



**Planning Commission  
Regular Meeting  
October 18, 2022  
7:00 p.m.**

1. CALL MEETING TO ORDER
2. PLEDGE OF ALLEGIANCE
3. ROLL CALL
4. APPROVAL OF AGENDA
5. APPROVAL OF MINUTES
  - September 20, 2022 Regular Meeting
6. CORRESPONDENCE / BOARD REPORTS / PRESENTATIONS
  - A. Thering updates from Board of Trustees
  - B. Buckley updates from ZBA
  - C. Shingles updates from Sidewalk and Pathways
  - D. Correspondence from Jeremy McDonald re: Sidewalks and Pathways  
Prioritization Committee Reappointment
7. PUBLIC COMMENT: Restricted to (3) minutes regarding items not on this agenda
8. NEW BUSINESS
  - A. PSPR22-17 Sam's Club Filling Station – Final Site Plan Amendment Application**
    - a. Introduction by staff
    - b. Updates from the applicant
    - c. Commission review of the site plan
    - d. Commission deliberation and action (approval, denial, approval with conditions, or postpone action)
  - B. PSPR22-15 Mid Michigan College Athletic Fields – Final Site Plan Application**
    - a. Introduction by staff
    - b. Updates from the applicant
    - c. Commission review of the site plan
    - d. Commission deliberation and action (approval, denial, approval with conditions, or postpone action)

**C. Zoning Ordinance Amendment – Punch List #2 Introduction**

- a. Introduction by staff
- b. Commission review and discussion
- c. Consideration of setting a public hearing date

9. OTHER BUSINESS

10. EXTENDED PUBLIC COMMENT: Restricted to (5) minutes regarding any issue

11. FINAL BOARD COMMENT

12. ADJOURNMENT

**CHARTER TOWNSHIP OF UNION**  
**Planning Commission**  
**Regular Meeting Minutes**

A regular meeting of the Charter Township of Union Planning Commission was held on September 20, 2022, at 7:00 p.m. at the Union Township Hall.

**Meeting was called to order at 7:00 p.m.**

**Roll Call**

Present:

Albrecht, Gross, LaBelle, Shingles, Squatrito, Thering and Williams

Excused:

Buckley and Lapp

**Others Present**

Rodney Nanney, Community and Economic Development Director; Peter Gallinat, Zoning Administrator; Tera Green, Administrative Assistant

**Approval of Agenda**

**Thering** moved **Gross** supported to approve the agenda as presented. **Vote: Ayes: 6. Nays: 0. Motion Carried**

**Approval of Minutes**

**Williams** moved **Gross** supported to approve the special meeting minutes from August 23, 2022 as presented. **Vote: Ayes: 6. Nays: 0. Motion carried.**

**Correspondence / Reports/ Presentations**

- A. Board of Trustees updates by Thering – Updated that the Board of Trustee approved a resolution of intent to purchase an outdoor fitness court for McDonald Park.
- B. ZBA updates by Buckley – No updates were given.
- C. Sidewalks and Pathway Prioritization Committee by Shingles – No updates were given.

**\*Commissioner LaBelle arrived at 7:08 p.m.**

**Public Comment**

Open 7:10 p.m.

No comments were offered.

Closed 7:10 p.m.

**New Business**

- A. **PSPR22-11 Preliminary Site Plan Application – Clint’s Auto Body Expansion, 5598 S. Mission Rd.**
  - a. Introduction
  - b. Updates from staff and the applicant
  - c. Commission review of the site plan

- d. Commission deliberation and action (recommendation to the Board of Trustees for approval, denial, approval with conditions or postpone action)

Nanney gave an introduction of the PREZ22-11 Preliminary Site Plan of Clint's Auto Body Shop Addition located at 5594 and 5598 S. Mission Road recommending approval subject to resolution of the residential parking timeframe to be completed by 2024 and the shipping container removed.

Owner, Clint Oswald and Tim Bebee from CMS&D were available for questions. Deliberation by the Commissioners.

**Thering** moved **Gross** supported to recommend to approve the PSPR 22-11 preliminary site plan dated August 22, 2022 for a 3,200 square-foot addition to the existing Clint's Auto Body Shop located at 5594 and 5598 S. Mission Road in the southeast quarter of Section 34 and in the B-4 (General Business) zoning district, finding that it can fully comply with applicable Zoning Ordinance requirements for preliminary site plan approval, including Sections 14.2.P. (Required Site Plan information) and 14.2.S. (Standards for Site Plan Approval), subject to the following conditions:

1. Paving of the residential parking area as depicted on the site plan shall be completed by the end of the 2024 construction season, rather than in 2025 as proposed.
2. Remove the shipping container and add a note to the final site plan confirming that no shipping containers will be brought on to or maintained on the premises, or add a note to the final site plan confirming that the proposed shipping container will only be used for temporary storage during the building addition construction and will be removed from the premises prior to issuance of a certificate of occupancy for the addition.

**Roll Call Vote: Ayes: Albrecht, Gross, LaBelle, Shingles, Squattrito, Thering, and Williams. Nays: 0. Motion carried.**

**B. PSPR22-14 Final Site Plan Application – Michael Engineering Expansion, 5625 Venture Way**

- a. Introduction by Staff
- b. Updates from the applicant
- c. Commission review of the final site plan
- d. Commission deliberation and action (approval, denial, approval with conditions, or postpone action)

Nanney introduced the PSPR22-14 Final Site Plan Application for Rook Metering – Michael Engineering building expansion at 5625 Venture Way recommending approval subject with conditions for a couple housekeeping details adding location and details for the current bicycle parking and planting detail for (1) additional shade tree to the floor plans.

Tim Bebee from CMS&D addressed the housekeeping details mentioned by Nanney. Bebee was available for questions. The Zoning Administrator confirmed that the requirement for an additional shade tree can be satisfied by the existing tree shown on the site plan, so this item in the staff report can be disregarded. Deliberation by the Commissioners.

**Albrecht** moved **Williams** supported to approve the PSPR 22-14 final site plan dated August 23, 2022 for additions to the Rook Metering - Michael Engineering building located at 5625 Venture Way in the northeast quarter of Section 13 and in the I-2 (General Industrial) zoning district, finding that it fully complies with applicable Zoning Ordinance requirements for final site plan approval, including Sections 14.2.P. (Required Site Plan information) and 14.2.S. (Standards for Site Plan Approval), subject to the following conditions:

1. Documentation of permits or approvals from the Isabella County Transportation Commission and Township Public Services Department shall be submitted to the Zoning Administrator prior to issuance of a building permit for this project.
2. Add the location, dimensions, and details for the current bicycle parking area.
3. Zoning Administrator review and acceptance of the revised sheet prior to issuance of a building permit for this project.

**Roll Call Vote: Ayes: Albrecht, Gross, LaBelle, Shingles, Squatrito, Thering, and Williams. Nays: 0. Motion carried.**

**C. PSPR22-15 Combined Preliminary and Final Site Plan Application – Mid Michigan College Athletic Fields, 2600 S. Summerton Road**

- a. Introduction by Staff
- b. Updates from the applicant
- c. Commission review of the final site plan
- d. Commission deliberation and action (approval, denial, approval with conditions, or postpone action)

Nanney introduced the PSPR22-15 Combined Preliminary and Final Site Plan Application – Mid Michigan College Mt. Pleasant Athletic Complex located at 2600 S. Summerton Road. He stated that the Isabella County Drain Office for Storm Water Management approval and approval for the proposed county drain relocation had not been obtained and additional details and revisions are needed. Nanney summarized the applicable standards for preliminary and final site plan approval, and recommended that the Planning Commission grant preliminary site plan approval only subject to submittal of an updated final site plan.

Marty Ruiter, Architect for Hobbs and Black gave updates regarding the Storm Water and Drain Commission correspondence. Mr. Ruiter, Matt Miller, VP Student Services for Mid-Michigan College and Matt Motes, Rowe Professional Services were available for questions. Mr. Motes confirms that as of 9/16/2022 they had not formally applied for the required county Drain Office approvals, although they had held informal discussions. Deliberation by the Commissioners.

**Williams** moved **Thering** supported to approve only the PSPR 22-15 preliminary site plan dated August 26, 2022 for the Mid-Michigan College Mt. Pleasant Athletic Complex located at 2600 Summerton Road in the southeast quarter of Section 13 and in the B-4 (General Business) zoning district, finding that the site plan can comply with applicable Zoning Ordinance requirements for preliminary site plan approval, including Sections 14.2.P. (Required Site Plan Information) and 14.2.S. (Standards for Site Plan Approval).

**Roll Call Vote: Ayes: Albrecht, Gross, LaBelle, Shingles, Squatrito, Thering, and Williams. Nays: 0. Motion carried.**

**D. Adoption of the 2023 Schedule of Meetings**

- a. Updates by Staff
- b. Discussion
- c. Commission deliberation and action (approval, denial, approval with conditions, or postpone action)

Nanney introduced the proposed 2023 Planning Commission Schedule of Meetings. Discussion by the Commissioners.

**Shingles** moved **Gross** supported to adopt the Planning Commission’s Meeting Schedule for 2023. **Vote: Ayes 7 Nays: 0. Motion Carried.**

**Extended Public Comments**

Open: 8:42 p.m.

No comments were offered.

Closed 8:42 p.m.

**Final Board Comment**

Shingles – Glad to be back after several months of being gone.

Thering – Commented and appreciates Commissioner Williams’ comments during deliberation of PSPR22-15 Mid-Michigan College Athletic Fields

Gross – Echoed Commissioner Thering’s appreciation toward Commissioner Williams’ comments.

LaBelle – Commented on the deliberation of PSPR22-15 Mid-Michigan College Athletic Fields

**Adjournment** – Chairman Squatrito adjourned the meeting at 8:47 p.m.

**APPROVED BY:**

*(Recorded by Tera Green)*

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Doug LaBelle – Secretary  
Tera Albrecht – Vice Secretary

## Board Expiration Dates

Planning Commission Board Members (9 Members) 3 year term			
#	F Name	L Name	Expiration Date
1-BOT Representative	James	Thering	11/20/2024
2-Chair	Phil	Squatrito	2/15/2023
3-Vice Chair	Ryan	Buckley	2/15/2025
4-Secretary	Doug	LaBelle II	2/15/2025
5 - Vice Secretary	Tera	Albrecht	2/15/2024
6	Stan	Shingles	2/15/2024
7	Paul	Gross	2/15/2025
8	Jack	Williams	2/15/2023
9	Jessica	Lapp	2/15/2023
Zoning Board of Appeals Members (5 Members, 2 Alternates) 3 year term			
#	F Name	L Name	Expiration Date
1- PC Rep	Ryan	Buckley	2/15/2025
2 - Chair	Andy	Theisen	12/31/2022
3 - Vice Chair	Liz	Presnell	12/31/2022
4 -	Breanne	Moeggenberg	12/31/2022
5 -	Brandon	LaBelle	12/31/2022
Alt. #1	vacant seat		12/31/2022
Alt. #2	vacant seat		2/15/2021
Board of Review (3 Members) 2 year term			
#	F Name	L Name	Expiration Date
1	Doug	LaBelle II	12/31/2022
2	Sarvjit	Chowdhary	12/31/2022
3	Bryan	Neyer	12/31/2022
Alt #1	Randy	Golden	12/31/2022
Construction Board of Appeals (3 Members) 2 year term			
#	F Name	L Name	Expiration Date
1	Colin	Herren	12/31/2023
2	Joseph	Schafer	12/31/2023
3	Andy	Theisen	12/31/2023
Hannah's Bark Park Advisory Board (2 Members from Township) 2 year term			
1	Mark	Stuhldreher	12/31/2022
2	John	Dinse	12/31/2023
Chippewa River District Library Board 4 year term			
1	Ruth	Helwig	12/31/2023
2	Lynn	Laskowsky	12/31/2025



## Board Expiration Dates

EDA Board Members (9 Members) 4 year term			
#	F Name	L Name	Expiration Date
1-BOT Representative	Bryan	Mielke	11/20/2024
2	Thomas	Kequom	4/14/2023
3	James	Zalud	4/14/2023
4	Richard	Barz	2/13/2025
5	Robert	Bacon	1/13/2023
6	Marty	Figg	6/22/2026
7	Cheryl	Hunter	6/22/2023
8	Jeff	Sweet	2/13/2025
9	David	Coyne	3/26/2026
Mid Michigan Area Cable Consortium (2 Members)			
#	F Name	L Name	Expiration Date
1	Kim	Smith	12/31/2022
2	vacant seat		
Cultural and Recreational Commission (1 seat from Township) 3 year term			
#	F Name	L Name	Expiration Date
1	Robert	Sommerville	12/31/2022
Sidewalks and Pathways Prioritization Committee (2 year term -PC Appointments)			
#	F Name	L Name	Expiration Date
1 - BOT Representative	Kimberly	Rice	11/20/2024
2 - PC Representative	Stan	Shingles	2/15/2024
3 - Township Resident	Jeff	Siler	8/15/2023
4 - Township Resident	Jeremy	MacDonald	10/17/2022
5 - Member at large	Phil	Hertzler	8/15/2023
Mid Michigan Aquatic Recreational Authority (2 seat from Township) 3 year term			
#	F Name	L Name	Expiration Date
1-City of Mt. Pleasant	John	Zang	12/31/2023
2-City of Mt. Pleasant	Judith	Wagley	12/31/2022
1-Union Township	Stan	Shingles	12/31/2023
2-Union Township	Allison	Chiodini	12/31/2022
1-Mt. Pleasant Schools	Lisa	Diaz	12/31/2022
1-Member at Large	Mark	Stansberry	2/14/2025
2- Member at Large	Michael	Huenemann	2/14/2025



**From:** [Jeremy "Rit" MacDonald](#)  
**To:** [Rodney Nanney](#)  
**Subject:** RE: RE-SENT: Sidewalks and Pathways Prioritization Committee Reappointment  
**Date:** Tuesday, October 11, 2022 3:08:33 PM  
**Attachments:**

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Good Afternoon Rodney...I apologize for the delay...I've been out of town on business the last week and a half and trying to catch up on over 600 emails. Regrettably I am going to have to resign from the committee. I've put in a number of years, and just can't put my best foot forward and do the job that needs to be done. Thank you for understanding and your work at the township.

Jeremy 'Rit' MacDonald, CIC  
314 Gratiot Ave  
Alma, MI 48801



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**From:** Rodney Nanney  
**Sent:** Monday, October 10, 2022 10:58 AM  
**To:** Jeremy MacDonald <[jeremy@midmichiganagency.com](mailto:jeremy@midmichiganagency.com)>  
**Subject:** RE-SENT: Sidewalks and Pathways Prioritization Committee Reappointment

Jeremy,

Just checking in – did you receive this email below from Tera Green?

To provide the Planning Commission with the opportunity to act on your reappointment this month prior to our 10/27/2022 sidewalks and pathways prioritization committee meeting, we will need to receive your completed board/commission appointment application at the Township office by the end of the day today. If you drop it off after hours tonight, please use the drop box on the wall to the right of the main entrance. You can also scan and email the completed form back to Tera Green.

Without a Planning Commission reappointment action at their October meeting, your term will end prior to our 10/27/2022 meeting. You will be welcome to attend as a member of the public, but another member would need to serve as Chair for the meeting.

Please contact me or Tera Green with any questions about this information.

Regards,

Rodney C. Nanney, AICP  
Community and Economic Development Director  
Charter Township of Union  
2010 South Lincoln Road  
Mount Pleasant, MI 48858  
(989) 772-4600 ext. 232

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**From:** Tera Green  
**Sent:** Monday, October 3, 2022 11:52 AM  
**To:** [Jeremy McDonald](#)  
**Cc:** Rodney Nanney  
**Subject:** Sidewalks and Pathways Prioritization Committee Reappointment

Good morning,

My records indicate that your 2-year term on the Sidewalks and Pathways Prioritization Committee expires this month on October 17, 2022. We would like to invite you to fill out the application in the link below to confirm your continued interest of reappointment to another 2-year term.

<http://www.uniontownshipmi.com/Portals/0/Documents/Admin/NOTICE%20OF%20BOARD%20AND%20COMMISSION%20VACANCIES%20fillable%20form.pdf?ver=2022-03-23-105638-703>

If interested, please return the attached document by 4:30 pm, Friday October 7<sup>th</sup> to assure that your application is included on the Planning Commissions October agenda.

I look forward to hearing from you.

Thank you,

*Tera Green*  
*Administrative Assistant*



*Charter Township of Union*  
*2010 S. Lincoln*  
*Mt. Pleasant, MI 48858*  
*Phone (989)772-4600 Ext. 221*

## Charter Township of Union

### APPLICATION FOR SITE PLAN REVIEW

Minor Site Plan     
  Preliminary Site Plan     
  Final Site Plan (Amendment)

A Completed Application will contain all the information required per the Zoning Ordinance, Section 14.2 (Site Plan Review).

Name of Proposed Development/Project _____		Sam's Club #4982-211 Fueling Station	
Common Description of Property & Address (if issued) _____		4850 Encore Drive, Mt Pleasant, MI 48858	
Applicant's Name(s) _____		Keith Moore	
Phone/Fax numbers _____	(901) 384-0404 / (901) 384-0710	Email _____	keithmoore@carlsonconsulting.net
Address _____		7068 Ledgestone Commons	City: _____ Bartlett, TN      Zip: 38133

Legal Description: _____	<input type="checkbox"/> Attached	<input checked="" type="checkbox"/> Included on Site Plan	Tax Parcel ID Number(s): _____	14-026-30-001-07
Existing Zoning: _____	B5	Land Acreage: _____	16.79 ac	Existing Use(s): _____ Commercial
<input checked="" type="checkbox"/> ATTACHED: Letter describing the project and how it conforms to Section 14.2.S. (Standards for Site Plan Approval)				

Firm(s) or Individuals(s) who prepared site plan(s)	1. Name: _____ Carlson Consulting Engineers      Phone: (901) 384-0400      Email: keithmoore@carlsoncc 2. Address: _____ 7068 Ledgestone Commons City: _____ Bartlett      State: _____ TN      Zip: 38133 Contact Person: _____ Keith Moore      Phone: (901) 384-0404
Legal Owner(s) of Property. All persons having legal interest in the property must sign this application. Attach a separate sheet if more space is needed.	1. Name: _____ Sam's Real Estate Business Trust      Phone: _____ (479) 469-9975 Address: _____ 2101 SE Simple Savings Drive City: _____ Bentonville      State: _____ AR      Zip: 72712  Signature: <u>Elizabeth Johnson</u> Interest in Property: _____ Owner 2. Name: _____      Phone: _____ Address: _____ City: _____      State: _____ MI      Zip: _____  Signature: _____      Interest in Property: _____ owner/lessee/other

I do hereby affirm that all the statements, signatures, descriptions, exhibits submitted on or with this application are true and accurate to the best of my knowledge and that I am authorized to file this application and act on behalf of all the owners of the property. False or inaccurate information placed upon this plan may be cause for revocation of any permits issued pursuant to site plan approval and/or removal of work installed. Approval of this plan shall not constitute the right to violate any provisions of the Zoning Ordinance or other applicable codes and ordinances.



Signature of Applicant

9/20/22  
Date

#### Office Use Only

Application Received By: \_\_\_\_\_ Fee Paid: \$ \_\_\_\_\_

Date Received: \_\_\_\_\_ Escrow Deposit Paid: \$ \_\_\_\_\_

## **Preliminary Site Plan Review Procedure**

Each preliminary site plan application shall be made by filing one (1) completed and signed copy of the required application form, the required fee and any required escrow deposit, one (1) large (up to 24-inch by 36-inch maximum) printed site plan set, and eleven (11) paper copies and one (1) digital copy in .PDF format of the complete set of application materials and reduced 11-inch by 17-inch site plan sets at the Township Hall.

### **Effect of Preliminary Site Plan Approval**

Approval of a preliminary site plan by the Planning Commission shall indicate its general acceptance of the proposed layout of buildings, streets, drives, parking areas, and other facilities and areas in accordance with the standards for preliminary site plan approval specified in subsection 14.2(S). The Planning Commission may, at its discretion and with appropriate conditions attached, authorize limited work to begin for soils exploration, incidental site clearing, and other preliminary site work as specified in the authorization.

## **Outside Agency Approvals**

The applicant shall be responsible for obtaining all necessary permits or approvals from applicable outside agencies, prior to final site plan approval.

## **Final Site Plan Review Procedure**

Each final site plan application shall be made by filing one (1) completed and signed copy of the required application form, the required fee and any required escrow deposit, one (1) large (up to 24-inch by 36-inch maximum) printed site plan set, and eleven (11) paper copies and one (1) digital copy in .PDF format of the complete set of application materials and reduced 11-inch by 17-inch site plan sets at the Township Hall.

### **Effect of Final Site Plan Approval**

Approval of a final site plan by the Planning Commission constitutes the final zoning approval for the project and allows for issuance of a building permit to begin site work or construction, provided all other construction and engineering requirements have been met.

## **Minor Site Plan Review Procedure**

A minor site plan application shall be made by filing one (1) completed and signed copy of the required application form, the required fee, and two (2) paper copies and one (1) digital copy in .PDF format of the complete set of application materials and site plans, at a maximum sheet size of 11 inches by 17 inches, at the Township Hall. The Zoning Administrator shall review the application materials and site plan for completeness, accuracy, and compliance with all applicable requirements and standards of this Ordinance and other Township ordinances.

The minor site plan shall be approved by the Zoning Administrator upon determination that all required information for the type of site plan has been provided per subsection 14.2(P), the site plan satisfies the applicable standards for site plan approval per subsection 14.2(S); and the site plan conforms to all other applicable requirements and standards of this Ordinance and other Township ordinances.

# CHARTER TOWNSHIP OF UNION

## SITE PLAN REVIEW

### HAZARDOUS SUBSTANCES REPORTING FORM

This form must be completed and submitted as part of the site plan for facilities which may use, store, or generate hazardous substances or polluting materials (including petroleum-based products)

Name of business: Sam's Club Fueling Station #4982-211

Name of business owner(s): Sam's Real Estate Business Trust

Street and mailing address: 2101 SE Simple Savings Drive  
Bentonville, AR 72716-0745


Telephone: (479) 360-3196

Fax: \_\_\_\_\_

Email: cpenn@samsclub.com

**I affirm that the information submitted is accurate.**

Owner(s) signature and date:

  
1/6/21

Information compiled by:

Carlson Consulting Engineers, Inc.

\_\_\_\_\_



# SITE DEVELOPMENT PLANS

## SAM'S FUELING STATION #4982-211

### 4850 ENCORE DRIVE

### MT PLEASANT (UNION TOWNSHIP), MI 48858

### DATE: SEPTEMBER 20, 2022

#### INDEX OF SHEETS

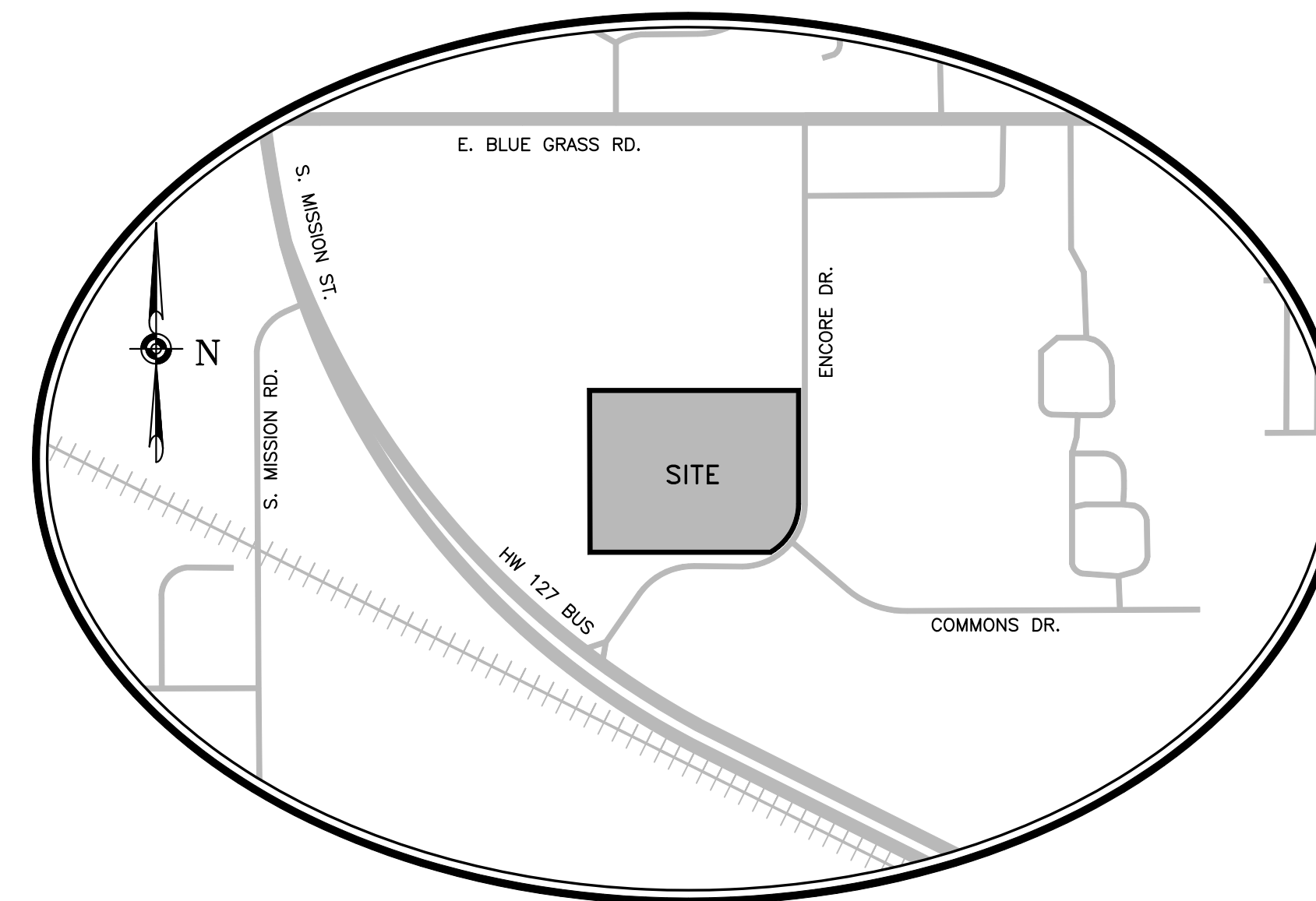
SHEET 1	TITLE SHEET
SHEET 2	TOPOGRAPHICAL SURVEY
SHEET 3	OVERALL SITE PLAN
SHEET 4	SWPPP NOTES
SHEET 5	SWPPP IMPLEMENTATION SEQUENCE AND LIMITS OF WORK
SHEET 6	PHASE I EROSION AND SEDIMENTATION CONTROL PLAN
SHEET 7	PHASE II EROSION AND SEDIMENTATION CONTROL PLAN
SHEETS 8-12	SWPPP DETAILS
SHEET 13	DEMOLITION AND TRAFFIC CONTROL PLAN
SHEET 14	SITE PLAN
SHEET 15	GRADING PLAN
SHEET 16	UTILITY PLAN
SHEET 17	PHOTOMETRICS PLAN
SHEET 18	SEWER AND WATER SERVICE LINES PLAN AND PROFILE
SHEET 19	PLANTING PLAN
SHEET 20	PLANTING DETAILS
SHEET 21	IRRIGATION PLAN
SHEETS 22-23	IRRIGATION DETAILS
SHEETS 24-27	DETAILS

**PERMITTING INFORMATION**

APPLICANT: CARLSON CONSULTING ENGINEERS, INC.  
7068 LEDGESTONE COMMONS  
BARTLETT, TN 38133  
CONTACT: KEITH MOORE  
PHONE: (901) 384-0404

PROPERTY OWNER: SAM'S REAL ESTATE BUSINESS TRUST  
2101 SE SIMPLE SAVINGS DRIVE  
BENTONVILLE, AR 72716  
CONTACT: TERESA SMITH  
PHONE: (479) 387-0543

PROPOSED USE:  
THE PROPOSED PROJECT ENTAILS THE CONSTRUCTION OF A SAM'S CLUB FUELING STATION TO BE LOCATED IN THE SOUTHEAST CORNER OF THE EXISTING SAM'S CLUB DEVELOPMENT LOCATED AT 4850 ENCORE DRIVE. THE PROPOSED FUELING STATION WILL INCLUDE AN APPROXIMATE 192 SF SERVICE BUILDING AND 16 FUELING POSITIONS. IT IS ANTICIPATED THAT THE FUELING STATION WILL EMPLOY THREE TO FOUR FULL TIME EMPLOYEES.



VICINITY MAP  
NTS

DEVELOPED BY:



SAM'S REAL ESTATE BUSINESS TRUST  
2101 SE SIMPLE SAVINGS DRIVE  
BENTONVILLE, AR 72716  
(479) 273-4000

ENGINEER:



THE SITEWORK FOR THE SAM'S CLUB PORTION OF THIS PROJECT SHALL MEET OR EXCEED THE "SITE SPECIFIC SPECIFICATIONS."

ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO CONTRACT COMPLETION AND THE FINAL CONNECTION OF SERVICES.

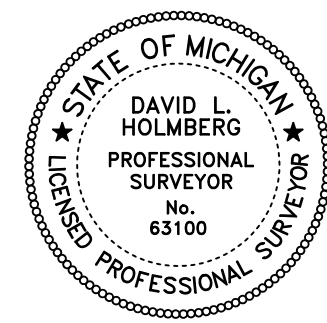
CONTRACTOR SHALL CONTACT 811 FOR LOCATION OF ALL UTILITIES, AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION.

**PROJECT CLOSEOUT REQUIREMENTS**

CONTRACTOR'S SCOPE SHALL INCLUDE PREPARING/PROVIDING ALL AHJ REQUIRED PROJECT CLOSEOUT DOCUMENTATION SUCH AS AS-BUILT SURVEYS, FINAL TESTING REPORTS, INSPECTION LOGS, ETC. ALL ITEMS SHALL BE PREPARED IN ACCORDANCE WITH APPLICABLE AHJ REQUIREMENTS. BY SUBMITTING A BASE BID, CONTRACTOR ACKNOWLEDGES THAT ADEQUATE FUNDS HAVE BEEN INCLUDED TO ADDRESS THIS REQUIREMENT.

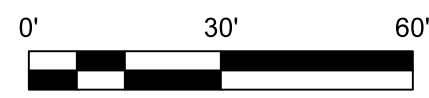
**CONSTRUCTION PHASING NOTICE**

THE SAM'S CLUB WILL REMAIN OPERATIONAL THROUGHOUT THE DURATION OF THIS PROJECT. CONSTRUCTION SEQUENCING AND CLOSE COORDINATION WITH THE SAM'S CONSTRUCTION MANAGER AND SAM'S CLUB MANAGER ARE REQUIRED TO HELP MINIMIZE DISRUPTIONS TO THE SAM'S CLUB NORMAL OPERATIONS (INCLUDING DELIVERIES, TMA SERVICES, OUTDOOR SALES AND STORAGE, ETC.) AND THEIR CUSTOMERS AND ASSOCIATES. BY SUBMITTING A BID, THE CONTRACTOR ACKNOWLEDGES THAT HE/SHE HAS EXAMINED THE PROJECT TO THE DEGREE NECESSARY TO PROVIDE A LUMP SUM PRICE FOR THE WORK AND THAT HE/SHE HAS INCLUDED NECESSARY FUNDS FOR ANY ADDITIONAL TEMPORARY PROTECTION, TRAFFIC CONTROL, LOW IMPACT CONSTRUCTION EQUIPMENT, AND/OR WORK REQUIRED DURING NON-PEAK BUSINESS HOURS THAT MAY BE REQUIRED TO MINIMIZE DISRUPTIONS AND/OR INCONVENIENCE TO THE SAM'S CLUB OPERATIONS AND ITS CUSTOMERS AND ASSOCIATES.



# LEGEND

- PAVEMENT MARKING
- STORM MANHOLE
- MONITORING WELL
- SANITARY MANHOLE
- HYDRANT
- WATER VALVE
- SIGN
- LIGHT POLE
- BOLLARD
- HYDRANT
- CATCH BASIN
- POWER POLE
- GUY ANCHOR
- FND PIPE
- SET 1/2" IRON 63100
- FND IRON
- RECORDED
- PLAT
- CONIFER TREE
- DECIDUOUS TREE



## VERTICAL DATUM

(NAVD 88) NORTH AMERICAN VERTICAL DATUM OF 1988

NOTES:  
A CERTIFIED BOUNDARY SURVEY WAS COMPLETED BY HOLMBERG LAND SURVEYING, LLC ON 10/7/2019 JOB #088-19\_B. SAID BOUNDARY HAS BEEN OVERLAID ONTO THIS TOPOGRAPHICAL SURVEY.

THE EASEMENTS SHOWN ARE BASED ON THE TITLE WORK SUPPLIED, THE SURVEYOR MAKES NO GUARANTEES THAT THE EASEMENTS SHOWN HEREON COMPRISE OF ALL EASEMENTS IN THE AREA.

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN-SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

- EXISTING SANITARY PIPE
- EXISTING POWER
- BARRIED CABLE
- EXISTING STORM PIPE

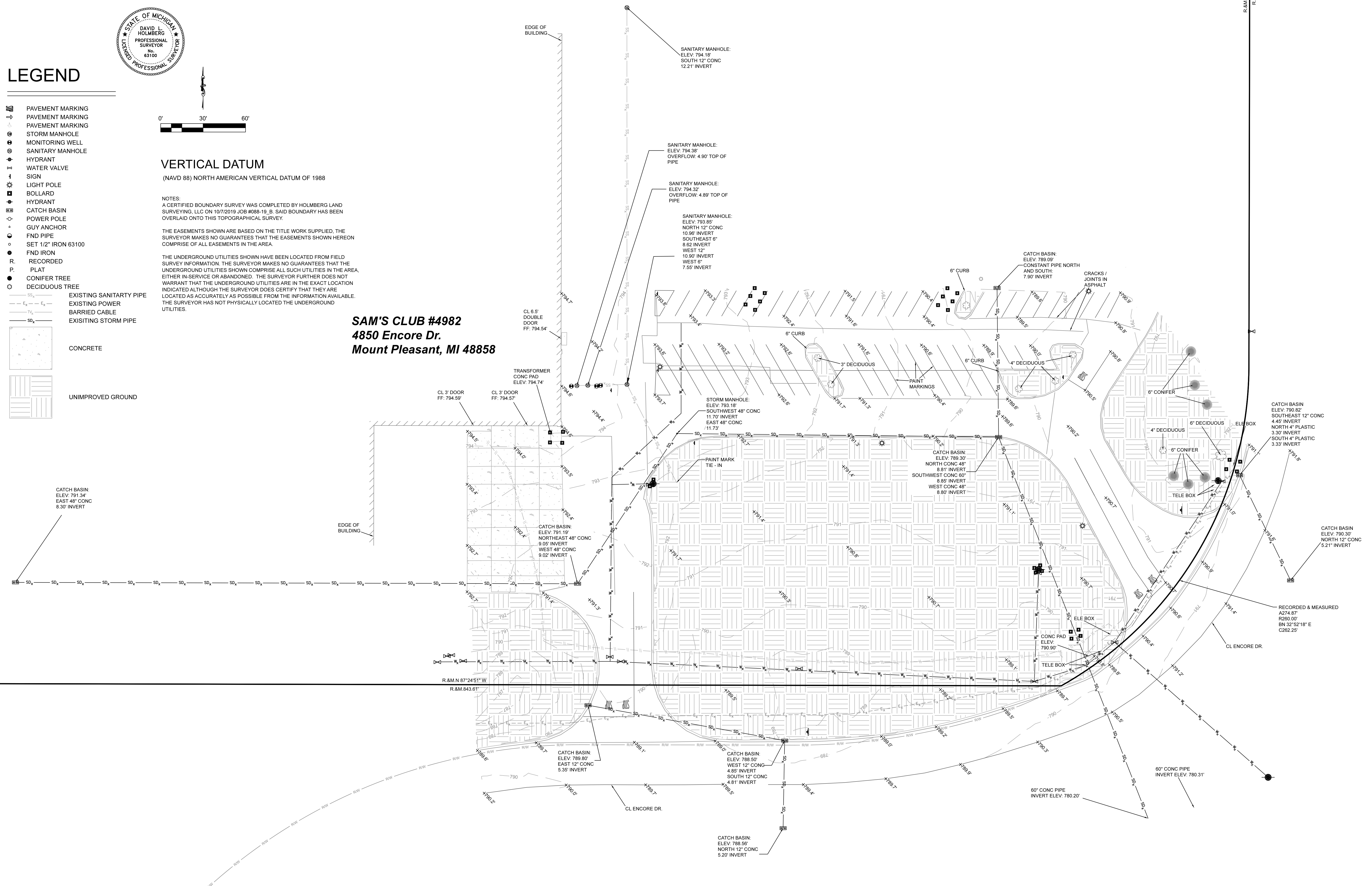


CONCRETE



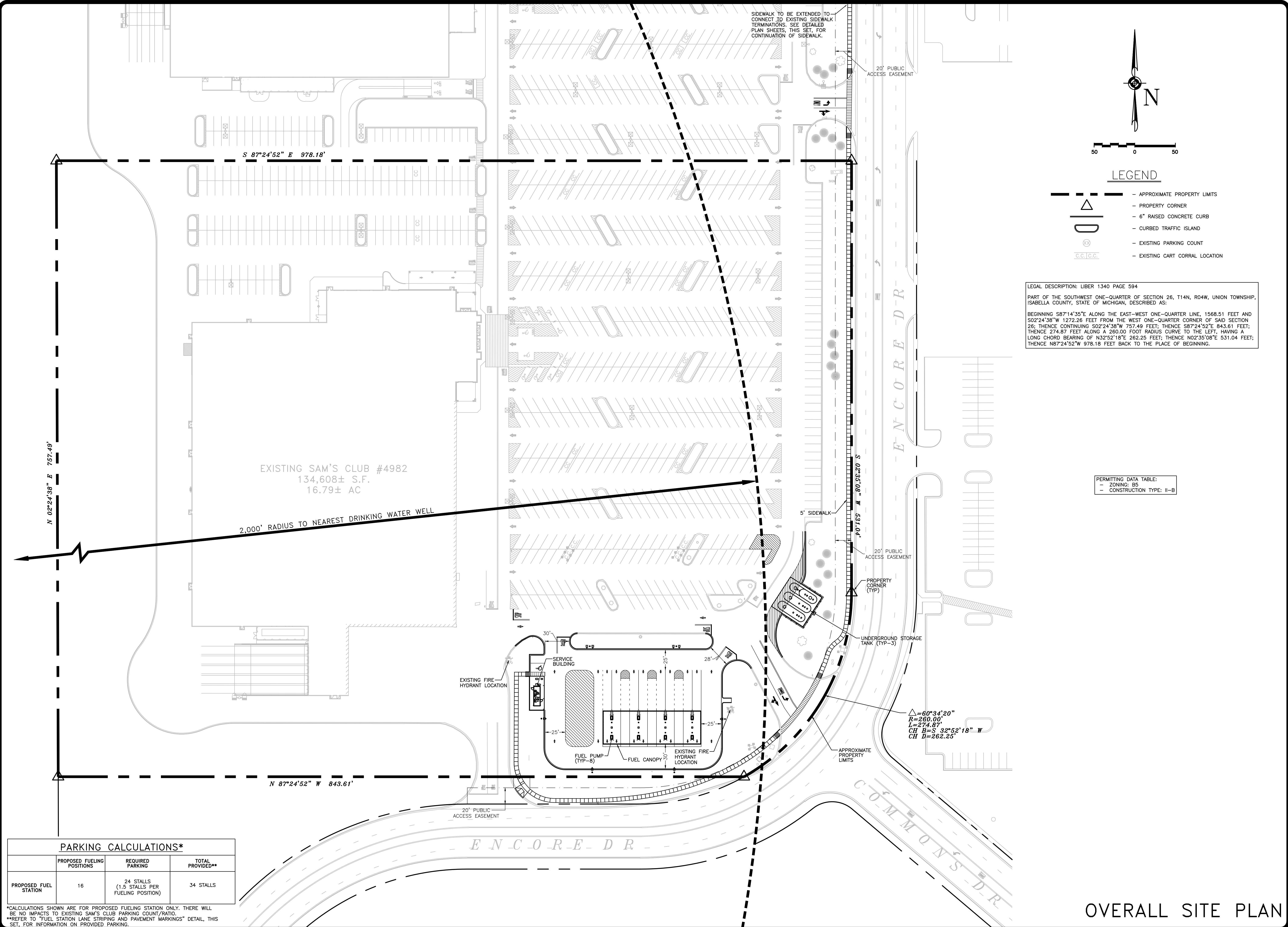
UNIMPROVED GROUND

**SAM'S CLUB #4982**  
**4850 Encore Dr.**  
**Mount Pleasant, MI 48858**

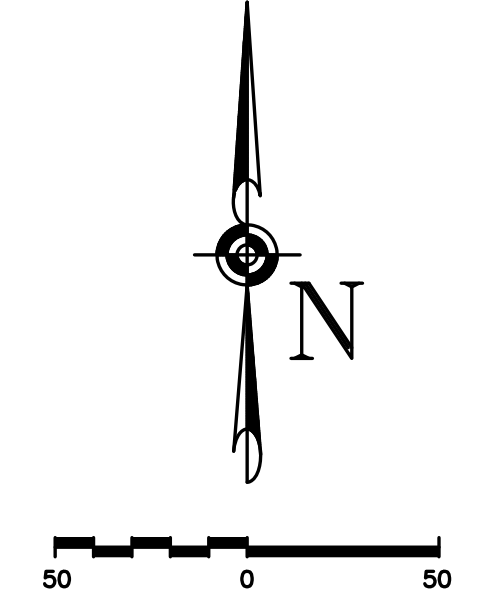


2019 HOLMBERG LAND SURVEYING, LLC  
 DRAWN BY: DLH  
 SCALE: 30'  
 JOB NUMBER: 088-19\_A  
 DATE: 10/8/2019  
 SHEET # 1 OF 1  
 Carlson Consulting Engineers  
 7066 Ledgestone Commons  
 Bartlett, TN 38133  
 Topographical Survey  
 LEGEND:  
 R = RECORDED  
 M = MEASURED  
 C = CALCULATED  
 B = SET 1/2" IRON BAR  
 X = CHISELED "X"  
 S = SET NAIL/SPIKE  
 HOLMBERG LAND SURVEYING, LLC  
 19157 Fowler Rd  
 Lake Ann, Michigan 49650  
 231-371-4785  
 I, David L. Holmberg, a duly Licensed Professional Surveyor of Michigan, have surveyed and mapped the land described above.





SIDEWALK TO BE EXTENDED TO CONNECT TO EXISTING SIDEWALK TERMINATIONS. SEE DETAILED PLAN SHEETS, THIS SET, FOR CONTINUATION OF SIDEWALK.



**LEGEND**

- - - - - APPROXIMATE PROPERTY LIMITS
- - - - - PROPERTY CORNER
- - - - - 6" RAISED CONCRETE CURB
- - - - - CURBED TRAFFIC ISLAND
- - - - - EXISTING PARKING COUNT
- - - - - EXISTING CART CORRAL LOCATION

LEGAL DESCRIPTION: LIBER 1340 PAGE 594  
 PART OF THE SOUTHWEST ONE-QUARTER OF SECTION 26, T14N, R04W, UNION TOWNSHIP, ISABELLA COUNTY, STATE OF MICHIGAN, DESCRIBED AS:  
 BEGINNING S87°14'35"E ALONG THE EAST-WEST ONE-QUARTER LINE, 1568.51 FEET AND S02°24'38"W 1272.26 FEET FROM THE WEST ONE-QUARTER CORNER OF SAID SECTION 26; THENCE CONTINUING S02°24'38"W 757.49 FEET, THENCE S87°24'52"E 843.61 FEET, THENCE 274.87 FEET ALONG A 260.00 FOOT RADIUS CURVE TO THE LEFT, HAVING A LONG CHORD BEARING OF N32°52'18"E 262.25 FEET; THENCE N02°35'08"E 531.04 FEET; THENCE N87°24'52"W 978.18 FEET BACK TO THE PLACE OF BEGINNING.

PERMITTING DATA TABLE:  
 - ZONING: B5  
 - CONSTRUCTION TYPE: II-B

$\Delta = 60^{\circ}34'20''$   
 $R = 260.00'$   
 $L = 274.87'$   
 $CH = S 32^{\circ}52'18'' W$   
 $CH D = 262.25'$

EXISTING SAM'S CLUB #4982  
 134,608± S.F.  
 16.79± AC

2,000' RADIUS TO NEAREST DRINKING WATER WELL

N 02°24'38" E 757.49'

S 87°24'52" E 978.18'

N 87°24'52" W 843.61'

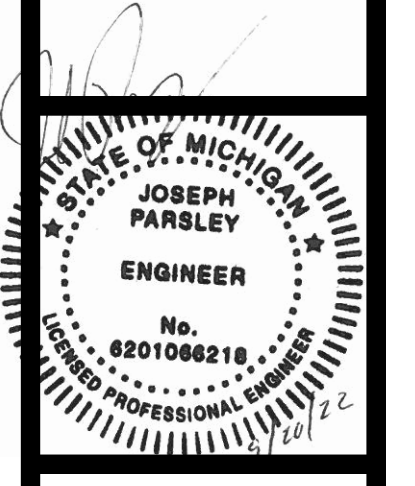
**PARKING CALCULATIONS\***

	PROPOSED FUELING POSITIONS	REQUIRED PARKING	TOTAL PROVIDED**
PROPOSED FUEL STATION	16	24 STALLS (1.5 STALLS PER FUELING POSITION)	34 STALLS

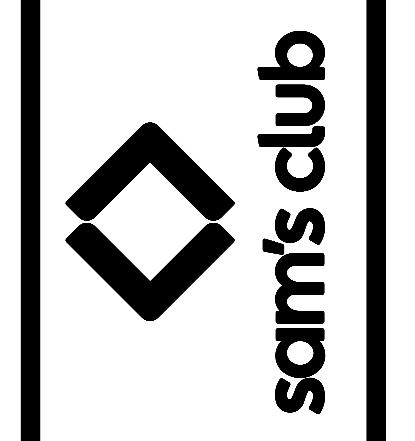
\*CALCULATIONS SHOWN ARE FOR PROPOSED FUELING STATION ONLY. THERE WILL BE NO IMPACTS TO EXISTING SAM'S CLUB PARKING COUNT/RATIO.  
 \*\*REFER TO "FUEL STATION LANE STRIPING AND PAVEMENT MARKINGS" DETAIL, THIS SET, FOR INFORMATION ON PROVIDED PARKING.

REVISIONS	BY

**CARLSON CONSULTING ENGINEERS, INC.**  
 7088 LEDSTONE COMMONS  
 PH. (801) 384-0404 • FX. (801) 384-0710



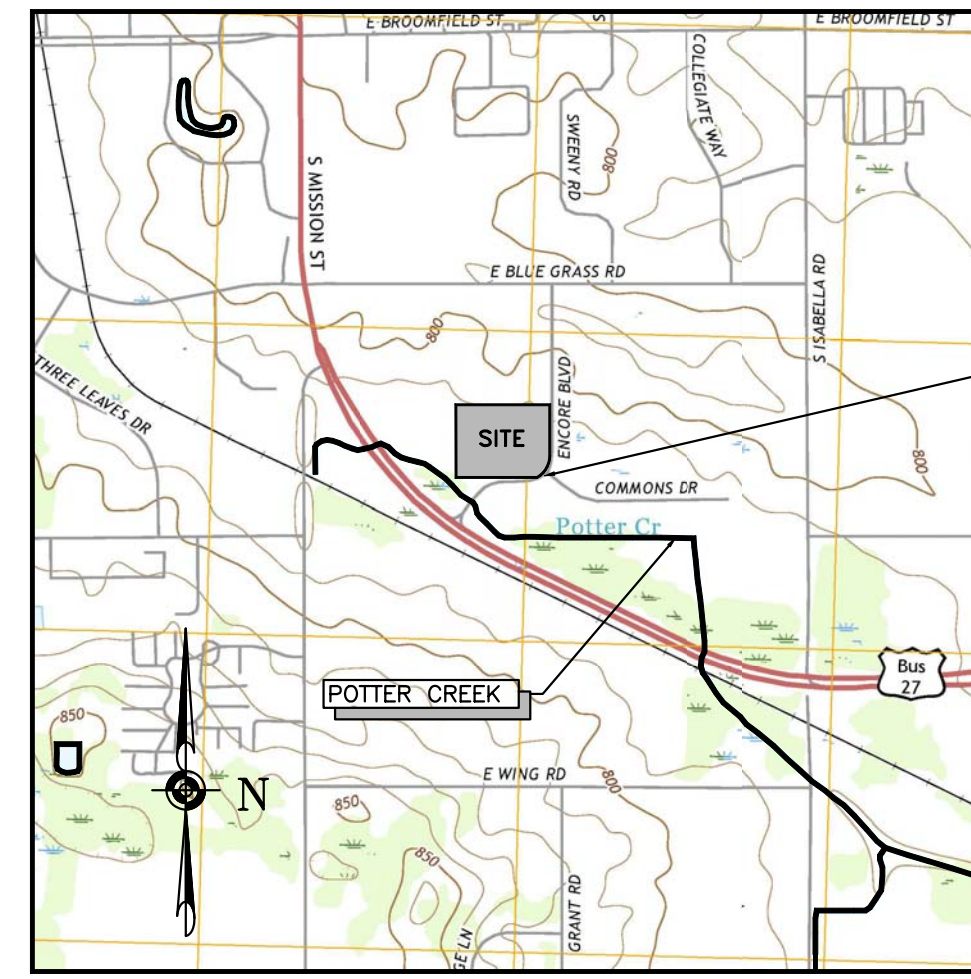
SAM'S CLUB #4982-211  
 MT PLEASANT (UNION TOWNSHIP), MICHIGAN  
 SAM'S REAL ESTATE BUSINESS TRUST  
 2101 SE SIMPLE SAVINGS DRIVE  
 BENTONVILLE, AR 72716



DRAWN	AAS
CHECKED	BKM
DATE	09/20/2022
SCALE	1"=50'
JOB No.	4982-211
SHEET	3 OF 27 SHEETS

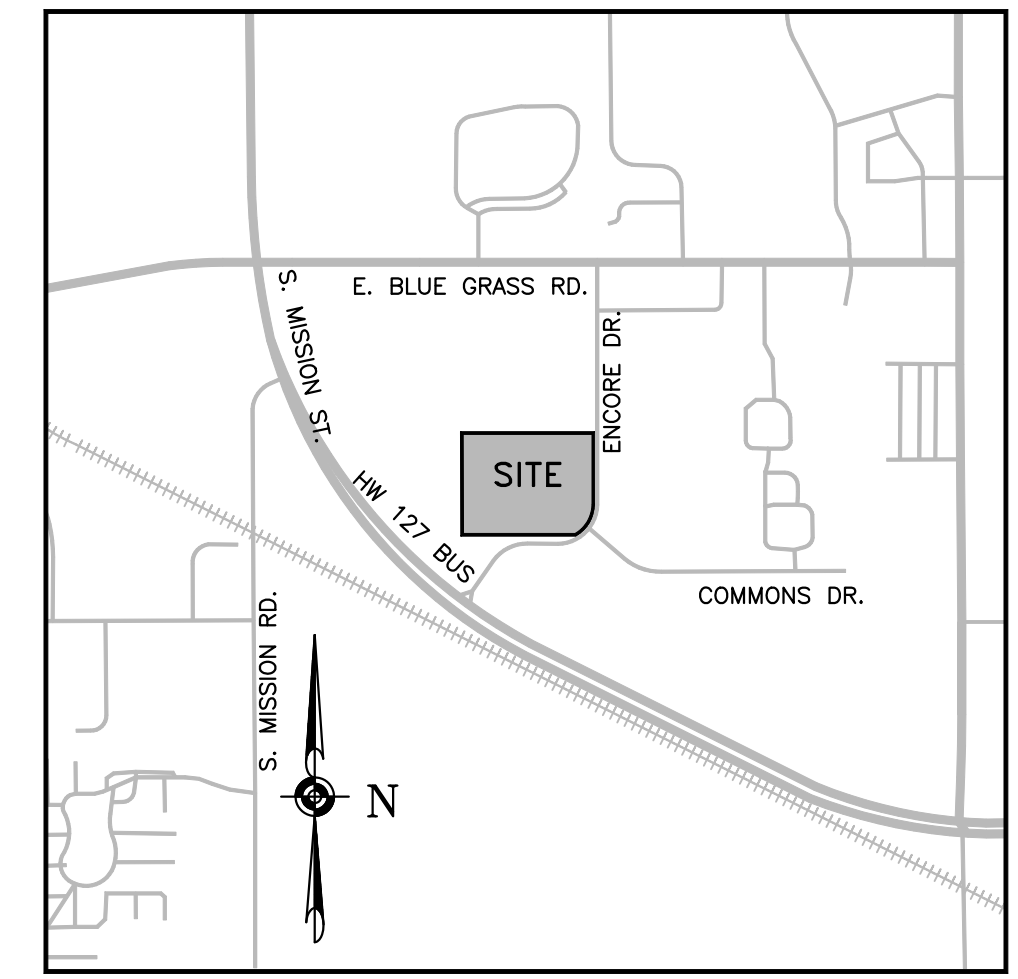
**OVERALL SITE PLAN**

REVISIONS	BY



USGS QUADRANGLE MAP  
SCALE: 1"=2,000'

**STORMWATER OUTFLOWS I & II**  
STORMWATER FROM THE SITE DRAINS INTO A REGIONAL DETENTION SYSTEM LOCATED SOUTHEAST OF THE SITE. THIS SYSTEM DISCHARGES INTO POTTER CREEK, THE ULTIMATE RECEIVING WATERS. POTTER CREEK IS LOCATED APPROXIMATELY 650 FEET SOUTH OF THE SITE.



VICINITY MAP  
SCALE: NTS

**GENERAL NOTES**

- A. **PROJECT OFFICE WALL SWPPP POSTINGS:**  
THE FOLLOWING ITEMS MUST BE POSTED TOGETHER IN A SINGLE, ORGANIZED LOCATION ON A WALL INSIDE THE PROJECT OFFICE: 1) SWPPP SITE MAPS (ALL PHASES); 2) SWPPP DETAIL SHEETS; 3) MAP SHOWING LOCATION OF OFFSITE IMPORT OR EXPORT FACILITY; 4) REVISIONS TO DETAILS, SITE MAPS, OR SWPPP-RELATED RIS; 5) SITE SWPPP BINDER; 6) SWCT PLACARD; 7) CURRENT OWNER STORMWATER COMPLIANCE TRAINING CERTIFICATES FOR SUPERINTENDENT(S) AND COMPLIANCE OFFICER(S); AND 8) CERTIFICATIONS AND/OR TRAINING CERTIFICATES REQUIRED TO PERFORM INSPECTIONS BY THE APPLICABLE CONSTRUCTION GENERAL PERMIT OR AUTHORITY HAVING JURISDICTION.
- B. **PERMITTED PROJECT AREA:**  
FOR PURPOSES OF THIS SWPPP AND ASSOCIATED STORMWATER PERMIT, "PERMITTED PROJECT AREA" IS DEFINED AS ANY AND ALL AREAS WITHIN THE PROJECT LIMITS OF DISTURBANCE, AS SHOWN ON THE SWPPP SITE MAPS AND IDENTIFIED IN THE NOTICE OF INTENT TO THE AGENCY. ALL GROUND-DISTURBING AND CONSTRUCTION-RELATED ACTIVITIES (MATERIAL STORAGE, DUMPSTERS, PARKING AREAS, PROJECT OFFICE TRAILER, ETC.) MUST BE INCLUDED WITHIN THE PERMITTED PROJECT AREA LIMITS OF DISTURBANCE.  
  
OFFSITE AREA(S) TO BE DISTURBED AS PART OF THIS PROJECT (NOT ON OWNER PROPERTY):  
  
WORK, CONTAINED WITHIN THE PERMITTED LIMITS OF DISTURBANCE, WHICH EXTENDS BEYOND THE OWNER'S PROPERTY BOUNDARY INCLUDES UTILITY CONNECTIONS AND OFF SITE GRADING.  
  
ALL AREAS OUTSIDE THE PERMITTED PROJECT AREA (I.E., LIMITS OF DISTURBANCE) ACQUIRED FOR USE BY THE GC OR A SUBCONTRACTOR OF THE GC (BORROW SOURCES, DISPOSAL AREAS, ETC.) MUST BE MANAGED IN ACCORDANCE WITH APPENDIX E - TAB 21 OF THE 02370 SPECIFICATION. THE CONTRACTOR IS REQUIRED TO LOCATE OFFICE TRAILERS AND MATERIAL STORAGE AREAS FOR THE PROJECT WITHIN THE LIMITS OF DISTURBANCE. THE CONTRACTOR MAY REQUEST USE OF OFF-SITE LOCATIONS FOR OFFICE TRAILERS OR NON-ERODIBLE MATERIAL STORAGE; HOWEVER, APPROVAL MUST BE OBTAINED FROM THE CONSTRUCTION MANAGER, THE CEC AND THE WAL-MART SWCT PRIOR TO THEIR USE. REQUESTS WILL BE REVIEWED ON A CASE BY CASE BASIS AND IF APPROVED, LIMITATIONS ON USE WILL BE PROVIDED BY THE CEC.
- C. **SPECIAL PROJECT AREAS:**  
THERE ARE NO SPECIAL PROJECTS, LOCATED BEYOND THE OWNER PERMITTED PROJECT AREA, REQUIRING INSPECTION AND MAINTENANCE ASSOCIATED WITH THIS CONSTRUCTION PROJECT.
- D.1 **NON-STORMWATER DISCHARGES:**  
THE GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES PROHIBITS MOST NON-STORMWATER DISCHARGES DURING THE CONSTRUCTION PHASE. ALLOWABLE NON-STORMWATER DISCHARGES THAT OCCUR DURING CONSTRUCTION ON THIS PROJECT, ARE INCLUDED IN RULE 2161A OF THE PERMIT BY RULE.  
  
BEST MANAGEMENT PRACTICES (BMPs) MUST BE IMPLEMENTED FOR THE GENERAL PERMIT ALLOWABLE DISCHARGES FOR THE DURATION OF THE PERMIT. THE TECHNIQUES DESCRIBED IN THIS SWPPP FOCUS ON PROVIDING CONTROL OF POLLUTANT DISCHARGES WITH PRACTICAL APPROACHES THAT UTILIZE READILY AVAILABLE EXPERTISE, MATERIAL, AND EQUIPMENT.  
  
NON-STORMWATER COMPONENTS OF SITE DISCHARGES MUST BE UNCONTAMINATED NON-TURBID WATER. ALL NON-STORMWATER DISCHARGES MUST BE ROUTED TO A STORMWATER CONTROL PRIOR TO DISCHARGE. WATER USED FOR CONSTRUCTION WHICH DISCHARGES FROM THE SITE MUST ORIGINATE FROM A PUBLIC WATER SUPPLY OR PRIVATE WELL APPROVED BY THE STATE HEALTH DEPARTMENT. WATER USED FOR CONSTRUCTION THAT DOES NOT ORIGINATE FROM AN APPROVED PUBLIC SUPPLY MUST NOT DISCHARGE FROM THE SITE; IT CAN BE RETAINED IN RETENTION PONDS UNTIL IT INFILTRATES OR EVAPORATES. WHEN NON-STORMWATER IS DISCHARGED FROM THE SITE, IT MUST BE DONE IN A MANNER SUCH THAT IT DOES NOT CAUSE EROSION OF THE SOIL DURING DISCHARGE.
- D.2 **POWER WASHING:**  
PROCESS WATER SUCH AS POWER WASHING WATER AND CONCRETE CUTTING EFFLUENT, AMONG OTHERS, MUST BE COLLECTED FOR TREATMENT AND DISPOSAL. IT MUST NOT BE FLUSHED INTO THE SITE STORM DRAIN SYSTEM OR DISCHARGED OFF-SITE.
- E. **DISCHARGE POINTS:**  
ALL DISCHARGE POINTS MUST BE INSPECTED TO DETERMINE WHETHER EROSION AND SEDIMENTATION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING DISCHARGE OF SEDIMENT FROM THE SITE AND/OR IMPACTS TO RECEIVING WATERS. SEDIMENT ACCUMULATION DOWNGRADIENT OF DISCHARGE LOCATIONS SHALL BE REPORTED AS A SEDIMENT DISCHARGE (SEE APPENDIX E - TAB 14, SEDIMENT RELEASES, OF THE 02370 SPECIFICATION) AND THE POTENTIAL UPSTREAM CAUSE SHALL BE INVESTIGATED TO PREVENT FUTURE OCCURRENCE. CONTACT THE CM, CEC AND SWCT TO DETERMINE APPROPRIATE ACTION FOR CLEANUP OF DISCHARGED SEDIMENT THAT MAY BE OUTSIDE OF THE LIMITS OF DISTURBANCE. SEE SAMPLING AND MONITORING OF EFFLUENT PLAN (IF APPLICABLE).

**EROSION AND SEDIMENT CONTROL NOTES**

- A. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THIS STORM WATER POLLUTION PREVENTION PLAN. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
- B. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.
- C. SITE MAP MUST CLEARLY DELINEATE ALL STATE WATERS. PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS MUST BE MAINTAINED ON SITE AT ALL TIMES.
- D. CONTRACTOR TO LIMIT DISTURBANCE OF SITE IN STRICT ACCORDANCE WITH SWPPP IMPLEMENTATION SEQUENCE, OR AS REQUIRED BY THE APPLICABLE GENERAL PERMIT. NO UNNECESSARY OR IMPROPERLY SEQUENCED CLEARING AND/OR GRADING SHALL BE PERMITTED.
- E. ALL DENUDED/BARE AREAS THAT WILL BE INACTIVE FOR 14 DAYS OR MORE, MUST BE STABILIZED IMMEDIATELY UPON COMPLETION OF MOST RECENT GRADING ACTIVITY, WITH THE USE OF FAST-GERMINATING ANNUAL GRASS/GRAIN VARIETIES, STRAW/HAY MULCH, WOOD CELLULOSE FIBERS, TACKIFIERS, NETTING AND/OR BLANKETS. COMPLETION MUST BE ACHIEVED WITHIN 14 DAYS.
- F. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY STABILIZED AS SHOWN ON THE PLANS. THESE AREAS SHALL BE SEED, SOODED, AND/OR VEGETATED IMMEDIATELY, AND COMPLETED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND/OR PLANTING PLAN.
- G. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION. TEMPORARY AND/OR PERMANENT STABILIZATION SHALL BE APPLIED PER REQUIREMENTS IN THESE E&S CONTROL NOTES.
- H. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION AND SEDIMENT CONTROL MEASURES (SILT FENCES, ETC.) TO PREVENT EROSION AND POLLUTANT DISCHARGE OFF-SITE.
- I. ALL MEASURES STATED ON THIS SITE MAP, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON IN ACCORDANCE WITH THE CONTRACT DOCUMENTS OR THE APPLICABLE PERMIT, WHICHEVER IS MORE STRINGENT, AND REPAIRED IN ACCORDANCE WITH THE SITE PLANS.
- J. STORM WATER POLLUTANT CONTROL MEASURES INSTALLED DURING CONSTRUCTION, THAT WILL ALSO PROVIDE STORM WATER MANAGEMENT AFTER CONSTRUCTION, ARE INCLUDED IN THE CONTRACT DOCUMENTS. THE SITE-SPECIFIC POST CONSTRUCTION STORM WATER OPERATION AND MAINTENANCE (O&M) MANUAL IS INCLUDED IN THE CONTRACT DOCUMENTS.
- K. ALL PERMANENT CONTROLS AND SYSTEMS MUST BE INSTALLED AND FUNCTIONING AS DESIGNED AND FREE OF ACCUMULATED SEDIMENT AND DEBRIS DURING FINAL PROJECT INSPECTION AND APPROVAL.

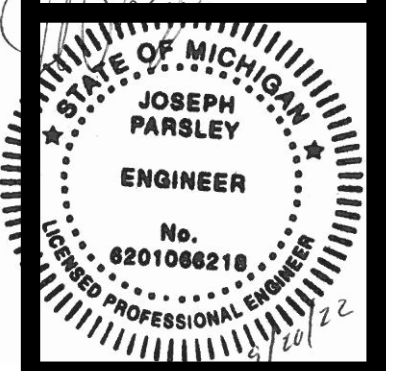
**HAZARDOUS MATERIAL MANAGEMENT & SPILL REPORTING**

- ANY HAZARDOUS OR POTENTIALLY HAZARDOUS MATERIAL THAT IS BROUGHT ONTO THE CONSTRUCTION SITE SHALL BE HANDLED PROPERLY TO REDUCE THE POTENTIAL FOR STORMWATER POLLUTION. ALL MATERIALS USED ON THIS CONSTRUCTION SITE SHALL BE PROPERLY STORED, HANDLED, DISPENSED AND DISPOSED OF FOLLOWING ALL APPLICABLE LABEL DIRECTIONS. FLAMMABLE AND COMBUSTIBLE LIQUIDS SHALL BE STORED AND HANDLED ACCORDING TO APPLICABLE REGULATIONS, AND, AT A MINIMUM, ACCORDING TO 29 CFR 1926.152. ONLY APPROVED CONTAINERS AND PORTABLE TANKS SHALL BE USED FOR STORAGE AND HANDLING OF FLAMMABLE AND COMBUSTIBLE LIQUIDS.
- MATERIAL SAFETY DATA SHEETS (MSDS) INFORMATION SHALL BE KEPT ON SITE FOR ANY AND ALL APPLICABLE MATERIALS. HOWEVER, MSDS MAY ALSO BE ACCESSED VIA TELEPHONE OR OTHER ELECTRONIC MEANS OR APPARATUS.
- IN THE EVENT OF AN ACCIDENTAL SPILL, IMMEDIATE ACTION SHALL BE TAKEN BY THE GC TO CONTAIN AND REMOVE THE SPILLED MATERIAL. THE SPILL SHALL BE REPORTED TO THE APPROPRIATE AGENCIES IN THE REQUIRED TIME FRAMES, AS REQUIRED UNDER THE PROVISIONS OF THE CLEAN WATER ACT. ANY SPILL OR DISCHARGE ENTERING WATERS OF THE UNITED STATES SHALL BE PROPERLY REPORTED.
- ALL HAZARDOUS MATERIALS, INCLUDING CONTAMINATED SOIL AND LIQUID CONCRETE WASTE, SHALL BE DISPOSED OF BY THE CONTRACTOR IN THE MANNER SPECIFIED BY FEDERAL, STATE AND LOCAL REGULATIONS AND BY THE MANUFACTURER OF SUCH PRODUCTS.
- THE GC SHALL PREPARE A WRITTEN RECORD OF ANY SPILL AND ASSOCIATED CLEAN-UP ACTIVITIES OF PETROLEUM PRODUCTS OR HAZARDOUS MATERIALS IN EXCESS OF 1 GALLON OR REPORTABLE QUANTITIES, WHICHEVER IS LESS, ON THE DAY OF THE SPILL. THE GC SHALL PROVIDE NOTICE TO OWNER VIA THE ONLINE CRITICAL INCIDENT REPORT, IMMEDIATELY UPON IDENTIFICATION OF ANY SPILL. SPILL REPORT FORMS ARE AVAILABLE IN THE ONLINE SWPPP REPORTING SYSTEM PROVIDED BY THE OWNER. COPIES OF SPILL CRITICAL INCIDENT REPORTS SHALL BE PRINTED AND MAINTAINED IN THE JOBSITE BINDER.
- ANY SPILLS OF PETROLEUM PRODUCTS OR HAZARDOUS MATERIALS IN EXCESS OF REPORTABLE QUANTITIES AS DEFINED BY EPA OR THE STATE OR LOCAL AGENCY REGULATIONS, SHALL BE IMMEDIATELY REPORTED TO THE EPA NATIONAL RESPONSE CENTER (1-800-424-8802) AND THE MICHIGAN EGLE POLLUTION EMERGENCY ALERTING SYSTEM (1-800-292-4706)
- THE STATE REPORTABLE QUANTITY FOR PETROLEUM PRODUCTS IS: DISCHARGES THAT VIOLATE WATER QUALITY STANDARDS, OR CAUSE A FILM OR SHEEN UPON OR DISCOLORATION OF THE SURFACE OF THE WATER OR ADJOINING SHORELINES, OR CAUSE A SLUDGE OR EMULSION TO BE DEPOSITED BENEATH THE SURFACE OF THE WATER OR UPON ADJOINING SHORELINES.
- THE REPORTABLE QUANTITY FOR HAZARDOUS MATERIALS CAN BE FOUND IN 40 CFR 302, <https://www.epa.gov/epcra/consolidated-list-lists-under-epcraclacqa-s1127-june-2019-version>
- TO MINIMIZE THE POTENTIAL FOR A SPILL OF PETROLEUM PRODUCT OR HAZARDOUS MATERIALS TO COME IN CONTACT WITH STORMWATER, THE FOLLOWING STEPS SHALL BE IMPLEMENTED:
- 1) ALL MATERIALS WITH HAZARDOUS PROPERTIES, SUCH AS PESTICIDES, PETROLEUM PRODUCTS, FERTILIZERS, SOAPS, DETERGENTS, CONSTRUCTION CHEMICALS, ACIDS, BASES, PAINTS, PAINT SOLVENTS, ADDITIVES FOR SOIL STABILIZATION, CONCRETE, CURING COMPOUNDS AND ADDITIVES, ETC., SHALL BE STORED IN A SECURE LOCATION, UNDER COVER AND IN APPROPRIATE, TIGHTLY SEALED CONTAINERS WHEN NOT IN USE.
  - 2) THE MINIMUM PRACTICAL QUANTITY OF ALL SUCH MATERIALS SHALL BE KEPT ON THE JOB SITE AND SCHEDULED FOR DELIVERY AS CLOSE TO TIME OF USE AS PRACTICAL.
  - 3) A SPILL CONTROL AND CONTAINMENT KIT (CONTAINING FOR EXAMPLE, ABSORBENT MATERIAL SUCH AS KITTY LITTER OR SAWDUST, ACID, BASE, NEUTRALIZING AGENT, BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, PLASTIC AND METAL TRASH CONTAINERS, ETC.) SHALL BE PROVIDED AT THE CONSTRUCTION SITE AND ITS LOCATION(S) SHALL BE IDENTIFIED WITH LEGIBLE SIGNAGE AND SHOWN ON SITE MAPS.
    - a. THE SPILL CONTROL AND CONTAINMENT KIT SUPPLIES SHALL BE OF SUFFICIENT QUANTITIES AND APPROPRIATE CONTENT TO CONTAIN A SPILL FROM THE LARGEST ANTICIPATED PIECE OF EQUIPMENT AND FROM THE LARGEST ANTICIPATED QUANTITIES OF PRODUCTS STORED ON THE SITE AT ANY GIVEN TIME.
    - b. CONTENTS SHALL BE INSPECTED DAILY DURING THE DAILY STORMWATER INSPECTION.
  - 4) ALL PRODUCTS SHALL BE STORED IN AND USED FROM THE ORIGINAL CONTAINER WITH THE ORIGINAL PRODUCT LABEL. CONTAINERS MUST BE STORED IN A MANNER TO PROTECT THEM FROM THE ELEMENTS AND INCIDENTAL DAMAGE.
  - 5) ALL PRODUCTS SHALL BE USED IN STRICT COMPLIANCE WITH INSTRUCTIONS ON THE PRODUCT LABEL.
  - 6) THE DISPOSAL OF EXCESS OR USED PRODUCTS SHALL BE IN STRICT COMPLIANCE WITH INSTRUCTIONS ON THE PRODUCT LABEL AND REGULATIONS.

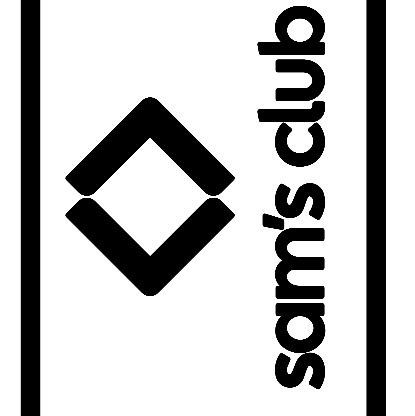
DEVELOPER/OWNER  
SAM'S REAL ESTATE BUSINESS TRUST  
MAIL STOP 0505  
702 S.W. 8TH STREET  
BENTONVILLE, AR 72716-0505  
(479) 360-4749  
SITE OPERATOR/GENERAL CONTRACTOR:  
  
SUPERINTENDENT:

IMPORTANT: GC MUST SIGN ALL SHEETS AND ANY NEW PLAN SHEETS ISSUED BY THE CEC.

CARLSON CONSULTING ENGINEERS, INC.  
7088 LEDGESTONE COMMONS  
PH. (801) 384-0000 • FX. (801) 384-0710

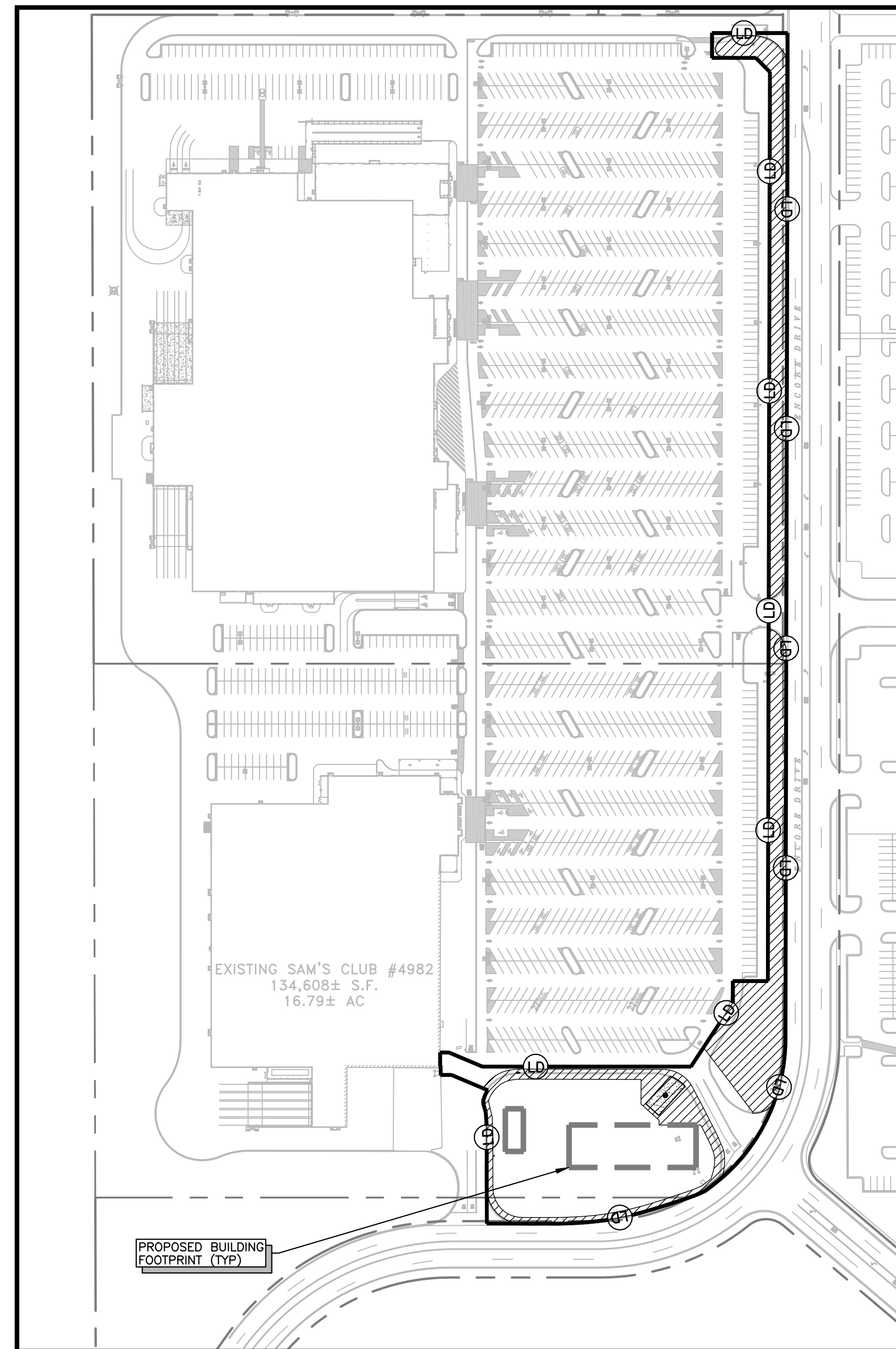


SAM'S CLUB #4982-211  
MT PLEASANT (UNION TOWNSHIP), MICHIGAN  
SAM'S REAL ESTATE BUSINESS TRUST  
2101 SE SIMPLE SAVINGS DRIVE  
BENTONVILLE, AR 72716



DRAWN	AAS
CHECKED	BKM
DATE	09/20/2022
SCALE	N.T.S.
JOB No.	4982-211
SHEET	4 OF 27 SHEETS

SW-1  
SWPPP NOTES



PHASE I LIMITS OF WORK  
N.T.S.

**SWPPP IMPLEMENTATION SEQUENCE**

NOTE: UPON IMPLEMENTATION AND INSTALLATION OF THE FOLLOWING AREAS: TRAILER, PARKING, LAY DOWN, PORTA-POTTY, WHEEL WASH, CONCRETE WASHOUT, MASON'S AREA, FUEL AND MATERIAL STORAGE AREAS/CONTAINERS, SOLID WASTE CONTAINERS, ETC., IMMEDIATELY DENOTE THEM ON THE SITE MAPS AND NOTE ANY CHANGES IN LOCATION AS THEY OCCUR THROUGHOUT THE CONSTRUCTION PROCESS. IN ADDITION, NOTE ALL AREAS WHERE FILL IS IMPORTED FROM OR SOIL IS EXPORTED TO ON THE SITE MAPS.

NOTE: DOWN SLOPE PROTECTIVE MEASURES MUST ALWAYS BE IN PLACE BEFORE SOIL IS DISTURBED. ACTIVITIES ARE PRESENTED IN THE ORDER OR SEQUENCE IN WHICH THEY ARE REQUIRED TO BE COMPLETED.

**PHASE I**

1. INSTALL THE SWPPP INFORMATION SIGN AND POST REQUIRED DOCUMENTS NEAR THE PLANNED CONSTRUCTION EXIT, AND WITHIN EASY ACCESS TO THE GENERAL PUBLIC WITHOUT ENTERING THE SITE.
2. STAKE/FLAG THE LOD (WHERE STAKING IS NOT POSSIBLE/PRACTICAL, THE LOD MUST BE CONSPICUOUSLY, AND PROMINENTLY, MARKED TO DENOTE THE BOUNDARY). LOD MUST REMAIN CONSPICUOUSLY MARKED THROUGHOUT THE ENTIRE CONSTRUCTION PROJECT.
3. INSTALL TRAFFIC CONTROL DEVICES AS SHOWN ON THE DEMOLITION AND TRAFFIC CONTROL PLAN.
4. INSTALL PERIMETER SEDIMENT CONTROL BMPs AND INLET PROTECTION DEVICES IN THE VICINITY OF, AND DOWN GRADIENT FROM, THE LOCATION OF THE PLANNED CONSTRUCTION EXIT, CONSTRUCTION OFFICE TRAILER, AND TEMPORARY PARKING AND STORAGE AREAS. CLEAR ONLY THE MINIMUM AREA ABSOLUTELY NECESSARY TO INSTALL THESE PERIMETER CONTROL BMPs AND INLET PROTECTION DEVICES.
5. INSTALL CONSTRUCTION EXIT WITH SEDIMENT TRAP, AND SET THE PROJECT OFFICE TRAILER.
6. INSTALL REMAINING PERIMETER SEDIMENT CONTROL BMPs, AS SHOWN ON THE SITE MAPS AND AS CONSTRUCTION PROGRESS DICTATES. CLEAR ONLY THE MINIMUM AREA NECESSARY TO INSTALL PERIMETER CONTROL BMPs. SILT FENCE 1 (SF1) SHALL BE INSTALLED PRIOR TO MOVING TO NEXT STEP.
7. PREPARE TEMPORARY PARKING AND STORAGE AREA.
8. HALT ALL ACTIVITIES.

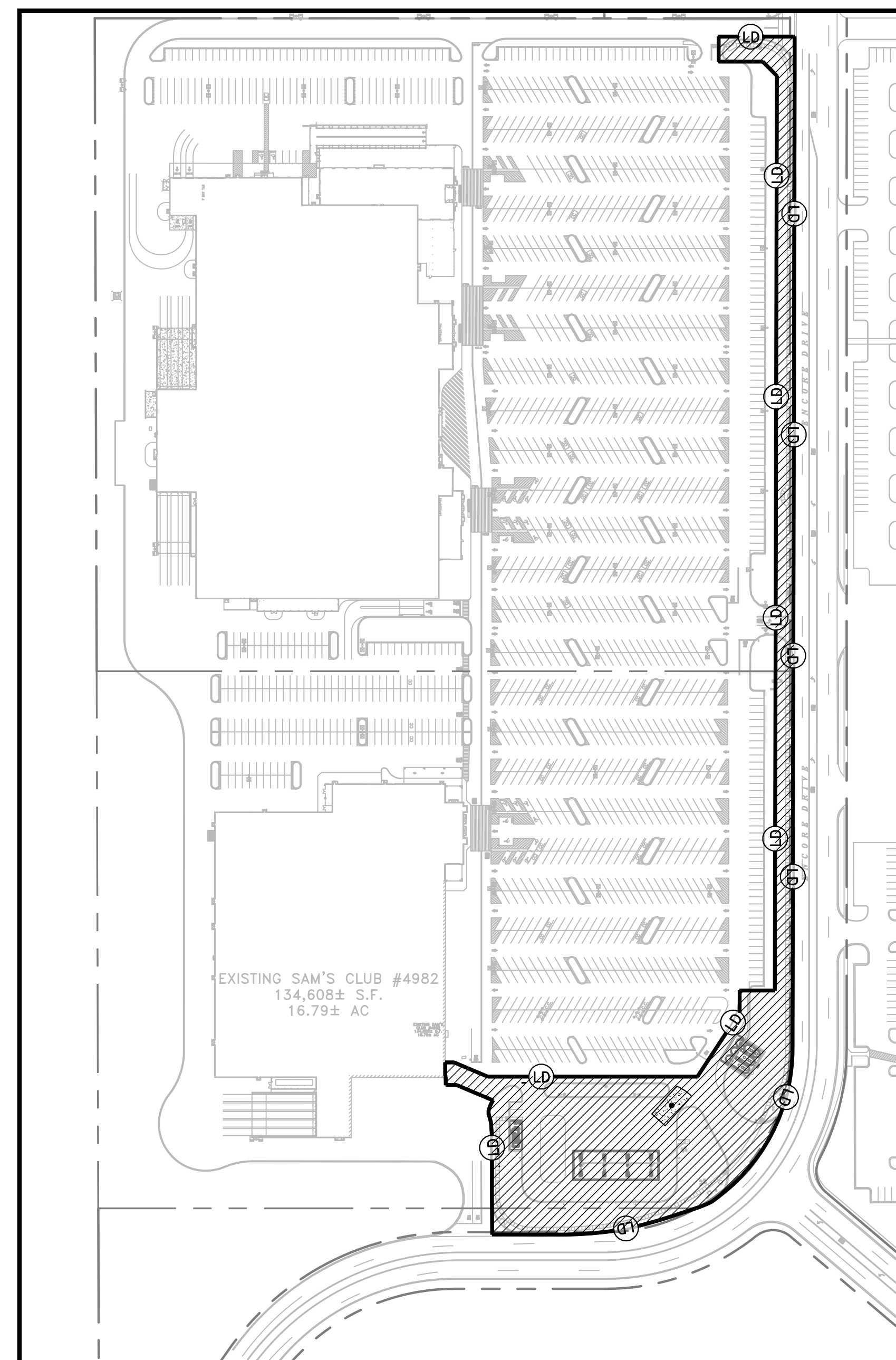
CONTACT THE CEC TO PERFORM INSPECTION AND CERTIFICATION OF BMPs. BMP CERTIFICATION MUST OCCUR BEFORE STORMWATER PRE-CONSTRUCTION MEETING. (THIS SHALL BE SCHEDULED IN ADVANCE IN ANTICIPATION OF THE EXPECTED DATE WHEN THE ABOVE SEQUENCE ITEMS WILL BE COMPLETED.)

ALL EXCEPTIONS NOTED ON THE BMP CERTIFICATION FORM MUST BE ADDED AS DEFICIENCIES WITHIN THE BMP CERTIFICATION FORM AND RESOLVED WITHIN 24-HOURS. BMPs MUST NOT BE CERTIFIED IF ONE OR MORE OF THE EXCEPTIONS WILL NOT BE RESOLVED WITHIN 24-HOURS OF THE BMP CERTIFICATION BY THE CEC.

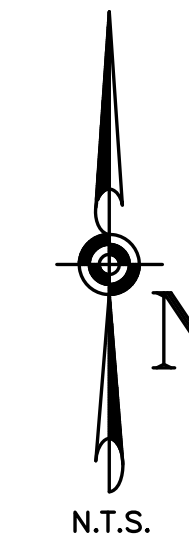
IF THE CEC IS UNABLE TO CERTIFY THAT SITE CONDITIONS ARE PER PLANS AND SPECIFICATIONS, THE CERTIFICATION OF BMPs MUST BE RESCHEDULED. THE STORMWATER PRE-CONSTRUCTION MEETING MAY ONLY OCCUR AFTER BMPs CAN BE CERTIFIED.

GENERAL CONTRACTOR SHALL SCHEDULE AND CONDUCT THE STORMWATER PRE-CONSTRUCTION MEETING WITH THE CEC, OWNER'S CONSTRUCTION MANAGER, AGENCY(IES) AND SUBCONTRACTORS BEFORE PROCEEDING WITH CONSTRUCTION.

DAILY STORMWATER INSPECTION REPORTS IN THE ONLINE SWPPP REPORTING SYSTEM PROVIDED BY THE OWNER MUST START ON THE NEXT BUSINESS DAY AFTER THE SITE BMPs & PRECONSTRUCTION MEETING CERTIFICATION IS SIGNED/CERTIFIED BY THE CEC.



PHASE II LIMITS OF WORK  
N.T.S.



**LEGEND**

- LIMITS OF DISTURBANCE
- LIMITS OF WORK

**LIMITS OF DISTURBANCE**

CONTRACTOR TO LIMIT DISTURBANCE OF SITE IN STRICT ACCORDANCE WITH THE EROSION CONTROL SEQUENCING SHOWN ON THIS PLAN. NO UNNECESSARY OR IMPROPERLY SEQUENCED CLEARING AND/OR GRADING SHALL BE PERMITTED.

**NOTE TO GENERAL CONTRACTOR**

PRIOR TO CONSTRUCTION, GC MUST CLEARLY DELINEATE AND MARK AREAS IDENTIFIED IN THE SWPPP OR IN THE FIELD, TO BE PROTECTED (SUCH AS, NATURAL BUFFERS, TREES, HABITATS OF ENDANGERED/ THREATENED SPECIES, HISTORIC PROPERTIES, ETC.).

**CAUTION NOTICE TO CONTRACTOR**

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**SPECIFICATIONS REQUIREMENTS**

THE REQUIREMENTS SHOWN ON THIS PLAN ARE SUPPLEMENTED BY THE SWPPP CONTAINED WITHIN THE PROJECT SPECIFICATIONS. IN CASE OF CONFLICTS BETWEEN THE PLANS, SWPPP SPECIFICATIONS AND THE ACTUAL GENERAL PERMIT, THE MOST STRINGENT REQUIREMENTS SHALL APPLY.

**NOTICE TO CONTRACTOR**

MINIMIZATION OF DISTURBED AREAS:

1. CONTRACTOR SHALL MANAGE CONSTRUCTION ACTIVITIES TO REDUCE EROSION AND RETAIN SEDIMENT AND OTHER POLLUTANTS IN THE SOIL AT THE CONSTRUCTION SITE.
2. CONTRACTOR SHALL MINIMIZE THE TIME BARE SOIL IS EXPOSED.
3. CONTRACTOR SHALL MINIMIZE SITE DISTURBANCE BY MINIMIZING THE EXTENT OF GRADING AND CLEARING TO EFFECTIVELY REDUCE SEDIMENT YIELD.

NOTE TO GC: OWNER HAS AUTHORITY AT ANY TIME TO LIMIT SURFACE AREA OF ERODIBLE EARTH MATERIAL EXPOSED BY CLEARING AND GRUBBING, EXCAVATION, BORROW AND EMBANKMENT OPERATIONS AND TO DIRECT THE GC TO PROVIDE IMMEDIATE PERMANENT OR TEMPORARY POLLUTION CONTROL MEASURES.

