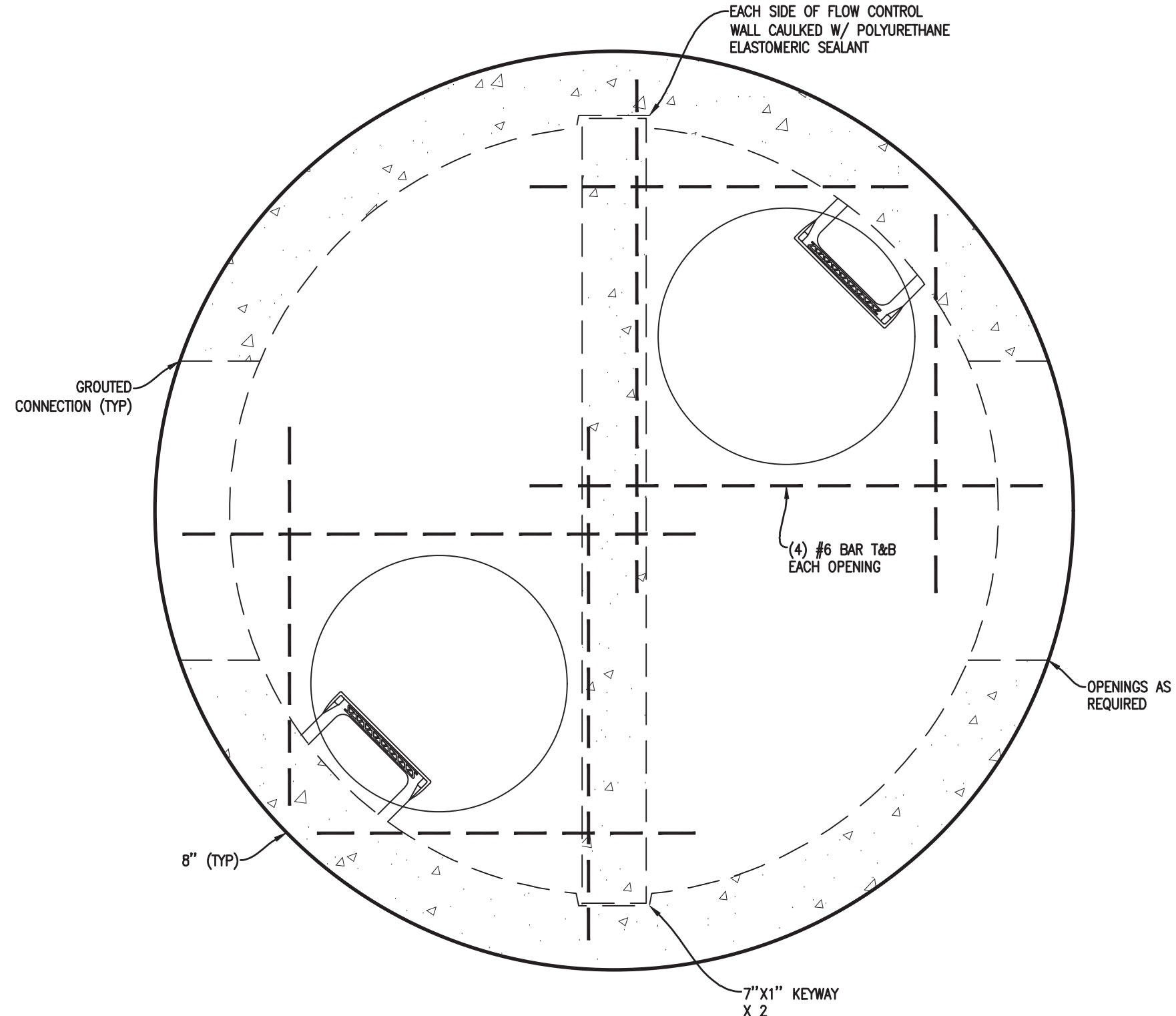
**TYPICAL AQUABOX DETENTION SYSTEM W/ IMPERMEABLE LINER DETAIL**  
NOT TO SCALE

**PRELIMINARY UNDERGROUND DETENTION SYSTEM ELEVATIONS**

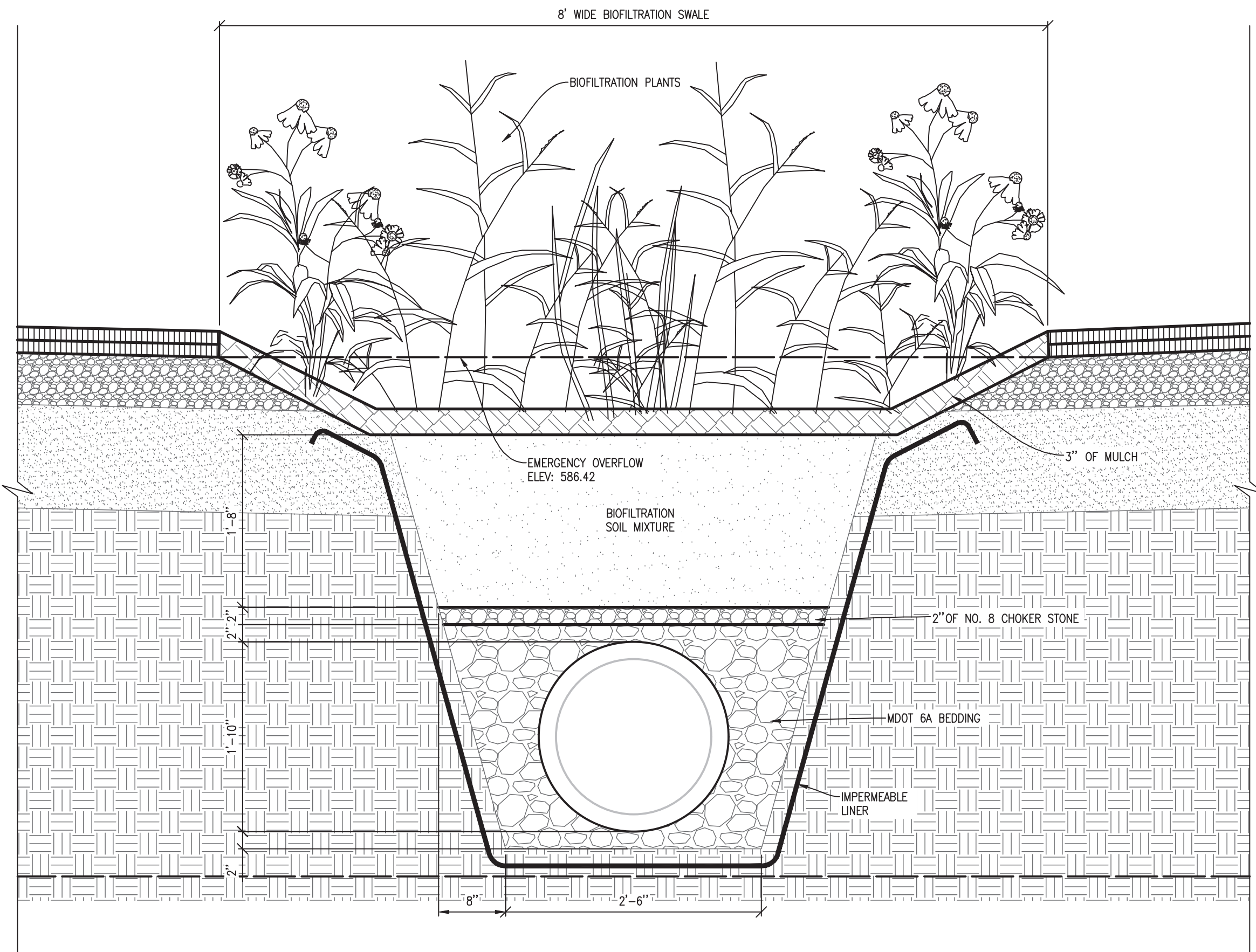
|  |         |
|--|---------|
| HIGHEST GROUNDWATER ELEVATION IN SOIL BORINGS (B-XX) | 581.40' |
| BOTTOM OF STONE                                      | 581.63' |
| BOTTOM OF AQUA BOX                                   | 582.13" |
| TOP OF AQUA BOX                                      | 584.76' |
| TOP OF STONE   | 585.26' |
| MINIMUM BOTTOM OF HMA ABOVE SYSTEM                   | 586.80' |
| MINIMUM DEPTH OF COVER PROVIDED                      | 2.04'   |