**PHASE II**

1. BEGIN CLEARING, GRUBBING, AND STRIPPING THE SITE. (PHASE CLEARING AND GRUBBING TO THE EXTENT PRACTICAL TO MINIMIZE THE AMOUNT OF AREA DISTURBED AT ANY POINT IN TIME)
2. BEGIN GRADING THE SITE.
3. START CONSTRUCTION OF BUILDING PAD AND STRUCTURES.
4. TEMPORARILY STABILIZE, THROUGHOUT CONSTRUCTION IMMEDIATELY FOLLOWING THE COMPLETION OF THE MOST RECENT LAND DISTURBING/GRADING ACTIVITY, ANY DISTURBED AREAS, INCLUDING MATERIAL STOCKPILES THAT ARE SCHEDULED OR LIKELY TO REMAIN INACTIVE FOR 14 DAYS OR MORE.
5. INSTALL UTILITIES, STORM SEWERS, CURBS AND GUTTERS.
6. PERMANENTLY STABILIZE AREAS TO BE VEGETATED AS THEY ARE BROUGHT TO FINAL GRADE.
7. INSTALL INLET PROTECTION AT ALL STORM SEWER STRUCTURES AS EACH INLET STRUCTURE IS INSTALLED.
8. PREPARE SITE FOR PAVING.
9. PAVE SITE.
10. COMPLETE GRADING AND INSTALLATION OF PERMANENT STABILIZATION OVER ALL AREAS.
11. OBTAIN CONCURRENCE FROM THE OWNER CONSTRUCTION MANAGER (CM) THAT THE SITE HAS BEEN FULLY STABILIZED AND ALL CONSTRUCTION HAS BEEN COMPLETED. THEN:
  - A. REMOVE ALL REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPs).
  - B. STABILIZE ANY AREAS DISTURBED BY THE REMOVAL OF TEMPORARY BMPs, AND
  - C. ASK THE CM TO CONTACT THE CEC TO COMPLETE THE CEC PRE-NOT SITE INSPECTION AND REPORT (ONLY CM MAY DO THIS).
12. CONTINUE DAILY INSPECTIONS AND REPORTS UNTIL THE CM FINAL DAILY INSPECTION REPORT, MARKED 'READY TO TERMINATE PERMIT', IS SIGNED BY THE CONSTRUCTION MANAGER AND SUBMITTED VIA THE ONLINE SWPPP REPORTING SYSTEM PROVIDED BY THE OWNER.

NOTE: THE GENERAL CONTRACTOR MAY COMPLETE CONSTRUCTION-RELATED ACTIVITIES CONCURRENTLY, ONLY IF ALL PRECEDING BMPs AND STABILIZATION ACTIVITIES HAVE BEEN COMPLETELY INSTALLED. BMP-RELATED STEPS IN THE ABOVE SEQUENCE ARE BOLDED FOR CLARITY. THE CEC MUST APPROVE, IN WRITING, ANY CHANGES IN THE ABOVE SWPPP IMPLEMENTATION SEQUENCE, BEFORE THEIR IMPLEMENTATION BEGINS.

THE ESTIMATED DATES OF IMPLEMENTATION OF POLLUTION CONTROL MEASURES SHALL BE DOCUMENTED BY THE CONTRACTOR ON THE SOIL EROSION/SEDIMENTATION CONTROL OPERATION TIME SCHEDULE ON SHEET SW-5.

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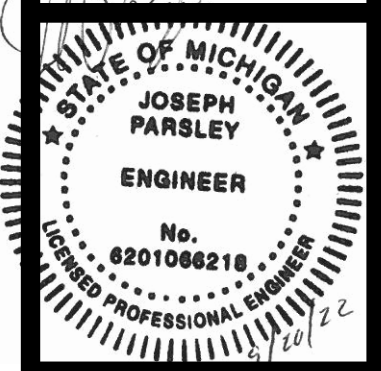
SITE OPERATOR/GENERAL CONTRACTOR:

SUPERINTENDENT:

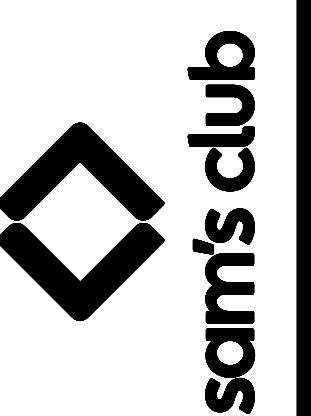
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REVISIONS	BY

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SAM'S CLUB #4982-211  
MT PLEASANT (UNION TOWNSHIP), MICHIGAN  
SAM'S REAL ESTATE BUSINESS TRUST  
2101 SE SIMPLE SAVINGS DRIVE  
BENTONVILLE, AR 72716



DRAWN	AAS
CHECKED	BKM
DATE	09/20/2022
SCALE	N.T.S.
JOB No.	4982-211
SHEET	5 OF 27 SHEETS

SW-2  
SWPPP IMPLEMENTATION SEQUENCE  
AND LIMITS OF WORK

**TRACK OUT PREVENTION**  
 IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE VEHICLES ARE ADEQUATELY CLEANED PRIOR TO EXITING THE LIMITS OF DISTURBANCE TO PREVENT TRACK OUT. IF THE ACTION OF THE STONE CONSTRUCTION EXIT DOES NOT SATISFACTORILY PREVENT TRACK OUT FROM TRAFFIC EXITING THE SITE, THE CONTRACTOR SHALL IMPLEMENT A WHEEL WASH SYSTEM AT THE CONSTRUCTION EXIT. WATER FROM THE WHEEL WASH SYSTEM SHALL BE DIRECTED TOWARDS THE CONSTRUCTION EXIT SEDIMENT TRAP FOR TREATMENT OF THE SEDIMENT LADEN WATER. THE CONTRACTOR SHALL ALSO HAVE AN ATTENDANT STATIONED AT THE CONSTRUCTION EXIT. THE ATTENDANT SHALL HAVE THE AUTHORITY TO PROHIBIT TRAFFIC FROM EXITING THE SITE IF IT APPEARS THAT VEHICLES EXITING THE SITE WILL CAUSE TRACK OUT. IT IS ULTIMATELY THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT TRAFFIC FROM THE SITE WILL NOT CAUSE TRACK OUT FROM THE PROJECT SITE. BY SUBMITTING A BID ON THE PROJECT, THE CONTRACTOR AFFIRMS THAT ADEQUATE FUNDS HAVE BEEN INCLUDED TO ADDRESS THESE REQUIREMENTS.

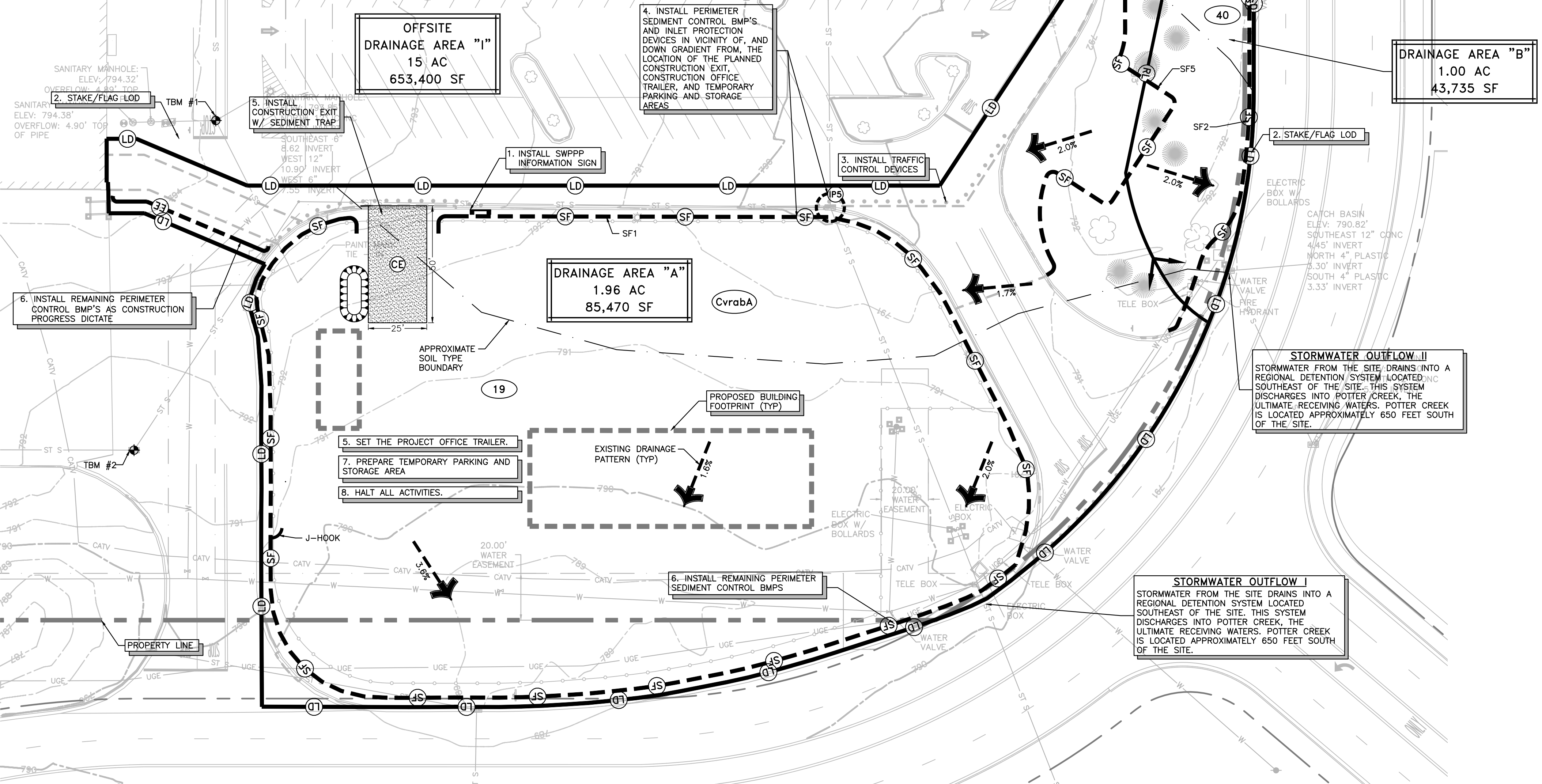
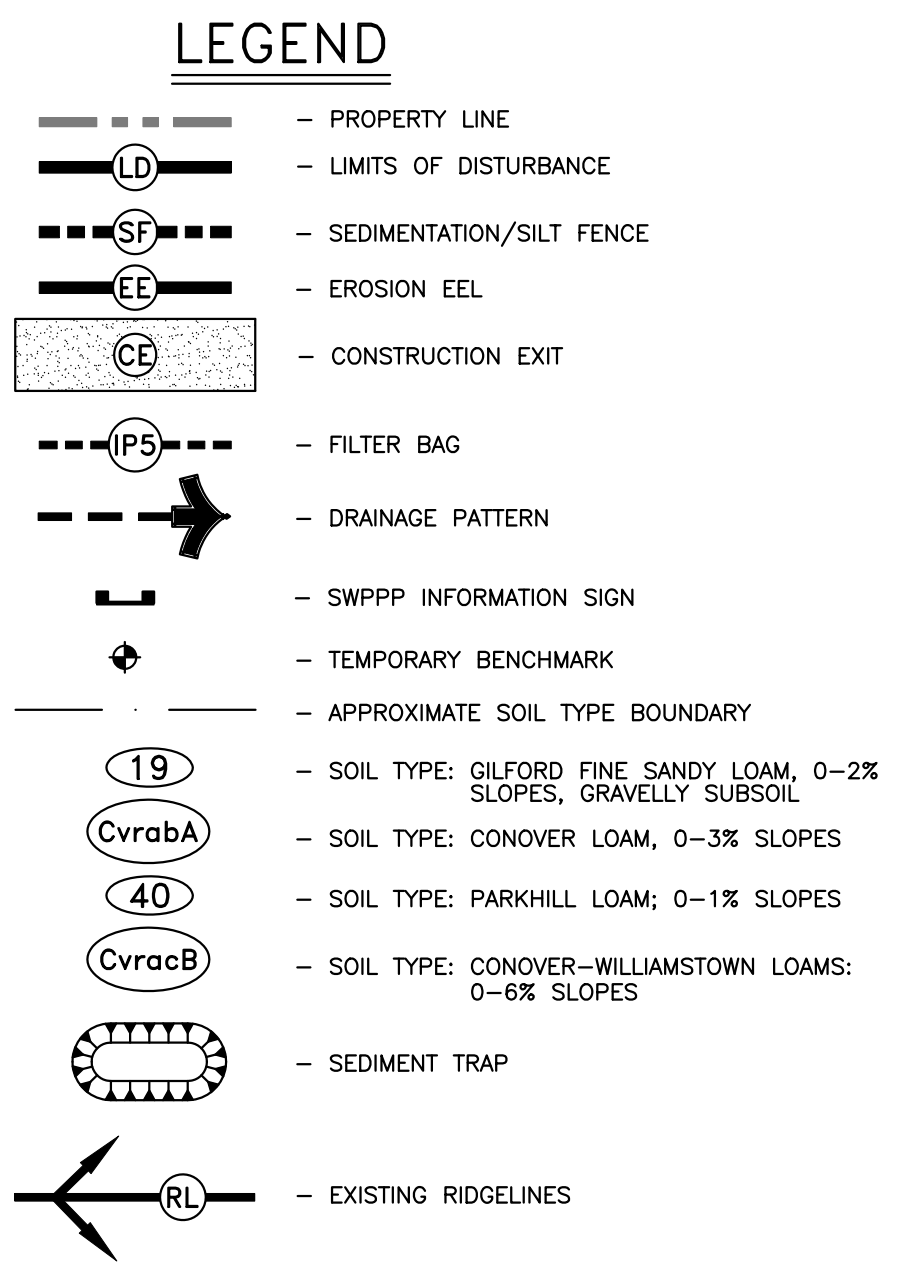
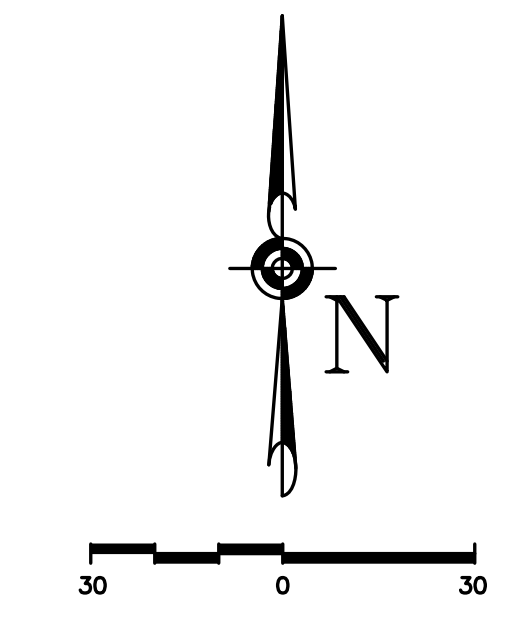
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**PROJECT BENCHMARKS**  
 TBM #1 - SANITARY SEWER MANHOLE RIM LOCATED NEAR SOUTHEAST CORNER OF EXISTING SAM'S CLUB BUILDING  
 ELEV: 793.85  
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**SUPERINTENDENT:**

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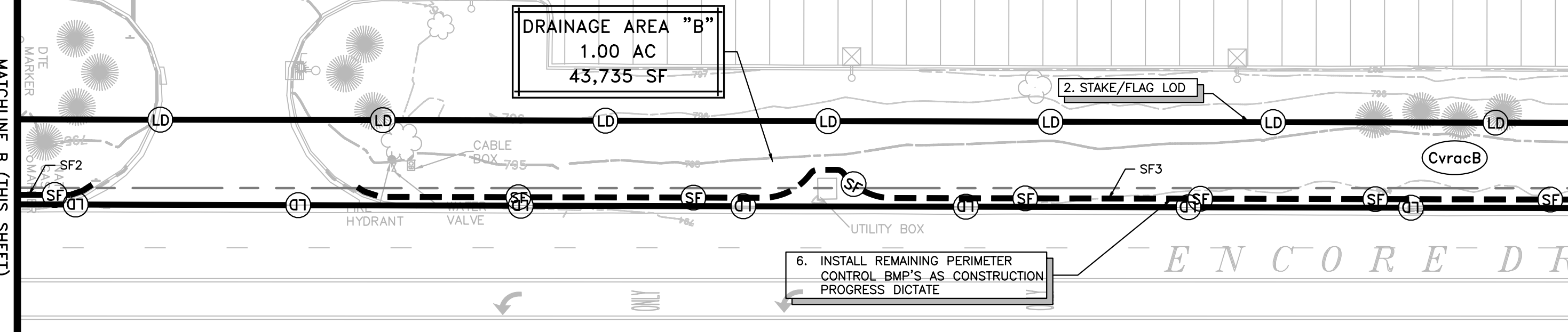
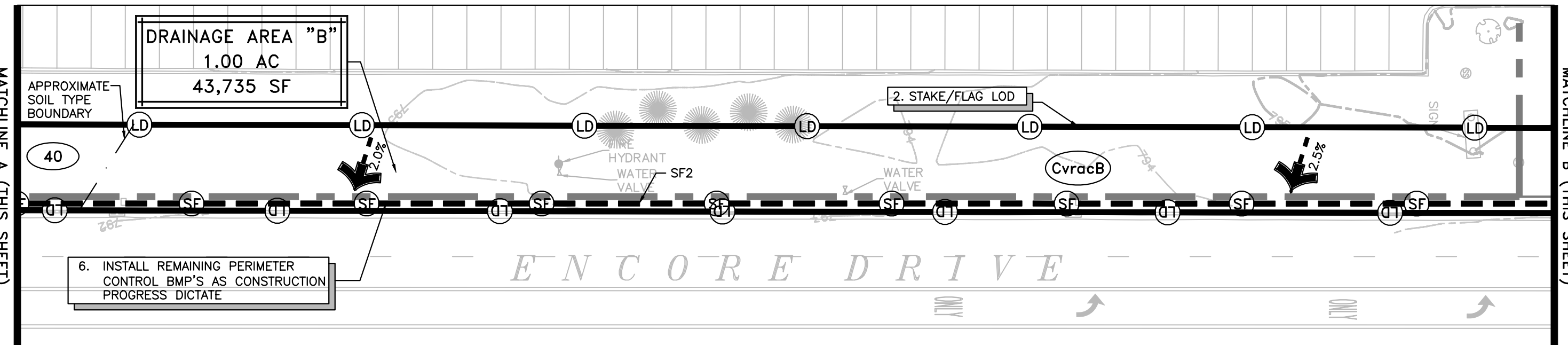
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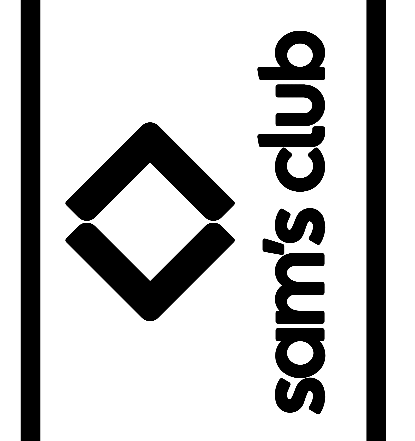


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**STATE OF MICHIGAN**  
 JOSEPH PARSLEY  
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 BENTONVILLE, AR 72716



SW-3  
 PHASE I EROSION AND  
 SEDIMENTATION CONTROL PLAN

DRAWN	AAS
CHECKED	BKM
DATE	09/20/2022
SCALE	1"=30'
JOB No.	4982-211
SHEET	6 OF 27 SHEETS

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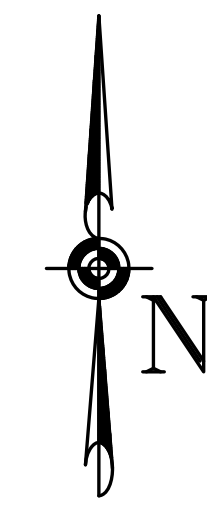
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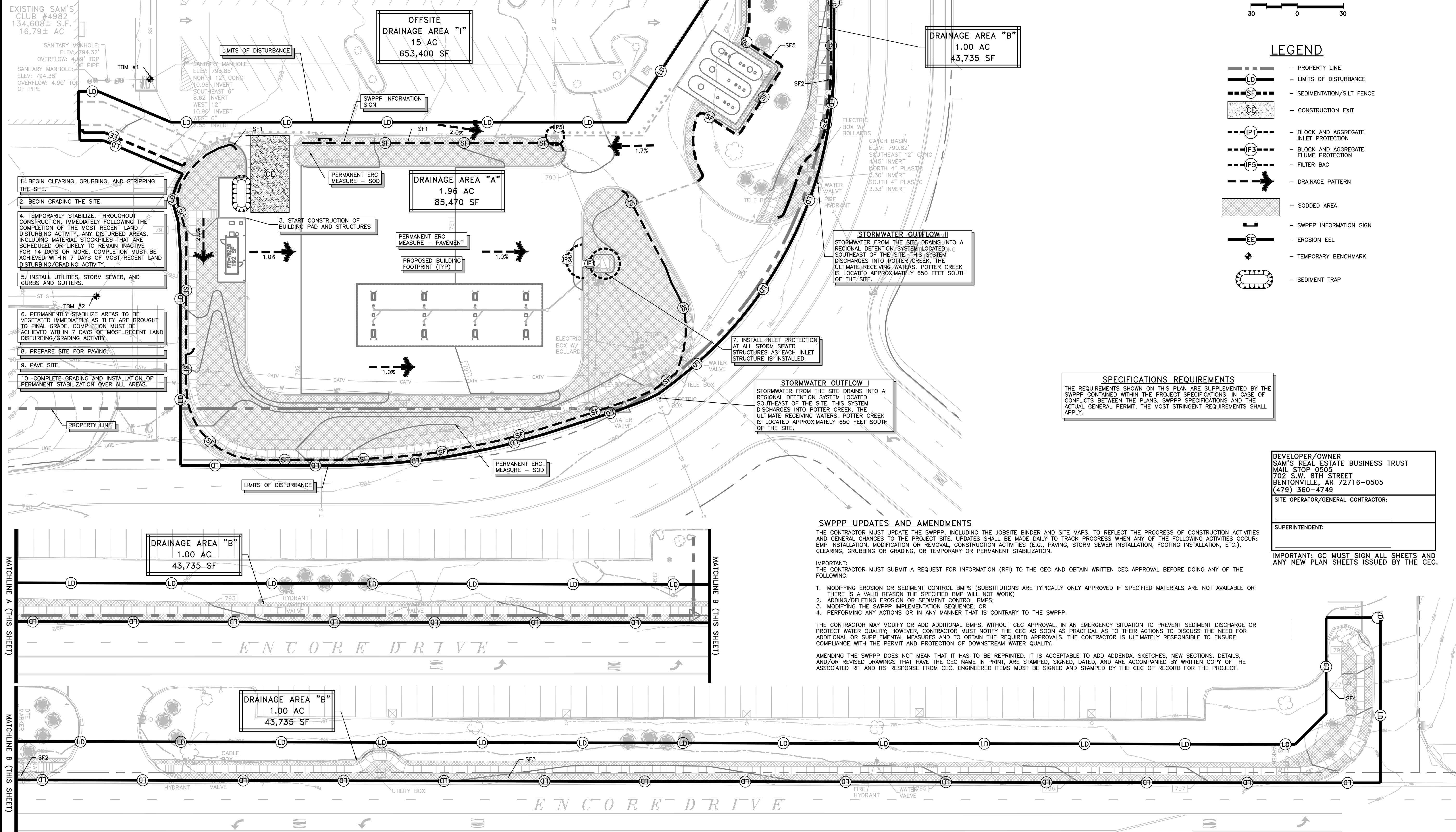
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**LEGEND**

- PROPERTY LINE
- LIMITS OF DISTURBANCE
- SEDIMENTATION/SILT FENCE
- CONSTRUCTION EXIT
- BLOCK AND AGGREGATE INLET PROTECTION
- BLOCK AND AGGREGATE FLUME PROTECTION
- FILTER BAG
- DRAINAGE PATTERN
- SODDED AREA
- SWPPP INFORMATION SIGN
- EROSION EEL
- TEMPORARY BENCHMARK
- SEDIMENT TRAP



1. BEGIN CLEARING, GRUBBING, AND STRIPPING THE SITE.
2. BEGIN GRADING THE SITE.
3. START CONSTRUCTION OF BUILDING PAD AND STRUCTURES.
4. TEMPORARILY STABILIZE, THROUGHOUT CONSTRUCTION, IMMEDIATELY FOLLOWING THE COMPLETION OF THE MOST RECENT LAND DISTURBING ACTIVITY. ANY DISTURBED AREAS, INCLUDING MATERIAL STOCKPILES THAT ARE SCHEDULED OR LIKELY TO REMAIN INACTIVE FOR 14 DAYS OR MORE, COMPLETION MUST BE ACHIEVED WITHIN 7 DAYS OF MOST RECENT LAND DISTURBING/GRADING ACTIVITY.
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**STORMWATER OUTFLOW II**  
STORMWATER FROM THE SITE DRAINS INTO A REGIONAL DETENTION SYSTEM LOCATED SOUTHEAST OF THE SITE. THIS SYSTEM DISCHARGES INTO POTTER CREEK, THE ULTIMATE RECEIVING WATERS. POTTER CREEK IS LOCATED APPROXIMATELY 650 FEET SOUTH OF THE SITE.

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**SITE OPERATOR/GENERAL CONTRACTOR:**  
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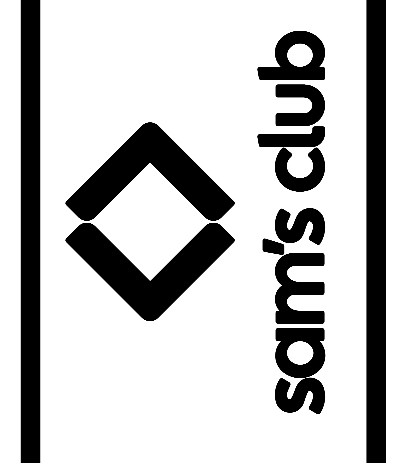
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SHEET	7 OF 27 SHEETS

SW-4  
PHASE II EROSION AND  
SEDIMENTATION CONTROL PLAN

**SOIL EROSION/SEDIMENTATION CONTROL OPERATION TIME SCHEDULE**

NOTE: GENERAL CONTRACTOR TO COMPLETE TABLE WITH THEIR ESTIMATED PROJECT SCHEDULE.

CONSTRUCTION SEQUENCE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
TEMPORARY CONSTRUCTION EXITS												
TEMPORARY CONTROL MEASURES												
SEDIMENT CONTROL BASIN(S)/TRAP(S)												
STRIP & STOCKPILE TOPSOIL												
ROUGH GRADING												
STORM FACILITIES												
SITE CONSTRUCTION												
FINISH GRADING												
PERMANENT CONTROL STRUCTURES												
FOUNDATION / BUILDING CONSTRUCTION												
LANDSCAPING/SEED/FINAL STABILIZATION												

1) CONTRACTOR MUST COMPLETE TABLE WITH ESTIMATED DATES OR PROJECT ACTIVITIES PRIOR TO BMP CERTIFICATION.  
2) TIME SCHEDULE MUST COINCIDE WITH THE SWPPP IMPLEMENTATION SEQUENCE.

**SOURCE BOX**  
LAST REVISED: WAL-MART STANDARD DETAIL  
APRIL 30, 2011

**ACREAGE SUMMARY**  
(IN ACRES)

1	SAM'S PROPERTY AREA	16.79
2	PERMITTED AREA WITHIN SAM'S PROPERTY	2.75
3	PERMITTED AREA OUTSIDE OF SAM'S PROPERTY	0.25
4	TOTAL PERMITTED PROJECT AREA	3.00
5	IMPERVIOUS AREA BEFORE PROJECT	1.00
6	IMPERVIOUS AREA AT COMPLETION	2.00
7	PERVIOUS AREA AT COMPLETION	1.00

**SOURCE BOX**  
LAST REVISED: WAL-MART STANDARD DETAIL  
JUNE 2013

**OFF-SITE RUN-ON SUMMARY**

OFF-SITE DRAINAGE AREA	FLOW (QFS)	AREA (ACRES)	AVERAGE SLOPE	MAXIMUM SLOPE	COVER TYPE
AREA "1"	77	15	2.00%	33%	PAVED/GRASSED

**SOURCE BOX**  
LAST REVISED: WAL-MART STANDARD DETAIL  
JUNE 2012

**SITE SOILS SUMMARY**

SOIL TYPE AND TEXTURE:	PER THE PROJECT GEOTECHNICAL EXPLORATION, SOILS ACROSS THE SITE GENERALLY CONSIST OF SILTY CLAYS OVERLYING SANDS.
AVERAGE DEPTH OF TOPSOIL:	9" PER PROJECT GEOTECHNICAL EXPLORATION.
AVERAGE DEPTH TO GROUNDWATER:	15 FEET PER PROJECT GEOTECHNICAL EXPLORATION.

NOTE: THE ABOVE SOILS INFORMATION IS FOR INFORMATION ONLY AND SHOULD NOT BE USED FOR BIDDING PURPOSES, CONSTRUCTION COSTS OR ESTIMATING.

**SOURCE BOX**  
LAST REVISED: WAL-MART STANDARD DETAIL  
JUNE 2012

**RUNOFF COEFFICIENT SUMMARY**

PRE-CONSTRUCTION SCS TR-55 CURVE NUMBER:	CN = 63
POST-CONSTRUCTION SCS TR-55 CURVE NUMBER:	CN = 86

**SOURCE BOX**  
LAST REVISED: WAL-MART STANDARD DETAIL  
JUNE 2012

**SITE LOCATION SUMMARY**

ADDRESS:	4850 ENCORE DRIVE, MT. PLEASANT, MICHIGAN 48058
CENTER OF SITE:	
LATITUDE:	43°34'12" N (43.570024° N)
LONGITUDE:	84°45'32" W (84.758772° W)
ADJACENT SURROUNDING PROPERTIES:	WEST, NORTH AND EAST: COMMERCIAL DEVELOPMENT SOUTH: ENCORE DRIVE FOLLOWED BY A REGIONAL STORMWATER RETENTION POND.

**SOURCE BOX**  
LAST REVISED: WAL-MART STANDARD DETAIL  
JUNE 2012

**SITE TOPOGRAPHY SUMMARY**

LOWEST ELEVATION OF PROJECT SITE:	789
HIGHEST ELEVATION OF PROJECT SITE:	794
PERCENT SLOPE VARIATION:	SLOPES ACROSS THE SITE VARY FROM 1% IN PAVED AREAS TO 33% IN GRASSED SLOPE AREAS.
TOPOGRAPHY CHANGES:	DUE TO THE SITE BEING IN AN EXISTING COMMERCIALY DEVELOPED AREA, TOPOGRAPHY ACROSS THE SITE WILL REMAIN RELATIVELY UNCHANGED WITH MINIMAL CUT/FILL OPERATIONS REQUIRED.
VEGETATION:	ALL VEGETATIVE AREAS REMOVED FROM THE SITE DURING CONSTRUCTION WILL BE REPLACED WITH IMPERVIOUS AREA OR RE-VEGETATED UPON COMPLETION OF GRADING ACTIVITIES
AVERAGE SLOPE:	EXISTING SLOPES ACROSS THE SITE RANGE FROM 1% TO 33%

**SOURCE BOX**  
LAST REVISED: WAL-MART STANDARD DETAIL  
JUNE 2013

**SITE RAINFALL SUMMARY**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
AVERAGE RAINFALL IN INCHES	1.74	1.38	1.99	2.71	2.99	3.06	2.78	3.01	3.10	2.56	2.23	1.64

THE TOTAL AVERAGE ANNUAL RAINFALL FOR THE PROJECT AREA IS: 29.18 INCHES  
THE DESIGN RAIN EVENT FOR THE PROJECT IS: 2 YEAR, 24 HOUR RAIN EVENT: 2.4 INCHES

**SOURCE BOX**  
LAST REVISED: WAL-MART STANDARD DETAIL  
JUNE 2012

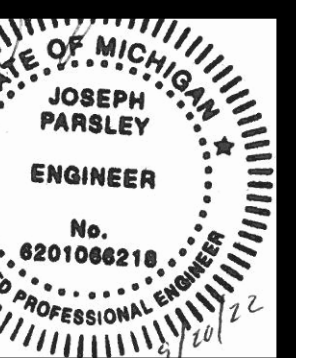
DEVELOPER/OWNER  
SAM'S REAL ESTATE BUSINESS TRUST  
MAIL STOP 0505  
702 S.W. 8TH STREET  
BENTONVILLE, AR 72716-0505  
(479) 360-4749  
SITE OPERATOR/GENERAL CONTRACTOR:  
  
SUPERINTENDENT:

IMPORTANT: GC MUST SIGN ALL SHEETS AND ANY NEW PLAN SHEETS ISSUED BY THE CEC.

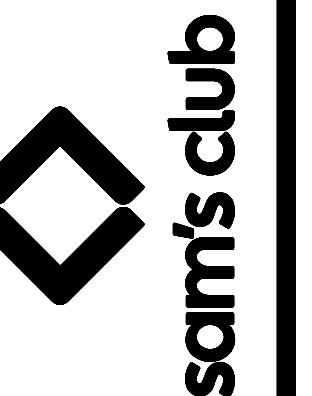
SW-5  
SWPPP DETAILS

REVISIONS	BY

CARLSON CONSULTING ENGINEERS, INC.  
7088 LEDGESTONE COMMONS  
PH: (801) 384-0404 • FX: (801) 384-0710



SAM'S CLUB #4982-211  
MT PLEASANT (UNION TOWNSHIP), MICHIGAN  
SAM'S REAL ESTATE BUSINESS TRUST  
2101 SE SIMPLE SAVINGS DRIVE  
BENTONVILLE, AR 72716



DRAWN	AAS
CHECKED	BKM
DATE	09/20/2022
SCALE	NTS
JOB No.	4982-211
SHEET	8 OF 27 SHEETS

# PERFORMANCE STANDARDS

NOTES:

- THE GC SHALL IDENTIFY MASONS' AREA WITH LEGIBLE SIGNAGE ON THE SITE. TO THE EXTENT PRACTICAL, ALL MASONRY TOOLS, MATERIAL, INCLUDING SAND AND SACKED CEMENT AND/OR MORTAR MATERIALS, MIX, AND EQUIPMENT SHALL BE LOCATED WITHIN THE AREA IDENTIFIED. MATERIALS VULNERABLE TO WEATHER ELEMENTS SHALL BE STORED IN CONTAINERS AT THE END OF EACH WORK DAY; SUCH MATERIALS SHALL REMAIN STORED IN CONTAINERS WHEN NOT IN USE.
- RUNOFF CONTROL, SUCH AS DIVERSION BERMS, SILT FENCE, SILT DIKE, OR OTHER MEANS OF CONTAINMENT SHALL BE PROVIDED TO PREVENT THE MIGRATION OF STORMWATER POLLUTANTS FROM THE MASONS' AREA. COVERED RECEPTACLES FOR DEBRIS AND TRASH DISPOSAL SHALL ALSO BE PROVIDED.
- THE MASONS' AREA SHALL MEET OSHA AND OTHER REGULATORY REQUIREMENTS FOR PERSONAL PROTECTIVE EQUIPMENT (PPE), FIRE EXTINGUISHERS, ETC. GC SHALL PROVIDE SCREENING OR OTHER TECHNOLOGIES FOR MASONS' AREA TO PREVENT AIRBORNE TRANSPORT OF CEMENT DUST AND OTHER PARTICULATES DUE TO HIGH SPEED WIND OR OTHER CONDITIONS. THE LOCATION OF THE MASONS' AREA SHALL BE SHOWN ON THE SITE MAPS.

**MA MASONS' AREA**

**SOURCE BOX**

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2013	

NOTES:

- IMPORTANT: GC SHALL NOT APPLY FLOCCULANTS WITHOUT PREVIOUS REVIEW AND WRITTEN CONFIRMATION BY CEC.
- FLOCCULANTS SHALL BE USED AS FAR UPSTREAM OF BASINS, TRAPS, TANKS, OR OTHER WATER CONTAINMENT AREAS AS POSSIBLE. THE EFFECTIVENESS OF FLOCCULANTS DEPENDS ON THE TRAVEL TIME AND AGITATION OF THE WATER, FOR PROPER MIXING.
- ALL SEDIMENTATION/SETTLING MUST OCCUR WITHIN THE LOD, THAT IS, VELOCITY OF FLOW IN WATER CONTAINMENT SHALL BE NEAR ZERO, AND THE TIME OF RESIDENCE AS LONG AS POSSIBLE.
- FLOC BLOCKS, FLOCCULANT-IMPREGNATED WATTLES, AND ANY OTHER CONTROL MEASURES WHICH SUPPLY FLOCCULANTS MUST BE REGULARLY INSPECTED AND MAINTAINED, AS ARE ALL OTHER CONTROL MEASURES.
- STANDARD EROSION AND SEDIMENT CONTROLS ARE REQUIRED BOTH PRIOR TO AND AFTER CHEMICAL TREATMENT IN ACCORDANCE WITH THE SWPPP PLANS.

**CES CHEMICALLY-ENHANCED SETTLING PASSIVE TREATMENT SYSTEMS**

**SOURCE BOX**

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2012	

NOTES:

- SUBSTANCES THAT HAVE THE POTENTIAL FOR POLLUTING SURFACE AND/OR GROUNDWATER MUST BE CONTROLLED BY ANY MEANS NECESSARY TO ENSURE THAT THOSE DO NOT DISCHARGE FROM THE SITE. IN THIS REGARD, POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED AND HANDLED IN A MANNER CONSISTENT WITH THE RISK OF IMPACT THOSE REPRESENT, AND ACCORDING WITH THE REGULATIONS.
- NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS, ARE ALLOWED TO BE DISCHARGED FROM THE SITE WITH STORMWATER. ALL SOLID WASTE, INCLUDING DISPOSABLE MATERIALS INCIDENTAL TO THE CONSTRUCTION ACTIVITIES, MUST BE COLLECTED AND PLACED IN CONTAINERS. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE. THE CONTAINERS SHALL BE HAULED AWAY FROM THE SITE AND EMPTIED WHEN THOSE BECOME 95% FULL, OR AS NECESSARY, BY A CERTIFIED TRASH DISPOSAL SERVICE. LIDS OR COVERS FOR THE CONTAINERS SHALL BE PROVIDED FOR USE DURING RAIN EVENTS TO PREVENT WASTE CONTACT WITH STORMWATER. WASTES THAT CANNOT BE STORED IN A CONTAINER MUST BE STORED UNDER COVER OR INDOORS. THE LOCATION OF SOLID WASTE RECEPTACLES SHALL BE SHOWN ON THE SITE MAPS.

**SWD SOLID WASTE DISPOSAL**

**SOURCE BOX**

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2013	

NOTES:

- CONTRACTOR SHALL PROVIDE DESIGNATED LOCATION FOR SORTING AND SEPARATING HAZARDOUS WASTES.
- HAZARDOUS WASTE STORAGE MUST BE PROTECTED FROM WEATHER ELEMENTS AND HAVE RESTRICTED ACCESS.
- HAZARDOUS WASTE STORAGE MUST COMPLY WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
- HAZARDOUS WASTE STORAGE MUST COMPLY WITH CONTRACT DOCUMENTS.

**HWD HAZARDOUS WASTE DISPOSAL**

**SOURCE BOX**

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2013	

NOTES:

- PROVIDE WASH STATION IN A LOCATION PROTECTED FROM WEATHER ELEMENTS.
- COLLECT ALL USED WASH WATER AND DISPOSE OF IT PROPERLY.
- PROVIDE ADEQUATE SUPPLY OF WATER AND ANY OTHER SUPPLIES TO ENSURE PROPER OPERATION OF WASH STATION WHEN NEEDED.

**PSW PAINT AND STUCCO WASHOUT**

**SOURCE BOX**

LAST REVISED:	WAL-MART STANDARD DETAIL
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NOTES:

- VERIFY WITH CEC WHICH DISCHARGES FROM DEWATERING ACTIVITIES ARE ALLOWED OR ARE NOT ALLOWED NON-STORMWATER DISCHARGES UNDER THE GENERAL PERMIT AND OTHER REGULATIONS. OBTAIN ALL DEWATERING PERMITS AND AUTHORIZATIONS REQUIRED BY STATE AND LOCAL REGULATIONS. SEE THE REQUIRED DEWATERING PERMITS AND AUTHORIZATIONS TABLE BELOW. GC MUST COMPLETE COLUMNS 3 AND 4.
- GC MUST WANT TO HAVE WRITTEN COPY OF ALL REQUIRED DEWATERING PERMITS AND AUTHORIZATIONS BEFORE PERFORMING DEWATERING ACTIVITIES.
- DISCHARGES FROM DEWATERING OPERATIONS MUST BE DIRECTED THROUGH AN APPROPRIATE POLLUTION PREVENTION/TREATMENT SYSTEM OF CONTROL MEASURES, SUCH AS A SEDIMENT/FILTER BAG, SEDIMENT TRAP OR SEDIMENT BASIN, AND OTHERS, AS NEEDED, PRIOR TO BEING DISCHARGED FROM THE SITE OR INTO A WATER BODY OF THE STATE. UNDER NO CIRCUMSTANCES ARE DISCHARGES FROM DEWATERING OPERATIONS TO BE DISCHARGED DIRECTLY INTO SANITARY SEWER SYSTEMS, STREAMS, RIVERS, LAKES OR OTHER AREAS BEYOND THE PERMITTED PROJECT AREA. LIKEWISE, DISCHARGES INTO STORM SEWER SYSTEMS THAT DO NOT DRAIN TO A SUITABLE ON-SITE TREATMENT FACILITY, SUCH AS A BASIN, ARE ALSO PROHIBITED. DISCHARGES FROM DEWATERING OPERATIONS MUST ALSO BE CONDUCTED IN A MANNER SUFFICIENT TO PREVENT EROSION FROM THE DISCHARGE RUNOFF.
- IN SEDIMENT TRAP OR CONTAINED WATER OR POND DEWATERING OPERATIONS, WATER MUST ONLY BE REMOVED FROM THE SURFACE OF THE CONTAINED WATER. A SKIMMER OR SIMILAR FLOATING DEVICE MUST BE USED, TO ONLY REMOVE THE WATER OF THE SURFACE.
- DO NOT DISCHARGE ON A SLOPE GREATER THAN THREE PERCENT NOR WITHIN 20 FEET OF A SURFACE WATER BODY.
- DEWATERING SHALL NOT OCCUR DURING OR IMMEDIATELY AFTER PRECIPITATION EVENTS, BUT EXCEPTIONS SHALL BE EVALUATED ON CASE BY CASE BASIS. CONTACT THE CEC AND RECEIVE WRITTEN APPROVAL.

REQUIRED DEWATERING PERMITS AND AUTHORIZATIONS			
1	2	3	4
GOVERNING AGENCY	PERMIT NAME/TYPE	PERMIT NO. (GC TO COMPLETE)	DATE PERMIT WAS ISSUED BY AGENCY (GC TO COMPLETE)
DEWATERING ACTIVITIES FOR THIS PROJECT ARE RESTRICTED UNDER THE NPDES AUTHORIZATION AND THE CONDITIONS OF THE GENERAL PERMIT			

**DW DEWATERING**

**SOURCE BOX**

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2012	

NOTES:

- ALL PERSONNEL INVOLVED WITH CONSTRUCTION ACTIVITIES MUST COMPLY WITH STATE AND LOCAL SANITARY OR SEPTIC SYSTEM REGULATIONS. PORTABLE TOILETS MUST BE LOCATED AT LEAST 30 FEET FROM INLETS, CHANNELS, SWALES, OR PERMITTED LIMITS OF DISTURBANCE, AND MUST BE LOCATED AT LEAST 50 FEET FROM WATERS OF THE STATE, OR WATERS OF THE U.S. PORTABLE TOILETS MUST BE SECURELY ANCHORED AND/OR TIED DOWN. SECONDARY CONTAINMENT SHALL BE PROVIDED AND FULL CAPACITY SHALL BE RESTORED IMMEDIATELY UPON DISCOVERY OF ITS DIMINISHMENT. THE LOCATION OF SANITARY FACILITIES SHALL BE SHOWN ON THE SITE MAPS.

**SAF SANITARY FACILITIES**

**SOURCE BOX**

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2013	

NOTES:

- THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AREA AS CONDITIONS DEMAND.

**TP TEMPORARY PARKING**

**SOURCE BOX**

LAST REVISED:	WAL-MART STANDARD DETAIL
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NOTES:

- THE GC SHALL DESIGNATE AREAS ON THE SITE MAPS FOR EQUIPMENT CLEANING, MAINTENANCE, AND REPAIR. THE GC AND SUBCONTRACTORS SHALL UTILIZE SUCH DESIGNATED AREAS. CLEANING, MAINTENANCE, AND REPAIR AREAS SHALL BE PROTECTED BY A TEMPORARY PERIMETER BERM, SHALL NOT OCCUR WITHIN 150 FEET OF ANY WATERWAY, WATER BODY OR WETLAND, AND SHALL OCCUR IN AREAS LOCATED AS FAR AS PRACTICAL FROM STORM SEWER INLETS. DRIP PANS SHALL BE USED FOR VEHICLE MAINTENANCE ACTIVITIES AND RESULTANT WASTES SHALL BE DISPOSED OF IN ACCORDANCE WITH THE HAZARDOUS MATERIAL MANAGEMENT AND SPILL REPORTING PLAN NOTES INCLUDED ON THIS PLAN SHEET.
- USE OF DETERGENTS FOR LARGE SCALE WASHING IS PROHIBITED (FOR EXAMPLE, WASHING VEHICLES, BUILDINGS, PAVEMENT SURFACES, ETC.). ALL WASH WATER SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.

**EMA EQUIPMENT AND VEHICLE CLEANING AND MAINTENANCE AREAS**

**SOURCE BOX**

LAST REVISED:	WAL-MART STANDARD DETAIL
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NOTES:

- ALL ON-SITE TOPSOIL MUST BE PRESERVED FOR REUSE ON THE SITE DURING REVEGETATION, UNLESS IT IS INFEASIBLE OR UNREASONABLE TO DO SO. (NOTE: TOPSOIL STOCKPILING ON-SITE MAY BE INFEASIBLE IF SPACE IS NOT AVAILABLE ON-SITE FOR TOPSOIL STOCKPILING OR IF LITTLE TO NO VEGETATION IS TO REMAIN UNDER POST CONSTRUCTION CONDITIONS. STOCKPILING OF TOPSOIL AT AN OFF-SITE LOCATION OR TRANSFER OF TOPSOIL TO OTHER LOCATIONS MAY ALSO BE ACCEPTABLE BUT MUST BE AUTHORIZED BY THE CEC).
- ALL SOIL STOCKPILES MUST BE STABILIZED TO PREVENT EROSION AND FUGITIVE DUST. THE SURFACE OF THE STOCKPILE MUST BE PROPERLY PROTECTED TO ELIMINATE THE RISK OF EROSION. SEE TEMPORARY SEEDING OR STABILIZATION DETAIL. SUITABLE ALTERNATIVE MEANS OF STABILIZATION CAN BE USED, SUCH AS PROPERLY ANCHORED PLASTIC TARPS.
- PERIMETER SEDIMENT CONTROLS ALSO MUST BE INSTALLED AT STOCKPILE LOCATIONS TO PREVENT CONTACT WITH STORMWATER, INCLUDING RUN-ON.
- STOCKPILES MUST BE LOCATED OUTSIDE OF ANY VEGETATED BUFFER AREAS AND SHALL BE LOCATED AS FAR AS PRACTICABLE FROM STORMWATER CONVEYANCES AND IMPOUNDMENTS AND WATER BODIES.
- STOCKPILE LOCATIONS SHALL BE NOTED ON THE SITE MAPS.

**SP STOCKPILES**

**SOURCE BOX**

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2012	

NOTES:

- LARGE AREAS OF SOIL THAT ARE DENuded OF VEGETATION AND HAVE NO PROTECTION FROM PARTICLES BEING PICKED UP AND CARRIED BY WIND SHALL BE PROTECTED WITH A TEMPORARY COVER OR KEPT UNDER CONTROL WITH WATER OR OTHER SOIL ADHERING PRODUCTS TO PREVENT SOIL PARTICLES FROM BECOMING AIRBORNE, AND FROM EXITING THE SITE PERIMETER.
- WATER TRUCKS OR OTHER DUST CONTROL AGENTS SHALL BE USED AS NEEDED DURING CONSTRUCTION TO MINIMIZE DUST GENERATED ON THE SITE. TACKIFIERS MAY BE USED TO HOLD SOIL IN PLACE AND PREVENT DUST. MANUFACTURER RECOMMENDATIONS FOR APPLICATION LOCATIONS AND RATES MUST BE USED FOR DUST CONTROL APPLICATIONS. ONLY SWPPP-SPECIFIED TACKIFIERS MAY BE USED ON THE PROJECT SITE; ANY CHEMICAL APPLICATION NOT INCLUDED IN THE SWPPP MUST BE APPROVED, IN WRITING, BY THE CEC.
- DUST CONTROL MUST BE PROVIDED BY THE GC TO A DEGREE THAT IT IS IN COMPLIANCE WITH APPLICABLE FEDERAL, LOCAL, AND STATE DUST CONTROL REGULATIONS.
- THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
- IN ADDITION TO BMPs, GC SHALL PERFORM PER PRACTICES AND PROCEDURES WHICH MINIMIZE AND PREVENT AIRBORNE DUST OR OTHER PARTICLES FROM OCCURRING.

**DC DUST CONTROL**

**SOURCE BOX**

LAST REVISED:	WAL-MART STANDARD DETAIL
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NOTES:

- MATERIAL STORAGE AREAS SHALL BE LOCATED, WHEN POSSIBLE, TO MINIMIZE EXPOSURE TO WEATHER. INSPECTIONS SHALL EVALUATE DISTURBED AREAS AND AREAS USED FOR STORING MATERIALS THAT ARE EXPOSED TO RAINFALL FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM OR DISCHARGING FROM THE SITE. IF NECESSARY, THE MATERIALS MUST BE COVERED OR ORIGINAL COVERS MUST BE REPAIRED OR SUPPLEMENTED. ALSO, PROTECTIVE BERMS MUST BE CONSTRUCTED, IF NEEDED, TO CONTAIN RUNOFF FROM MATERIAL STORAGE AREAS. GC SHALL ADHERE TO ALL STATE AND LOCAL REGULATIONS PERTAINING TO MATERIAL STORAGE AREAS.
- CHEMICALS, PAINTS, SOLVENTS, FERTILIZERS, AND OTHER TOXIC MATERIALS MUST BE STORED IN WATERPROOF CONTAINERS. EXCEPT DURING APPLICATION, THE CONTAINERS AND THE CONTENTS MUST BE KEPT IN TRUCKS OR INSIDE OF STORAGE FACILITIES. RUNOFF CONTAINING SUCH MATERIAL MUST BE COLLECTED, REMOVED FROM THE SITE, TREATED, AND DISPOSED OF AT AN APPROVED SOLID WASTE AND CHEMICAL DISPOSAL FACILITY.

**MLSA MATERIAL LAYDOWN AND STORAGE AREA**

**SOURCE BOX**

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2013	

NOTES:

- CONCRETE WASTE MANAGEMENT PERTAINS TO WASTE FROM CONCRETE READY-MIX TRUCKS, MASONRY OPERATIONS, AND SIMILAR WASTE.
- WASTEWATER FROM WASHOUT OF CONCRETE IS PROHIBITED BY THE GENERAL PERMIT UNLESS MANAGED BY AN APPROPRIATE CONTROL. THE GENERAL CONTRACTOR SHALL ENSURE THAT APPROPRIATE BMPs ARE IN PLACE PRIOR TO ANY DISCHARGE OF WASTEWATER AS A RESULT OF CONCRETE WASHOUT ACTIVITIES.
- DISCHARGE OF EXCESS OR WASTE CONCRETE AND/OR WASH WATER FROM CONCRETE TRUCKS IS ALLOWED AT THE CONSTRUCTION SITE. ONLY COMMERCIALY AVAILABLE ABOVE GROUND PORTABLE CONCRETE WASHOUT CONTAINERS ARE ALLOWED AND MUST BE PROTECTED FROM VEHICLE TRAFFIC AND CLEARLY IDENTIFIED BY LEGIBLE SIGNAGE, AND MUST BE LOCATED OUTSIDE OF VEGETATED BUFFERS AND AS FAR AS PRACTICABLE FROM STORMWATER CONVEYANCES AND IMPOUNDMENTS AND WATER BODIES. PORTABLE CONCRETE WASHOUT CONTAINERS SHALL CONTAIN AND/OR ACTIVELY MANAGE BOTH, SOLID AND FLUID, COMPONENTS OF THE MIX. CONCRETE WASHOUT CONTAINERS MUST BE CLEANED OR EXCHANGED WHEN THE REMAINING VOLUME IS REDUCED BY 85% TO PREVENT ANY POTENTIAL OVERFLOW IN A STORM EVENT.
- ALTERNATIVELY, WASTE CONCRETE CAN BE PLACED INTO FORMS TO MAKE RIP RAP AND/OR OTHER USEFUL CONCRETE PRODUCTS. PORTABLE CONCRETE WASHOUT CONTAINERS SHALL BE DISPOSED OF IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. THE GC IS RESPONSIBLE FOR ASSURING THAT THESE PROCEDURES, APPLICABLE LAWS, AND ENVIRONMENTAL REGULATIONS ARE FOLLOWED. THE LOCATION OF CONCRETE WASHOUT CONTAINERS SHALL BE SHOWN ON THE SITE MAPS.

**CW CEMENT AND CONCRETE WASHOUT**

**SOURCE BOX**

LAST REVISED:	WAL-MART STANDARD DETAIL
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NOTES:

- THE GC SHALL IDENTIFY FUELING AREAS WITH LEGIBLE SIGNAGE ON THE SITE. TEMPORARY ON-SITE FUEL TANKS FOR CONSTRUCTION VEHICLES SHALL MEET ALL LOCAL, STATE AND FEDERAL REGULATIONS. ALL TANKS, SINGLE AND DOUBLE WALLED, SHALL BE PROVIDED WITH SECONDARY CONTAINMENT (THAT IS CONTAINMENT EXTERNAL TO AND SEPARATE FROM PRIMARY CONTAINMENT). TANKS SHALL HAVE APPROVED SPILL CONTAINMENT WITH THE CAPACITY REQUIRED BY THE APPLICABLE REGULATIONS. SECONDARY CONTAINMENT SHALL BE CONSTRUCTED OF MATERIALS OF SUFFICIENT THICKNESS, DENSITY, AND COMPOSITION SO AS NOT TO BE STRUCTURALLY WEAKENED AS A RESULT OF CONTACT WITH THE FUEL STORED AND CAPABLE OF CONTAINING DISCHARGED FUEL FOR A PERIOD OF TIME EQUAL TO OR LONGER THAN THE MAXIMUM ANTICIPATED TIME SUFFICIENT TO ALLOW RECOVERY OF DISCHARGED FUEL. IT SHALL BE CAPABLE OF CONTAINING 110% OF THE VOLUME OF THE PRIMARY TANK IF A SINGLE TANK IS USED, OR IN THE CASE OF MULTIPLE TANKS, 150% OF THE LARGEST TANK OR 110% OF THE AGGREGATE, WHICHEVER IS LARGER.
- THE TANKS SHALL BE IN SOUND CONDITION, FREE OF RUST OR OTHER DAMAGE WHICH MIGHT COMPROMISE CONTAINMENT. FUEL STORAGE AREAS SHALL MEET ALL EPA, OSHA AND OTHER REGULATORY REQUIREMENTS FOR SIGNAGE, FIRE EXTINGUISHERS, ETC. HOSES, VALVES, FITTINGS, CAPS, FILLER NOZZLES, AND ASSOCIATED HARDWARE SHALL BE MAINTAINED IN PROPER WORKING CONDITION AT ALL TIMES. TANKS SHALL BE LOCATED TO MINIMIZE EXPOSURE TO WEATHER AND SURFACE WATER DRAINAGE FEATURES. THE LOCATION OF FUEL TANKS SHALL BE SHOWN ON THE SITE MAPS.
- A SPILL PREVENTION, CONTROL AND COUNTERMEASURE (SPCC) PLAN MUST BE DEVELOPED IF ABOVEGROUND OIL STORAGE CAPACITY AT THE CONSTRUCTION SITE EXCEEDS 1,320 GALLONS OR AS SPECIFIED BY STATE.
- CONTAINERS WITH A STORAGE CAPACITY OF LESS THAN 55-GALLONS ARE NOT INCLUDED WHEN CALCULATING SITE STORAGE CAPACITY. THE GC SHALL WORK WITH THE CEC TO DEVELOP AND IMPLEMENT A SPCC PLAN IN ACCORDANCE WITH THE OIL POLLUTION PREVENTION REGULATION AT TITLE 40 OF THE CODE OF FEDERAL REGULATIONS, PART 112, (40 CFR 112).

**FPSU FUEL AND PETROLEUM STORAGE AND USE**

**SOURCE BOX**

LAST REVISED:	WAL-MART STANDARD DETAIL
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NOTES:

- USING WATER FROM BASINS, TRAPS, TANKS, OR OTHER WATER CONTAINMENT AREAS FOR IRRIGATION MINIMIZES DISCHARGES FROM THE SITE, AND IT MAY SATISFY OTHER NEEDS OF THE CONSTRUCTION PROJECT, SUCH AS DUST CONTROL, VEGETATIVE ESTABLISHMENT, ETC.
- CARE SHALL BE TAKEN THAT WATER UTILIZED FROM CONTAINMENT AREAS ON-SITE FOR CONSTRUCTION PURPOSES DOES NOT DISCHARGE OFF-SITE. IF DISCHARGE IS ANTICIPATED OR OBSERVED, DEWATERING PROCEDURES STATED IN THE DEWATERING DETAIL MUST BE FOLLOWED.
- GC SHALL IMPLEMENT IRRIGATION OR DISPERSION AS PRACTICABLE TO REDUCE WATER VOLUME IN IMPOUNDMENTS AND TO FOSTER VEGETATION GROWTH.

**ID IRRIGATION OR DISPERSION**

**SOURCE BOX**

LAST REVISED:	WAL-MART STANDARD DETAIL
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NOTES:

- STORM DRAIN INLET PROTECTION MEASURES SHALL PREVENT SOIL AND DEBRIS FROM ENTERING STORM DRAIN INLETS.
- TEMPORARY CONTROLS SHALL BE CONSTRUCTED BEFORE THE SURROUNDING AREA IS DISTURBED.
- TO PREVENT CLOGGING, STORM DRAIN CONTROL STRUCTURES MUST BE MAINTAINED FREQUENTLY.
- CHECK ALL TEMPORARY CONTROL MEASURES DAILY, AND AFTER EACH STORM EVENT.
- CONTROL MEASURES MUST BE BUILT PER DETAIL AND PLANS, AND MUST BE IN GOOD WORKING CONDITION AT ALL TIMES.

**IP INLET PROTECTION**

**SOURCE BOX**

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2013	

NOTES:

- THE GC SHALL IDENTIFY FUELING AREAS WITH LEGIBLE SIGNAGE ON THE SITE. TEMPORARY ON-SITE FUEL TANKS FOR CONSTRUCTION VEHICLES SHALL MEET ALL LOCAL, STATE AND FEDERAL REGULATIONS. ALL TANKS, SINGLE AND DOUBLE WALLED, SHALL BE PROVIDED WITH SECONDARY CONTAINMENT (THAT IS CONTAINMENT EXTERNAL TO AND SEPARATE FROM PRIMARY CONTAINMENT). TANKS SHALL HAVE APPROVED SPILL CONTAINMENT WITH THE CAPACITY REQUIRED BY THE APPLICABLE REGULATIONS. SECONDARY CONTAINMENT SHALL BE CONSTRUCTED OF MATERIALS OF SUFFICIENT THICKNESS, DENSITY, AND COMPOSITION SO AS NOT TO BE STRUCTURALLY WEAKENED AS A RESULT OF CONTACT WITH THE FUEL STORED AND CAPABLE OF CONTAINING DISCHARGED FUEL FOR A PERIOD OF TIME EQUAL TO OR LONGER THAN THE MAXIMUM ANTICIPATED TIME SUFFICIENT TO ALLOW RECOVERY OF DISCHARGED FUEL. IT SHALL BE CAPABLE OF CONTAINING 110% OF THE VOLUME OF THE PRIMARY TANK IF A SINGLE TANK IS USED, OR IN THE CASE OF MULTIPLE TANKS, 150% OF THE LARGEST TANK OR 110% OF THE AGGREGATE, WHICHEVER IS LARGER.
- THE TANKS SHALL BE IN SOUND CONDITION, FREE OF RUST OR OTHER DAMAGE WHICH MIGHT COMPROMISE CONTAINMENT. FUEL STORAGE AREAS SHALL MEET ALL EPA, OSHA AND OTHER REGULATORY REQUIREMENTS FOR SIGNAGE, FIRE EXTINGUISHERS, ETC. HOSES, VALVES, FITTINGS, CAPS, FILLER NOZZLES, AND ASSOCIATED HARDWARE SHALL BE MAINTAINED IN PROPER WORKING CONDITION AT ALL TIMES. TANKS SHALL BE LOCATED TO MINIMIZE EXPOSURE TO WEATHER AND SURFACE WATER DRAINAGE FEATURES. THE LOCATION OF FUEL TANKS SHALL BE SHOWN ON THE SITE MAPS.
- A SPILL PREVENTION, CONTROL AND COUNTERMEASURE (SPCC) PLAN MUST BE DEVELOPED IF ABOVEGROUND OIL STORAGE CAPACITY AT THE CONSTRUCTION SITE EXCEEDS 1,320 GALLONS OR AS SPECIFIED BY STATE.
- CONTAINERS WITH A STORAGE CAPACITY OF LESS THAN 55-GALLONS ARE NOT INCLUDED WHEN CALCULATING SITE STORAGE CAPACITY. THE GC SHALL WORK WITH THE CEC TO DEVELOP AND IMPLEMENT A SPCC PLAN IN ACCORDANCE WITH THE OIL POLLUTION PREVENTION REGULATION AT TITLE 40 OF THE CODE OF FEDERAL REGULATIONS, PART 112, (40 CFR 112).

**FPSU FUEL AND PETROLEUM STORAGE AND USE**

**SOURCE BOX**

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2013	

NOTES:

- CONCRETE WASTE MANAGEMENT PERTAINS TO WASTE FROM CONCRETE READY-MIX TRUCKS, MASONRY OPERATIONS, AND SIMILAR WASTE.
- WASTEWATER FROM WASHOUT OF CONCRETE IS PROHIBITED BY THE GENERAL PERMIT UNLESS MANAGED BY AN APPROPRIATE CONTROL. THE GENERAL CONTRACTOR SHALL ENSURE THAT APPROPRIATE BMPs ARE IN PLACE PRIOR TO ANY DISCHARGE OF WASTEWATER AS A RESULT OF CONCRETE WASHOUT ACTIVITIES.
- DISCHARGE OF EXCESS OR WASTE CONCRETE AND/OR WASH WATER FROM CONCRETE TRUCKS IS ALLOWED AT THE CONSTRUCTION SITE. ONLY COMMERCIALY AVAILABLE ABOVE GROUND PORTABLE CONCRETE WASHOUT CONTAINERS ARE ALLOWED AND MUST BE PROTECTED FROM VEHICLE TRAFFIC AND CLEARLY IDENTIFIED BY LEGIBLE SIGNAGE, AND MUST BE LOCATED OUTSIDE OF VEGETATED BUFFERS AND AS FAR AS PRACTICABLE FROM STORMWATER CONVEYANCES AND IMPOUNDMENTS AND WATER BODIES. PORTABLE CONCRETE WASHOUT CONTAINERS SHALL CONTAIN AND/OR ACTIVELY MANAGE BOTH, SOLID AND FLUID, COMPONENTS OF THE MIX. CONCRETE WASHOUT CONTAINERS MUST BE CLEANED OR EXCHANGED WHEN THE REMAINING VOLUME IS REDUCED BY 85% TO PREVENT ANY POTENTIAL OVERFLOW IN A STORM EVENT.
- ALTERNATIVELY, WASTE CONCRETE CAN BE PLACED INTO FORMS TO MAKE RIP RAP AND/OR OTHER USEFUL CONCRETE PRODUCTS. PORTABLE CONCRETE WASHOUT CONTAINERS SHALL BE DISPOSED OF IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. THE GC IS RESPONSIBLE FOR ASSURING THAT THESE PROCEDURES, APPLICABLE LAWS, AND ENVIRONMENTAL REGULATIONS ARE FOLLOWED. THE LOCATION OF CONCRETE WASHOUT CONTAINERS SHALL BE SHOWN ON THE SITE MAPS.

**CW CEMENT AND CONCRETE WASHOUT**

**SOURCE BOX**

LAST REVISED:	WAL-MART STANDARD DETAIL
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NOTES:

- PROVIDE WASH STATION IN A LOCATION PROTECTED FROM WEATHER ELEMENTS.
- COLLECT ALL USED WASH WATER AND DISPOSE OF IT PROPERLY.
- PROVIDE ADEQUATE SUPPLY OF WATER AND ANY OTHER SUPPLIES TO ENSURE PROPER OPERATION OF WASH STATION WHEN NEEDED.

**PSW PAINT AND STUCCO WASHOUT**

**SOURCE BOX**

LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2013	

REVISIONS	BY

**CARLSON CONSULTING ENGINEERS, INC.**

7686 REDSTONE COMMONS  
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**STATE OF MICHIGAN**  
**JOSEPH PARSLEY**  
**ENGINEER**  
No. 8201066218  
REGISTERED PROFESSIONAL ENGINEER

**SAM'S CLUB #4982-211**  
**MT PLEASANT (UNION TOWNSHIP), MICHIGAN**  
**SAM'S REAL ESTATE BUSINESS TRUST**  
**2101 SE SIMPLE SAVINGS DRIVE**  
**BENTONVILLE, AR 72716**

**sam's club**

DRAWN	AAS
CHECKED	BKM
DATE	09/20/2022
SCALE	NTS
JOB No.	4982-211
SHEET	9 OF 27 SHEETS

**SW-6**  
**SWPPP DETAILS**

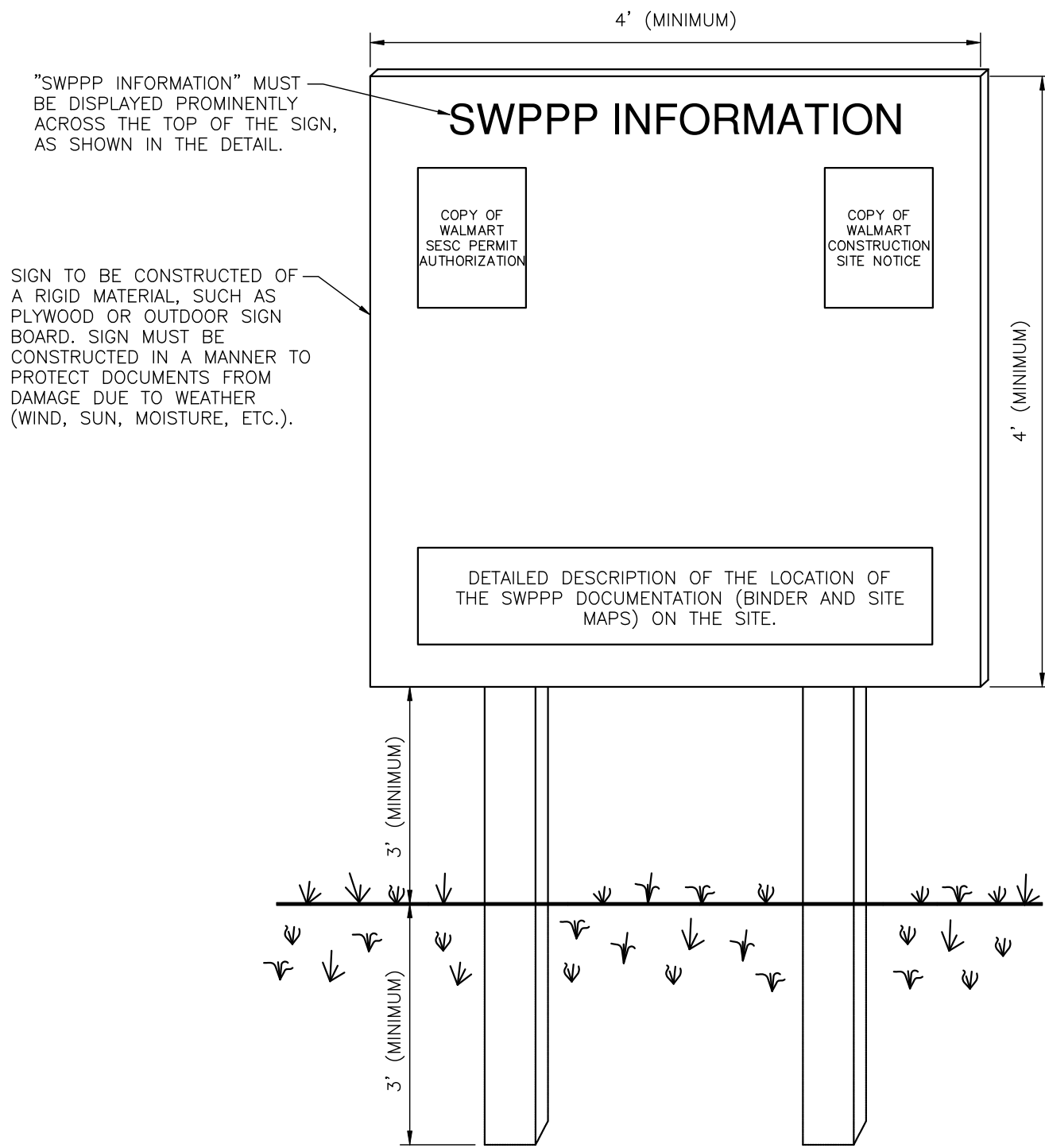
DEVELOPER/OWNER  
**SAM'S REAL ESTATE BUSINESS TRUST**  
MAIL STOP 0505  
702 S.W. 8TH STREET  
BENTONVILLE, AR 72716-0505  
(479) 360-4749

SITE OPERATOR/GENERAL CONTRACTOR:

\_\_\_\_\_  
SUPERINTENDENT:

\_\_\_\_\_  
SUPERINTENDENT:

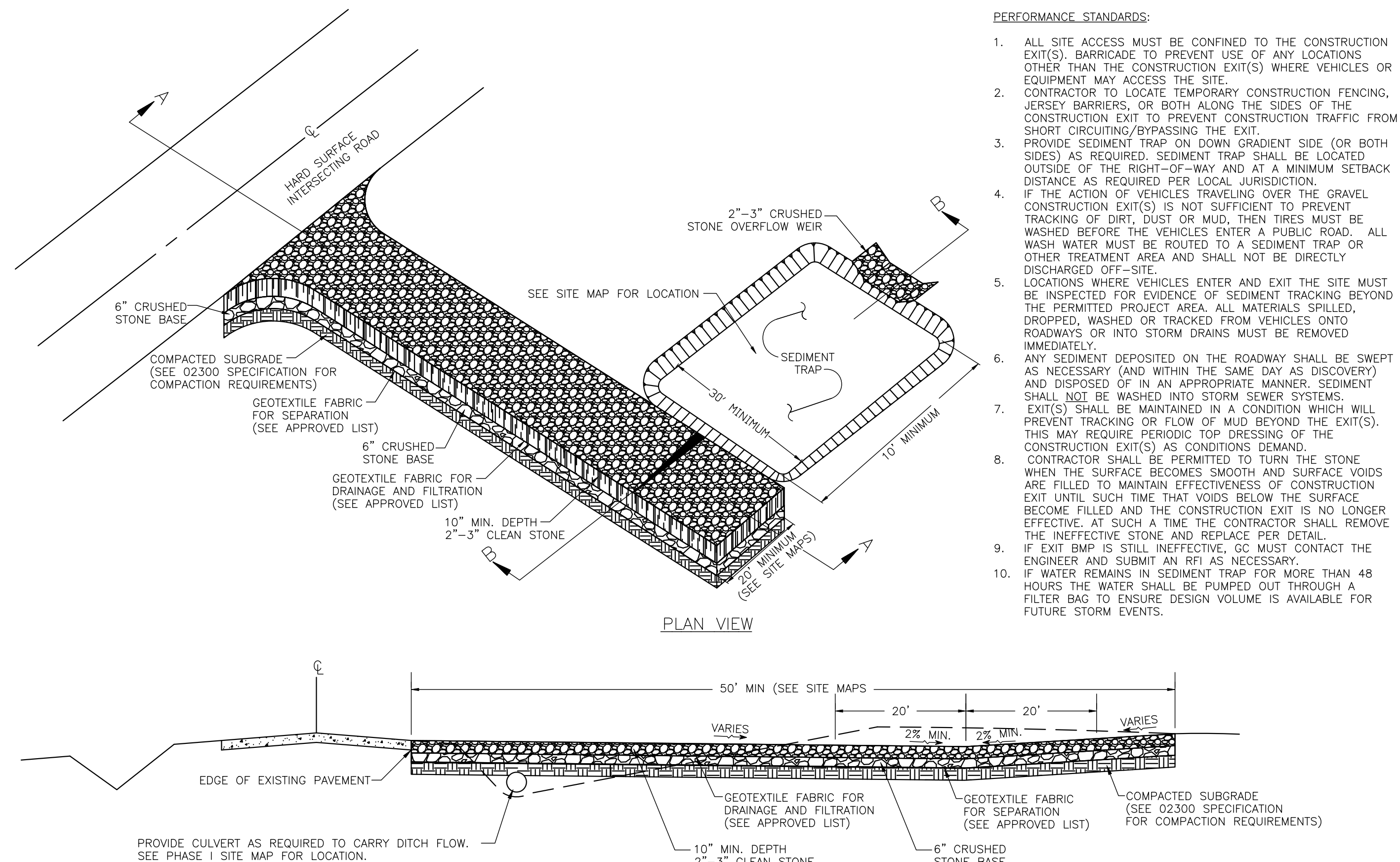
IMPORTANT: GC MUST SIGN ALL SHEETS AND ANY NEW PLAN SHEETS ISSUED BY THE CEC.



- NOTES:
1. THE SWPPP INFORMATION SIGN MUST BE LOCATED IN A PROMINENT, PUBLICLY ACCESSIBLE LOCATION NEAR THE MAIN ENTRANCE OF THE SITE, SUCH THAT THE DOCUMENTATION CAN BE READ WITHOUT ACCESSING THE JOBSITE, BUT NOT OBSTRUCTING VIEWS AS TO CAUSE A TRAFFIC SAFETY HAZARD.
  2. ALL POSTED DOCUMENTS MUST BE MAINTAINED IN A CLEARLY READABLE CONDITION AT ALL TIMES THROUGHOUT CONSTRUCTION AND UNTIL THE NOTICE-OF-TERMINATION (NOT) IS FILED FOR THE PERMIT.
  3. ALL PAGES OF NOTICES OF INTENT AND PERMIT AUTHORIZATIONS MUST BE POSTED. THE CONTRACTOR MAY UTILIZE ACCESSIBLE WATERPROOF FOLDERS TO STORE THESE DOCUMENTS IF IT WILL BE DIFFICULT TO POST ALL PAGES INDIVIDUALLY.
  4. CONTRACTOR SHALL POST OTHER STORMWATER AND/OR EROSION AND SEDIMENT CONTROL RELATED PERMITS ON THE SIGN AS REQUIRED BY THE GOVERNING AGENCIES.
  5. SUBSEQUENT PERMIT MODIFICATION REQUESTS OR RENEWAL APPLICATIONS AND THEIR ASSOCIATED AUTHORIZATIONS OR RESPONSES SHALL BE POSTED ON THE SWPPP SIGN.
  6. SIGN SHALL BE LOCATED OUTSIDE OF PUBLIC RIGHT-OF-WAY AND EASEMENTS UNLESS APPROVED BY THE GOVERNING AGENCY.
  7. CONTRACTOR IS RESPONSIBLE FOR ENSURING STABILITY OF THE SWPPP INFORMATION SIGN.

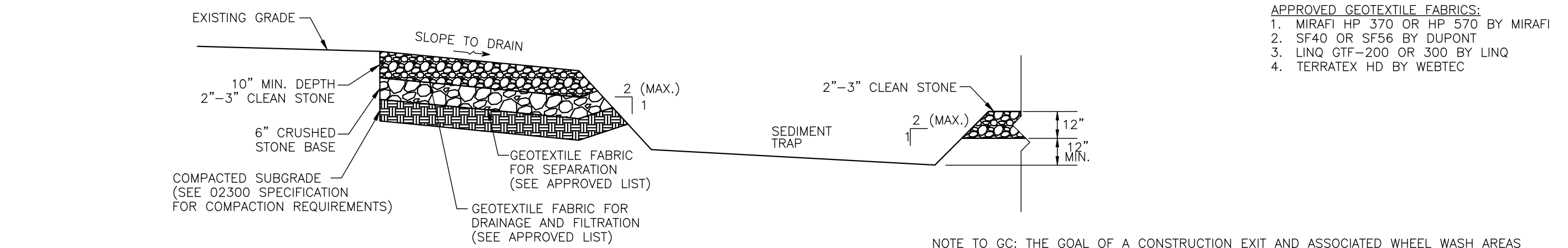
**SS SWPPP INFORMATION SIGN**  
N.T.S.

SOURCE BOX	
LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2012	



- PERFORMANCE STANDARDS:
1. ALL SITE ACCESS MUST BE CONFINED TO THE CONSTRUCTION EXIT(S). BARRICADE TO PREVENT USE OF ANY LOCATIONS OTHER THAN THE CONSTRUCTION EXIT(S) WHERE VEHICLES OR EQUIPMENT MAY ACCESS THE SITE.
  2. CONTRACTOR TO LOCATE TEMPORARY CONSTRUCTION FENCING, JERSEY BARRIERS, OR BOTH ALONG THE SIDES OF THE CONSTRUCTION EXIT TO PREVENT CONSTRUCTION TRAFFIC FROM SHORT CIRCUITING/BYPASSING THE EXIT.
  3. PROVIDE SEDIMENT TRAP ON DOWN GRADIENT SIDE (OR BOTH SIDES) AS REQUIRED. SEDIMENT TRAP SHALL BE LOCATED OUTSIDE OF THE RIGHT-OF-WAY AND AT A MINIMUM SETBACK DISTANCE AS REQUIRED PER LOCAL JURISDICTION.
  4. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION EXIT(S) IS NOT SUFFICIENT TO PREVENT TRACKING OF DIRT, DUST OR MUD, THEN TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. ALL WASH WATER MUST BE ROUTED TO A SEDIMENT TRAP OR OTHER TREATMENT AREA AND SHALL NOT BE DIRECTLY DISCHARGED OFF-SITE.
  5. LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE MUST BE INSPECTED FOR EVIDENCE OF SEDIMENT TRACKING BEYOND THE PERMITTED PROJECT AREA. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
  6. ANY SEDIMENT DEPOSITED ON THE ROADWAY SHALL BE SWEEP AS NECESSARY (AND WITHIN THE SAME DAY AS DISCOVERY) AND DISPOSED OF IN AN APPROPRIATE MANNER. SEDIMENT SHALL NOT BE WASHED INTO STORM SEWER SYSTEMS.
  7. EXIT(S) SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD BEYOND THE EXIT(S). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION EXIT(S) AS CONDITIONS DEMAND.
  8. CONTRACTOR SHALL BE PERMITTED TO TURN THE STONE WHEN THE SURFACE BECOMES SMOOTH AND SURFACE VOIDS ARE FILLED TO MAINTAIN EFFECTIVENESS OF CONSTRUCTION EXIT UNTIL SUCH TIME THAT VOIDS BELOW THE SURFACE BECOME FILLED AND THE CONSTRUCTION EXIT IS NO LONGER EFFECTIVE. AT SUCH A TIME THE CONTRACTOR SHALL REMOVE THE INEFFECTIVE STONE AND REPLACE PER DETAIL.
  9. IF EXIT BMP IS STILL INEFFECTIVE, GC MUST CONTACT THE ENGINEER AND SUBMIT AN RFI AS NECESSARY.
  10. IF WATER REMAINS IN SEDIMENT TRAP FOR MORE THAN 48 HOURS THE WATER SHALL BE PUMPED OUT THROUGH A FILTER BAG TO ENSURE DESIGN VOLUME IS AVAILABLE FOR FUTURE STORM EVENTS.

**SECTION A-A**



**SECTION B-B**

- APPROVED GEOTEXTILE FABRICS:
1. MIRAF HP 370 OR HP 570 BY MIRAF
  2. SF40 OR SF56 BY DUPONT
  3. LIHQ GTF-200 OR 300 BY LIHQ
  4. TERRATEX HD BY WEBTEC
- NOTE TO GC: THE GOAL OF A CONSTRUCTION EXIT AND ASSOCIATED WHEEL WASH AREAS IS TO ELIMINATE TRACK OUT. SIMPLY MANAGING TRACK OUT THROUGH DESIGNATED OR CONTINUAL STREET SWEEPING IS NOT AN ACCEPTABLE PRACTICE. WHILE STREET SWEEPING IS AN ACCEPTABLE PRACTICE FOR REMOVING DUST AND MINIMAL AMOUNTS OF FINE SEDIMENT, OBSERVABLE TRACK OUT FROM THE PROJECT SHALL TRIGGER THE USE OF ADDITIONAL MEASURES (WHEEL WASH), CONSIDERATION OF ALTERNATE EXITS, OR DISCONTINUING VEHICLE TRAFFIC UNTIL CONDITIONS ON-SITE HAVE IMPROVED. TRACK OUT IS A SEDIMENT RELEASE. ALL SEDIMENT RELEASES MUST BE REPORTED TO THE SWCT VIA THE ONLINE CRITICAL INCIDENT REPORT.

SOURCE BOX	
LAST REVISED:	WAL-MART STANDARD DETAIL
OCTOBER 2013	

**CE CONSTRUCTION EXIT**  
N.T.S.

- NOTES:
1. CONSIDERATION MUST BE GIVEN TO ANTICIPATED CLIMATE AND SEASONAL CONDITIONS WHEN PLANTING SEED.
  2. SEED SHALL BE FREE OF WEEDY SPECIES AND APPROPRIATE FOR SITE SOILS AND REGIONAL CLIMATE. SEED AND MULCH PER THE CONSTRUCTION DRAWINGS AND THE 02900 PLANTING SPECIFICATION IMMEDIATELY AFTER TOPSOIL IS APPLIED AND FINAL GRADE IS REACHED.
  3. THE SITE HAS ACHIEVED FINAL STABILIZATION ONCE ALL AREAS ARE COVERED WITH BUILDING FOUNDATION OR PAVEMENT, OTHER LANDSCAPING COVER (STONE, MULCH, ETC.), OR HAVE A STAND OF GRASS WITH A MINIMUM OF 70 PERCENT DENSITY OVER THE ENTIRE VEGETATED AREA, OR GREATER IN ACCORDANCE WITH THE GENERAL PERMIT REQUIREMENTS.
  4. VEGETATED AREAS MUST BE WATERED, FERTILIZED, AND RESEEDED AS NEEDED TO ACHIEVE THIS REQUIREMENT.
  5. THE VEGETATIVE DENSITY MUST BE MAINTAINED THROUGH PROJECT COMPLETION TO BE CONSIDERED STABILIZED. AREAS PROTECTED BY EROSION CONTROL BLANKETS ARE NOT PERMANENTLY STABILIZED UNTIL THE APPLICABLE GENERAL PERMIT REQUIREMENT FOR FINAL VEGETATIVE DENSITY IS ACHIEVED.
  6. RIP-RAP, MULCH, GRAVEL, DECOMPOSED GRANITE OR OTHER EQUIVALENT PERMANENT STABILIZATION MEASURES MAY BE EMPLOYED IN LIEU OF VEGETATION BASED ON SITE-SPECIFIC CONDITIONS, DESIGN AND GOVERNING AUTHORITY APPROVAL.
  7. ALL SEED AREAS SHALL BE INSPECTED REGULARLY TO CONFIRM THAT A HEALTHY STAND OF GRASS IS MAINTAINED.

**SVR SEEDING/VEGETATION REQUIREMENTS**

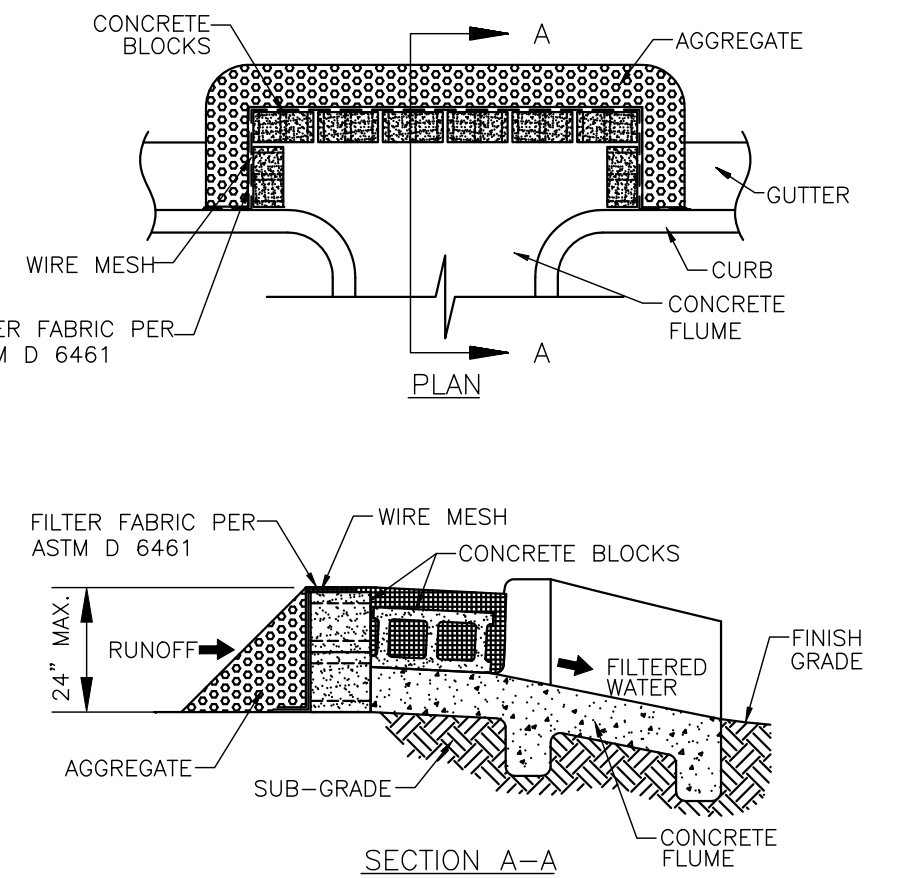
SOURCE BOX	
LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2012	

- NOTES:
1. PERMANENT STABILIZATION SHALL BE ACCOMPLISHED IN ALL DISTURBED AREAS BY COVERING THE SOIL WITH PAVEMENT, BUILDING STRUCTURES, VEGETATION, OR OTHER FORMS OF SOIL STABILIZATION.
  2. THE GC IS REQUIRED TO INITIATE PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY UPON REACHING FINAL GRADE. FOR THOSE AREAS NOT AT FINAL GRADE THAT WILL NOT BE DISTURBED FOR GREATER THAN 14 DAYS, THE CONTRACTOR SHALL INITIATE TEMPORARY STABILIZATION PER THE TEMPORARY SEEDING OR STABILIZATION DETAIL.
  3. THE GC HAS 5 DAYS FROM INITIATION OF STABILIZATION TO COMPLETE SOIL PREPARATION, SEEDING, MULCHING, AND ANY OTHER REQUIRED ACTIVITIES RELATED TO THE PLANTING AND ESTABLISHMENT OF VEGETATION. THE GC ALSO HAS 5 DAYS FROM INITIATION OF STABILIZATION TO COMPLETELY INSTALL NON-VEGETATED MEASURES, IF UTILIZED.
  4. SOILS MUST BE PREPARED BEFORE INSTALLATION OF SOD OR SEED. SEE 02900 SPECIFICATION FOR INSTRUCTION ON PROPER SOIL PREPARATION.
  5. AT THE COMPLETION OF GROUND-DISTURBING ACTIVITIES, THE ENTIRE SITE MUST HAVE PERMANENT VEGETATIVE COVER MEETING VEGETATIVE DENSITY REQUIREMENTS IN THE GENERAL PERMIT, OR MULCH PER LANDSCAPE PLAN, IN ALL AREAS NOT COVERED BY HARDSCAPE (STONE, PAVEMENT, BUILDINGS, ETC.).
  6. SEEDS AREAS SHALL BE PROTECTED WITH STRAW MULCH, HYDRAULIC MULCH OR A ROLLED EROSION CONTROL PRODUCT. STRAW MULCH MUST BE TACKIFIED OR CRIMPED BY DISC OR OTHER MACHINERY, AND ROLLED EROSION CONTROL PRODUCTS MUST BE INSTALLED PER MANUFACTURER RECOMMENDATIONS. ONLY ROLLED EROSION CONTROL PRODUCTS ARE PERMITTED TO BE USED IN FLOW CHANNELS.
  7. ALL AREAS TO BE SEEDS MUST MEET TOPSOIL DEPTH, PH AND ORGANIC CONTENT REQUIREMENTS AS SPECIFIED IN THE 02900 SPECIFICATION - PLANTING OR XERISCAPE SPECIFICATION.
  8. FINAL SITE STABILIZATION IS ACHIEVED WHEN PERENNIAL VEGETATIVE COVER PROVIDES PERMANENT STABILIZATION WITH A UNIFORM DENSITY GREATER THAN 70 PERCENT OVER THE ENTIRE AREA TO BE STABILIZED BY VEGETATIVE COVER. THIS AREA IS EXCLUSIVE OF AREAS THAT ARE COVERED WITH ROCK (CRUSHED GRANITE, GRAVEL, ETC.) OR LANDSCAPE MULCH, PAVED OR HAVE A BUILDING OR OTHER PERMANENT STRUCTURE ON THEM.

**PS PERMANENT SEEDING, SOD OR MULCHING**

SOURCE BOX	
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JUNE 2012	

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LAST REVISED:	WAL-MART STANDARD DETAIL
JUNE 2012	



- NOTES:
1. PLACE CONCRETE BLOCKS IN A SINGLE ROW AROUND PERIMETER OF FLUME ON THEIR SIDES, WITH ENDS OF ADJACENT BLOCKS ABUTTING.
  2. HEIGHT OF BARRIER VARIES. USE STACKS OF 4", 8", OR 12" BLOCKS. TOP OF BARRIER MUST BE LOWER THAN TOP OF CURB ELEVATIONS ADJACENT TO FLUME. MAX. HEIGHT SHALL BE 24".
  3. PLACE HARDWARE CLOTH/WIRE MESH W/ MAX. 1/2" OPENINGS OVER VERTICAL FACE OF CONCRETE BLOCKS.
  4. THE AGGREGATE SHALL BE 3/4" - 2" ANGULAR CLEAN STONE WHICH WILL SLOW THE FLOW OF WATER AND ALLOW IT TO FILTER THROUGH AND OVER THE MATERIAL BEFORE ENTERING THE FLUME.
  5. IF ROAD OR PARKING AREA IS OPEN TO PUBLIC, VERIFY SUITABILITY OF BMP WITH AGENCIES HAVING JURISDICTION AND WITH CEC.

- MAINTENANCE NOTES:
1. INLET PROTECTION DEVICES MUST BE INSPECTED FOR SEDIMENT ACCUMULATION WITHIN THE CATCH BASIN (IF USING INSERT-TYPE DEVICE) OR UPGRADIENT OF THE INLET.
  2. REMOVAL OF SEDIMENT ACCUMULATED IN OR ADJACENT TO A STORM DRAIN INLET MUST BEGON IMMEDIATELY UPON DISCOVERY, WITH COMPLETION OF THE ACTIVITY OCCURRING NO LATER THAN THE END OF THE FOLLOWING BUSINESS DAY.
  3. INLET PROTECTION DEVICES SHALL BE INSPECTED FOR UNINTENDED BYPASS OR IMPROPER FLOW-RATES THAT MAY CAUSE DOWNSTREAM FLOODING.
  4. CONTACT THE CEC FOR ALTERNATE INLET PROTECTION IF THE DESIGNED PROTECTION MAY IMPACT DOWNSTREAM BMPS, ADJACENT SLOPES, ETC., DUE TO PONDING ISSUES. ENSURE THAT NO UNDERMINING OF INLET PROTECTION DEVICES HAS OCCURRED.
  5. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING OR DETERIORATION.

**IPS BLOCK AND AGGREGATE FLUME PROTECTION**  
N.T.S.

SOURCE BOX	
LAST REVISED:	CEC STANDARD DETAIL
JUNE 2012	

- NOTES:
1. PERMANENT STABILIZATION SHALL BE ACCOMPLISHED IN ALL DISTURBED AREAS BY COVERING THE SOIL WITH PAVEMENT, BUILDING STRUCTURES, VEGETATION, OR OTHER FORMS OF SOIL STABILIZATION.
  2. THE GC IS REQUIRED TO INITIATE PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY UPON REACHING FINAL GRADE. FOR THOSE AREAS NOT AT FINAL GRADE THAT WILL NOT BE DISTURBED FOR GREATER THAN 14 DAYS, THE CONTRACTOR SHALL INITIATE TEMPORARY STABILIZATION PER THE TEMPORARY SEEDING OR STABILIZATION DETAIL.
  3. THE GC HAS 5 DAYS FROM INITIATION OF STABILIZATION TO COMPLETE SOIL PREPARATION, SEEDING, MULCHING, AND ANY OTHER REQUIRED ACTIVITIES RELATED TO THE PLANTING AND ESTABLISHMENT OF VEGETATION. THE GC ALSO HAS 5 DAYS FROM INITIATION OF STABILIZATION TO COMPLETELY INSTALL NON-VEGETATED MEASURES, IF UTILIZED.
  4. SOILS MUST BE PREPARED BEFORE INSTALLATION OF SOD OR SEED. SEE 02900 SPECIFICATION FOR INSTRUCTION ON PROPER SOIL PREPARATION.
  5. AT THE COMPLETION OF GROUND-DISTURBING ACTIVITIES, THE ENTIRE SITE MUST HAVE PERMANENT VEGETATIVE COVER MEETING VEGETATIVE DENSITY REQUIREMENTS IN THE GENERAL PERMIT, OR MULCH PER LANDSCAPE PLAN, IN ALL AREAS NOT COVERED BY HARDSCAPE (STONE, PAVEMENT, BUILDINGS, ETC.).
  6. SEEDS AREAS SHALL BE PROTECTED WITH STRAW MULCH, HYDRAULIC MULCH OR A ROLLED EROSION CONTROL PRODUCT. STRAW MULCH MUST BE TACKIFIED OR CRIMPED BY DISC OR OTHER MACHINERY, AND ROLLED EROSION CONTROL PRODUCTS MUST BE INSTALLED PER MANUFACTURER RECOMMENDATIONS. ONLY ROLLED EROSION CONTROL PRODUCTS ARE PERMITTED TO BE USED IN FLOW CHANNELS.
  7. ALL AREAS TO BE SEEDS MUST MEET TOPSOIL DEPTH, PH AND ORGANIC CONTENT REQUIREMENTS AS SPECIFIED IN THE 02900 SPECIFICATION - PLANTING OR XERISCAPE SPECIFICATION.
  8. FINAL SITE STABILIZATION IS ACHIEVED WHEN PERENNIAL VEGETATIVE COVER PROVIDES PERMANENT STABILIZATION WITH A UNIFORM DENSITY GREATER THAN 70 PERCENT OVER THE ENTIRE AREA TO BE STABILIZED BY VEGETATIVE COVER. THIS AREA IS EXCLUSIVE OF AREAS THAT ARE COVERED WITH ROCK (CRUSHED GRANITE, GRAVEL, ETC.) OR LANDSCAPE MULCH, PAVED OR HAVE A BUILDING OR OTHER PERMANENT STRUCTURE ON THEM.

**TS TEMPORARY SEEDING OR STABILIZATION**

SOURCE BOX	
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JUNE 2012	

<b>DEVELOPER/OWNER</b> SAM'S REAL ESTATE BUSINESS TRUST MAIL STOP 0505 702 S.W. 8TH STREET BENTONVILLE, AR 72716-0505 (479) 360-4749
<b>SITE OPERATOR/GENERAL CONTRACTOR:</b>
<b>SUPERINTENDENT:</b>

IMPORTANT: GC MUST SIGN ALL SHEETS AND ANY NEW PLAN SHEETS ISSUED BY THE CEC.

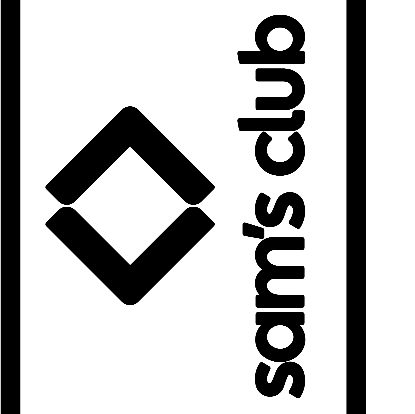
**SW-7 SWPPP DETAILS**

REVISIONS	BY

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**STATE OF MICHIGAN**  
**JOSEPH PARBLE**  
ENGINEER  
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LICENSED PROFESSIONAL ENGINEER

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BENTONVILLE, AR 72716



DRAWN	AAS
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SHEET	10 OF 27 SHEETS



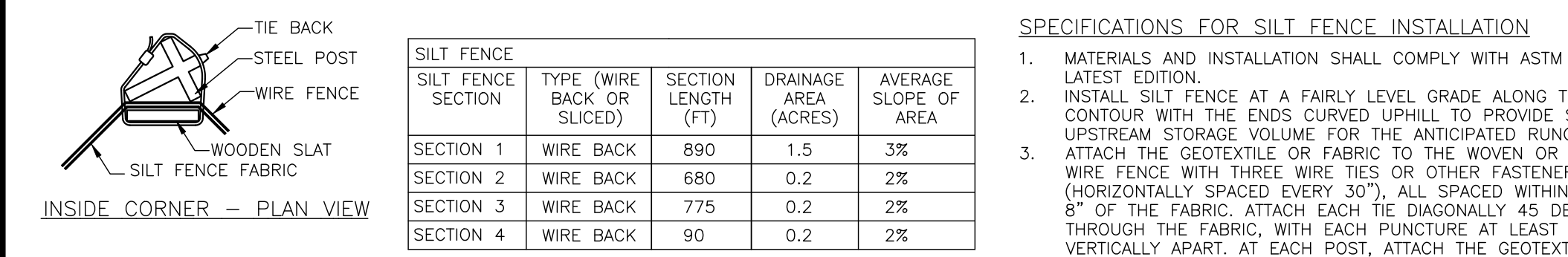
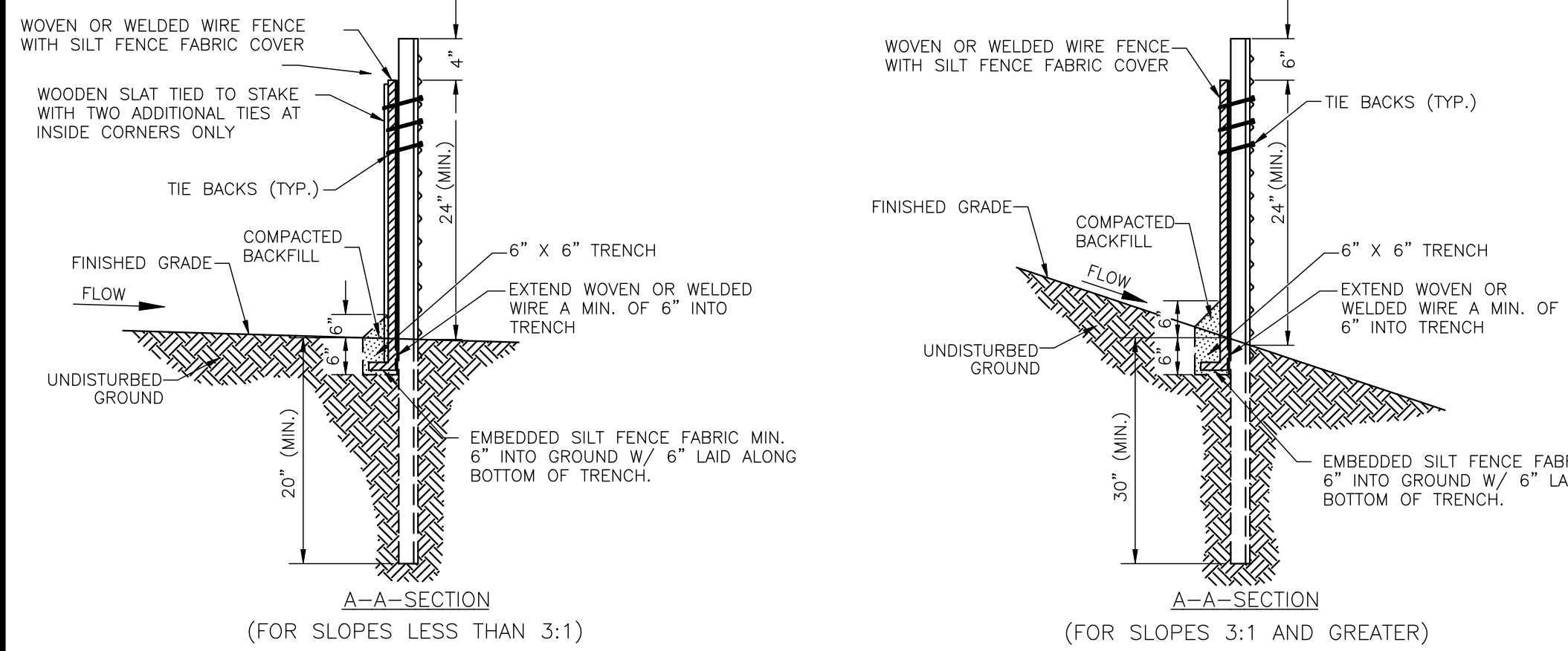
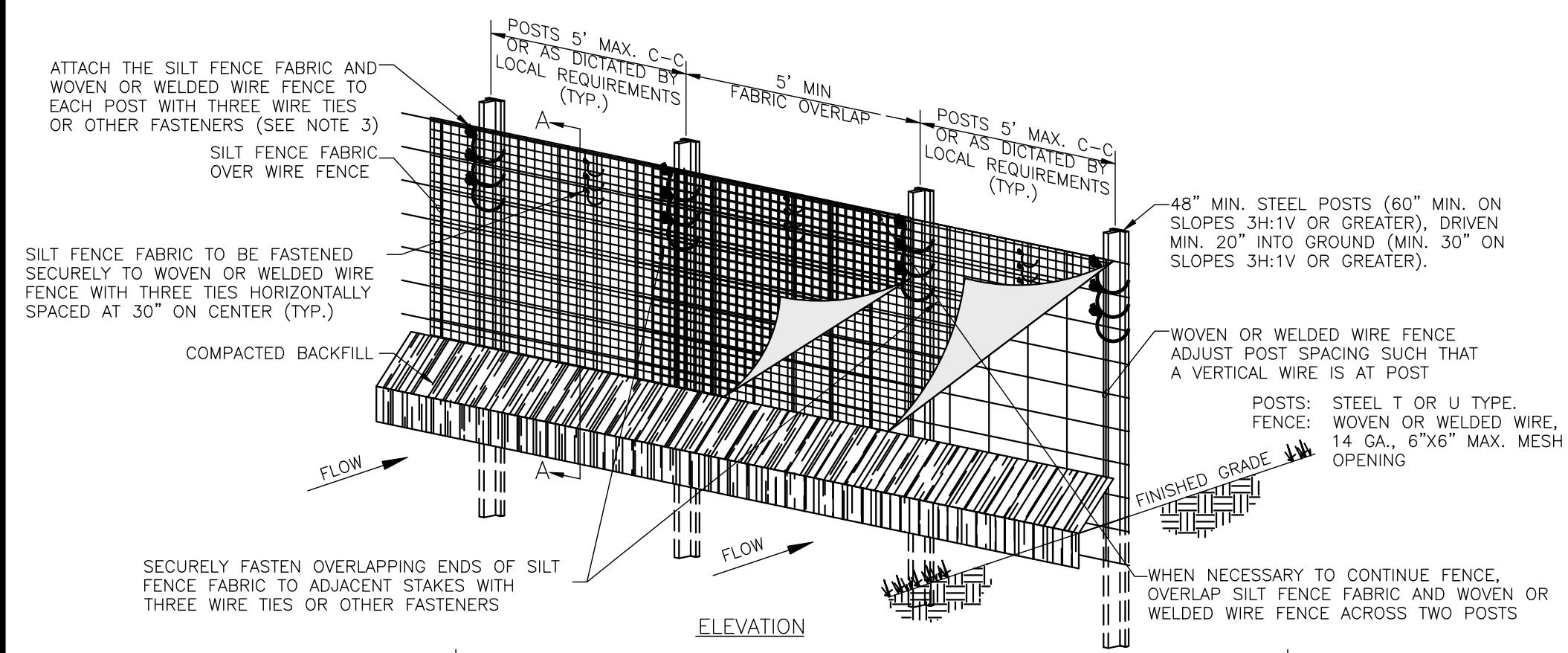


TABLE 1 Temporary Silt Fence Material Property Requirements

Grab Strength	Test Method	Units	Supported <sup>a</sup> Silt Fence		Type of Value
			Supported <sup>a</sup> Silt Fence	Unsupported <sup>a</sup> Silt Fence	
MARV	ASTM D 4632	N (lbs)	400 (90)	550 (90)	MARV
			400 (90)	450 (90)	
MARV	ASTM D 4491	sec-1	0.05	0.05	MARV
			0.60 (30)	0.60 (30)	
Typical	ASTM D 4355	% Retained Strength	70% after 500 h of exposure	70% after 500 h of exposure	Typical
			70% after 500 h of exposure	70% after 500 h of exposure	

<sup>a</sup> Silt fence support shall consist of 14 gage steel wire with a mesh spacing of 150 mm (6 in.) or prefabricated polymer mesh of equivalent strength.  
<sup>b</sup> These default values are based on empirical evidence with a variety of sediments. For environmentally sensitive areas, a review of previous experience and/or site or regionally specific geotextile tests in accordance with Test Method D 5141 shall be performed by the agency to confirm suitability of these requirements.  
<sup>c</sup> As measured in accordance with Test Method D 4632.

TABLE 1 TAKEN FROM ASTM D 6411-99 (2007)

**SF SEDIMENTATION/SILT FENCE WITH WIRE BACKING**  
N.T.S.

SOURCE BOX	
LAST REVISED:	WAL-MART MODIFIED DETAIL
JUNE 2012	

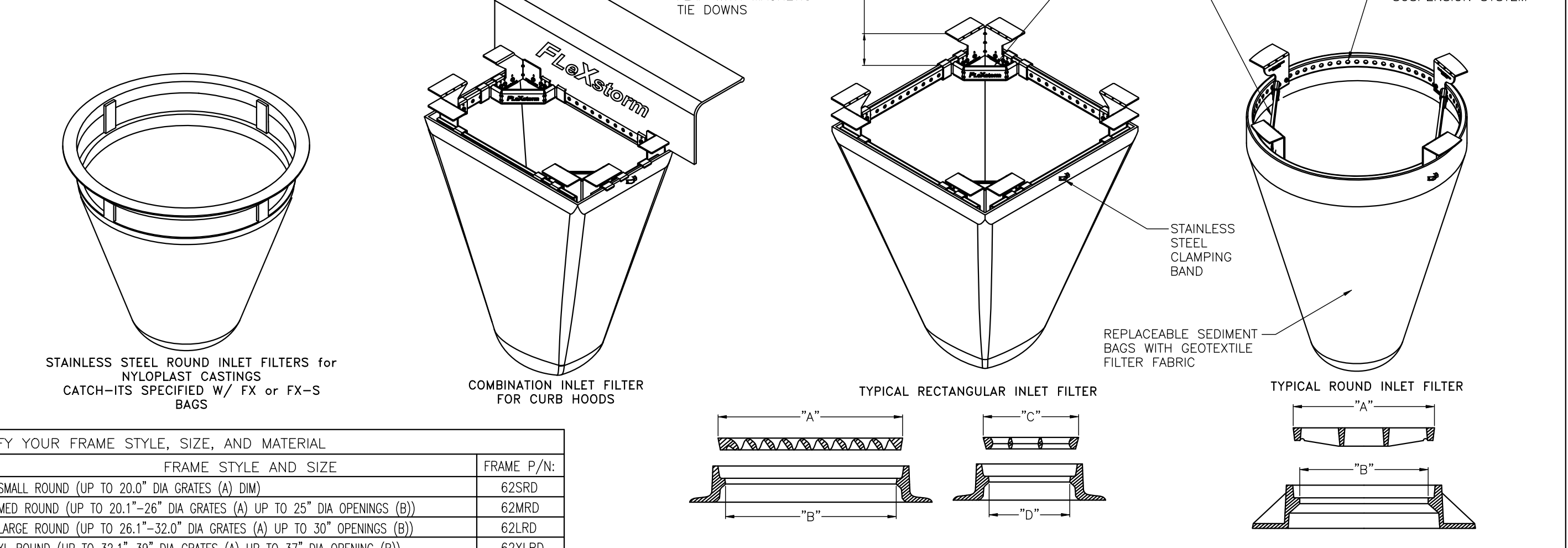
**SPECIFICATIONS FOR SILT FENCE INSTALLATION**

- MATERIALS AND INSTALLATION SHALL COMPLY WITH ASTM D 6462 LATEST EDITION.
- INSTALL SILT FENCE AT A FAIRLY LEVEL GRADE ALONG THE CONTOUR WITH THE ENDS CURVED UPHILL TO PROVIDE SUFFICIENT UPSTREAM STORAGE VOLUME FOR THE ANTICIPATED RUNOFF.
- ATTACH THE GEOTEXTILE OR FABRIC TO THE WOVEN OR WELDED WIRE FENCE WITH THREE WIRE TIES OR OTHER FASTENERS (HORIZONTALLY SPACED EVERY 30"). ALL SPACED WITHIN THE TOP 8" OF THE FABRIC. ATTACH EACH TIE DIAGONALLY 45 DEGREES THROUGH THE FABRIC, WITH EACH PUNCTURE AT LEAST 1" VERTICALLY APART. AT EACH POST, ATTACH THE GEOTEXTILE OR FABRIC AND THE WOVEN OR WELDED WIRE FENCE TO THE POST AS PREVIOUSLY STATED. IN ADDITION, EACH TIE PLACED ON A POST SHALL BE POSITIONED TO HANG ON A POST NIPPLE WHEN TIGHTENED TO PREVENT SAGGING.
- WHEN TWO SECTIONS OF SILT FENCE FABRIC ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED A MINIMUM OF 60" ACROSS TWO POSTS, AS SHOWN.
- ALL SILT FENCE SHALL INCLUDE WIRE SUPPORT.
- WRAP APPROXIMATELY 6" OF FABRIC AROUND THE END POSTS AND SECURE WITH 3 TIES.
- COMPACT THE SOIL IMMEDIATELY NEXT TO THE SILT FENCE FABRIC WITH THE FRONT WHEEL OF THE TRACTOR, SKID STEER, OR ROLLER EXERTING AT LEAST 60 POUNDS PER SQ. INCH. COMPACT THE UPSTREAM SIDE FIRST. COMPACT EACH SIDE TWICE FOR A TOTAL OF FOUR TRIPS.
- ADD POST CAPS AS NEEDED BASED ON SITE CONDITIONS AND APPLICABLE AGENCY REQUIREMENTS.

**MAINTENANCE NOTES**

- SILT FENCES SHALL BE INSPECTED ALONG ITS ENTIRETY AND MUST BE CLEANED WHEN SEDIMENT HAS ACCUMULATED TO ONE-THIRD THE HEIGHT OF THE SILT FENCE. MAINTENANCE CLEANOUT MUST BE CONDUCTED REGULARLY TO PREVENT ACCUMULATED SEDIMENTS FROM READING ONE-THIRD THE HEIGHT OF THE SILT FENCE.
- ALL MATERIAL EXCAVATED FROM BEHIND SILT FENCE SHALL BE STOCKPILED ON AN UPLAND PORTION OF THE SITE IF SUITABLE FOR REUSE.
- SPECIAL ATTENTION SHALL BE PAID TO ENSURE THAT NO UNDERMINING OF SILT FENCE HAS OCCURRED AND THAT NO BYPASS IS OCCURRING AT JOINING SECTIONS.
- IF EXCESS SEDIMENT IS ACCUMULATING IN ANY SECTION OF SILT FENCE, THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL UPSTREAM STABILIZATION MEASURES OR ADDITIONAL BMPs (PENDING CEC APPROVAL) TO PREVENT EXCESSIVE BUILDUP ON SILT FENCE.
- SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED.

**FLEXSTORM INLET FILTERS**  
PRODUCT SELECTION AND SPECIFICATION DRAWING



1. IDENTIFY YOUR FRAME STYLE, SIZE, AND MATERIAL		
STYLE	FRAME STYLE AND SIZE	FRAME P/N:
ROUND	SMALL ROUND (UP TO 20.0" DIA GRATES (A) DIM)	62SRD
	MED ROUND (UP TO 20.1"-26" DIA GRATES (A) UP TO 25" DIA OPENINGS (B))	62MRD
	LARGE ROUND (UP TO 26.1"-32.0" DIA GRATES (A) UP TO 30" DIA OPENINGS (B))	62LRD
RECT/SQUARE	XL ROUND (UP TO 32.1"-39" DIA GRATES (A) UP TO 37" DIA OPENING (B))	62XLRD
	SMALL RECT / SQUARE (UP TO 16" (B) x 16" (D) OPENINGS OR 64" PERIMETER)	62SSQ
	MED RECT / SQUARE (UP TO 24" (B) x 24" (D) OPENINGS OR 96" PERIMETER)	62MSQ
COMBO INLETS	LARGE RECT / SQUARE (UP TO 36" (B) x 24" (D) OPENINGS OR 120" PERIMETER)	62LSQ
	XL RECT/SQUARE (SIDE BY SIDE 2 PC SET TO FIT UP TO 48" (B)x36" (D) OPENINGS)	62XLISQ
	SMALL RECT / SQUARE (REF RECT SIZING; SHIPPED WITH MAGNETIC CURB FLAPS)	62SCB
NYLOPLAST	MED RECT / SQUARE (REF RECT SIZING; SHIPPED WITH MAGNETIC CURB FLAPS)	62MCRB
	LARGE RECT / SQUARE (REF RECT SIZING; SHIPPED WITH MAGNETIC CURB FLAPS)	62LCB
	XL RECT / SQUARE (REF RECT SIZING; SHIPPED WITH MAGNETIC CURB FLAPS)	62XLCB
WALL MOUNT	12" DIAMETER NYLOPLAST CASTINGS (STAINLESS STEEL FRAMING STANDARD)	6212NY
	15" DIAMETER NYLOPLAST CASTINGS (STAINLESS STEEL FRAMING STANDARD)	6215NY
	18" DIAMETER NYLOPLAST CASTINGS (STAINLESS STEEL FRAMING STANDARD)	6218NY
	24" DIAMETER NYLOPLAST CASTINGS (STAINLESS STEEL FRAMING STANDARD)	6224NY
	30" DIAMETER NYLOPLAST CASTINGS (STAINLESS STEEL FRAMING STANDARD)	6230NY
OPEN THROAT GUTTERS - CURB OPENING SIZE		
UP TO 4" (1 FILTER AND MOUNTING HARDWARE)		62WM1
BETWEEN 4" AND 8" (2 FILTERS AND MOUNTING HARDWARE)		62WM2
BETWEEN 8" AND 12" (3 FILTERS AND MOUNTING HARDWARE)		62WM3
BETWEEN 12" AND 16" (4 FILTERS AND MOUNTING HARDWARE)		62WM4
UPGRADED FRAMING MATERIAL OPTIONS (STANDARD IS ZINC PLATED)		SUFFIX
CHROME PLATED FRAMING FOR HIGH SALT EXPOSURE		-CHR
STAINLESS STEEL FRAMING FOR HIGH SALT AND / OR CHEMICAL EXPOSURE		-SS

2. SELECT YOUR FILTER BAG PART NUMBER			
FLEXSTORM FILTER BAGS	(22" DEPTH)	(12" DEPTH)	CLEAN WATER FLOW RATE (GPM/SQFT)
	STD BAG P/N	SHORT BAG P/N	
FX: STANDARD WOVEN BAG	FX	FX-S	200
FX+: WOVEN W/ MYCLEX	FXP	FXP-S	200
FXO: WOVEN W/OIL BOOM	FXO	FXO-S	200
PC: POST CONSTRUCTION BAG	PC	PC-S	137
PC+: PC BAG W/ MYCLEX	PCP	PCP-S	137
LL: LITTER AND LEAF BAG	LL	LL-S	HIGH
IL: IDOT NON-WOVEN BAG	IL	IL-S	145

- INSTALLATION:**
- REMOVE GRATE
  - DROP FLEXSTORM INLET FILTER ONTO LOAD BEARING LIP OF CASTING OR CONCRETE STRUCTURE
  - REPLACE GRATE

**3. CREATE YOUR FLEXSTORM INLET FILTER PART NUMBER**

FRAME P/N FROM STEP 1	FILTER BAG P/N	FRAMING MATERIAL
-	-	-

SPECIFICATIONS FOR STANDARD BAGS BY NOMINAL SIZE

NOMINAL BAG SIZE	SOLIDS STORAGE (CU FT)	FILTERED FLOW RATE AT 50% MAX		PC IL (NON WOVEN)	PC OIL RETENT (OZ)	PCP OIL RETENT (OZ)
		FX (WOVEN)	PC (POST CONSTR)			
SMALL	1.6	1.2	0.8	0.9	66	155
MEDIUM	2.1	1.8	1.2	1.3	96	185
LARGE	3.8	2.2	1.5	1.6	120	209
XL	4.2	3.6	2.4	2.6	192	370

\*PC FILTER BAG AT 50% MAX ABSORPTION CAPACITY  
 \*\*PCP FILTER BAG AT 50% CAPACITY AND MYCLEX SKIMMER AT 100% CAPACITY

ALL PRODUCTS MANUFACTURED BY INLET & PIPE PROTECTION, INC. DISTRIBUTED BY ADS. WWW.INLETFILTERS.COM (866) 287-8655 PH (630) 355-3477 FX. INFO@INLETFILTERS.COM

SCALE	DWG NO	REV

**SOURCE BOX**

LAST REVISED:		MANUFACTURER
APRIL 22, 2013	DETAIL	

**(IP5) FILTER BAG**

**NOTICE TO CONTRACTOR**

WHERE FILTER BAGS ARE SPECIFIED, THE CONTRACTOR SHALL USE FLEXSTORM INLET FILTERS BY NYLOPLAST FOR INLET PROTECTION. SINCE THE INLET FILTERS ARE CUSTOMIZED FOR EACH INLET, THE DETAIL PROVIDED SHALL BE USED FOR GENERAL INFORMATION ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ORDER THE APPROPRIATE FLEXSTORM INLET FILTER FOR EACH EXISTING, OR PROPOSED, INLET TYPE REQUIRING PROTECTION. THE CONTRACTOR SHALL CONTACT GARVIN COX, OR THE LOCAL NYLOPLAST SALES REPRESENTATIVE, FOR ORDERING INFORMATION. AT A MINIMUM, THE CONTRACTOR SHALL BE PREPARED TO PROVIDE THE NYLOPLAST SALES REPRESENTATIVE INFORMATION RELATED TO INLET TYPE AND DIMENSIONS FOR EACH INLET REQUIRING PROTECTION.

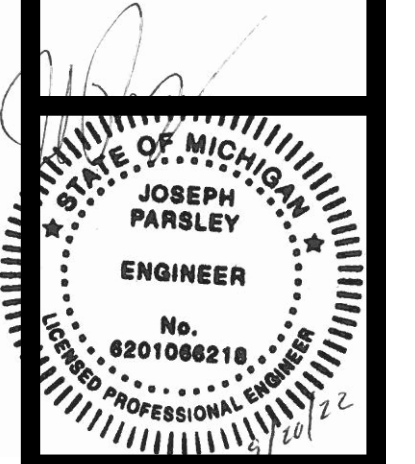


GARVIN COX  
303 W.M. BAUGH LANE  
BROWNWOOD, TX 76801

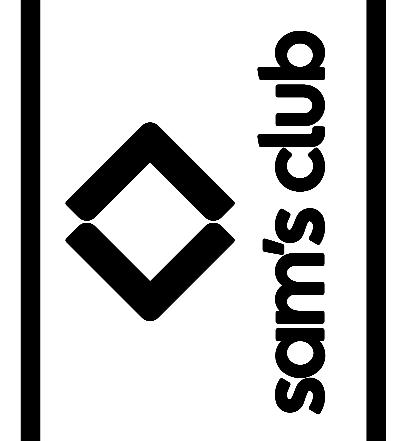
CELL: (915) 309-8259  
FAX: (866) 843-1147  
garvin.cox@ads-pipe.com

REVISIONS	BY

**CARLSON CONSULTING ENGINEERS, INC.**  
7088 LEDSTONE COMMONS  
PH: (901) 352-0404 • FX: (801) 384-0710



SAM'S CLUB #4982-211  
MT PLEASANT (UNION TOWNSHIP), MICHIGAN  
SAM'S REAL ESTATE BUSINESS TRUST  
2101 SE SIMPLE SAVINGS DRIVE  
BENTONVILLE, AR 72716



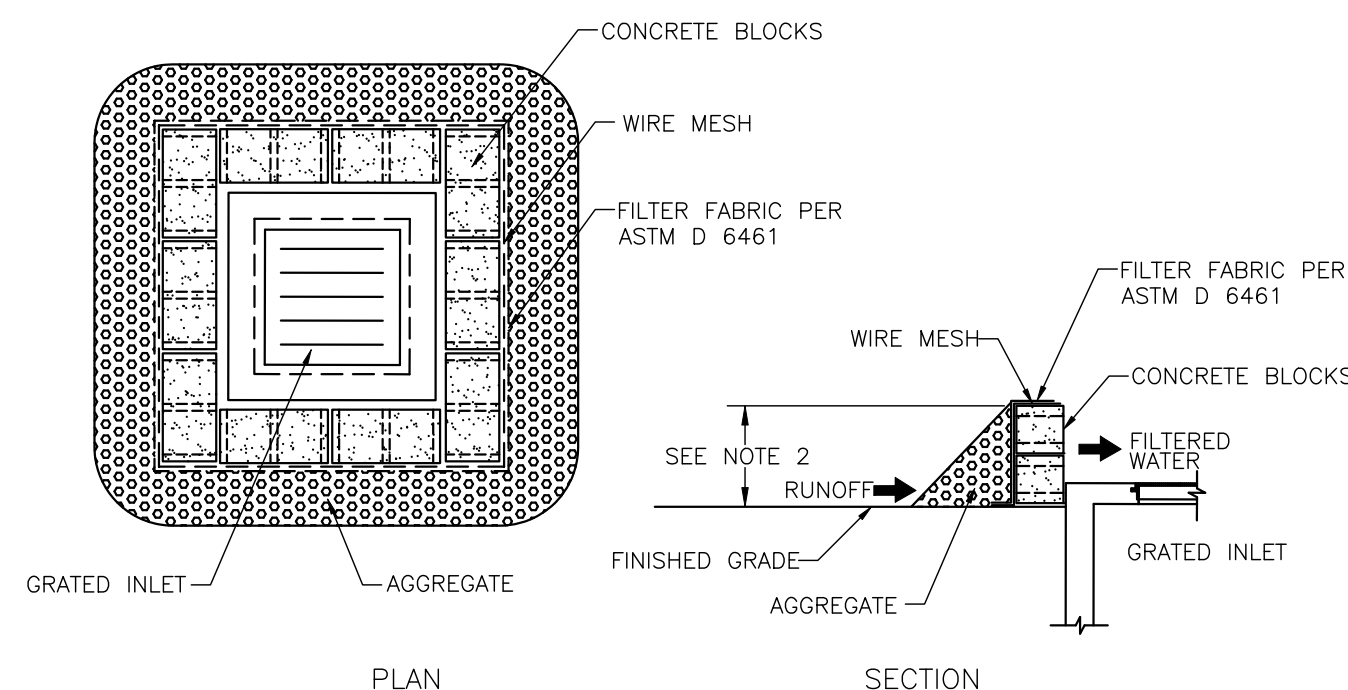
DEVELOPER/OWNER  
SAM'S REAL ESTATE BUSINESS TRUST  
MAIL STOP 0505  
702 S.W. 8TH STREET  
BENTONVILLE, AR 72716-0505  
(479) 360-4749

SITE OPERATOR/GENERAL CONTRACTOR:  
\_\_\_\_\_  
SUPERINTENDENT:  
\_\_\_\_\_

IMPORTANT: GC MUST SIGN ALL SHEETS AND ANY NEW PLAN SHEETS ISSUED BY THE CEC.

DRAWN	AAS
CHECKED	BKM
DATE	09/20/2022
SCALE	NTS
JOB No.	4982-211
SHEET	11 OF 27 SHEETS

**SW-8**  
**SWPPP DETAILS**

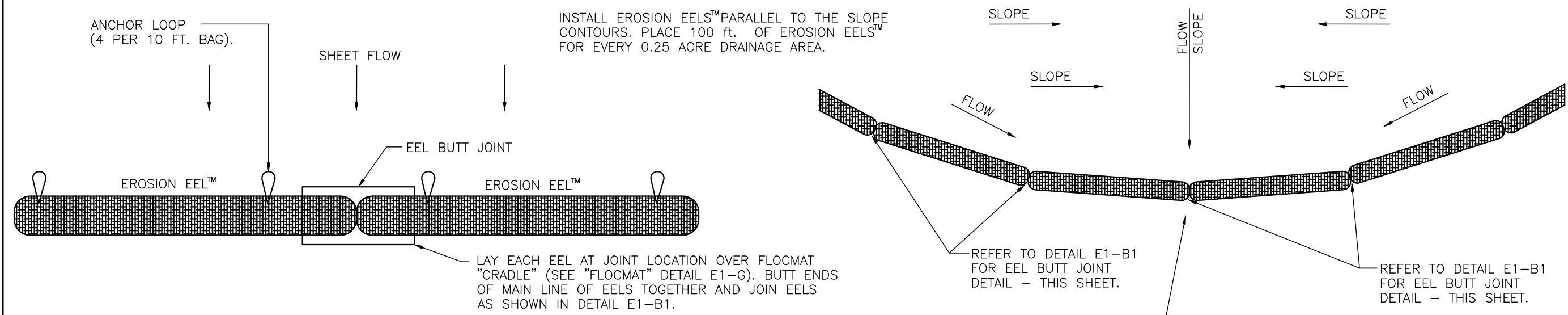


- NOTES:
1. PLACE CONCRETE BLOCKS IN A SINGLE ROW AROUND PERIMETER OF INLET ON THEIR SIDES, WITH ENDS OF ADJACENT BLOCKS ABUTTING.
  2. HEIGHT OF BARRIER VARIES. USE STACKS OF 4", 8", OR 12" BLOCKS. MIN. HEIGHT OF BARRIER SHALL BE 12" AND MAX. HEIGHT SHALL BE 24".
  3. PLACE HARDWARE CLOTH/WIRE MESH W/ MAX. 1/2" OPENINGS OVER VERTICAL FACE OF CONCRETE BLOCKS.
  4. THE AGGREGATE SHALL BE 3/4"-2" ANGULAR CLEAN STONE, WHICH WILL SLOW THE FLOW OF THE WATER AND ALLOW IT TO FILTER THROUGH AND OVER THE MATERIAL BEFORE ENTERING THE INLET.

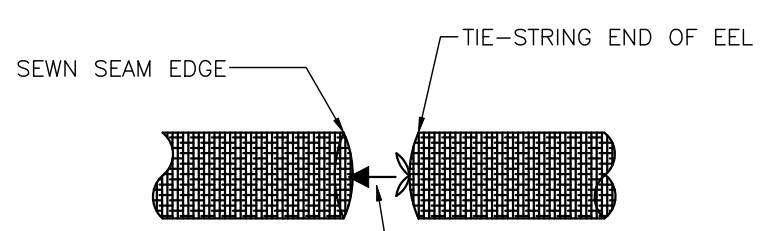
- MAINTENANCE NOTES:
1. INLET PROTECTION DEVICES MUST BE INSPECTED FOR SEDIMENT ACCUMULATION WITHIN THE CATCH BASIN (IF USING INSERT-TYPE DEVICE) OR UPGRADIENT OF THE INLET.
  2. REMOVAL OF SEDIMENT ACCUMULATED IN OR ADJACENT TO A STORM DRAIN INLET MUST BEGIN IMMEDIATELY UPON DISCOVERY, WITH COMPLETION OF THE ACTIVITY OCCURRING NO LATER THAN THE END OF THE FOLLOWING BUSINESS DAY.
  3. INLET PROTECTION DEVICES SHALL BE INSPECTED FOR UNINTENDED BYPASS OR IMPROPER FLOW-RATES THAT MAY CAUSE DOWNSTREAM FLOODING.
  4. CONTACT THE CEC FOR ALTERNATE INLET PROTECTION IF THE DESIGNED PROTECTION MAY IMPACT DOWNSTREAM BMPs, ADJACENT SLOPES, ETC., DUE TO PONDING ISSUES. ENSURE THAT NO UNDERMINING OF INLET PROTECTION DEVICES HAS OCCURRED.
  5. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING OR DETERIORATION.

**IP1 BLOCK AND AGGREGATE INLET PROTECTION**  
N.T.S.

LAST REVISED: CEC STANDARD DETAIL  
APRIL 30, 2011



**DETAIL E1-B: INTERCEPTING SHEET FLOW PERPENDICULAR TO FLOW PATH - PLAN VIEW**  
N.T.S.



**BUTT JOINT DETAIL E1-B1**  
N.T.S.

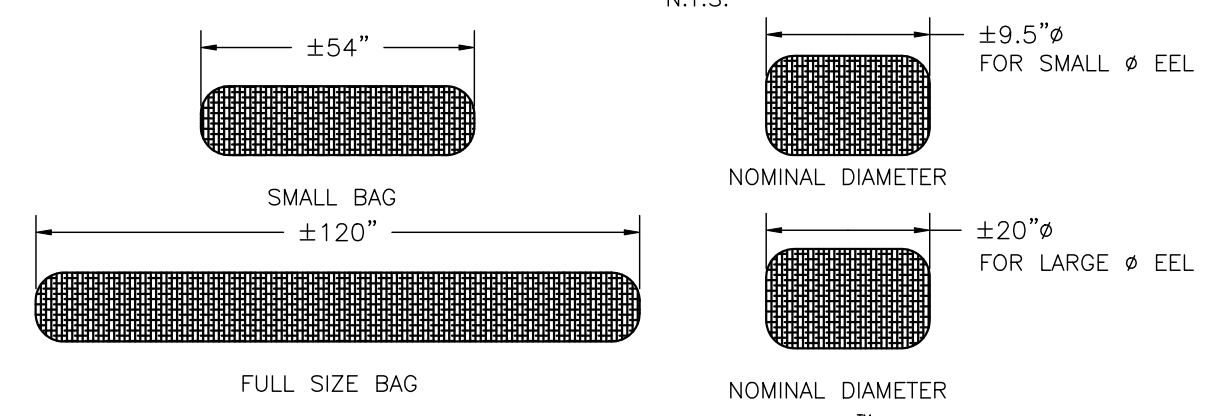
SPACING RECOMMENDATIONS FOR THE EROSION EEL FOR PERIMETER CONTROLS AND INTERCEPTING SHEET FLOW ON SLOPES

SLOPE(%)	SINGLE EEL SPACING(ft)
0.5	300
1	200
2	160
3	80
4	50
5	40
6	35
8	30
10	25
15	+17
20	+12
25	N/A
33	N/A
50	N/A

**CONTACT INFORMATION**  
FRIENDLY ENVIRONMENT  
100 PRINCE STREET  
SHELBYVILLE, TN 37160  
1-866-H2O-EELS  
INFO@FRIENDLYENVIRONMENTUS.COM  
http://FRIENDLYENVIRONMENTUS.COM

LAST REVISED: CEC STANDARD DETAIL  
OCTOBER 2012

**DETAIL E1-F: PLAN VIEW - TYPICAL ARRANGEMENT OF EELS USED FOR PERIMETER CONTROL**  
N.T.S.

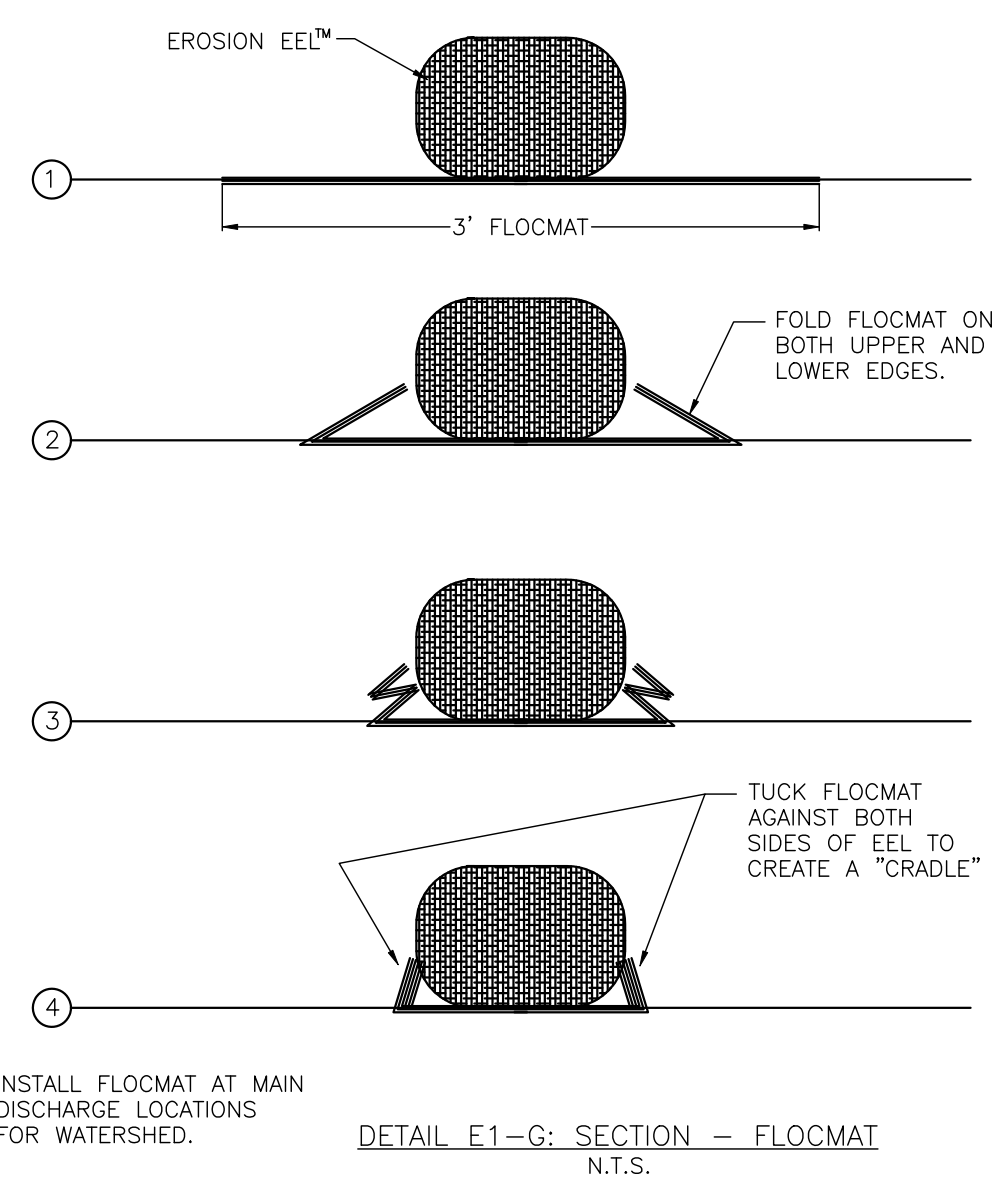


**DETAIL E1-A: EROSION EELS**  
N.T.S.

**GENERAL NOTES**

1. EROSION EELS™ USED IN PERIMETER CONTROL APPLICATIONS SHALL HAVE A SPECIFICATION MIXTURE 1.0 OR 2.0.
  - A. MIXTURE SPECIFICATION 1.0. A FILTER MATERIAL COMPRISED OF 100% RUBBER SHREDS. THE RUBBER SHALL BE DERIVED FROM RECYCLED TIRES AND SHALL BE SHREDDED TO PRODUCE A MAXIMUM PARTICLE SIZE OF +/- 3/4 INCH.
  - B. MIXTURE SPECIFICATION 2.0. A FILTER MIXTURE COMPRISED OF 100% SHREDDED RUBBER DERIVED FROM RECYCLED TIRES. MAXIMUM PARTICLE SIZE IS ±2 INCHES.
2. LENGTHS OF EROSION EELS™ SHALL BE EITHER A NOMINAL +/-10 FT. OR +/- 4.5 FT. NOMINAL DIAMETER SHALL BE +/-9.5 INCHES FOR PERIMETER CONTROLS AND +/-20 INCHES FOR CHECK DAM APPLICATIONS.
3. EROSION EELS™ CAN BE PLACED AT THE TOP, ON THE FACE, OR AT THE TOE OF SLOPES TO INTERCEPT RUNOFF, REDUCE FLOW VELOCITY, RELEASE THE RUNOFF AS SHEET FLOW AND PROVIDE REMOVAL OF SEDIMENT FROM THE RUNOFF.
4. EROSION EELS™ SHALL BE INSTALLED ALONG THE GROUND CONTOUR, AT THE TOE OF SLOPES, AT AN ANGLE TO THE CONTOUR TO DIRECT FLOW AS A DIVERSION BERM, AROUND INLET STRUCTURES, IN A DITCH AS A CHECK DAM TO HELP REDUCE SUSPENDED SOLIDS LOADING AND RETAIN SEDIMENT, OR AS A GENERAL FILTER FOR ANY DISTURBED SOIL AREA.
5. NO TRENCHING IS REQUIRED FOR INSTALLATION OF EROSION EELS™.
6. PREPARE BED FOR EEL INSTALLATION BY REMOVING ANY LARGE DEBRIS INCLUDING ROCKS, SOIL CLODS, AND WOODY VEGETATION. EROSION EELS™ CAN ALSO BE PLACED OVER PAVED SURFACES INCLUDING CONCRETE AND ASPHALT WITH NO SURFACE PREPARATION REQUIRED.
7. RAKE BED AREA WITH A HAND RAKE OR BY DRAG HARROW.
8. DO NOT PLACE EEL DIRECTLY OVER RILL AND GULLIES UNTIL AREA HAS BEEN HAND-EXCAVATED AND RAKED TO PROVIDE A LEVEL BEDDING SURFACE. ALL SURFACES SHALL BE UNIFORMLY COMPACTED FOR MAXIMUM SEATING OF EELS IN PLACE.
9. FOR LOCATIONS WHERE EELS WILL BE PLACED IN CONCENTRATED FLOWS (SUCH AS CHECK DAMS, INLET PROTECTION) AND FOR PERIMETER CONTROLS, BED THE EELS IN A FLOCMAT CRADLE PER THE DETAILED DRAWINGS.
10. FOR DITCH APPLICATIONS, THE MAXIMUM DRAINAGE AREA SHALL BE 10 ACRES.
11. IF MORE THAN ONE EROSION EEL™ IS PLACED IN A ROW, PREPARE JOINTS PER DETAIL E1-B1.
12. EROSION EELS™ SHALL REMAIN IN PLACE UNTIL FULLY ESTABLISHED VEGETATION HAS COMPLETELY DEVELOPED OR UNTIL THE STORAGE CAPACITY/FUNCTIONAL LIFE OF THE EEL HAS BEEN EXHAUSTED (REQUIRING REPLACEMENT WITH NEW EELS).
13. ANCHORING POSTS FOR CHECK DAM APPLICATIONS SHALL HAVE A MINIMUM WEIGHT OF 1.25 LBS/FT STEEL T-POSTS (5 TO 7 FT. LENGTHS) ROLLED FROM HIGH CARBON STEEL. POSTS SHOULD BE HOT-DIP GALVANIZED OR COATED WITH A WEATHER-RESISTANT PAINT FOR STEEL APPLICATION. POSTS SHOULD BE EQUIPPED WITH A METAL ANCHOR PLATE.
14. PLACE T-POSTS THROUGH HANDLE OF BAGS. DO NOT DRIVE POSTS THROUGH EROSION EELS™. T-POSTS ARE TO BE EMBEDDED A MINIMUM OF 3 FT. INTO GROUND ON STEEP SLOPES GREATER THAN 25%.

**EE EROSION EEL**  
N.T.S.



**DETAIL E1-G: SECTION - FLOCMAT**  
N.T.S.

DEVELOPER/OWNER  
SAM'S REAL ESTATE BUSINESS TRUST  
MAIL STOP 0505  
702 S.W. 8TH STREET  
BENTONVILLE, AR 72716-0505  
(479) 360-4749

SITE OPERATOR/GENERAL CONTRACTOR:  
\_\_\_\_\_

SUPERINTENDENT:  
\_\_\_\_\_

IMPORTANT: GC MUST SIGN ALL SHEETS AND ANY NEW PLAN SHEETS ISSUED BY THE CEC.

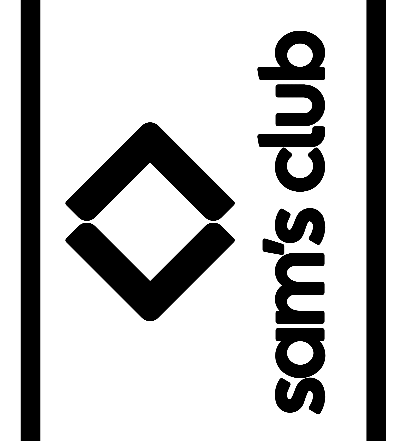
**SW-9 SWPPP DETAILS**

REVISIONS	BY

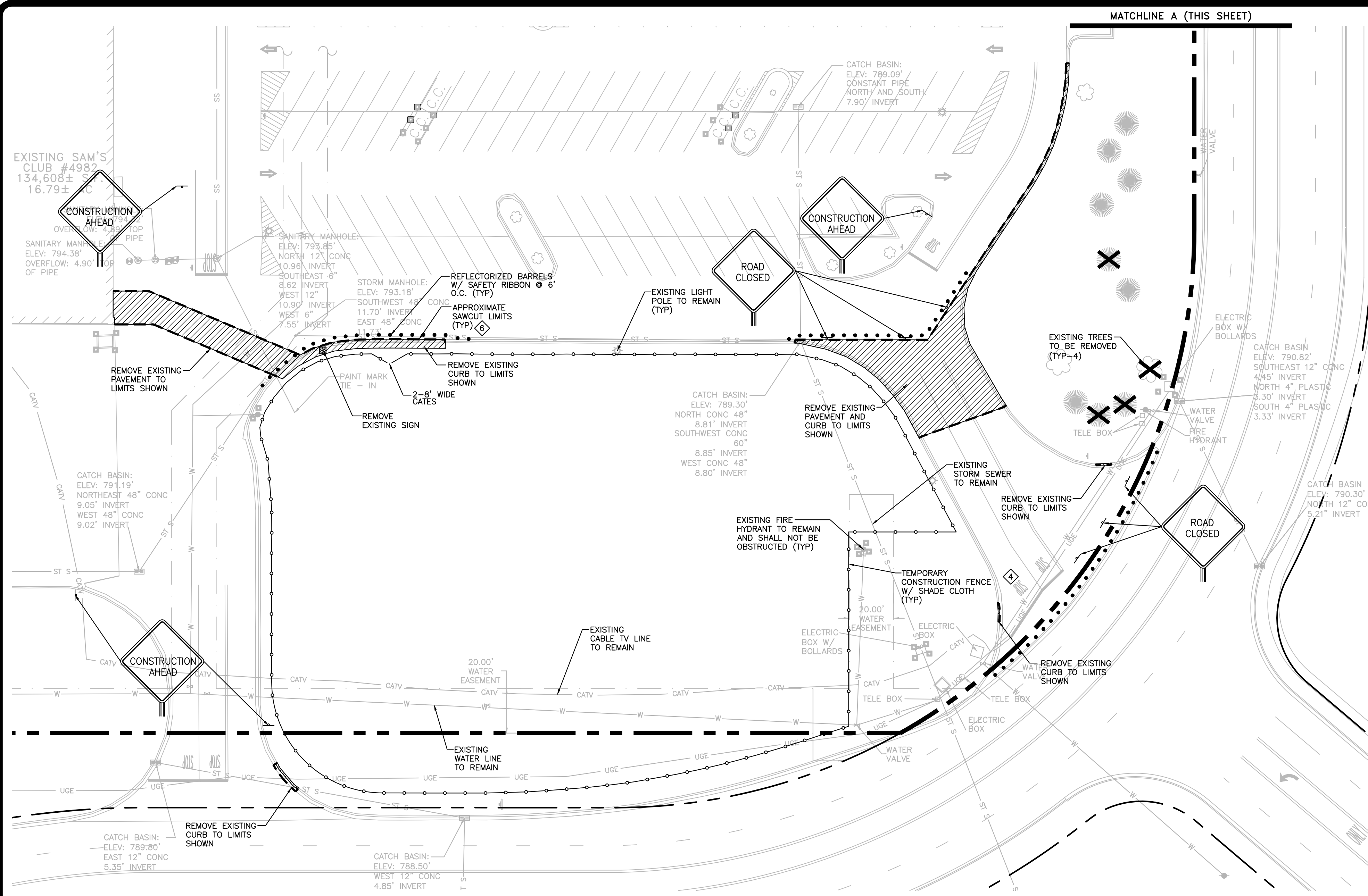
**CARLSON CONSULTING ENGINEERS, INC.**  
708 E. CEDAR ST. #100  
PH: (901) 384-0404 • FX: (901) 384-0710

**JOSEPH PARSLEY**  
ENGINEER  
No. 8201068218  
REGISTERED PROFESSIONAL ENGINEER

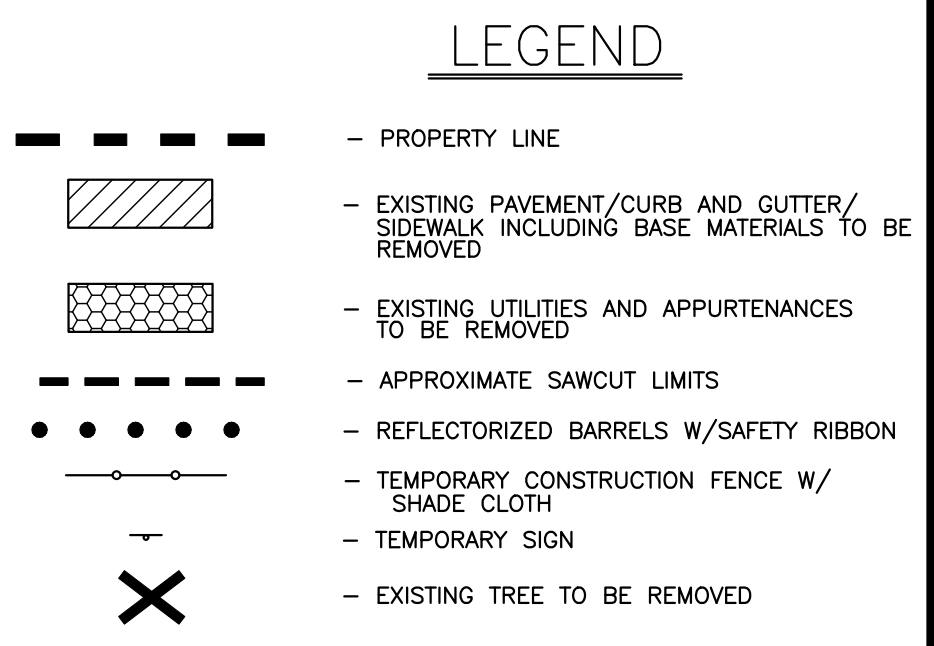
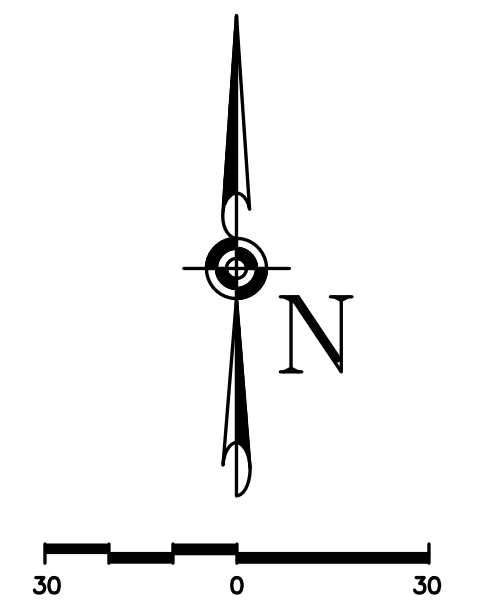
SAM'S CLUB #4982-211  
MT PLEASANT (UNION TOWNSHIP), MICHIGAN  
SAM'S REAL ESTATE BUSINESS TRUST  
2101 SE SIMPLE SAVINGS DRIVE  
BENTONVILLE, AR 72716



DRAWN	AAS
CHECKED	BKM
DATE	09/20/2022
SCALE	NTS
JOB No.	4982-211
SHEET	12 OF 27 SHEETS



- NOTES:**
1. THIS PLAN IS INTENDED TO GIVE AN OVERVIEW OF THE DEMOLITION WORK REQUIRED FOR THE CONSTRUCTION. IT HAS BEEN PREPARED FROM THE PROJECT SURVEY AND SHOWS ITEMS REPRESENTED ON THE SURVEY. IT DOES NOT, HOWEVER, NECESSARILY REPRESENT ALL ITEMS PRESENT IN THE FIELD. THE INTENT OF THIS DRAWING IS TO REMOVE/RELOCATE ALL ITEMS WHICH CONFLICT WITH THE PLANNED IMPROVEMENTS. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE SITE TO THE LEVEL NECESSARY TO INCLUDE THIS WORK IN THE BASE BID.
  2. ALL SITEWORK FOR THE WALKWAY PORTION OF THIS PROJECT SHALL MEET OR EXCEED THE "SITE SPECIFIC SPECIFICATIONS".
  3. ALL NECESSARY INSPECTIONS, APPROVALS, AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR AUTHORITIES SHALL BE COMPLETED PRIOR TO THE ANNOUNCED BUILDING POSSESSION AND THE FINAL CERTIFICATION OF SERVICES.
  4. EXISTING STRIPING THAT CONFLICTS WITH TEMPORARY AND/OR PROPOSED IMPROVEMENTS SHALL BE REMOVED BY BEAD BLASTING.
  5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT THE PUBLIC AT ALL TIMES. FENCING, BARRICADES, ENCLOSURES, BARRELS, OTHER TRAFFIC CONTROL DEVICES, ETC. SHALL BE USED IN THE BEST POSSIBLE MANNER AND AS APPROVED AND/OR DIRECTED BY THE SAMS CONSTRUCTION MANAGER.
  6. THE CONTRACTOR SHALL SAWCUT ALONG EDGE OF PAVEMENT REMOVAL LIMITS TO ENSURE CLEAN, STRAIGHT JOINT BETWEEN OLD AND NEW PAVING SECTIONS.
  7. ALL VOIDS SHALL BE FILLED IN ACCORDANCE WITH THE SPECIFICATIONS.
  8. SEE OTHER PLAN SHEETS FOR PLANNED IMPROVEMENTS, INCLUDING RELOCATIONS.
  9. THE CONTRACTOR SHALL DISPOSE OF ALL DEBRIS, RUBBISH AND OTHER MATERIAL RESULTING FROM DEMOLITION ACTIVITIES IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
  10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ANY UTILITY COMPANY WHICH MAINTAINS A UTILITY LINE WITHIN THE BOUNDARIES OF THE PROJECT PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL ASSUME THE RESPONSIBILITY FOR ANY DAMAGE, INCURRED BY ANY UTILITY COMPANY, TO THEIR LINES AS A RESULT OF HIS ACTIVITIES, WHETHER THESE LINES ARE SHOWN ON THE CONSTRUCTION PLANS OR NOT.
  11. ALL SOLID WASTE MATERIALS, INCLUDING WITHOUT LIMITATION, HOUSEHOLD TRASH, USED TIRES, CONSTRUCTION DEBRIS, ETC. SHALL BE PROPERLY DISPOSED OF IN A SOLID WASTE LANDFILL.
  12. EXISTING UTILITY LINES TO REMAIN UNLESS NOTED OTHERWISE.
  13. REFER TO UTILITY PLAN, THIS SET, FOR ADDITIONAL INFORMATION REGARDING REMOVAL/RELOCATION OF EXISTING UTILITY LINES CONFLICTING WITH PROPOSED IMPROVEMENTS.
  14. PERMANENTLY PLUG END OF EXISTING LINES TO REMAIN ABANDONED IN PLACE.
  15. ALL TEMPORARY TRAFFIC LANES SHALL BE A MINIMUM OF TWELVE FEET WIDE, U.N.O.
  16. CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN PERFORMING CONSTRUCTION ACTIVITIES IN THE VICINITY OF EXISTING UTILITIES. EXISTING UTILITIES THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS SHALL BE RELOCATED OR ADJUSTED IN PLACE TO MEET THE SEPARATION AND MINIMUM REQUIREMENTS ESTABLISHED BY ALL APPLICABLE CODES. ANY COSTS ASSOCIATED WITH THIS WORK SHALL BE IN THE CONTRACTOR'S BID FOR THE PROJECT.
  17. CONTRACTOR SHALL KEEP ALL EXISTING PARKING, SIDEWALKS, DRIVES, ETC. OUTSIDE THE PROJECT LIMITS CLEAR AND FREE FROM ANY CONSTRUCTION ACTIVITY AND/OR MATERIAL.
  18. LIMITS OF DEMOLITION AND SAWCUT SHOWN ON THIS PLAN ARE MINIMUM REQUIREMENTS ONLY. CONTRACTOR IS RESPONSIBLE FOR SAWCUTTING AND REMOVING EXISTING SITE ITEMS AS NECESSARY TO REMOVE/INSTALL ALL ITEMS ASSOCIATED WITH THIS PROJECT. BY SUBMITTING A BID FOR THIS PROJECT, THE CONTRACTOR ACKNOWLEDGES THIS LIMITATION AND ENSURES THAT ADEQUATE FUNDS HAVE BEEN INCLUDED TO ADDRESS THIS SITUATION.
  19. CONTRACTOR SHALL CONTACT 811 FOR LOCATION OF ALL UTILITIES, AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION.
  20. ALL TEMPORARY SIGNAGE SHALL BE 30"x30" DIAMOND SIGNS WITH RETROREFLECTIVE ORANGE BACKGROUND AND BLACK LEGEND/SYMBOLS U.N.O. SIGNS SHALL BE PER MUTCD STANDARDS.
  21. ALL TRAFFIC CONTROL DEVICES (BARRELS, JERSEY WALLS, ETC.) SHALL BE EQUIPPED WITH REFLECTIVE BANDS.
  22. CONTRACTOR SHALL ENSURE THAT ALL EXISTING LIGHTS TO REMAIN ARE FUNCTIONING PROPERLY AT THE COMPLETION OF THIS PROJECT.
  23. THE TRAFFIC CONTROL MEASURES SHOWN ON THIS SHEET REPRESENT MINIMUM REQUIREMENTS IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE ADJUSTMENTS IN THE FIELD, AS NECESSARY AND AS APPROVED BY THE CONSTRUCTION MANAGER, TO ACCOMMODATE THE VARIOUS PHASES OF CONSTRUCTION AND TO PROMOTE SAFE PEDESTRIAN AND VEHICULAR TRAFFIC FOR THE DURATION OF CONSTRUCTION.
  24. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING, SHORING, ETC. AS NECESSARY TO PROTECT ITEMS TO REMAIN ADJACENT TO WORK AREAS.



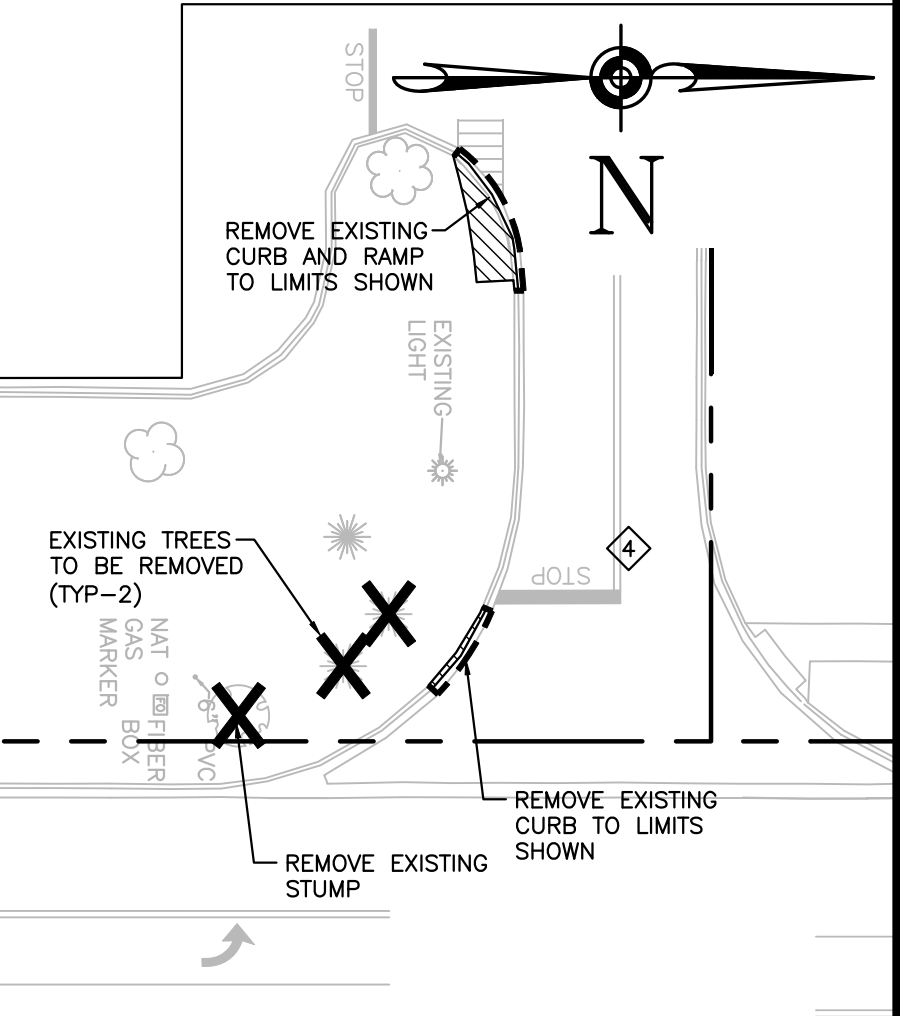
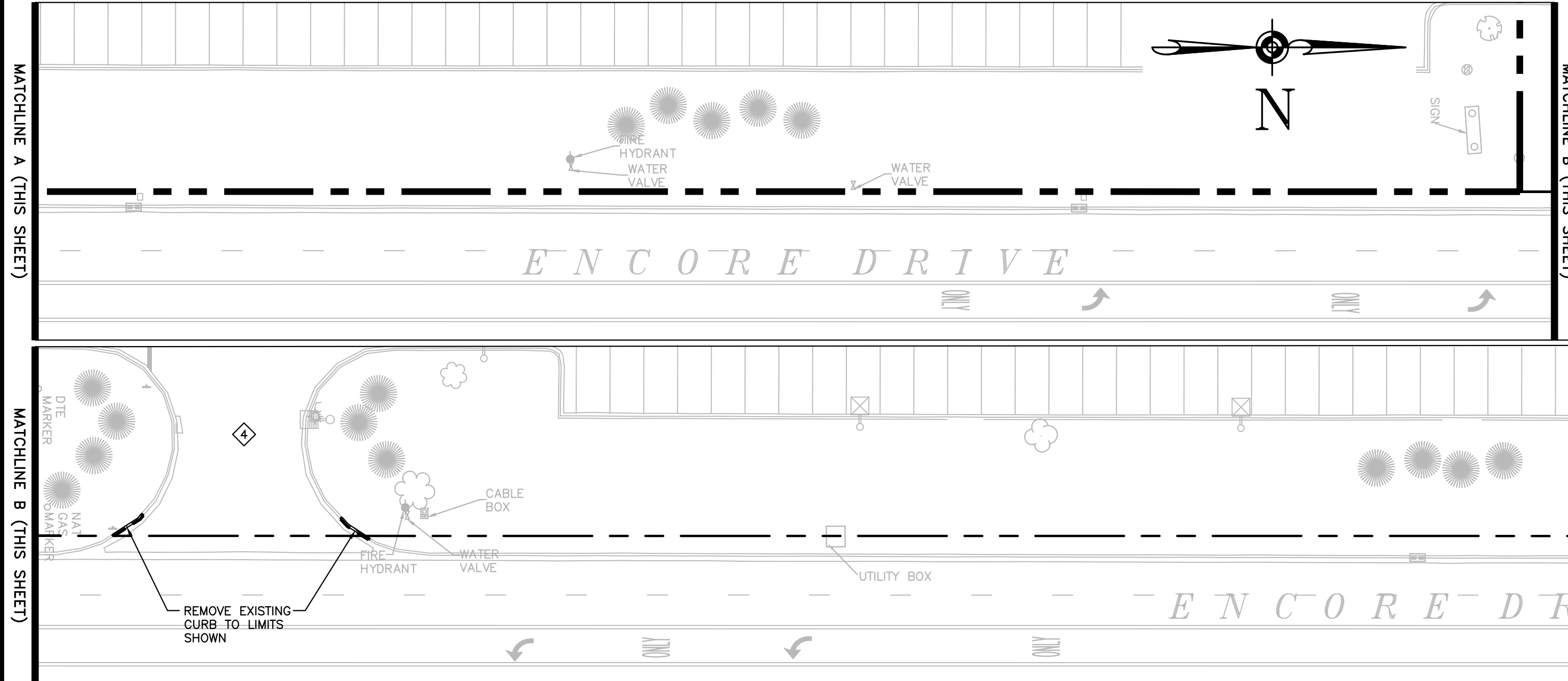
**WORK OUTSIDE FENCED AREA**

CONTRACTOR SHALL COORDINATE ALL DEMOLITION AND CONSTRUCTION ACTIVITIES OUTSIDE THE FENCED AREA WITH THE OWNER'S CONSTRUCTION MANAGER, UNLESS SPECIFICALLY AUTHORIZED BY THE CM. ALL ACTIVITIES BEYOND THE FENCED AREA SHALL BE PERFORMED OUTSIDE THE CLUB'S NORMAL BUSINESS HOURS.

- TRAFFIC CONTROL NOTES**
1. ALL TRAFFIC CONTROL DEVICES SHALL BE KEPT IN THEIR PROPER POSITION AT ALL TIMES, AND SHALL BE REPAIRED, REPLACED, OR CLEANED AS NECESSARY.
  2. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE REMOVED FOLLOWING THE COMPLETION OF EACH CONSTRUCTION STAGE AND THE PERMANENT TRAFFIC CONTROL DEVICES AND STRIPING SHALL BE RESTORED TO THEIR ORIGINAL AND/OR FINAL CONFIGURATION AS APPLICABLE.
  3. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN DISABILITY ACT AS RELATED TO PEDESTRIAN ACCESS AND SHALL MAINTAIN PEDESTRIAN ACCESS AT ALL TIMES PER ADA REQUIREMENTS.
  4. CONSTRUCTION WORKER'S VEHICLES, MATERIALS, CONSTRUCTION EQUIPMENT, ETC., SHALL BE LOCATED WITHIN THE LIMITS OF THE FENCED AREA WHEN NOT IN USE WITHIN THE LIMITS OF THE CURRENT PHASE OF CONSTRUCTION.
  5. REGULATORY AND WARNING SIGNS WITHIN THE CONSTRUCTION ZONE THAT ARE IN CONFLICT WITH THE TRAFFIC CONTROL PLANS SHALL COVERED OR REMOVED AND STORED.
  6. PERMANENT PAVEMENT MARKINGS AND TRAFFIC SIGNS SHALL BE INSTALLED UPON COMPLETION OF EACH PHASE OF WORK. REFER TO THE SITE PLAN, THIS SET, FOR ADDITIONAL INFORMATION.
  7. ALL CONSTRUCTION WARNING SIGNS SHALL BE PROMPTLY REMOVED OR COVERED WHENEVER THE MESSAGE IS NOT APPLICABLE OR NOT IN USE.
  8. ACCESS SHALL BE MAINTAINED TO ALL ENTRANCE/EXIT DRIVES AT ALL TIMES EXCEPT AS NOTED ON THIS PLAN.

**CAUTION - NOTICE TO CONTRACTOR**

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES, APPURTENANCES AND IMPROVEMENTS WHICH CONFLICT WITH THE IMPROVEMENTS SHOWN BY THESE PLANS.



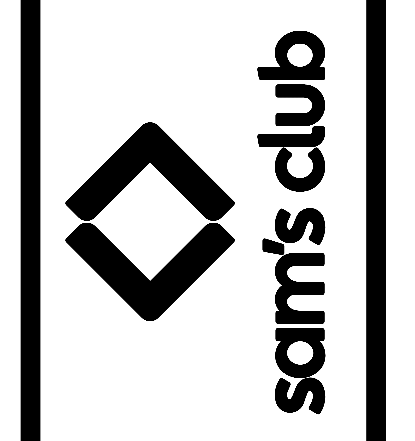
**DEMOLITION AND TRAFFIC CONTROL PLAN**

REVISIONS	BY

**CARLSON CONSULTING ENGINEERS, INC.**  
 7088 LEEDSBOURNE COMMONS  
 PH: (801) 384-0404 • FL: (801) 384-0710

STATE OF MICHIGAN  
 JOSEPH PARSLEY  
 ENGINEER  
 No. 8201068218  
 LICENSED PROFESSIONAL ENGINEER

SAM'S CLUB #4982-211  
 MT PLEASANT (UNION TOWNSHIP), MICHIGAN  
 SAM'S REAL ESTATE BUSINESS TRUST  
 2101 SE SIMPLE SAVINGS DRIVE  
 BENTONVILLE, AR 72716



DRAWN	AAS
CHECKED	BKM
DATE	09/20/2022
SCALE	1"=30'
JOB No.	4982-211
SHEET	13 OF 27 SHEETS



**CAUTION - NOTICE TO CONTRACTOR REGARDING EXISTING UTILITIES**

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE PERFORMING ANY CONSTRUCTION ACTIVITIES TO REQUEST EXACT FIELD LOCATIONS OF THEIR UTILITIES. THE CONTRACTOR MUST BE AWARE THAT SOME EXISTING UTILITIES, SUCH AS UNDERGROUND ELECTRIC LINES SERVING PARKING LOT LIGHTING, STORM SEWER LINES, CABLES FOR SECURITY CAMERAS, ETC. MAY NOT BE LOCATED BY LOCAL OR STATE UTILITY COMPANIES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE NECESSARY ACCOMMODATIONS TO ACCURATELY LOCATE ALL EXISTING UTILITIES.

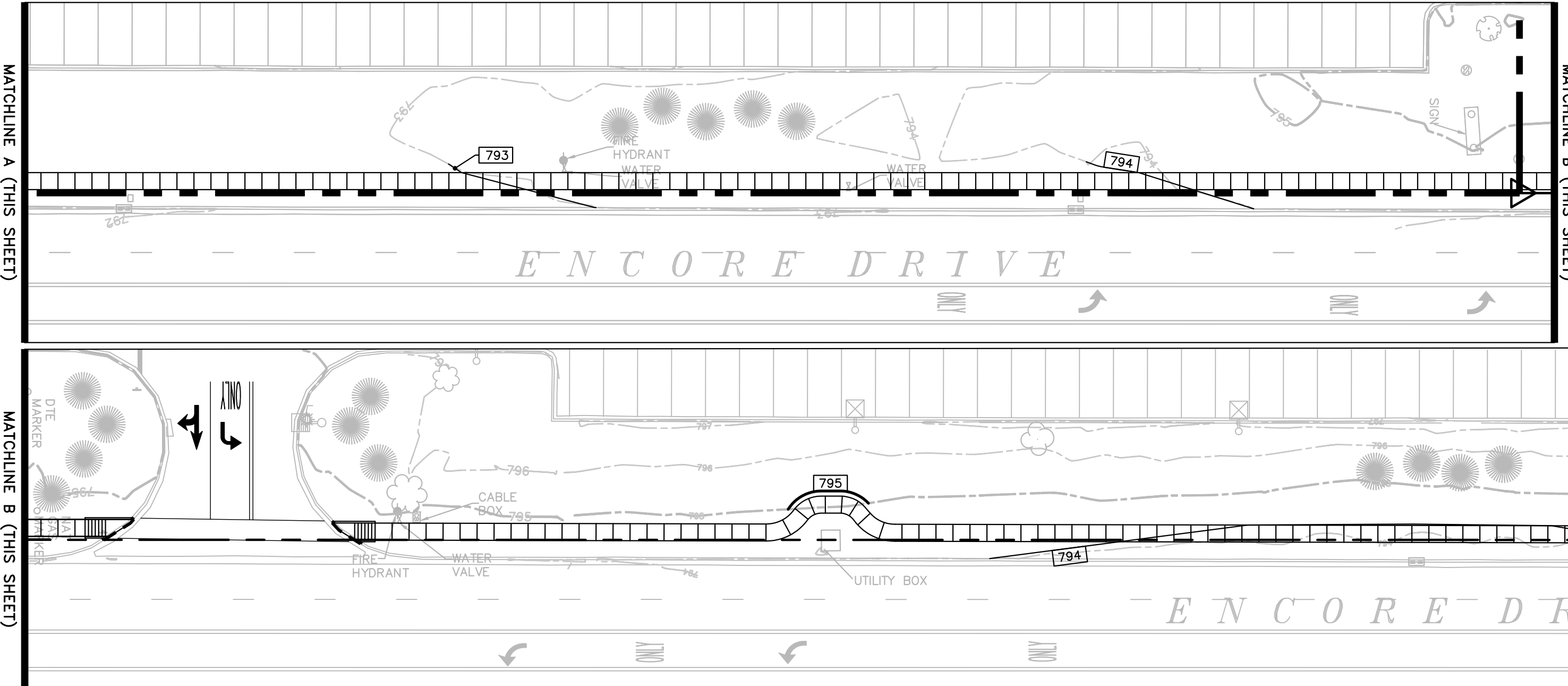
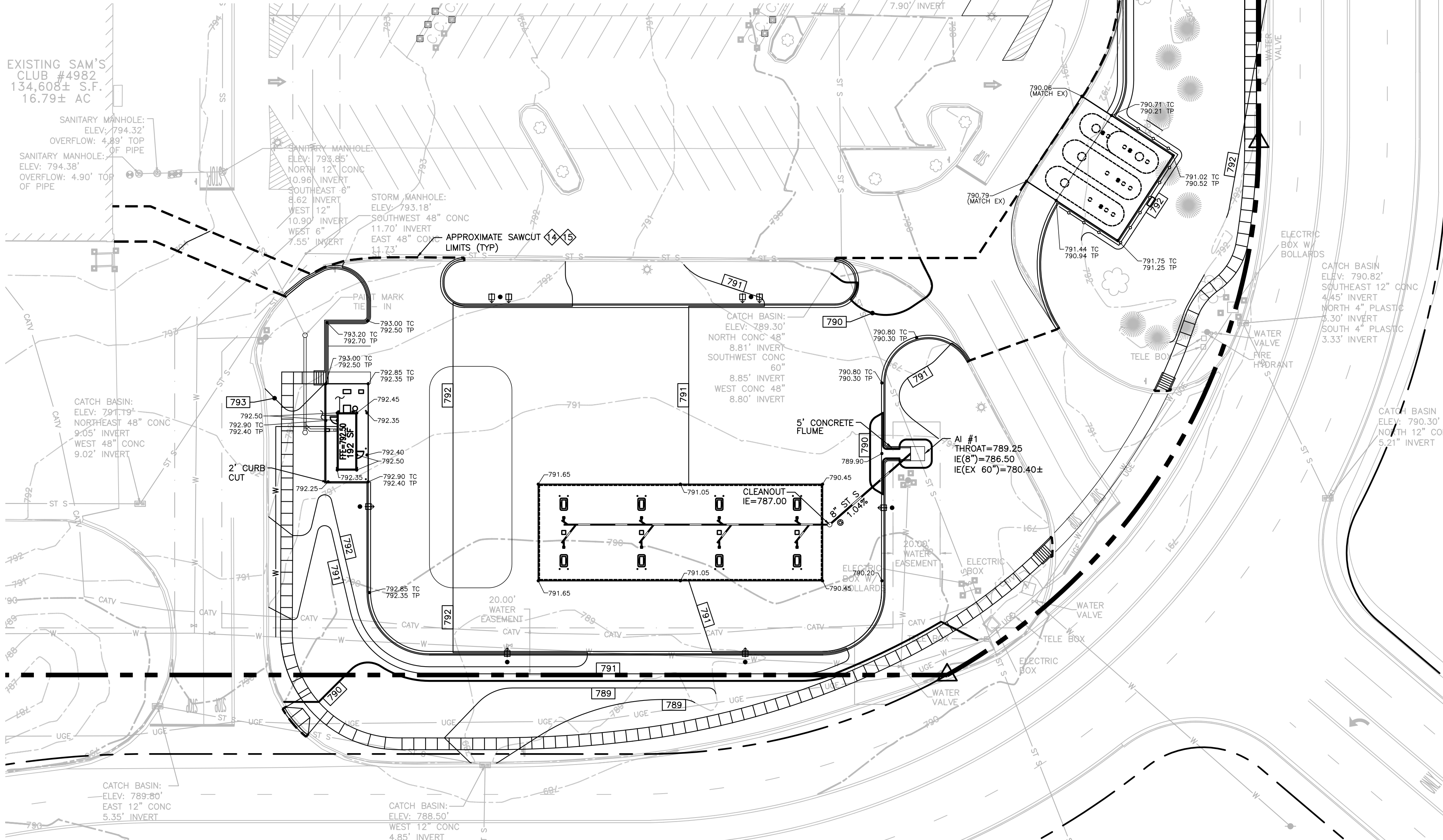
ALL EXISTING UTILITIES SERVING THE SAM'S CLUB, SAM'S CLUB PROPERTY, OR ADJACENT DEVELOPMENTS SHALL REMAIN IN PLACE AND OPERATIONAL AT ALL TIMES DURING CONSTRUCTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE EXISTING UTILITIES WHEN NECESSARY TO FACILITATE THE REQUIRED IMPROVEMENTS SHOWN BY THESE PLANS. THE CONTRACTOR MUST COORDINATE ANY RELOCATIONS OR MODIFICATIONS TO THE EXISTING UTILITIES WITH THE APPROPRIATE UTILITY COMPANY, SAM'S CLUB STORE MANAGER, AND WALMART CONSTRUCTION MANAGER.

**UNDERCUTTING NOTICE**

THE CONTRACTOR IS SPECIFICALLY CAUTIONED REGARDING THE PRESENCE OF POTENTIALLY UNSTABLE SOILS ON THIS SITE AND THE NEED FOR UNDERCUTTING AND/OR STABILIZATION. THE CONTRACTOR'S BASE BID SHALL INCLUDE PROVISIONS FOR ADDRESSING THIS CONDITION.

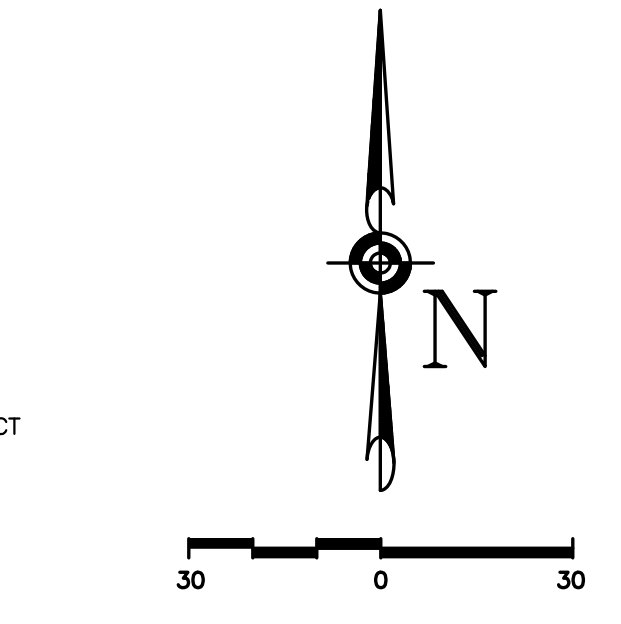
**DEWATERING/GROUNDWATER NOTICE**

THE CONTRACTOR IS SPECIFICALLY CAUTIONED REGARDING THE PRESENCE OF GROUNDWATER ON THIS SITE. WHEN PERFORMING GRADING OPERATIONS CONTRACTOR SHALL PROVIDE ADEQUATE DEWATERING, DRAINAGE AND GROUND WATER MANAGEMENT AS NECESSARY TO FACILITATE CONSTRUCTION ACTIVITIES. REFER TO MASTER SITE SPECIFICATIONS. THE CONTRACTOR'S BASE BID SHALL INCLUDE PROVISIONS FOR ADDRESSING THIS CONDITION.