**DETENTION BASIN OUTLET DETAIL**  
NOT TO SCALE

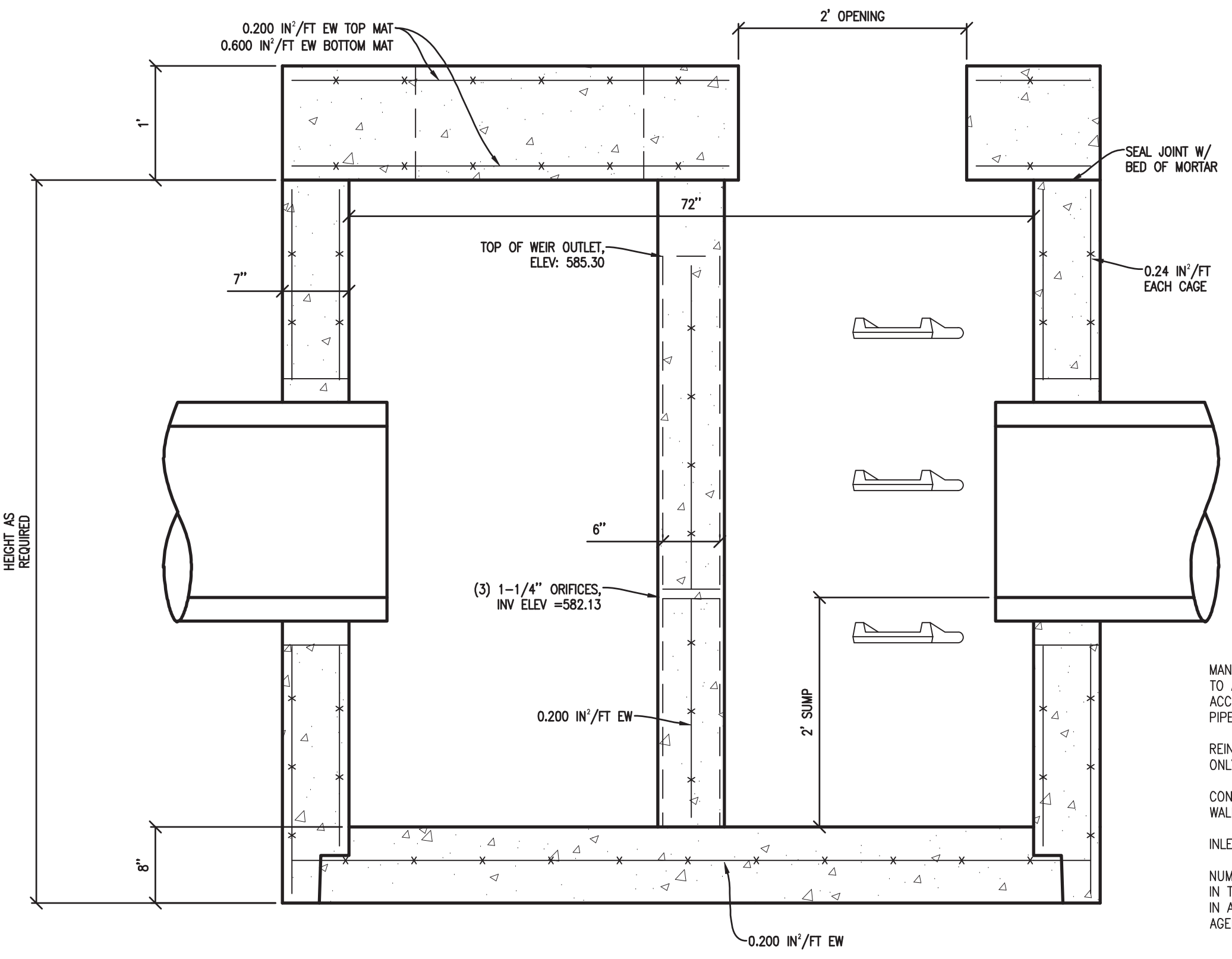


**OUTLET CONTROL STRUCTURE DETAIL**  
NOT TO SCALE



**BIOFILTRATION SWALE W/ LINER DETAIL**  
NOT TO SCALE

- CONSTRUCTION SEQUENCING**
- INSTALL APPROPRIATE TEMPORARY EROSION CONTROL DEVICES TO PREVENT SEDIMENT FROM LEAVING OR ENTERING THE PRACTICE DURING CONSTRUCTION.
  - ALL DOWN-GRADE PERIMETER SEDIMENT CONTROL BMP'S MUST BE IN PLACE BEFORE ANY UP GRADIENT LAND DISTURBING ACTIVITY BEGINS.
  - PERFORM CONTINUOUS INSPECTIONS OF EROSION CONTROL PRACTICES, ESPECIALLY AFTER EACH RAINFALL EVENT.
  - INSTALL ALL UTILITIES (WATER, SANITARY SEWER, ELECTRIC, NATURAL GAS, PHONE, FIBER OPTIC, ETC) PRIOR TO SETTING FINAL GRADE OF BIORETENTION DEVICE.
  - ROUGH GRADE THE SITE. IF BIORETENTION AREAS ARE BEING USED AS TEMPORARY SEDIMENT BASINS DURING CONSTRUCTION, LEAVE A MINIMUM OF 1 FEET OF COVER OVER THE PRACTICE TO PROTECT THE UNDERLYING SOILS FROM CLOGGING.
  - COMPLETE, STABILIZE, AND VEGETATE ALL OTHER SITE IMPROVEMENTS.
  - CONSTRUCT AND VEGETATE BIORETENTION DEVICE FOLLOWING STABILIZATION OF CONTRIBUTING DRAINAGE AREA. ENSURE THAT CRITICAL ELEVATIONS, SUCH AS UNDERDRAIN INVERT, TOP OF MEDIA, TOP OF MULCH, AND INVERT OF OVERFLOW STRUCTURE (IF PRESENT) ARE CORRECT.
  - REMOVE TEMPORARY EROSION CONTROL DEVICES AFTER THE CONTRIBUTING DRAINAGE AREA IS ADEQUATELY VEGETATED.



MANHOLE SECTIONS TO BE MANUFACTURED TO ASTM C-478 SPECIFICATIONS AND IN ACCORDANCE WITH NORTHERN CONCRETE PIPE, INC. (800 222 9918).  
REINFORCING SHOWN FOR SCHEMATIC ONLY. ALL STEEL AREAS ARE MINIMUMS.  
CONTRACTOR TO SEAL BETWEEN PRECAST WALL & BASE W/BUTYL ROPE.  
INLET & OUTLET PIPES SIZE VARIES.  
NUMBER, SIZE AND ELEVATION OF HOLES IN THE FLOW RESTRICTOR WALL SHALL BE IN ACCORDANCE WITH THE GOVERNING AGENCY.