**NOTES:**

1. THE GENERAL CONTRACTOR SHALL PROVIDE DUMPSTERS, PORTABLE TOILETS, AND TEMPORARY POWER FOR UNRESTRICTED PROJECT RELATED USE BY OTHERS FOR THE DURATION OF THE PROJECT.
2. ALL UNSURFACED AREAS SHALL RECEIVE 4" TOPSOIL AND SOD. WATER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
3. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AWAY FROM BUILDING FOR ALL NATURAL AND ADJACENT AREAS.
4. SEE PROJECT SITEWORK SPECIFICATIONS FOR SITE PREPARATION PROCEDURES FOR ALL AREAS EXCLUSIVE OF THE BUILDING, TANK, AND CANOPY PADS.
5. ALL CUT OR FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS NOTED OTHERWISE.
6. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THIS PROJECT IS CONSTRUCTED IN ACCORDANCE WITH THESE PLANS AND IN COMPLIANCE WITH CODES INDICATED HEREIN. THE QUALITY OF WORKMANSHIP AND INSTALLATION OF MATERIALS ARE THE RESPONSIBILITY OF THE CONTRACTOR. ENGINEER AND THE ARCHITECT WILL NOT BE HELD RESPONSIBLE FOR ANY SUBSTANDARD OR INSUFFICIENT WORKMANSHIP, MATERIALS, OR SERVICES PROVIDED IN THE EXECUTION OF ANY PHASE OF CONSTRUCTION OF THIS PROJECT.
7. SEE FOUNDATION SUBSURFACE PREPARATION NOTE FOR GRANULAR MATERIAL UNDER SLABS.
8. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THE AREA CLEAN AND FREE OF DEBRIS AT ALL TIMES DURING CONSTRUCTION. THE GENERAL CONTRACTOR SHALL POWER WASH THE ENTIRE FUELING STATION CONSTRUCTION AREA PRIOR TO TURNOVER TO THE OWNER.
9. ALL CONDITIONS SHOWN TO BE "EXISTING" SHALL BE VERIFIED IN THE FIELD BY THE GENERAL CONTRACTOR PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES SHALL BE NOTED AND SUBMITTED TO THE SAM'S CONSTRUCTION MANAGER AND THE ENGINEER FOR REVIEW. CHANGES TO THE ORIGINAL DESIGN OF THE PROJECT DUE TO EXISTING CONDITIONS MUST BE APPROVED BY BOTH THE SAM'S CONSTRUCTION MANAGER AND THE ENGINEER PRIOR TO MAKING ANY CHANGES.
10. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR HAVING A THOROUGH KNOWLEDGE OF THE EXISTING CONDITIONS OF THE SITE, AND OF ALL DRAWINGS AND SPECIFICATIONS IN THEIR RELATED FIELD. THE FAILURE TO ACQUAINT HIMSELF WITH THIS KNOWLEDGE DOES NOT RELIEVE HIM OF ANY RESPONSIBILITY FOR PERFORMING HIS WORK PROPERLY. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED BECAUSE OF CONDITIONS THAT OCCUR DUE TO THE FAILURE OF THE GENERAL CONTRACTOR TO FAMILIARIZE WORKERS WITH THIS KNOWLEDGE.
11. EXISTING PAVEMENT THAT WILL REMAIN AFTER CONSTRUCTION SHALL BE PROTECTED FROM DAMAGE. AREAS OF EXISTING PAVING THAT ARE DAMAGED DURING CONSTRUCTION SHALL BE SAWCUT, THEN REMOVED AND REPLACED.
12. THE GENERAL CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL PUBLIC AND PRIVATE UTILITIES, INCLUDING IRRIGATION, SPECIFIC TO THIS PROJECT PRIOR TO THE START OF ANY DEMOLITION OR CONSTRUCTION. SHOULD ANY UTILITY REQUIRE RELOCATION, CONTRACTOR SHALL COORDINATE WITH THE CONSTRUCTION MANAGER AND THE ARCHITECT/ENGINEER.
13. SITE PAVING SHALL BE FLUSH WITH THE TANK SLAB, SERVICE BUILDING APRON AND CANOPY SLAB.
14. CONTRACTOR SHALL SAWCUT ALONG EDGE OF PAVEMENT REMOVAL LIMITS TO ENSURE CLEAN, STRAIGHT JOINT BETWEEN OLD AND NEW SURFACES.
15. ELEVATION OF NEW PAVEMENT TO MATCH ELEVATION OF PAVEMENT TO REMAIN. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE POSITIVE DRAINAGE IN ALL AREAS.
16. THE GENERAL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING AND PROPOSED GRADES PRIOR TO STARTING CONSTRUCTION. ANY DISCREPANCIES SHALL BE SUBMITTED TO ENGINEER FOR REVIEW.
17. THE GENERAL CONTRACTOR SHALL PROTECT ALL NEW CONCRETE PAVING FOR THE TANK SLAB AND UNDER THE CANOPY FROM TIRE MARKS AND DAMAGE.
18. ACCEPTABLE STORM SEWER MATERIALS (THERE WILL BE NO SUBSTITUTIONS ALLOWED FOR PIPES SHOWN TO BE RCP):  
1) CORRUGATED POLYETHYLENE (N-12)  
2) POLYVINYL CHLORIDE (PVC) - ONLY PERMITTED IN 15" DIAMETER OR LESS.  
SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND INFORMATION.
19. THE CONTRACTOR SHALL ENSURE THAT PONDING OF WATER DOES NOT OCCUR ADJACENT TO THE DISPENSERS. REFER TO ARCHITECTURAL PLANS FOR ELEVATIONS WITHIN THE CANOPY SLAB AREA.
20. THE PAVEMENT SURROUNDING THE PRODUCT FILL MANHOLE TOPS SHALL BE RAMPED UP 1" HIGHER THAN THE FINISHED GRADE OF THE CONCRETE TANK SLAB TO ENSURE POSITIVE DRAINAGE AWAY FROM THE PRODUCT FILL MANHOLE TOPS. SEE ARCHITECTURE PLANS FOR MORE INFORMATION. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AROUND ALL MANHOLE TOPS.
21. CONTRACTOR SHALL USE EXTREME CAUTION WHEN PERFORMING CONSTRUCTION ACTIVITIES IN THE VICINITY OF UTILITIES TO REMAIN.



**LEGEND**

- - - - - PROPERTY LINE
- TC - - - - - TOP OF CURB
- TP - - - - - TOP OF PAVEMENT
- o - - - - - SPOT ELEVATION
- - - - - APPROXIMATE SAWCUT LIMITS
- - - - - STORM SEWER
- - - - - AREA INLET
- o - - - - - CLEAN OUT

**CAUTION - NOTICE TO CONTRACTOR**

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**FOUNDATION SUBSURFACE PREPARATION**

FOUNDATION SUBSURFACE PREPARATION  
WAL-MART JOB #0406437R2, MT. PLEASANT, MICHIGAN  
06/04/20

UNLESS SPECIFICALLY INDICATED OTHERWISE IN THE DRAWINGS AND/OR SPECIFICATIONS, THE LIMITS OF THIS SUBSURFACE PREPARATION ARE CONSIDERED TO BE THAT PORTION OF THE SITE DIRECTLY BENEATH AND 2.5 FEET BEYOND THE FUEL STATION SERVICE BUILDING, AS WELL AS DIRECTLY BENEATH CANOPY FOUNDATIONS. AT THE SERVICE BUILDING, THE EXTENTS OF SUBSURFACE PREPARATION SHALL BE SLOPED AWAY FROM THE 2.5 FOOT PERIMETER AT A MINIMUM 1:1 SLOPE.

APPURTENANCES ARE THOSE ITEMS ATTACHED TO THE BUILDING PROPER (REFER TO DRAWING SHEET SP1), TYPICALLY INCLUDING, BUT NOT LIMITED TO, THE BUILDING SIDEWALKS, GARDEN CENTERS, PORCHES, RAMPS, STOOPS, TRUCK WELLS/DOCKS, CONCRETE APRONS AT THE AUTOMOTIVE CENTER, COMPACTOR PAD, ETC. THE BASE AND THE VAPOR BARRIER, WHERE REQUIRED, DO NOT EXTEND BEYOND THE LIMITS OF THE ACTUAL BUILDING AND THE APPURTENANCES.

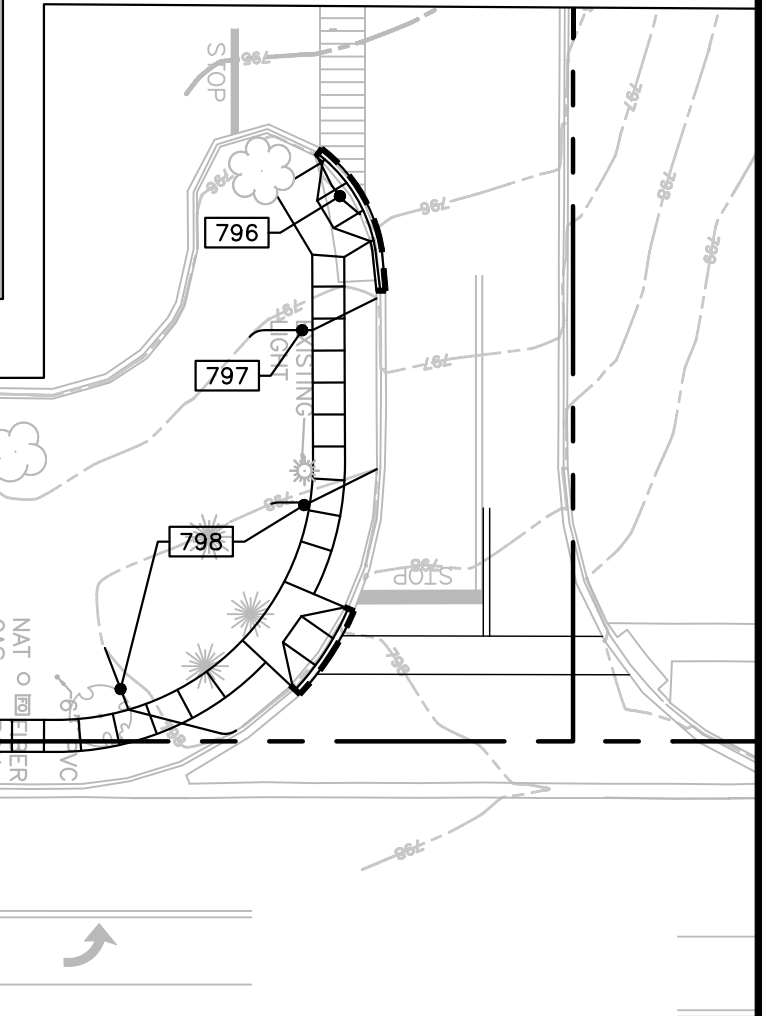
ESTABLISH THE FINAL SUBGRADE ELEVATION TO ALLOW FOR THE CONCRETE SLAB, BASE, AND SUBBASE (IF SUBBASE IS REQUIRED BELOW). REFERENCE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR REQUIRED SLAB THICKNESS. THE MINIMUM 4" THICK BASE MATERIAL SHALL CONFORM TO MDOT CLASS II. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ACCURATE MEASUREMENTS FOR ALL CUT AND FILL DEPTHS REQUIRED. ANY PROPOSED EQUIVALENT ALTERNATIVE BASE MATERIAL MUST BE SUBMITTED FOR APPROVAL WITHIN 30 DAYS AFTER AWARD OF CONTRACT. ANY EQUIVALENT ALTERNATIVE SHALL ONLY BE USED IF APPROVED IN WRITING BY THE CEC AND AOR.

AFTER THE TOPSOIL AND OLD FILL SOILS OR LOOSE/SOFT SOILS (IF ENCOUNTERED) HAVE BEEN REMOVED FROM THE AREAS OF CONSTRUCTION AND ANY CUT SECTIONS ARE PERFORMED, EXPOSED SUBGRADES SHOULD BE OBSERVED AND THOROUGHLY PROOF ROLLED/COMPACTED WITH A LARGE, HEAVY RUBBER-TIRED VEHICLE PRIOR TO THE PLACEMENT OF ENGINEERED FILL OR BACKFILL REQUIRED TO ACHIEVE THE PROPOSED SUBGRADE ELEVATION. AREAS THAT EXHIBIT INSTABILITY OR ARE OBSERVED TO RUT OR DEFLECT EXCESSIVELY UNDER THE MOVING LOAD SHOULD BE FURTHER UNDERCUT, STABILIZED BY AERATION, DRYING (IF WET) AND ADDITIONAL COMPACTION TO ATTAIN A STABLE FINISHED SUBGRADE. THE PROOF ROLLING/COMPACTING AND UNDERCUTTING ACTIVITIES SHOULD BE PERFORMED DURING A PERIOD OF DRY WEATHER AND SHOULD BE PERFORMED UNDER THE SUPERVISION OF THE GEOTECHNICAL ENGINEER'S REPRESENTATIVE.

SUBGRADE MATERIAL SHALL BE PLACED IN LOOSE LIFTS NOT EXCEEDING 8 INCHES IN THICKNESS AND COMPACTED TO AT LEAST 95 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D-1557) AT A MOISTURE CONTENT WITHIN 3 PERCENT BELOW TO 3 PERCENT ABOVE THE OPTIMUM.

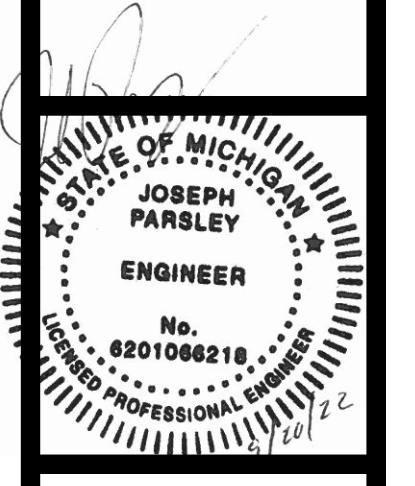
THE FOUNDATION SYSTEM SHALL BE ISOLATED BELOW FOOTINGS AT COLUMNS AND CONTINUOUS SPREAD FOOTINGS AT WALLS.

THIS FOUNDATION SUBSURFACE PREPARATION DOES NOT CONSTITUTE A COMPLETE SITE WORK SPECIFICATION. IN CASE OF CONFLICT, INFORMATION COVERED IN THIS PREPARATION SHALL TAKE PRECEDENCE OVER THE WAL-MART SPECIFICATIONS FOR SPECIFIC INFORMATION NOT COVERED IN THIS PREPARATION. THIS INFORMATION WAS TAKEN FROM A GEOTECHNICAL REPORT PREPARED BY IJAH KHALAFF, P.E. DATED: 6/4/2020 (GEOTECHNICAL REPORT IS FOR INFORMATION ONLY AND IS NOT A CONSTRUCTION SPECIFICATION).

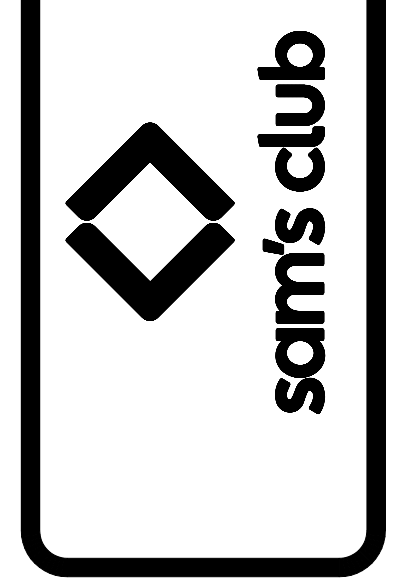


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SHEET	15 OF 27 SHEETS

**GRADING PLAN**

**FIBER OPTIC CABLE AND TELEPHONE LINE CONDUIT REQUIREMENTS**

**CONDUIT**  
 THE CONDUIT DIAMETER SHALL BE AS FOLLOWS:  
**FIBER OPTIC CABLE AND TELEPHONE LINE CONDUIT** - ALL LOCATIONS - TWO (2) 2" CONDUITS. THE CONDUITS SHALL BE 2" DIAMETER CARLON TYPE "DB" DIRECT BURIAL TELEPHONE DUCT OR OR 2" SCHEDULE 40 PVC. INSTALL GALVANIZED PULL WIRE OR POLYETHYLENE ROPE WITH A MINIMUM PULLING TENSION OF 100 POUNDS IN EACH CONDUIT. THE MINIMUM BURIAL DEPTH SHALL BE 24". INSTALL AN ORANGE DETECTABLE HAZARD TAPE WITH INTEGRAL "BURIED FIBER OPTIC CABLE" WORDING, 12" ABOVE THE TRENCHED CONDUITS.

**BENDS**  
 ALL CHANGES IN DIRECTION OF THE FIBER OPTIC CONDUIT WILL REQUIRE LONG FACTORY SWEEPS (NOT STANDARD SWEEPS) WITH RADIUS NOT LESS THAN 10 TIMES THE DIAMETER OF THE CONDUIT. NO MORE THAN TWO (2) 90 DEGREE BENDS WILL BE ALLOWED BETWEEN PULLING POINTS, OR A TOTAL OF 180 DEGREES COMBINED IN SEVERAL BENDS. BOXES SHALL BE LOCATED EVERY 450' FOR FIBER OPTIC CONDUIT UNLESS THE COMBINED TOTAL OF BENDS REQUIRES ADDITIONAL BOXES. CONDUIT SHALL ENTER AND EXIT THE PULL BOXES 180 DEGREES APART.

**PULL BOXES**  
 ALL PULL BOXES LOCATED IN PAVED AREAS SUBJECT TO TRUCK TRAFFIC SHALL BE "H-20" LOAD RATED. THE TYPICAL PULL BOX SIZE FOR FIBER OPTIC CONDUIT SHALL BE 18"x24"x24". DEEPER BOXES MAY BE REQUIRED WHEN THE CONDUIT ALIGNMENT IS AFFECTED BY OTHER UTILITIES. THE PULL BOX SHALL BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS WITH A CONCRETE COLLAR AND A MINIMUM OF 8" OF GRAVEL COMPACTED PER THE PROJECT SPECIFICATIONS. IF USING A PULL BOX TO CHANGE DIRECTION FOR THE FIBER OPTIC CONDUIT, THE MINIMUM BOX SIZE SHALL BE 48"x48"x24" PRE-CAST CONCRETE WITH A SEPARATE MANHOLE AND LID COLLAR.

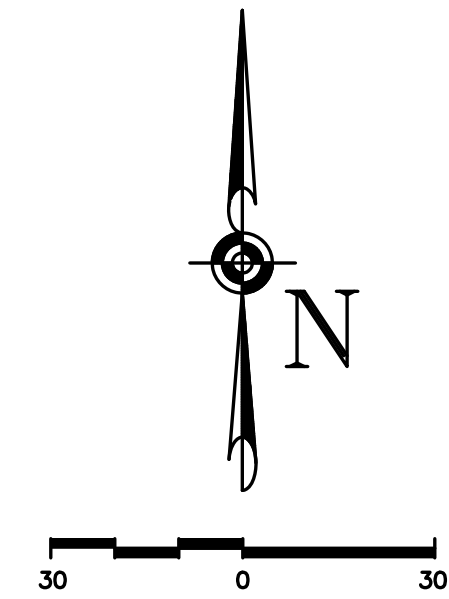
**CAUTION - NOTICE TO CONTRACTOR REGARDING EXISTING UTILITIES**

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON ORIGINAL CONSTRUCTION DOCUMENTS PREPARED FOR THE SAM'S CLUB DEVELOPMENT AND LIMITED FIELD INFORMATION. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE PERFORMING ANY CONSTRUCTION ACTIVITIES TO REQUEST EXACT FIELD LOCATIONS OF THEIR UTILITIES. THE CONTRACTOR MUST BE AWARE THAT SOME EXISTING UTILITIES, SUCH AS UNDERGROUND ELECTRIC LINES SERVING PARKING LOT LIGHTING, STORM SEWER LINES, CABLES FOR SECURITY CAMERAS, ETC. MAY NOT BE LOCATED BY LOCAL OR STATE UTILITY COMPANIES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE NECESSARY ACCOMMODATIONS TO ACCURATELY LOCATE ALL EXISTING UTILITIES.

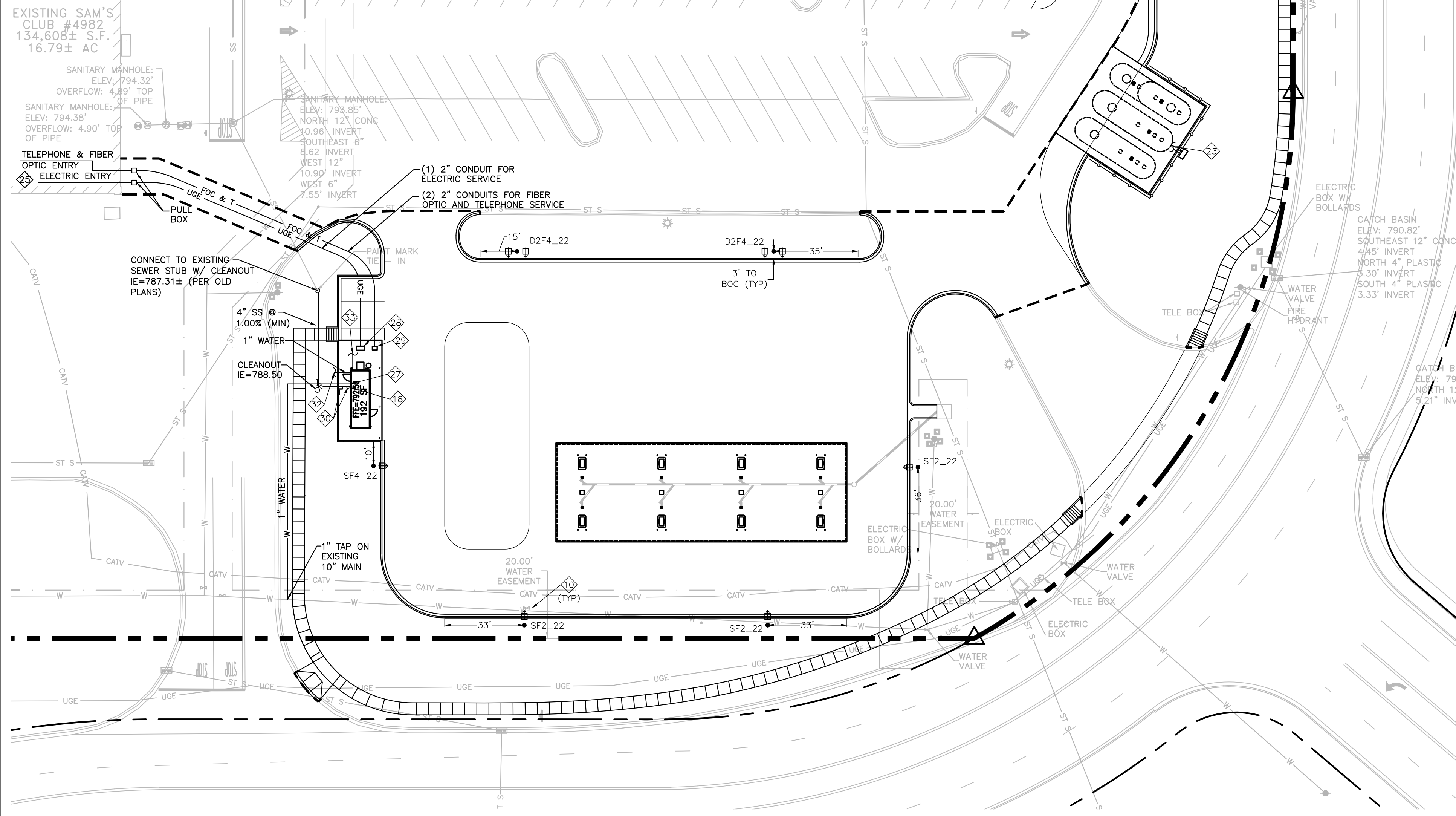
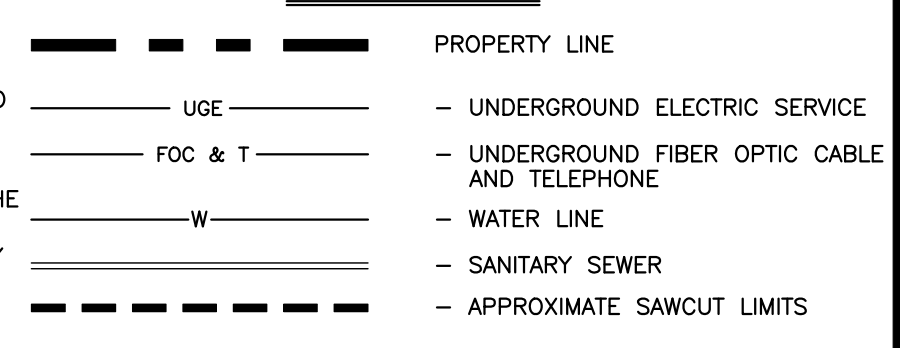
ALL EXISTING UTILITIES SERVING THE SAM'S CLUB, SAM'S CLUB PROPERTY, OR ADJACENT DEVELOPMENTS SHALL REMAIN IN PLACE AND OPERATIONAL AT ALL TIMES DURING CONSTRUCTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE EXISTING UTILITIES WHEN NECESSARY TO FACILITATE THE REQUIRED IMPROVEMENTS SHOWN BY THESE PLANS. THE CONTRACTOR MUST COORDINATE ANY RELOCATIONS OR MODIFICATIONS TO THE EXISTING UTILITIES WITH THE APPROPRIATE UTILITY COMPANY, SAM'S CLUB STORE MANAGER, AND WALMART CONSTRUCTION MANAGER.

**NOTES:**

- ALL UTILITIES SHALL BE INSTALLED IN A TRENCH CONDITION IN ACCORDANCE WITH THE UTILITY TRENCHING DETAIL, THIS SET.
- CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITIES INSPECTORS A MINIMUM OF 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE. CONSTRUCTION SHALL NOT START ON ANY PUBLIC UTILITY SYSTEM UNTIL WRITTEN APPROVAL HAS BEEN RECEIVED FROM APPROPRIATE UTILITY COMPANIES AND CONTRACTOR HAS BEEN NOTIFIED.
- SANITARY SEWER PIPE MATERIAL SHALL BE IN CONFORMANCE WITH THE PROJECT SPECIFICATIONS.
- WATER LINE PIPE MATERIAL SHALL BE IN CONFORMANCE WITH THE PROJECT SPECIFICATIONS.
- MINIMUM TRENCH WIDTH SHALL BE 2 FEET.
- ALL UTILITIES SHALL BE KEPT TEN (10') APART (PARALLEL) OR, WHEN CROSSING, 18" VERTICAL CLEARANCE (OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE).
- CONTRACTOR SHALL MAINTAIN MINIMUM BURIAL DEPTHS AS REQUIRED BY THE UTILITY PROVIDER AND THE PROJECT SPECIFICATIONS.
- IN THE EVENT OF A VERTICAL CONFLICT BETWEEN WATER LINES, SANITARY LINES, STORM LINES AND GAS LINES (EXISTING AND PROPOSED), THE SANITARY LINE SHALL BE DUCTILE IRON PIPE WITH MECHANICAL JOINTS AT LEAST 10 FEET ON BOTH SIDES OF CROSSING, THE WATER LINE SHALL HAVE MECHANICAL JOINTS WITH APPROPRIATE THRUST BLOCKING AS REQUIRED TO PROVIDE A MINIMUM OF 18" CLEARANCE. MEETING REQUIREMENTS OF ANSI A21.10 OR ANSI 21.11 (AWWA C-151) (CLASS 50).
- UNDERGROUND LINES SHALL BE INSTALLED, INSPECTED AND APPROVED BEFORE BACKFILLING.
- TOPS OF EXISTING STRUCTURES (VALVES, MANHOLES, HANDHOLES, PULL BOXES, ETC.) SHALL BE ADJUSTED AS NECESSARY TO BE FLUSH WITH FINAL GRADE.
- THE GENERAL CONTRACTOR SHALL COORDINATE PROJECT PHASING AND STORAGE OF MATERIALS WITH THE FUELING STATION CONSTRUCTION MANAGER.
- EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
- REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION ON UTILITY ENTRIES.
- CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE SPECIFICATIONS OF THE LOCAL AUTHORITIES WITH REGARD TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ANY UTILITY COMPANY WHICH MAINTAINS A UTILITY LINE WITHIN THE BOUNDARIES OF THE PROJECT PRIOR TO THE START OF CONSTRUCTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS. THE CONTRACTOR SHALL ASSUME THE RESPONSIBILITY FOR ANY DAMAGE, INCURRED BY ANY UTILITY COMPANY, TO THEIR LINES AS A RESULT OF HIS ACTIVITIES, WHETHER THESE LINES ARE SHOWN ON THE CONSTRUCTION PLANS OR NOT.
- CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES. THIS AND THE FINAL CONNECTIONS OF THE SERVICE SHALL BE COMPLETED 30 DAYS PRIOR TO STORE POSSESSION.
- CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS. ALL UTILITY CONSTRUCTION SHALL CONFORM WITH THE MOST STRINGENT REQUIREMENTS OF THE UTILITY COMPANY OR THE SAM'S CLUB SPECIFICATIONS.
- 4" SANITARY SEWER SERVICE ENTRY.
- CONTRACTOR SHALL VERIFY AS-BUILT INVERT ELEVATION AND ADVISE ENGINEER OF ANY DISCREPANCIES.
- CONTRACTOR SHALL NOT OPEN, TURN OFF, INTERFERE WITH, OR ATTACH ANY PIPE OR HOSE TO OR TAP ANY WATER MAIN BELONGING TO THE COUNTY UNLESS DULY AUTHORIZED TO DO SO BY THE COUNTY. ANY ADVERSE CONSEQUENCES OF ANY SCHEDULED OR UNSCHEDULED DISRUPTIONS OF SERVICE TO THE PUBLIC ARE TO BE THE LIABILITY OF THE CONTRACTOR.
- CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING CONDUIT FOR UNDERGROUND UTILITIES AS PER THE UTILITY COMPANY REQUIREMENTS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING PIPE BOLLARD PROTECTION AROUND UTILITY ENTRANCES AND METER LOCATIONS. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR EXACT REQUIREMENTS.
- UNDERGROUND VENT PIPING FROM UNDERGROUND STORAGE TANKS, REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION.
- SEE SURVEY FOR DESCRIPTION OF EXISTING EASEMENTS.
- REFER TO UTILITY ENTRY DETAIL, THIS SET, FOR ADDITIONAL INFORMATION.
- EXISTING PEDESTALS, VALVE BOXES, VAULTS, UTILITY MARKERS, PULLBOXES, ETC TO REMAIN SHALL BE RAISED/LOWERED TO MATCH PROPOSED GRADES. COORDINATE ACTIVITIES WITH RESPECTIVE UTILITY WHERE APPLICABLE.
- 1" DOMESTIC WATER ENTRY W/ METER INSIDE BUILDING.
- UNDERGROUND TRANSFORMER. REFER TO MEP PLANS FOR ADDITIONAL INFORMATION.
- H-20 LOAD RATED FIBER OPTIC PULL BOX. REFER TO ARCHITECTURAL PLANS FOR CONTINUATION OF FIBER OPTICS AND TELEPHONE CONDUITS/CABLES.
- YCO & BACKWATER VALVE. REFER TO MEP PLANS FOR ADDITIONAL INFORMATION.
- REFER TO BUILDING PLANS FOR SITE LIGHTING ELECTRICAL PLAN.
- 1" IRRIGATION WATER. SEE IRRIGATION PLAN FOR CONTINUATION OF WATER LINE.
- (1) 1" CONDUIT FOR IRRIGATION SYSTEM BACK FLOW PREVENTER HOT BOX POWER SUPPLY.

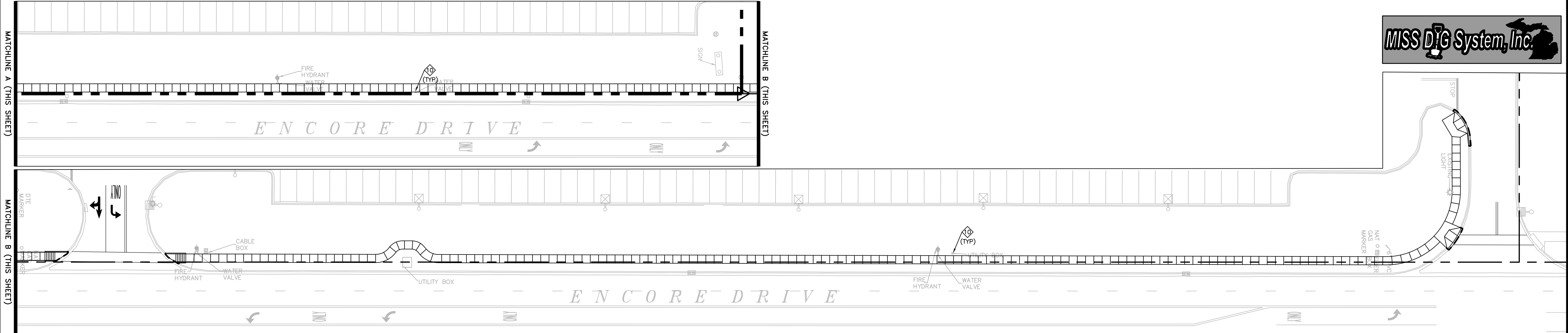


**LEGEND**



Symbol	Qty	Label	Arrangement	LLF	Description	Arr. Watts	Arr. Lum. Lumens	BUG Rating
☐	2	D2F4_22	ROTATED OPTICS	0.864	1 - GE EVOLVE EALP032F4AF750ND1BLCKFS1 and 1 - GE EVOLVE EALP032F4AF750ND1BLCKFS2 19ft pole on 3ft base	208	30000	B3-U0-G3
●	3	SF2_22	SINGLE	0.864	1 - GE EVOLVE EALP032F2AN750ND1BLCKF 19ft pole on 3ft base	104	15100	B3-U0-G3
●	1	SF4_22	SINGLE	0.864	1 - GE EVOLVE EALP032F4AF750ND1BLCKF 19ft pole on 3ft base	104	15000	B3-U0-G3

**CAUTION - NOTICE TO CONTRACTOR**  
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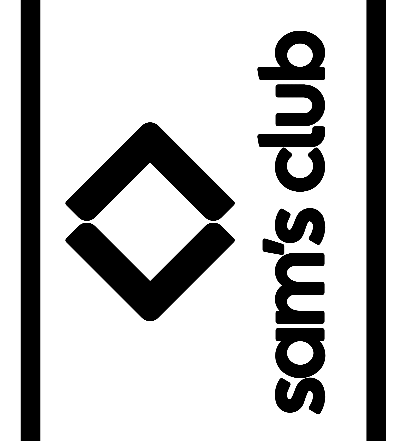


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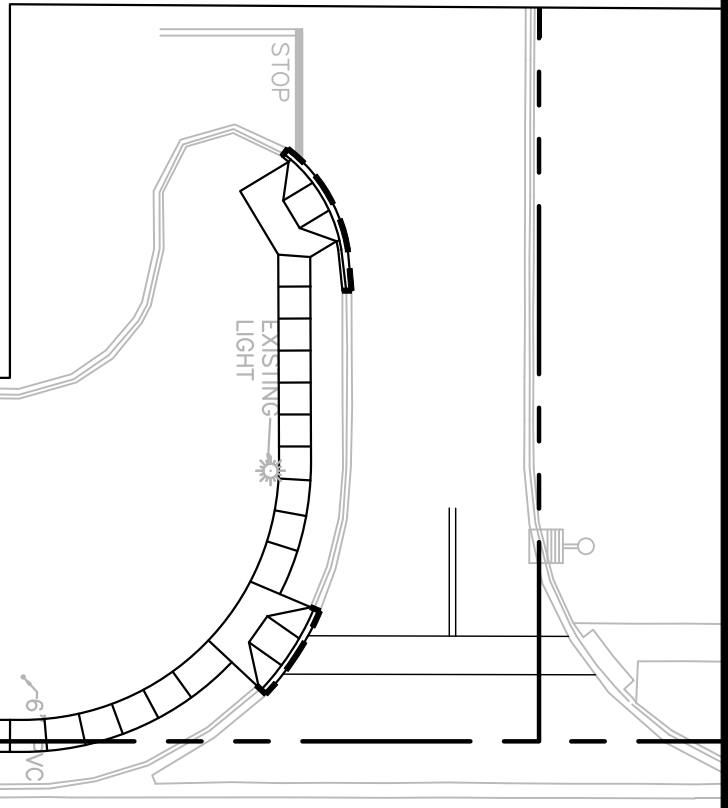
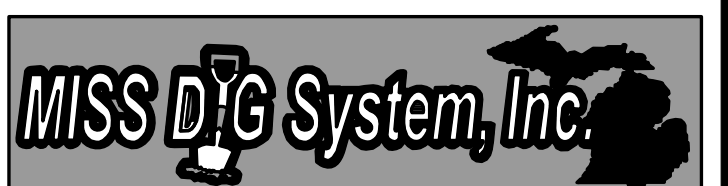
**CARLSON CONSULTING ENGINEERS, INC.**  
 7088 LEEDS DRIVE  
 BENTONVILLE, AR 72716  
 PH: (501) 384-0404 • FX: (501) 384-0710

**JOSEPH PARSLEY**  
 ENGINEER  
 No. 6201066216  
 LICENSED PROFESSIONAL ENGINEER

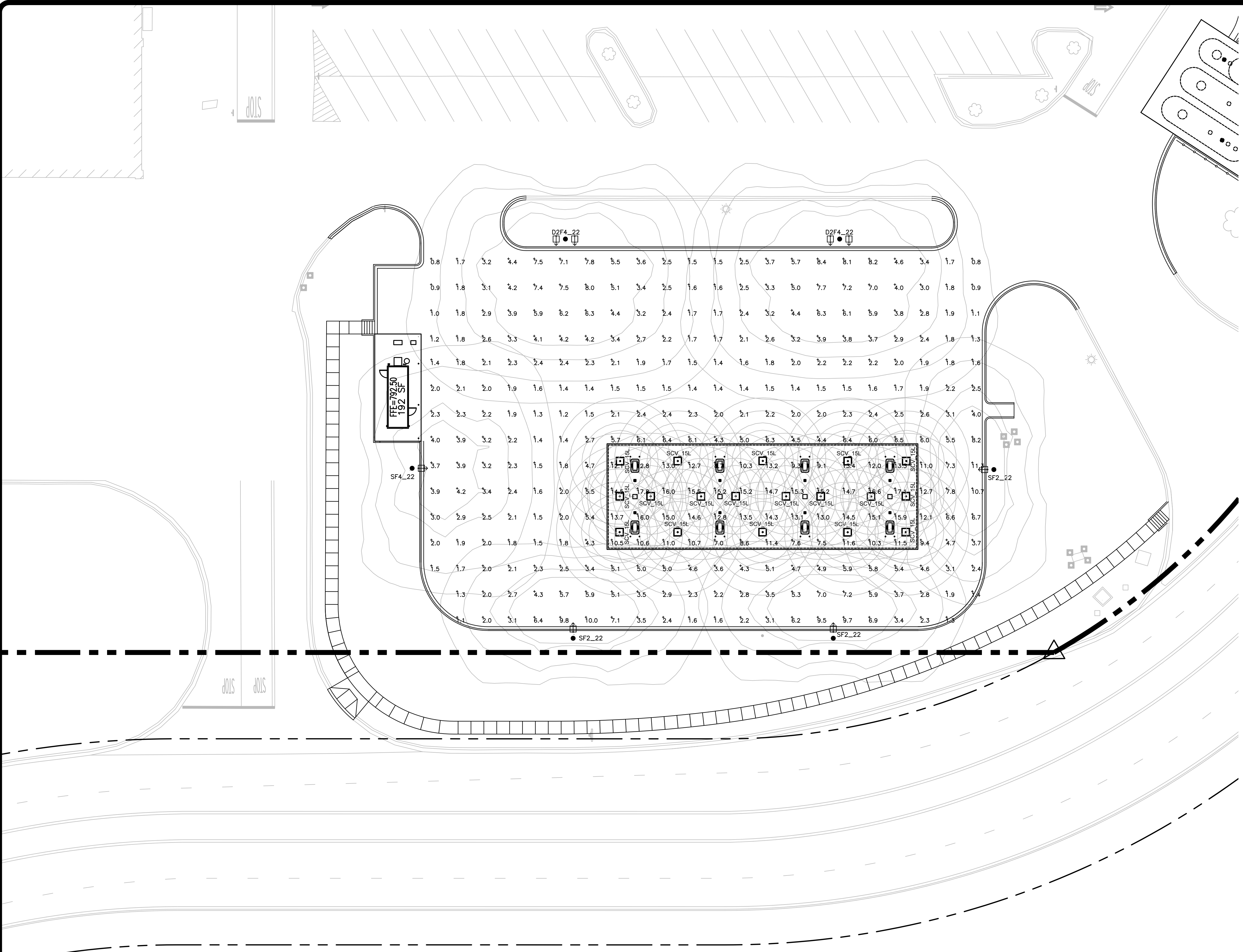
SAM'S CLUB #4982-211  
 MT PLEASANT (UNION TOWNSHIP), MICHIGAN  
 SAM'S REAL ESTATE BUSINESS TRUST  
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DRAWN AAS  
 CHECKED BKM  
 DATE 09/20/2022  
 SCALE 1"=30'  
 JOB No. 4982-211  
 SHEET 16 OF 27 SHEETS



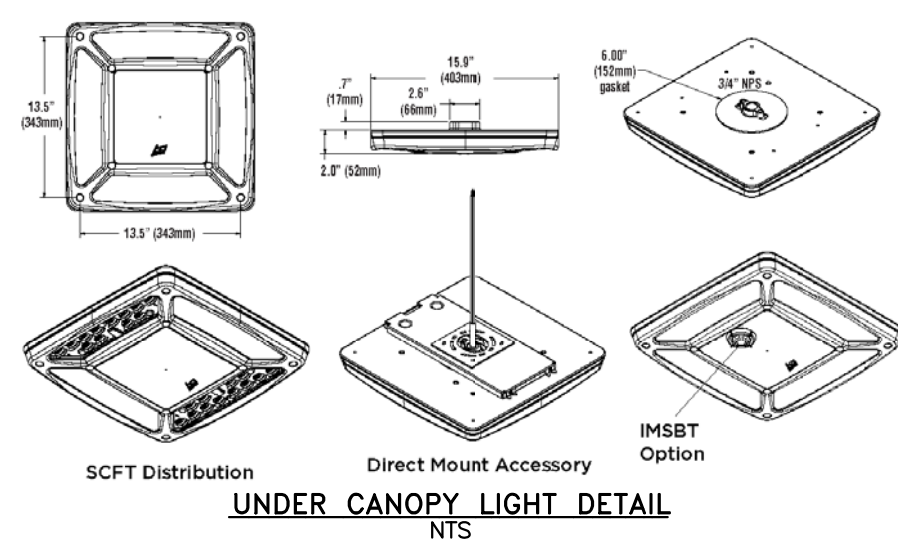
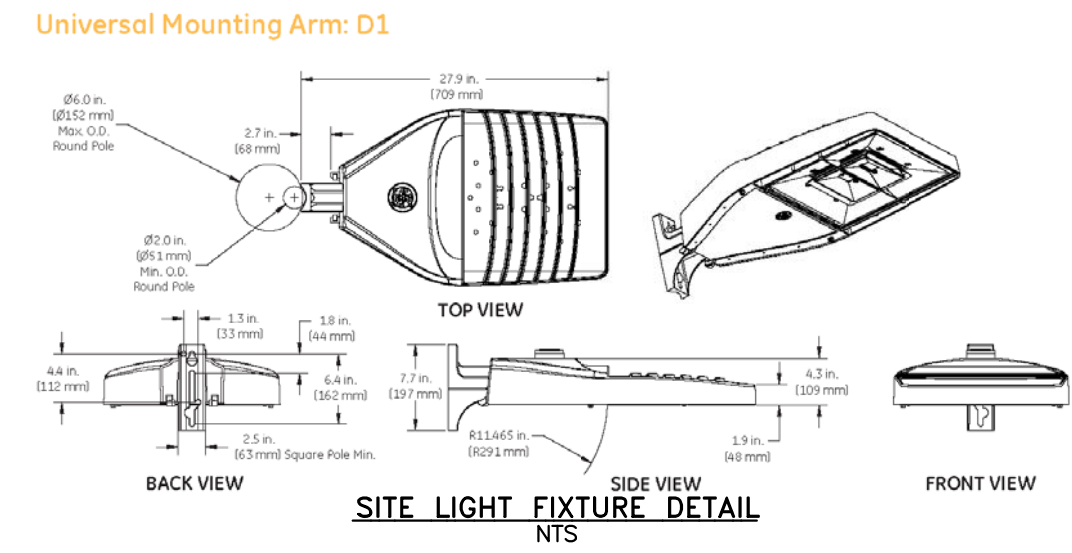
**UTILITY PLAN**



NOTE:  
1. ALL SITE LIGHTS TO BE MOUNTED AT 22 FT. ABOVE GRADE (3 FT. BASE AND 19 FT. POLE).

LUMINAIRE SCHEDULE								
Symbol	Qty	Label	Arrangement	LLF	Description	Arr. Watts	Arr. Lum. Lumens	BUG Rating
	2	D2F4_22	ROTATED OPTICS	0.864	1 - GE EVOLVE EALP032F4AF750NDD1BLCKFS1 and 1 - GE EVOLVE EALP032F4AF750NDD1BLCKFS2 19ft pole on 3ft base	208	30000	B3-U0-G3
	3	SF2_22	SINGLE	0.864	1 - GE EVOLVE EALP032F2AN750NDD1BLCKF 19ft pole on 3ft base	104	15100	B3-U0-G3
	1	SF4_22	SINGLE	0.864	1 - GE EVOLVE EALP032F4AF750NDD1BLCKF 19ft pole on 3ft base	104	15000	B3-U0-G3
	18	SCV_15L	SINGLE	0.320	1 - LSI SCOTTSDALE VERTEX SCV-LED-15L-SC-50 CANOPY MOUNTED	103	15410	B3-U0-G1

CALCULATION SUMMARY ILLUMINANCE FOOT-CANDELES						
	AVG	MAX	MIN	AVG/MIN	MAX/MIN	
BEYOND FUEL AREA	3.68	8.4	0.8	4.60	10.50	
FUEL AREA	5.41	17.8	1.1	4.92	16.18	

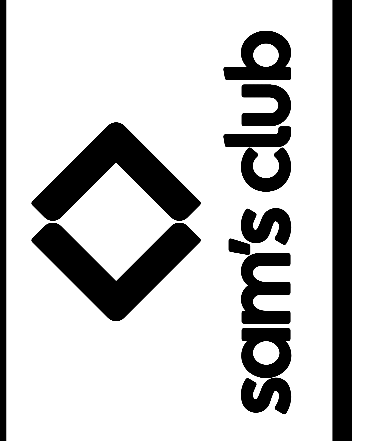


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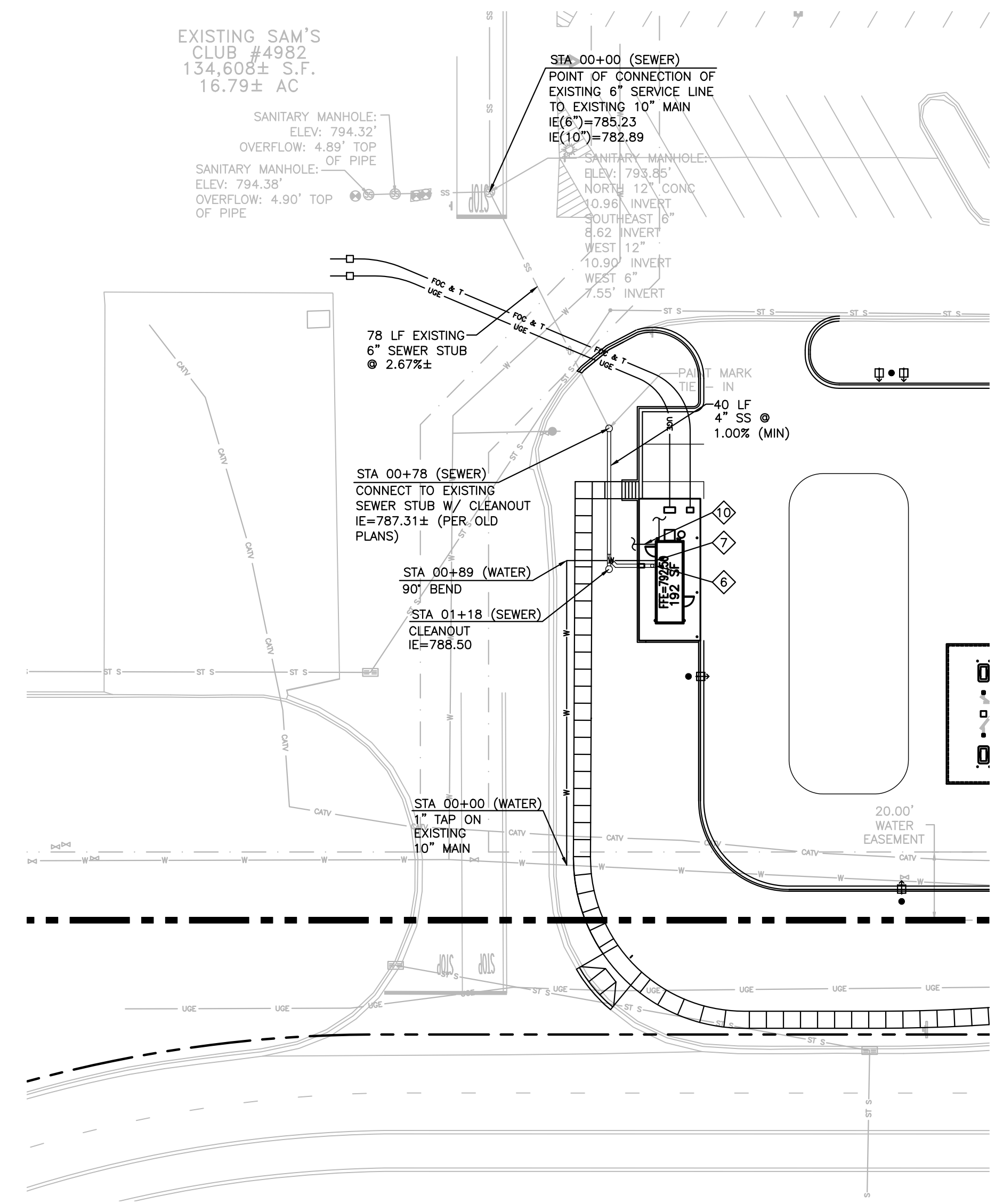
STATE OF MICHIGAN  
JOSEPH PARSLEY  
ENGINEER  
No. 8201066218  
LICENSED PROFESSIONAL ENGINEER

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MT PLEASANT (UNION TOWNSHIP), MICHIGAN  
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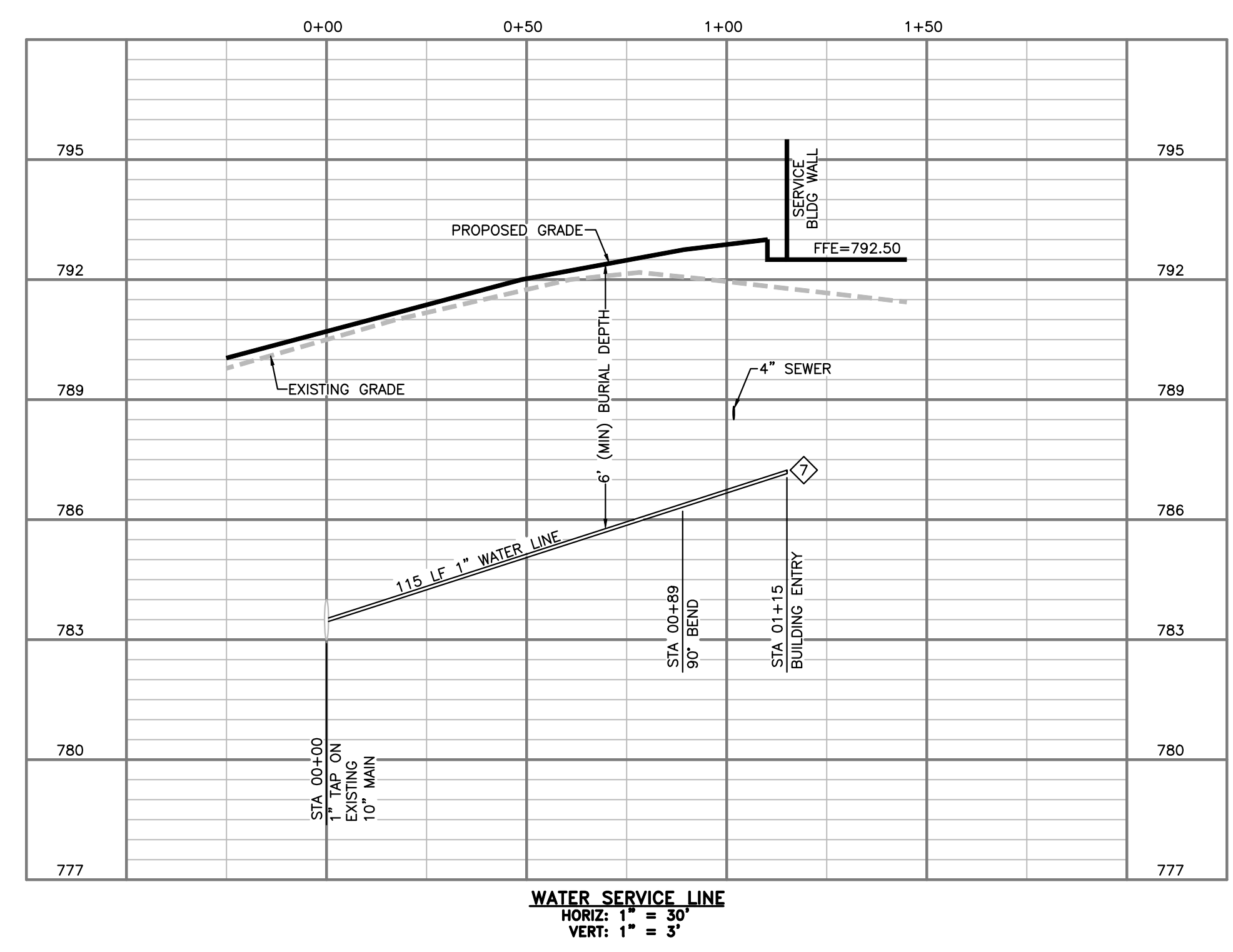
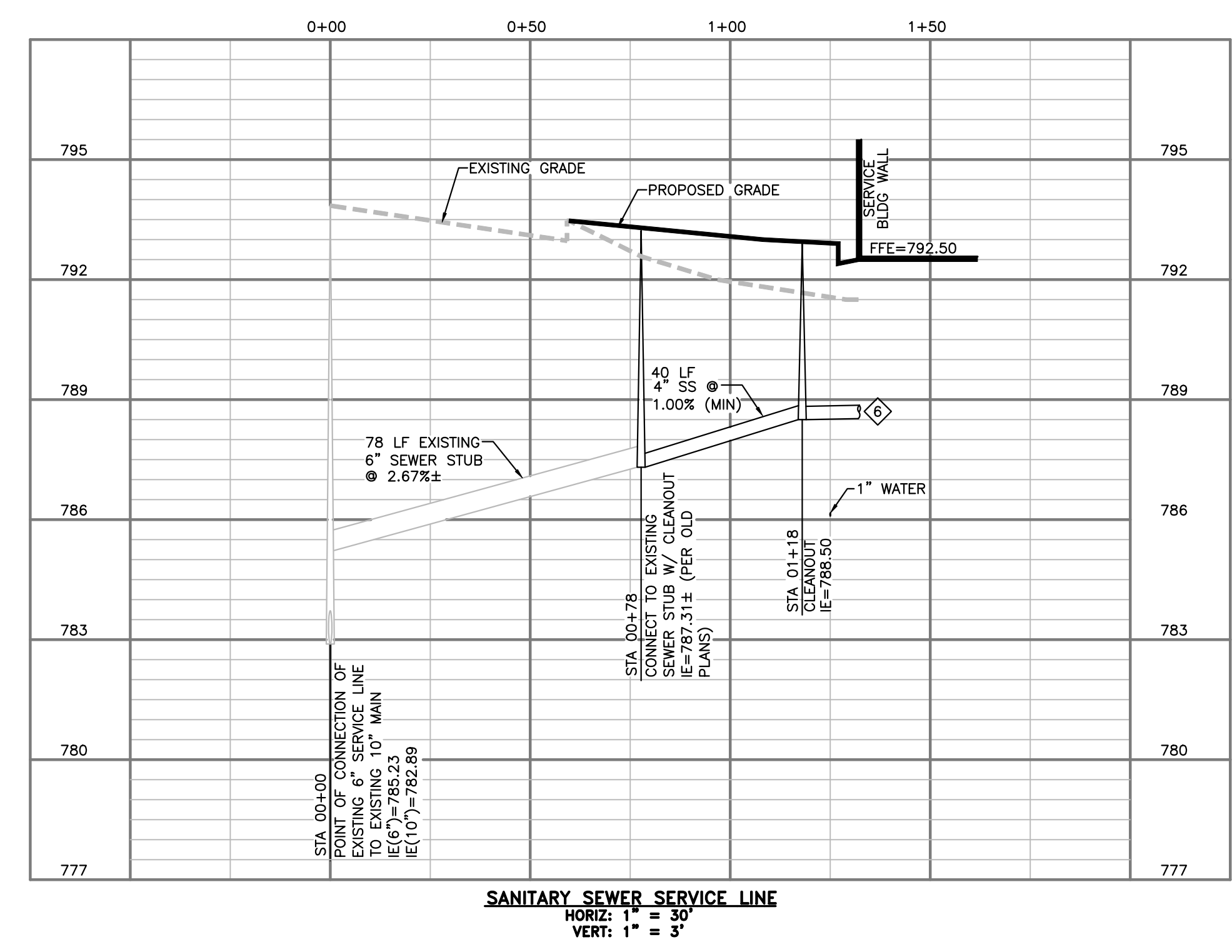
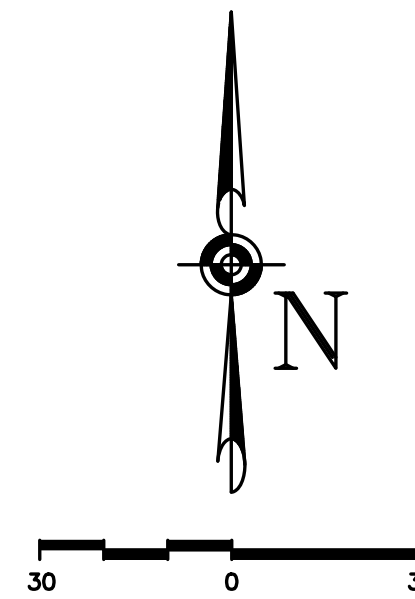


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SCALE	1"=20'
JOB No.	4982-211
SHEET	17 OF 27 SHEETS

PHOTOMETRICS PLAN



- NOTES
1. ALL DESIGN CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE TOWNSHIP'S CURRENT STANDARDS, SPECIFICATIONS, AND DETAILS.
  2. ALL ELEVATIONS SHALL BE BASED UPON USGS OR NGVD DATUM.
  3. NO CONNECTION RECEIVING STORM WATER OR GROUNDWATER SHALL BE MADE TO SANITARY SEWER.
  4. THE CONTRACTOR MUST HAVE WRITTEN APPROVAL FROM THE TOWNSHIP AND THE PROJECT ENGINEER BEFORE ANY CHANGE IN DESIGN IS MADE.
  5. MAINTAIN A MINIMUM 10' HORIZONTAL AND 18" VERTICAL SEPARATION AT ALL WATER AND SEWER CROSSINGS.
  6. 4" SANITARY SEWER SERVICE ENTRY.
  7. 1" DOMESTIC WATER ENTRY W/ METER INSIDE BUILDING.
  8. SEWER SERVICE LINES SHALL BE SCHEDULE 40 PVC.
  9. WATER SERVICE LINES SHALL BE PVC, 200 PSI AQUA JET TUBING.
  10. 1" IRRIGATION WATER. SEE IRRIGATION PLAN FOR CONTINUATION OF WATER LINE.

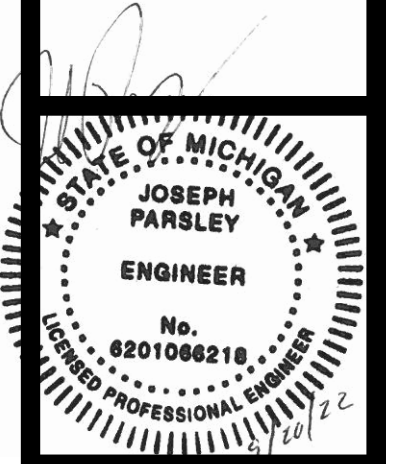


CAUTION - NOTICE TO CONTRACTOR

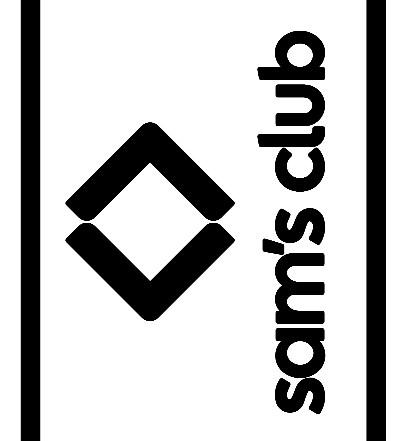
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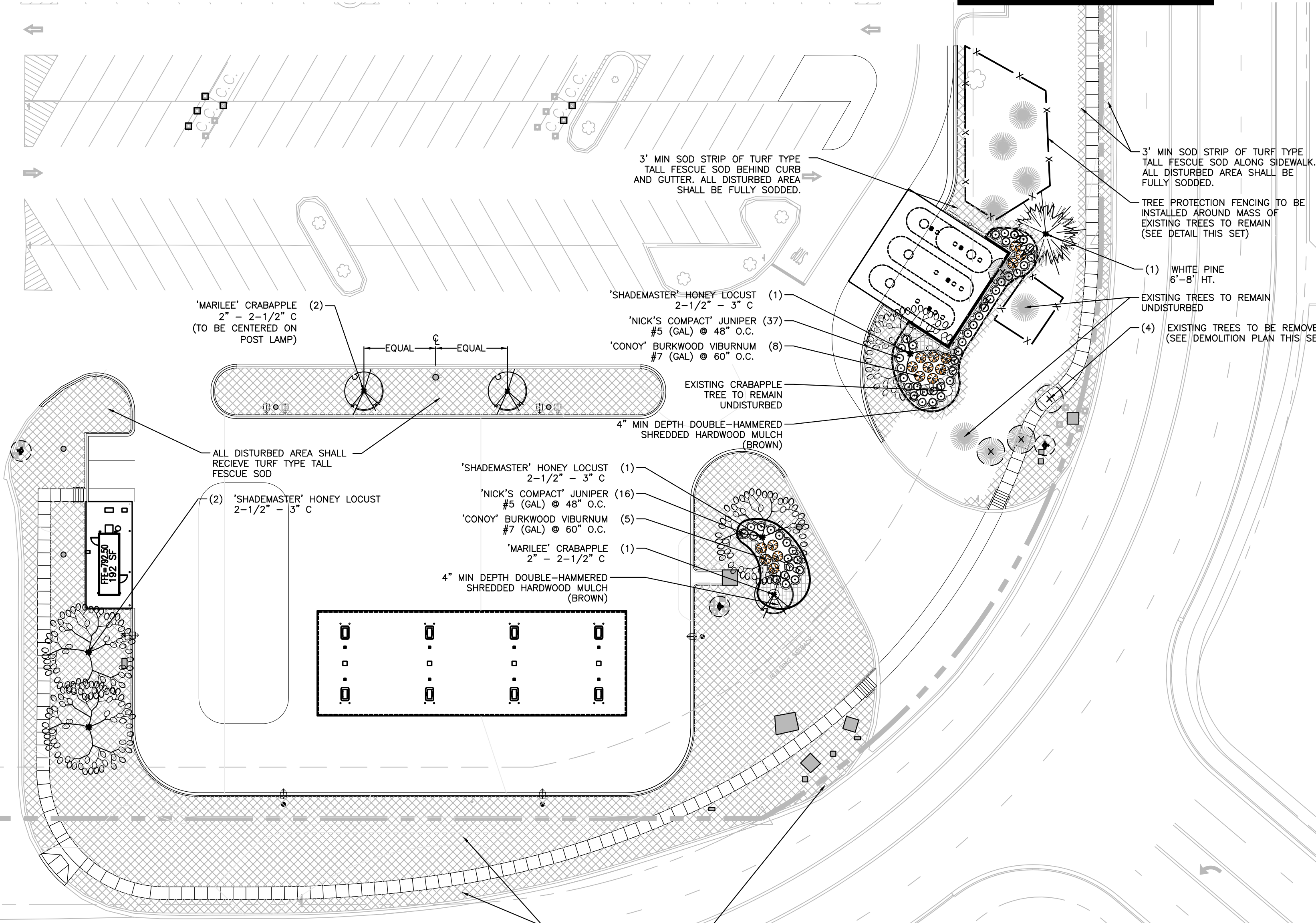
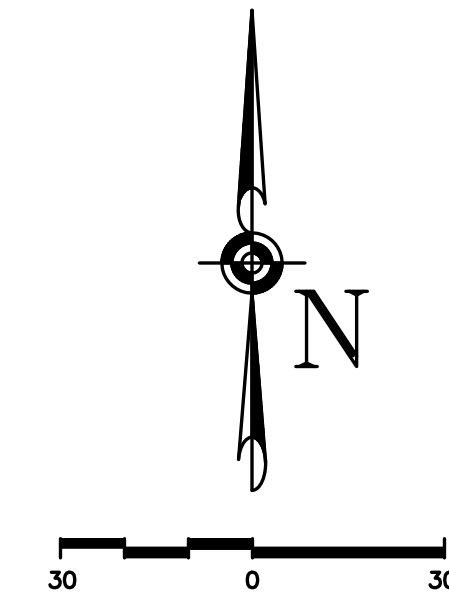
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CHECKED	BKM
DATE	09/20/2022
SCALE	AS NOTED
JOB No.	4982-211
SHEET	18 OF 27 SHEETS

SEWER AND WATER SERVICE LINES PLAN AND PROFILE



EXISTING SAM'S CLUB #4982  
134,608± S.F.  
16.79± AC

MATCHLINE A (THIS SHEET)



CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL MAINTENANCE AND A WARRANTY ON ALL PLANT MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE.

UNLESS SHOWN OTHERWISE, ALL LARGE CANOPY TREES SHALL MAINTAIN 25' HORIZONTAL CLEARANCE FROM ALL OVERHEAD UTILITY LINES AND 10' HORIZONTAL CLEARANCE FROM ALL UNDERGROUND UTILITY LINES.

TREE PROTECTION FENCING TO BE REMOVED JUST PRIOR TO THE INSTALLATION OF ALL LANDSCAPE PLANTING.

ALL UNSURFACED AREAS SHALL RECEIVE A 6" LAYER OF SUITABLE TOPSOIL AND SOD, WATER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED

ALL LANDSCAPE AREAS SHALL BE FULLY IRRIGATED BY A PERMANENTLY INSTALLED IN-GROUND IRRIGATION SYSTEM. THE AUTOMATICALLY CONTROLLED SYSTEM UTILIZES A COMBINATION OF LOW-VOLUME AND RUNOFF SPRAY HEADS AND DRIP IRRIGATION COMPONENTS. SEE IRRIGATION PLANS, THIS SET, FOR ADDITIONAL INFORMATION.

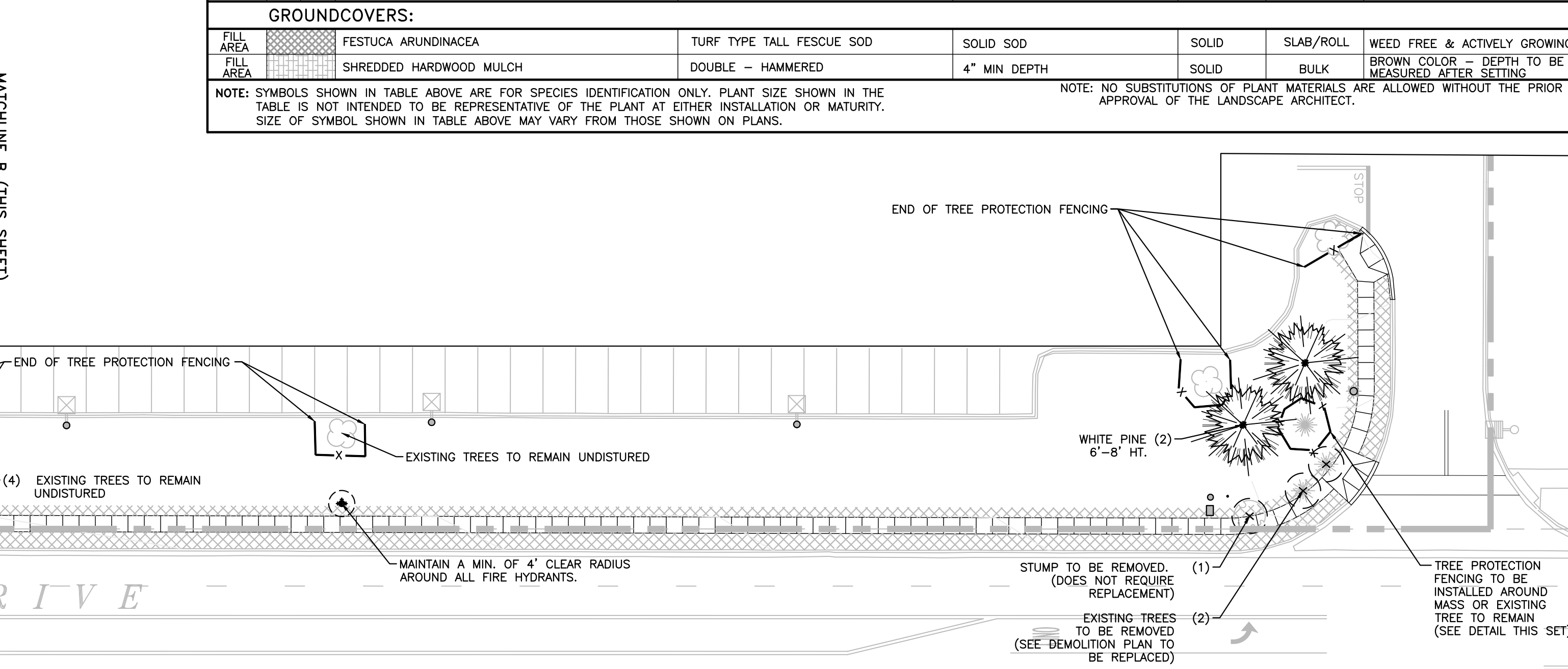
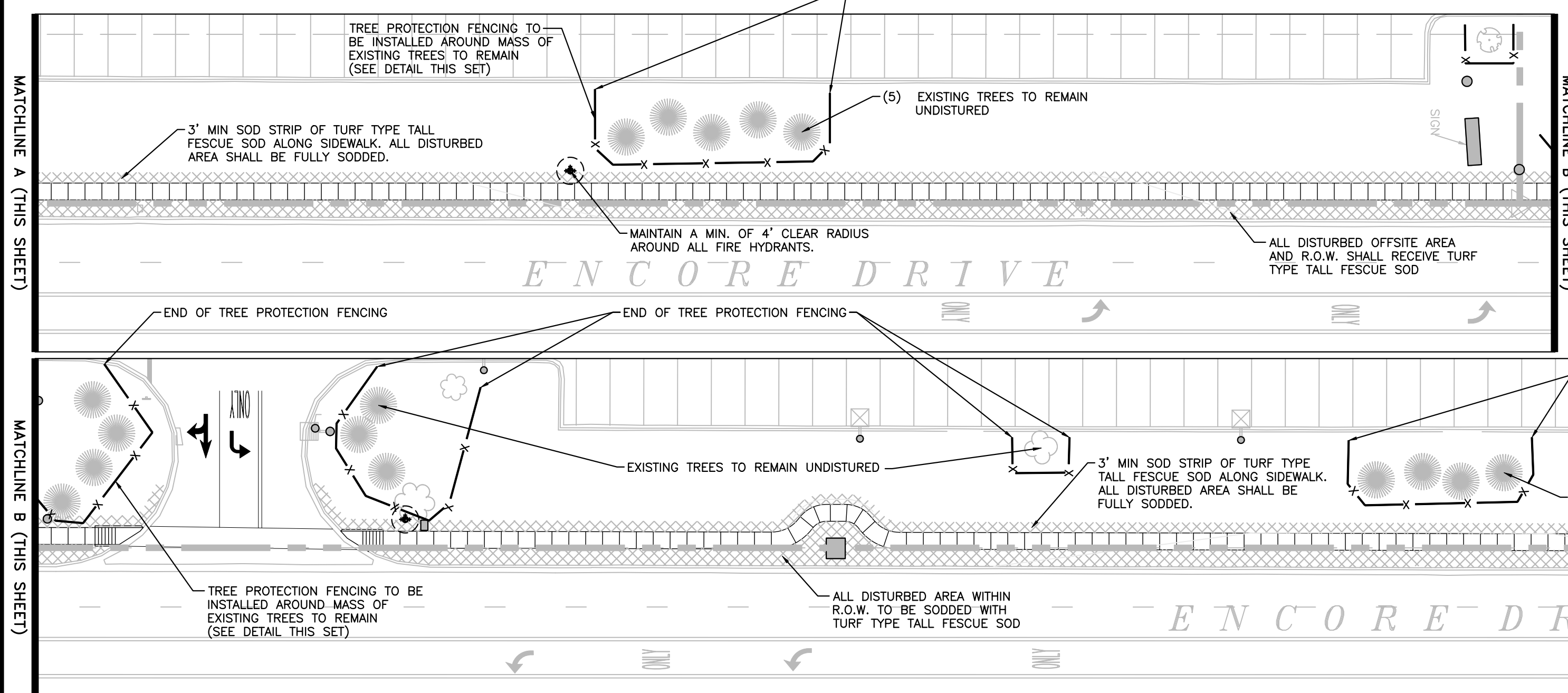
**PLANT SCHEDULE**

NOTE: ALL SIZES AND CONDITION OF NURSERY STOCK SHALL MEET THE STANDARDS ESTABLISHED IN THE LATEST EDITION OF "AMERICAN STANDARD FOR NURSERY STOCK" PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.

QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE (BOTH MIN'S TO BE MET)	SPACING	CONDITION	REMARKS
<b>TREES:</b>							
4	(Symbol)	GLEDITSIA TRIACANTHOS VAR. INERMIS 'SHADEMASTER'	'SHADEMASTER' THORNLESS HONEYLOCUST	2-1/2" - 3" C / 10' - 12' HT	AS SHOWN	B&B	FULL HEAD w/UNIFORM GROWTH
3	(Symbol)	'MALUS 'JARMIN' PP 14337	MARILEE CRABAPPLE	2" - 2-1/2" C / 8" - 10" HT	AS SHOWN	B&B	FULL HEAD w/UNIFORM GROWTH
3	(Symbol)	PINUS STROBUS	WHITE PINE	6'-8" HT. FULL TO GROUND	AS SHOWN	B&B	STRONG CENTRAL LEADER
<b>SHRUBS:</b>							
53	(Symbol)	JUNIPERUS CHINENSIS 'PFITZERIANA NICK'S COMPACTA'	NICK'S COMPACT JUNIPER	#5 (GAL) / 18" - 24" SPD.	48" O.C.	CONT	ROUND, FULL HEAD
13	(Symbol)	VIBURNUM X BURKWOODII 'CONOY'	'CONOY' BURKWOOD VIBURNUM	#7 (GAL) / 3" HT. MIN	60" O.C.	CONT	ROUND, FULL HEAD
<b>GROUNDCOVERS:</b>							
FILL AREA	(Symbol)	FESTUCA ARUNDINACEA	TURF TYPE TALL FESCUE SOD	SOLID SOD	SOLID	SLAB/ROLL	WEED FREE & ACTIVELY GROWING
FILL AREA	(Symbol)	SHREDDED HARDWOOD MULCH	DOUBLE - HAMMERED	4" MIN DEPTH	SOLID	BULK	BROWN COLOR - DEPTH TO BE MEASURED AFTER SETTING

NOTE: SYMBOLS SHOWN IN TABLE ABOVE ARE FOR SPECIES IDENTIFICATION ONLY. PLANT SIZE SHOWN IN THE TABLE IS NOT INTENDED TO BE REPRESENTATIVE OF THE PLANT AT EITHER INSTALLATION OR MATURITY. SIZE OF SYMBOL SHOWN IN TABLE ABOVE MAY VARY FROM THOSE SHOWN ON PLANS.

NOTE: NO SUBSTITUTIONS OF PLANT MATERIALS ARE ALLOWED WITHOUT THE PRIOR APPROVAL OF THE LANDSCAPE ARCHITECT.



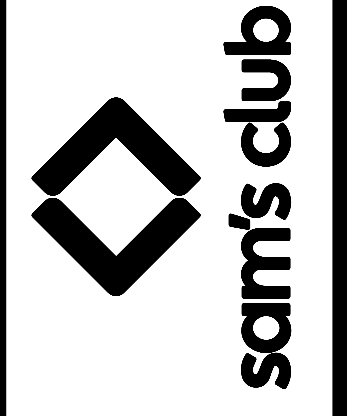
**PLANTING PLAN**

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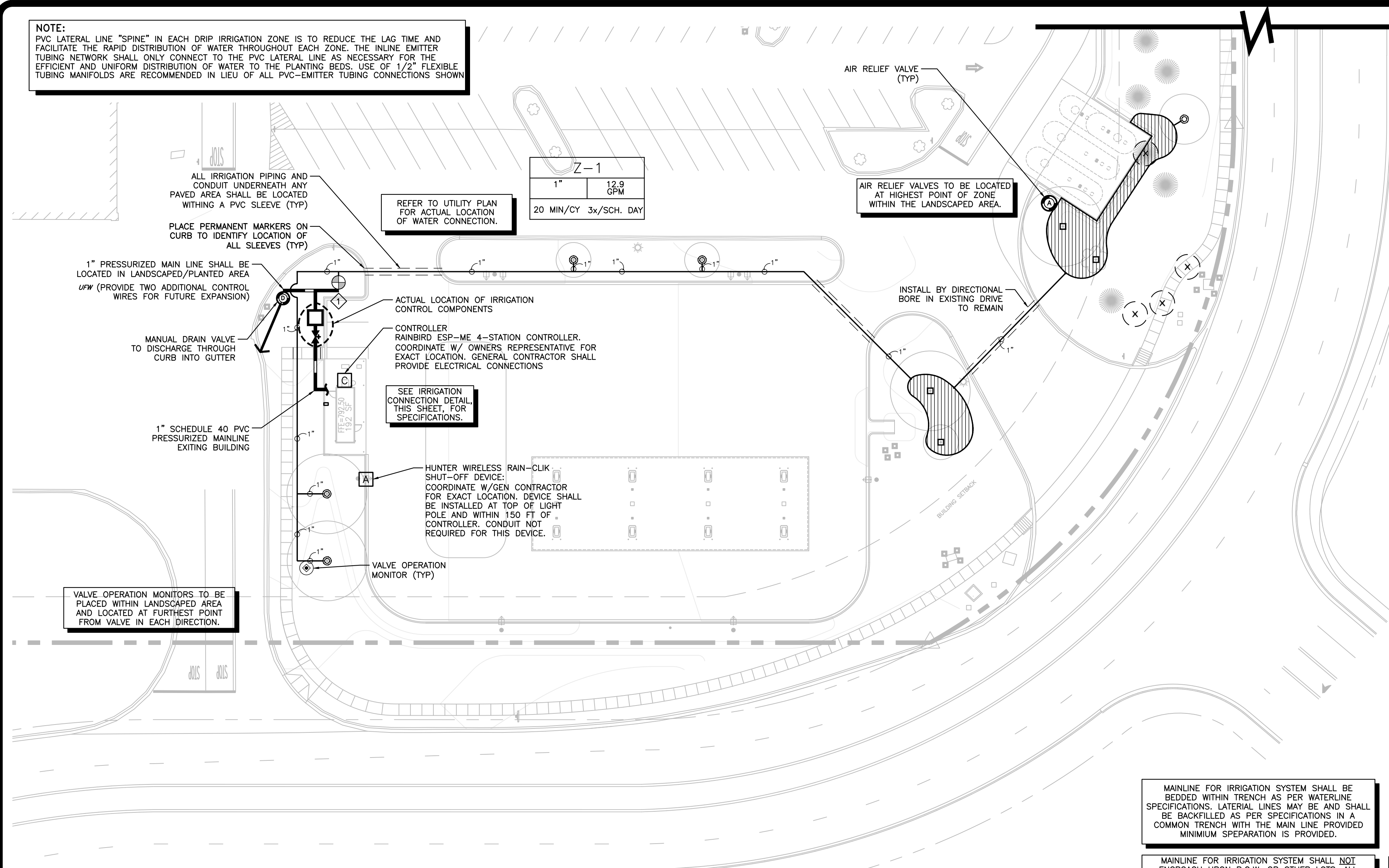
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**NOTE:**  
PVC LATERAL LINE "SPINE" IN EACH DRIP IRRIGATION ZONE IS TO REDUCE THE LAG TIME AND FACILITATE THE RAPID DISTRIBUTION OF WATER THROUGHOUT EACH ZONE. THE INLINE EMITTER TUBING NETWORK SHALL ONLY CONNECT TO THE PVC LATERAL LINE AS NECESSARY FOR THE EFFICIENT AND UNIFORM DISTRIBUTION OF WATER TO THE PLANTING BEDS. USE OF 1/2" FLEXIBLE TUBING MANIFOLDS ARE RECOMMENDED IN LIEU OF ALL PVC-EMITTER TUBING CONNECTIONS SHOWN.



**IRRIGATION LEGEND**

CONTRACTOR PROVIDED COMPONENTS	
C	4-STATION IRRIGATION CONTROLLER, WALL MOUNTED IN LOCKING CABINET-RAINBIRD ESP-ME SERIES
A	WIRELESS RAIN/FREEZE SENSOR - HUNTER MINI-CLIK
□	IRRIGATION CONNECTION COMPONENTS
I	IRRIGATION WATER TAP AND CITY WATER METER ON POTABLE WATER UTILITY LINE WITH BACKFLOW PREVENTER, PROVIDED BY CONTRACTOR. COORDINATE SOURCE LOCATION WITH GENERAL CONTRACTOR. SEE UTILITY PLAN FOR SIZE.
⊗	REDUCED PRESSURE BACKFLOW DEVICE (LINE SIZE), PER LOCAL CODES PROVIDE GREEN FIBERGLASS INSULATED ENCLOSURE, VERIFY EXACT LOCATION IN FIELD. FEBCO 825V, OR EQUAL.
⊕	ISOLATION VALVE (LINE SIZE), PROVIDE 15" VALVE BOX WITH EXTENSIONS. BRONZE THREAD ON TYPE WITH WHEEL HANDLE.
⊙	BRONZE QUICK COUPLER VALVE (LINE SIZE), MOUNT ON SPEARS PVC OR RAINBIRD O-RING TYPE PVC SWING JOINT. MOUNT IN 15" RECTANGULAR VALVE BOX. PROVIDE ONE (SIZE APPROPRIATE) QC KEY PER FOUR QUICK COUPLER VALVES. RAINBIRD 4 PC.
⊖	VALVE OPERATION MONITOR - CAPPED IRRIGATION SPRAY HEAD
⊕	MANUAL DRAIN-VALVE: MAIN LINE SIZE
⊕	AIR RELIEF VALVES WITH REMOVABLE FLUSH CAPS TO BE LOCATED AT ALL ZONES WHERE INLINE EMITTER TUBING IS USED.
⊕	1" MEDIUM FLOW VALVE WITH 40 PSI PRESSURE REDUCER MOUNTED IN 15" STANDARD PLASTIC VALVE BOX. "X" IS ZONE DESIGNATION. FOR USE IN ZONES WHERE THE FLOW RATE IS BETWEEN 4.0 GPM AND 15.0 GPM.
—	UNDERGROUND FEEDER WIRE NO. 14 AWG DIRECT BURIAL RUN IN CONDUIT.
—	PVC SLEEVE SCHEDULE 40 PVC UNDER ALL PAVED SURFACES. SEE SCHEDULE FOR SIZE. PLACE PERMANENT MARKERS ON CURB TO IDENTIFY LOCATION.
—	PVC MAINLINE PIPE, SCHEDULE 40, PVC PIPE, 2.5" AND SMALLER-SOLVENT WELD PIPE AND PVC SOLVENT WELD FITTINGS. PVC SLEEVES SHALL BE REQUIRED UNDER SIDEWALKS, CURBS, OR ANY PAVED SURFACES. REFER TO SPECIFICATIONS FOR SIZES OF SLEEVES.
—	PVC LATERAL PIPE, CLASS 200, SOLVENT WELD, PVC PIPE FOR PIPE OVER 1" IN DIAMETER. SIZE LATERAL PIPE AS SHOWN AT VELOCITIES OF 5 FEET PER SECOND OR LESS. PVC SLEEVES SHALL BE REQUIRED UNDER SIDEWALKS, CURBS, OR ANY PAVED SURFACES. REFER TO SPECIFICATIONS FOR SIZES OF SLEEVES.
—	PVC LATERAL PIPE, CLASS 315, SOLVENT WELD, PVC PIPE FOR PIPE 1" IN DIAMETER OR LESS. SIZE LATERAL PIPE AS SHOWN AT VELOCITIES OF 5 FEET PER SECOND OR LESS. PVC SLEEVES SHALL BE REQUIRED UNDER SIDEWALKS, CURBS, OR ANY PAVED SURFACES. REFER TO SPECIFICATIONS FOR SIZES OF SLEEVES.
—	RAINBIRD 1/2" POLYETHYLENE TUBING TO BE EITHER: • PRESSURE COMPENSATING INLINE EMITTER TUBING WITH 0.9 GAL/HOUR EMITTERS AT 18" SPACING O.C. OR • XBS 1/2" BLANK TUBING, AS LABELED ON PLANS.
—	PIPE SIZE - UNLABELED PIPE BETWEEN 2 SIZES SHALL BE THE LARGER SIZE.
—	PIPE JOINT
—	PIPES CROSS, DO NOT INTERSECT
—	CONTROLLER STATION NUMBER GALLONS PER MINUTE SIZE OF VALVE FREQUENCY AND DURATION OF ZONE RUN TIME
—	1. THE POINT OF CONNECTION IS A WATERLINE STUBBED AT THE NORTHEAST CORNER OF THE SITE. SERVICE COMES FROM METER AND BACKFLOW PREVENTER. 2. REFER TO UTILITY PLAN, THIS SET, FOR ADDITIONAL INFORMATION.

**CONTROLLER (RAINBIRD ESP-ME SERIES 4-STATION CONTROLLER) PROGRAMMING SCHEDULE**

IRRIGATION INTERVAL	TWICE PER WEEK		
# OF START TIMES/SCHEDULED DAY	3		
SCHEDULED START TIMES FOR PROGRAM	2:00 AM 3:00 AM 4:00 AM		
ZONE	ZONE DESCRIPTION	RUN TIME	TOTAL RUN TIME/SCHEDULED DAY
Z-1	DRIP-TUBING/TREE RINGS	20 MIN/CYCLE	60 MIN
Z-2	OPEN	-	-
Z-3	OPEN	-	-
Z-4	OPEN	-	-
RUN TIME TOTALS	20 MIN PER CYCLE	1 HR 0 MIN PER SCHEDULED DAY	

CONTROLLER PROGRAMMING SCHEDULE IS BASED UPON THE BEST KNOWLEDGE OF THE ANTICIPATED POST CONSTRUCTION SITE CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR MONITORING SITE CONDITIONS AND ADJUSTING IRRIGATION WATERING SCHEDULE AS NECESSARY TO MAINTAIN PLANT HEALTH.

**PLANT WATER REQUIREMENTS**

	ETc =	0.98"/WEEK
TREES	0.14"/DAY	
TURFGRASS	0.20"/DAY	1.40"/WEEK
SHRUB PLANTER	0.20"/DAY	1.40"/WEEK

THE DOMESTIC STATIC BOR PRESSURE AT THE F.F.E. FOR THIS SITE WAS NOT AVAILABLE WHEN THE IRRIGATION PLAN WAS PREPARED.

THE IRRIGATION SYSTEM REQUIRES A MINIMUM OF: 42.5 PSI FOR EFFICIENT OPERATION.

THE CONTRACTOR SHALL CONFIRM THAT THE AVAILABLE WATER PRESSURE AT THE SITE MEETS THE MINIMUM NECESSARY FOR EFFICIENT OPERATION.

REFER TO THE IRRIGATION NOTES (THIS SET) FOR ADDITIONAL INFORMATION.

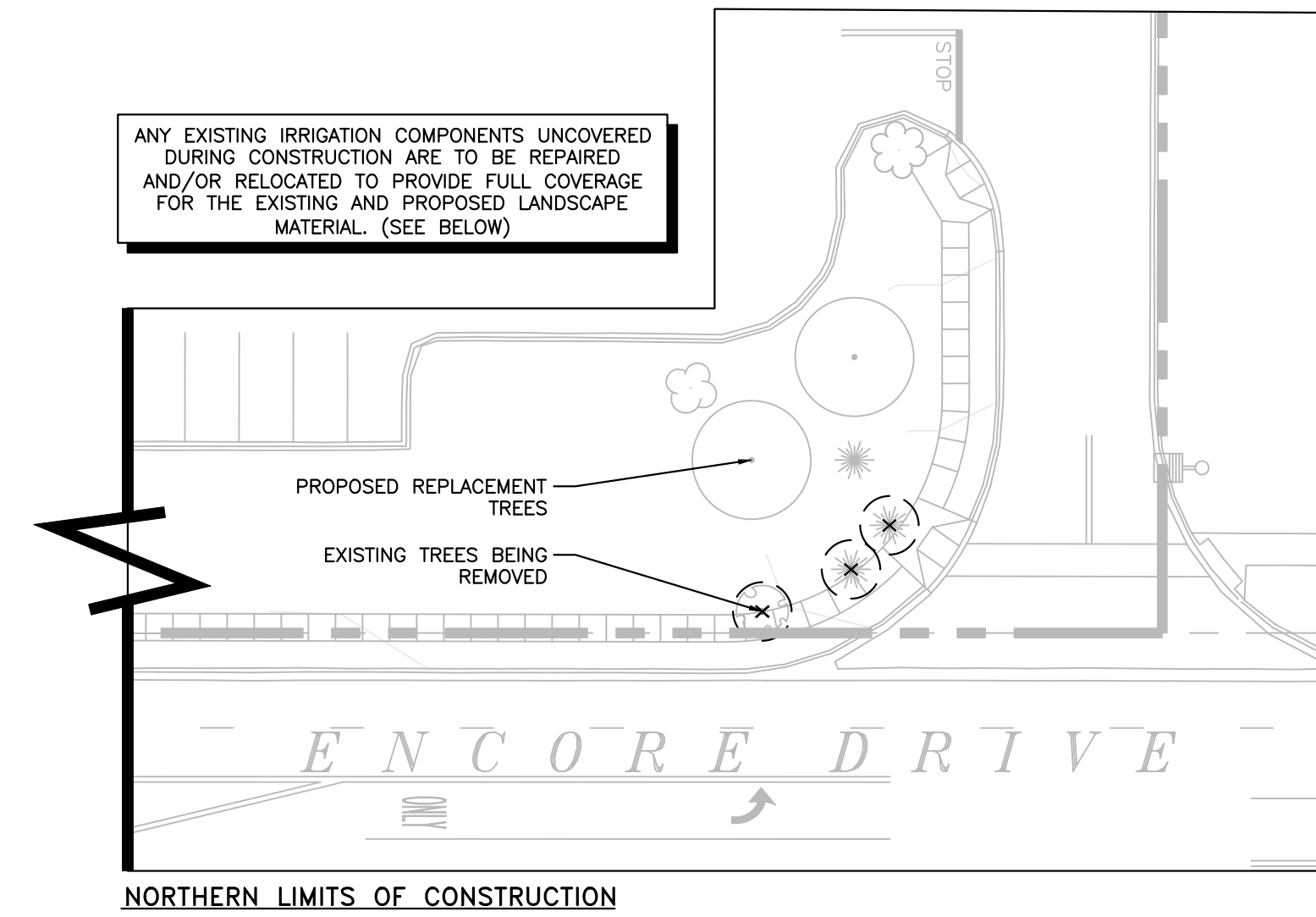
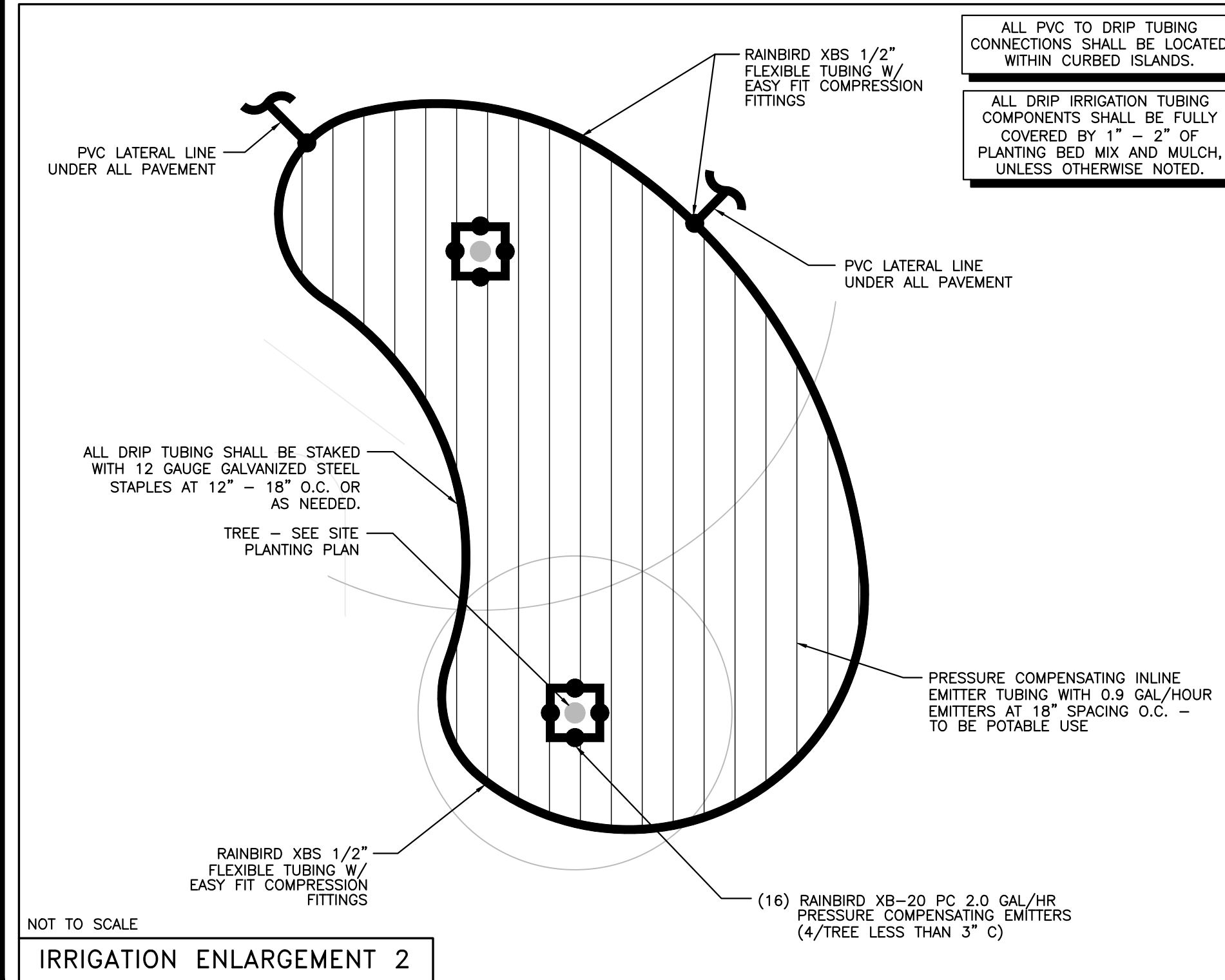
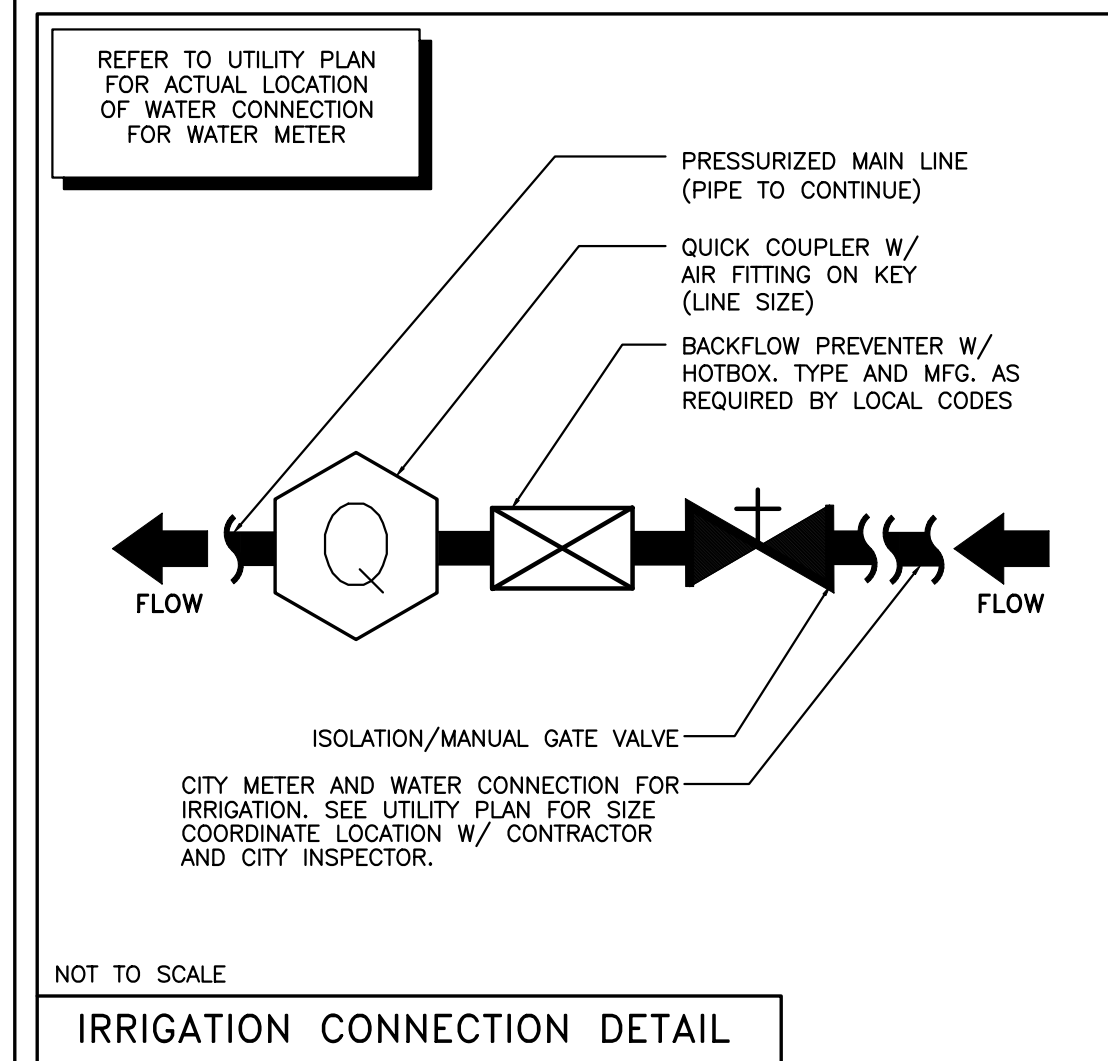
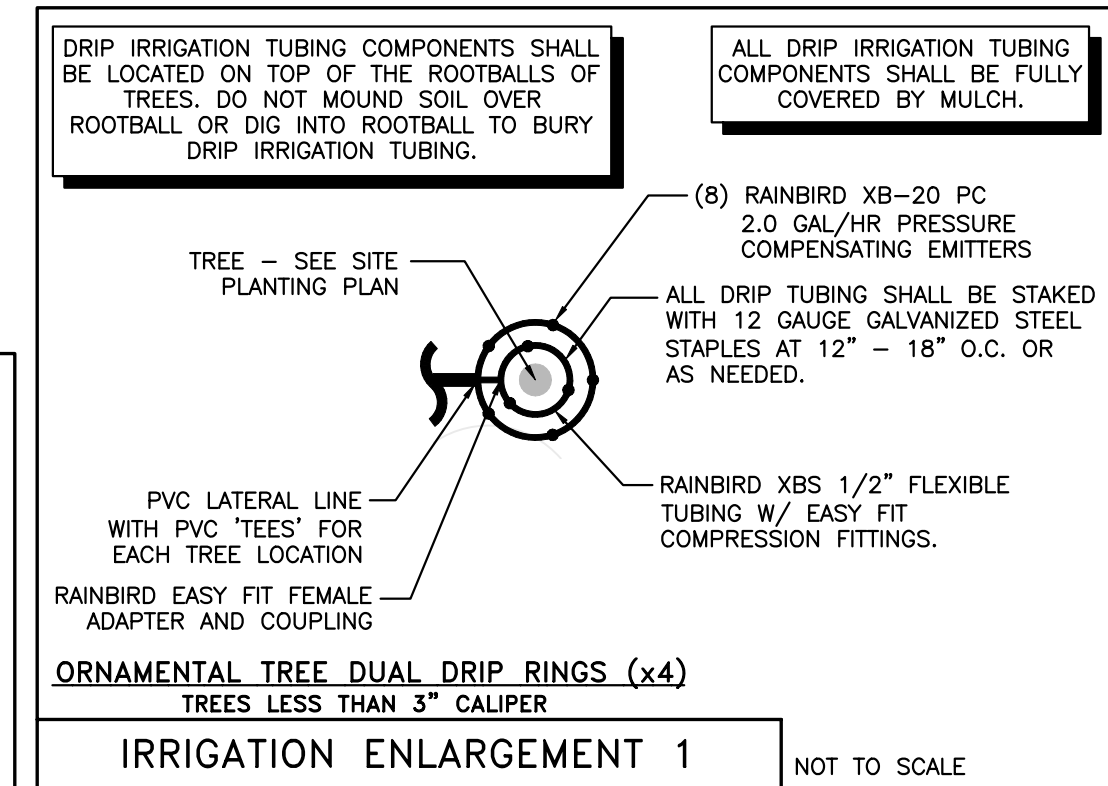
MAINLINE FOR IRRIGATION SYSTEM SHALL BE BEDDED WITHIN TRENCH AS PER WATERLINE SPECIFICATIONS. LATERAL LINES MAY BE AND SHALL BE BACKFILLED AS PER SPECIFICATIONS IN A COMMON TRENCH WITH THE MAIN LINE PROVIDED MINIMUM SEPARATION IS PROVIDED.

MAINLINE FOR IRRIGATION SYSTEM SHALL NOT ENCROACH UPON R.O.W. OR OTHER LOTS. ALL COMPONENTS OF THE IRRIGATION SYSTEM SHALL REMAIN ON SAM'S CLUB PROPERTY.

PERMANENT MARKERS SHALL BE PLACED ON CURBS TO IDENTIFY LOCATIONS OF ALL IRRIGATION SLEEVES.

GENERAL CONTRACTOR SHALL ENSURE THAT SLEEVES INSTALLED ARE LARGE ENOUGH TO ACCOMMODATE ALL NECESSARY PIPING, AS PER SPECIFICATIONS.

CONTRACTOR SHALL CONTACT 811 FOR LOCATION OF ALL UTILITIES AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION.

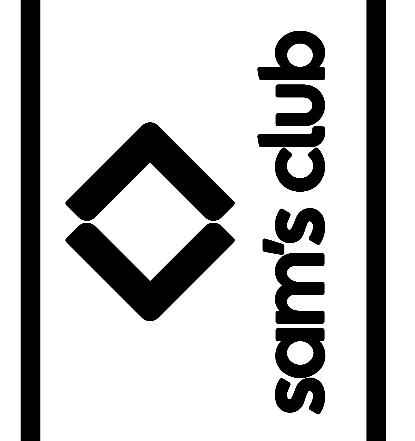


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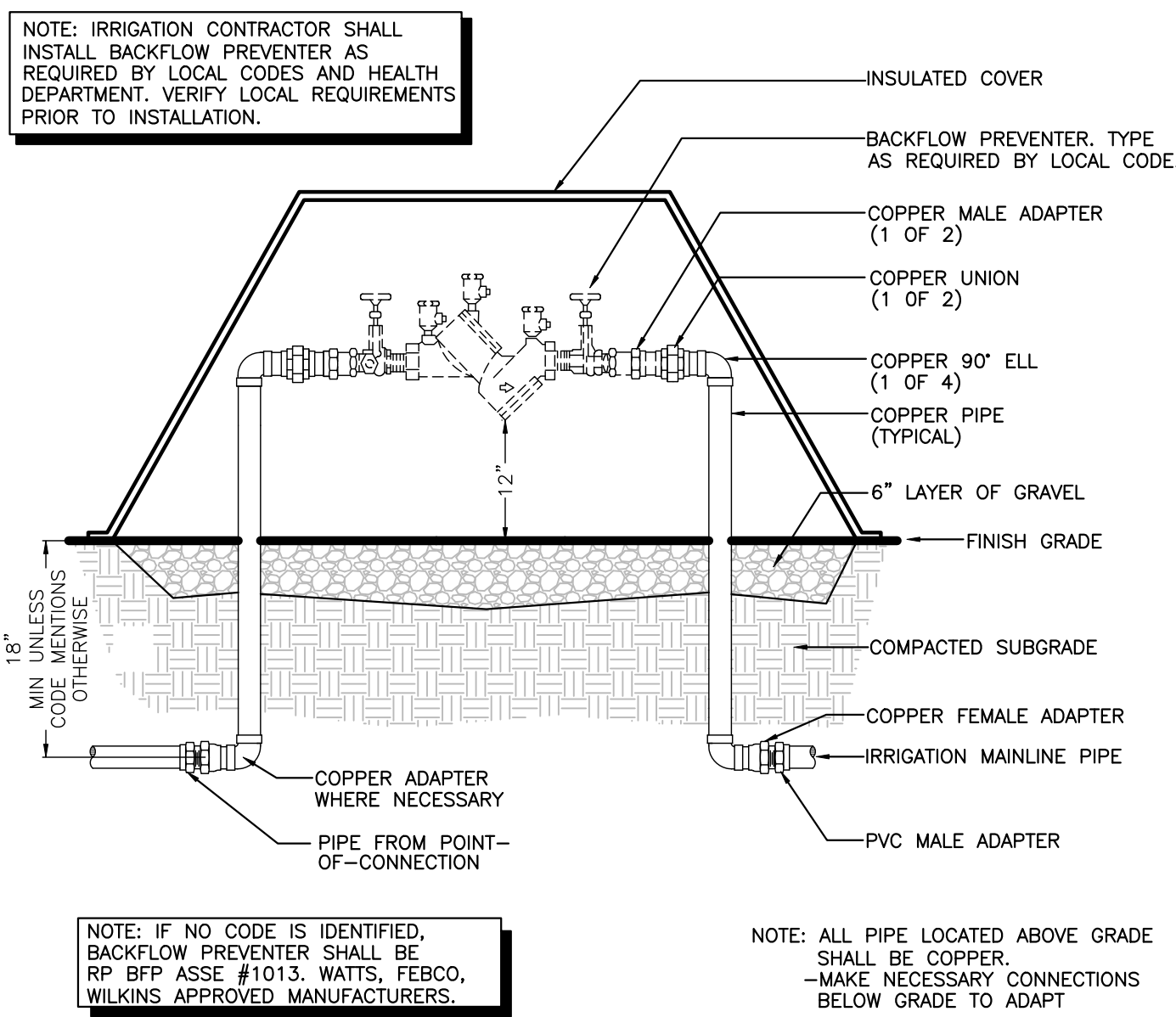
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**IRRIGATION PLAN**

**IRRIGATION NOTES**

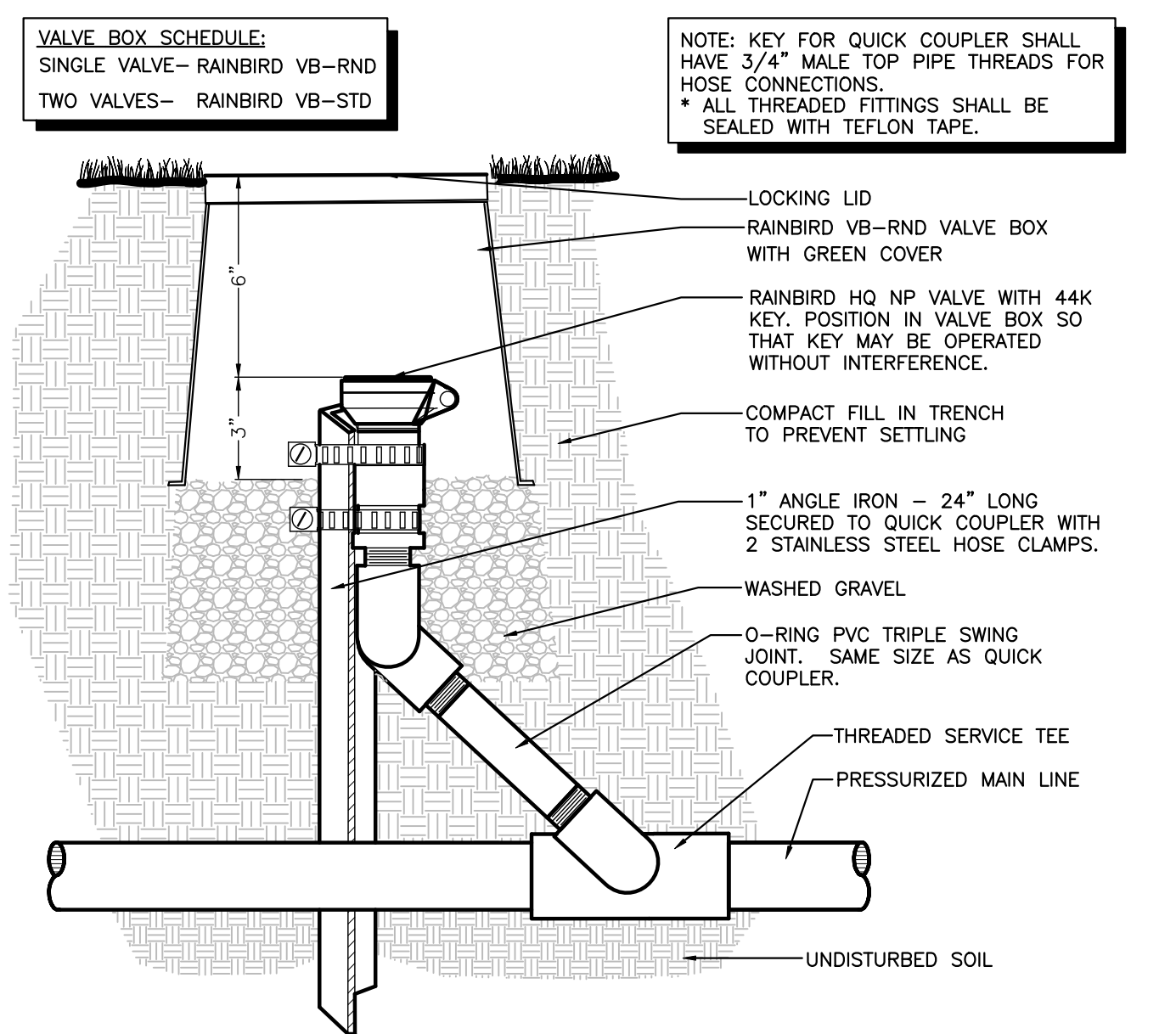
1. THE IRRIGATION CONTRACTOR IS RESPONSIBLE FOR OBTAINING A COPY OF THE PROJECT SPECIFICATIONS PRIOR TO BIDDING. THE PROJECT SPECIFICATIONS ARE A PART OF THESE PLANS AND SHALL BE CONSULTED BY THE IRRIGATION CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING WORK AS SPECIFIED IN THE PROJECT SPECIFICATIONS AND ON THE PLANS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MATERIALS AND LABOR TO FULLY EXECUTE, GUARANTEE, AND MAINTAIN THE SYSTEM AS REQUIRED. THE TOTAL WORK SHOWN ON THIS PLAN SHALL BE DONE IN ACCORDANCE WITH SPECIFICATIONS, AND ALSO AS PER INSTRUCTIONS OF THE CONTRACTING OFFICER.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, EQUIPMENT QUANTITIES, AND UTILITY LOCATIONS PRIOR TO BEGINNING WORK.
4. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES IN PLANS OR SPECIFICATIONS PRIOR TO BEGINNING OR CONTINUING WORK.
5. ALL CONSTRUCTION SHALL CONFORM TO CITY, COUNTY, STATE, AND FEDERAL REQUIREMENTS. IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO ENSURE THAT ALL IRRIGATION EQUIPMENT MEETS GOVERNMENT REGULATIONS. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS OR APPROVALS.
6. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND LOCATING ALL UNDERGROUND UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTANCES, ETC WHICH OCCURS AS A RESULT OF THE IRRIGATION CONSTRUCTION TO OWNER'S SATISFACTION, AT NO ADDITIONAL COST.
7. NO PART OF THE IRRIGATION SYSTEM SHALL BE INSTALLED IN CONFLICT WITH UTILITIES. THE CONTRACTOR SHALL MAKE ANY NECESSARY ADJUSTMENTS IN THE PROPOSED IRRIGATION SYSTEM TO AVOID CONFLICTS WITH EXISTING STRUCTURES, PAVING, AND UTILITIES.
8. ALL CALCULATIONS INDICATED ON THIS SHEET ARE SAMPLE CALCULATIONS AND SHOULD NOT BE CONSTRUED AS ACCURATE.
9. 42.5 PSI STATIC WATER PRESSURE IS REQUIRED FOR THE EFFICIENT OPERATION OF THE IRRIGATION SYSTEM AS DESIGNED. VERIFY 45.0 PSI STATIC WATER PRESSURE IS AVAILABLE AT THE PROJECT SITE PRIOR TO BEGINNING THE IRRIGATION INSTALLATION. NOTIFY THE LANDSCAPE ARCHITECT IF THE MINIMUM WATER PRESSURE IS NOT AVAILABLE.
10. IRRIGATION CONTRACTOR TO VERIFY ACTUAL AVAILABLE WATER PRESSURE BEFORE BEGINNING INSTALLATION. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IF AVAILABLE WATER PRESSURE EXCEEDS 5 PSI HIGHER OR LOWER THAN MINIMUM REQUIRED WATER PRESSURE.
11. IF STATIC WATER PRESSURES ARE NOT ADEQUATE TO OPERATE IRRIGATION SYSTEM, A PUMP SYSTEM IS TO BE DESIGNED BY AN IRRIGATION SYSTEM DESIGNER. IRRIGATION PUMP INSTALLATION MUST BE COORDINATED WITH THE ELECTRICAL CONTRACTOR. PUMP MUST BE INSTALLED WITHIN A TAMPER PROOF ENCLOSURE.
12. IF STATIC WATER PRESSURES EXCEEDS 75 PSI, PRESSURE COMPENSATING HEADS MUST BE USED.
13. IRRIGATION SYSTEMS CONNECTED TO POTABLE WATER SUPPLY SHALL HAVE A WATTS, FEBCO, OR WILKINS REDUCED PRESSURE BACKFLOW PREVENTER (ASSE# 1013) INSTALLED, OR AS REQUIRED BY LOCAL CODES.
14. ELECTRICAL SERVICE TO ALL EQUIPMENT SHALL BE PROVIDED TO A JUNCTION BOX AT THE EQUIPMENT LOCATION.
15. THE LOCATION OF THE AUTOMATIC CONTROL CLOCK IS GENERALLY INDICATED ON THE DRAWING AND WILL BE SPECIFICALLY LOCATED ON-SITE BY THE CONTRACTING OFFICER. THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL CONNECTIONS FROM CONTROL VALVES TO THE CONTROL CLOCK.
16. EACH CONTROL CLOCK HAS STATIONS THAT ARE NOT BEING UTILIZED. THERE IS TO BE A FIELD WIRE INSTALLED TO THE FURTHEST CONTROL VALVE IN ANY ONE DIRECTION FROM THE CONTROL CLOCK FOR EVERY VACANT STATION PLUS ONE SPARE WIRE IS TO BE INSTALLED IN CASE OF A FAULTY WIRE.
17. VALVE WIRE SHALL BE #14 GAUGE UL-UF SINGLE STRAND DIRECT BURIAL COPPER RUN IN A BURIED CONDUIT WITH MANUFACTURER'S PACKAGED KIT CONSISTING OF INSULATING, SPRING-TYPE CONNECTOR OR CRIMPED JOINT AND EPOXY RESIN MOISTURE SEAL; SUITABLE FOR DIRECT BURIAL. COIL WIRE EVERY 100' FOR EXPANSION AND CONTRACTION PURPOSES.
18. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO HAVE ALL PLANTING AREAS FLAGGED BY THE LANDSCAPE CONTRACTOR PRIOR TO INSTALLATION. REFER TO THE PLANTING PLANS WHEN TRENCHING TO AVOID TREES AND SHRUBS.
19. EXISTING TREES TO REMAIN ARE TO BE PROTECTED FROM DAMAGE. DO NOT TRENCH OR EXCAVATE WITHIN THE CRITICAL ROOT ZONE OF ANY TREE.
20. THE CONTRACTOR SHALL PROTECT ALL EXISTING LANDSCAPE IMPROVEMENTS DURING THE EXECUTION OF THIS WORK. NO SOIL SHALL BE PLACED DIRECTLY UPON EXISTING LANDSCAPING. ANY MATERIALS WHICH, IN THE OPINION OF THE LANDSCAPE ARCHITECT, ARE DAMAGED DURING THE EXECUTION OF THIS WORK SHALL BE IMMEDIATELY REPLACED BY THE IRRIGATION CONTRACTOR AT HIS EXPENSE.
21. LINE LOCATIONS AS INDICATED ON THE PLAN ARE SCHEMATIC. THE CONTRACTOR SHALL LOCATE ALL LINES IN SUCH A WAY AS TO CAUSE THE LEAST CONFLICT WITH THE LOCATION OF OTHER SITE AMENITIES. LINES MAY BE SHOWN OFFSET IN SOME HARDSCAPE AREAS AND OUTSIDE OF PROPERTY LINES FOR GRAPHIC CLARITY ONLY. ADJUST HEADS AND LINE LOCATIONS ON SITE TO ACCOMMODATE EXISTING JOB CONDITIONS AND ACHIEVE COMPLETE COVERAGE. PIPE LINES DRAWN SIDE BY SIDE MAY BE LAID IN THE SAME TRENCH, BUT THEY MUST MAINTAIN A MINIMUM OF 3" HORIZONTAL AND VERTICAL CLEARANCE FROM ALL OTHER PIPES.
22. ALL HEADS, VALVES, AND ACCESSORIES SHALL BE NELSON, HUNTER, RAIN BIRD, OR APPROVED EQUAL.
23. ALL CONTROL VALVES, GATE VALVES, AND QUICK COUPLERS SHALL BE INSTALLED IN LOCKING VALVE BOXES.
24. ALL VALVE BOXES ARE TO BE LOCATED IN PLANT BED OR NATURAL AREAS WHENEVER POSSIBLE.
25. ALL MAIN LINES AND SLEEVES SHALL BE SCHEDULE 40 PVC, ALL LATERAL LINES SHALL BE 125 PSI, STANDARD INSIDE DIMENSION RATIO (SIDR) 11.5 POLYETHYLENE PIPE.
26. POLYETHYLENE (PE) PIPE SHALL BE CONNECTED WITH BARBED FITTINGS AND CLAMPED WITH STAINLESS STEEL CLAMPS. THE CLAMP SHOULD BE PLACED OVER THE BARBED PORTION. FOR PIPES 1-1/2" AND LARGER, TWO STAINLESS STEEL CLAMPS PER BARB SHALL BE USED.
27. ALL MAIN LINES SHALL BE INSTALLED A MAXIMUM OF 2' FROM THE BACK OF CURB WHERE POSSIBLE. LATERAL LINES SHALL BE INSTALLED LIKEWISE WHERE POSSIBLE.
28. ALL LINES LOCATED BENEATH WALKS, CURBS, OR CONCRETE PAVING SHALL BE LOCATED WITHIN SLEEVES. ALL IRRIGATION SLEEVING TO BE THE RESPONSIBILITY OF THE CONTRACTOR. ALL UNDER PAVING SLEEVING IS TO BE ACCESSIBLE AND FREE OF OBSTRUCTION. SLEEVE SIZES ARE TO BE ACCORDING TO THE ATTACHED SLEEVE SCHEDULE. ELECTRICAL WIRES FOR IRRIGATION VALVES AND IRRIGATION LINES ARE TO BE PLACED IN SEPARATE SLEEVES. SEE SLEEVING DETAIL.
29. UNSIZED PIPE BETWEEN TWO (2) GIVEN SIZES IS ASSUMED TO BE THE LARGER SIZE.
30. ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR AND WITHIN 1/2" OF FINISHED GRADES. ALL SPRINKLER HEADS SHALL BE INSTALLED A MINIMUM OF EIGHTEEN INCHES FROM THE BACK OF CURBS AND A MINIMUM OF TWO INCHES FROM SIDEWALKS.
31. ALL IRRIGATION HEADS AT THE LOWER ELEVATIONS OF EACH CONTROL VALVE ZONE SHALL HAVE POP-UP BODIES WITH BUILT-IN CHECK VALVES TO PREVENT LOW HEAD DRAINAGE.
32. EACH CONTROL VALVE ZONE SHALL HAVE AN AUTOMATIC DRAIN VALVE AND A 12" x 24" GRAVEL SUMP INSTALLED AT THE LOWEST POINT WITHIN THE ZONE.
33. ALL RISERS SHALL BE INSTALLED 18" FROM ANY WALL AND A MINIMUM OF 12" FROM ANY SIDEWALK OR ROAD AND SHALL HAVE 2 COATS OF SEMI-FLAT BLACK ENAMEL PAINT.
34. THE CONTRACTOR SHALL ADJUST THE RADIUS AND ARC OF EACH HEAD TO PROVIDE 100% COVERAGE OF ALL PLANTED OR GRASSED ISLANDS, TO MINIMIZE "OVERTHROW", AND TO ELIMINATE DRY SPOTS.
35. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUPPLY AND INSTALLATION OF ADDITIONAL HEADS TO COVER "DRY SPOTS" OR SLIGHT VARIATIONS FROM THE PLAN TO THE SITE. THE IRRIGATION CONTRACTOR SHALL CONTACT THE LANDSCAPE ARCHITECT PRIOR TO MAKING ANY SUBSTITUTIONS, DELETIONS, OR ADDITIONS TO THIS PLAN FOR APPROVAL.
36. THROTTLE ALL IRRIGATION CONTROL VALVES AS REQUIRED TO PREVENT FOGGING.
37. FINAL ADJUSTMENTS TO IRRIGATION SYSTEM & SPRAY PATTERNS ARE TO BE MADE PRIOR TO FINAL INSPECTION.
38. ALL BACKFILLED TRENCHES SHALL BE THOROUGHLY COMPACTED. SEE SPECIFICATIONS FOR BACKFILL MATERIAL AND COMPACTION REQUIREMENTS.
39. THE CONTRACTOR SHALL SET THE IRRIGATION CONTROL SYSTEM TO OPERATE BETWEEN THE HOURS OF 2:00 am AND 6:00 am OR AS DIRECTED BY STORE MANAGER.
40. IRRIGATION CONTRACTOR SHALL OPTIMIZE WATER USAGE AND WATER CONSERVATION TIME ALLOTTED FOR INDIVIDUAL ZONE OPERATION SHALL ALLOW FOR WATER PENETRATION TO A MINIMUM DEPTH OF 8" IN SHRUB BEDS AND 6" IN TURF AREAS.
41. IRRIGATION CONTRACTOR SHALL REVIEW WINTERIZATION PROCEDURES FOR IRRIGATION SYSTEM WITH THE OWNER'S REPRESENTATIVE.
42. THE CONTRACTOR SHALL BE RESPONSIBLE AT TIME OF COMPLETION FOR PROVIDING "AS BUILT" DRAWINGS TO INCLUDE THE EXACT LOCATIONS OF ALL CONTROL VALVES (AUTOMATIC AND MANUAL), QUICK COUPLER VALVES, BACKFLOW DEVICES, AND CONTROLLER, WITH TRIANGULATED MEASUREMENTS TO EACH AS WELL AS ANY DEVIATIONS IN LOCATION OF PIPING AND HEADS REPRESENTED AS REPRESENTED BY THE CONTRACT DOCUMENTS.
43. ALL WORK, ADJUSTMENTS, AND INSPECTIONS SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT.
44. REFER TO SITEMARK SPECIFICATIONS FOR ADDITIONAL INFORMATION NEEDED FOR IMPLEMENTATION OF IRRIGATION PLANS.

IRRIGATION NOTES



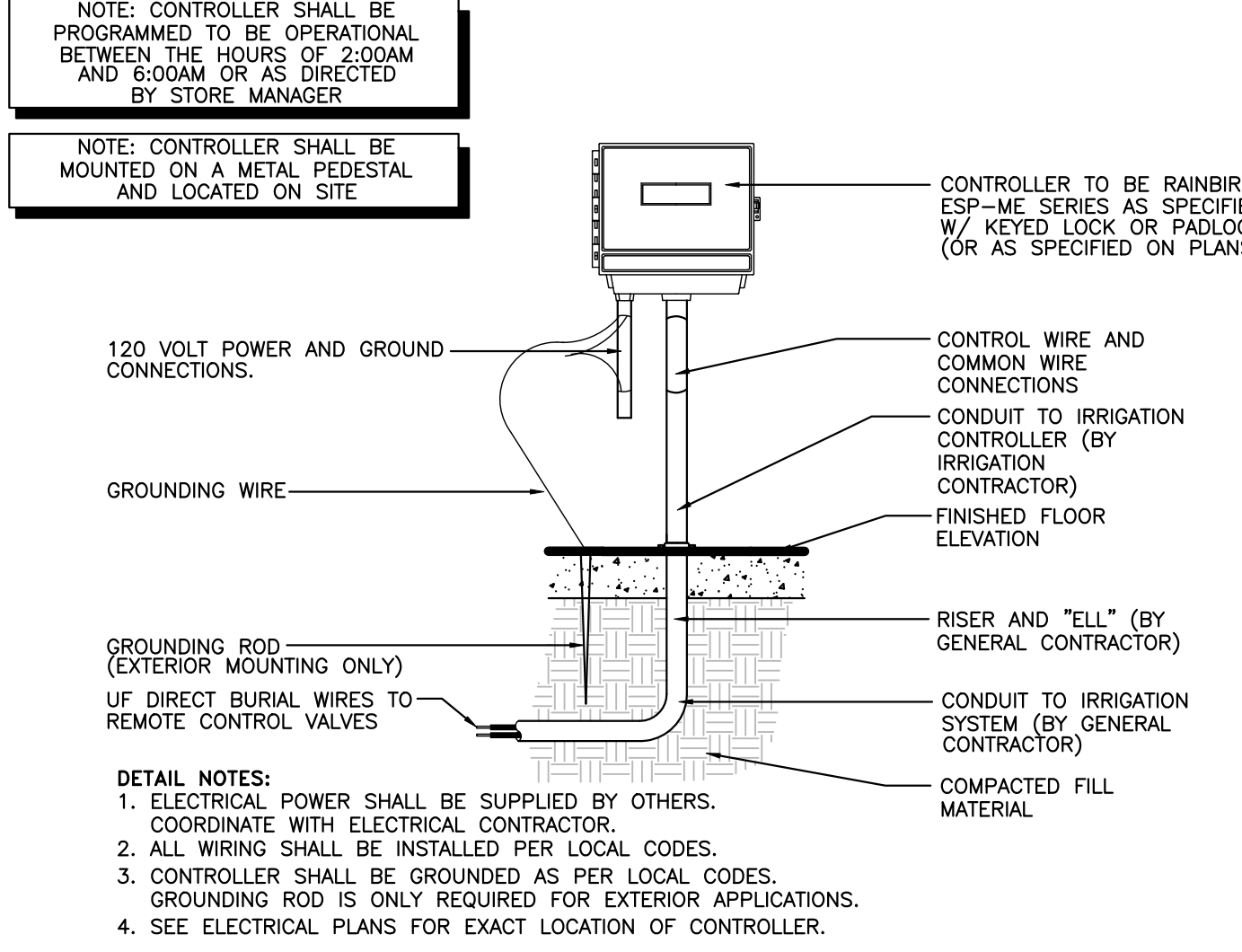
BACKFLOW PREVENTER

NTS



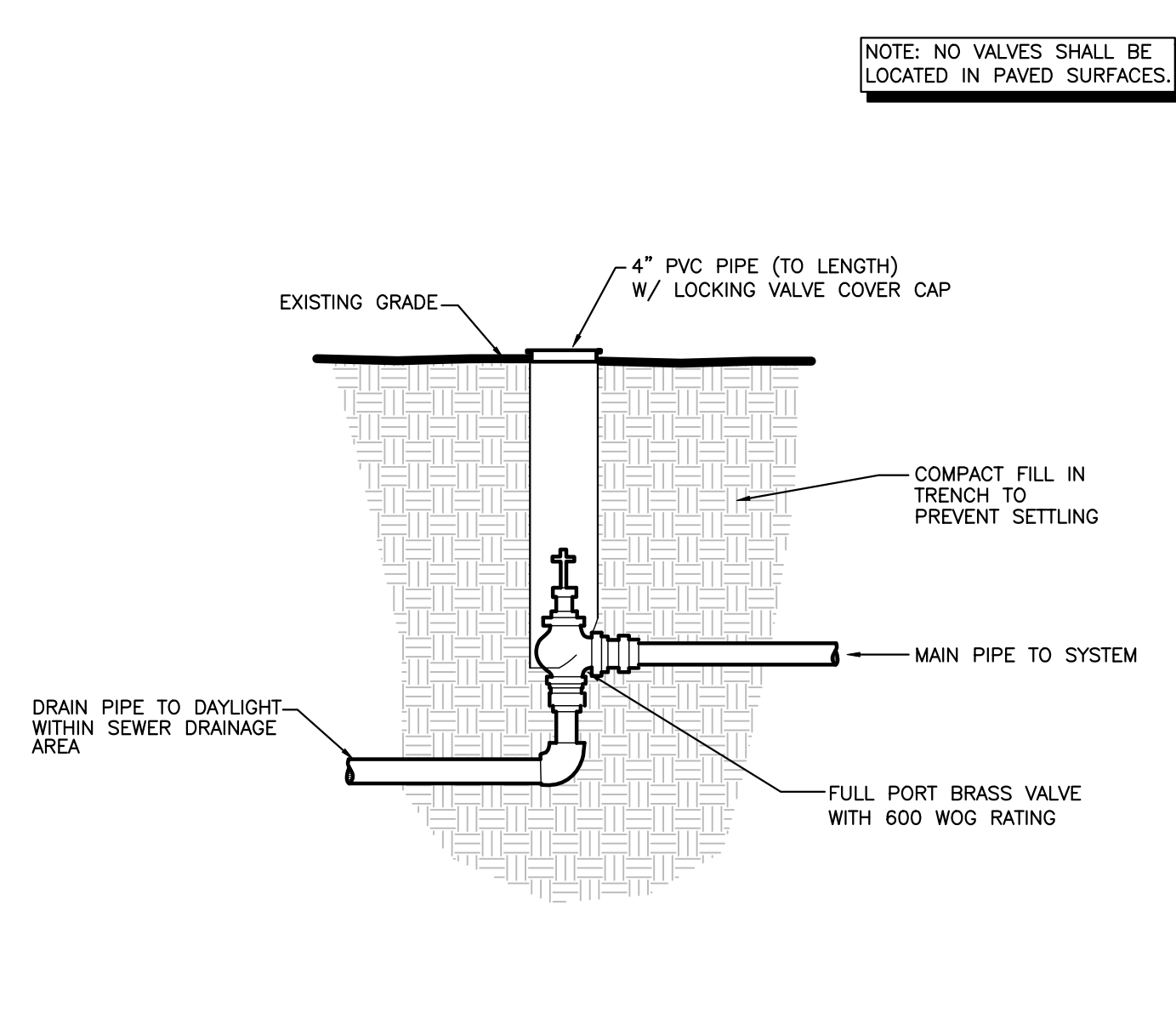
QUICK COUPLER VALVE

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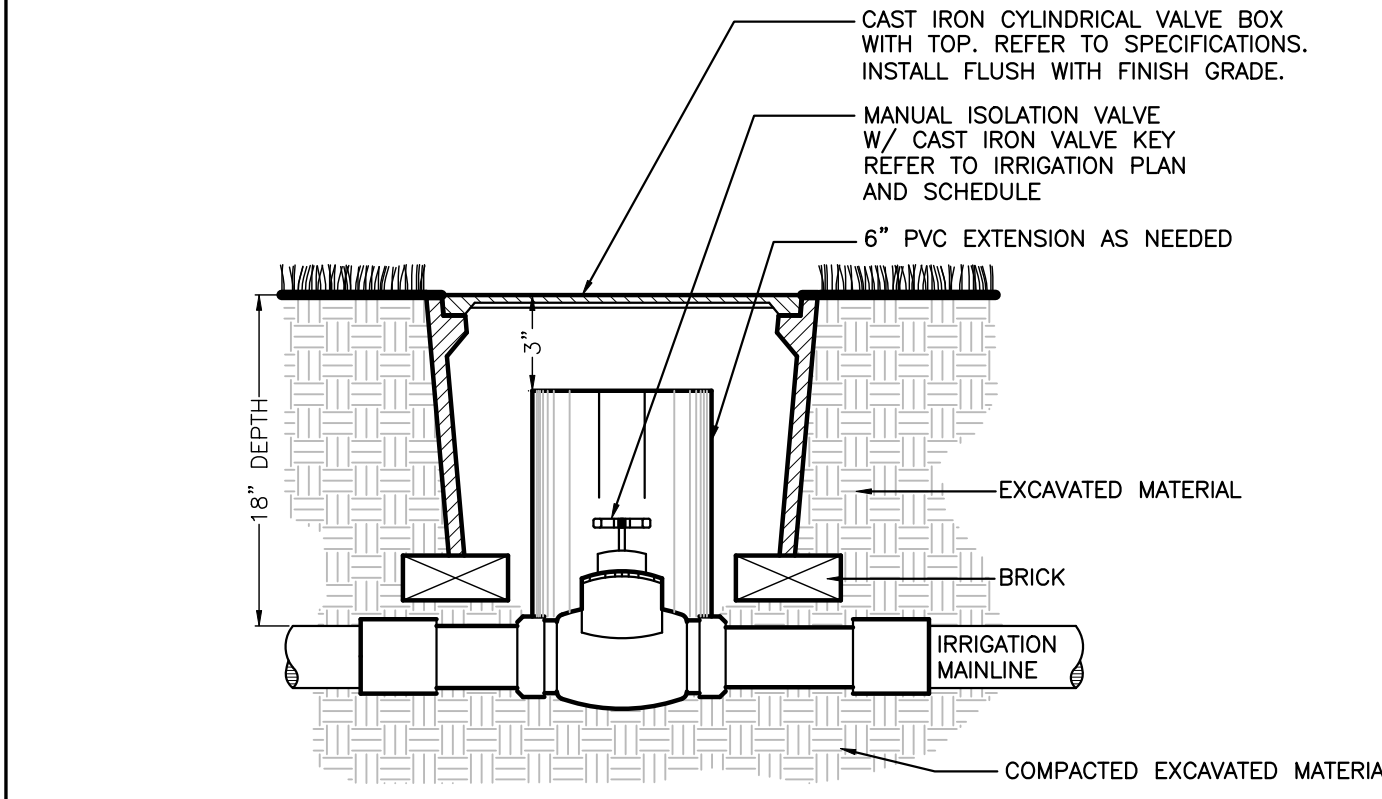
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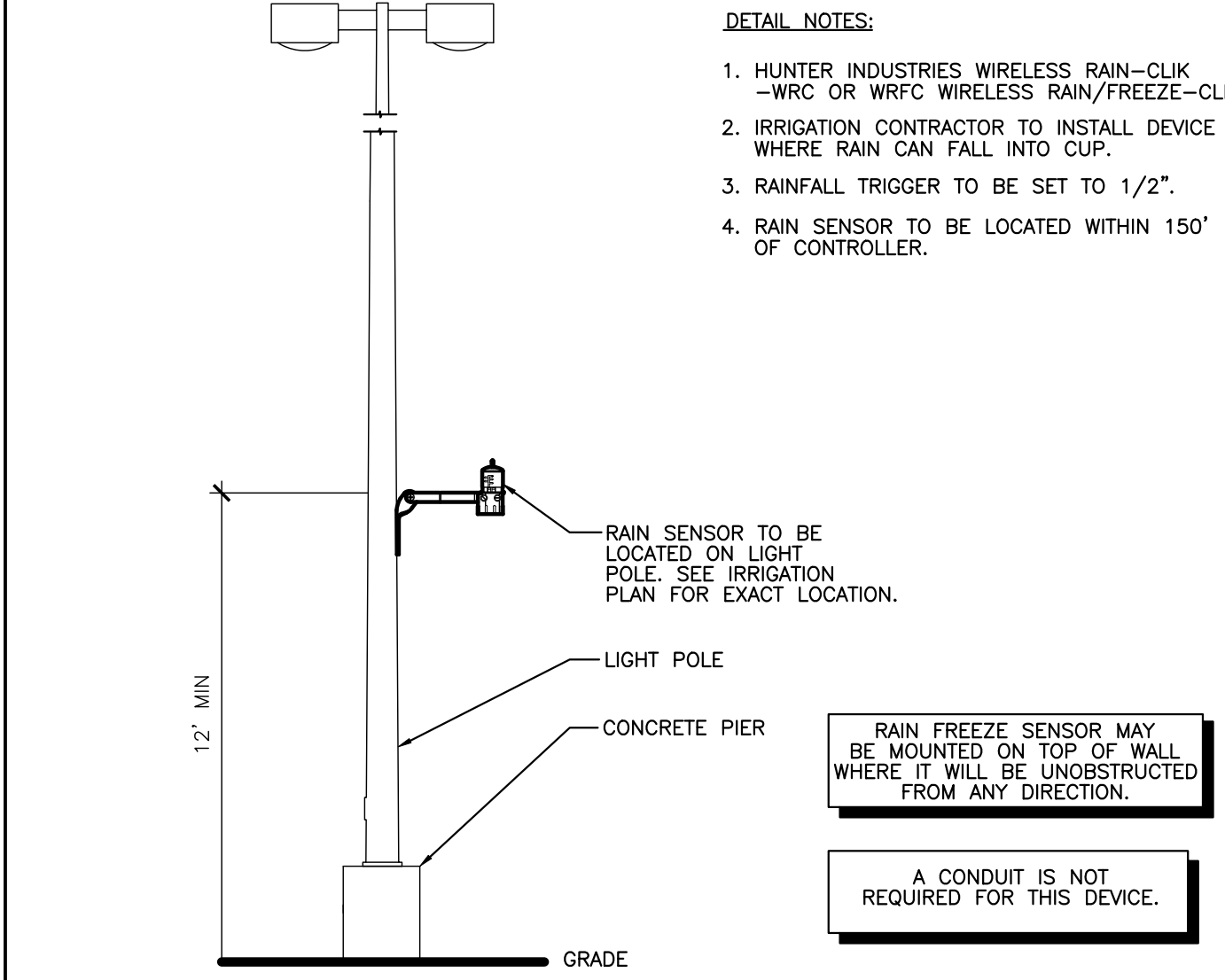
MANUAL DRAIN VALVE

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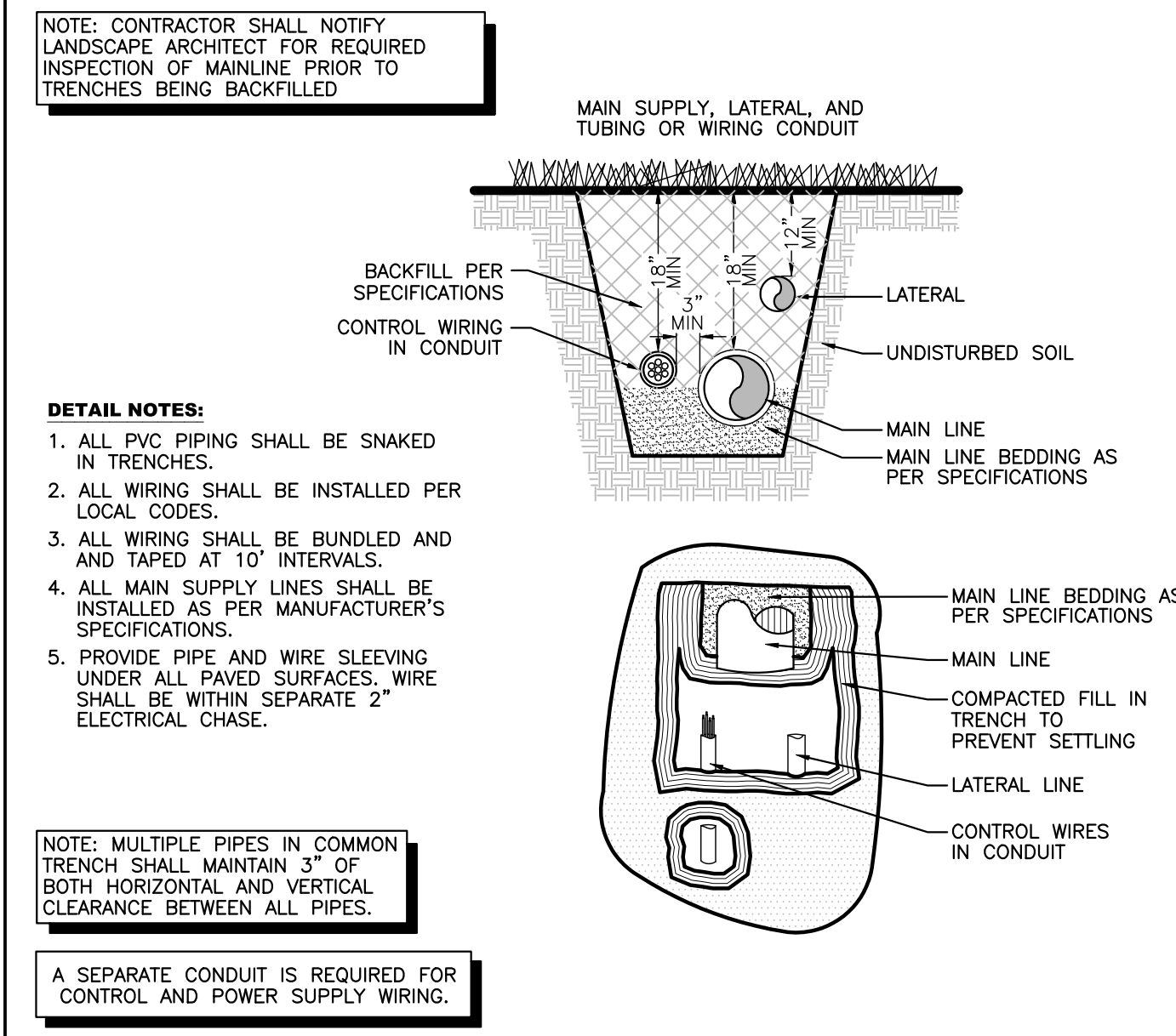
MANUAL ISOLATION VALVE

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AUTOMATIC RAIN SHUT-OFF DEVICE

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TYPICAL TRENCHING

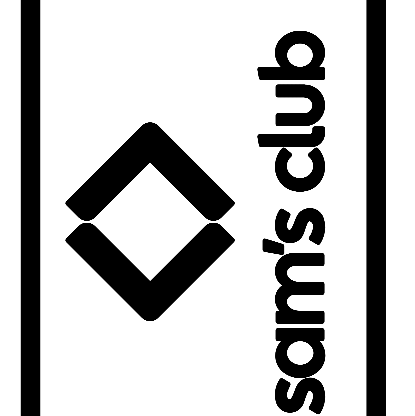
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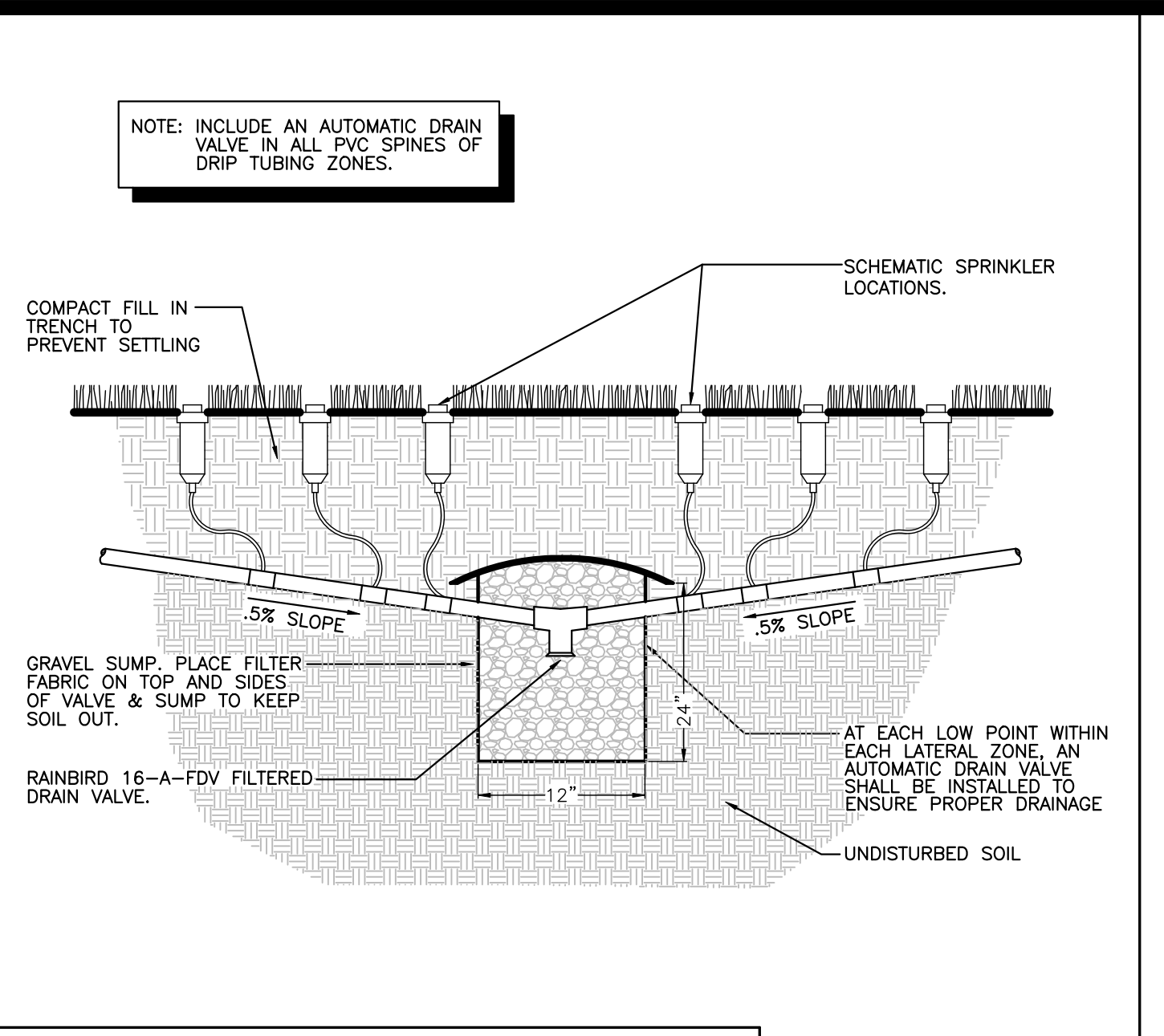
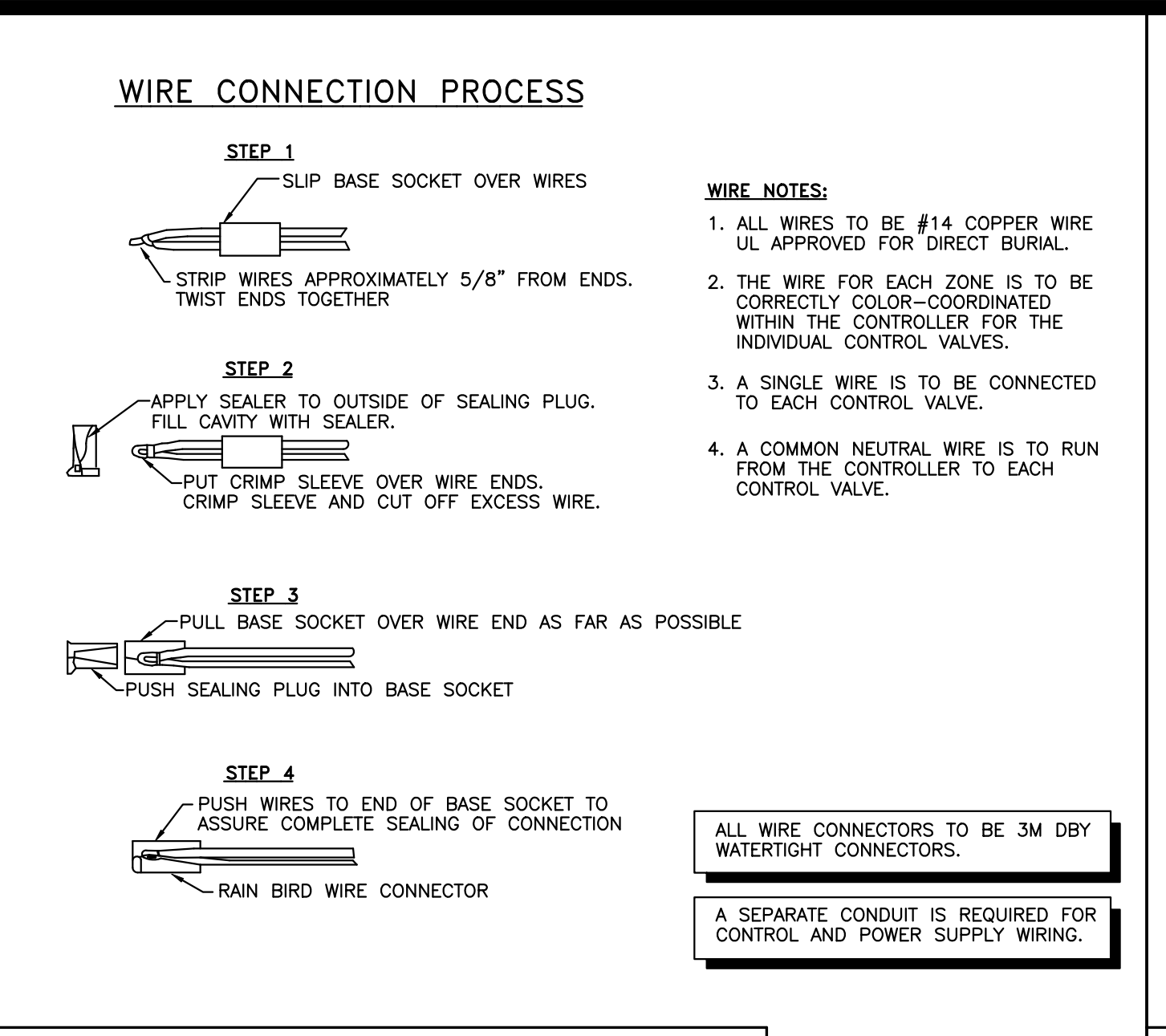
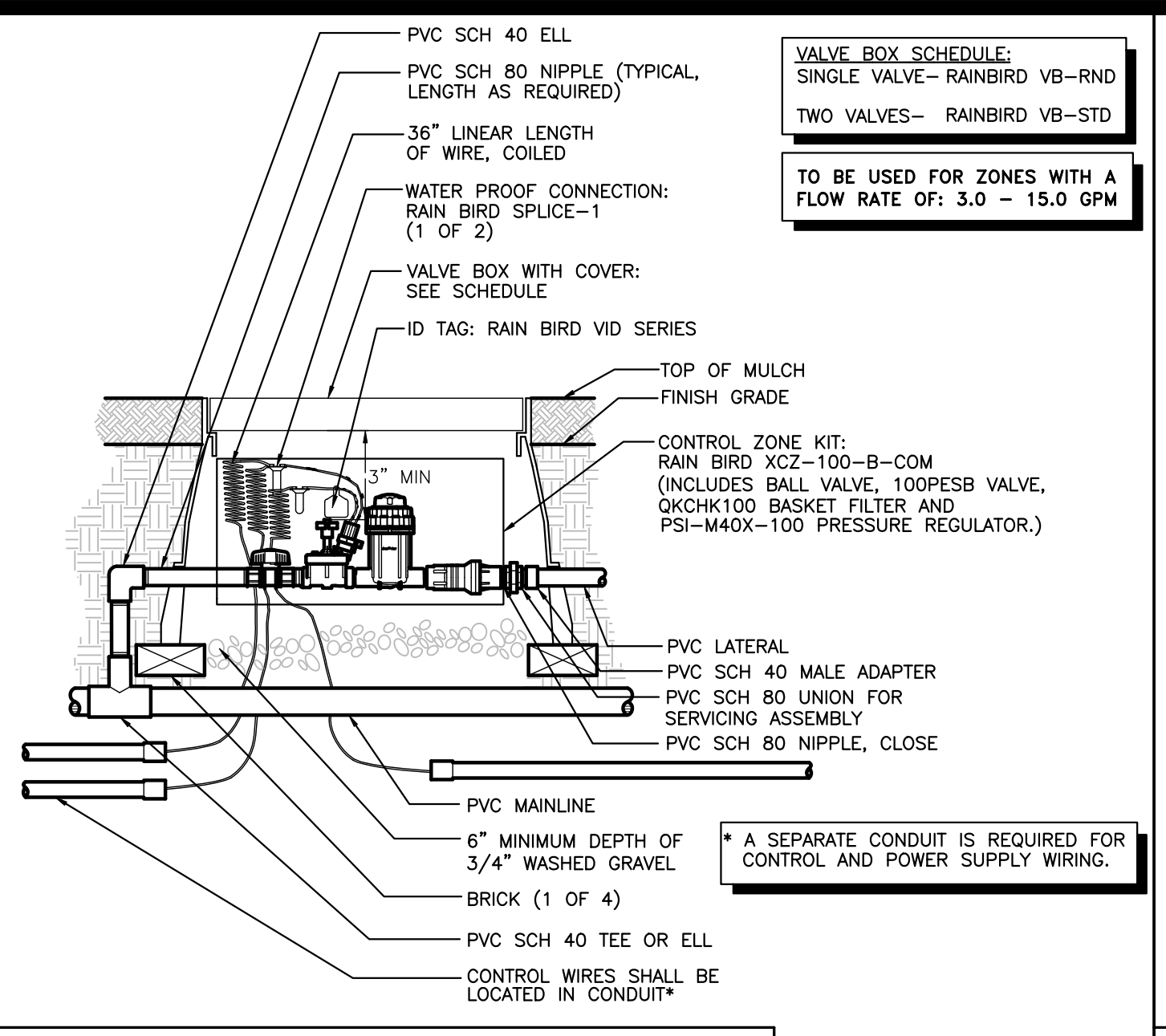
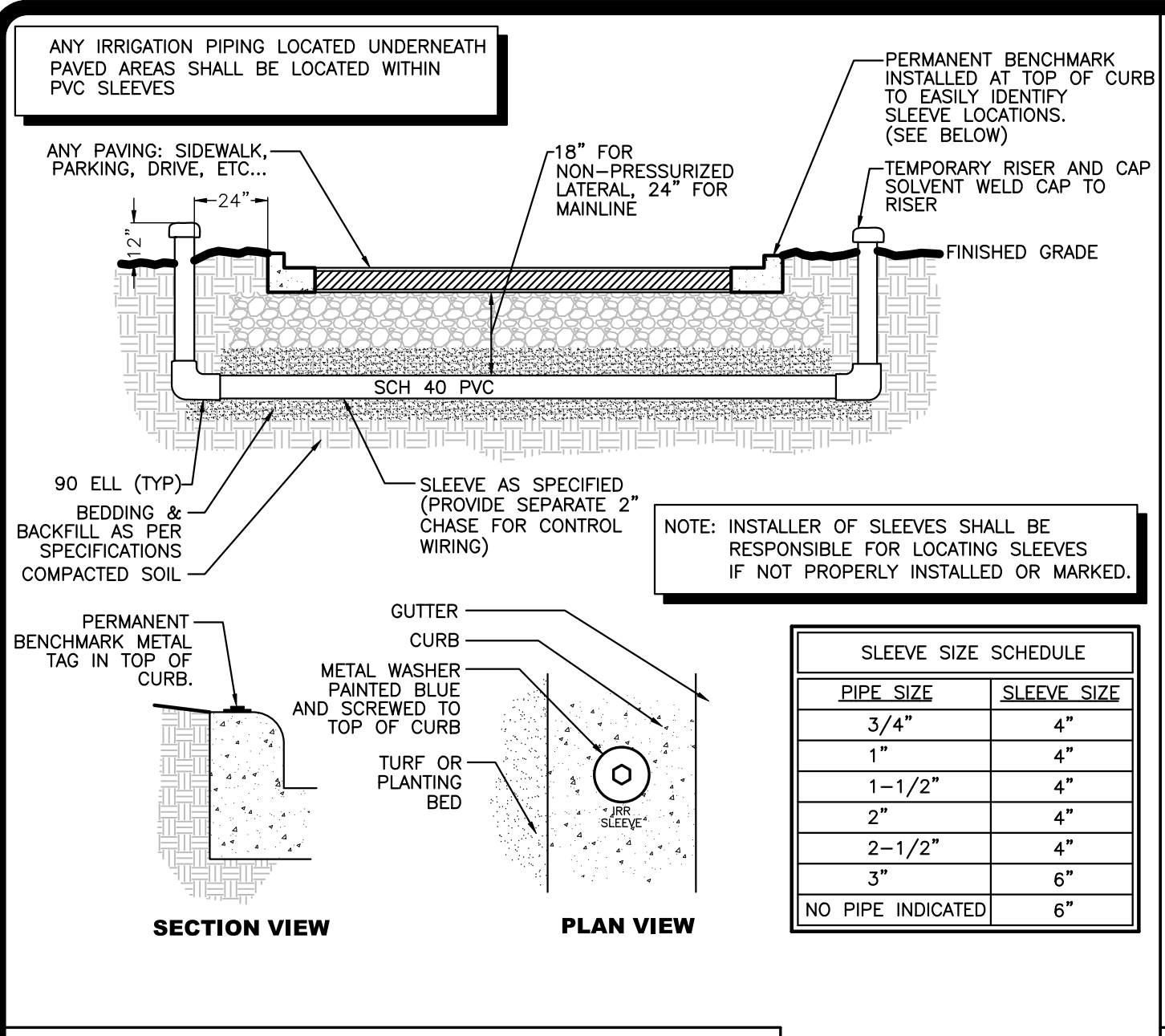
**CARLSON CONSULTING ENGINEERS, INC.**  
7086 REDSTONE COMMONS  
PH. (901) 352-0000 • FX. (901) 354-0710



SAM'S CLUB #4982-211  
MT PLEASANT (UNION TOWNSHIP), MICHIGAN  
SAM'S REAL ESTATE BUSINESS TRUST  
2101 SE SIMPLE SAVINGS DRIVE  
BENTONVILLE, AR 72716



DRAWN	AAS
CHECKED	BKM
DATE	09/20/2022
SCALE	NTS
JOB No.	4982-211
SHEET	22 OF 27 SHEETS

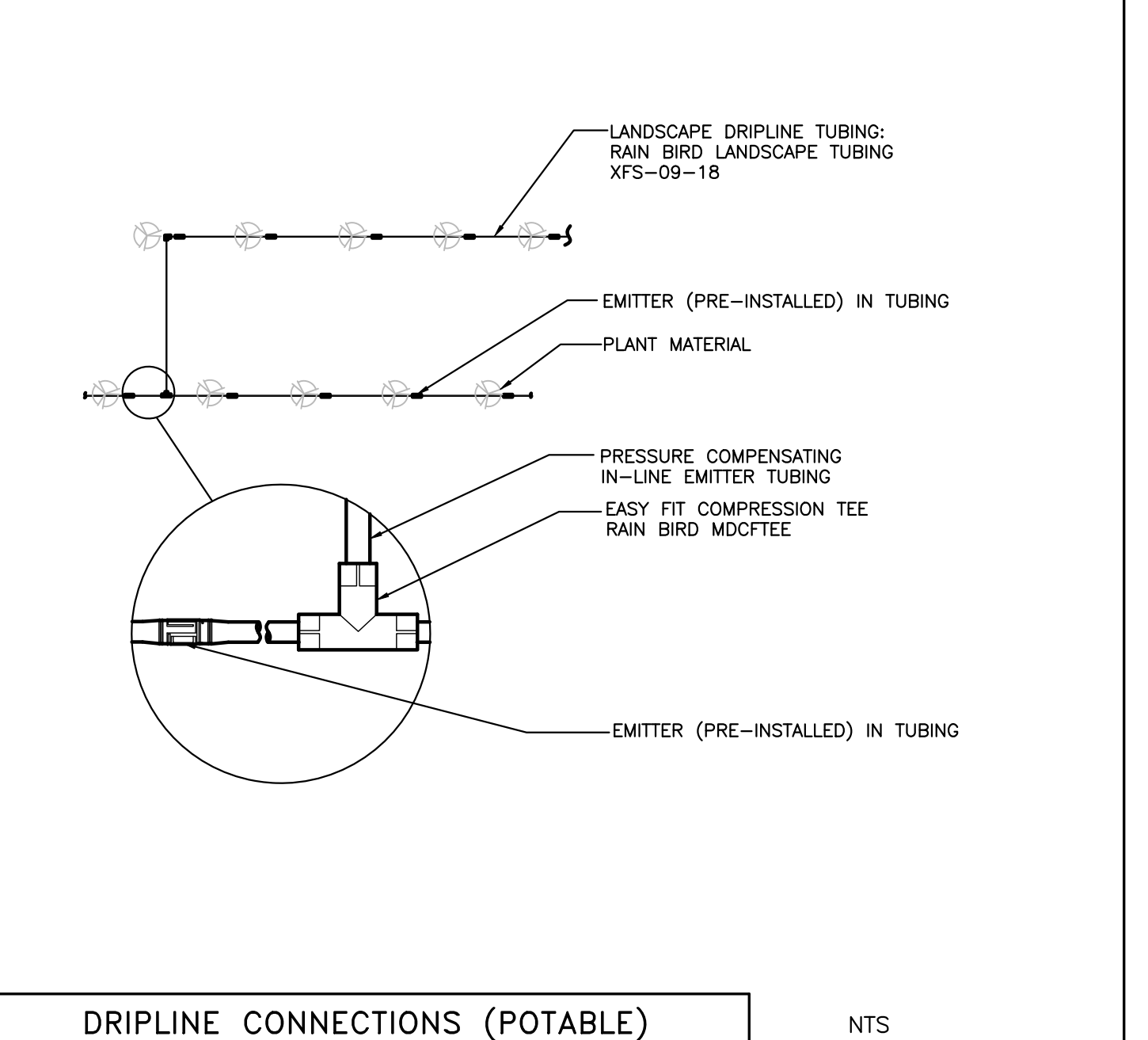
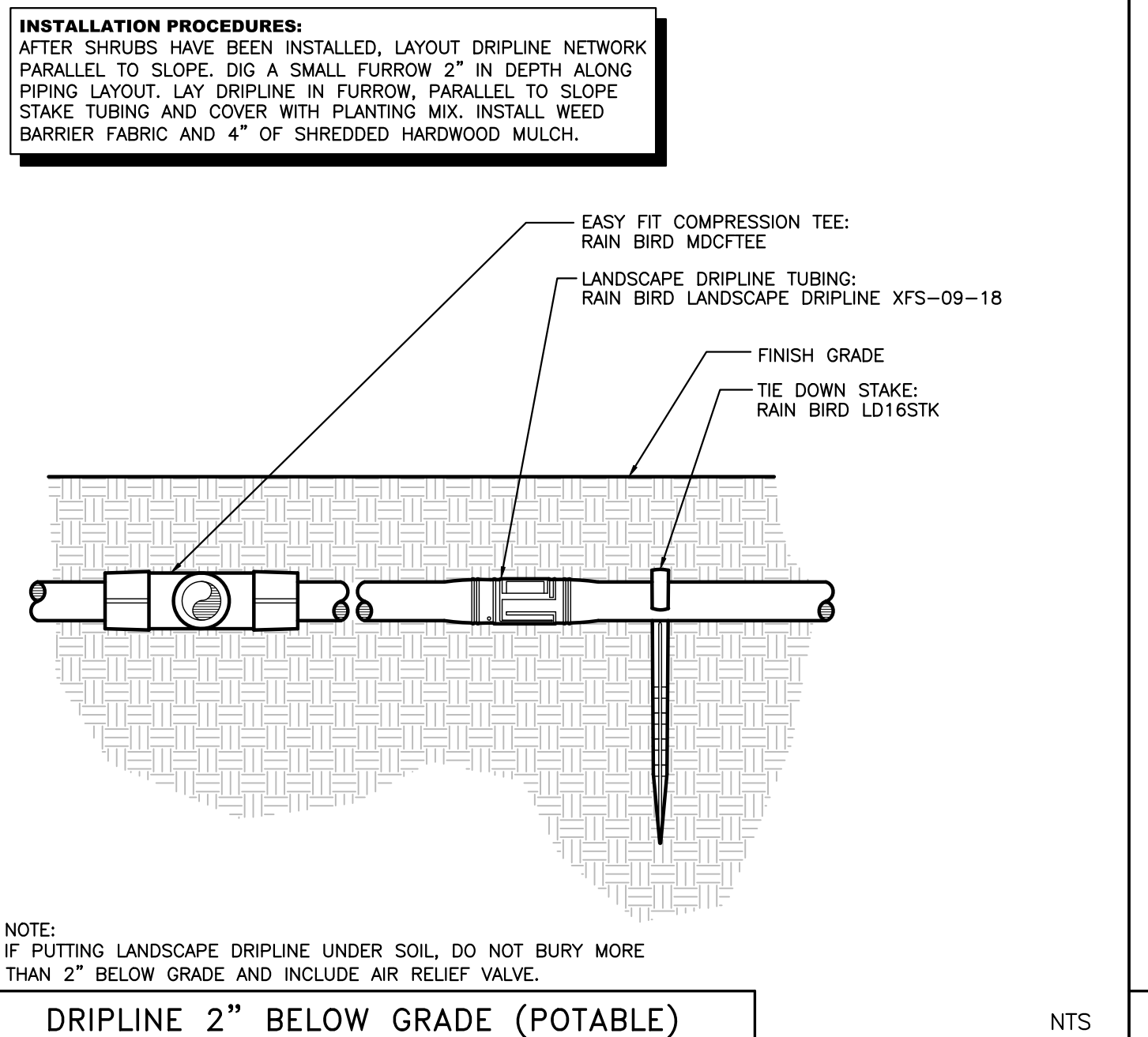
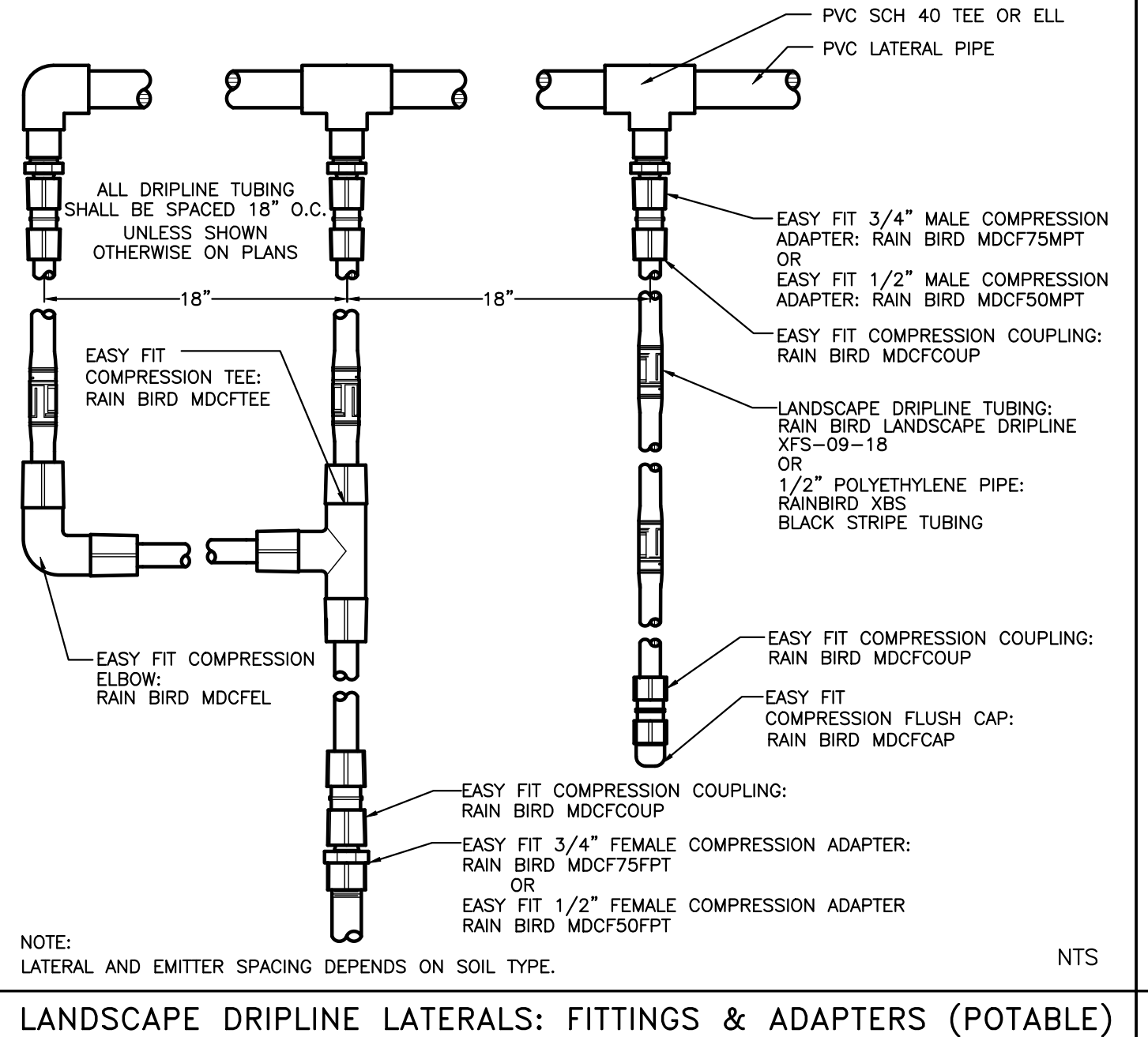
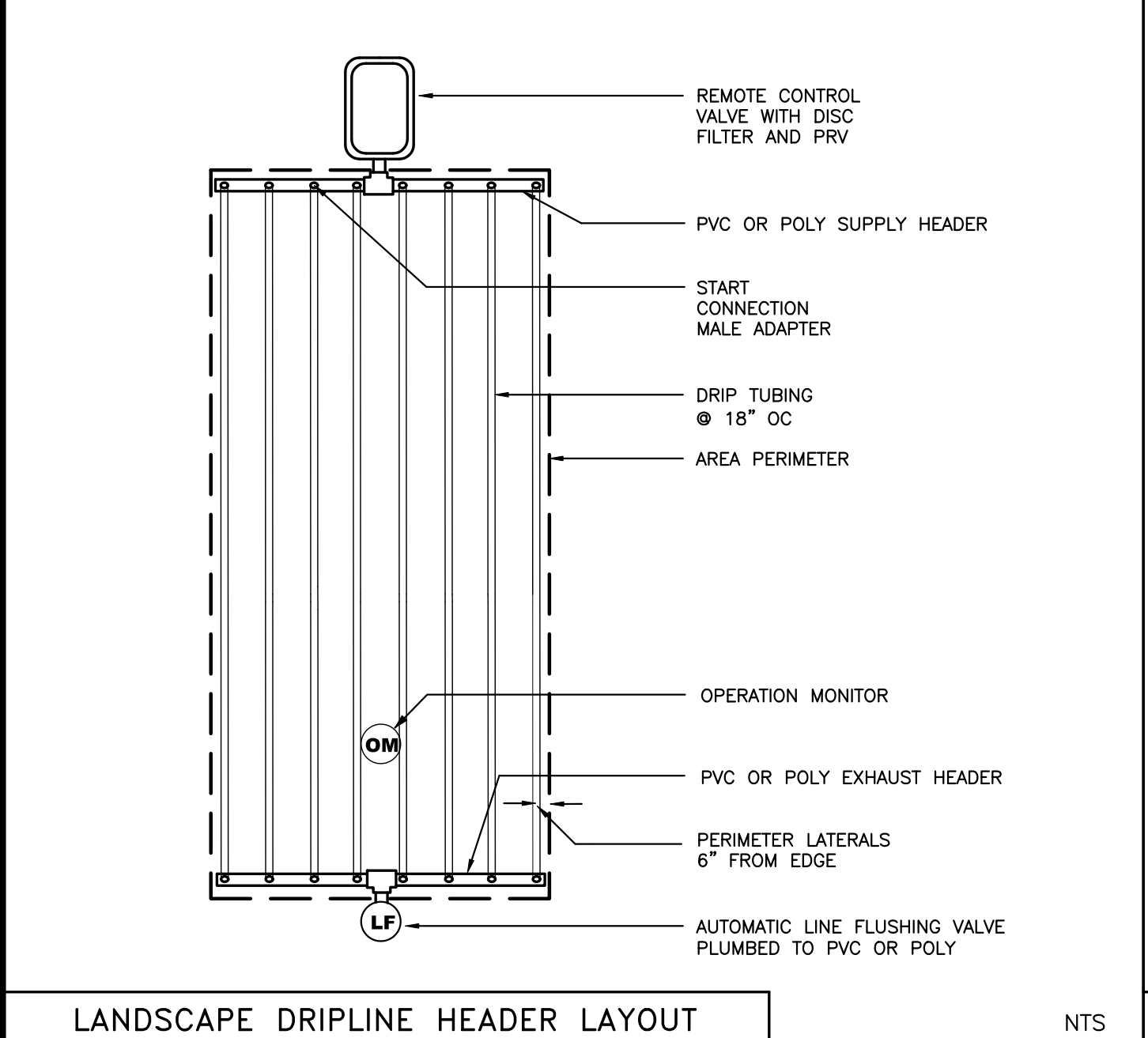


PVC SLEEVE UNDER PAVING NTS

1" MEDIUM FLOW CONTROL ZONE KIT NTS

WIRE CONNECTIONS NTS

AUTOMATIC DRAIN VALVE NTS

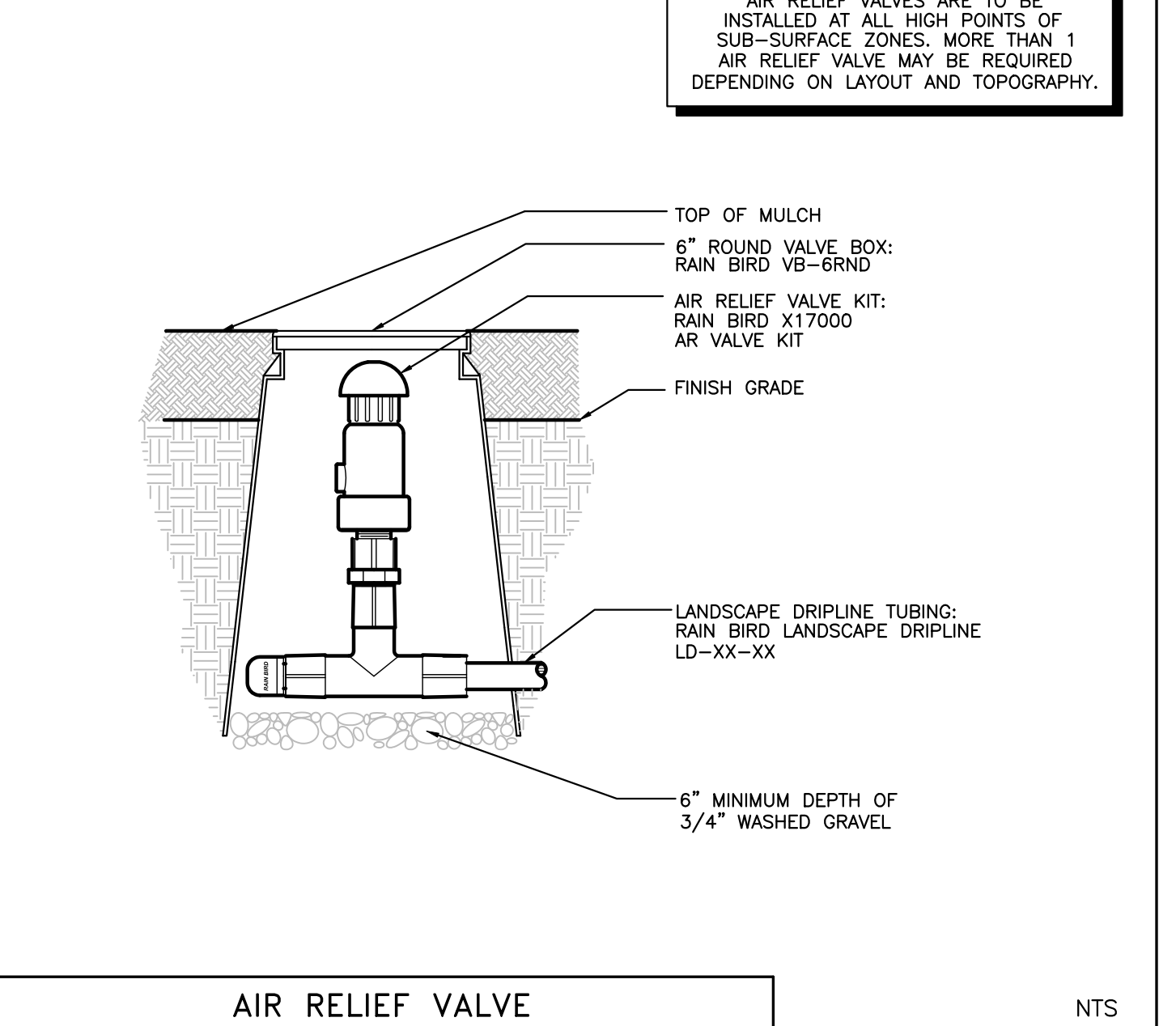
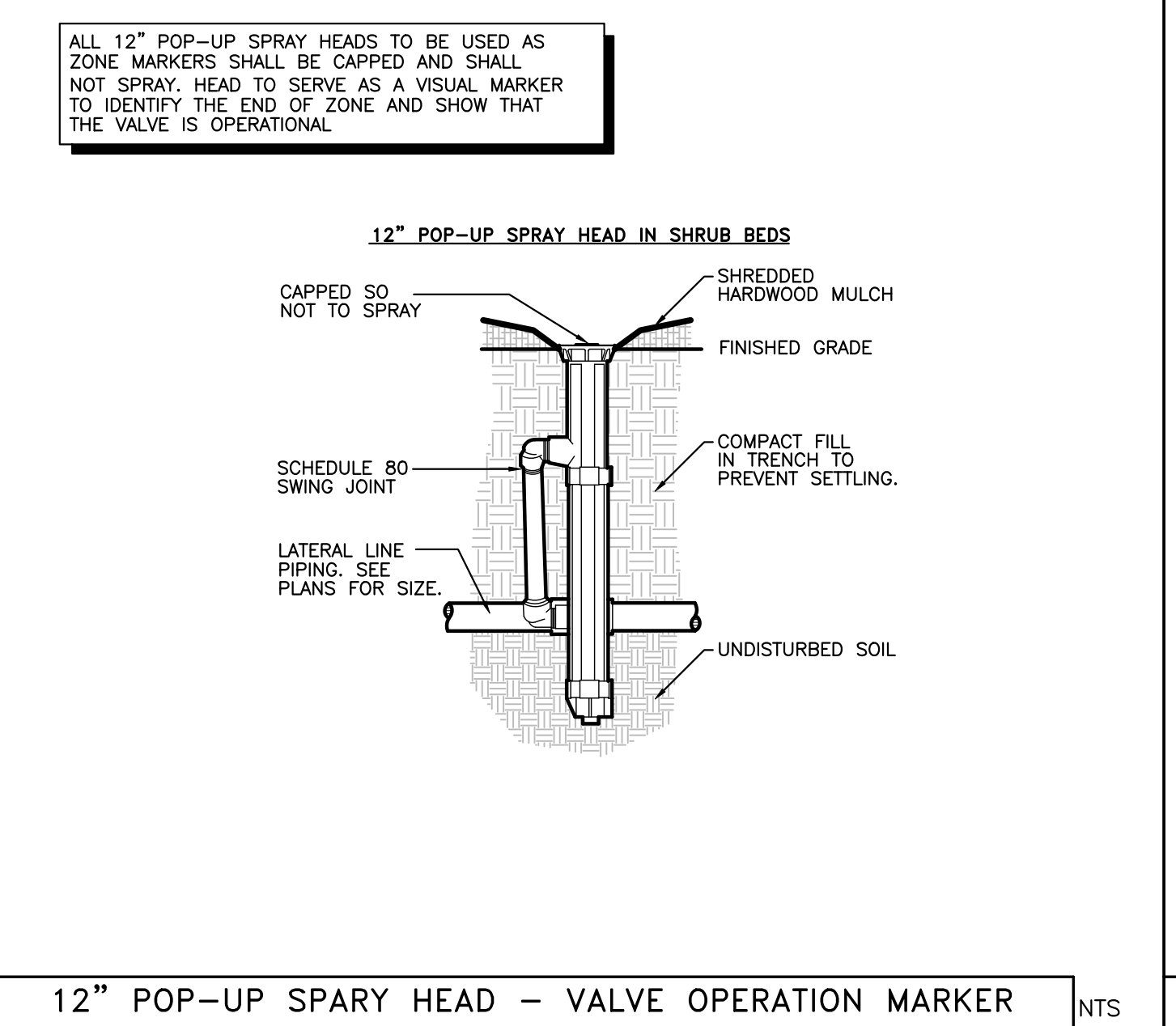
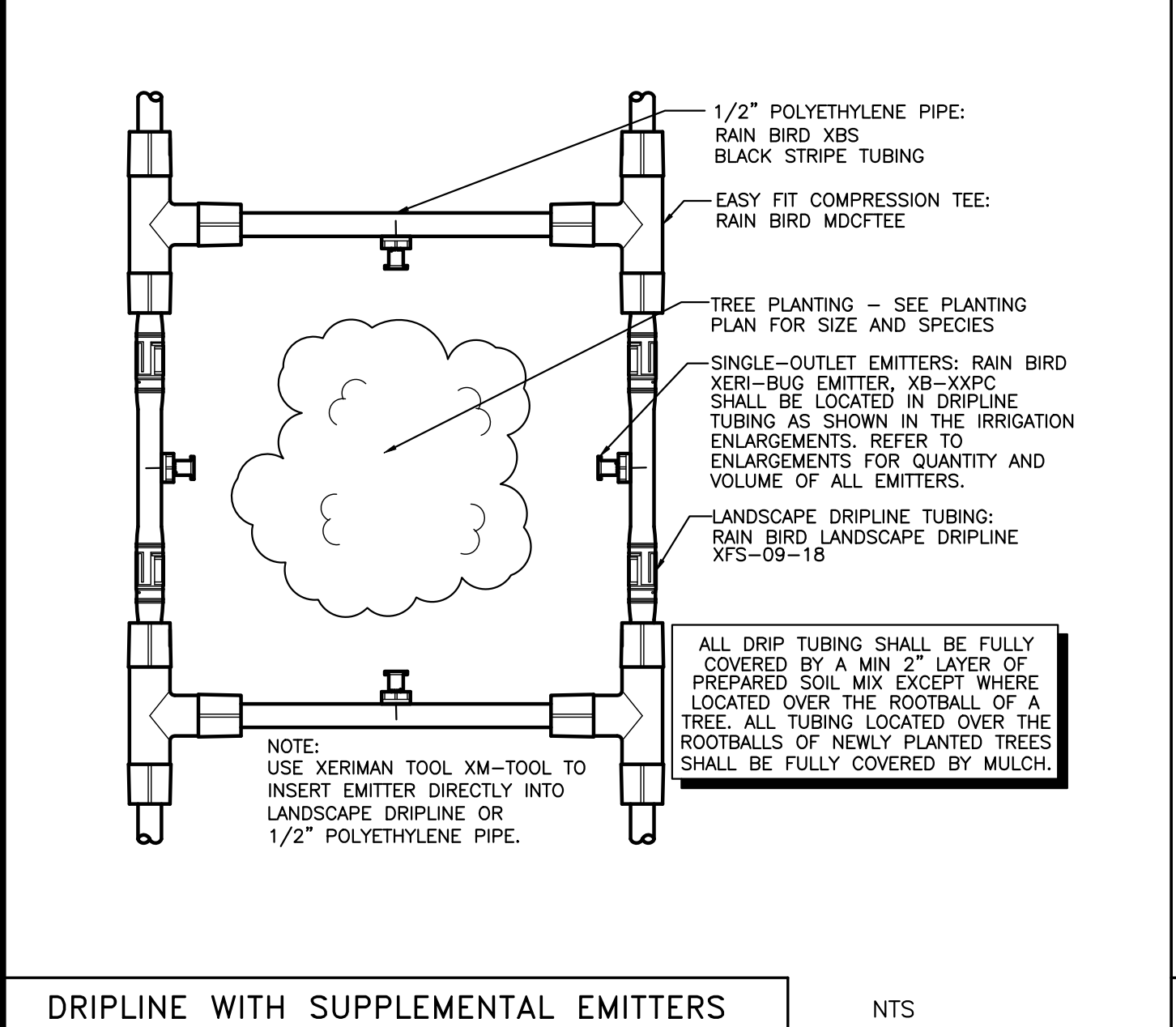


LANDSCAPE DRIPLINE HEADER LAYOUT NTS

LANDSCAPE DRIPLINE LATERALS: FITTINGS & ADAPTERS (POTABLE) NTS

DRIPLINE 2" BELOW GRADE (POTABLE) NTS

DRIPLINE CONNECTIONS (POTABLE) NTS



DRIPLINE WITH SUPPLEMENTAL EMITTERS NTS

12" POP-UP SPARY HEAD - VALVE OPERATION MARKER NTS

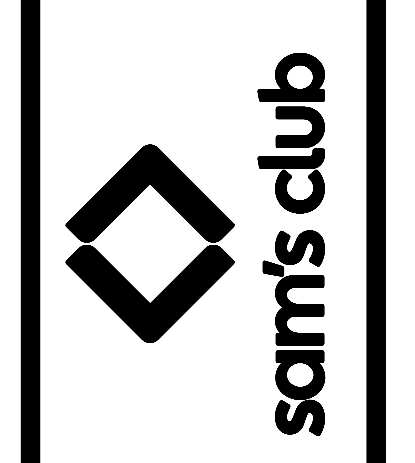
AIR RELIEF VALVE NTS

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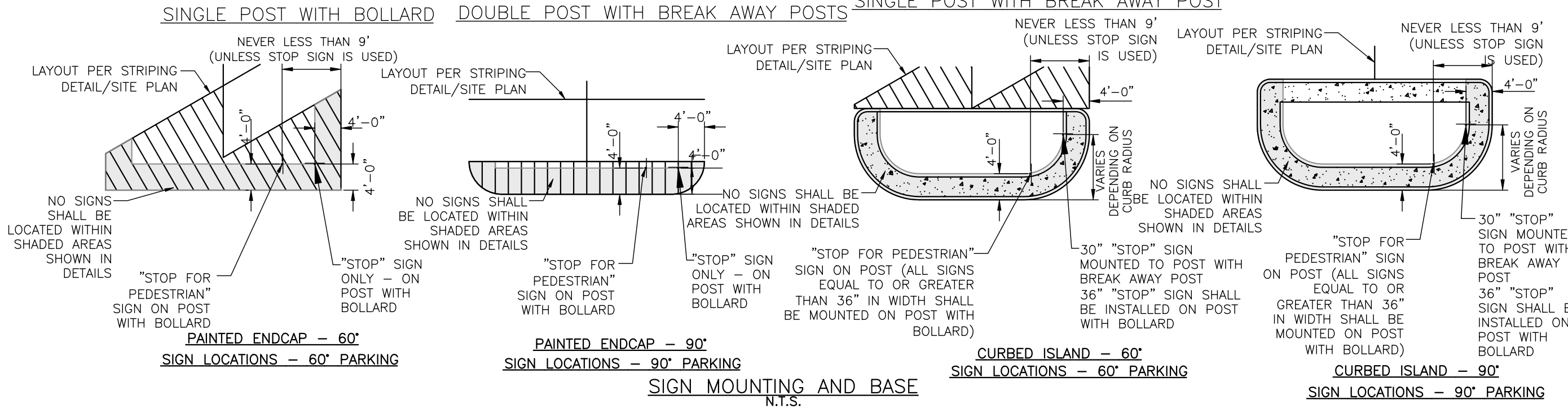
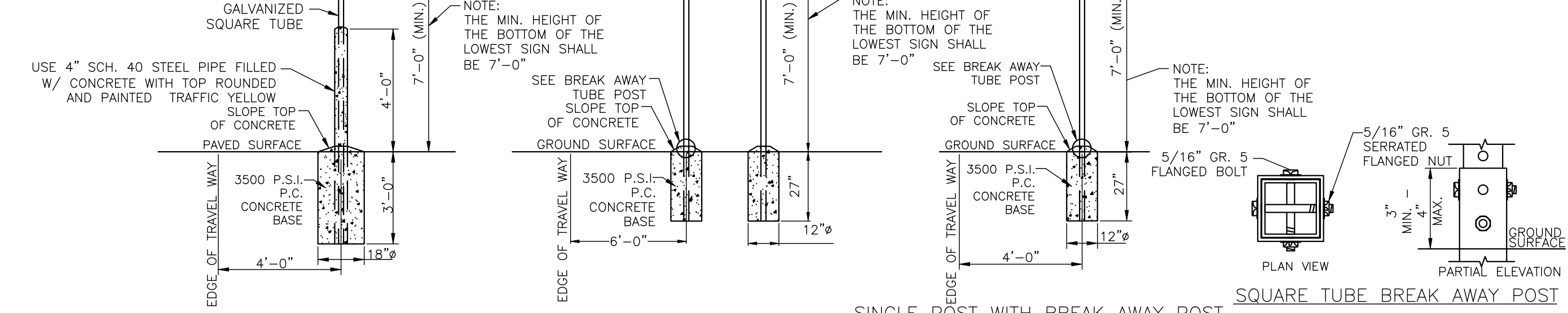
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SCALE	NTS
JOB No.	4982-211
SHEET	23 OF 27 SHEETS

NOTES FOR SINGLE POST WITH BOLLARD:  
 1. ALL SIGNS SHALL COMPLY WITH U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", LOCAL CODES AND AS SPECIFIED. MOUNT SIGNS TO POST IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.  
 2. GALVANIZED SQUARE TUBE POST TUBES - 2"x2" 12g POST TUBE SHALL MEET ASTM A1011 GRADE 50. POST TUBE GALVANIZED AS PER ASTM A653 GRADE 90.