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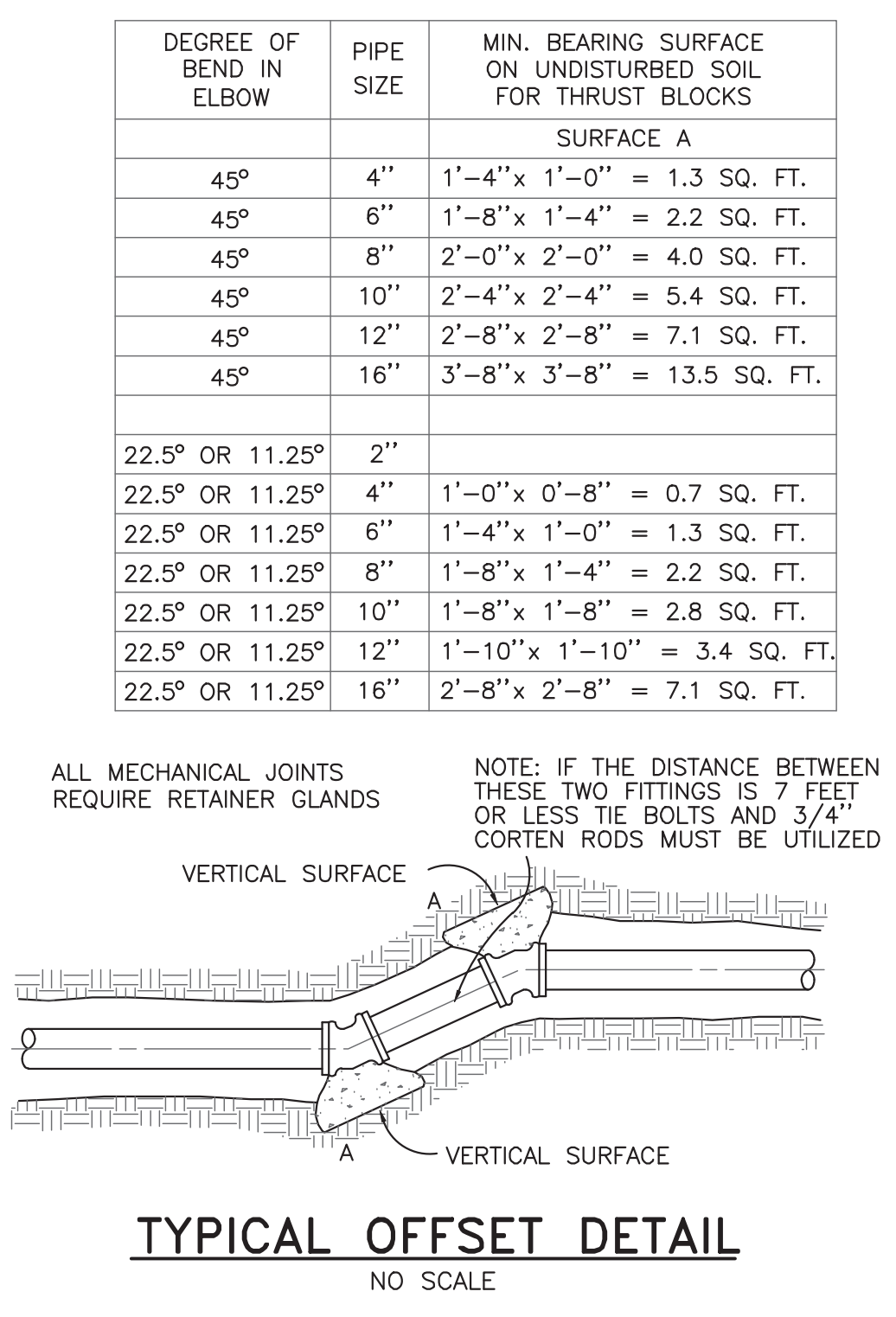
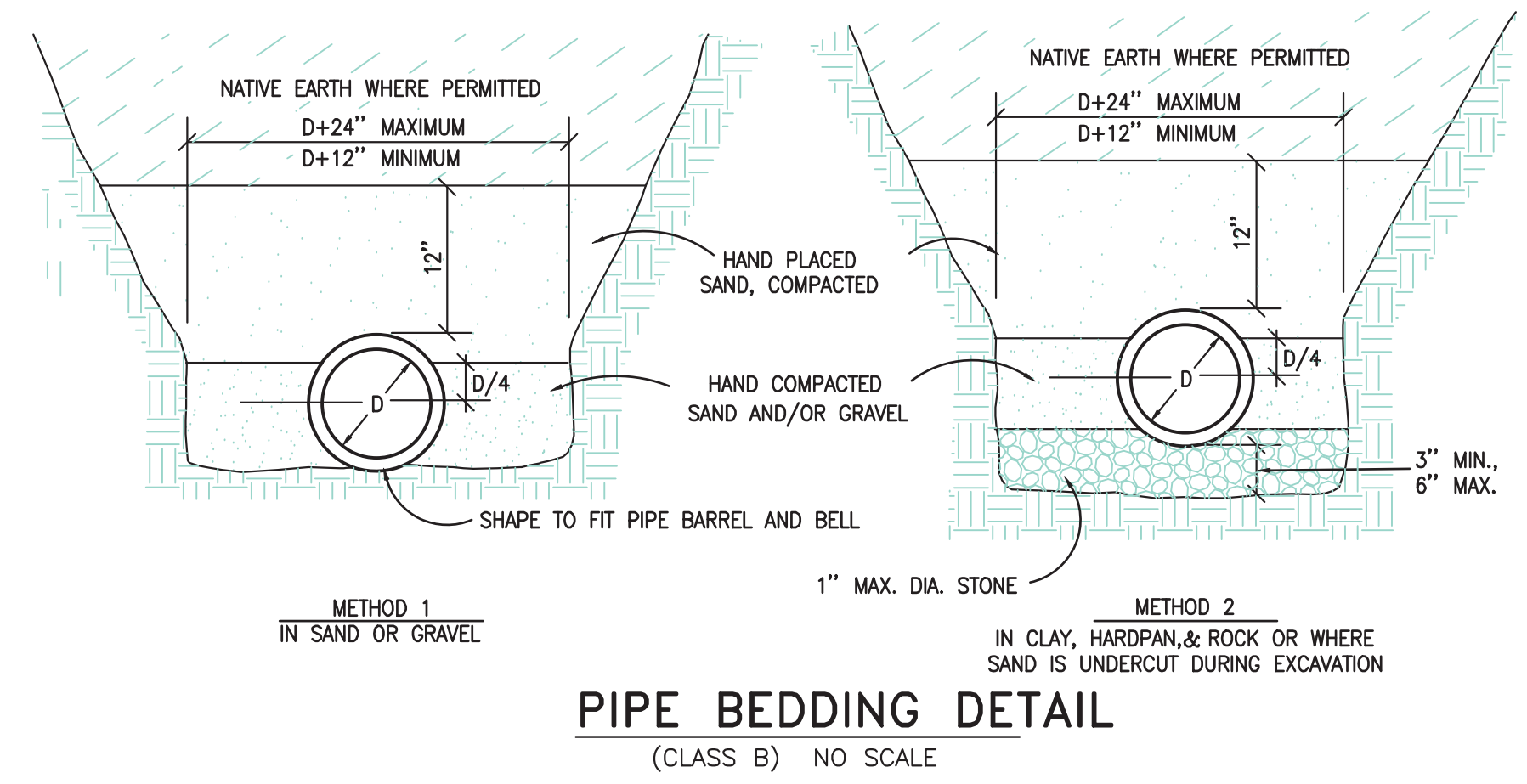
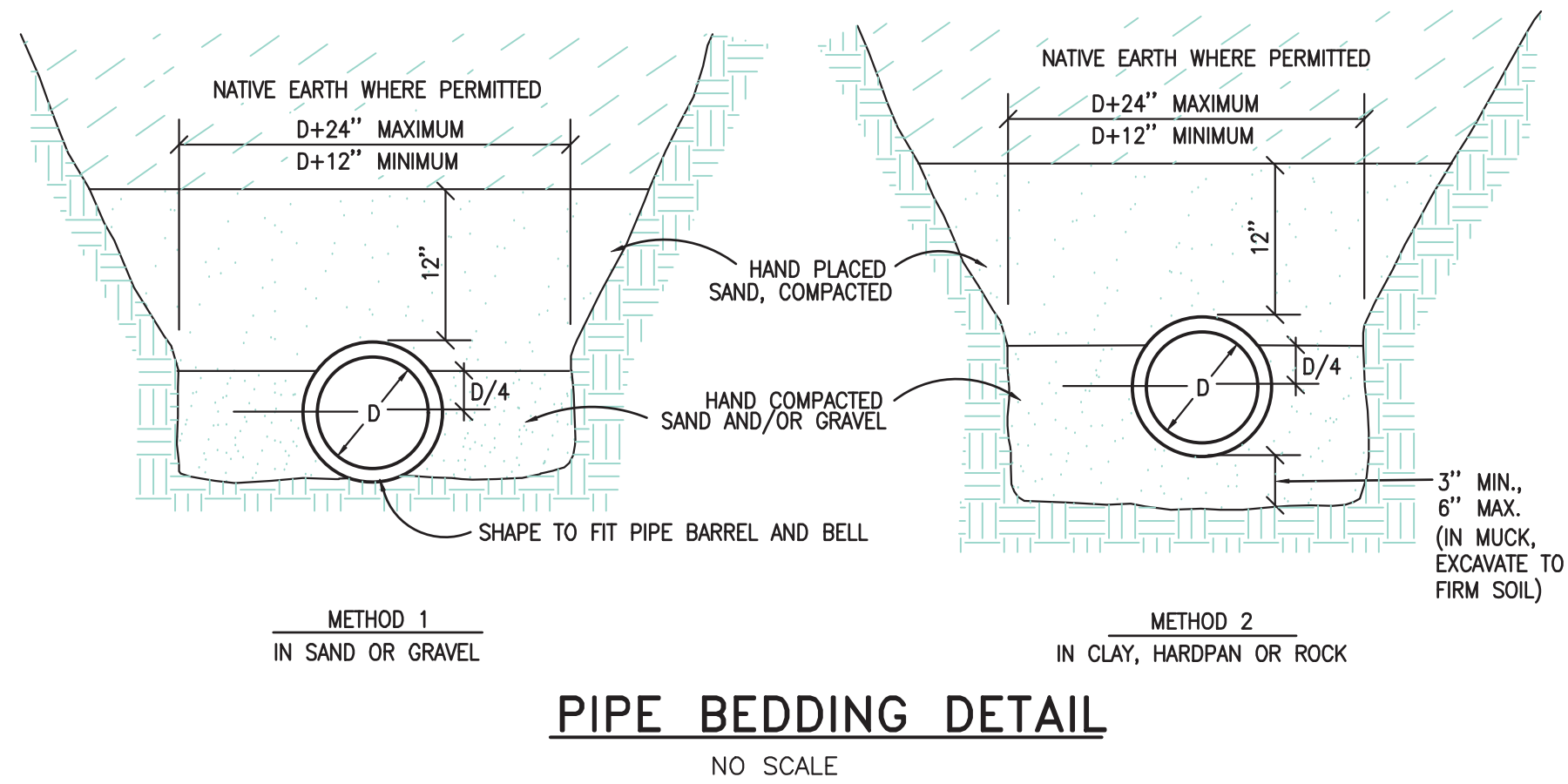
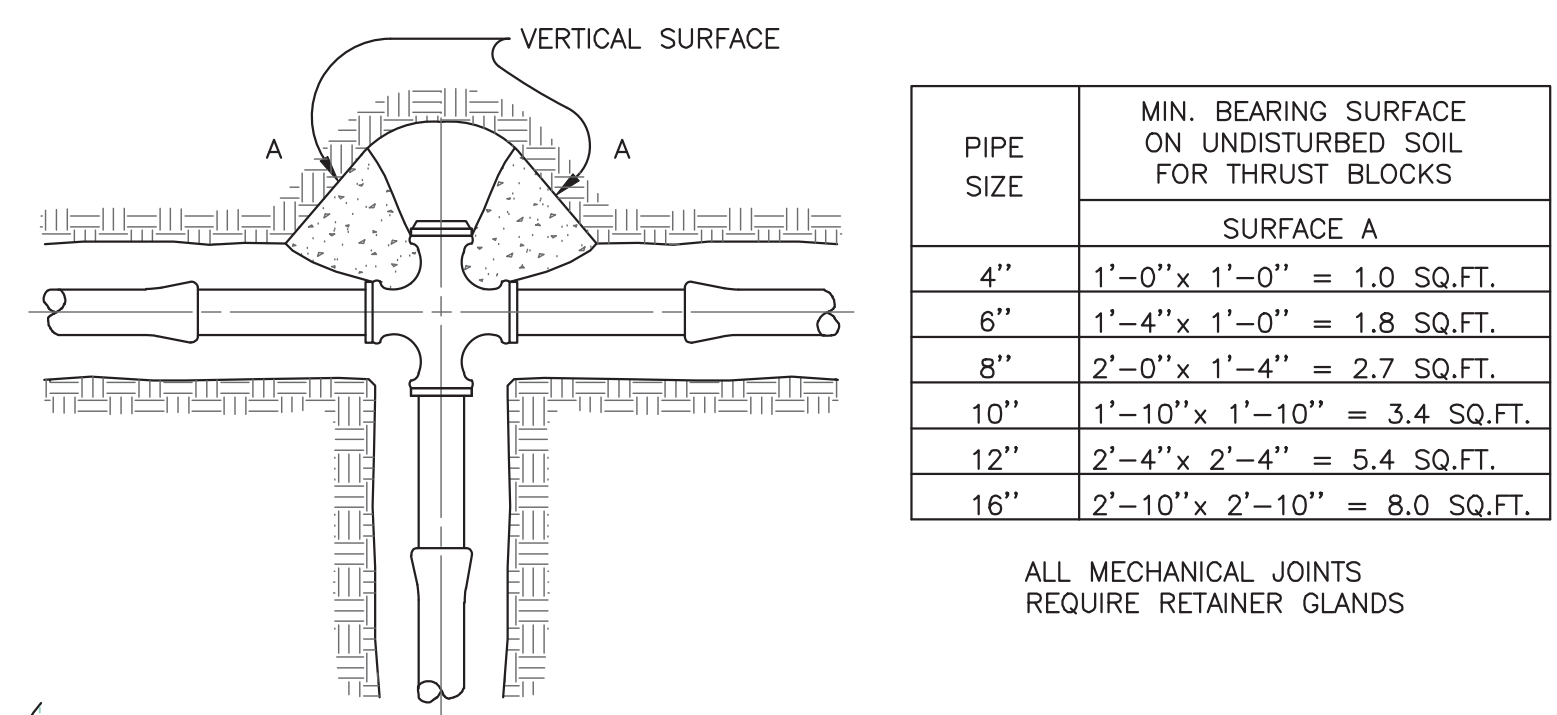
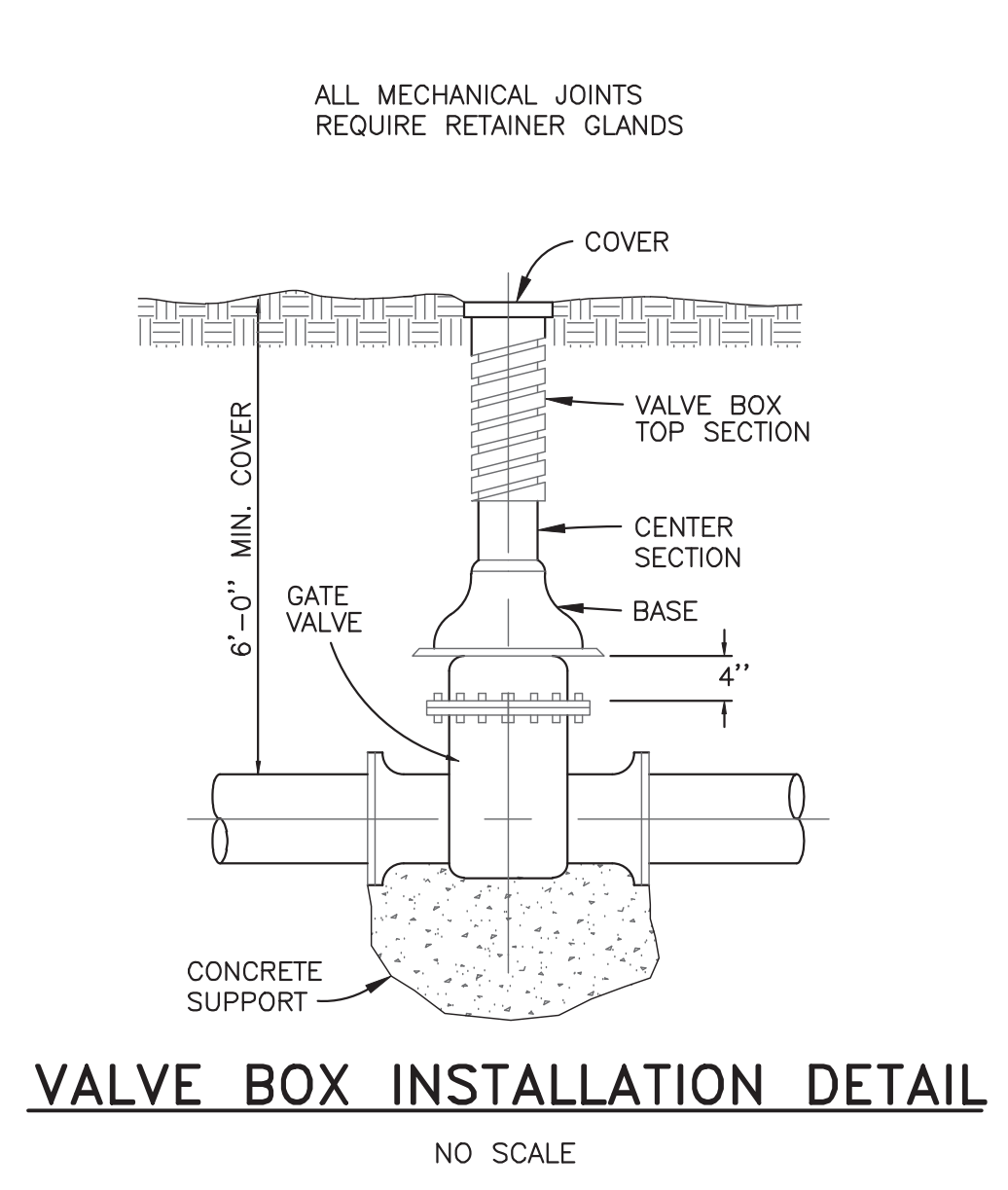
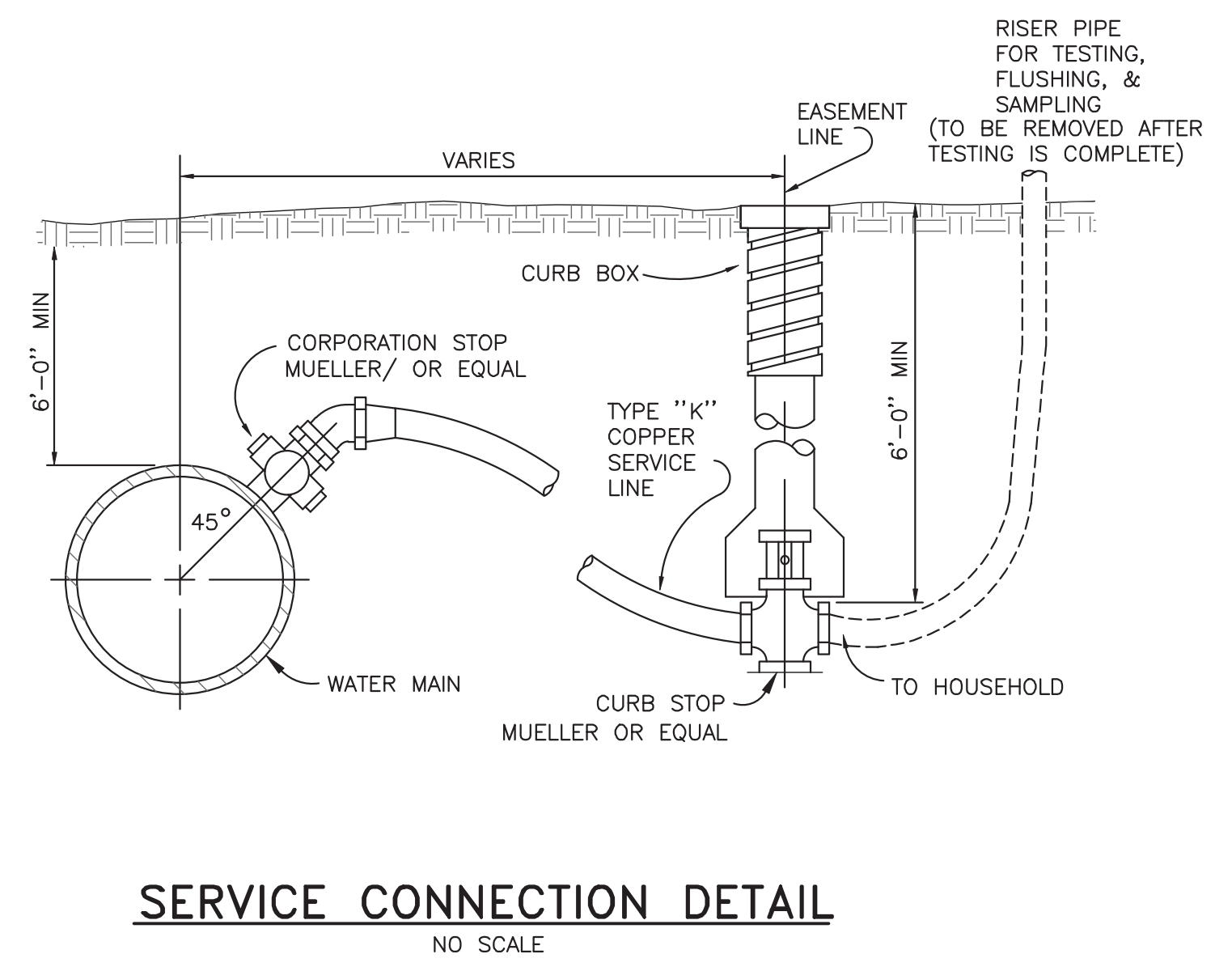
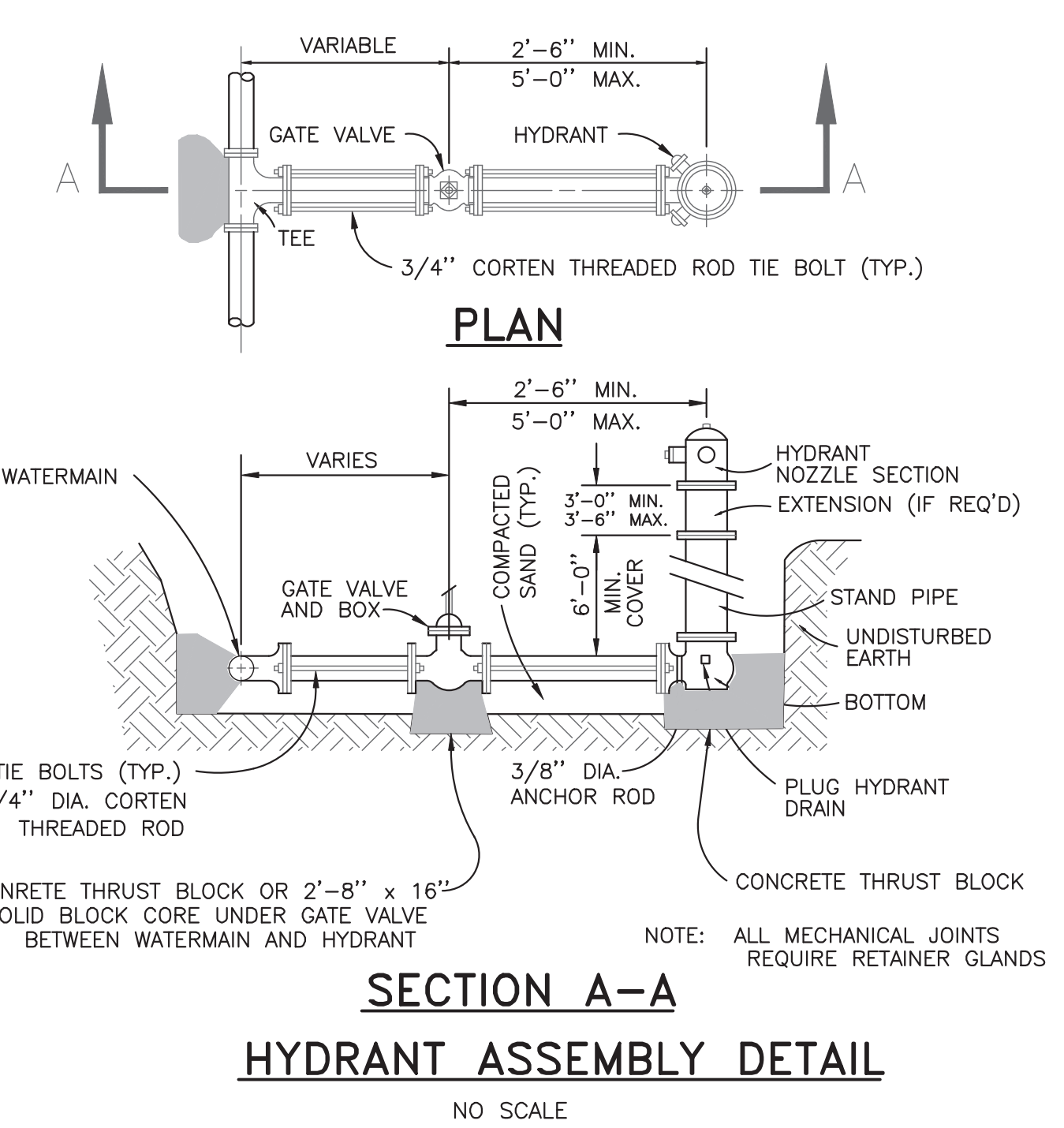