NOTE: ALL SIGNS LOCATED ON THE BUILDING SIDE OF THE BFR ARE TO BE INSTALLED ON A SINGLE POST WITH BOLLARD.  
 NOTE: SIGNS SHALL HAVE DIAMOND GRADE, ASTM TYPE XI, SHEETING.

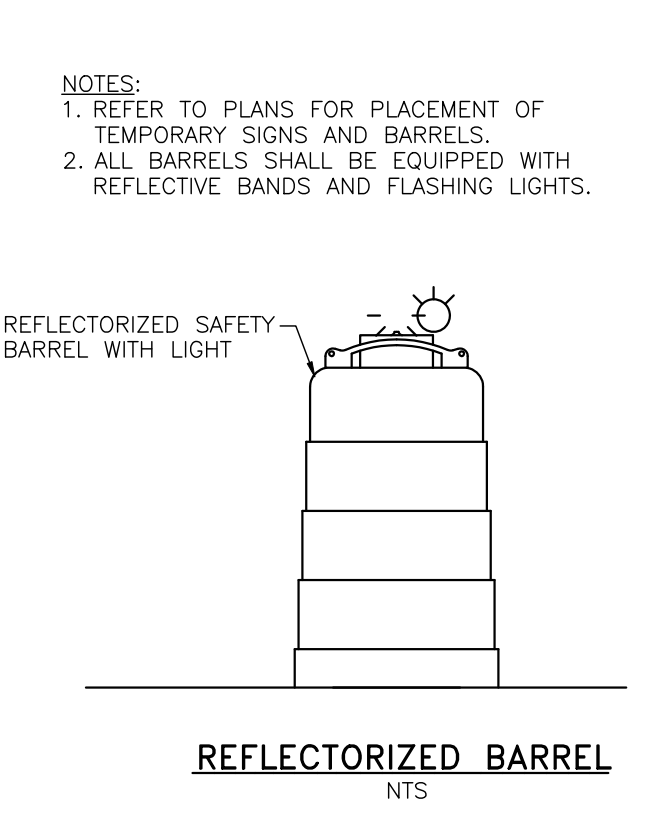
NOTE: SIGNS SHALL HAVE DIAMOND GRADE, ASTM TYPE XI, SHEETING.  
 NOTE: THE MIN. HEIGHT OF THE BOTTOM OF THE LOWEST SIGN SHALL BE 7'-0" (MIN).  
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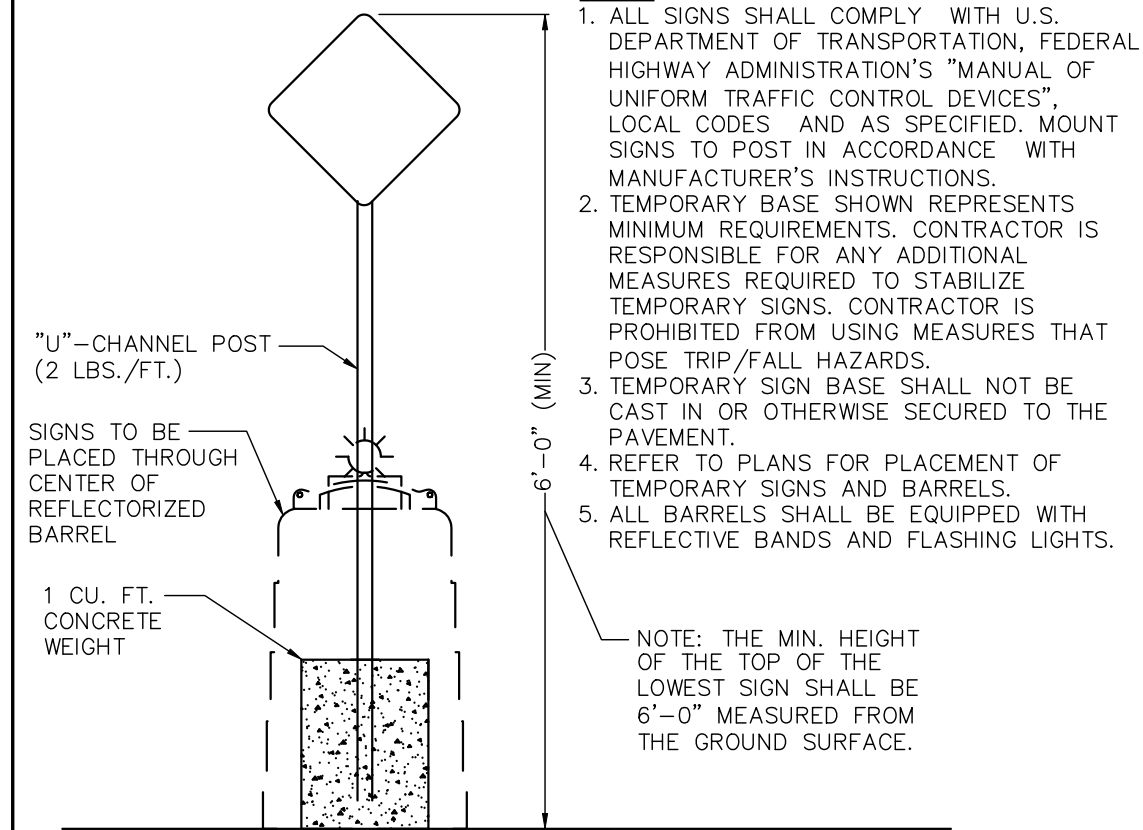
SIGN MOUNTING AND BASE  
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SIGN BASE



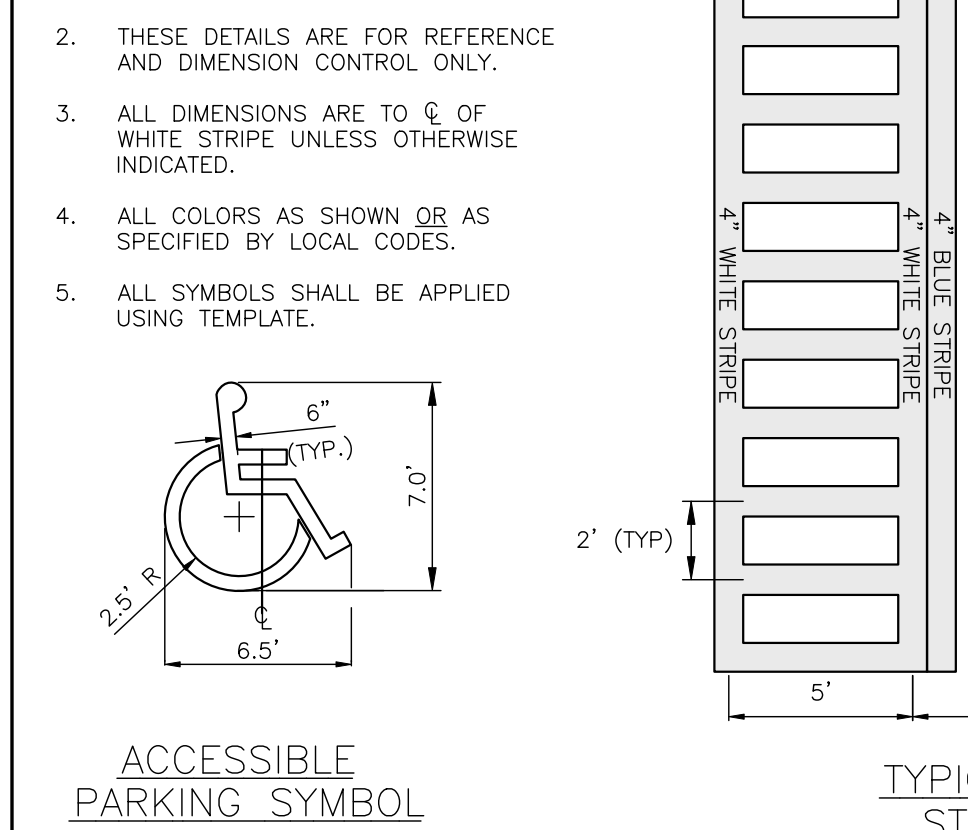
REFLECTORIZED BARREL  
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TEMPORARY SIGN BASE



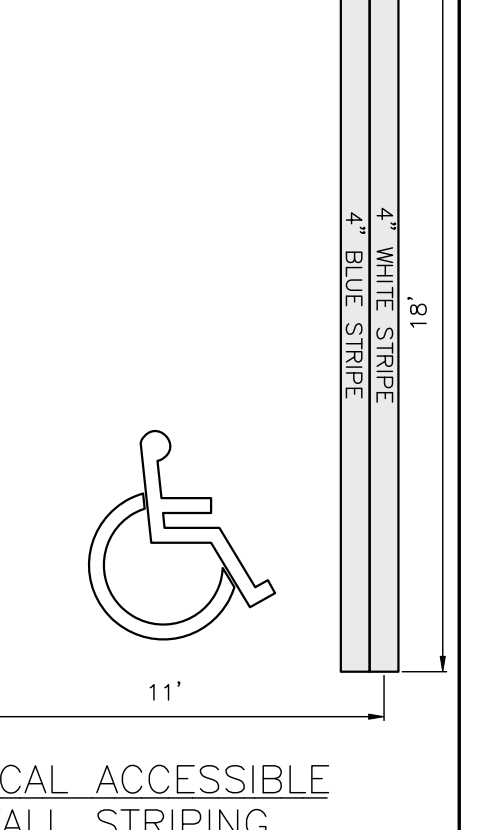
TEMPORARY SIGN BASE  
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ACCESSIBLE PARKING STALL



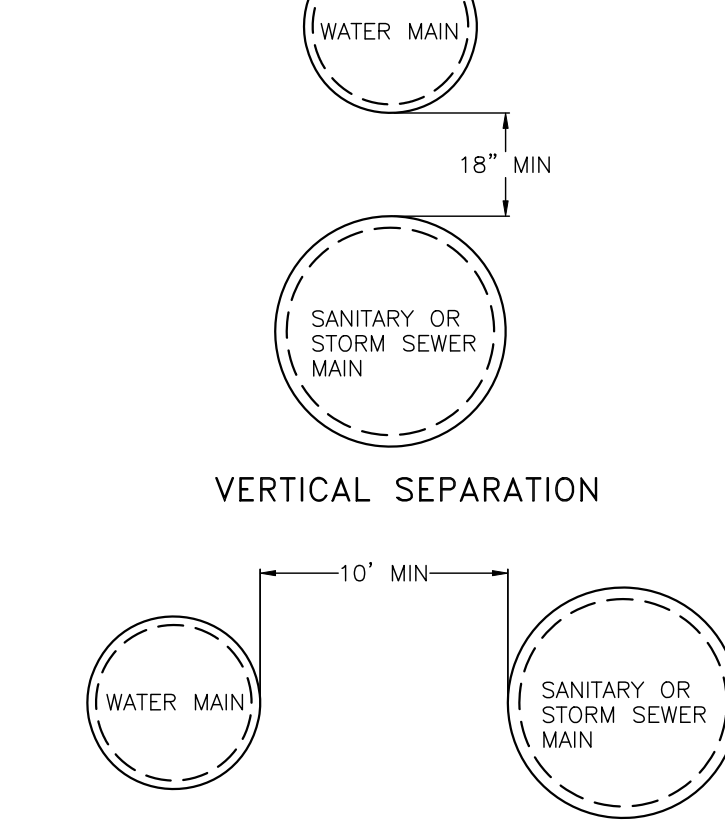
ACCESSIBLE PARKING STALL  
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ACCESSIBLE STALLS PARKING STRIPING



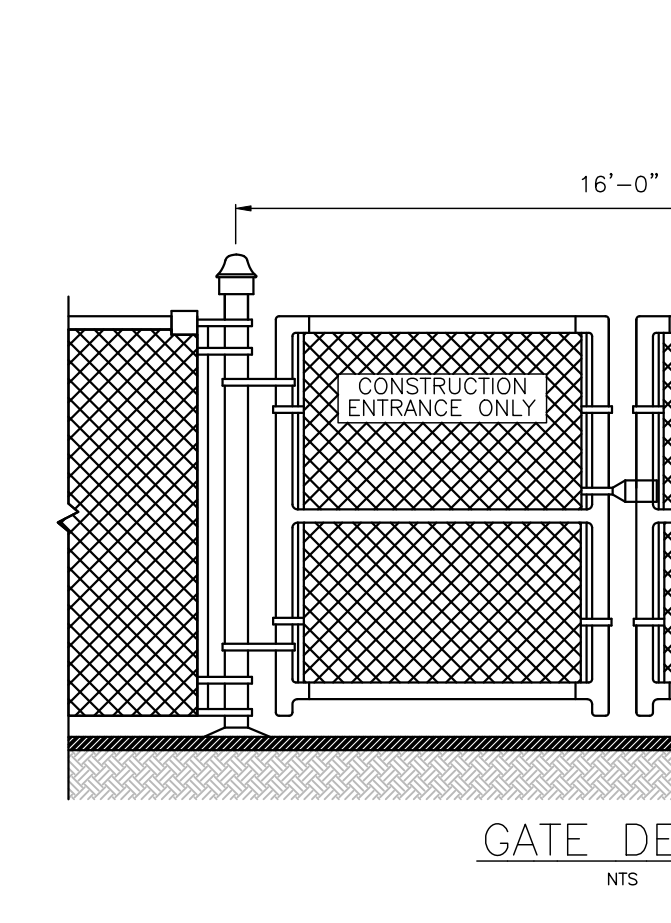
ACCESSIBLE STALLS PARKING STRIPING  
 N.T.S.

SEWER WATER CROSSING



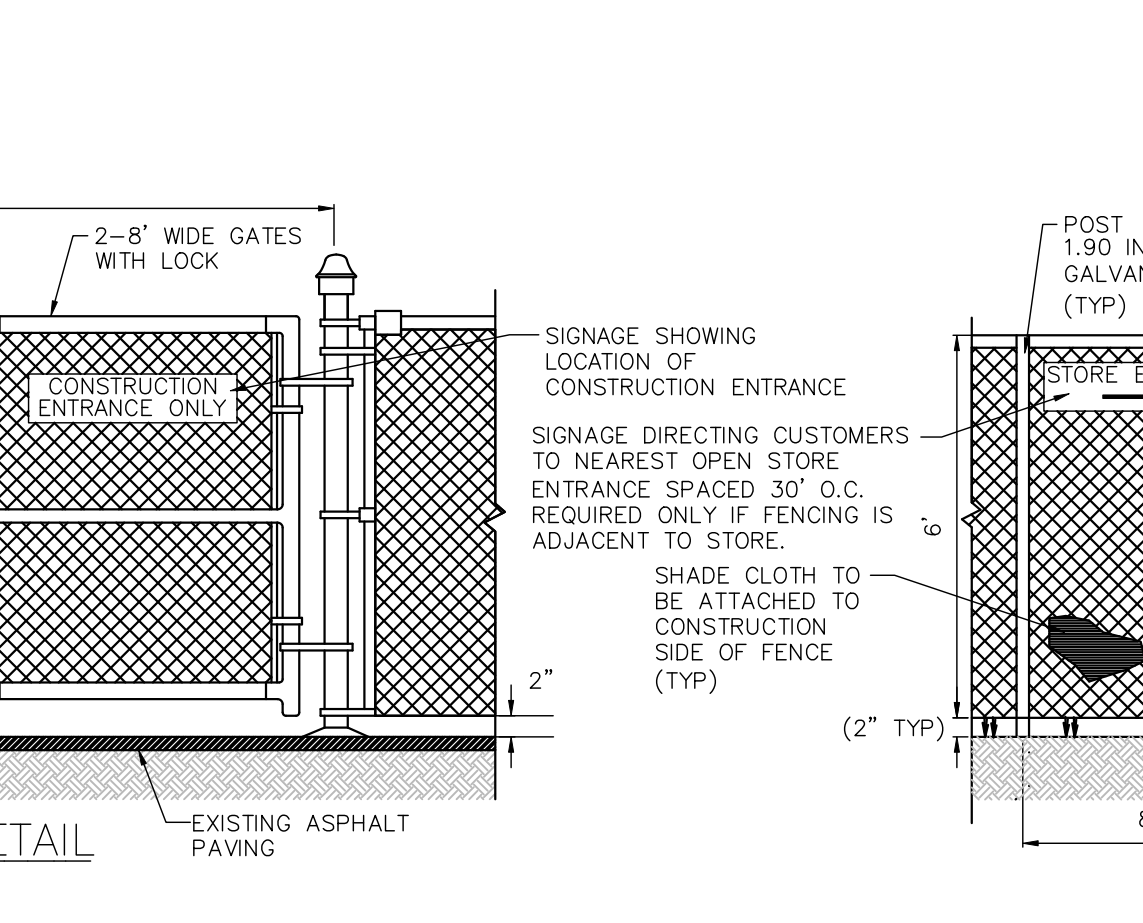
SEWER WATER CROSSING  
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TEMPORARY CONSTRUCTION FENCE



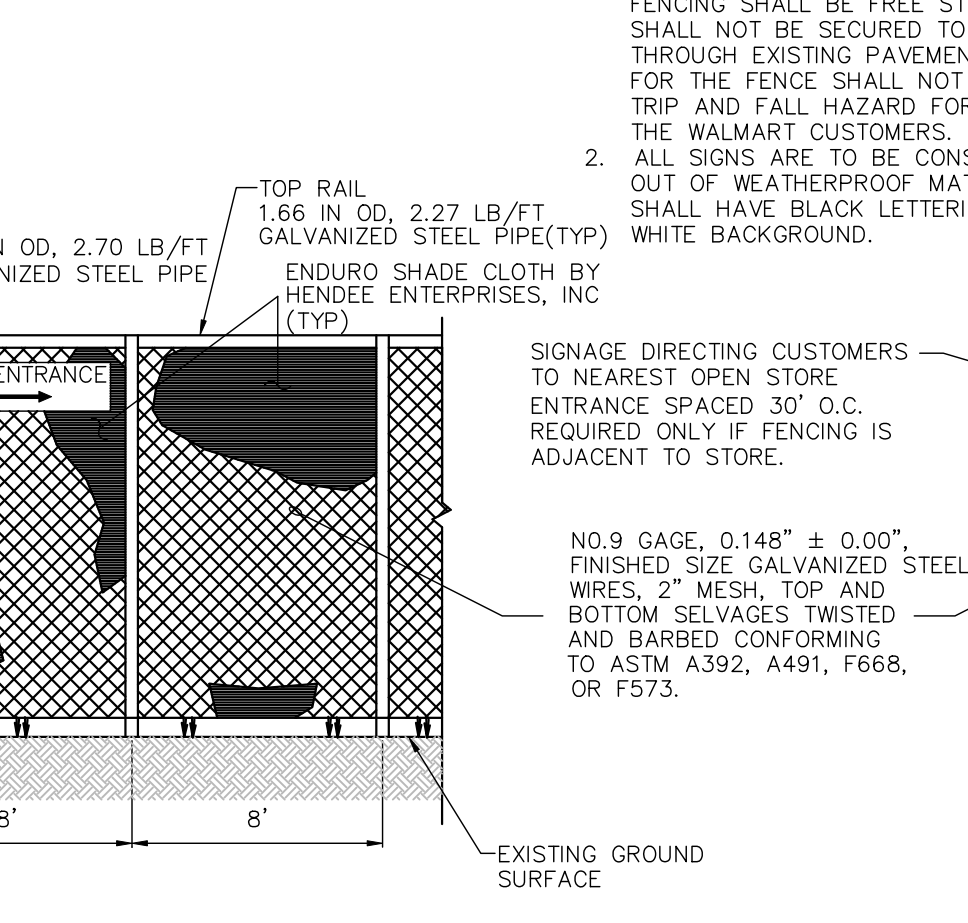
GATE DETAIL  
 N.T.S.

TEMPORARY SHADE FENCE IN GRASS DETAIL



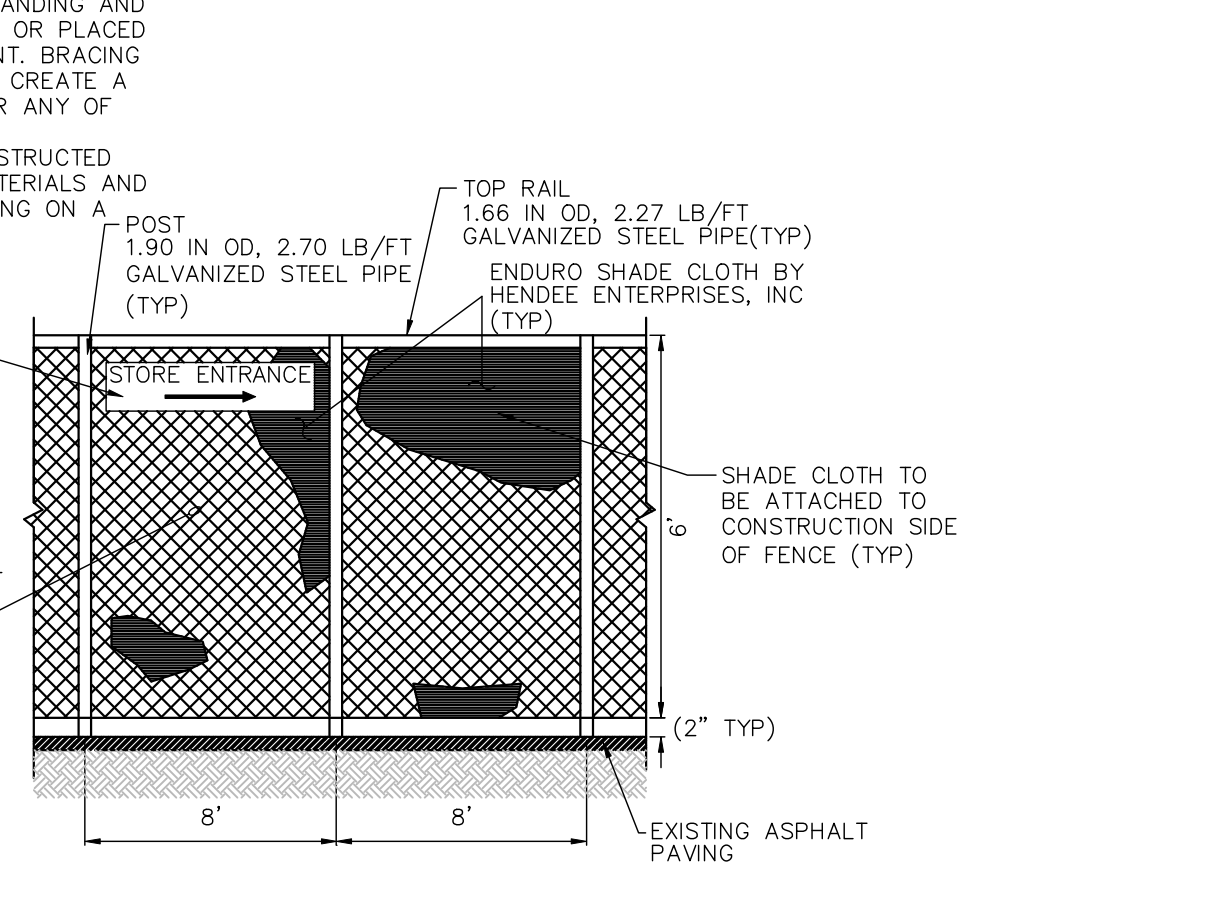
TEMPORARY SHADE FENCE IN GRASS DETAIL  
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TEMPORARY SHADE FENCE IN PAVED AREAS DETAIL



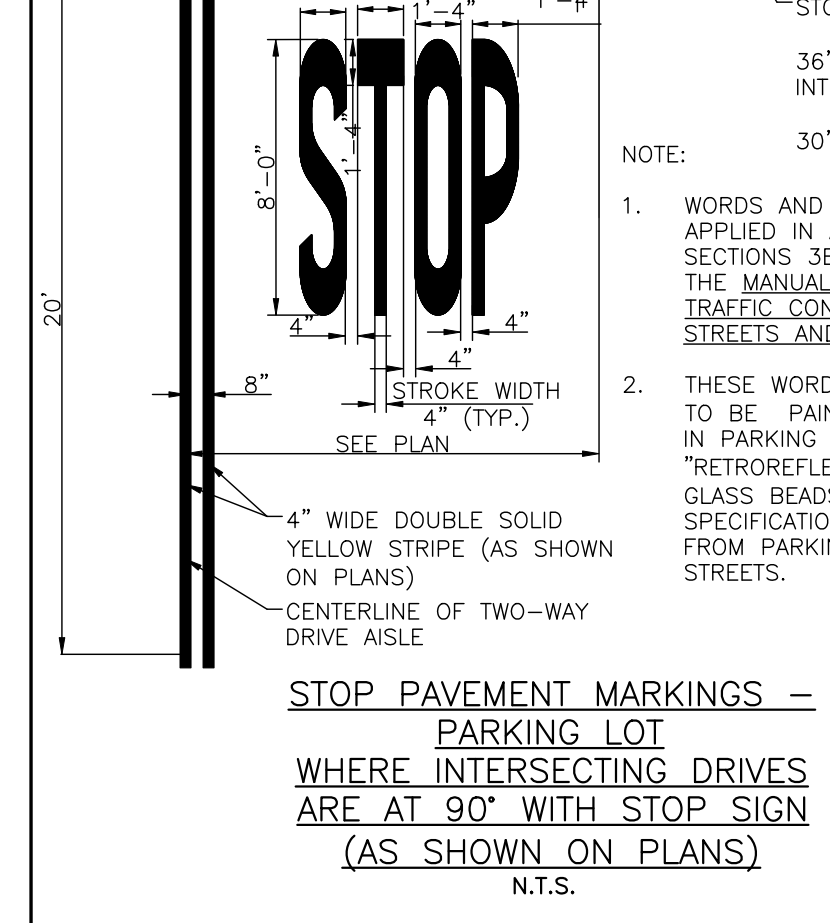
TEMPORARY SHADE FENCE IN PAVED AREAS DETAIL  
 N.T.S.

STOP BAR



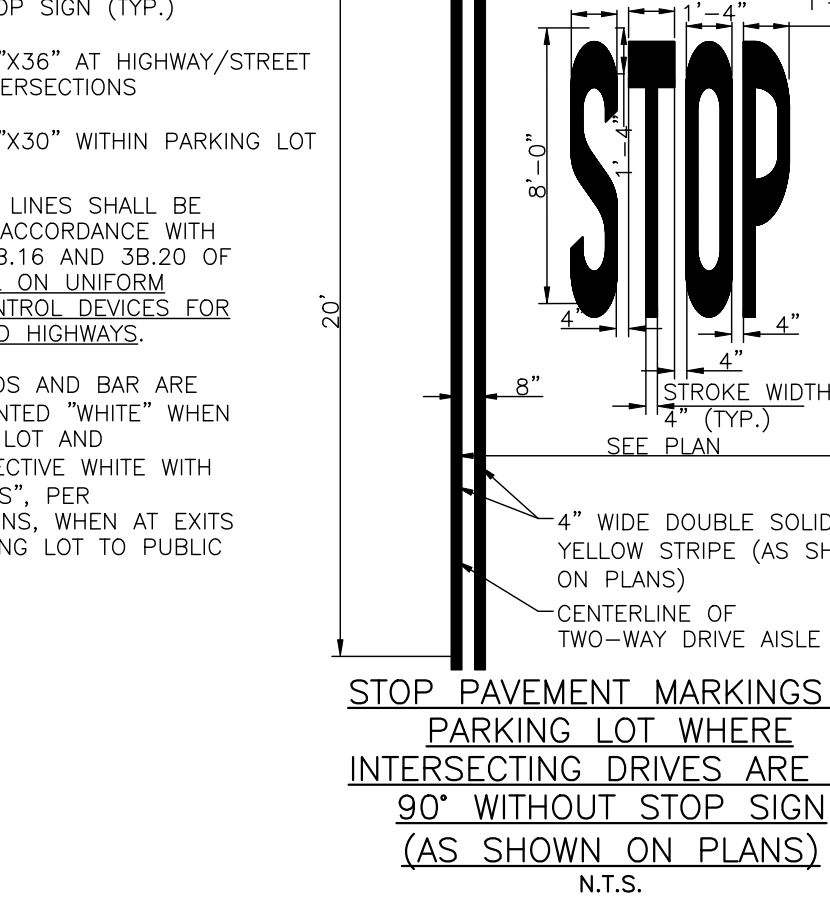
STOP BAR  
 N.T.S.

STOP PAVEMENT MARKINGS - PARKING LOT WHERE INTERSECTING DRIVES ARE AT 90° WITH STOP SIGN (AS SHOWN ON PLANS)



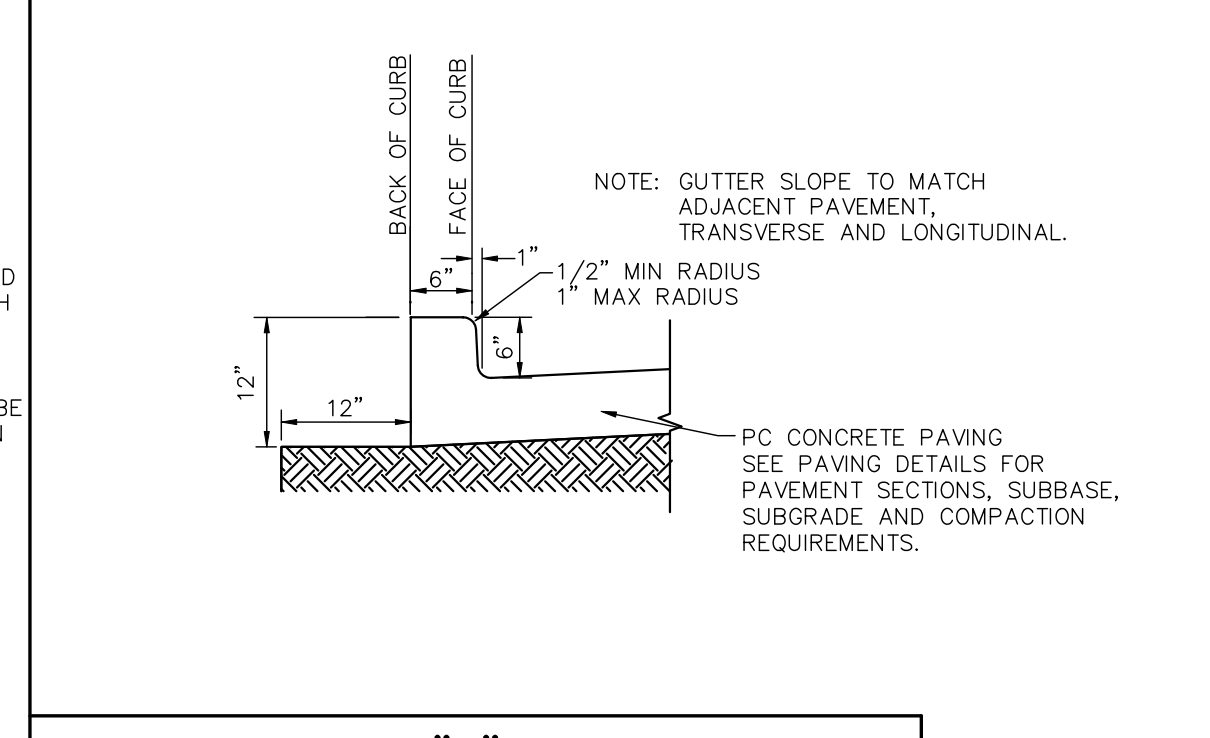
STOP PAVEMENT MARKINGS - PARKING LOT WHERE INTERSECTING DRIVES ARE AT 90° WITH STOP SIGN (AS SHOWN ON PLANS)  
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STOP PAVEMENT MARKINGS - PARKING LOT WHERE INTERSECTING DRIVES ARE AT 90° WITHOUT STOP SIGN (AS SHOWN ON PLANS)

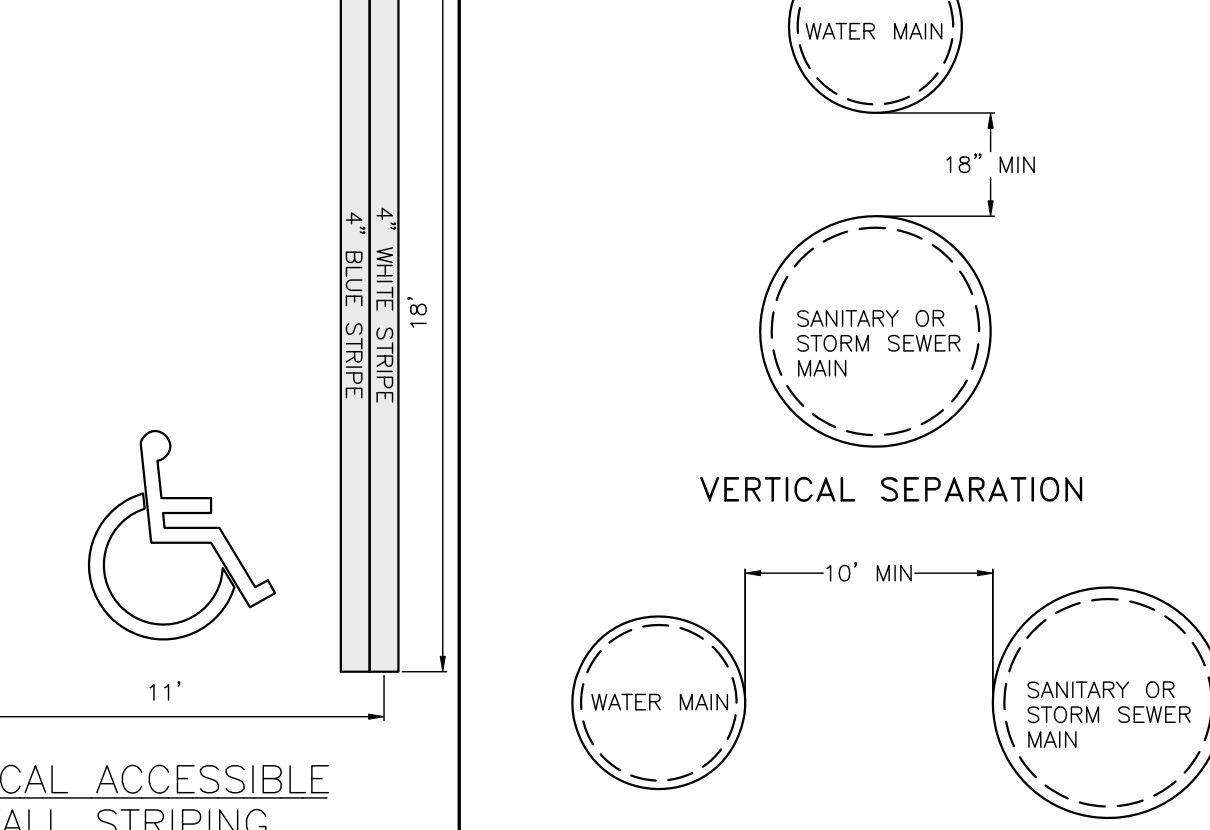


STOP PAVEMENT MARKINGS - PARKING LOT WHERE INTERSECTING DRIVES ARE AT 90° WITHOUT STOP SIGN (AS SHOWN ON PLANS)  
 N.T.S.

SIGNAGE

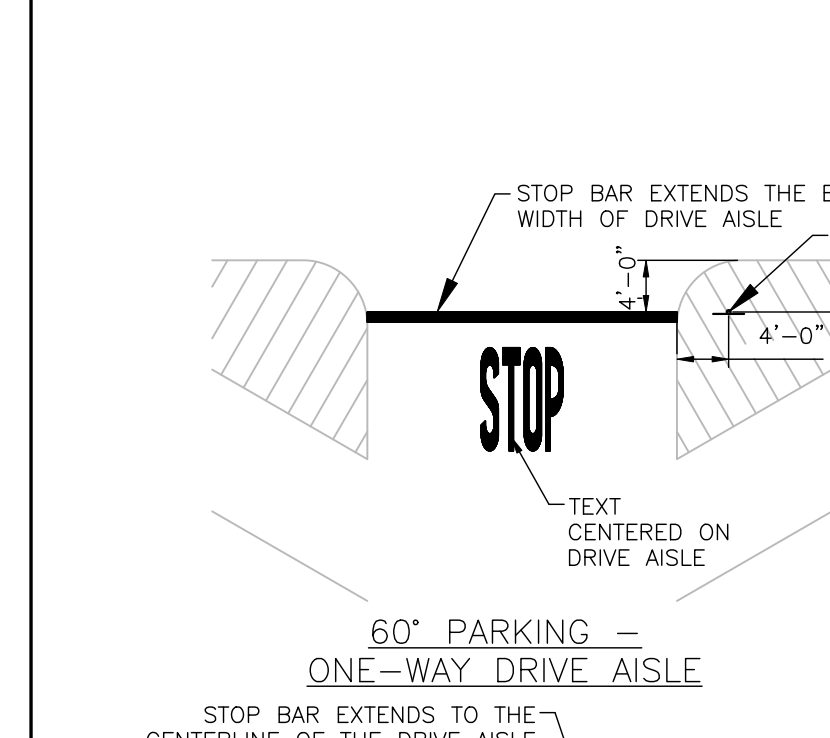


TYPE "B" CURB

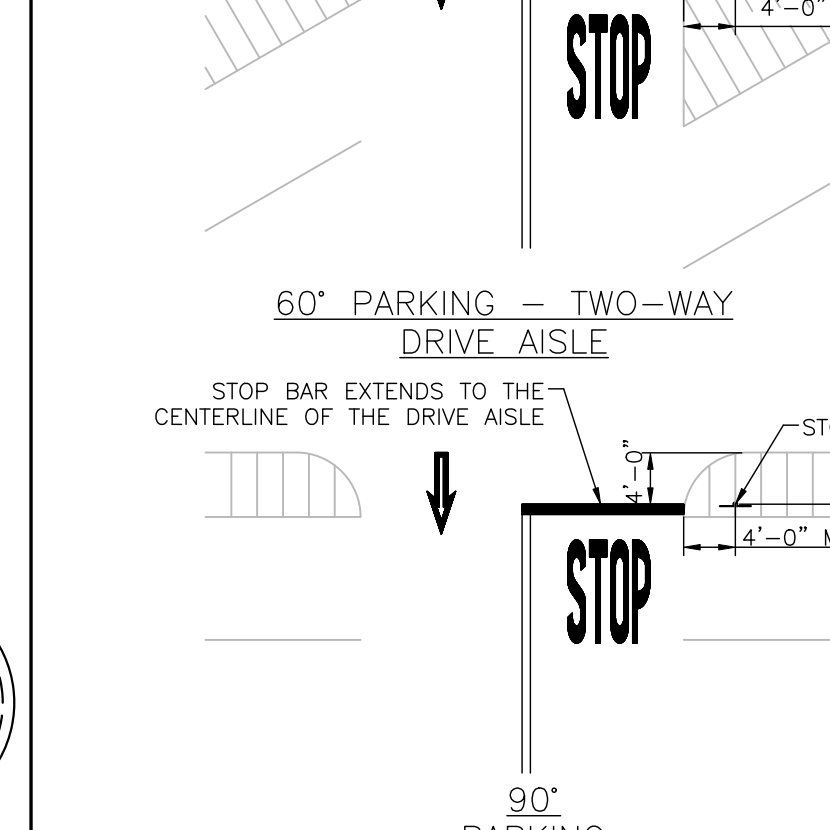


TYPE "B" CURB  
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ACCESSIBLE PARKING SIGN

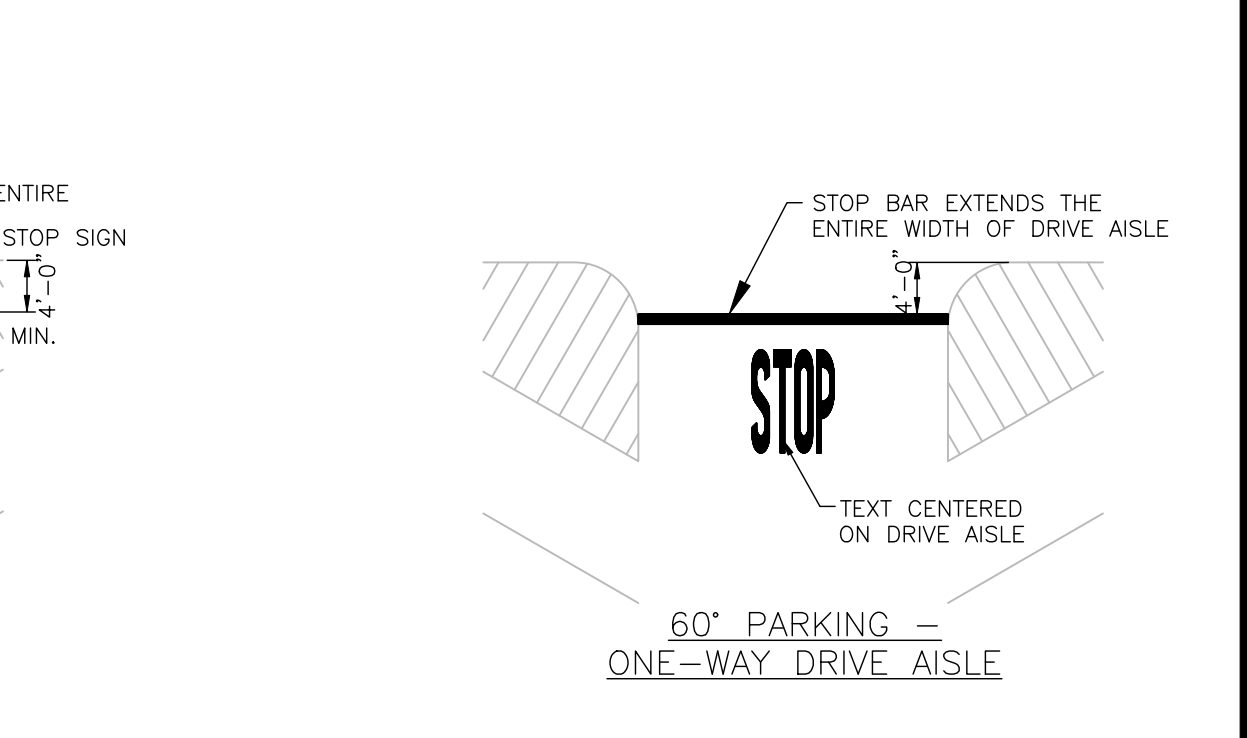


TYPE "A" CURB & GUTTER

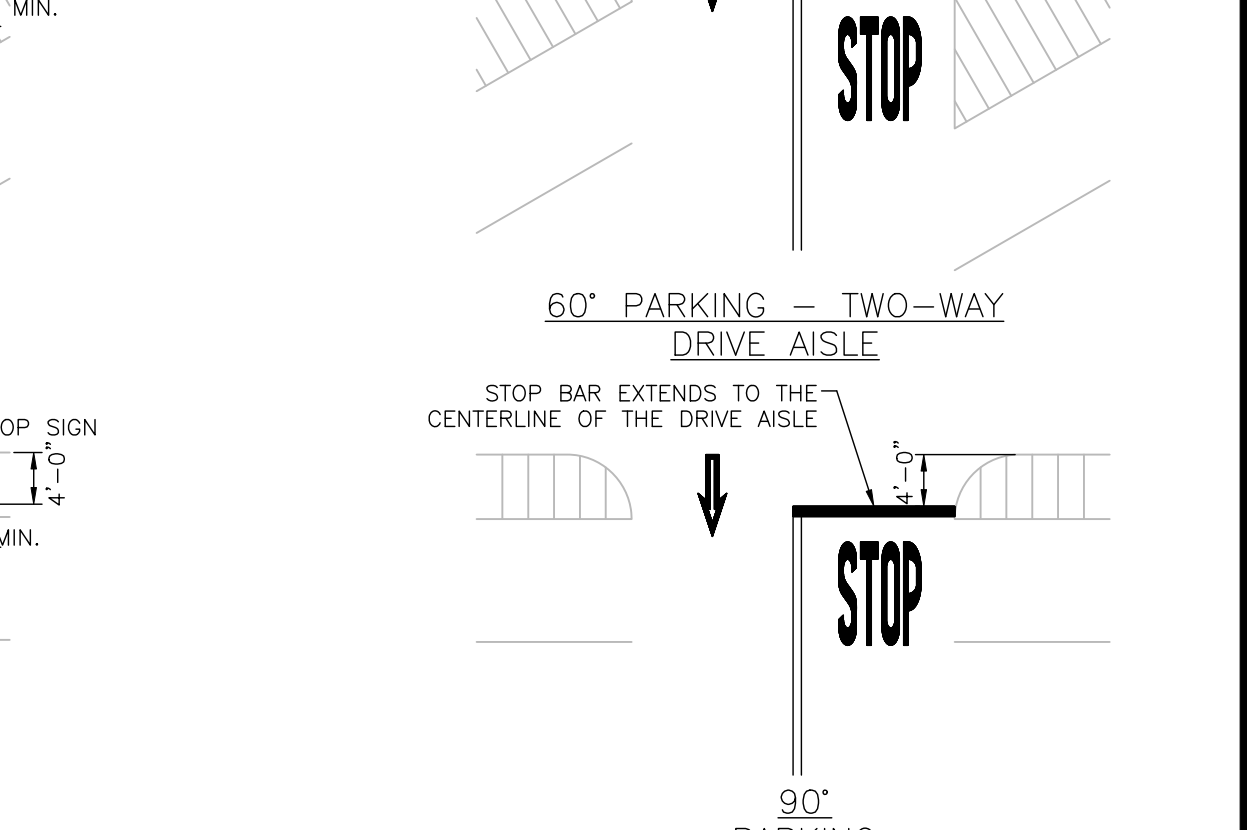


TYPE "A" CURB & GUTTER  
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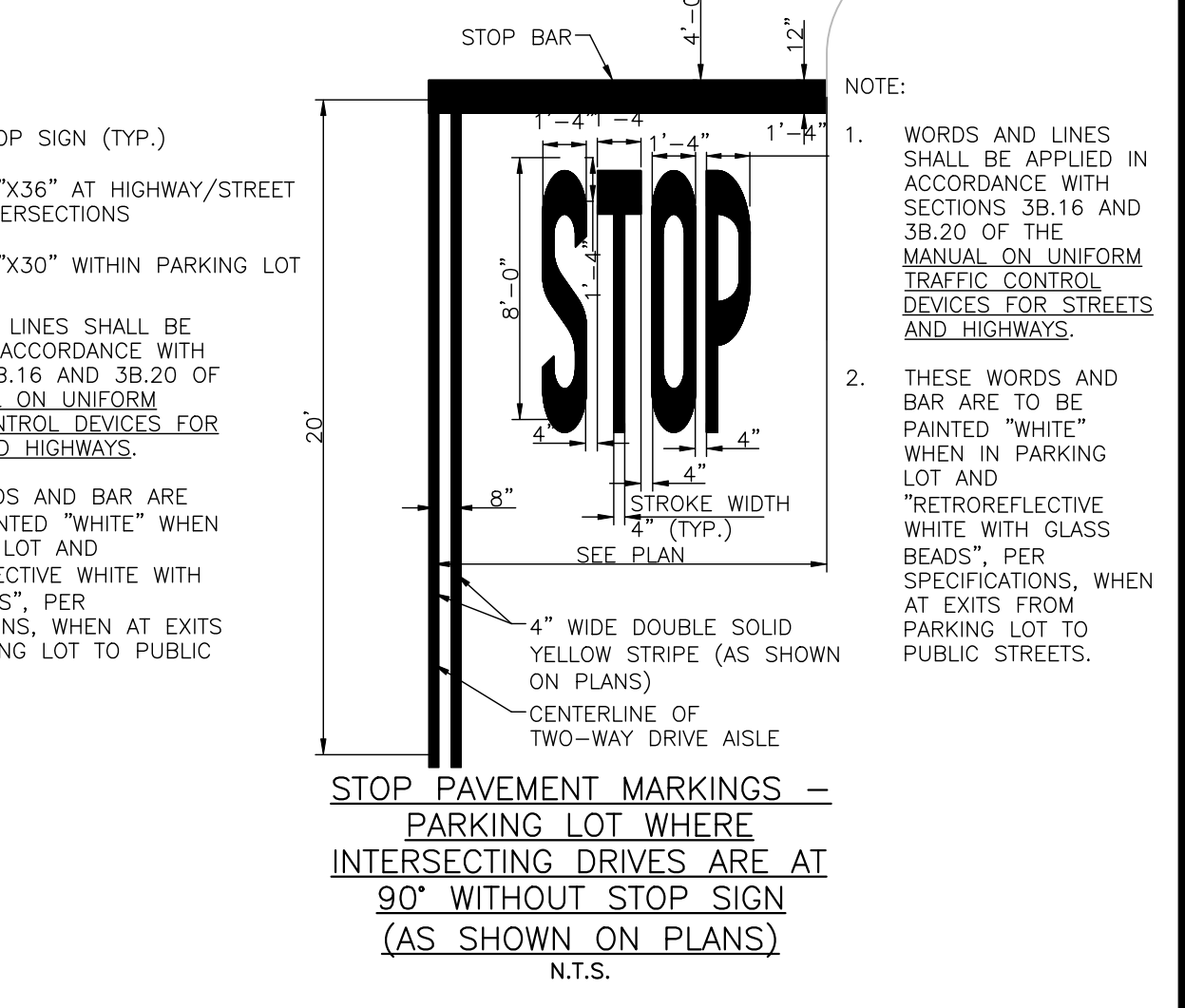
DETAILS



DETAILS



DETAILS



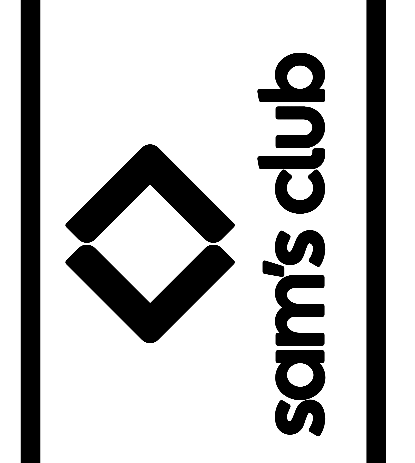
DETAILS  
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REVISIONS	BY

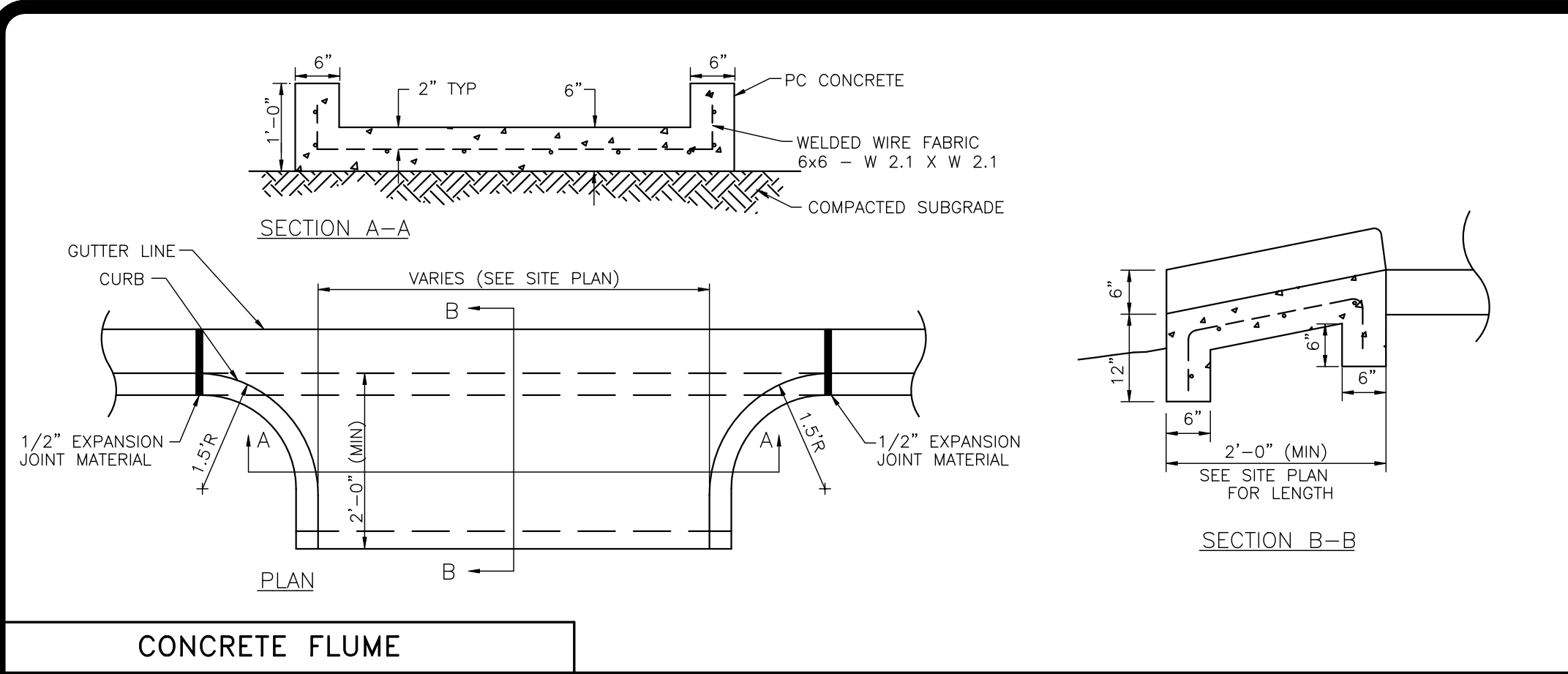
CARLSON CONSULTING ENGINEERS, INC.  
 7088 LEEDSBOURNE COMMONS  
 PH: (801) 384-0404 • FX: (801) 384-0710

JOSEPH PARSLEY  
 ENGINEER  
 No. 8201066218  
 MICHIGAN PROFESSIONAL ENGINEERING

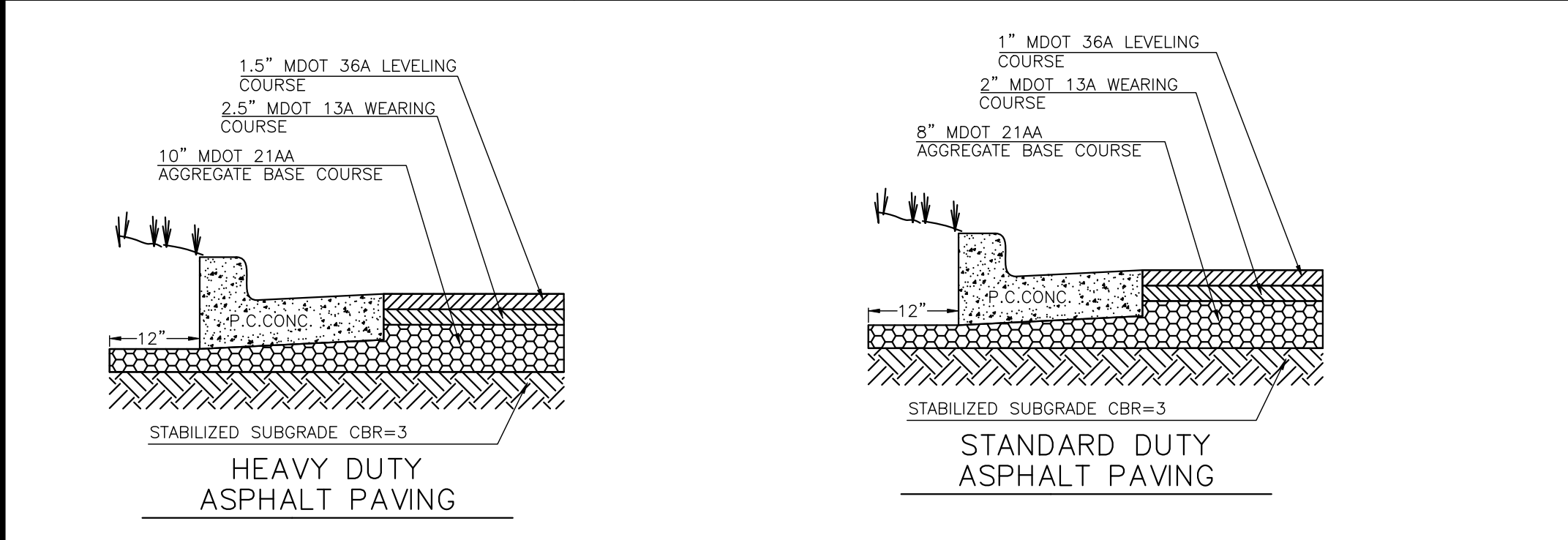
SAM'S CLUB #4982-211  
 MT PLEASANT (UNION TOWNSHIP), MICHIGAN  
 SAM'S REAL ESTATE BUSINESS TRUST  
 2101 SE SIMPLE SAVINGS DRIVE  
 BENTONVILLE, AR 72716



DRAWN AAS  
 CHECKED BKM  
 DATE 09/20/2022  
 SCALE N.T.S.  
 JOB No. 4982-211  
 SHEET 24 OF 27 SHEETS



CONCRETE FLUME

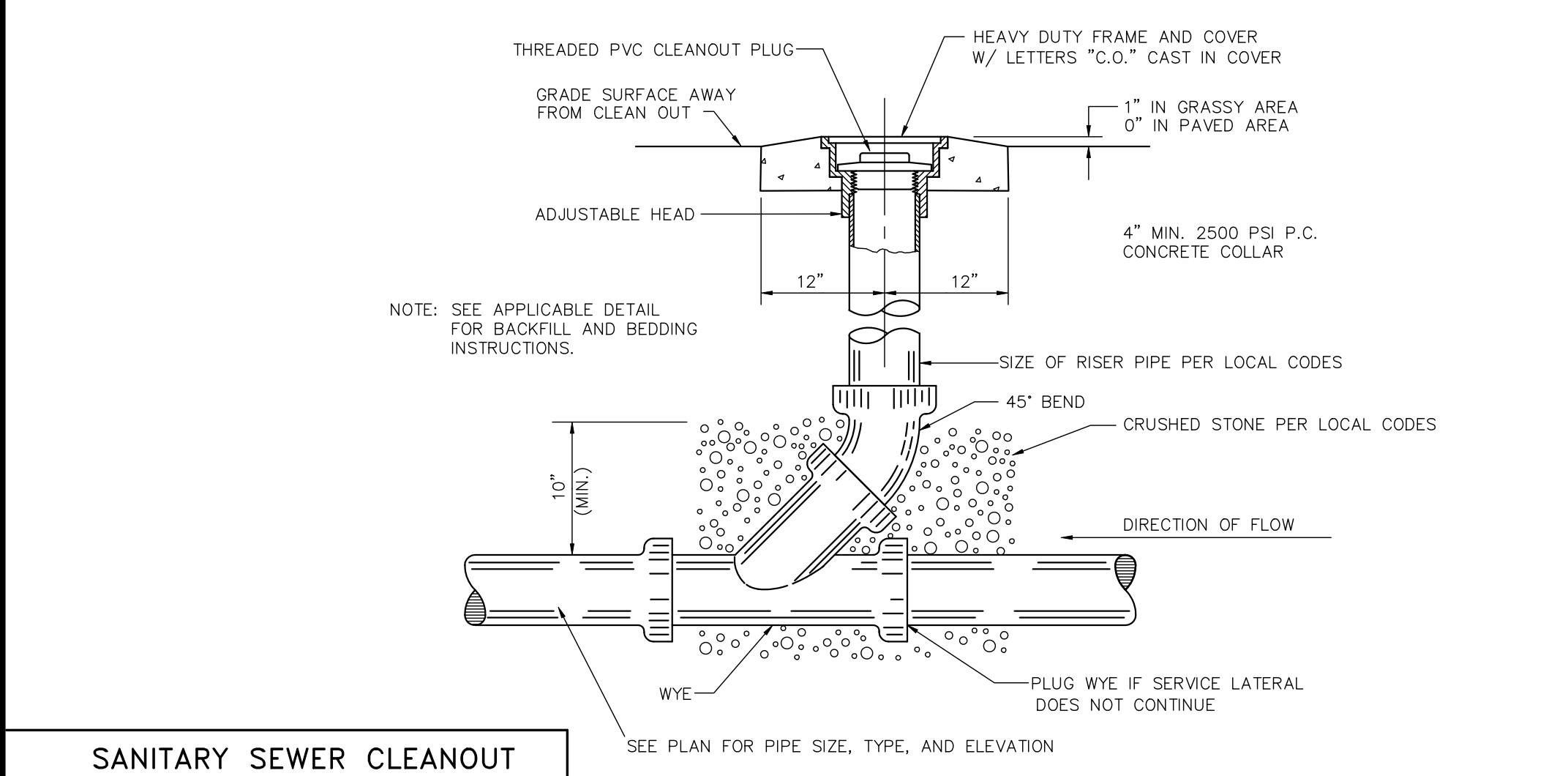


HEAVY DUTY ASPHALT PAVING

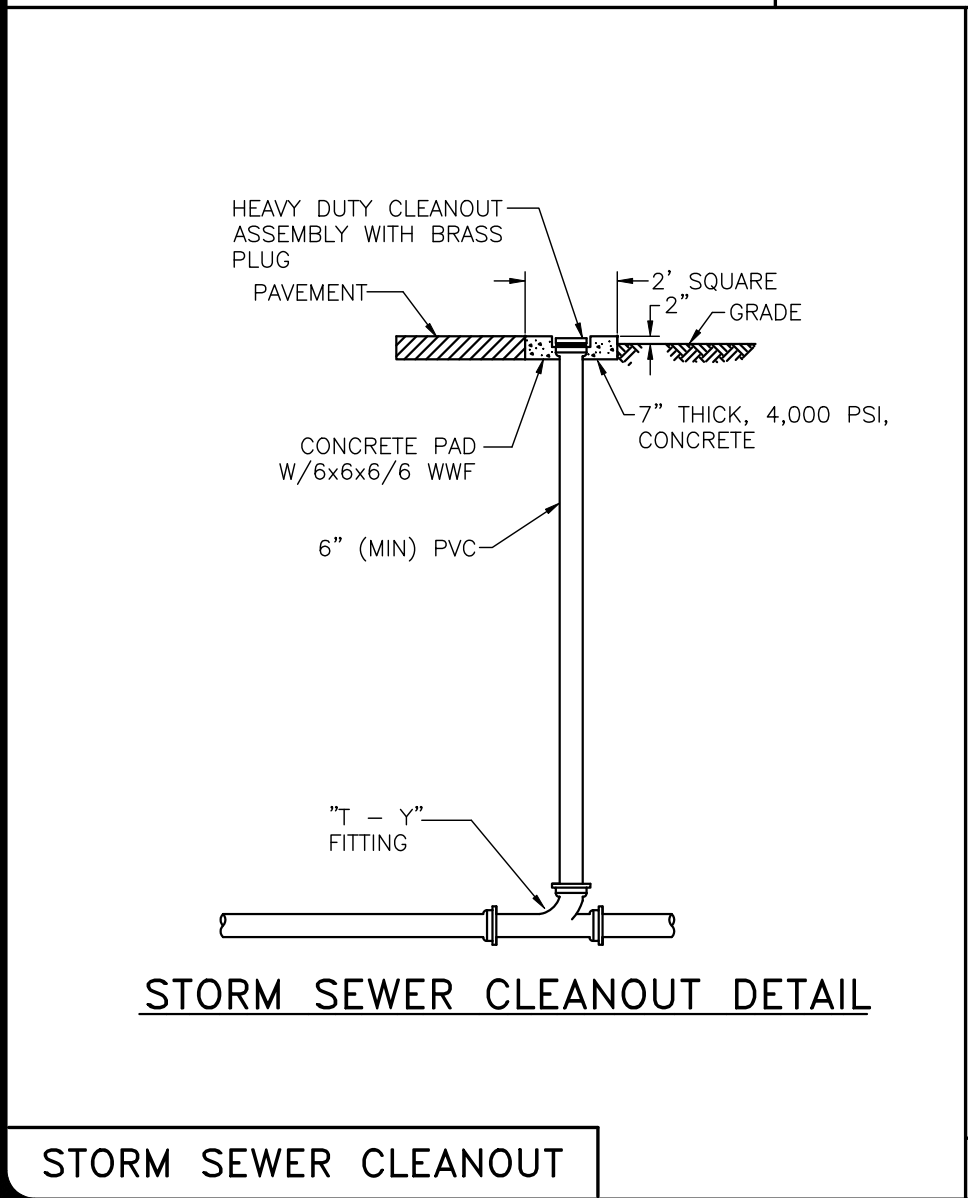
STANDARD DUTY ASPHALT PAVING

- FOR PREPARATION OF PAVEMENT SUBGRADE, FILL SHALL BE PLACED IN ACCORDANCE WITH SECTION 02300 OF THE SITEMARK SPECIFICATIONS.
- AGGREGATE BASE COURSE SHALL CONFORM TO THE REQUIREMENTS OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2012 EDITION, COMPACTED TO 100% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-698 (STANDARD PROCTOR).
- ASPHALTIC WEARING AND LEVELING COURSE MIXTURES SHALL BE IN ACCORDANCE WITH THE TYPE CALLED OUT ABOVE AND REFERENCED IN THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) STANDARD SPECIFICATIONS CONSTRUCTION, 2012 EDITION.
- SOURCE: GEOTECHNICAL ENGINEERING REPORT PREPARED BY PSI AND DATED JUNE 4, 2020.

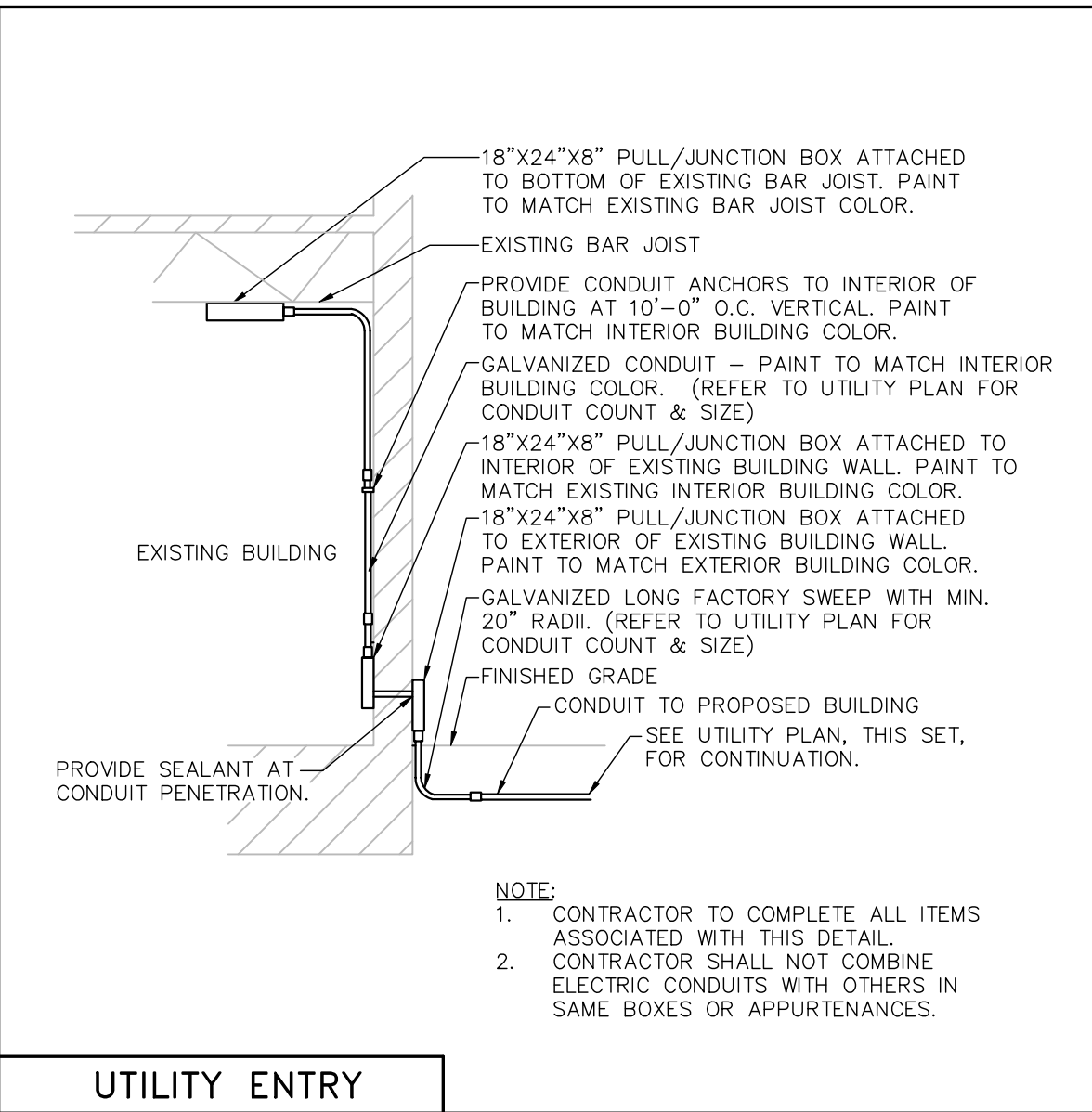
PAVING SECTIONS



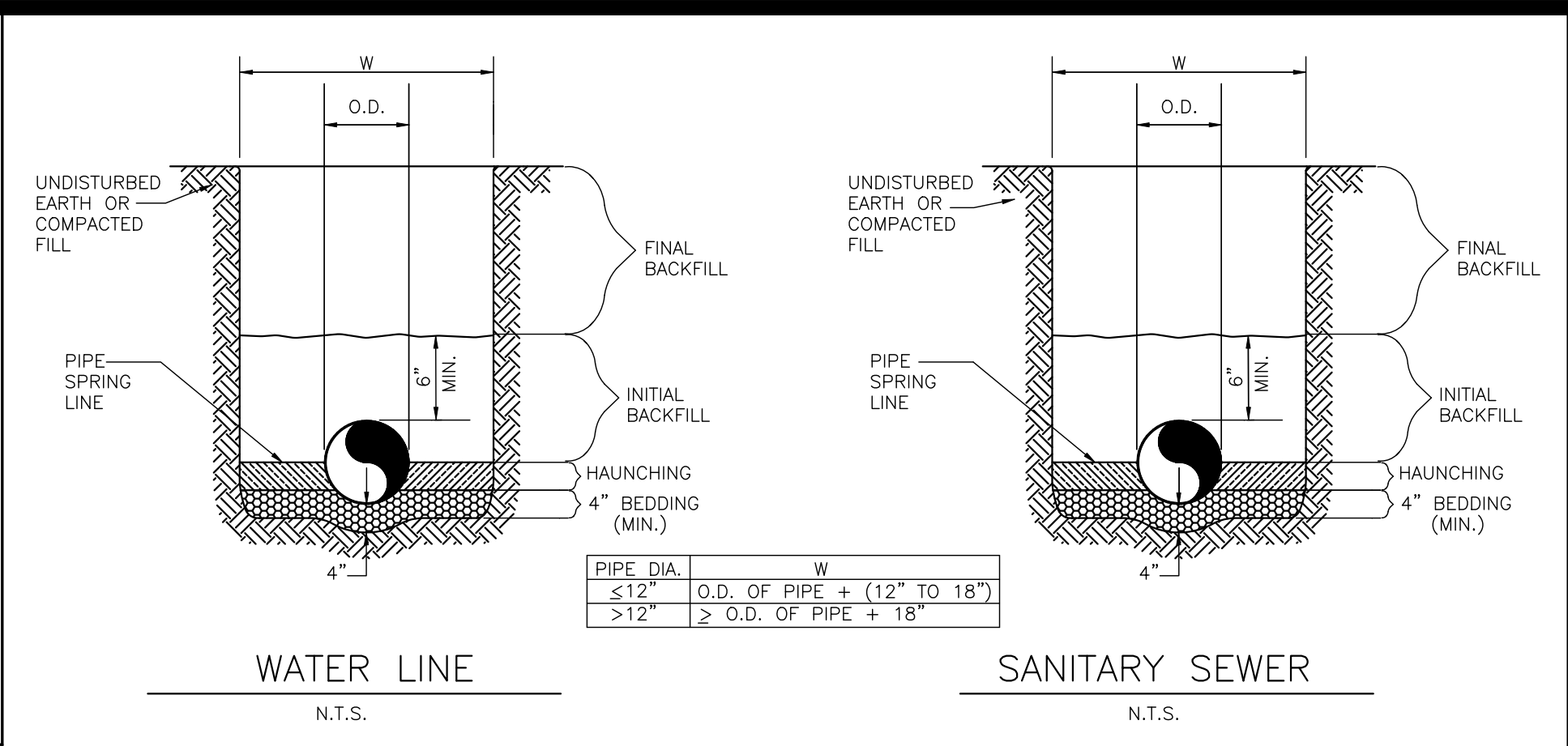
SANITARY SEWER CLEANOUT



STORM SEWER CLEANOUT DETAIL



UTILITY ENTRY



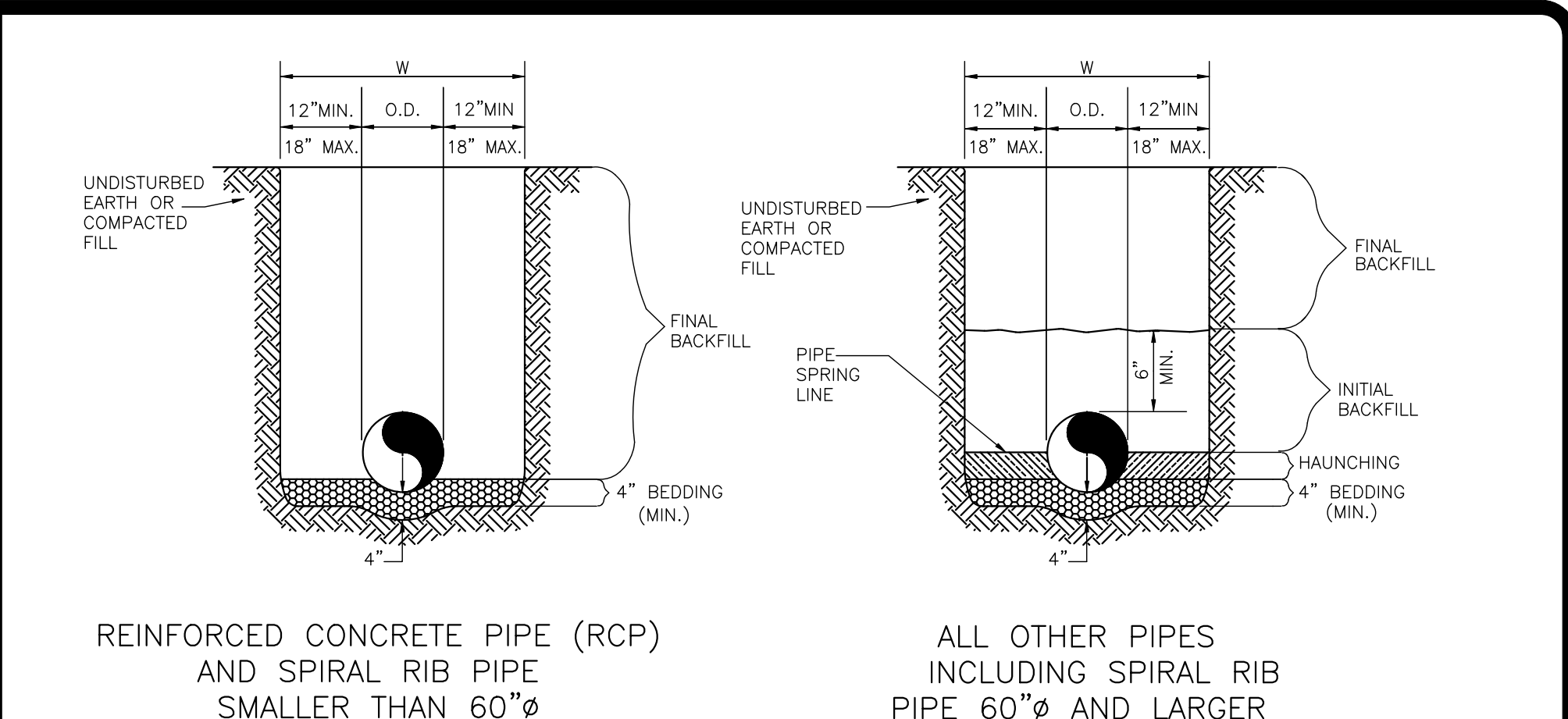
WATER LINE

SANITARY SEWER

GENERAL NOTES

- BEDDING SHALL BE CLASS I WORKED BY HAND OR CLASS II COMPACTED TO 85% STANDARD PROCTOR.
- HAUNCHING SHALL BE WORKED AROUND THE PIPE BY HAND TO ELIMINATE VOIDS AND SHALL BE CLASS I OR CLASS II COMPACTED TO 85% PROCTOR.
- INITIAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS III COMPACTED TO 90% STANDARD PROCTOR.
- INITIAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS III COMPACTED TO 90% STANDARD PROCTOR.
- FINAL BACKFILL SHALL BE CLASS I, II, OR III COMPACTED AS NOTED IN NOTES 3 AND 4.
- FINAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS IV COMPACTED TO 95% STANDARD PROCTOR.
- ALL MATERIALS ARE CLASSIFIED IN ACCORDANCE WITH ASTM D 2321-11.
- ALL MATERIALS SHALL BE INSTALLED IN MAXIMUM 8\"/>

UTILITY TRENCH & BEDDING



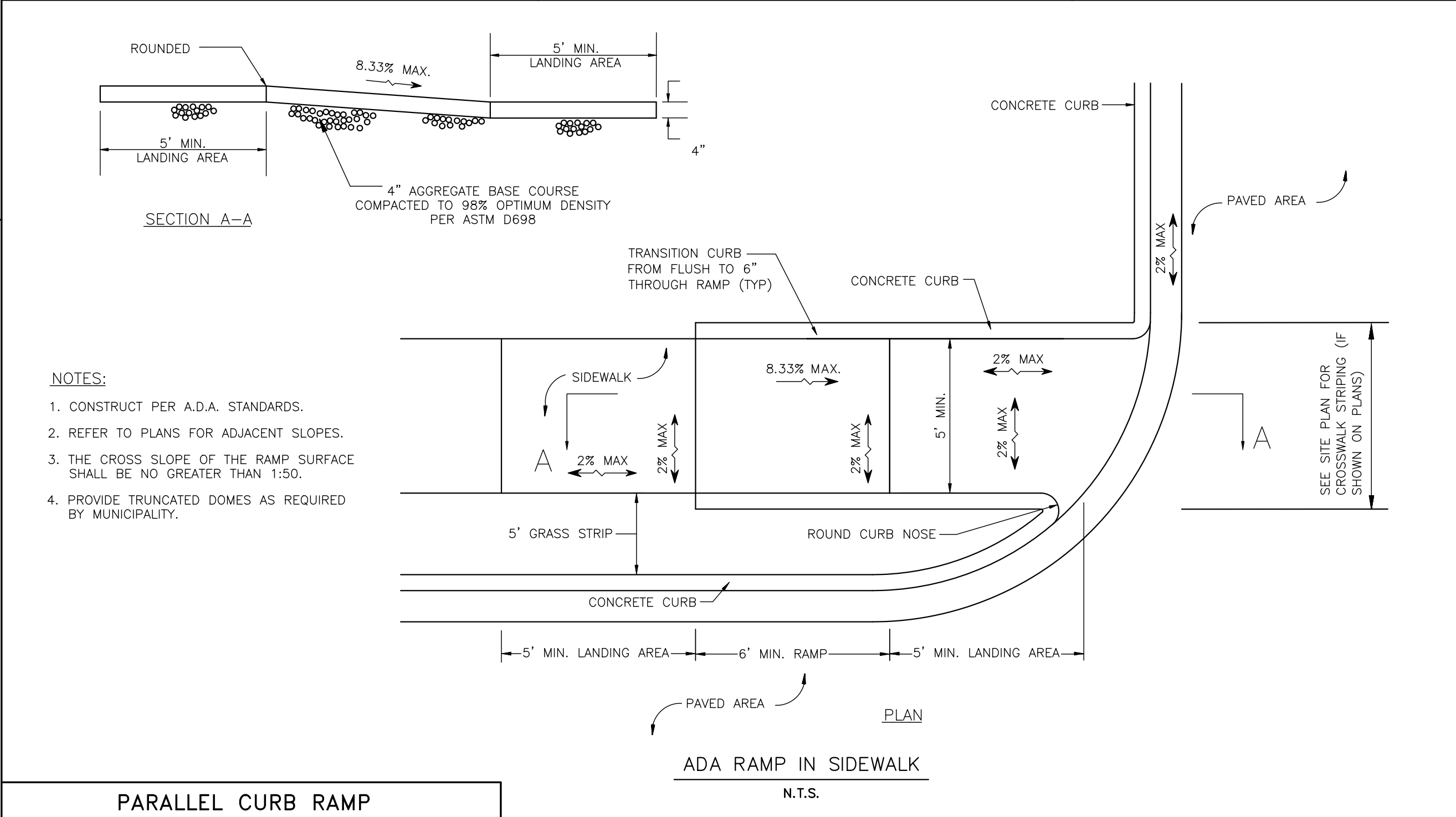
REINFORCED CONCRETE PIPE (RCP) AND SPIRAL RIB PIPE SMALLER THAN 60\"/>

ALL OTHER PIPES INCLUDING SPIRAL RIB PIPE 60\"/>

GENERAL NOTES

- BEDDING SHALL BE CLASS I WORKED BY HAND OR CLASS II COMPACTED TO 85% STANDARD PROCTOR.
- HAUNCHING SHALL BE WORKED AROUND THE PIPE BY HAND TO ELIMINATE VOIDS AND SHALL BE CLASS I OR CLASS II COMPACTED TO 85% PROCTOR.
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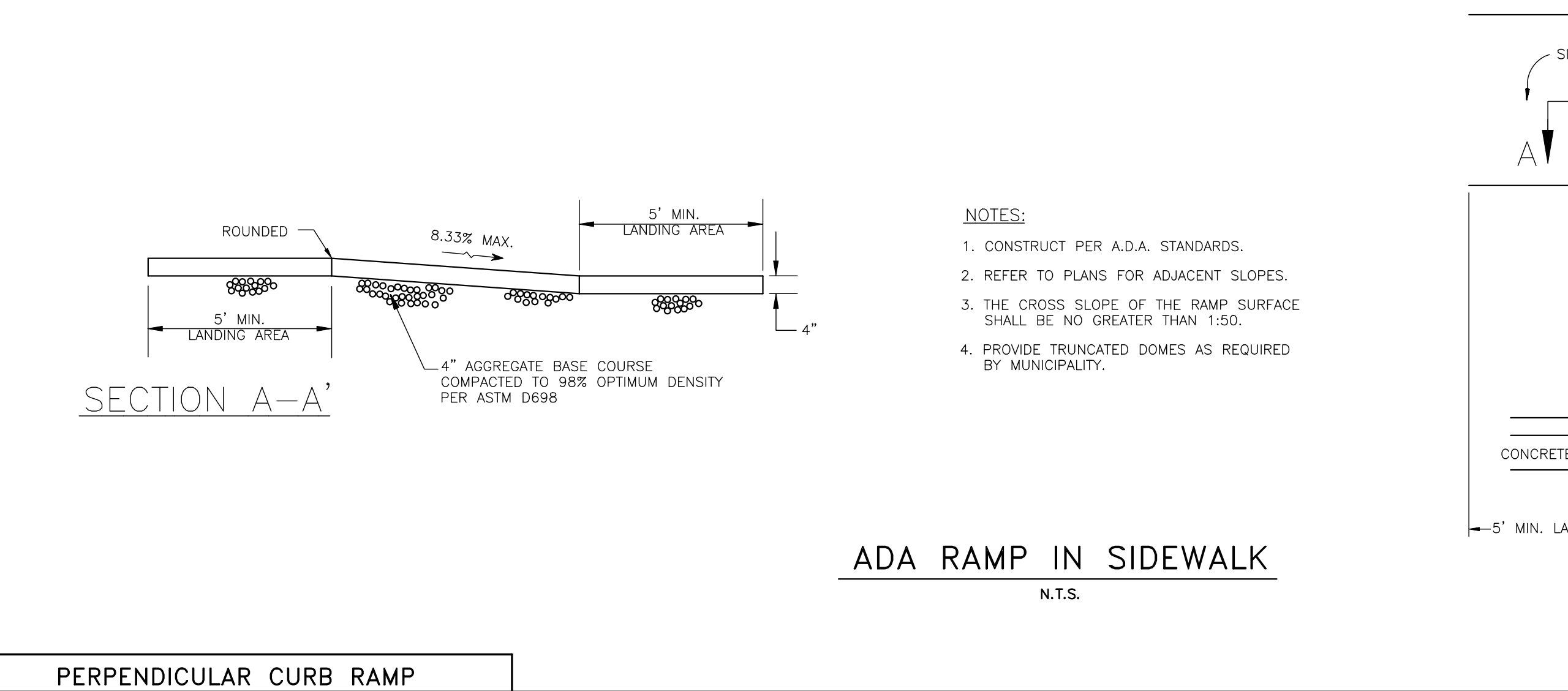
STORM SEWER TRENCH & BEDDING



PARALLEL CURB RAMP

ADA RAMP IN SIDEWALK

PERPENDICULAR CURB RAMP



SECTION A-A

ADA RAMP IN SIDEWALK

N.T.S.

NOTES:

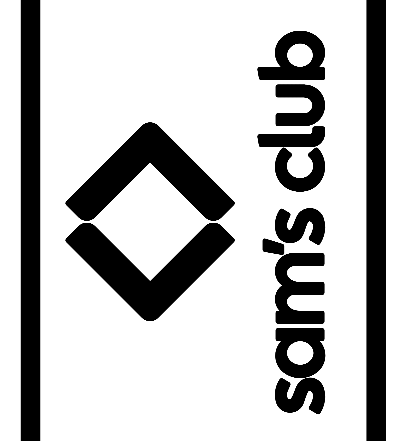
- CONSTRUCT PER A.D.A. STANDARDS.
- REFER TO PLANS FOR ADJACENT SLOPES.
- THE CROSS SLOPE OF THE RAMP SURFACE SHALL BE NO GREATER THAN 1:50.
- PROVIDE TRUNCATED DOMES AS REQUIRED BY MUNICIPALITY.

REVISIONS	BY

**CARLSON CONSULTING ENGINEERS, INC.**  
 7085 LEDFORD CIRCLE  
 PH. (901) 354-0404 • FX. (901) 354-0710

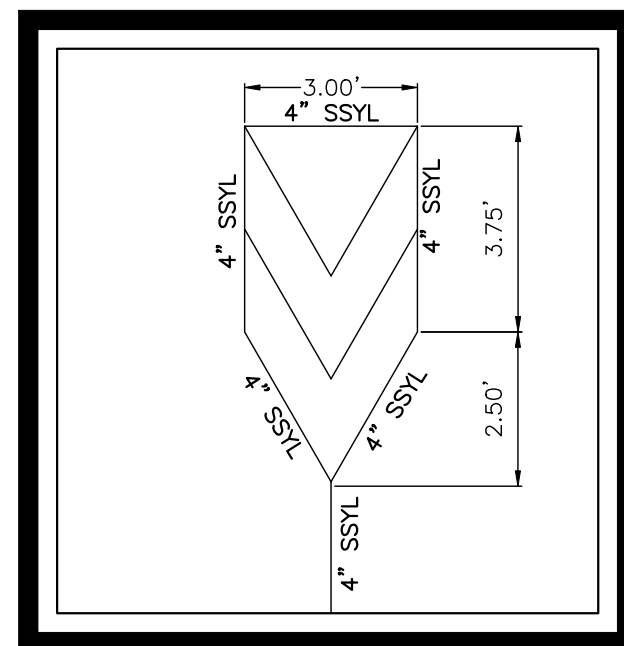
STATE OF MICHIGAN  
**JOSEPH PARSLEY**  
 ENGINEER  
 No. 920106218  
 REGISTERED PROFESSIONAL ENGINEER

SAM'S CLUB #4982-211  
 MT PLEASANT (UNION TOWNSHIP), MICHIGAN  
 SAM'S REAL ESTATE BUSINESS TRUST  
 2101 SE SIMPLE SAVINGS DRIVE  
 BENTONVILLE, AR 72716

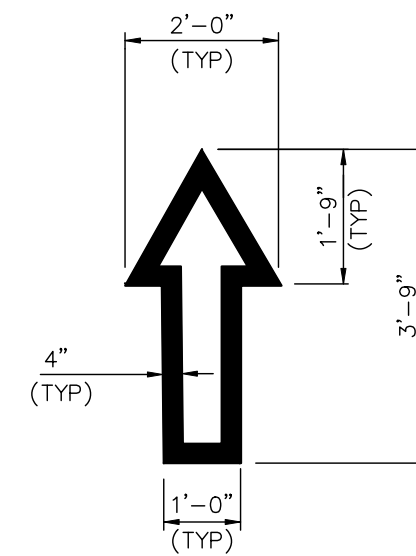


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DATE	09/20/2022
SCALE	NTS
JOB No.	4982-211
SHEET	25 OF 27 SHEETS

DETAILS



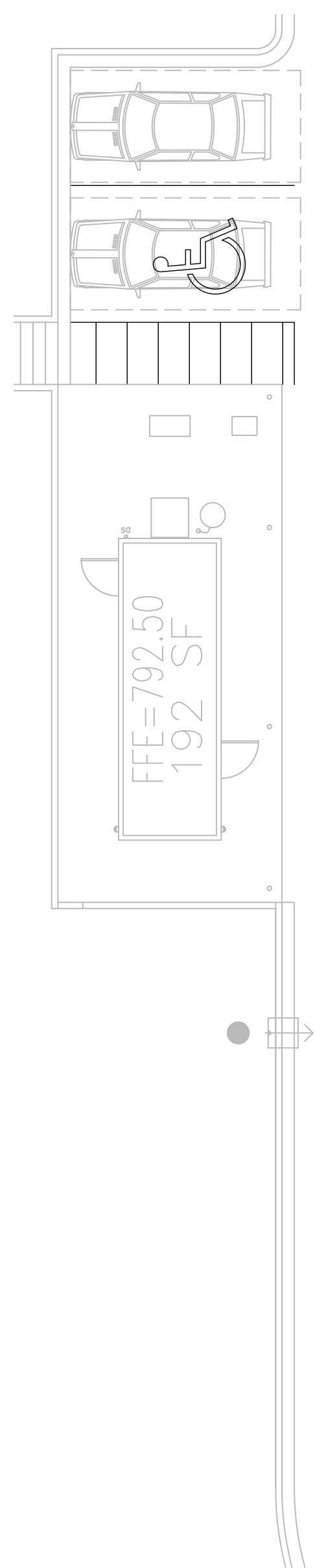
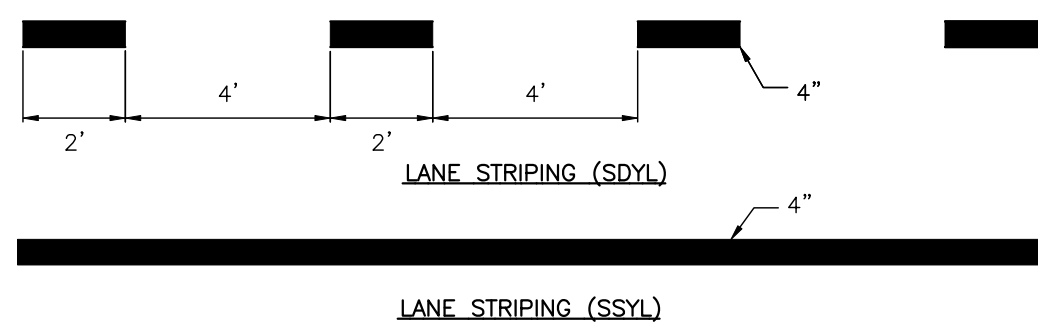
TRAFFIC ISLAND DETAIL  
N.T.S.



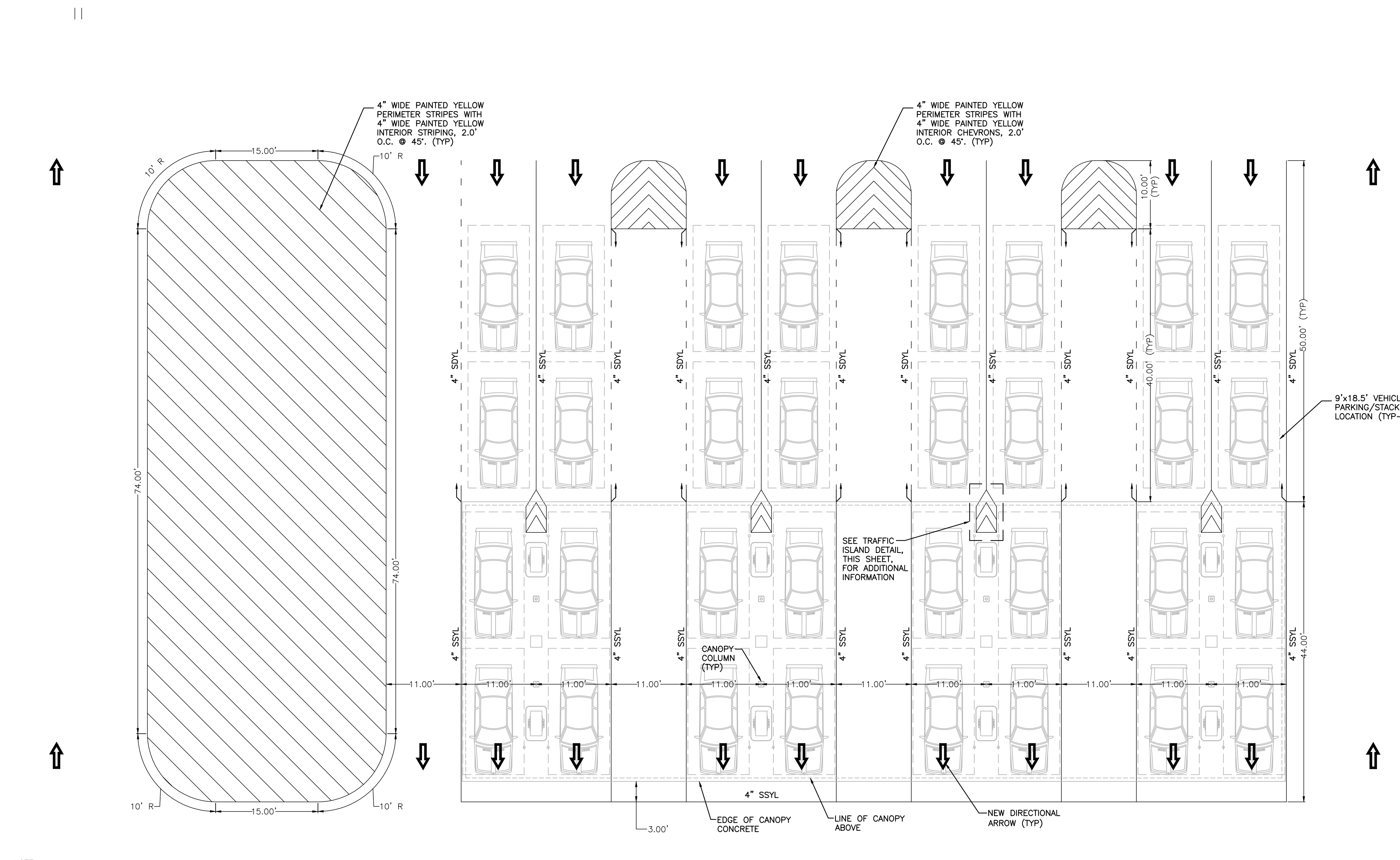
NOTE: ALL TRAFFIC FLOW ARROWS TO BE REFLECTIVE WHITE PAINT PER SPECS.

OPEN ARROW MARKINGS USED IN THE FUELING STATION AREA

MARKING ABBREVIATIONS  
SDYL=4" SINGLE DASHED YELLOW LINE  
SSYL=4" SINGLE SOLID YELLOW LINE

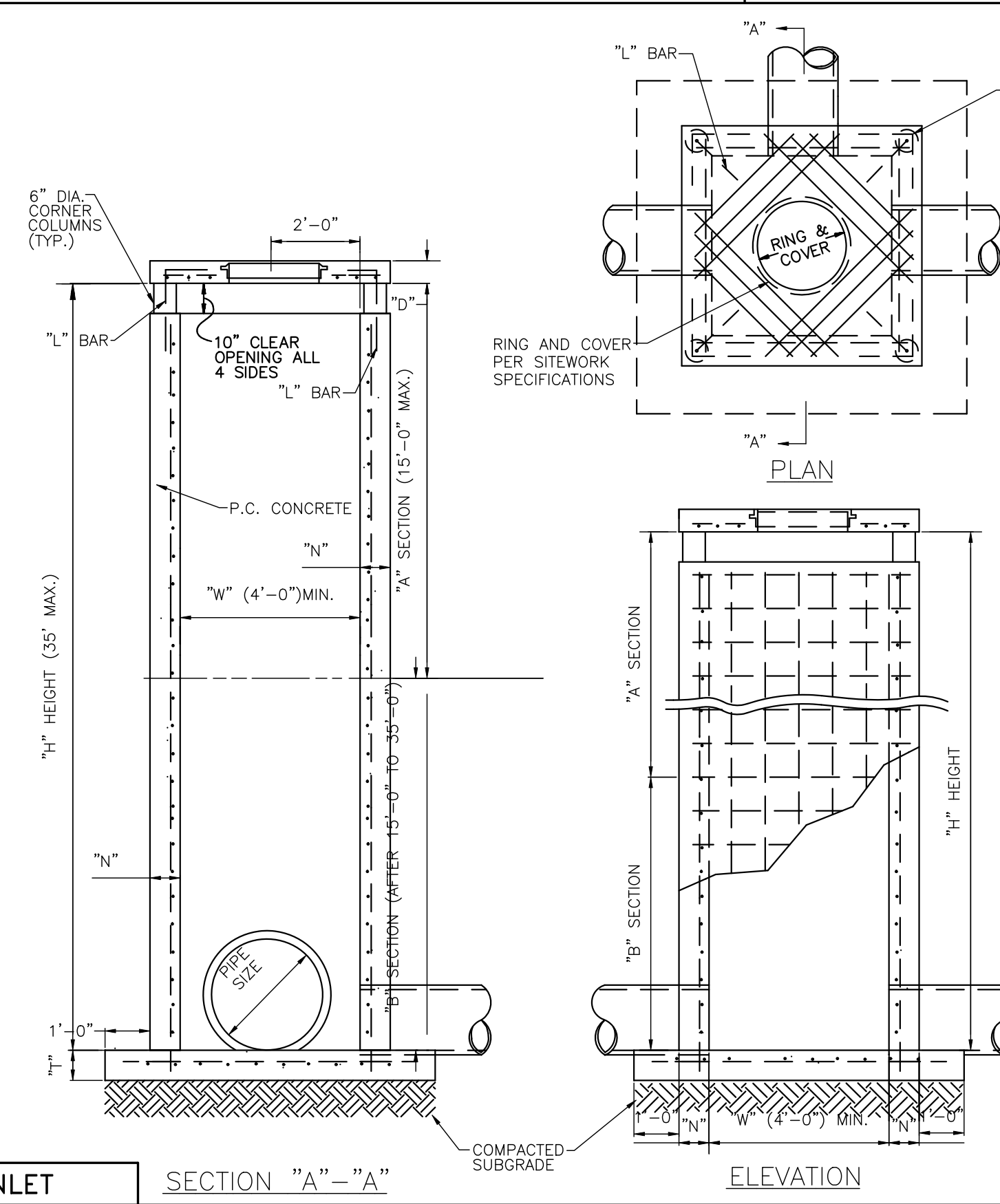


FUEL STATION LANE STRIPING AND PAVEMENT MARKINGS

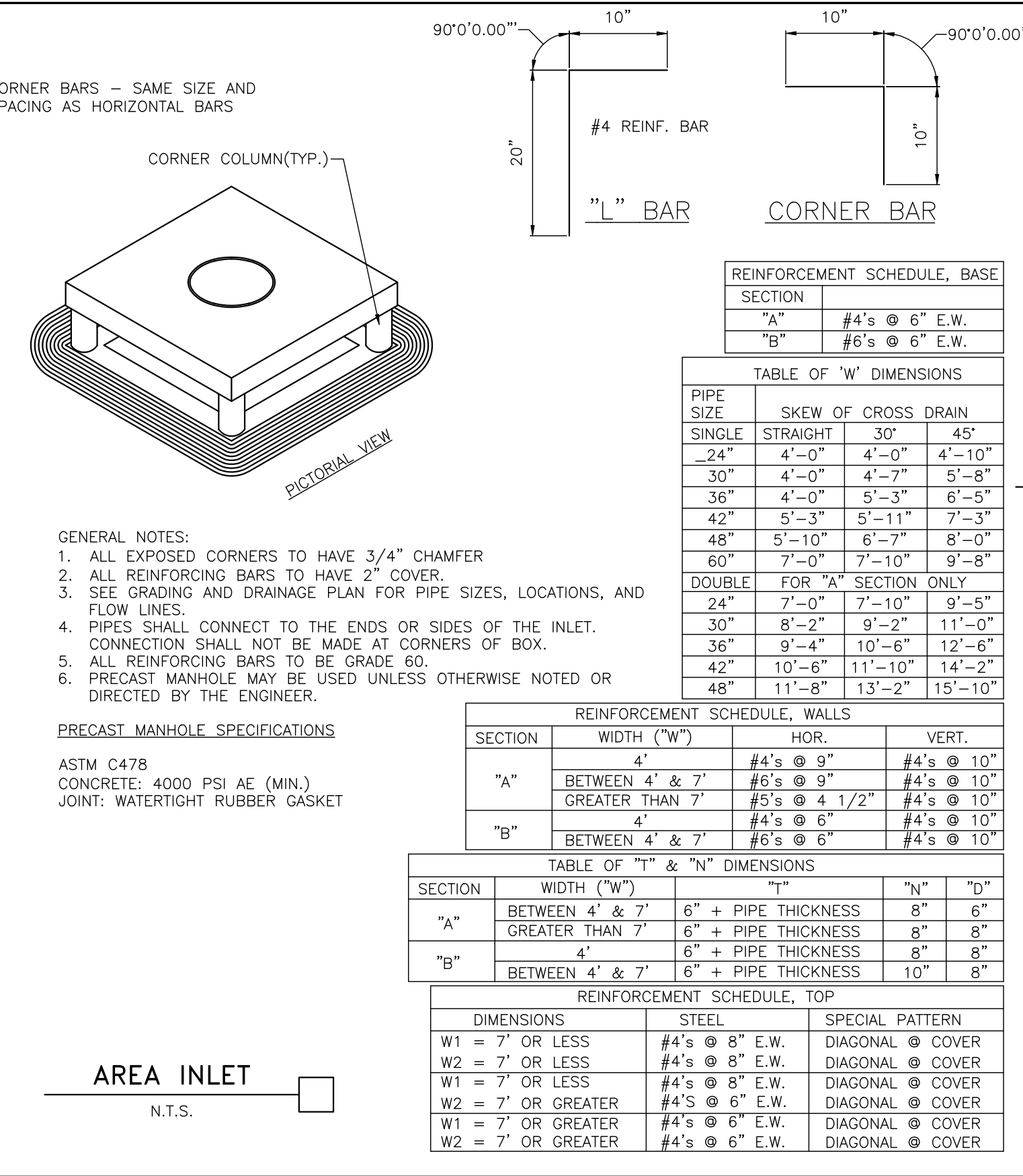


KIOSK AND FUEL ISLAND STRIPING PLAN  
1"=10'

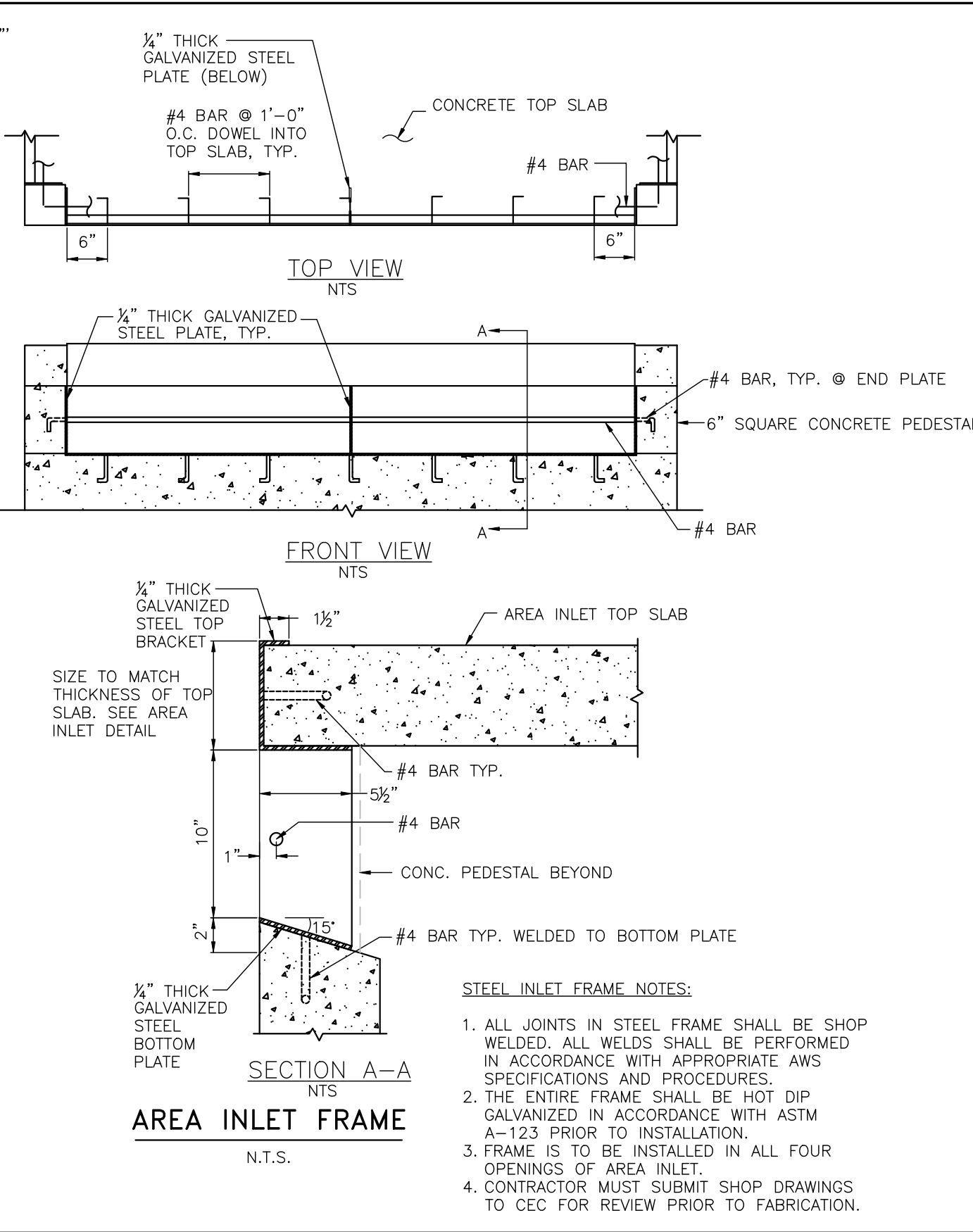
NOTE:  
1. ALL DELTA ANGLES ARE 90° UNLESS NOTED OTHERWISE.  
2. ALL DIMENSIONS ARE TO CENTER OF STRIPE UNLESS NOTED OTHERWISE.



AREA INLET SECTION "A" - "A"



AREA INLET N.T.S.



AREA INLET FRAME N.T.S.

STEEL INLET FRAME NOTES:  
1. ALL JOINTS IN STEEL FRAME SHALL BE SHOP WELDED. ALL WELDS SHALL BE PERFORMED IN ACCORDANCE WITH APPROPRIATE AWS SPECIFICATIONS AND PROCEDURES.  
2. THE ENTIRE FRAME SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A-123 PRIOR TO INSTALLATION.  
3. FRAME IS TO BE INSTALLED IN ALL FOUR OPENINGS OF AREA INLET.  
4. CONTRACTOR MUST SUBMIT SHOP DRAWINGS TO CEC FOR REVIEW PRIOR TO FABRICATION.

DETAILS

REVISIONS	BY

CARLSON CONSULTING ENGINEERS, INC.  
7086 LEDGESTONE COMMONS  
PH. (801) 384-0404 • FX. (801) 384-0710

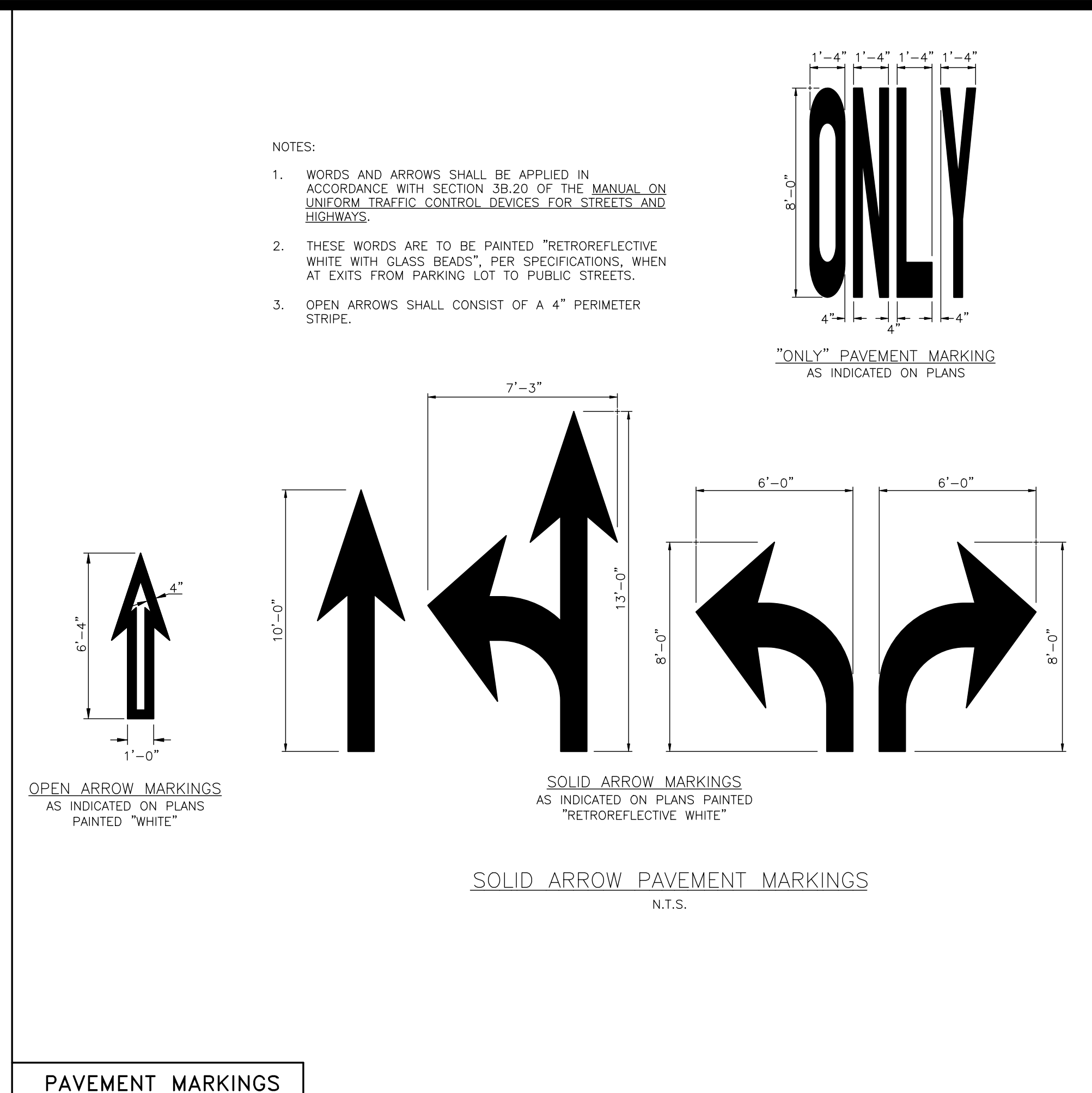
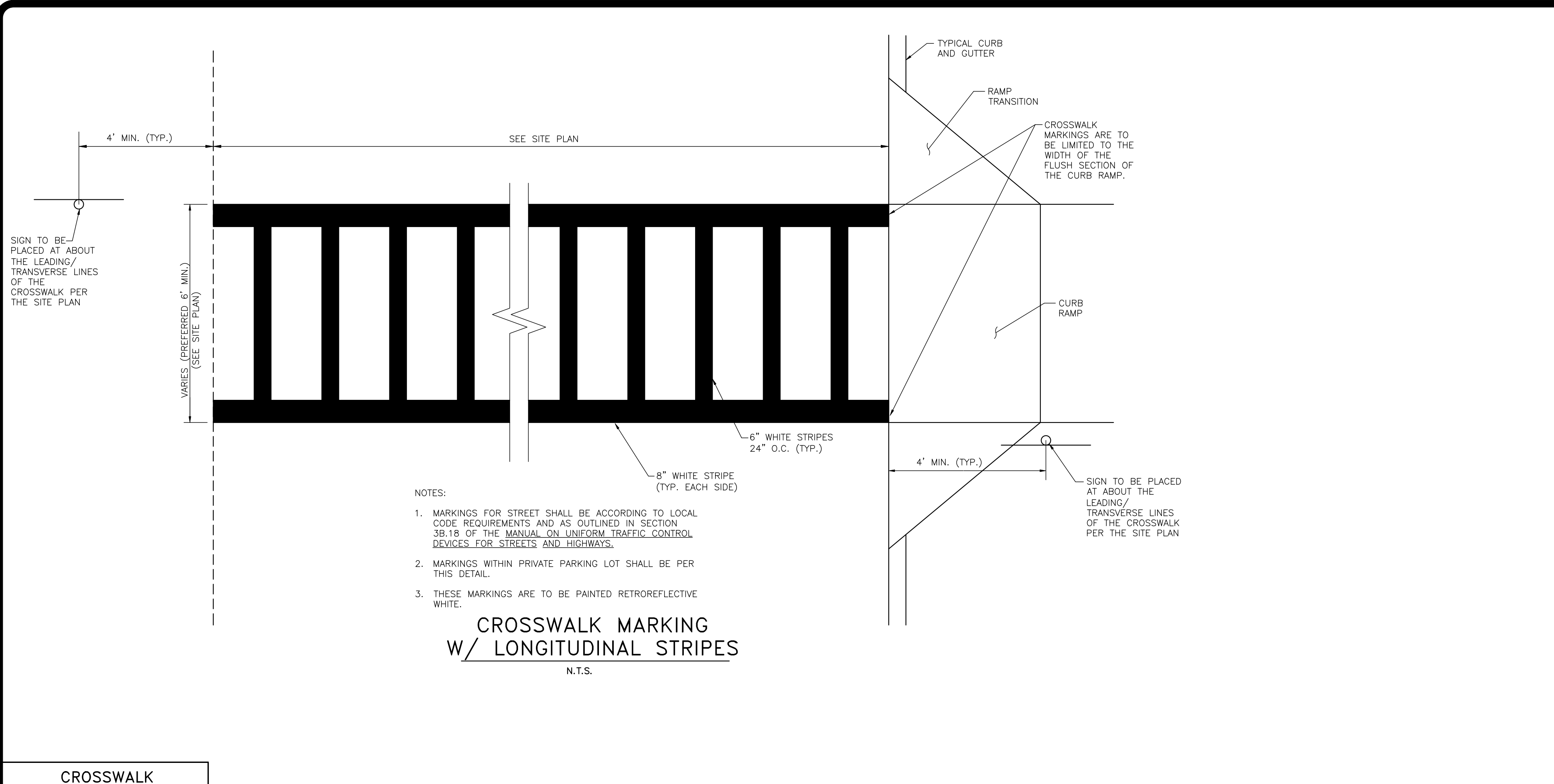
STATE OF MICHIGAN  
JOSEPH PARSLEY  
ENGINEER  
No. 6201066216  
REGISTERED PROFESSIONAL ENGINEER

SAM'S CLUB #4982-211  
MT. PLEASANT (UNION TOWNSHIP), MICHIGAN  
SAM'S REAL ESTATE BUSINESS TRUST  
2101 SE SIMPLE SAVINGS DRIVE  
BENTONVILLE, AR 72716

sam's club

DRAWN AAS  
CHECKED BKM  
DATE 09/20/2022  
SCALE AS NOTED  
JOB No. 4982-211  
SHEET 26 OF 27 SHEETS

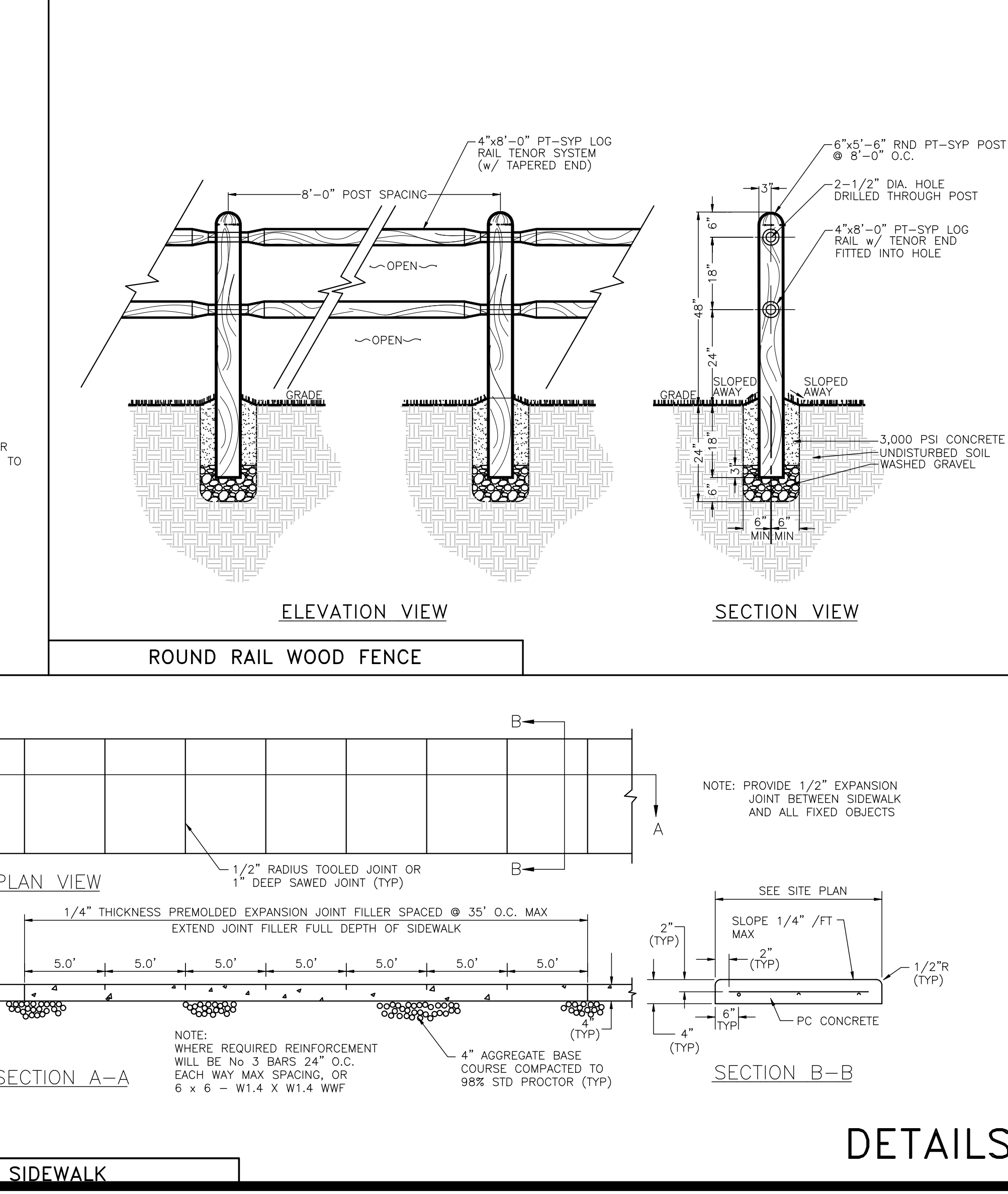
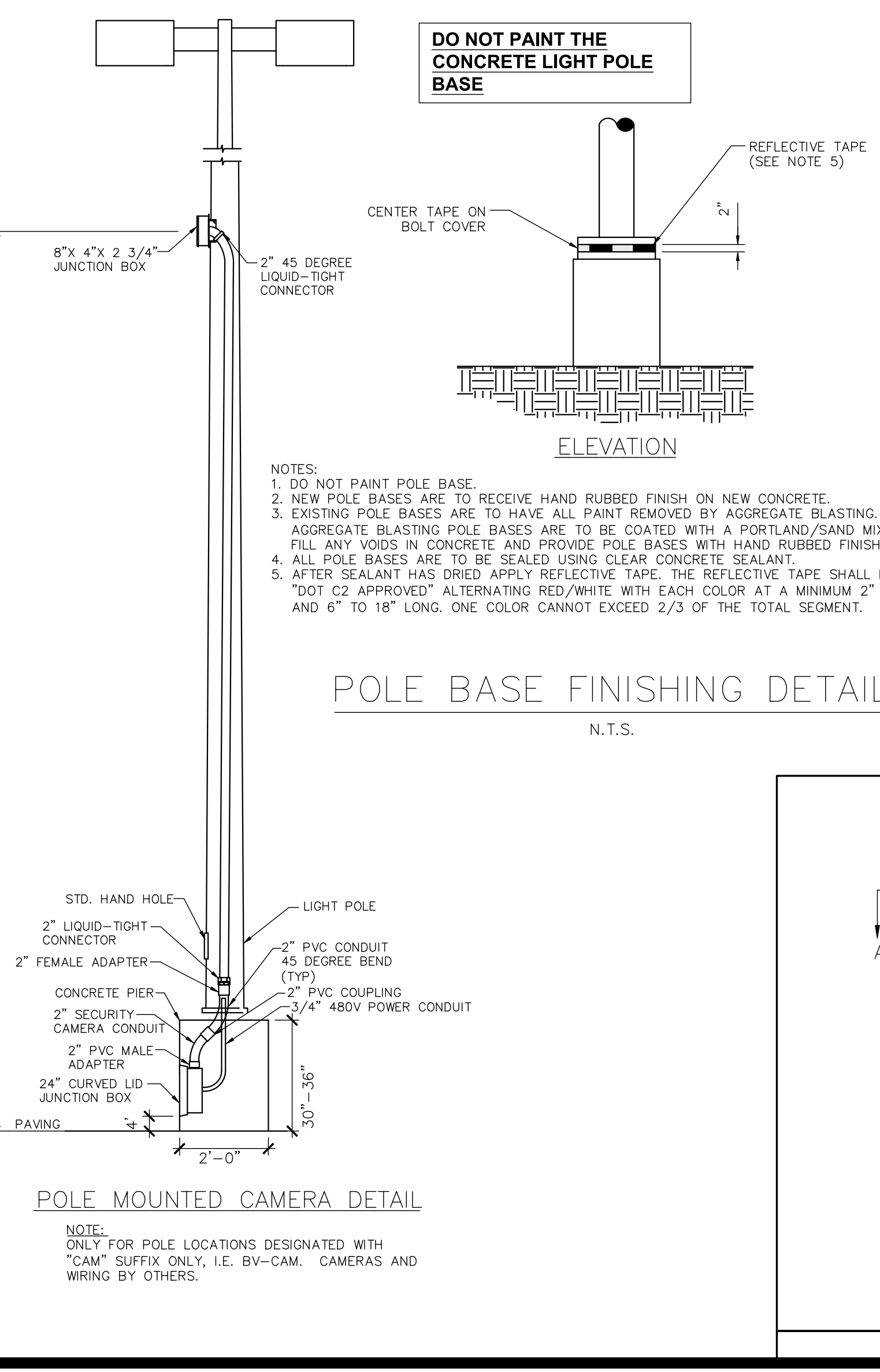
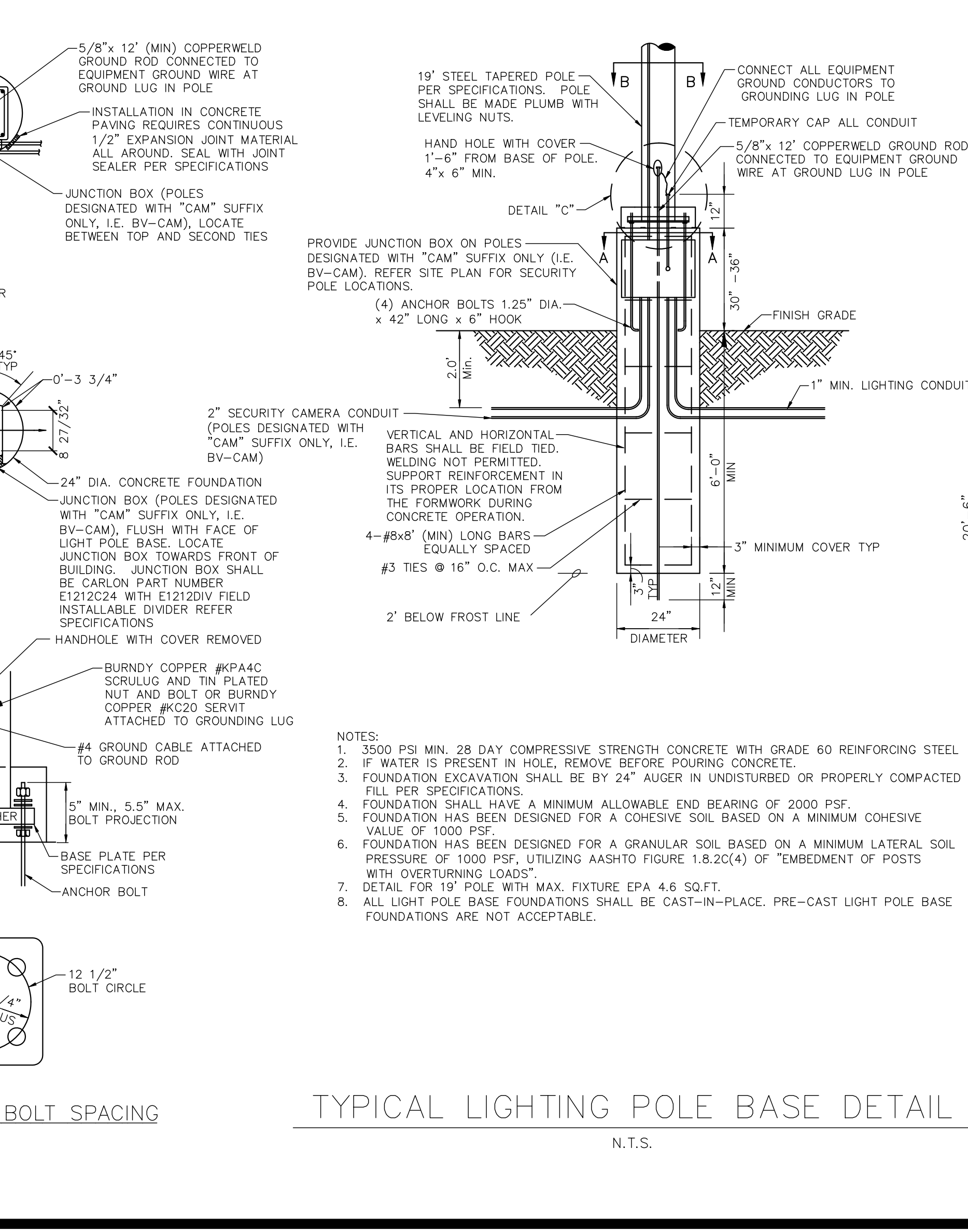
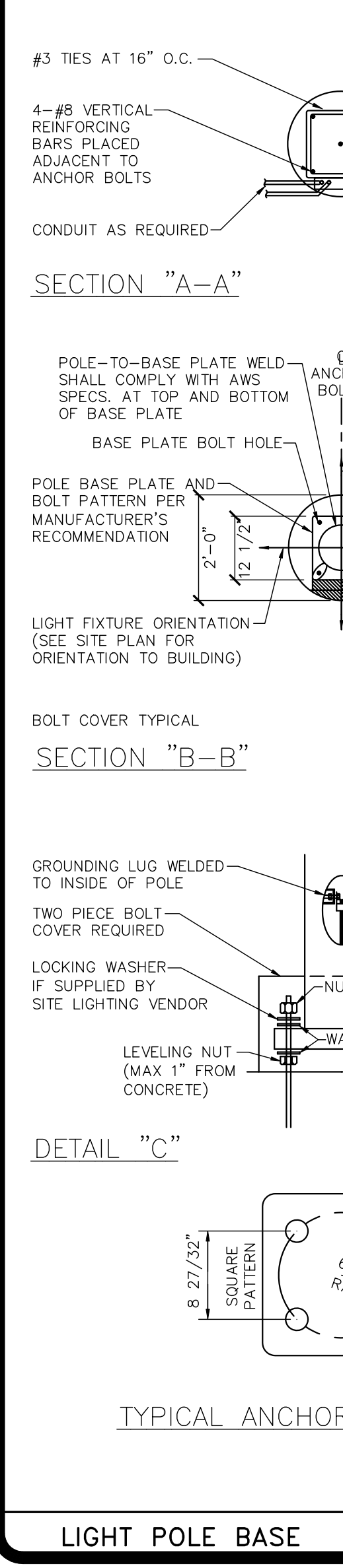




REVISIONS	BY

**CARLSON CONSULTING ENGINEERS, INC.**  
 7088 LEDSTONE COMMONS  
 PH. (801) 384-0404 • FX. (801) 384-0710

**STATE OF MICHIGAN**  
**JOSEPH PARSLEY**  
 ENGINEER  
 No. 8201066218  
 REGISTERED PROFESSIONAL ENGINEER



**sam's club**

**SAM'S CLUB #4982-211**  
 MT PLEASANT (UNION TOWNSHIP), MICHIGAN  
 SAM'S REAL ESTATE BUSINESS TRUST  
 2101 SE SIMPLE SAVINGS DRIVE  
 BENTONVILLE, AR 72716

**DRAWN AAS**  
**CHECKED BKM**  
**DATE 09/20/2022**  
**SCALE AS NOTED**  
**JOB No. 4982-211**  
**SHEET 27 OF 27 SHEETS**

## FINAL SITE PLAN REPORT

<b>TO:</b>	Planning Commission	<b>DATE:</b>	October 06, 2022
<b>FROM:</b>	Peter Gallinat, Zoning Administrator	<b>ZONING:</b>	B-5 Highway Business District
<b>PROJECT:</b>	PSPR22-17 Final Site Plan Amendment Application for Sam's Club filling station underground storage tank location, 4850 Encore Drive.		
<b>PARCEL(S):</b>	PID 14-026-30-001-07		
<b>OWNER(S):</b>	Sam's Club		
<b>LOCATION:</b>	Approximately 16.8 acres west and north of Encore Drive in the SW 1/4 of Section 26.		
<b>EXISTING USE:</b>	Sam's Club Retail/Warehouse	<b>ADJACENT ZONING:</b>	B-5
<b>FUTURE LAND USE DESIGNATION:</b>	<i>Bluegrass Center Area.</i> While currently more auto-centric, this area has the potential to transition into a more walkable, vibrant center. Future uses should be integrated to include multi-story, mixed-use buildings; first floor retail and office uses; public use and spaces; entertainment and restaurant venues; and additional attached housing types such as townhouses. Both vehicular and pedestrian cross connections should be promoted between sites, providing for future connections through easements, and should collectively promote a vibrant, livable center to the neighboring university population.		
<b>ACTION REQUESTED:</b>	To review and take action to approve, deny, or approve with conditions the PSPR22-17 final site plan amendment dated September 20, 2022 for the Sam's Club Filling Station underground fuel storage tank re-location and associated site improvements.		

### Scope of the Proposed Amendment

The re-location of underground storage tanks is a significant change from the plan that was approved. This type of amendment can sometimes alter the entire layout of a project. For this project the impact has not been severe, but still warranted bringing an amendment plan back to the Planning Commission for review and approval. The overall project remains consistent with the approved special use permit. **No changes are proposed to the approved design, layout, and details for the approved parking, sidewalks, exterior lighting, and filling station pump island.**

The scope of the proposed amendments is limited to relocation of the underground fuel tanks and refueling area, along with some associated landscaping-related adjustments.

### Final Site Plan Review Comments

The following comments are based on the standards for final site plan approval, and are limited to the specific elements that are proposed to be altered from the approved final site plan design:

- Section 14.2.P. (Required Site Plan Information).** The final site plan amendment complies with applicable Section 14.2.P. information requirements.

2. **Section 8 (Environmental Performance Standards).** On the original approved site plan, the applicant noted that the nearest drinking water well was located approximately 1,500 feet west of the original approved site of the underground fuel storage tanks for this filling station. The approved site plan includes soil erosion/sedimentation control and stormwater runoff pollution prevention plan details. As part of the original final site plan approval application, the applicant provided the hazardous substance reporting form, EGLE permit checklist, and documentation from the State of Michigan for allowing underground fuel tanks less than 2,000 feet from municipal water well.

**New State Rules for 2022:** Earlier this year, an amendment to the State of Michigan’s environmental laws governing location of underground fuel tanks was adopted by the state legislature and signed by Governor Whitmer. It went into effect in late June. The previous law set a minimum 2,000 foot setback for these tanks from municipal water wells, but also included a “variance” process whereby these tanks could be as close as 800 feet from these wells under certain circumstances and with substantial additional safeguards. The amended state law no longer allows for any consideration of exceptions to the 2,000-foot rule.

The location of the fuel tanks on the approved final site plan did not conform to this new standard, and unfortunately Sam’s Club had let their 2021 state permit expire. The new location (shown on sheet 3 of 27) has been selected to fully satisfy this amended rule. Greater detail of the new location is found on sheet 14 of 27.

3. **Section 10.2.B (General Landscaping Requirements).** Several existing evergreen trees in the area near the new underground fuel storage location are proposed to be removed. These removals, some of which were also on the approved final site plan, will be a benefit to visitors to the site by improving site visibility at the east driveway access on to Encore Blvd. The applicant has added additional plantings around the new underground storage tank area, with details on sheet 19 of 27.

In addition to the plantings, the applicant has proposed a 4-foot-high decorative (round-rail) wood fence on 3 sides of the underground storage tanks. The proposed landscaping improvements are consistent with Section 10 requirements.

4. **Outside agency approvals.** For the original approved final site plan, the applicant obtained all necessary permits or approvals from applicable outside agencies. For this amendment, the Township’s Public Services Department requested an additional review of the plan, which is currently in-process. The Township will also require that the applicant provides a copy of the new state permit for the relocated fuel tanks. These approvals are not anticipated to require alterations to the amended site design.

Although these permits or approvals are not yet complete, staff would have no objection to Planning Commission approval of the final site plan amendment subject to receiving this documentation prior to issuance of a building permit for the project.

## **Objective**

The Planning Commission shall review the application materials and final site plan amendment, together with any reports and recommendations. The Planning Commission shall identify and evaluate all relevant factors and shall then take action by motion to approve the final site plan amendment, to approve the final site plan amendment with conditions, to deny the final site plan amendment application, or to postpone further consideration of the final site plan amendment to a date certain in accordance with Section 14.2.H. of the Zoning Ordinance.

## **Key Findings**

1. The proposed amendment to relocate the filling station's underground fuel tanks and associated refueling area remains consistent with the previously approved special use permit for a filling station at this location.
2. The final site plan amendment fully conforms to Section 14.2.P. (Required Site Plan Information).
3. The new location of the storage tanks complies with the State of Michigan's minimum 2,000-foot setback requirement from municipal wells.
4. The proposed landscaping improvements around the relocated fuel storage are consistent with Section 10 standards.
5. Subject to submittal of documentation of required permits and approvals from the State of Michigan and the Township's Public Services Department, the final site plan amendment can conform to Section 14.2.S. (Standards for Site Plan Approval).

## **Recommendations**

Based on the above findings, I would ask that the Planning Commission consider taking action to approve the PSPR22-17 final site plan dated September 20, 2022 for the Sam's Club Filling Station Storage tanks, subject to a condition that the applicant shall provide copies of required permits and approvals from the State of Michigan and the Township's Public Services Department to the Zoning Administrator prior to issuance of a building permit for this project.

Please contact me at (989) 772-4600 ext. 241, or via email at [pgallinat@uniontownshipmi.com](mailto:pgallinat@uniontownshipmi.com), with any questions about this information.

Respectfully submitted,

***Peter Gallinat, Zoning Administrator***

Community and Economic Development Department

**Draft Motions: PSPR 22-17 Sam’s Club Filling Station  
Final Site Plan Amendment Application**

**MOTION TO APPROVE:**

Motion by \_\_\_\_\_, supported by \_\_\_\_\_, to approve the PSPR 22-17 final site plan amendment from Carlson Consulting Engineers for the construction of a new Sam’s Club filling station with a relocated underground fuel storage and refueling area on parcel number 14-026-30-001-07, located on approximately 16.8 acres west and north of Encore Drive in the southwest quarter of Section 26 and in the B-5 (Highway Business) zoning district, finding that the September 20, 2022 amended final site plan fully complies with the applicable Zoning Ordinance requirements for final site plan approval, including Sections 14.2.P. (Required Site Plan information) and 14.2.S. (Standards for Site Plan Approval).

**MOTION TO APPROVE WITH CONDITIONS:**

Motion by \_\_\_\_\_, supported by \_\_\_\_\_, to approve the PSPR 22-17 final site plan amendment from Carlson Consulting Engineers for the construction of a new Sam’s Club filling station with a relocated underground fuel storage and refueling area on parcel number 14-026-30-001-07, located on approximately 16.8 acres west and north of Encore Drive in the southwest quarter of Section 26 and in the B-5 (Highway Business) zoning district, finding that the September 20, 2022 amended final site plan can comply with applicable Zoning Ordinance requirements for final site plan approval, including Sections 14.2.P. (Required Site Plan information) and 14.2.S. (Standards for Site Plan Approval), subject to the following condition(s):

1. The applicant shall provide copies of required permits and approvals from the State of Michigan and the Township’s Public Services Department to the Zoning Administrator prior to issuance of a building permit for this project.
- 

**MOTION TO POSTPONE ACTION:**

Motion by \_\_\_\_\_, supported by \_\_\_\_\_, to postpone action on the PSPR 22-17 final site plan amendment from Carlson Consulting Engineers for the construction of a new Sam’s Club filling station with a relocated underground fuel storage and refueling area on parcel number 14-026-30-001-07 until \_\_\_\_\_, 2022 for the following reasons: \_\_\_\_\_

---

**MOTION TO DENY:**

Motion by \_\_\_\_\_, supported by \_\_\_\_\_, to deny the with a relocated underground fuel storage and refueling area on does not comply with applicable Zoning Ordinance requirements, including Sections 14.2.P. (Required Site Plan information) and 14.2.S. (Standards for Site Plan Approval), for the following reasons: \_\_\_\_\_

---



# ROWE PROFESSIONAL SERVICES COMPANY

Large Firm Resources. Personal Attention.<sup>sm</sup>

## LETTER OF TRANSMITTAL

TO: Charter Township of Union  
 2010 S. Lincoln Road  
 Mount Pleasant, MI 48858

DATE: 8/26/2022  
 JOB NO.: 22M0013  
 RE: MMC Athletic Complex

Attn: **Mr. Rodney Nanney**

Shipped via:  By 10am next business day  
 By end of next business day  
 Standard delivery

cc: H&B - Martin Ruitter  
 MCC - Matt Miller

If shipping via UPS please provide Recipient's Phone No.

### WE ARE SENDING YOU:

Attached  Under separate cover via \_\_\_\_\_

COPIES	DATE	NO	DESCRIPTION
1	8/26/2022		Application for Final Site Plan Review
1	8/25/2022		Final Site Plan - Plans (2 - 24x36 set, 11 - 11x17 sets)
1	8/26/2022		Isabella County Road Commission Approval

### THESE ARE TRANSMITTED:

For your use  As requested  Other \_\_\_\_\_

### REMARKS:

See attached final site plan documents for the MidMichigan College Athletic Complex for your review. Please contact us with any questions or clarifications regarding the documents. Electronic documents will be emailed in addition to the hard copies delivered. We are anticipating being on the September 20, 2022 planning commission agenda.

Signed:   
 Jeffrey B. Markstrom, P.E.

This communication contains **privileged or confidential** information intended exclusively for the use of the Person(s) or Entity named above. If the reader of this cover page is not the intended Recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please telephone (collect) the Sender immediately. Thank you very much.

## Charter Township of Union

### APPLICATION FOR SITE PLAN REVIEW

Minor Site Plan     
  Preliminary Site Plan     
  Final Site Plan

A Completed Application will contain all the information required per the Zoning Ordinance, Section 14.2 (Site Plan Review).

Name of Proposed Development/Project		Mid Michigan College - Mt. Pleasant Athletic Complex	
Common Description of Property & Address (if issued)		Mid Michigan College - Mt. Pleasant Campus 2600 S Summerton Road	
Applicant's Name(s)		Hobbs and Black Architects (c/o Martin H. Ruitter Jr.)	
Phone/Fax numbers	517-484-4870/517-484-1369	Email	mrutter@hobbs-black.com
Address	117 East Allegan	City:	Lansing
		Zip:	48933

Legal Description:	<input type="checkbox"/> Attached	<input checked="" type="checkbox"/> Included on Site Plan	Tax Parcel ID Number(s):	See Sheet C-200	
Existing Zoning:	B-4	Land Acreage:	46.99	Existing Use(s):	General Business
<b>ATTACHED: Letter describing the project and how it conforms to Section 14.2.S. (Standards for Site Plan Approval)</b>					

Firm(s) or Individuals(s) who prepared site plan(s)	1. Name: ROWE Professional Services Company Phone: 989-772-2138 Email: jmarkstrom@roweps.com 2. Address: 127 S Main Street City: Mt. Pleasant State: Zip: 48858 Contact Person: Jeff Markstrom, P.E. Phone 989-772-2138
Legal Owner(s) of Property. All persons having legal interest in the property must sign this application. Attach a separate sheet if more space is needed.	1. Name: Mid Michigan College Phone: _____ Address: 1375 S Claire Ave City: Harrison State: Zip: 48625 Signature: <i>Matthew Miller</i> Interest in Property: Owner 2. Name: Matthew Miller, VP Student Services Phone: 989-386-6600 Address: 1375 S Clare Ave City: Harrison State: Zip: 48625 Signature: <i>ML</i> Interest in Property: _____

I do hereby affirm that all the statements, signatures, descriptions, exhibits submitted on or with this application are true and accurate to the best of my knowledge and that I am authorized to file this application and act on behalf of all the owners of the property. False or inaccurate information placed upon this plan may be cause for revocation of any permits issued pursuant to site plan approval and/or removal of work installed. Approval of this plan shall not constitute the right to violate any provisions of the Zoning Ordinance or other applicable codes and ordinances.

\_\_\_\_\_ 8-26-22  
 Signature of Applicant Date

#### Office Use Only

Application Received By: \_\_\_\_\_ Fee Paid: \$ \_\_\_\_\_

Date Received: \_\_\_\_\_ Escrow Deposit Paid: \$ \_\_\_\_\_

# CHARTER TOWNSHIP OF UNION

## SITE PLAN REVIEW HAZARDOUS SUBSTANCES REPORTING FORM

This form must be completed and submitted as part of the site plan for facilities which may use, store, or generate hazardous substances or polluting materials (including petroleum-based products)

Name of business: Mid Michigan College

Name of business owner(s): Lillian Frick, VP Finance

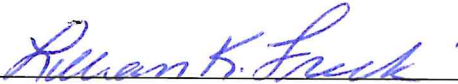
Street and mailing address: 1375 South Clare Avenue  
Harrison, MI 48625

Telephone: \_\_\_\_\_

Fax: Ph: 989-386-6605 Fax: 989-386-9088

Email: lfrick@midmich.edu

**I affirm that the information submitted is accurate.**

Owner(s) signature and date:   
8/26/2022

Information compiled by: \_\_\_\_\_  
ROWE Professional Services Company  
127 S. Main Street, Mt. Pleasant, MI 48858



# Revised Final Site Plan Review Application



# NEW SPORTS COMPLEX

2600 South Summerton Road  
Mt. Pleasant, Michigan

## ARCHITECTURAL:

**HOBBS + BLACK ARCHITECTS**  
117 E. ALLEGAN  
LANSING, MI 48933  
PH: (517) 484-4870

## MECHANICAL & ELECTRICAL ENGINEER:

**PETER BASSO AND ASSOCIATES**  
5145 Livernois, Suite 100  
Troy, MI 48098  
PH: (248) 879-5666

## CIVIL:

**ROWE ENGINEERING & SURVEYING**  
127 S MAIN STREET  
MT PLEASANT, MI 48858

## STRUCTURAL:

**JDH STRUCTURAL ENGINEERS**  
3000 IVANREST SW, SUITE B  
GRANDVILLE, MI 49418  
PH: (616) 531-6020

## DRAWING INDEX

### GENERAL:

A-000 TITLE SHEET DRAWING INDEX

### CIVIL

C-100 SITE NOTES  
C-101 PARKING LOT STATEMENT  
C-102 SITE LEGEND  
C-103 SITE DETAILS  
C-104 SITE DETAILS  
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C-107 SITE DETAILS

C-200 EXISTING CONDITIONS  
C-201 DEMOLITION PLAN NORTHEAST  
C-202 DEMOLITION PLAN SOUTHEAST  
C-203 DEMOLITION PLAN NORTHWEST

C-300 OVERALL SITE PLAN  
C-301 SITE PLAN NORTHEAST  
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C-500 UTILITY PLAN  
C-501 SANITARY SEWER PLAN & PROFILE  
C-502 WATER PLAN & PROFILE

C-600 LANDSCAPE PLAN  
C-601 LANDSCAPE DETAILS

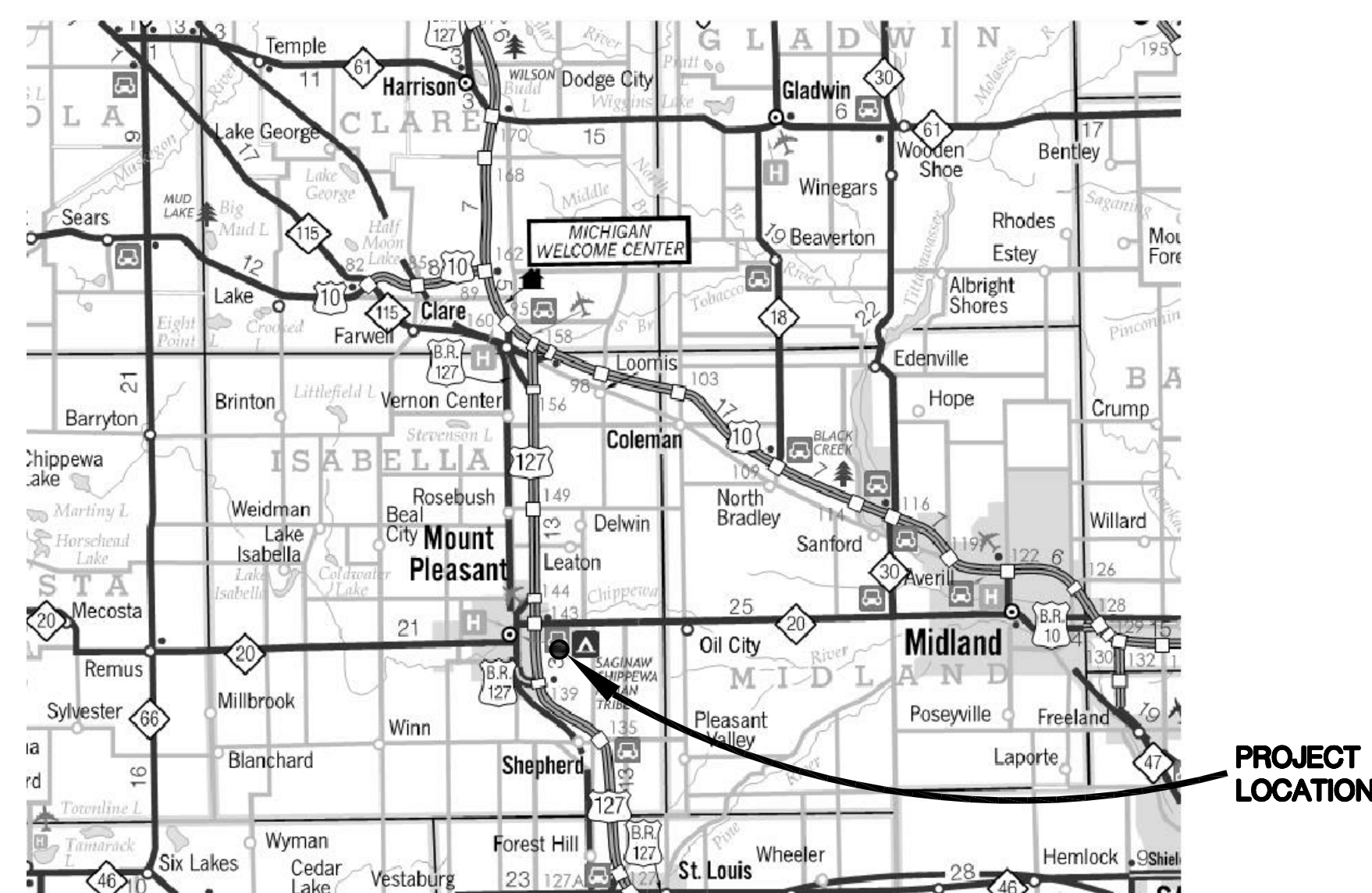
### ARCHITECTURAL:

A-100 TRAINING BUILDING FLOOR PLAN  
A-101 MAINTENANCE BUILDING FLOOR PLAN  
A-102 BASEBALL HOME DUGOUT PLANS  
A-103 SOFTBALL HOME DUGOUT PLANS  
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A-302 EXTERIOR ELEVATIONS BASEBALL DUGOUTS  
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A-304 EXTERIOR ELEVATIONS ANNOUNCER BOOTH

### ELECTRICAL:

L201 LIGHTING CALCULATIONS TRAINING CENTER  
L202 LIGHTING CALCULATIONS DUGOUTS AND PRESS BOXES  
L203 LIGHTING CALCULATIONS MAINTENANCE BUILDING  
L204 LIGHTING CALCULATIONS DETAILS AND CUTSHEETS



## BUILDING HEIGHTS AND AREAS

**TRAINING BUILDING**  
FIRST FLOOR 10,647 sf  
MEZZANINE 831 sf  
BUILDING HEIGHT 25'-5"

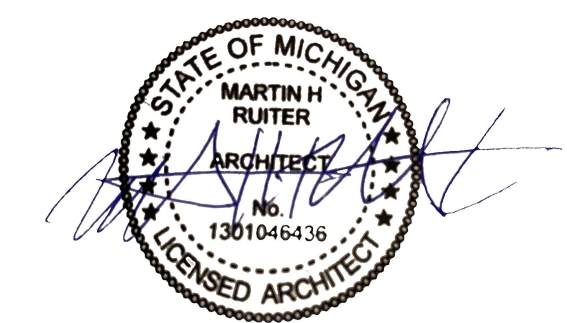
**MAINTENANCE BUILDING**  
FIRST FLOOR 10,647 sf  
MEZZANINE 564 sf  
BUILDING HEIGHT 25'-5"

**DUGOUTS BASEBALL**  
HOME 612 sf  
VISITORS 504 sf  
BUILDING HEIGHTS 11'-0"

**DUGOUTS SOFTBALL**  
HOME 468 sf  
VISITORS 355 sf  
BUILDING HEIGHT 11'-0"

**ANNOUNCERS BOOTH BASEBALL**  
FIRST FLOOR 112 sf  
SECOND FLOOR 112 sf  
BUILDING HEIGHT 19'-6"

**ANNOUNCERS BOOTH SOFTBALL**  
FIRST FLOOR 112 sf  
SECOND FLOOR 112 sf  
BUILDING HEIGHT 19'-6"



Drawing: P:\2022\2703\03\03\CD\Acad\DWG\SITE PLAN REVIEW - RE-DESIGN\NHT\A000 - site plan review.dwg  
Date: Sep 21, 2022, 12:44pm  
Layout: A-000  
Plotted by: architect





**Parking Lot Usage Statement**

For over a month, during both peak and slow times, Mid Michigan College has been conducting a detailed survey of parking lot usage. This survey, conducted primarily in the early afternoon, was meant to determine existing and future parking lot capacity.

- The addition of a baseball and softball field complex would create increased demand for parking.
- In most instances, the demand will be heaviest in the early afternoon. Collegiate baseball and softball games generally begin between 1pm and 2pm, which is when player and spectator parking would be heaviest.
  - Use of the ball field complex for rentals, tournaments, or camps will most often occur on evenings and weekends – and typically in the summer – when parking lot usage is minimal.

The details of the parking lot survey can be found on the following pages. The survey started on April 11, 2022 (week 14 of the semester) and concluded on May 17, 2022 (two weeks after classes ended). Weeks 15, 16, and 17 of the semester have a high volume of students as they make sure to attend classes as finals approach. As you can see, Week 15 saw the highest number of cars in the parking lot.

The parking lot survey includes all cars – including Mid employees. During the semester, from Monday through Thursday, there are about 85-95 employees on campus at the high point of activity in the afternoon. On low-volume days, which includes Fridays and all of summer, there about 50-60 employees on campus.

During the course of the survey, the highest level of parking lot usage was at 36% of available spots used. The average was at only 18% of the available spots used.

The site plan for the ball field complex calls for eliminating 123 spaces. Even with those spots gone, the highest level of parking lot usage would have been at 43% of available spots used. The average would have been at only 22% of the available spots used. At the highest (and rarest) level of usage, there would still be 372 parking spots available.

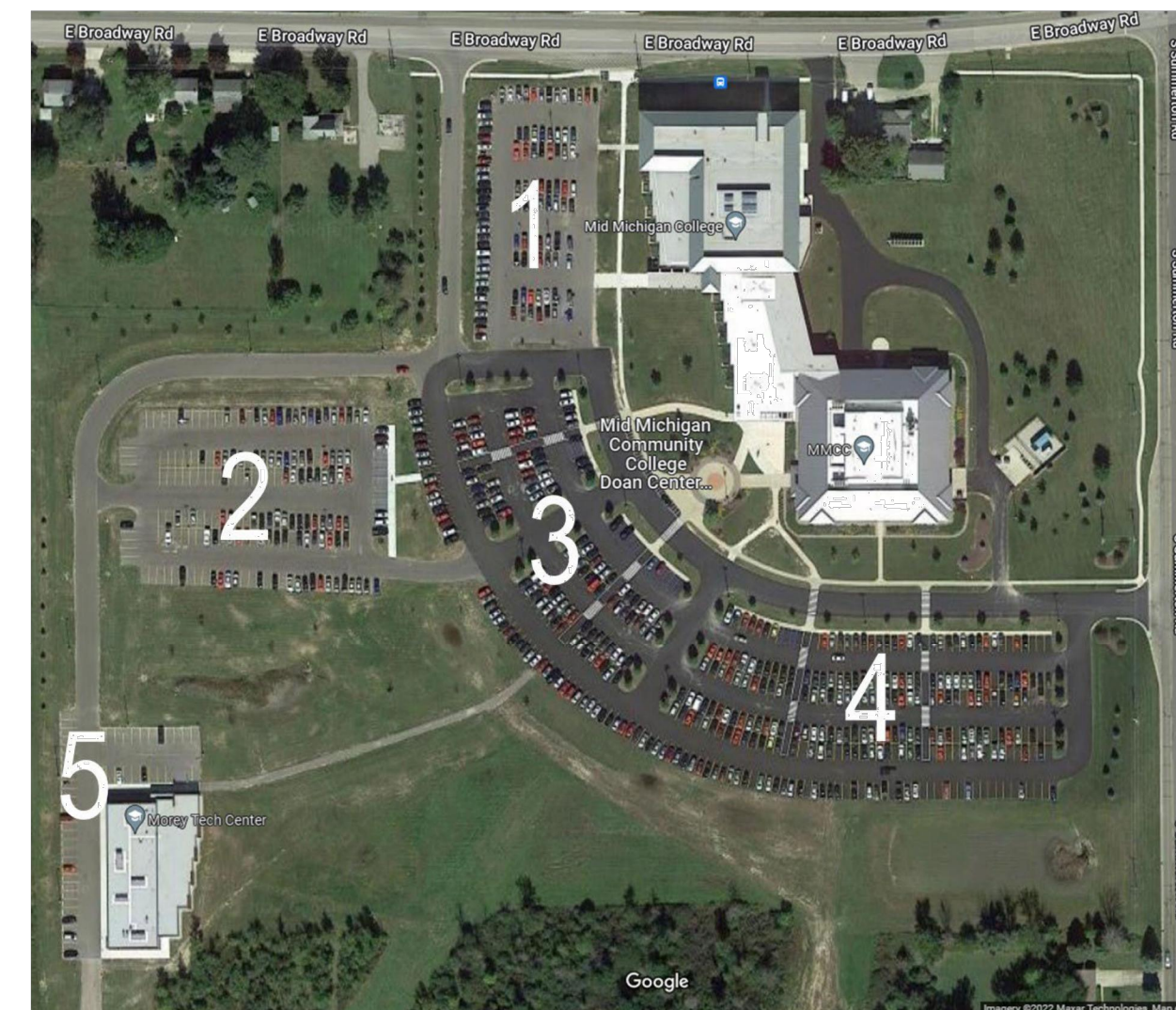
Mid currently uses the baseball and softball fields at Shepherd High School. Those fields are served by a parking lot with 105 spaces and there have been no issues with parking.

**Based on the survey of current usage, the College's historic usage at Shepherd, and the anticipated timeframes for most field use (evening and summer), the College believes that its current parking – even with the loss of 123 spaces – will be more than adequate to meet the needs of the new facility.**

Please let me know if you have any questions. You can reach me at mmiller@midmich.edu or at 386-6600.

Matt Miller  
 VP Student Services

**Current Parking Lots**



Note: This image was taken on September 22, 2015. There were many more cars in the parking lot because overall enrollment was higher at that time and fewer students were taking classes online. There were 19,611 credits being taken on the Mt. Pleasant Campus in Fall 2015. There were only 7,593 credits taken on the Mt. Pleasant Campus in Fall 2021 – a 61% decline. The parking lot survey on the following page is an accurate reflection of current use.

**Total Available Spaces**

	Current	Proposed
Lot 1	104	104
Lot 2	182	182
Lot 3	163	163
Lot 4*	272	149
Lot 5	50	50
<b>Total</b>	<b>771</b>	<b>648</b>

\*123 spaces lost

**Parking Lot Survey**

Date	Time	Lot 1		Lot 2		Lot 3		Lot 4		Lot 5		Total - Current		Total - Proposed			
		Cars	% used	Cars	% used	Cars	% used	Cars	% used	Cars	% used	Cars	% used	Cars	% used		
Monday, April 11, 2022	3:30pm	46	44%	0	0%	55	34%	45	17%	9	18%	155	20%	155	24%	Week 14	
Wednesday, April 13, 2022	4:15pm	46	44%	0	0%	24	15%	18	7%	7	14%	95	12%	95	15%		
Thursday, April 14, 2022	1:20pm	70	67%	0	0%	61	37%	51	19%	10	20%	192	25%	192	30%	Week 15	
Friday, April 15, 2022	12:15pm	37	36%	1	1%	27	17%	33	12%	3	6%	101	13%	101	16%		
Monday, April 18, 2022	10:00am	60	58%	0	0%	46	28%	45	17%	13	26%	164	21%	164	25%	Week 16	
Monday, April 18, 2022	1:40pm	73	70%	0	0%	68	42%	49	18%	16	32%	206	27%	206	32%		
Monday, April 18, 2022	5:20pm	30	29%	0	0%	28	17%	16	6%	9	18%	83	11%	83	13%	Week 17	
Tuesday, April 19, 2022	1:25pm	46	44%	0	0%	72	44%	68	25%	13	26%	199	26%	199	31%		
Wednesday, April 20, 2022	1:10pm	94	90%	0	0%	109	67%	61	22%	12	24%	276	36%	276	43%	Week 16	
Thursday, April 21, 2022	1:30pm	61	59%	0	0%	60	37%	71	26%	13	26%	205	27%	205	32%		
Friday, April 22, 2022	2:30pm	34	33%	0	0%	21	13%	14	5%	7	14%	76	10%	76	12%	Week 17	
Monday, April 25, 2022	1:45pm	66	63%	0	0%	71	44%	58	21%	12	24%	207	27%	207	32%		
Tuesday, April 26, 2022	2:10pm	71	68%	0	0%	66	40%	66	24%	12	24%	215	28%	215	33%	Week 16	
Wednesday, April 27, 2022	1:25pm	49	47%	0	0%	60	37%	63	23%	14	28%	186	24%	186	29%		
Thursday, April 28, 2022	1:40pm	58	56%	0	0%	72	44%	59	22%	10	20%	199	26%	199	31%	Week 17	
Thursday, April 28, 2022	6:00pm	15	14%	0	0%	15	9%	29	11%	8	16%	67	9%	67	10%		
Monday, May 2, 2022	2:05pm	76	73%	0	0%	56	34%	43	16%	14	28%	189	25%	189	29%	Week 17	
Tuesday, May 3, 2022	2:10pm	62	60%	0	0%	60	37%	48	18%	17	34%	187	24%	187	29%		
Wednesday, May 4, 2022	1:15pm	94	90%	0	0%	67	41%	45	17%	6	12%	212	27%	212	33%	Week 17	
Thursday, May 5, 2022	1:55pm	51	49%	0	0%	38	23%	33	12%	11	22%	133	17%	133	21%		
Friday, May 6, 2022	1:50pm	25	24%	0	0%	17	10%	18	7%	10	20%	70	9%	70	11%	No classes	
Monday, May 9, 2022	1:25pm	22	21%	0	0%	14	9%	11	4%	13	26%	60	8%	60	9%		
Tuesday, May 10, 2022	1:10pm	24	23%	0	0%	11	7%	14	5%	13	26%	62	8%	62	10%	No classes	
Wednesday, May 11, 2022	1:20pm	22	21%	0	0%	22	13%	18	7%	16	32%	78	10%	78	12%		
Thursday, May 12, 2022	1:45pm	22	21%	0	0%	22	13%	31	11%	13	26%	88	11%	88	14%	No classes	
Monday, May 16, 2022	1:35pm	20	19%	0	0%	17	10%	16	6%	13	26%	66	10%	66	10%		
Tuesday, May 17, 2022	2:10pm	18	17%	0	0%	15	9%	11	4%	10	20%	54	7%	54	8%	Average	
												142	18%	142	22%	Average	

REV. FINAL SITE PLAN REVIEW	9/21/2022
FINAL SITE PLAN REVIEW	8/26/2022
ADDENDUM 1	8/12/2022
ISSUED FOR BIDS	8/1/2022
PRELIM. SITE PLAN REVIEW	5/31/2022

DATE ISSUED  
 M.M.  
 DRAWN BY  
 J.B.M.  
 CHECKED BY

**HOBBS + BLACK ARCHITECTS**  
 117 E. Allegan Street  
 Lansing, MI 48933  
 P: 517 484 4870  
 www.hobbs-black.com

**MID MICHIGAN COLLEGE**  
 NEW SPORTS COMPLEX  
 PROJECT

**ROWE PROFESSIONAL SERVICES COMPANY**  
 CONSULTANT

**PARKING LOT STATEMENT**

SHEET TITLE	22-703
PROJECT NUMBER	C-101
SHEET NUMBER	49



Drawing: R:\Projects\22MOO1\3\Draw\Construction Drawings\SH-22MOO1\3\INT.dwg  
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DATE ISSUED	
DRAWN BY	J.M.
CHECKED BY	J.M.