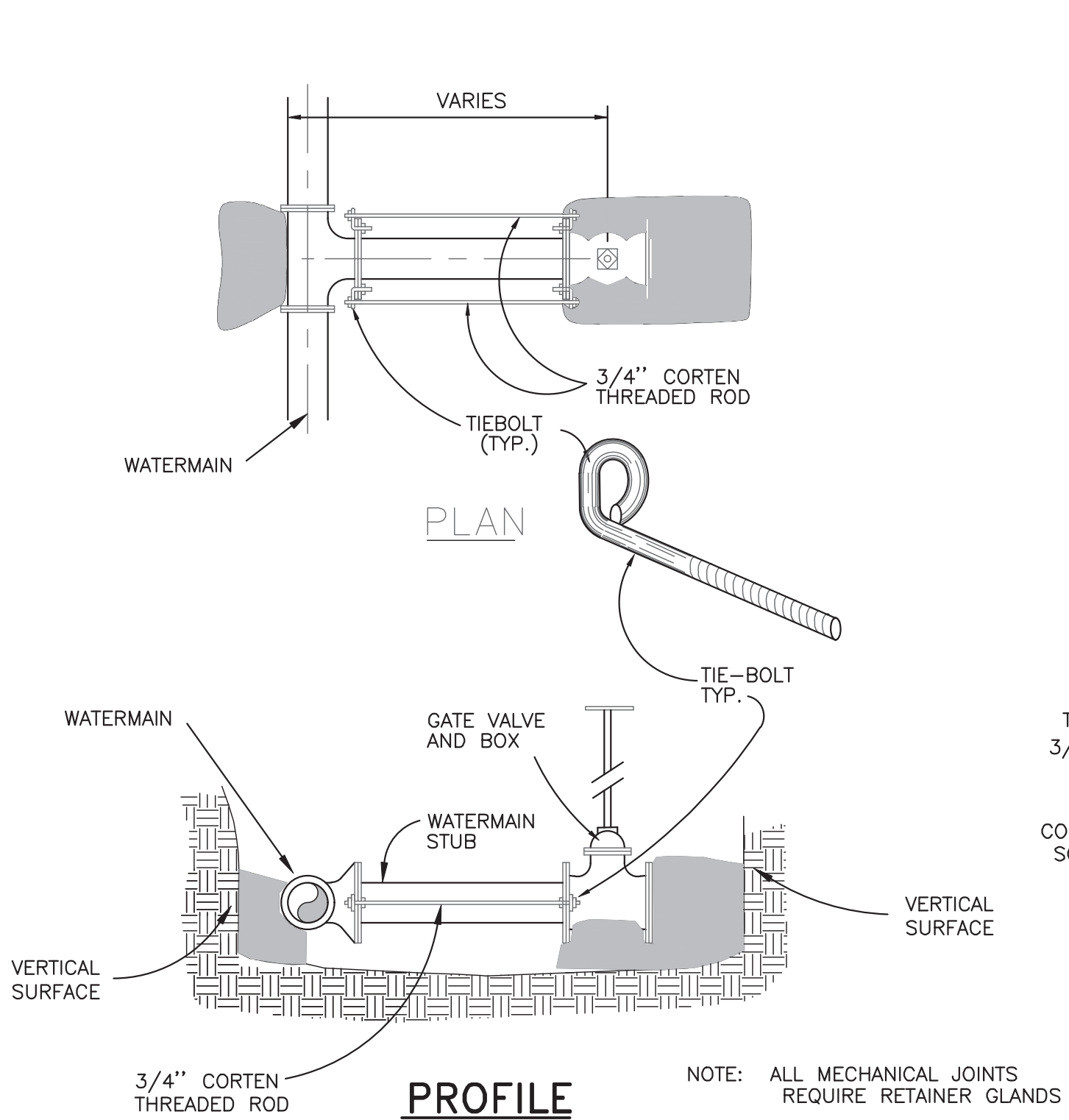
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| Date     | Issued For          |
|----------|---------------------|
| 12/14/23 | REVIEW              |
| 05/21/24 | SCHEMATIC DESIGN    |
| 08/16/24 | SD REVISED          |
| 10/14/24 | DESIGN DEVELOPMENT  |
| 11/08/24 | PD/SITE PLAN REVIEW |

PIC:  
PM:  
DRAFTS:  
PROJECT NO:  
**24.502**  
SHEET TITLE:  
**CONSTRUCTION  
DETAILS**

**C501**

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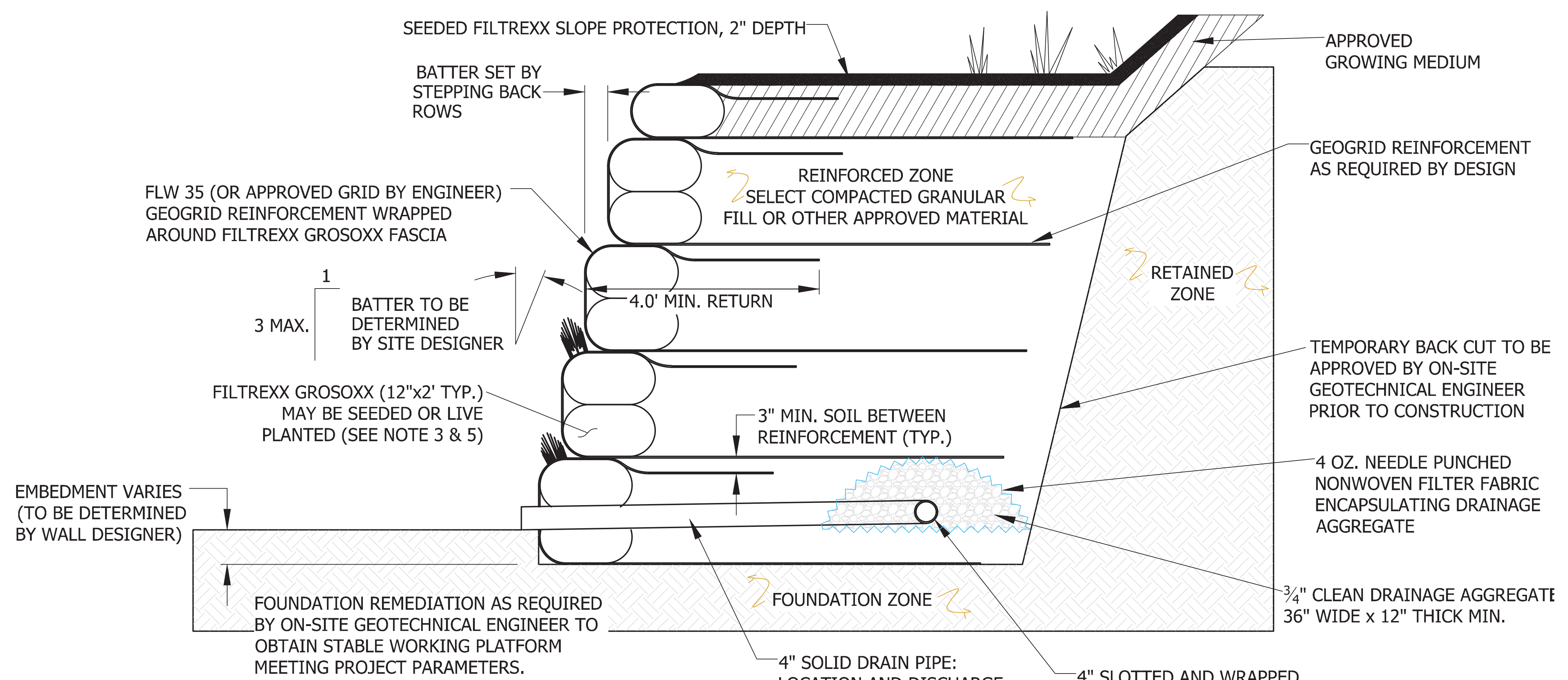
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|----------|---------------------|
| 12/14/23 | REVIEW              |
| 05/21/24 | SCHEMATIC DESIGN    |
| 08/16/24 | SD REVISED          |
| 10/14/24 | DESIGN DEVELOPMENT  |
| 11/08/24 | PD/SITE PLAN REVIEW |

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PROJECT NO:  
**24.502**  
SHEET TITLE:  
WATER & SEWER DETAILS

**C502**

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- NOTES:**
1. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
  2. GROSOXX FILL TO MEET APPLICATION REQUIREMENTS.
  3. GROSOXX MAY BE PRE SEEDED, OR HYDROSEEDED PER LANDSCAPE ARCHITECT'S SPECIFICATIONS.
  4. BACKFILL TO BE PLACED PER ENGINEER'S REQUIREMENTS.
  5. GEOGRID STRENGTH, LENGTH, AND VERTICAL SPACING TO BE DETERMINED BY ENGINEER. GEOGRID--NO STRANDS ARE TO BE CUT DURING PLANTING, ETC. WE RECOMMEND BI-DIRECTIONAL STRENGTH FOR CONSTRUCTION EASE.
  6. NATIVE AND DRAINAGE BACKFILL TO BE SEPARATED BY NON-WOVEN FILTER FABRIC.

| Date     | Issued For          |
|----------|---------------------|
| 12/14/23 | REVIEW              |
| 05/21/24 | SCHEMATIC DESIGN    |
| 08/16/24 | SD REVISED          |
| 10/14/24 | DESIGN DEVELOPMENT  |
| 11/08/24 | PD/SITE PLAN REVIEW |

PIC: \_\_\_\_\_  
 PM: \_\_\_\_\_  
 DRAFTS: \_\_\_\_\_  
 PROJECT NO:  
**24.502**  
 SHEET TITLE:  
**CONSTRUCTION DETAILS**

**C503**

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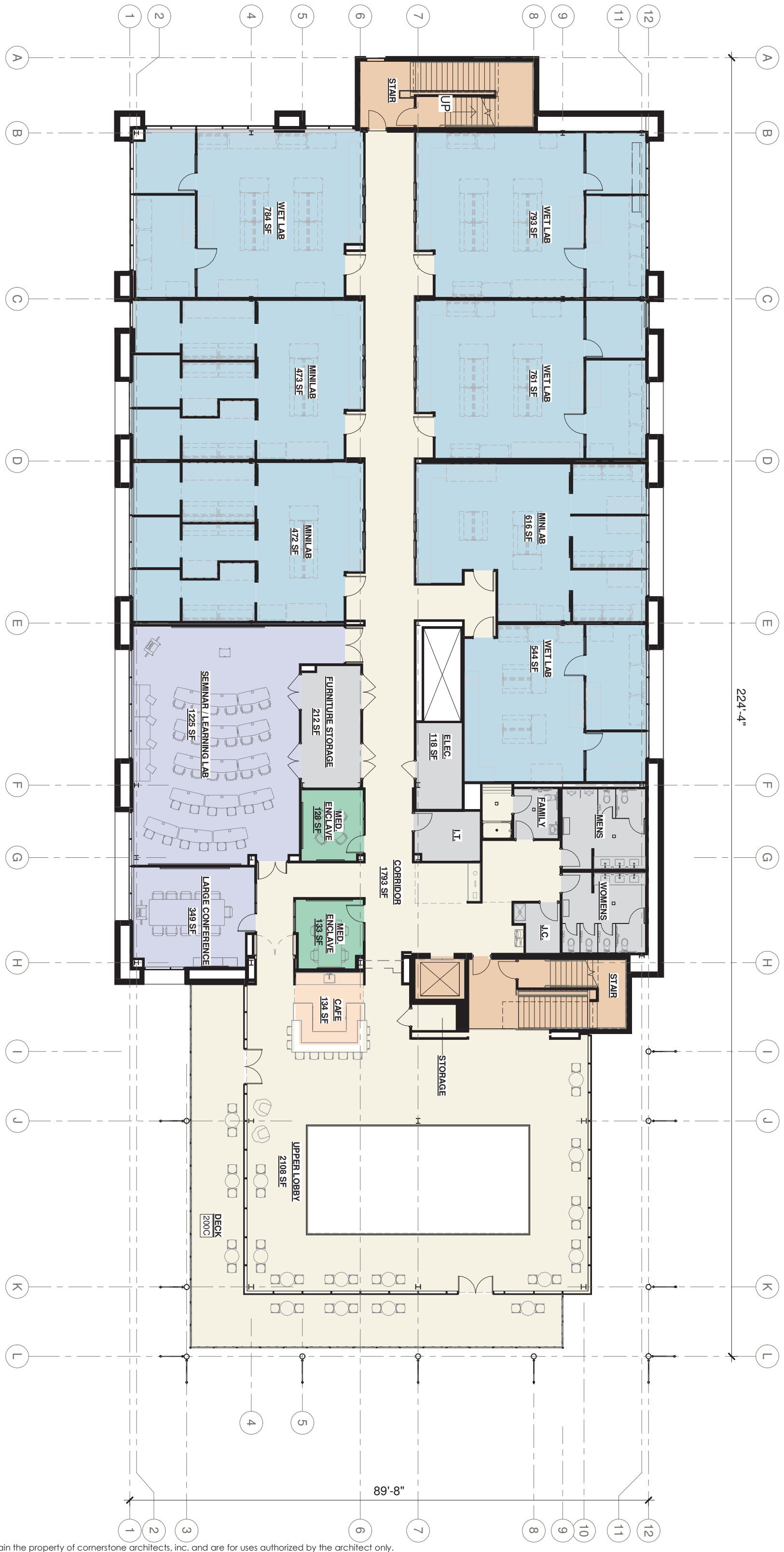
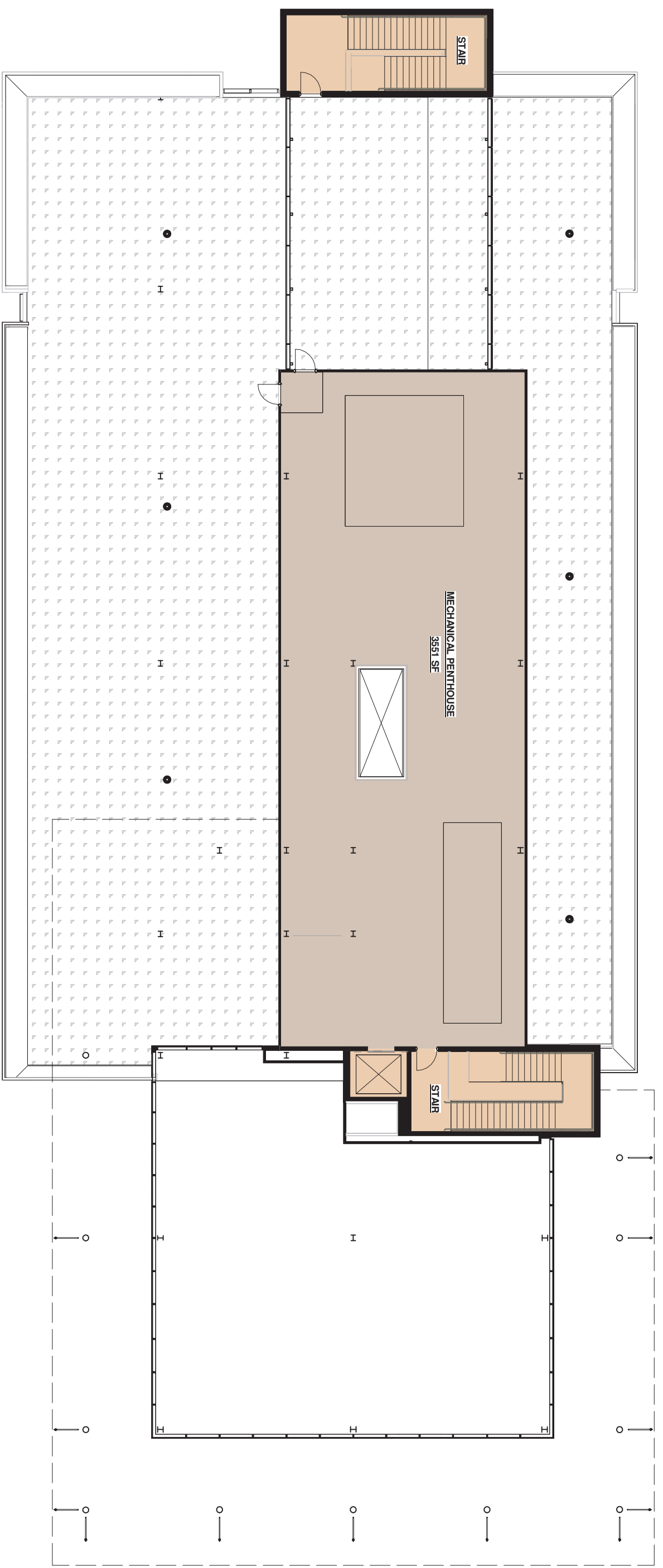


**LEGEND**

- CONFERENCE/IG. LEARNING
- LAB
- HIGH BAY
- OFFICE
- LAB MODULE
- CIRCULATION
- VERTICAL CIRCULATION
- BUILDING SUPPORT
- SHARED OFFICE
- MECHANICAL

**GROSS AREAS**

|                         |                 |
|-------------------------|-----------------|
| FIRST FLOOR             | 17099 SF        |
| SECOND FLOOR            | 16911 SF        |
| MECHANICAL PENTHOUSE    | 3518 SF         |
| <b>TOTAL GROSS AREA</b> | <b>37528 SF</b> |



**MECHANICAL PENTHOUSE FLOOR PLAN**  
 SCALE: 1/16" = 1'-0"

**SECOND FLOOR PLAN**  
 SCALE: 1/16" = 1'-0"



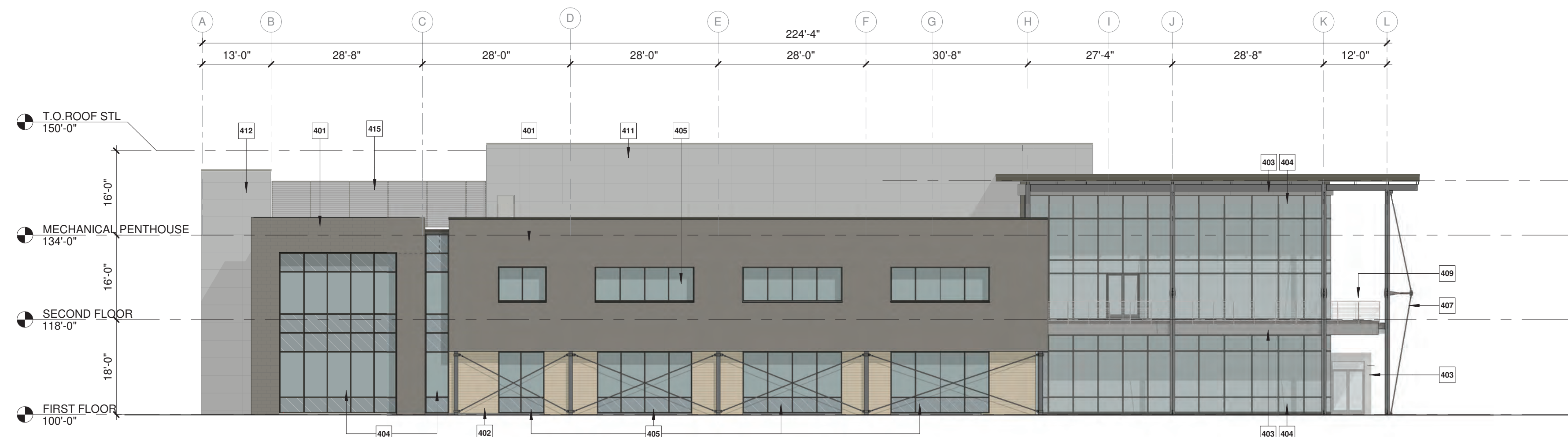


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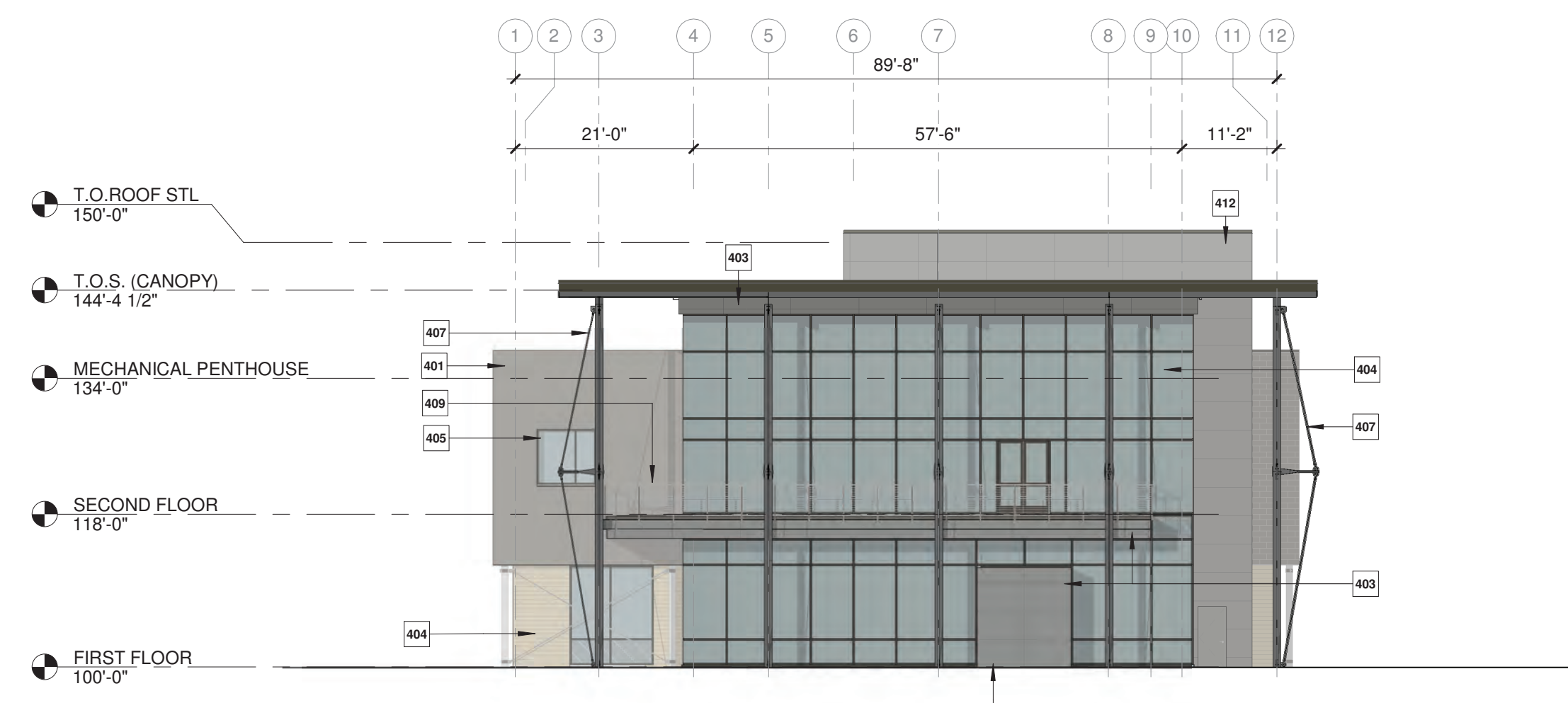


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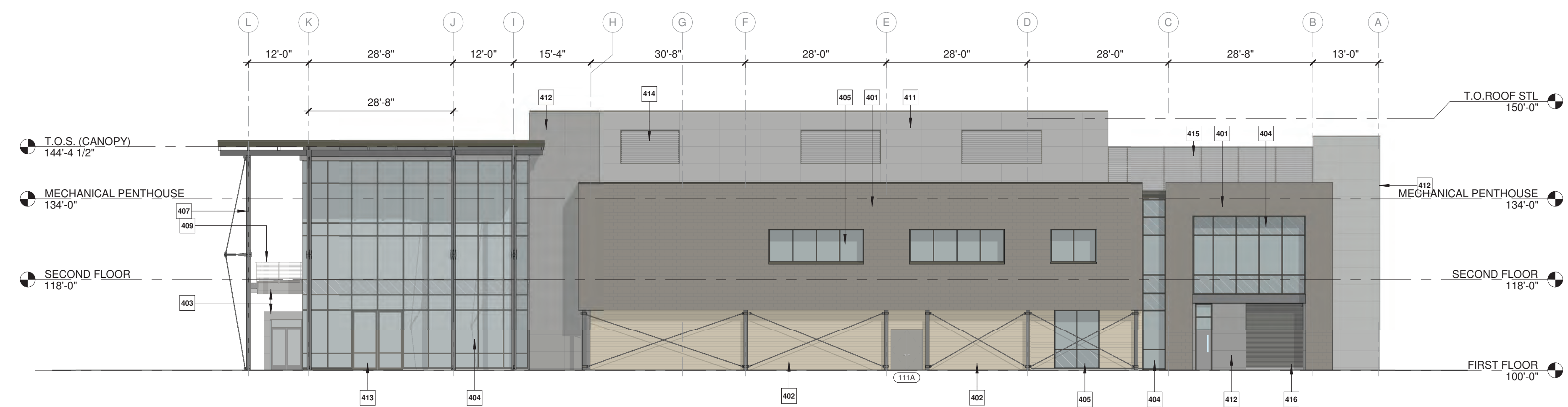
13170 S. WEST BAY SHORE DR., TRAVERSE CITY, MI 49684



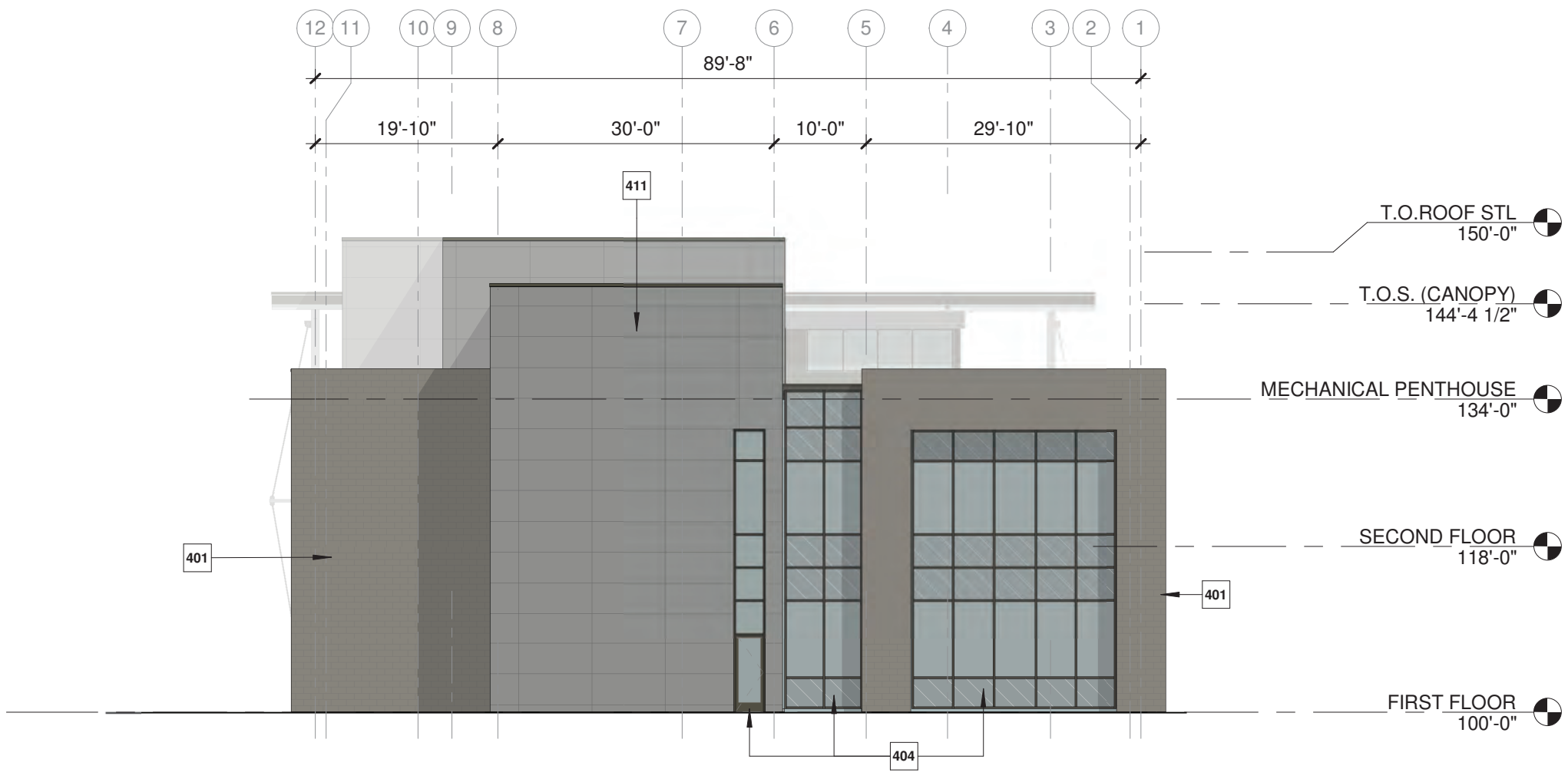
**1 EAST ELEVATION**  
 A002 SCALE: 1/16" = 1'-0"



**2 NORTH ELEVATION**  
 A002 SCALE: 1/16" = 1'-0"



**4 WEST ELEVATION**  
 A002 SCALE: 1/16" = 1'-0"



**3 SOUTH ELEVATION**  
 A002 SCALE: 1/16" = 1'-0"

**EXTERIOR ELEVATION KEYNOTE LEGEND**

- 401 "CUPACLAD" NATURAL SLATE RAINDRIP CLADDING SYSTEM
- 402 HORIZONTAL "WOOD-LOOK" STEEL SIDING w/ 7/8" HAT CHANNELS 16" O.C.; BASIS: MAC METAL ARCHITECTURAL "HARRYWOOD"
- 403 ALUMINUM COMPOSITE MATERIAL (ACM) PANEL RAINDRIP SYSTEM
- 404 THERMALLY-BROKEN 7 1/2" ALUMINUM CURTAIN WALL SYSTEM
- 405 THERMALLY-BROKEN 6" ALUMINUM STOREFRONT SYSTEM
- 407 STEEL COLUMNS w/ OUTRIGGER & TIE-RODS, PAINTED
- 409 POWDER-COATED CABLE GUARDRAILING SYSTEM
- 410 PAINTED STEEL COLUMNS w/ PAINTED STEEL BRACKETS & CROSS-TIE RODS
- 411 4" SMOOTH INSULATED METAL WALL PANELS (R-36)
- 412 2" SMOOTH INSULATED METAL WALL PANELS (R-18) w/ 7/8" HAT CHANNEL FURRING
- 413 CUSTOM-HEIGHT GLAZED ALUMINUM DOUBLE SERVICE DOOR IN CURTAIN WALL SYSTEM; BASIS OF DESIGN: TGP "STEELBUILT" WINDOW & DOOR SYSTEM
- 414 MECHANICAL LOUVER, SEE MECH. DRAWINGS
- 415 LOUVERED SCREEN WALL
- 416 INSULATED STEEL OVERHEAD DOOR, SEE DOOR SCHEDULE

| Date     | Issued For          |
|----------|---------------------|
| 05/21/24 | SCHEMATIC DESIGN    |
| 10/14/24 | DESIGN DEVELOPMENT  |
| 11/08/24 | PD/SITE PLAN REVIEW |

|              |                            |
|--------------|----------------------------|
| PIC:         |                            |
| PM:          |                            |
| DRAFTS:      |                            |
| PROJECT NO:  | <b>24.502</b>              |
| SHEET TITLE: | <b>EXTERIOR ELEVATIONS</b> |
|              | <b>A002</b>                |

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THE FOLLOWING DIMENSION EQUALS ONE INCH WHEN PRINTED TO SCALE.



**SITE PLAN GENERAL NOTES:**

1. THESE NOTES ARE GENERIC GUIDELINES ONLY. ELECTRICAL CONTRACTOR'S PERSONNEL ON SITE SHALL BE THOROUGHLY FAMILIAR WITH THE PUBLISHED SPECIFICATIONS FOR EXACT DESCRIPTIONS OF SCOPE, METHODS, AND MATERIAL.
2. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.
3. CONDUCT A SURVEY TO IDENTIFY ALL UNDERGROUND UTILITIES. CALL 811 PRIOR TO EXCAVATION.
4. UTILITIES SHOWN ON THESE DRAWINGS ARE FOR REFERENCE ONLY. COORDINATE EXACT LOCATION OF ALL EXISTING UTILITIES, AND ROUTING OF ALL NEW UNDERGROUND UTILITIES PRIOR TO EXCAVATION.
5. DEWATER TRENCHES PRIOR TO INSTALLATION OF CONDUITS. PROVIDE WATER TIGHT FITTINGS ON ALL UNDERGROUND CONDUITS.
6. COORDINATE DEMOLITION WORK, AND ELECTRICAL AND TELEPHONE SERVICES TO THE SITE, WITH THE RESPECTIVE LOCAL UTILITY COMPANY REPRESENTATIVES PRIOR TO COMMENCEMENT OF WORK. INCLUDE ALL ASSOCIATED COST/FEE'S BY THE UTILITY COMPANIES IN THE BID PRICE.
7. INSTALL UNDERGROUND CONDUITS 42" BELOW FINISHED GRADE, MINIMUM, UNLESS NOTED OTHERWISE.
8. COORDINATE SERVICE SHUT-DOWNS WITH ALL TRADES INVOLVED ON SITE AND OBTAIN WRITTEN AUTHORIZATION FROM OWNER 72 HOURS PRIOR TO ANY ELECTRICAL AND/OR TELEPHONE SHUT-DOWN.
9. REMOVE ALL DE-ENERGIZED CONDUCTORS FROM SITE AT COMPLETION OF THE PROJECT.
10. OUTDOOR LIGHTING BRANCH CIRCUIT WIRING SHALL BE MINIMUM #8 AWG CONDUCTORS (XHHW-2), IN MINIMUM 1" DIA. CONDUIT, UNLESS NOTED OTHERWISE.
11. SPARE CONDUITS SHALL INCLUDE PULL STRING AND SHALL BE TERMINATED WITH A CAP.
12. EXCAVATE THE ENTIRE LENGTH OF TRENCH TO PROPERLY SET DUCT ELEVATIONS.

**CONSTRUCTION KEY NOTES:**

1. xxx
2. xxx



**ELECTRICAL SITE PLAN**  
SCALE: 1" = 20'

BAY SHORE DRIVE (M-22)



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|----------|--------------------|
| 05/21/24 | SCHEMATIC DESIGN   |
| 10/03/24 | SITE PLAN APPROVAL |
| 10/11/24 | DESIGN DEVELOPMENT |
| 11/08/24 | PD/SIT PLAN REVIEW |

**PRELIMINARY - NOT FOR CONSTRUCTION-**

PIC: LSS  
PV: LSS  
DRAFTS: CAD

PROJECT NO:  
**24.502**

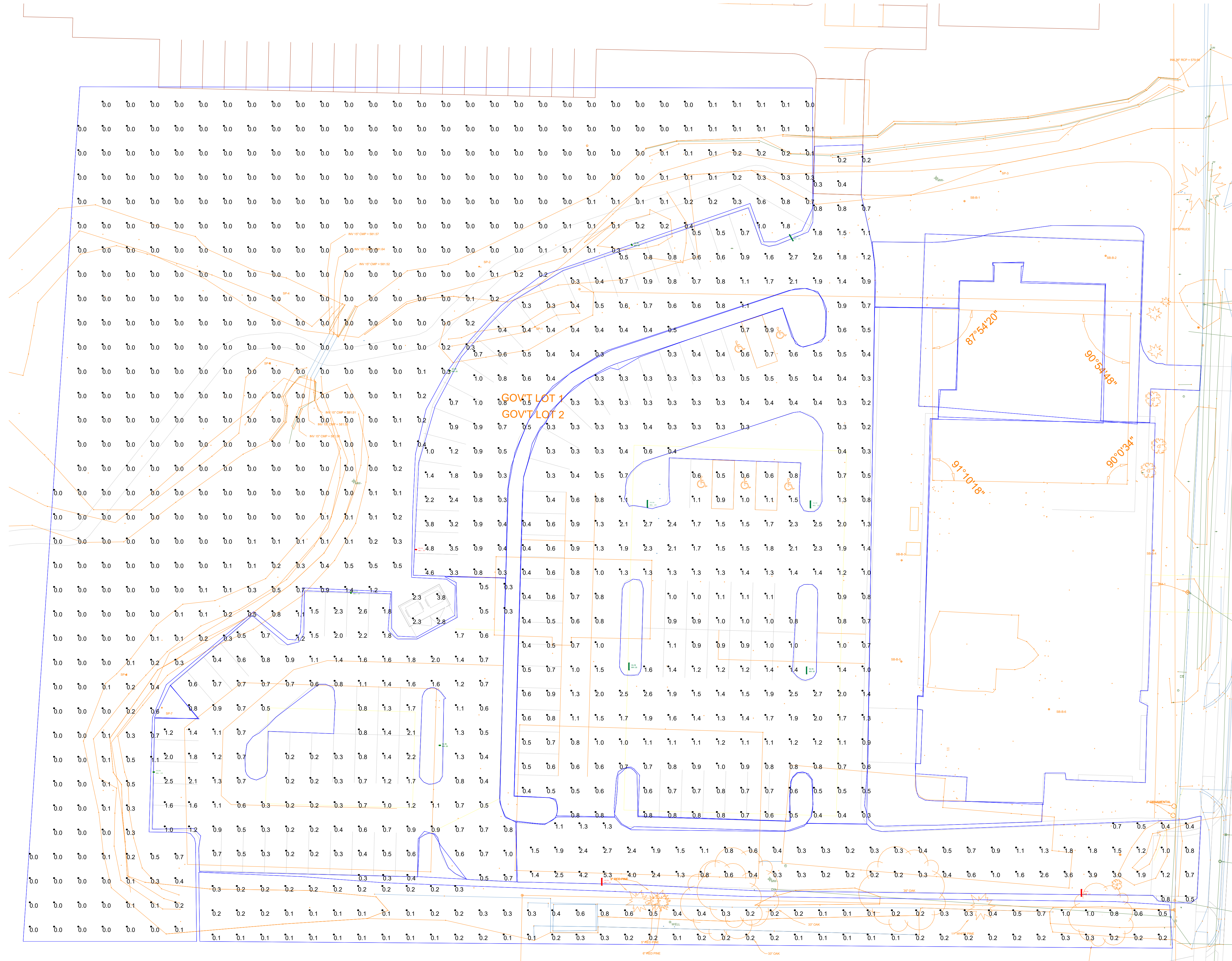
SHEET TITLE:  
ELECTRICAL SITE PLAN

**E003**

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G:\2024\2024-0099-00\CAD\2024-0099-E0-Site Ligh Calc.dwg, E004, 12/3/2024 2:05:07 PM, Joseph A. Corrado, Peter Basso Associates Inc.



**NOTES:**  
 1. STANDARD LIGHT REFLECTANCE VALUES:  
 80% CEILING, 50% WALLS, 20% FLOORS.  
 2. TYPICAL CALCULATION PLANE HEIGHTS  
 ARE INDICATED BY FLOOR BEING AT '0'-0".  
 3. LUMINAIRES SHOWN ARE BASIS OF DESIGN.

| LIGHTING FIXTURE SCHEDULE |     |       |       |        |                                     |             |
|---------------------------|-----|-------|-------|--------|-------------------------------------|-------------|
| Scene: NORMAL             |     |       |       |        |                                     |             |
| Tag                       | QTY | LLF   | WATTS | LUMENS | DESCRIPTION                         | LLD UDF     |
| OL1A                      | 2   | 1.800 | 40.3  | 4266   | LIN-M1075-UNV-L30-4-C(X)-XX-XX-STD  | 0.900 2.000 |
| OL1A                      | 1   | 1.800 | 40.3  | 3467   | LIN-M1075-UNV-L30-2-C(X)-XX-HSS-STD | 0.900 2.000 |
| OL1B                      | 5   | 1.800 | 40.3  | 4081   | LIN-M1075-UNV-L30-4-C(X)-XX-XX-STD  | 0.900 2.000 |
| OL1B                      | 5   | 1.800 | 40.2  | 2834   | LIN-M1075-UNV-L30-4-C(X)-XX-HSS-STD | 0.900 2.000 |

| CALCULATION SUMMARY       |       |      |     |     |         |
|---------------------------|-------|------|-----|-----|---------|
| Scene: NORMAL             |       |      |     |     |         |
| LABEL                     | UNITS | AVG  | MAX | MIN | MAX/MIN |
| Back Parking lot_Top      | Fc    | 0.93 | 2.6 | 0.2 | 13.00   |
| Close Parking lot_Top     | Fc    | 0.95 | 4.8 | 0.2 | 24.00   |
| DRIVEWAY_Top              | Fc    | 1.29 | 5.3 | 0.2 | 26.50   |
| DUMPTER                   | Fc    | 2.80 | 3.8 | 2.3 | 1.65    |
| GRASS BY THE DRIVEWAY_Top | Fc    | 0.25 | 1.0 | 0.1 | 10.00   |
| NEAR NATURAL AREA_Top     | Fc    | 0.07 | 1.8 | 0.0 | N.A.    |



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|----------|--------------------|
| 05/21/24 | SCHEMATIC DESIGN   |
| 10/04/24 | DESIGN DEVELOPMENT |

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 CONSTRUCTION**

PROJECT NO:  
**24.502**  
 ELECTRICAL SITE  
 LIGHTING  
 CALCULATIONS

**E004**

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# Elmwood Charter Township Planning Commission

NOTICE TO THE PUBLIC  
YEAR OF 2025  
Regular Meeting Schedule

Regular meetings of the Elmwood Charter Township Planning Commission are held at the Elmwood Township Hall located at 10090 E. Lincoln Rd., Traverse City, MI on the third Tuesday of each month at 6:30 PM unless otherwise posted. No new business will be considered after 8:30 PM without approval of a majority of the Planning Commissioners.

February 18, 2025

March 18, 2025

April 15, 2025

May 20, 2025

June 17, 2025

July 15, 2025

August 19, 2025

September 16, 2025

October 21, 2025

November 18, 2025

December 16, 2025

The public is advised that any one of these meetings is subject to cancellation or postponement due to the lack of agenda items or business. Individuals who are planning to attend and require reasonable auxiliary aids should contact Connie Preston, Elmwood Charter Township Clerk at 231-946-0921.

Date adopted: \_\_\_\_\_

---

Elmwood Charter Township  
Planning Commission Chair