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**MID MICHIGAN COLLEGE**  
 NEW SPORTS COMPLEX

**ROWE PROFESSIONAL SERVICES COMPANY**  
 CONSULTANT

SITE LEGEND

SHEET TITLE	22-703
PROJECT NUMBER	C-102
SHEET NUMBER	6



**PAVEMENT IDENTIFICATION**

	EXISTING CURB AND GUTTER
	PROPOSED CURB AND GUTTER
	REMOVE PAVEMENT
	REMOVE SIDEWALK
	PROPOSED CONCRETE SIDEWALK
	PROPOSED CONCRETE PAVEMENT
	PROPOSED AGGREGATE SIDEWALK
	PROPOSED AGGREGATE DRIVEWAY
	PROPOSED HMA SURFACE
	REMOVE STORM SEWER
	REMOVE CURB AND GUTTER

**PROPOSED CALLOUTS**

PLAN VIEW

(ADJ)	ADJUST STRUCTURE
(ADJ-X)	ADJUST STRUCTURE W/ NEW COVER
(ADJ-B/O)	ADJUST STRUCTURE BY OTHERS
(REC)	RECONSTRUCT STRUCTURE
(REL)	RELOCATE
(REL-B/O)	RELOCATE BY OTHERS
(R)	REMOVE
(R&R)	REMOVE AND REPLACE
(SALV)	SALVAGE
(S)	SAVE
(A)	ABANDON
(C)	CLEARING
(B)	BULKHEAD
(SR-F)	SIDEWALK RAMP TYPE
(6)	SOIL EROSION CONTROL MEASURE

**PLAN VIEW LINE TYPES**

	12" STM	EXISTING STORM SEWER
	12" CONC	EXISTING CULVERT
		PROPOSED STORM SEWER LESS THAN 24"
		PROPOSED STORM SEWER 24" AND GREATER
	12" SAN	EXISTING SANITARY SEWER
		PROPOSED SANITARY SEWER
	12" WM	EXISTING WATER MAIN
		PROPOSED WATER MAIN
		SECTION LINE
	60' ROW	EXISTING RIGHT OF WAY
	60' ROW	PROPOSED RIGHT OF WAY
		PROPOSED EASEMENT
		EXISTING CENTER LINE DITCH
		PROPOSED DITCH CENTERLINE
		EXISTING CENTER LINE ROADWAY
		PARCEL LINE / LOT LINE
	0/H	EXISTING OVERHEAD UTILITIES
	U/G ELEC	UNDERGROUND ELECTRICAL LINE
	6" S-MP GAS	GAS LINE OR PETROLEUM PIPELINE
	U/G TEL	UNDERGROUND TELEPHONE LINE
	U/G CATV	UNDERGROUND CABLE TV LINE
	U/G FIBER OPTIC	UNDERGROUND FIBER OPTIC
	11+00	PROJECT CONTROL LINE
		TREE LINE
		BRUSH LINE
		EXISTING FENCE
		PROPOSED FENCE
		EXISTING GUARD RAIL
		PROPOSED SLOPE STAKE LINE
		PROPOSED SILT FENCE

**TOPOGRAPHY**

	960	EXISTING CONTOURS MAJOR
	958	EXISTING CONTOURS MINOR
	960	PROPOSED CONTOURS MAJOR
	958	PROPOSED CONTOURS MINOR

**PARCEL INFORMATION**

401-069	PARCEL/TAX IDENTIFICATION NUMBER
#5324	ADDRESS/BUSINESS NAME

**UTILITY SYMBOLS**

	UTILITY POLE
	GUY ANCHOR CABLE
	LIGHT POLE / ORNAMENTAL LIGHT
	POWER LIGHT POLE
	TELEPHONE MANHOLE
	UNDERGROUND GAS LINE MARKER
	GAS RISER
	GAS VENT
	GAS VALVE
	RAILROAD SIGNAL
	METAL LIGHT POLE
	OUTLET
	CIRCUIT BREAKER PANEL
	ELECTRICAL TRANSFORMER PAD
	ELECTRICAL TRANSFORMER RISER
	ELECTRIC METER
	TELEPHONE PEDESTAL / RISER
	TRAFFIC SIGNAL ON POLE
	PHONE BOOTH / PAY PHONE

**SURVEY SYMBOLS**

	MONUMENT
	BENCHMARK
	TRAVERSE POINT
	SECTION CORNER
	FOUND SURVEY MONUMENTATION

**MISCELLANEOUS SYMBOLS**

	EX 1812	EXISTING STORM SEWER STRUCTURE NUMBER
	EX 5216	EXISTING SANITARY SEWER STRUCTURE NUMBER
	1	PROPOSED STORM SEWER STRUCTURE NUMBER
	A	PROPOSED SANITARY SEWER STRUCTURE NUMBER
		FLOW DIRECTION
		EXISTING RIP-RAP
		PROPOSED RIP-RAP

**CAUTION SYMBOLS**

	USED WITH UNDERGROUND GAS & ELECTRICAL LINES
	USED WITH FIBER OPTIC LINES

**STRUCTURE SYMBOLS**

	EXISTING CATCH BASIN IN CURB LINE
	PROPOSED CATCH BASIN IN CURB LINE
	EXISTING CATCH BASIN IN GREEN SPACE
	PROPOSED CATCH BASIN IN GREEN SPACE
	EXISTING STORM MANHOLE
	PROPOSED STORM MANHOLE
	PROPOSED CULVERT END SECTION
	EXISTING HEADWALL
	PROPOSED HEADWALL
	EXISTING GATE VALVE AND BOX
	EXISTING WATER SHUT OFF (CURB BOX)
	PROPOSED GATE VALVE AND BOX
	EXISTING GATE VALVE AND WELL
	PROPOSED GATE VALVE AND WELL
	EXISTING SPRINKLER HEAD
	EXISTING WATER WELL
	EXISTING FIRE HYDRANT
	PROPOSED FIRE HYDRANT
	PROPOSED WATER MAIN FITTINGS
	EXISTING CLEAN OUT
	EXISTING SANITARY SEWER MANHOLE
	PROPOSED SANITARY SEWER MANHOLE
	EXISTING MONITORING WELL

**EXISTING TOPOGRAPHICAL SYMBOLS**

	SIGN
	STREET SIGN
	END OF PIPE
	SWAMP OR WETLAND
	DECIDUOUS TREE
	CONIFEROUS TREE
	TREE STUMP
	MAIL BOX
	SOIL BORING
	ROCK
	METAL POST
	BUMPER BLOCK

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 NEW SPORTS COMPLEX PROJECT

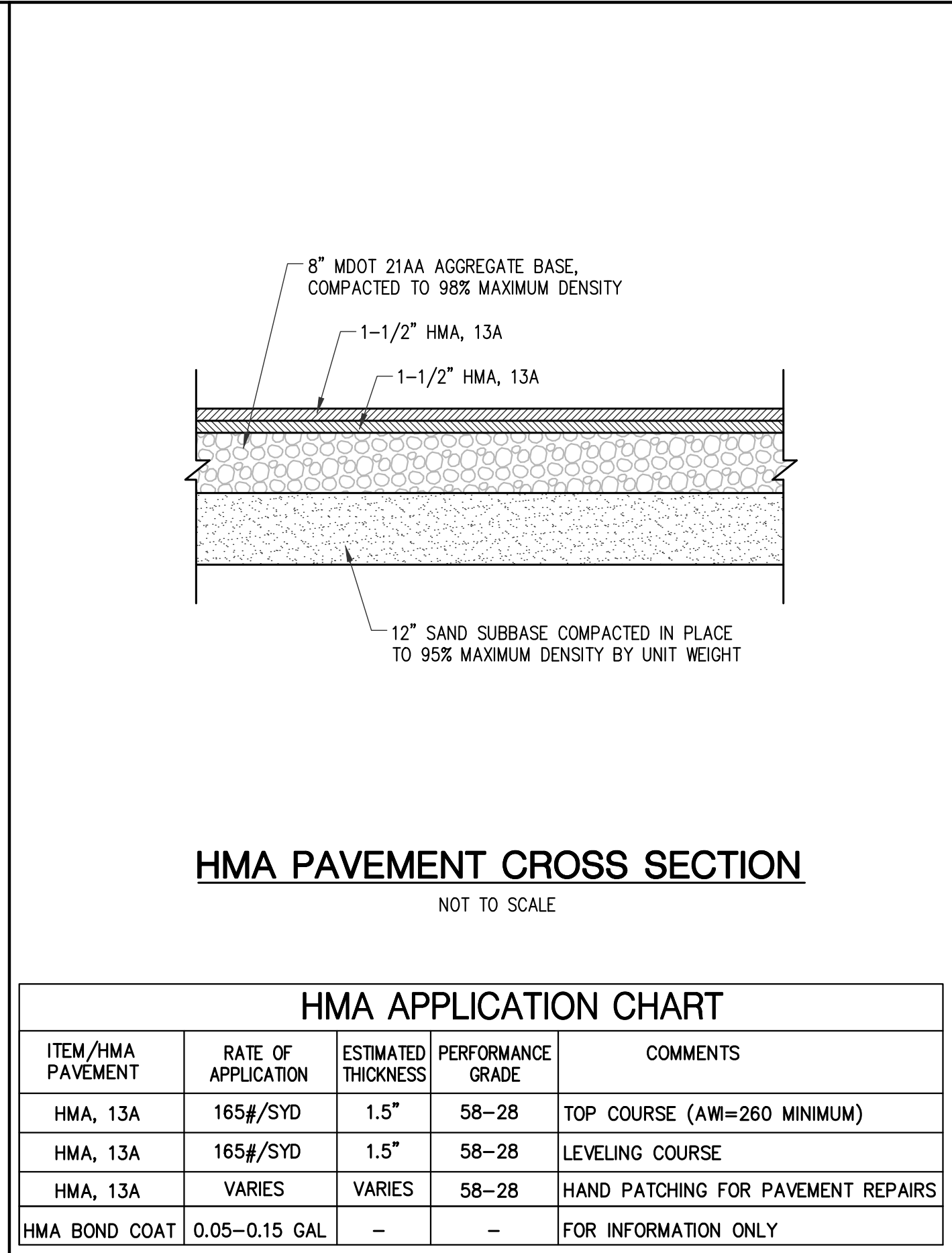
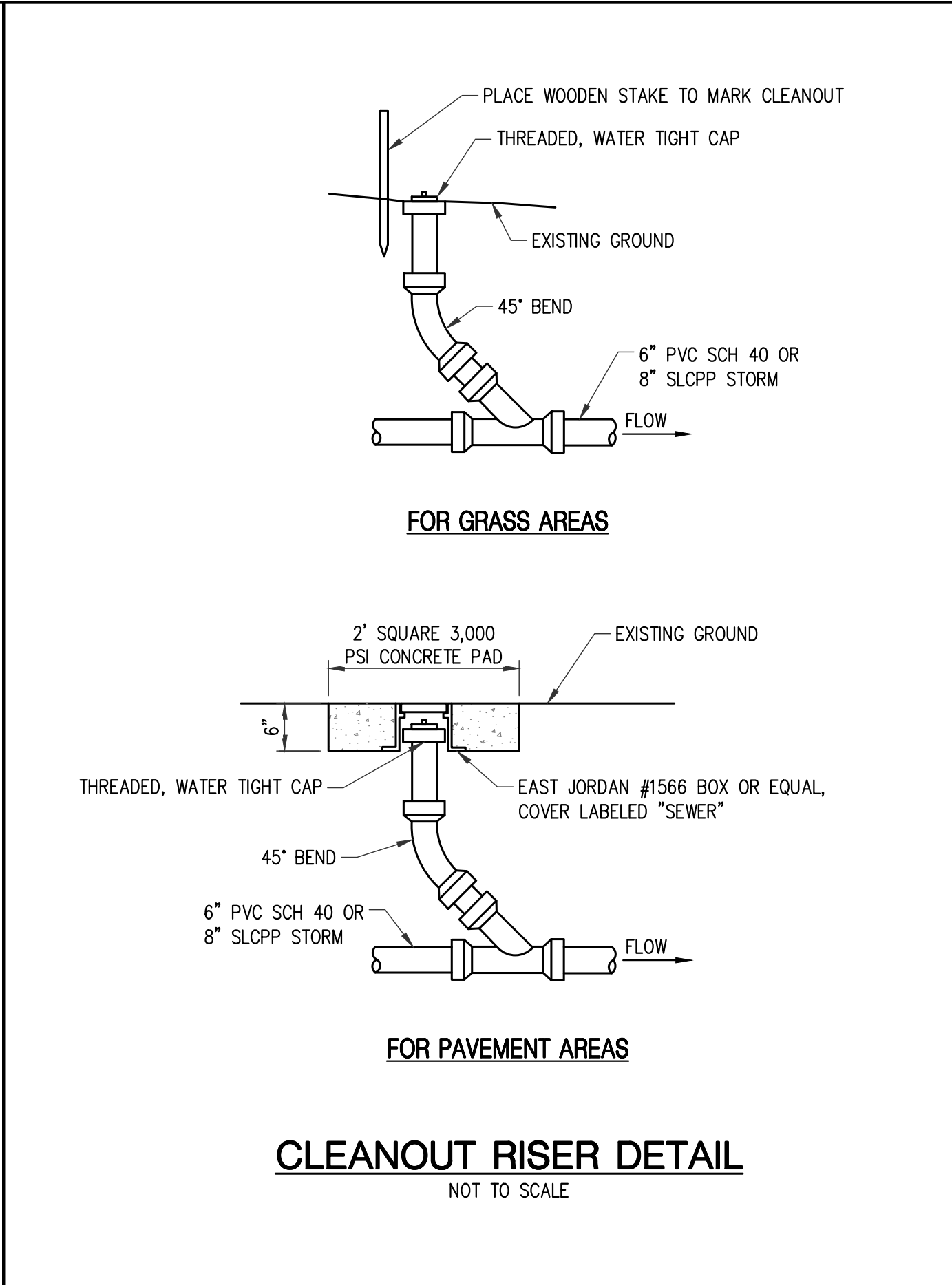
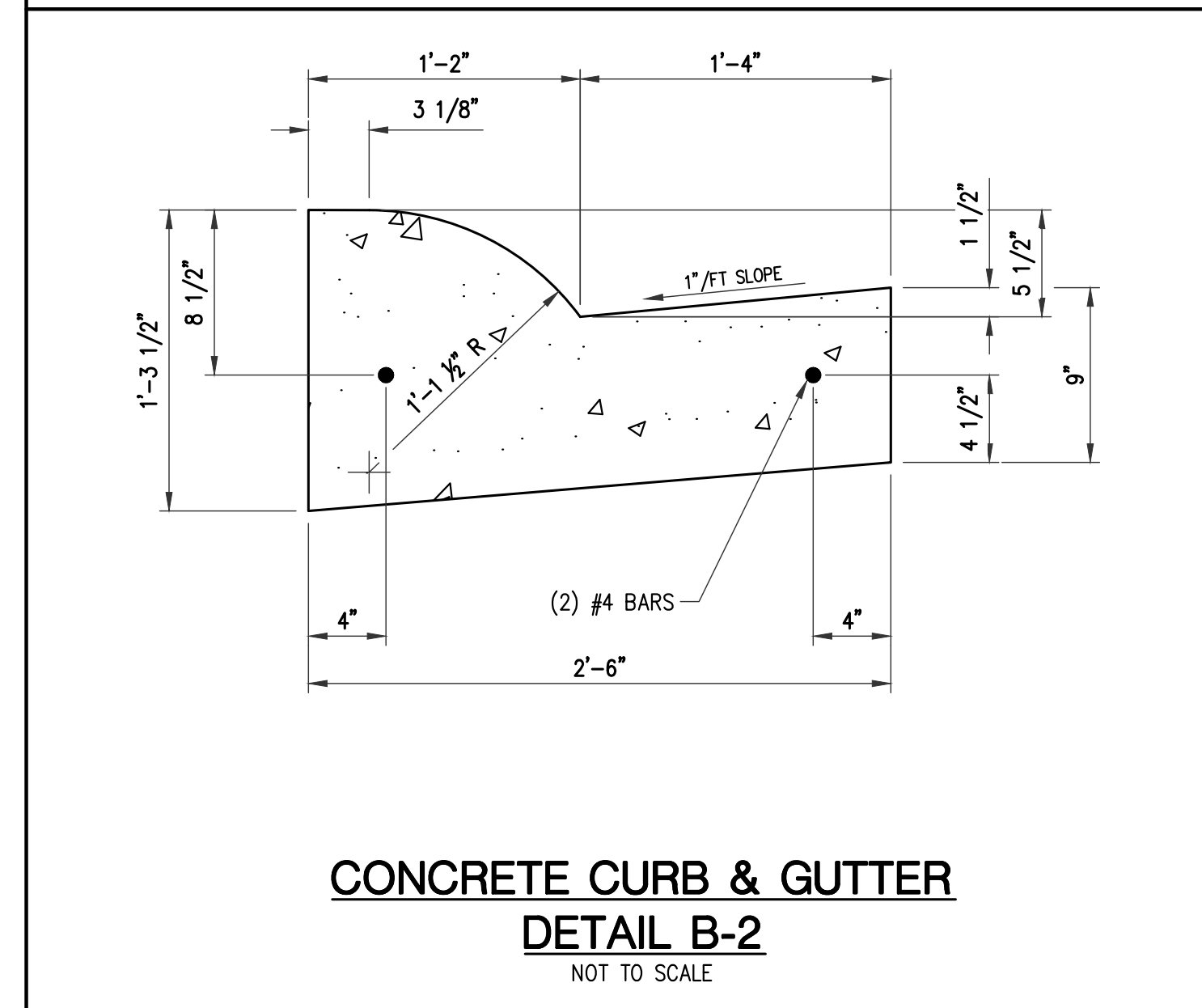
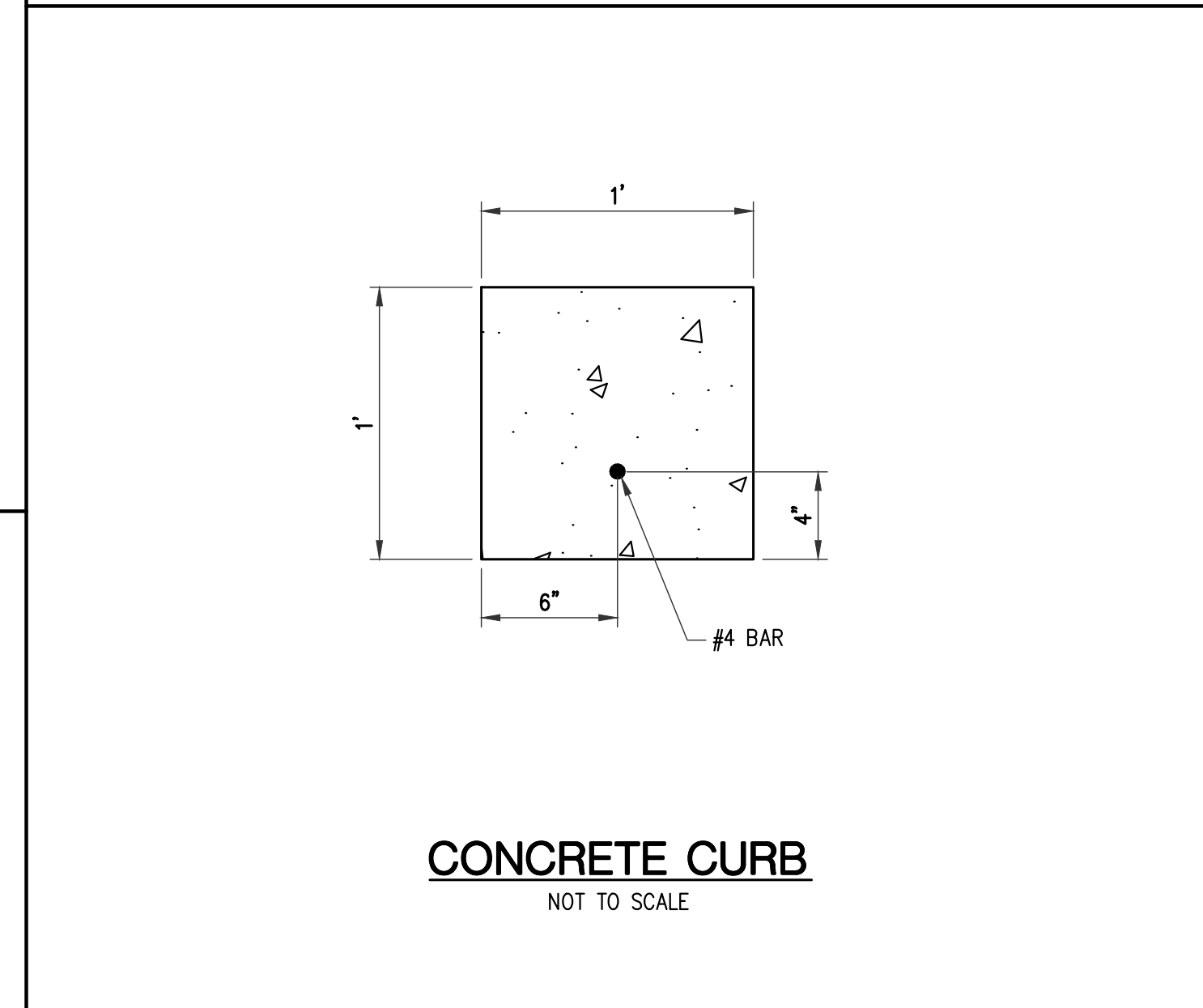
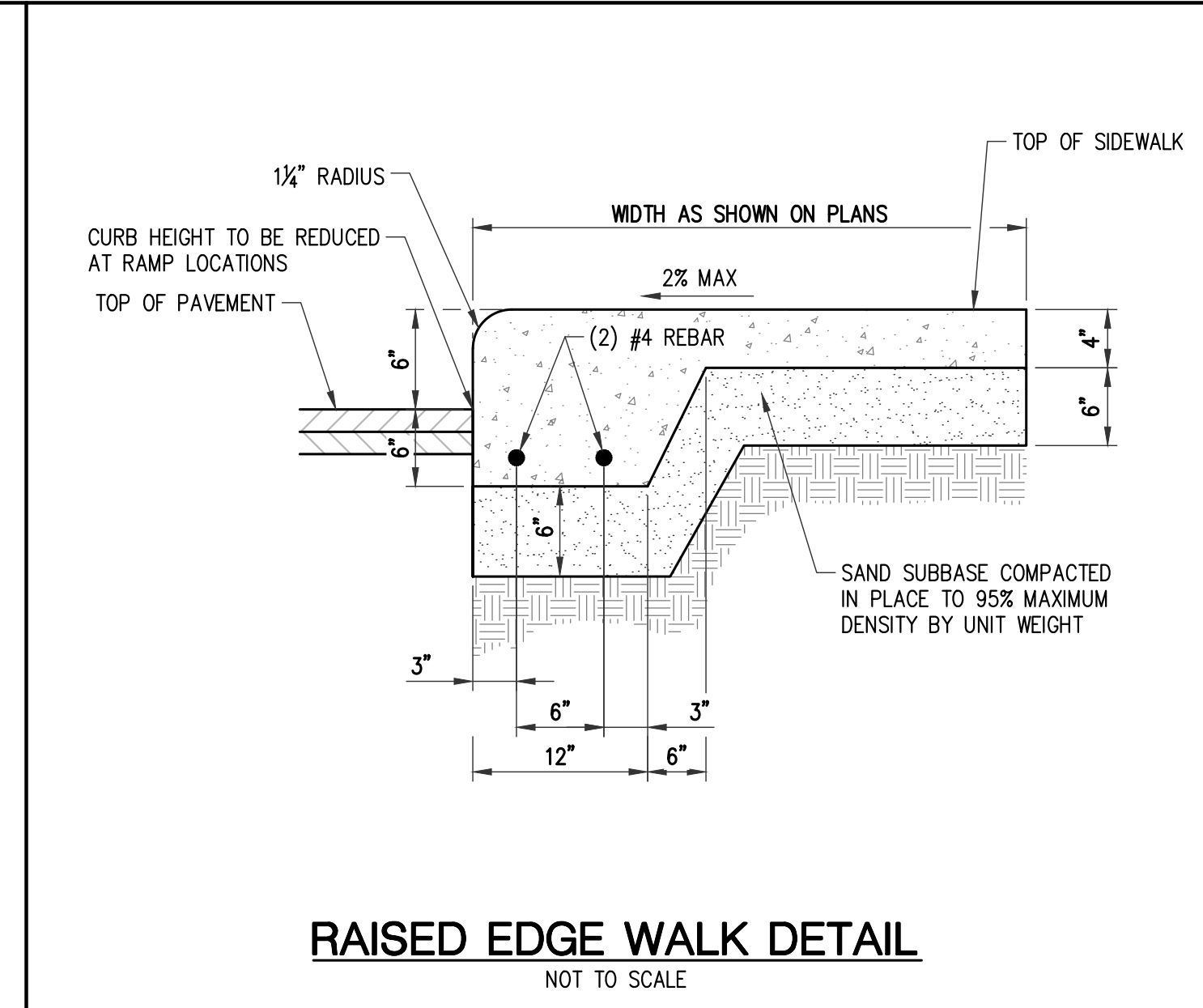
**ROWE PROFESSIONAL SERVICES COMPANY**  
 CONSULTANT

SITE DETAILS

SHEET TITLE

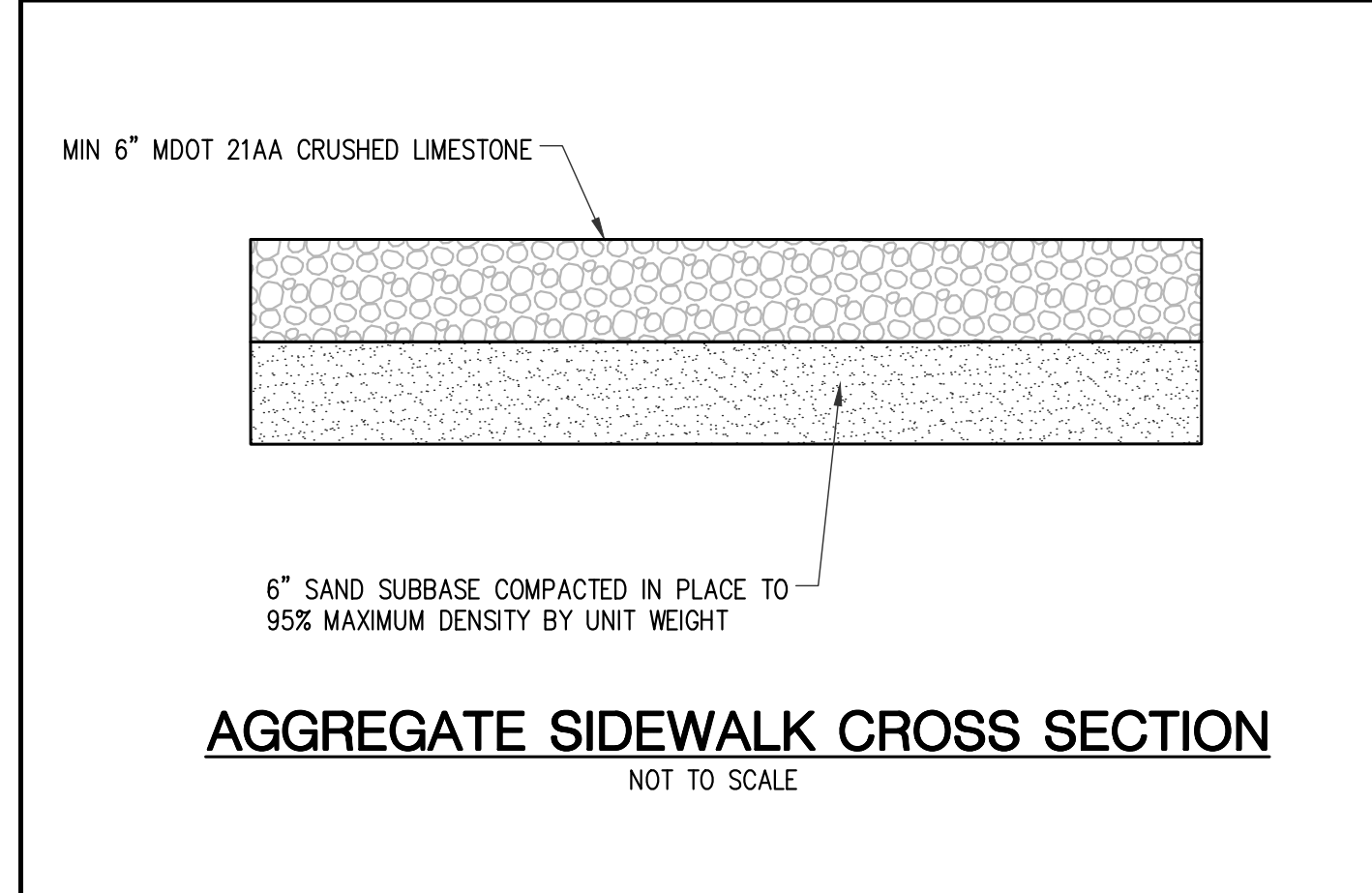
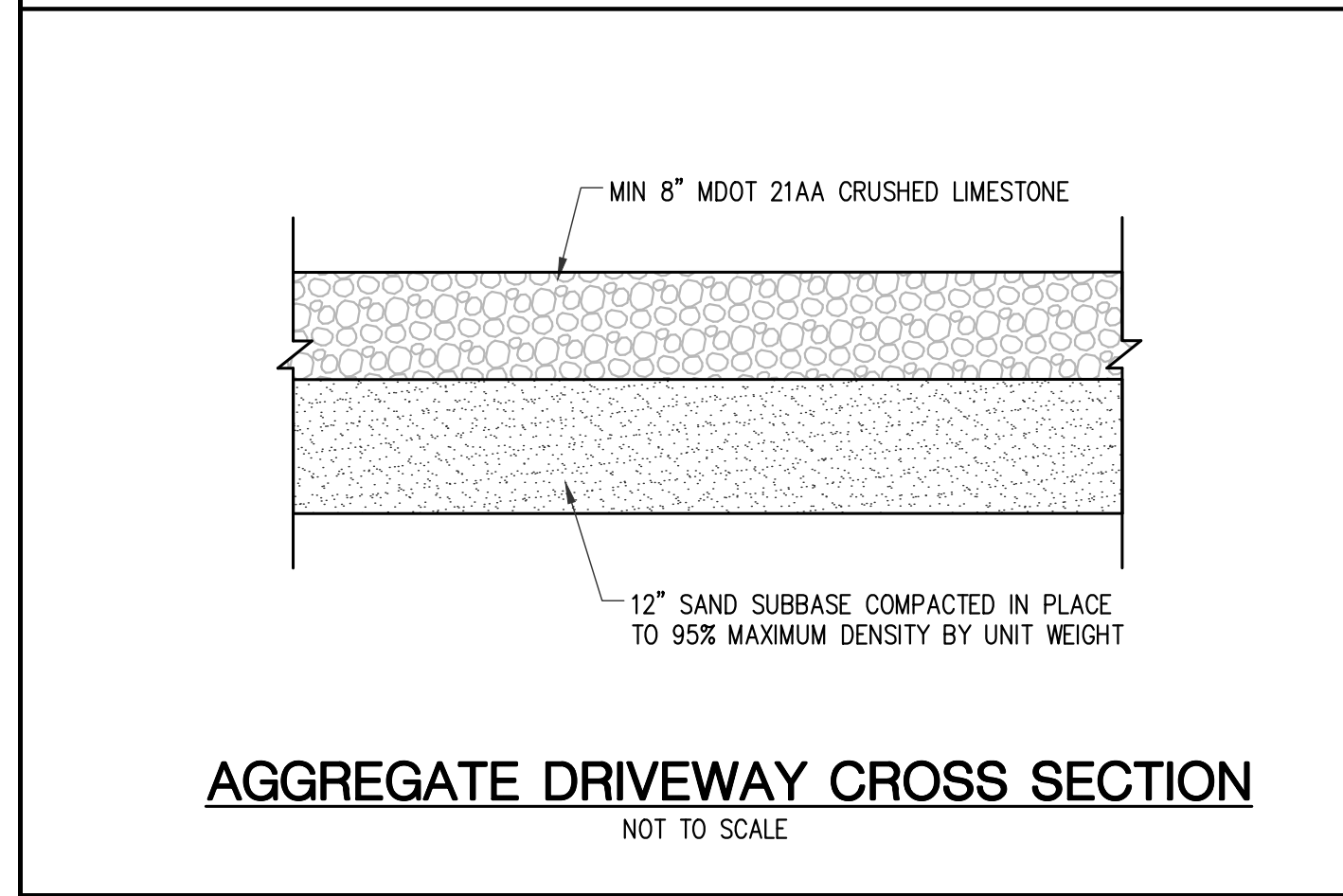
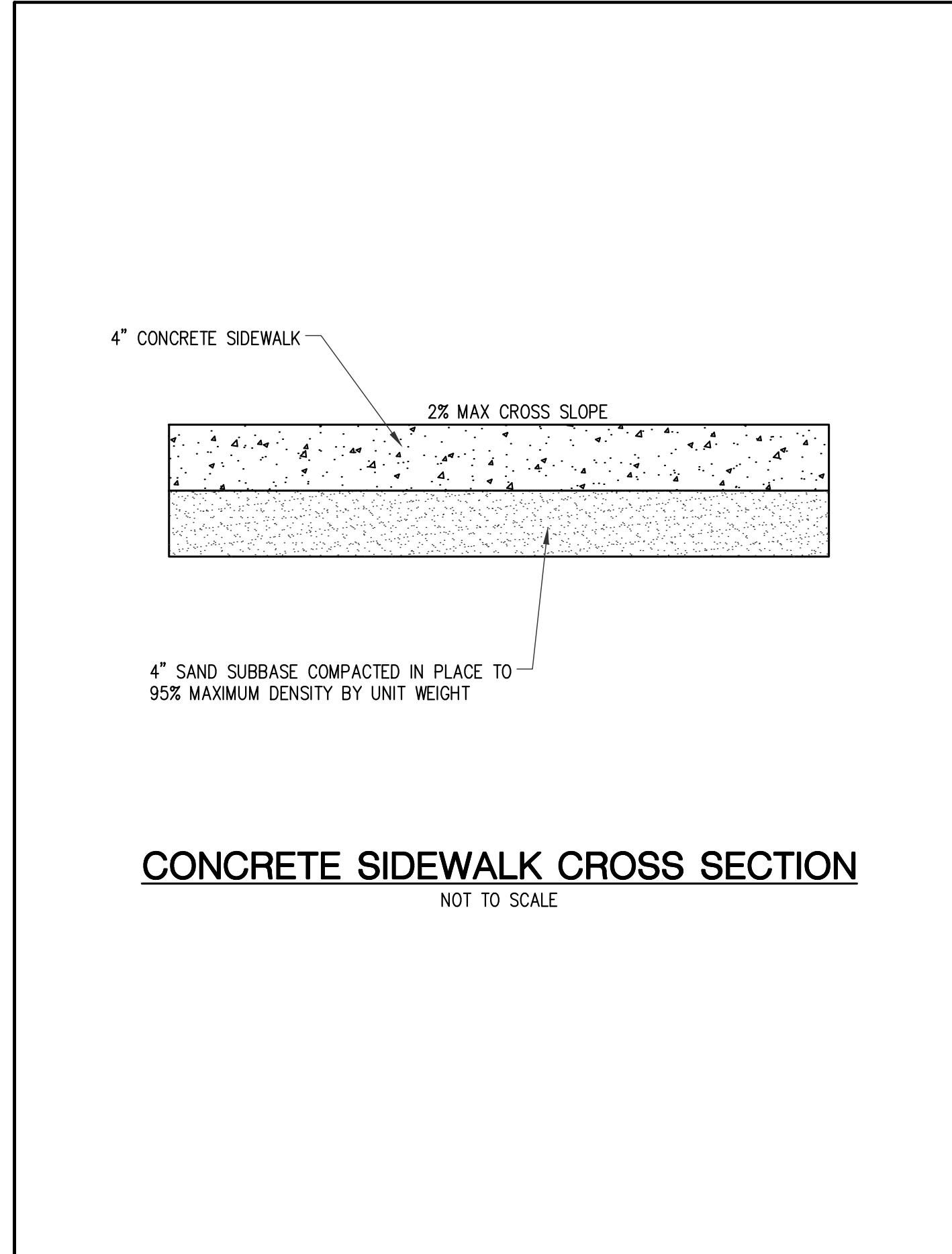
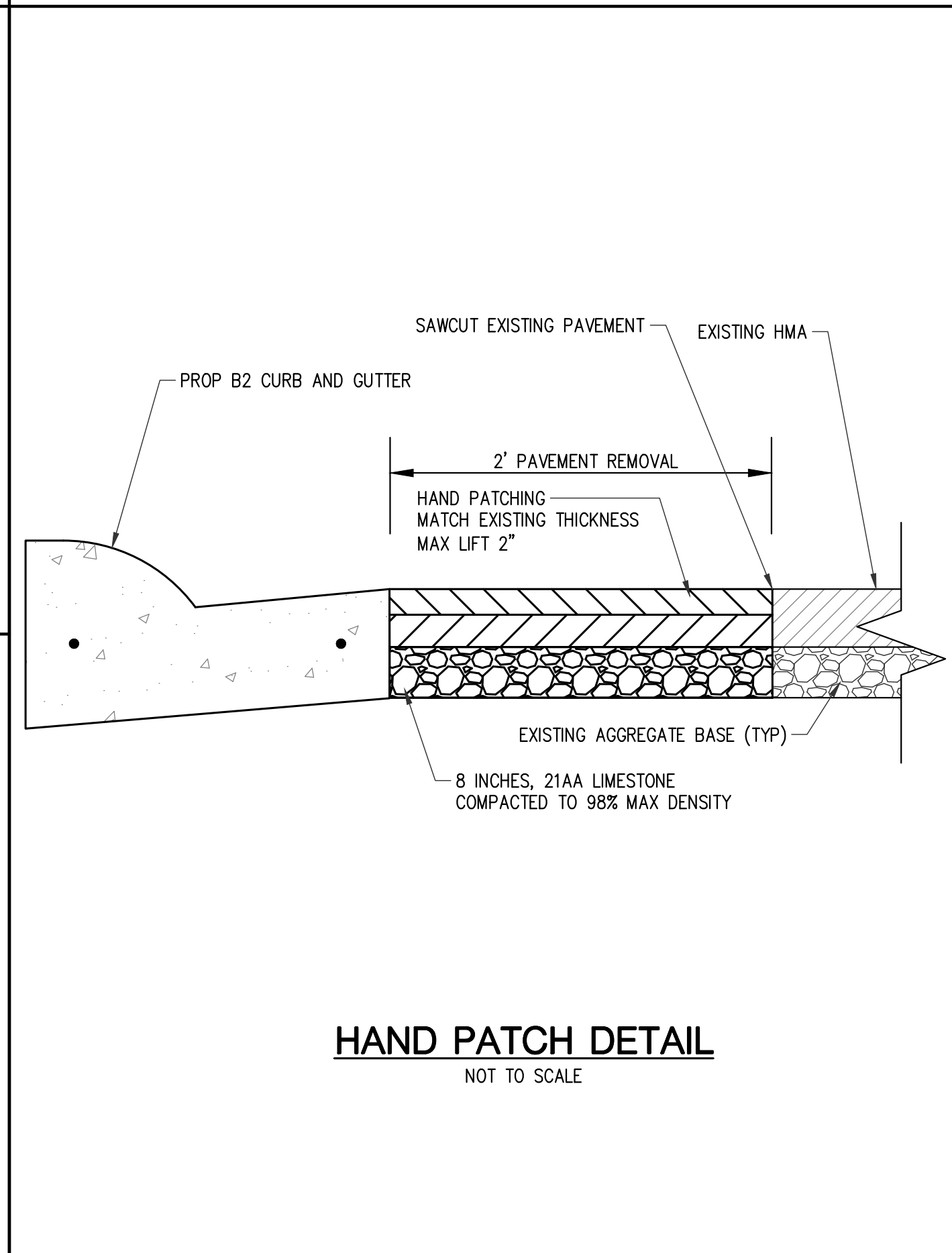
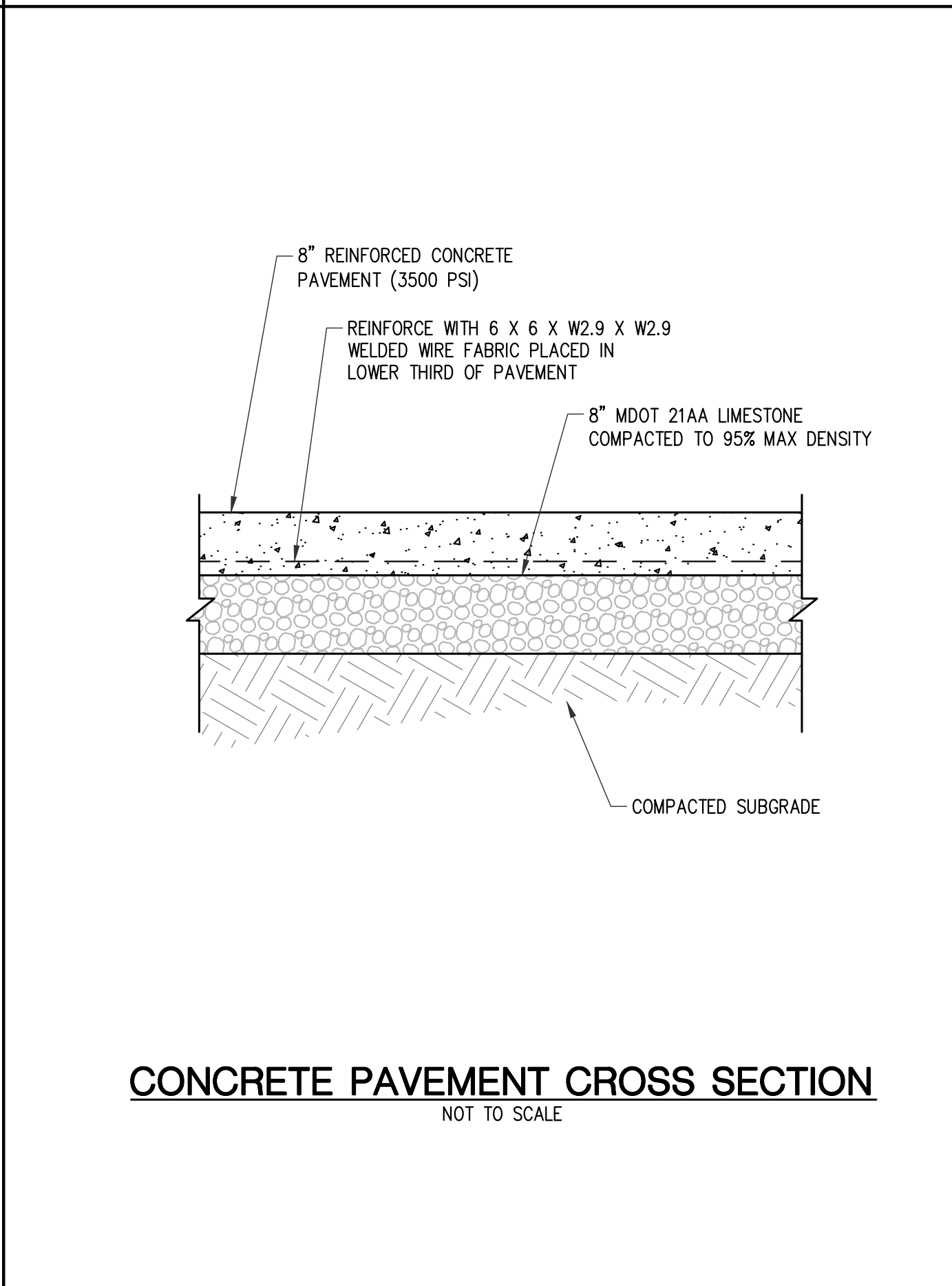
22-703 PROJECT NUMBER

C-103 SHEET NUMBER



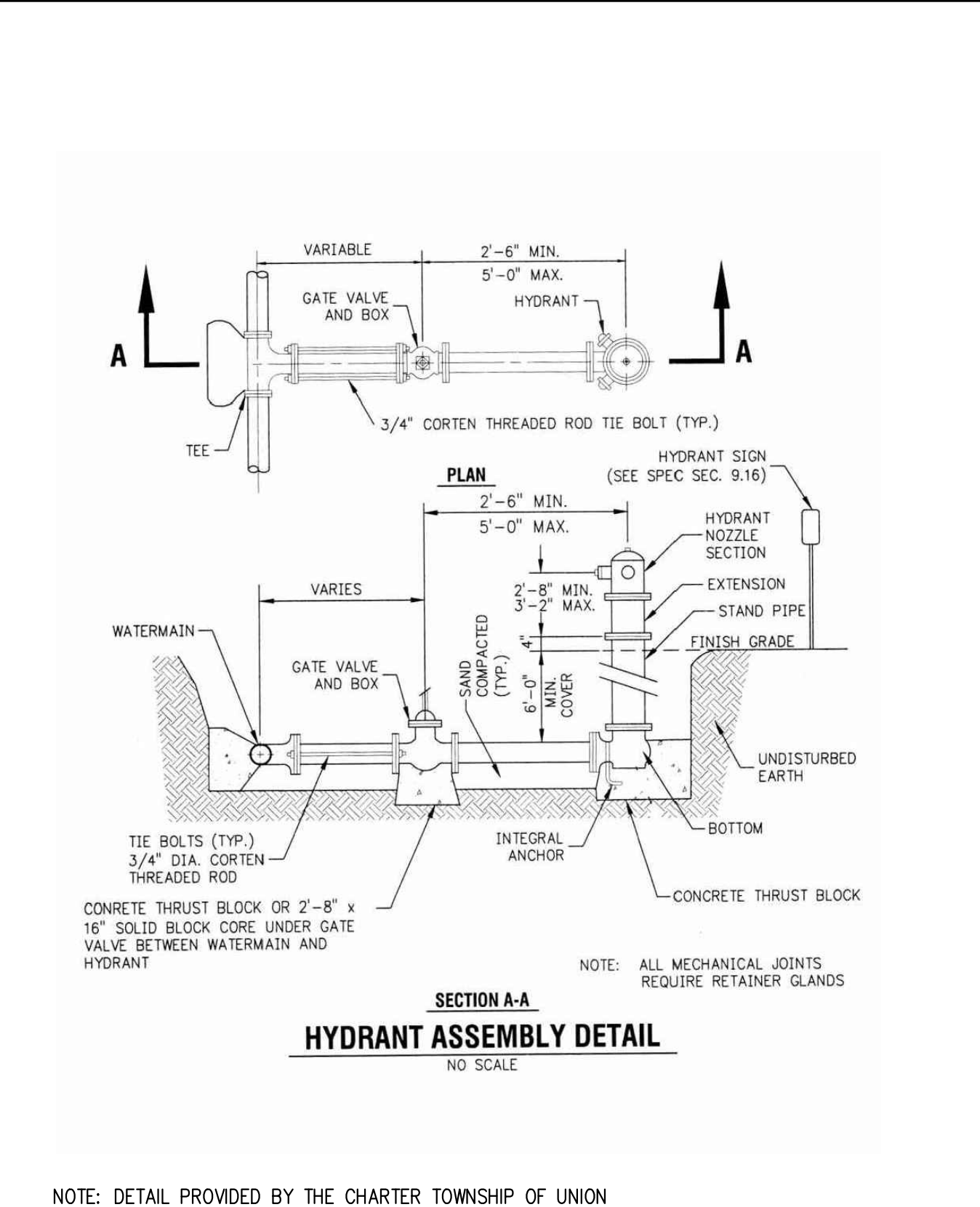
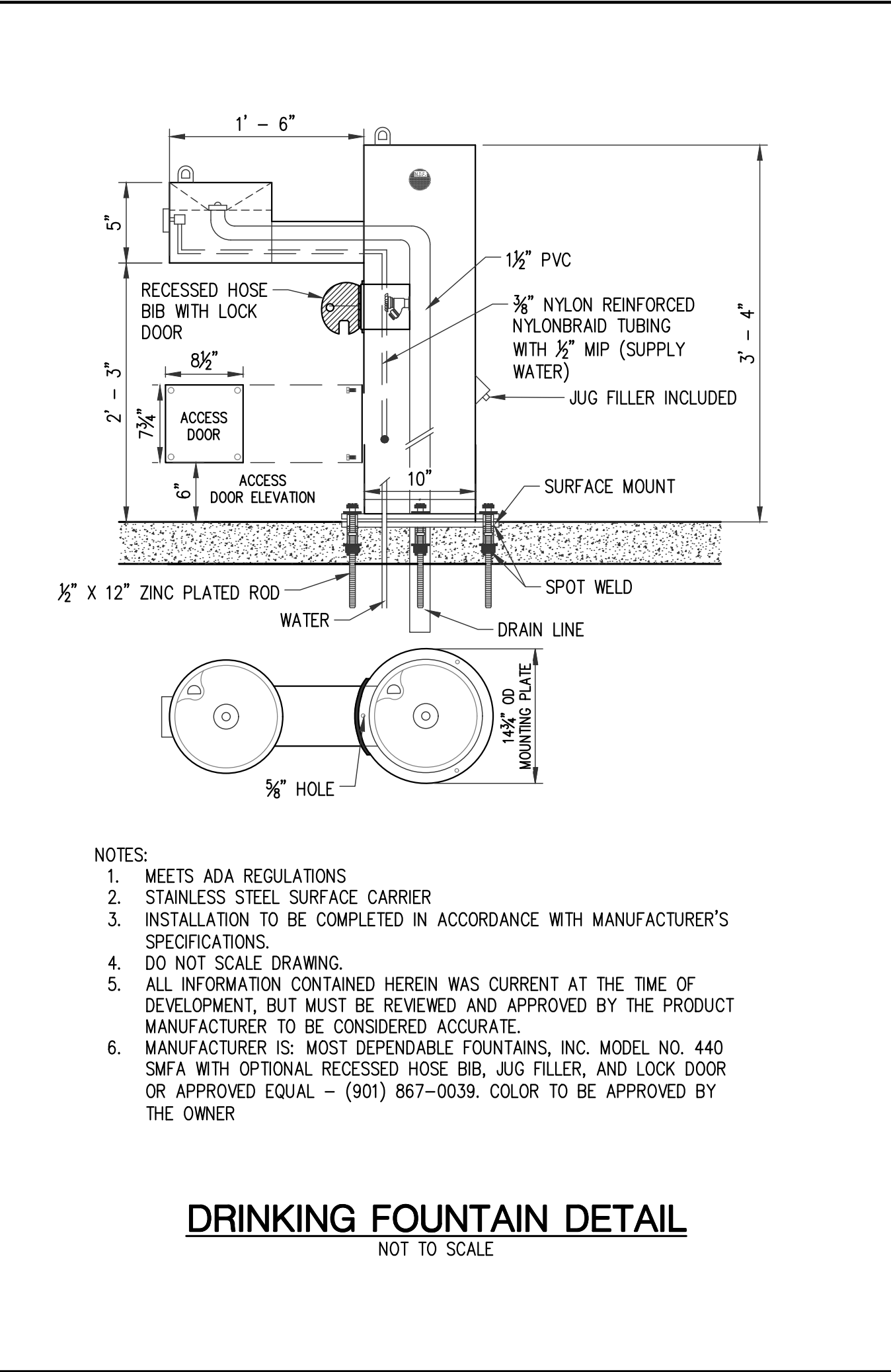
**HMA APPLICATION CHART**

ITEM/HMA PAVEMENT	RATE OF APPLICATION	ESTIMATED THICKNESS	PERFORMANCE GRADE	COMMENTS
HMA, 13A	165#/SYD	1.5"	58-28	TOP COURSE (AW=260 MINIMUM)
HMA, 13A	165#/SYD	1.5"	58-28	LEVELING COURSE
HMA, 13A	VARIES	VARIES	58-28	HAND PATCHING FOR PAVEMENT REPAIRS
HMA BOND COAT	0.05-0.15 GAL	-	-	FOR INFORMATION ONLY

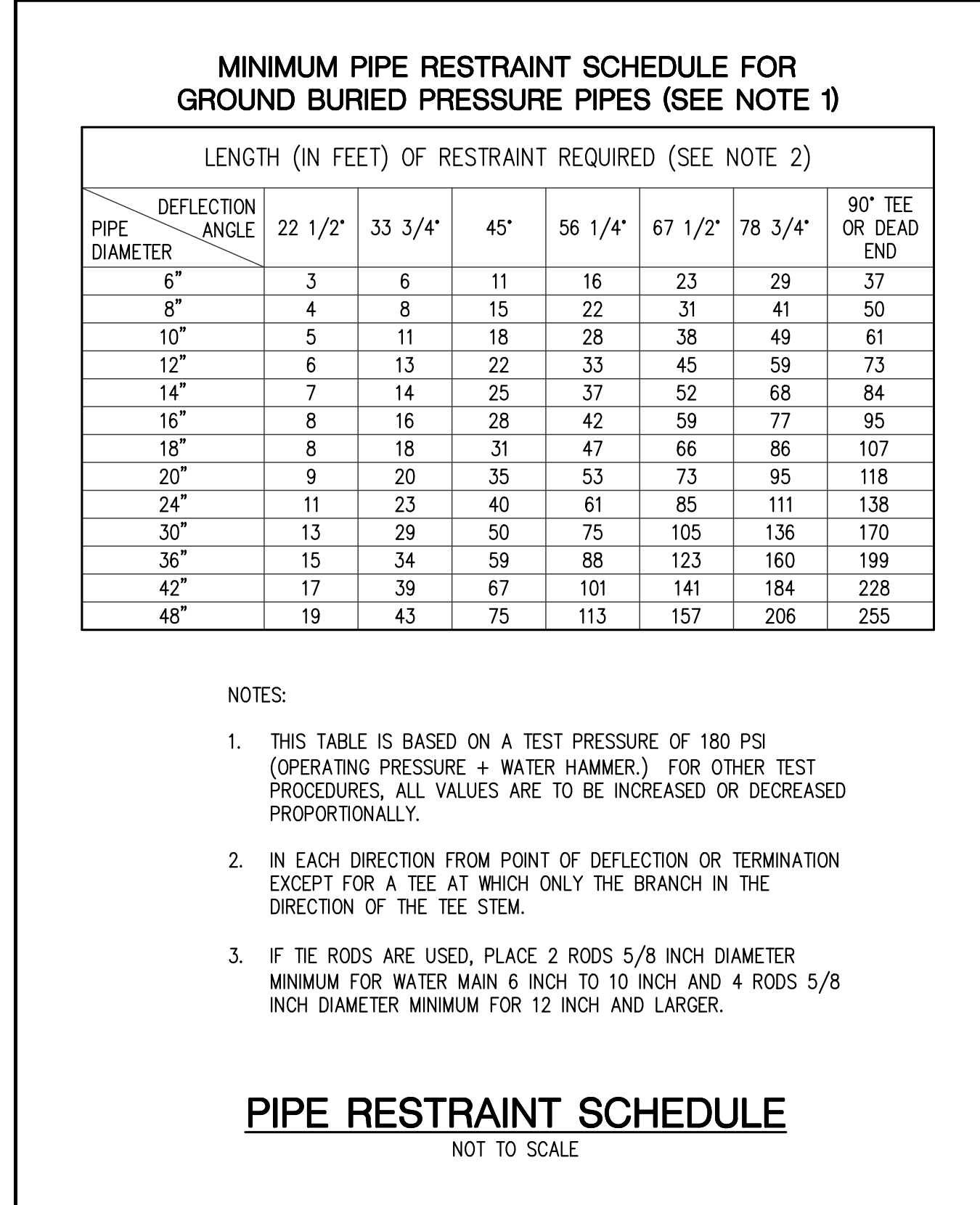
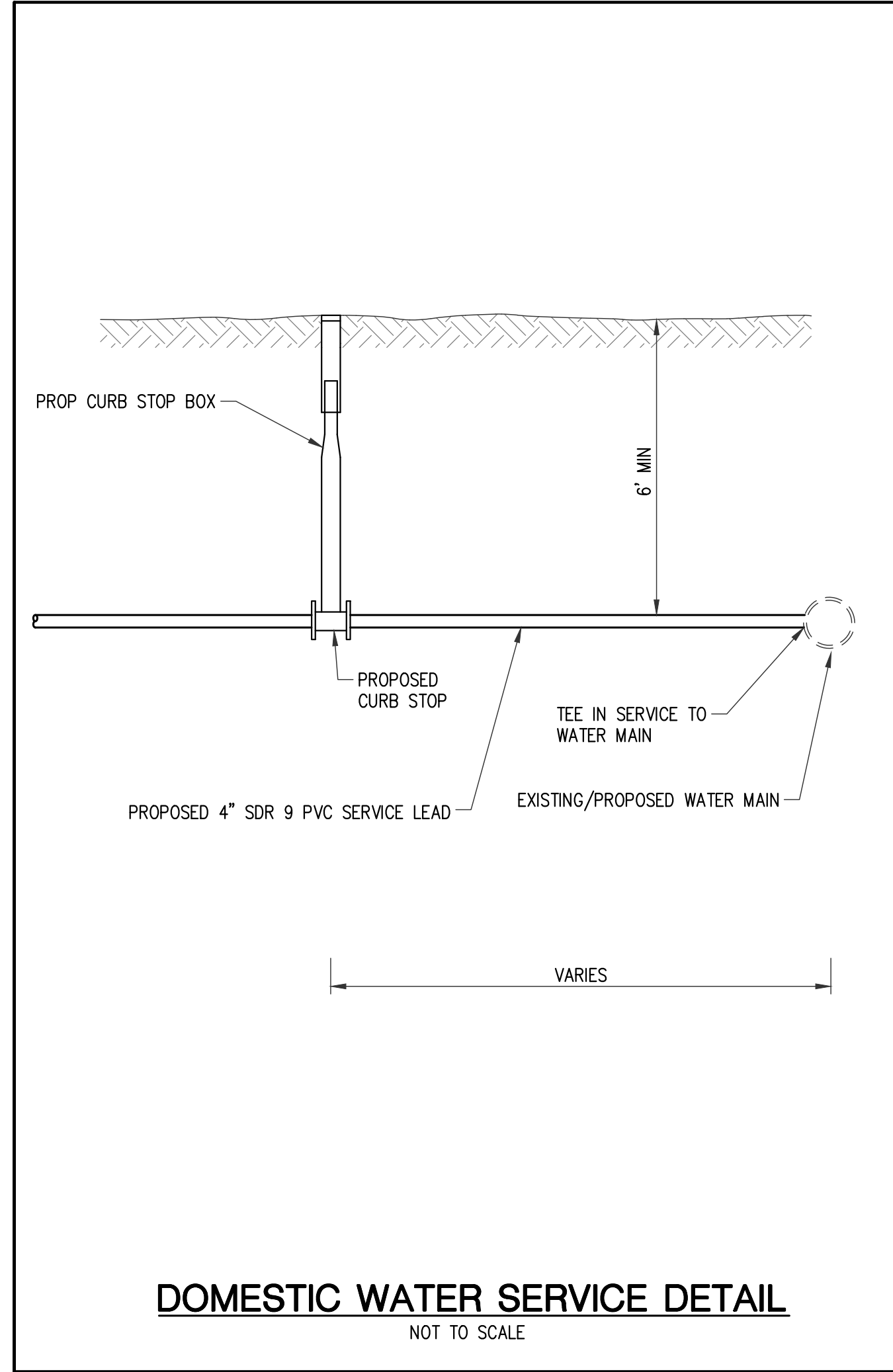
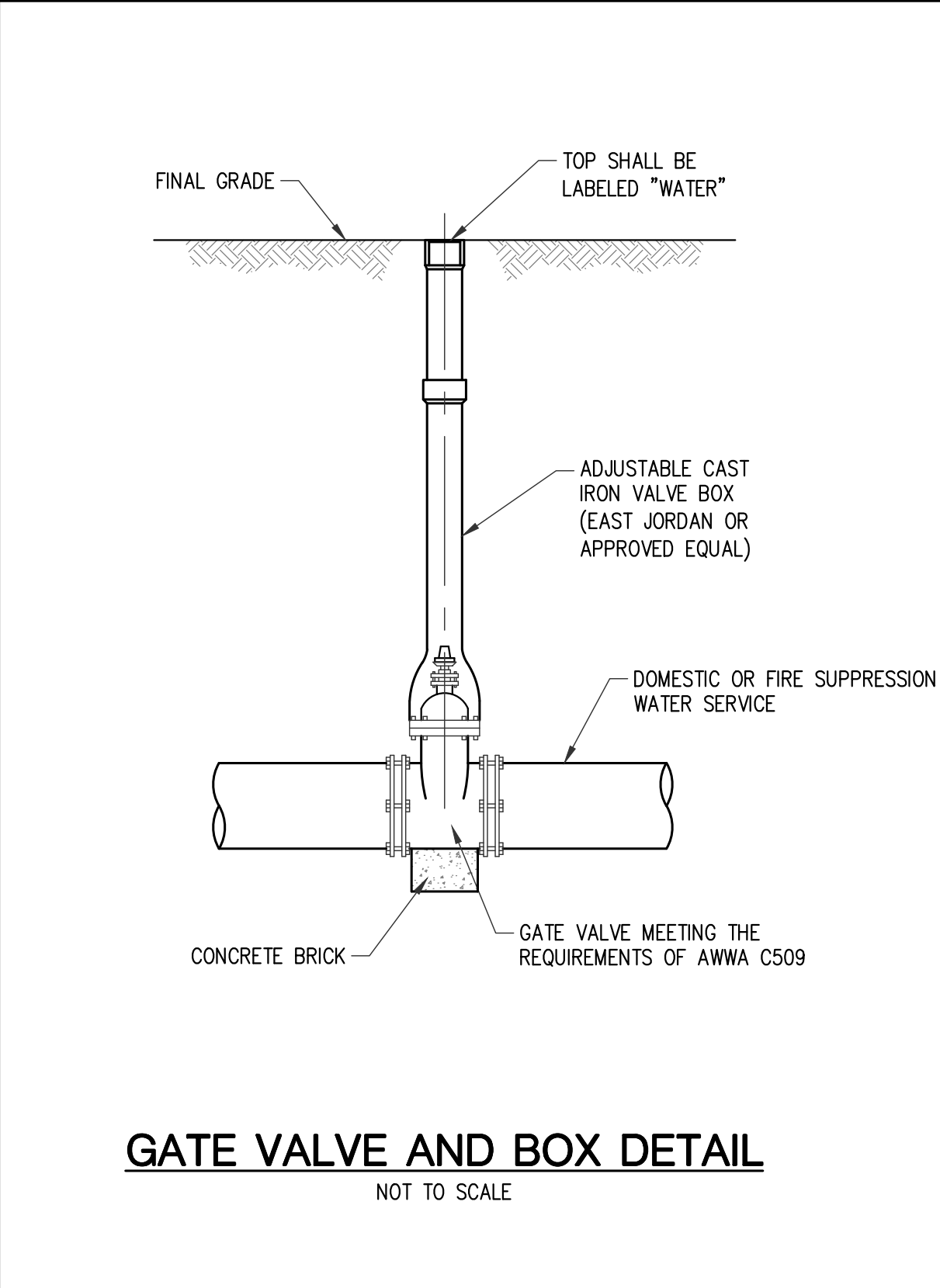
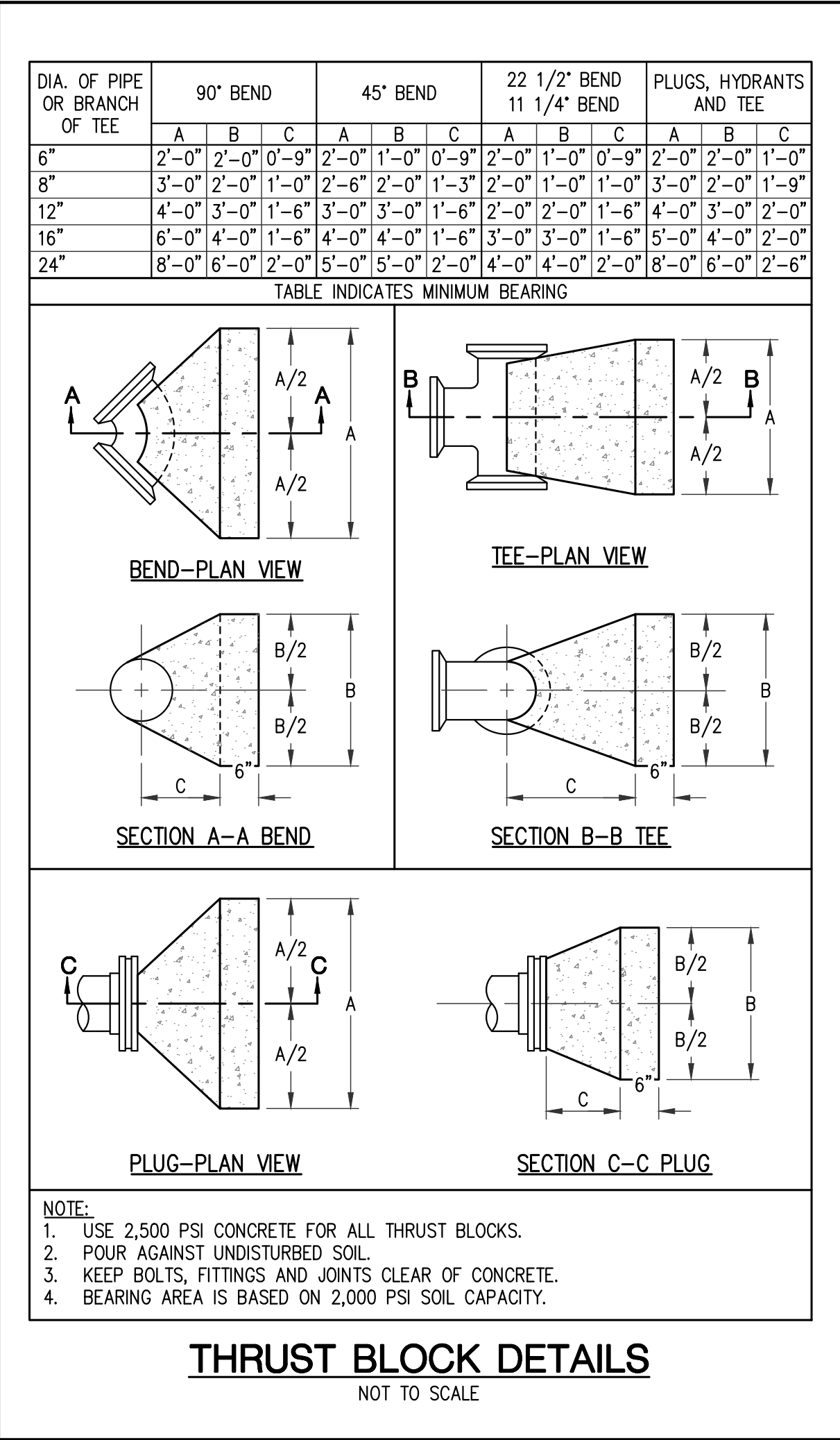
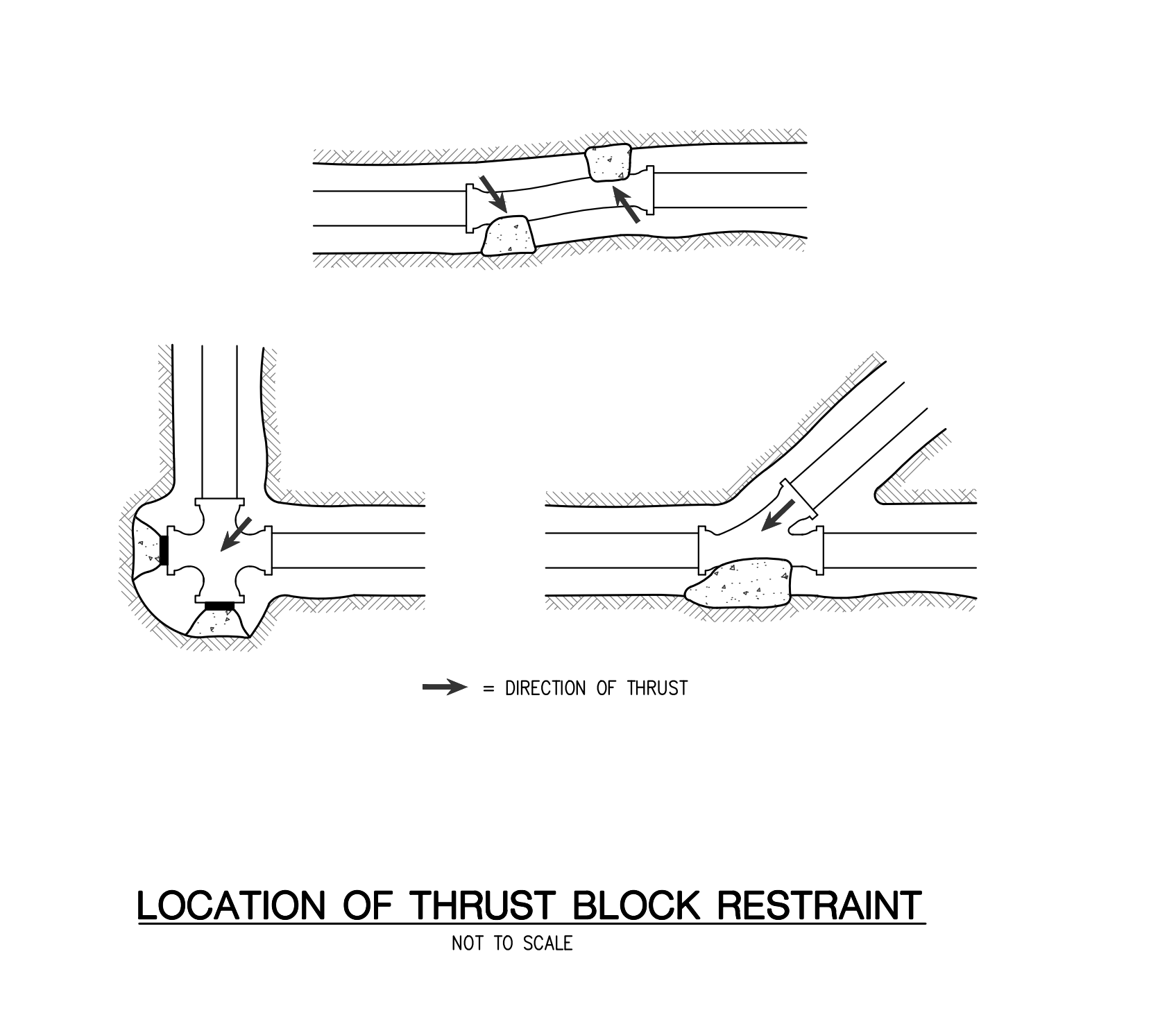
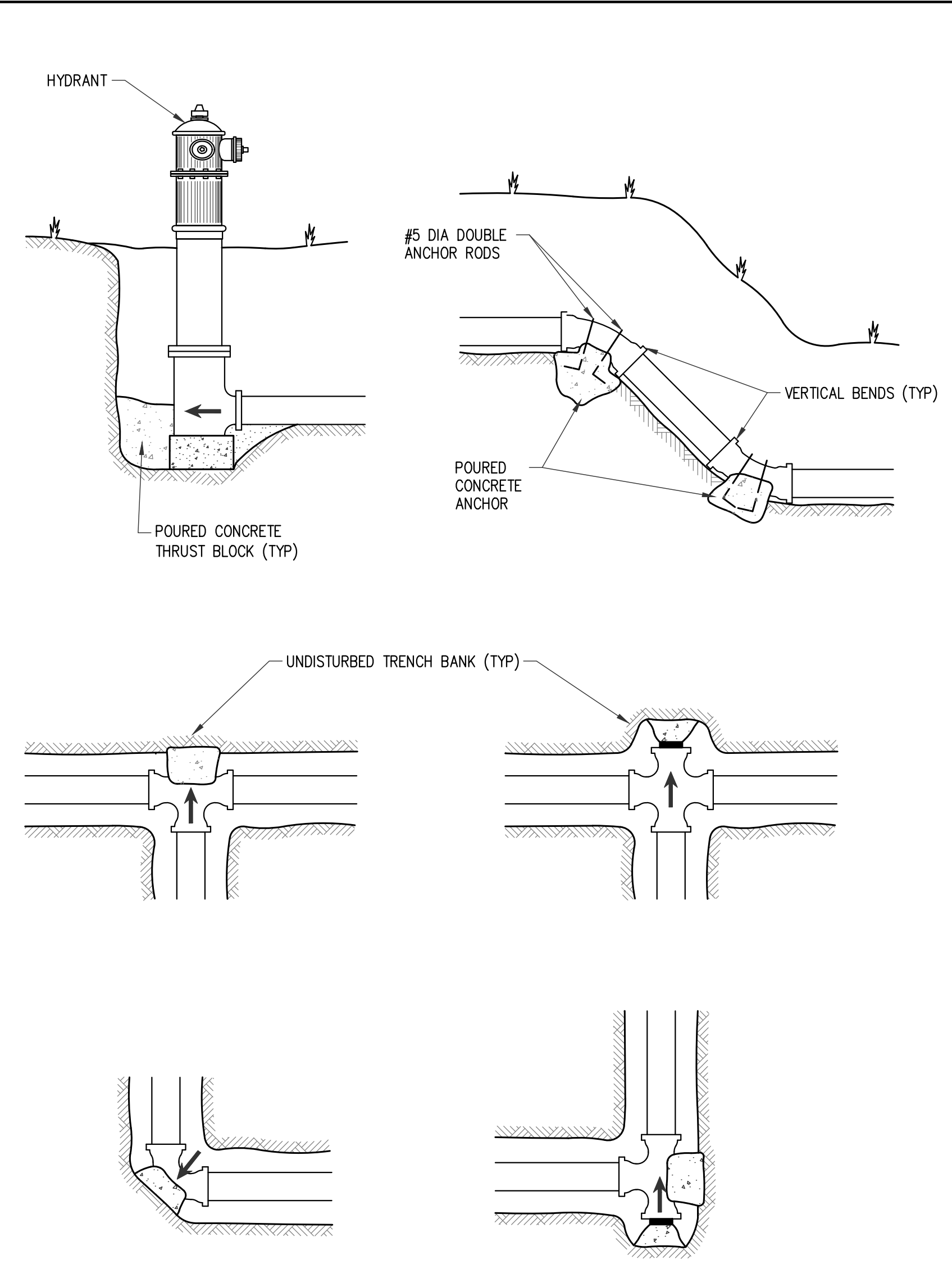


Know what's below.  
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Drawing: R:\Projects\22\MOO1\3\Drawings\Construction Drawings\SH-22\MOO1\3-DET.dwg  
 Date: Sep 22, 2022, 11:35am Layout: DET Plotted by: 759NAM



NOTE: DETAIL PROVIDED BY THE CHARTER TOWNSHIP OF UNION



Drawing: R:\Projects\22MOO1\3\DWG\Construction Drawings\SH-22MOO1\3-DET.dwg  
 Date: Sep 22, 2022, 11:35am Layout: DET 2 Plotted by: 759MJM



REV. FINAL SITE PLAN REVIEW	9/21/2022
FINAL SITE PLAN REVIEW	8/26/2022
ADDENDUM 1	8/12/2022
ISSUED FOR BIDS	8/1/2022
PRELIM. SITE PLAN REVIEW	5/31/2022

DATE ISSUED  
 M.M.  
 DRAWN BY  
 J.B.M.  
 CHECKED BY

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 PROJECT

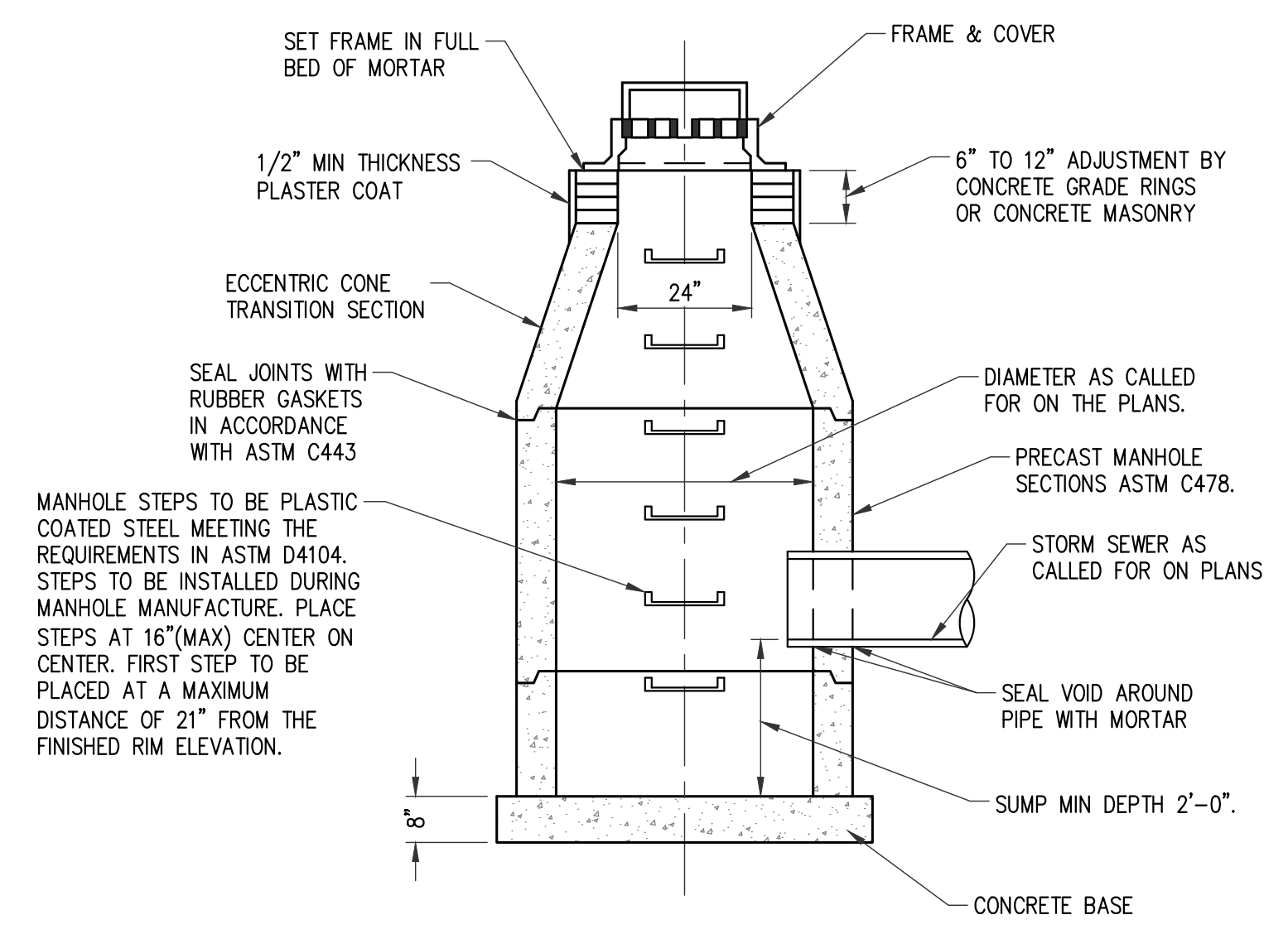
**ROWE PROFESSIONAL SERVICES COMPANY**  
 CONSULTANT

SITE DETAILS

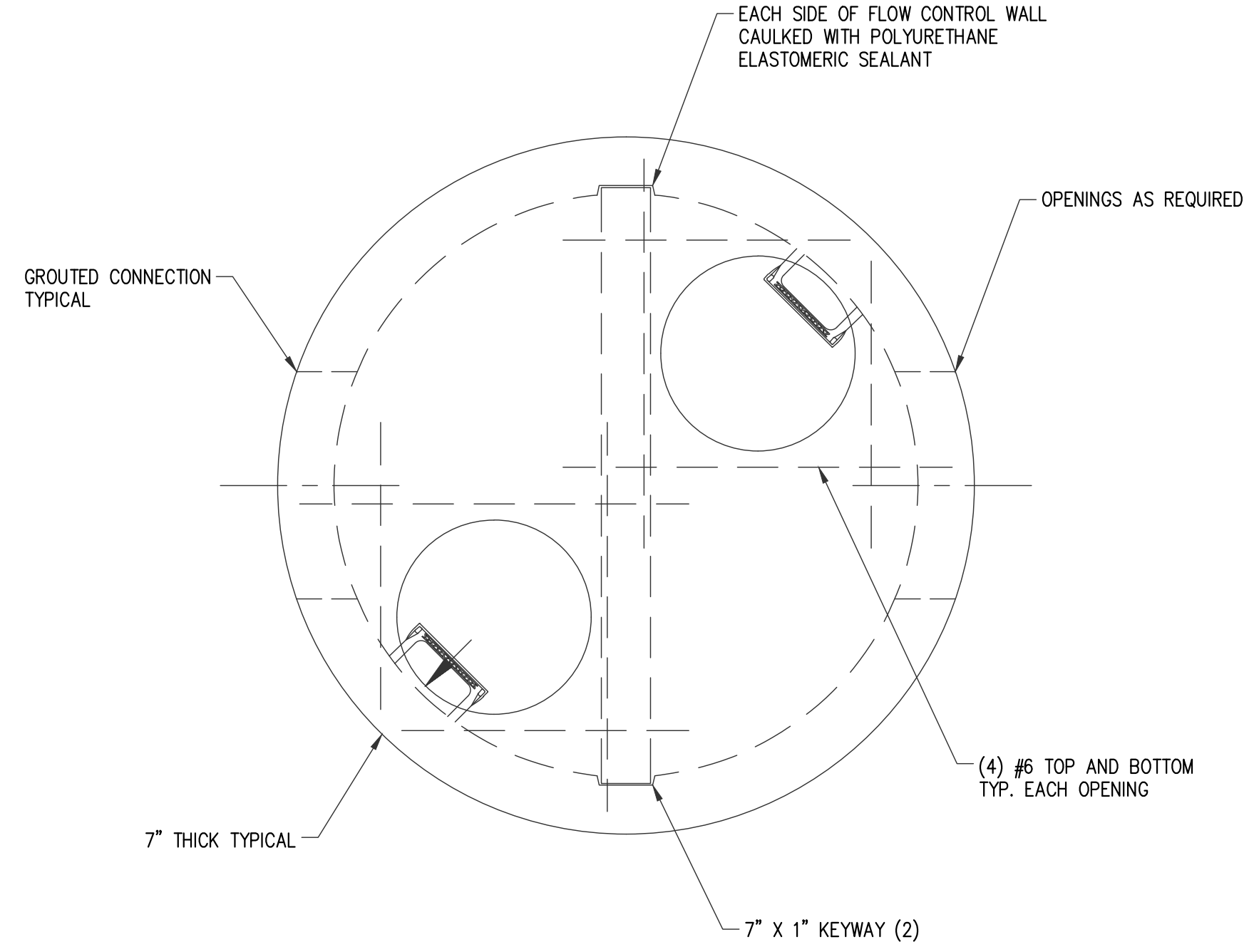
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22-703  
 PROJECT NUMBER

C-105  
 SHEET NUMBER

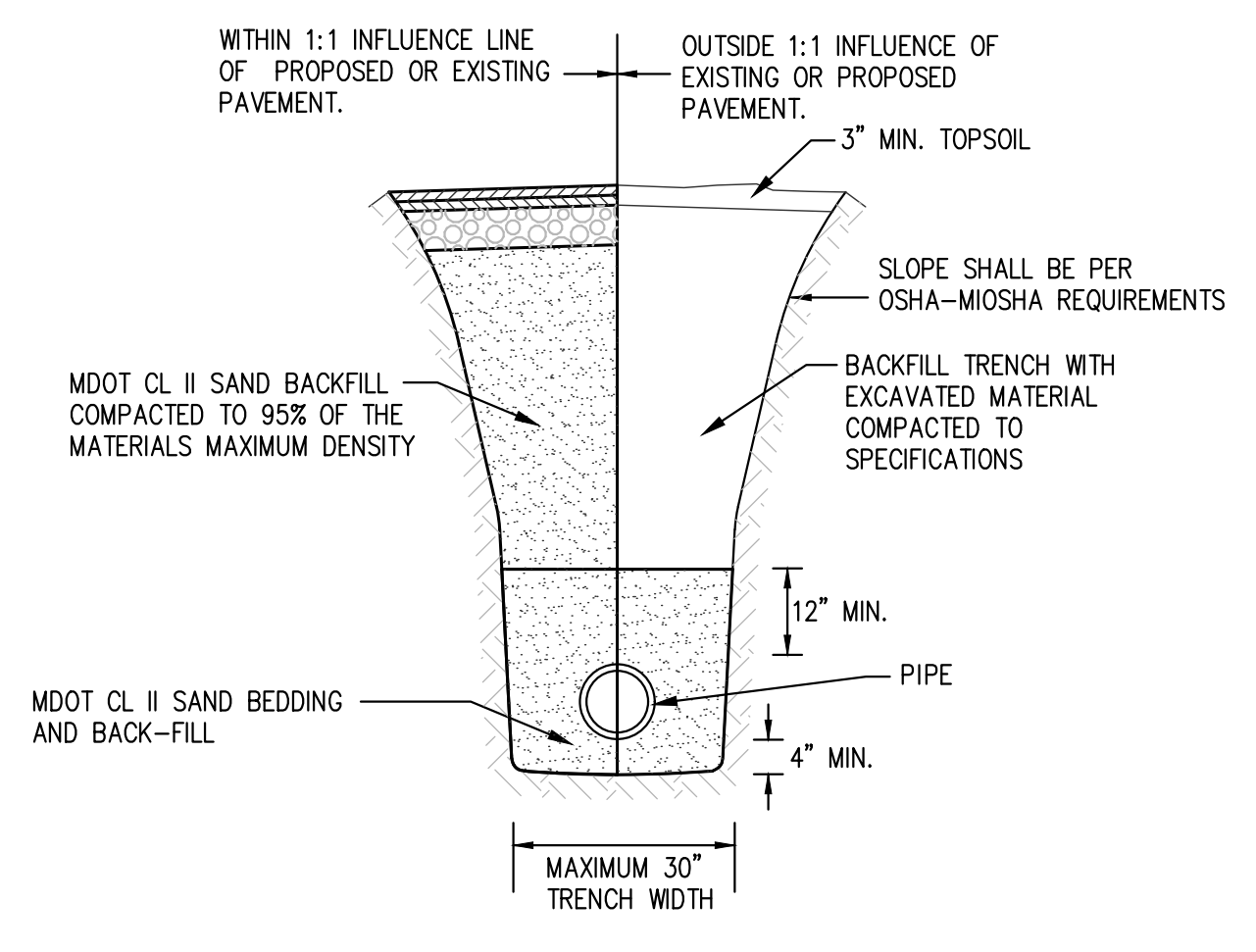


**STANDARD DRAINAGE STRUCTURE WITH 2' SUMP**  
 NOT TO SCALE

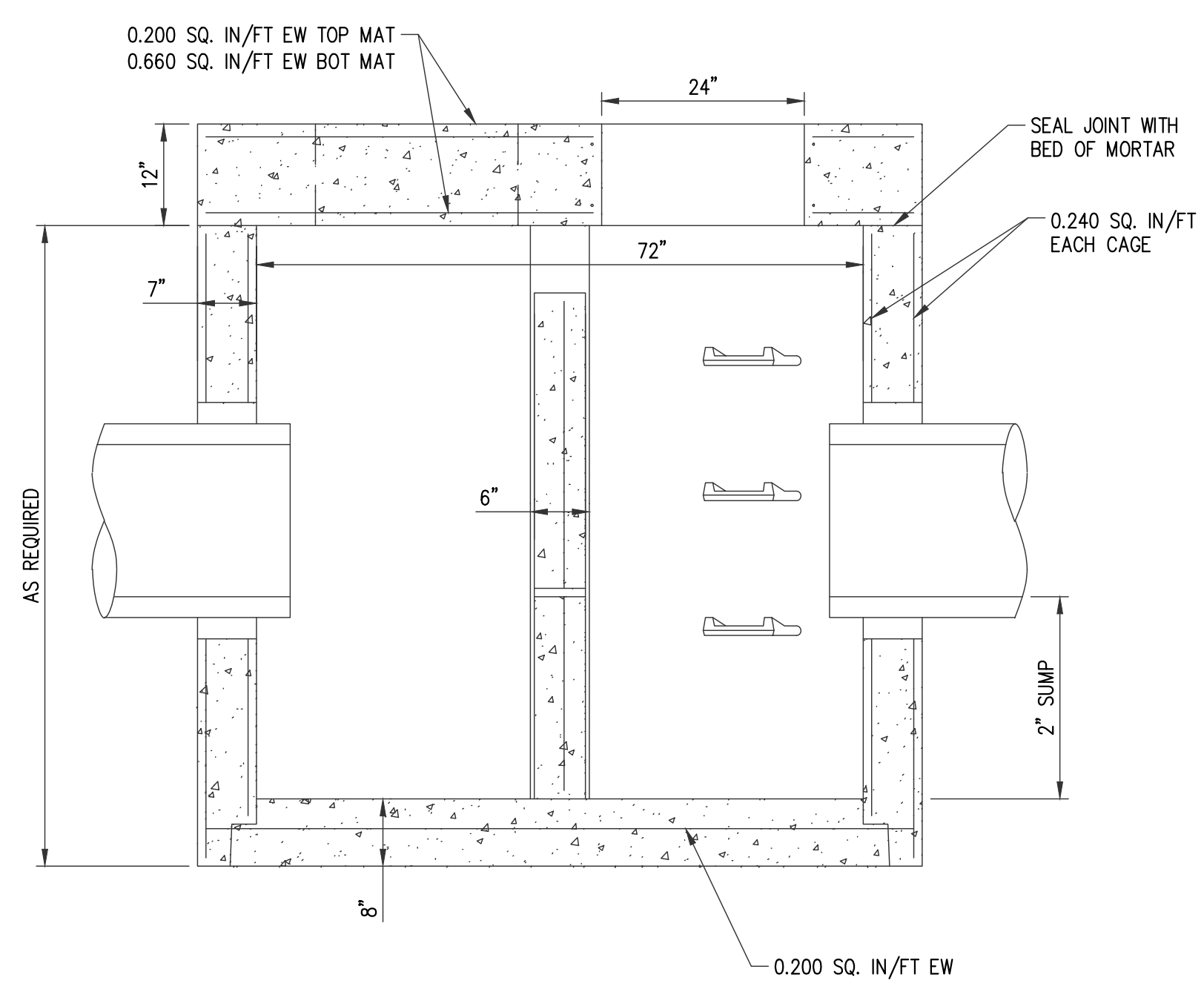


**TOP VIEW**

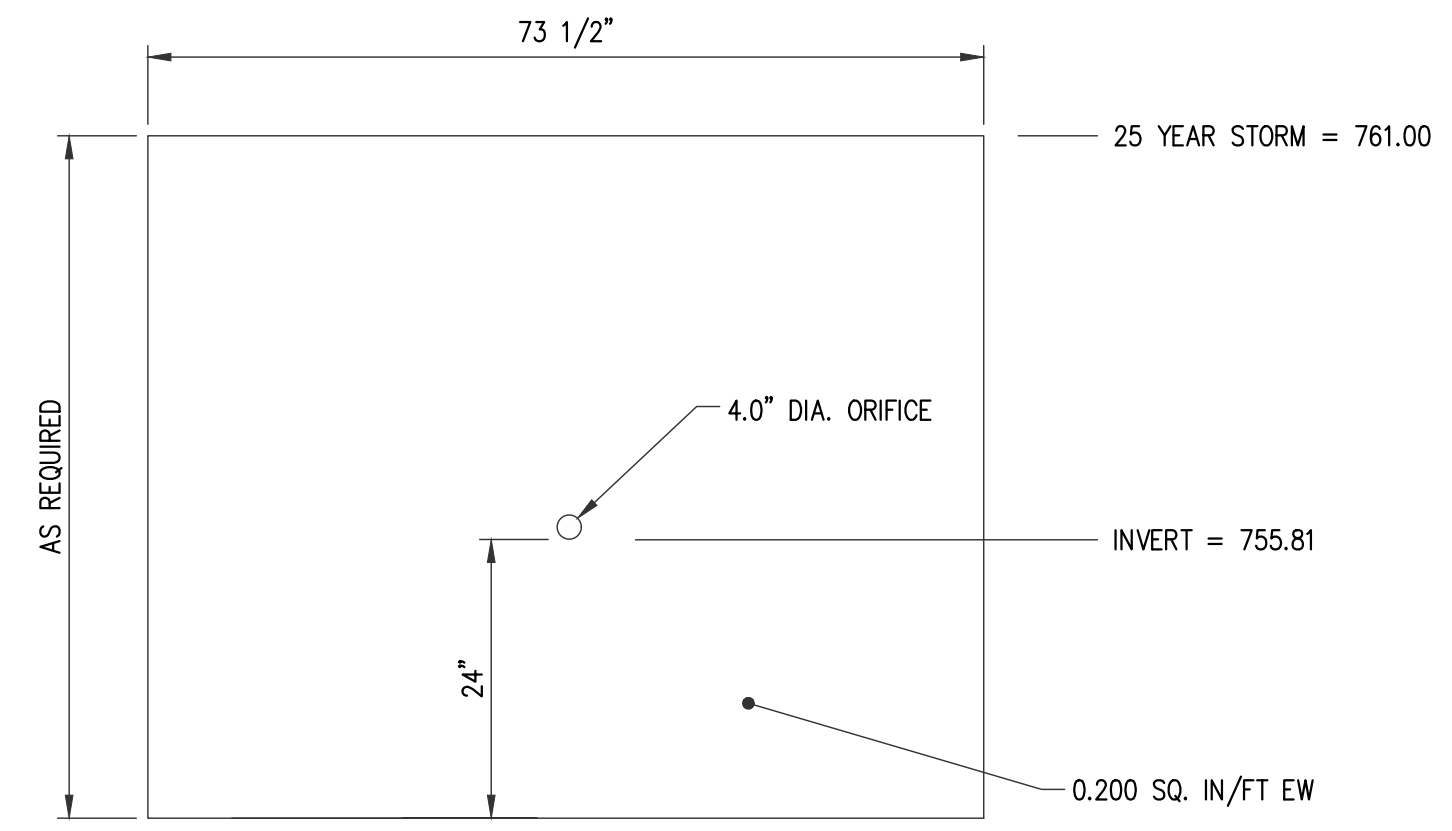
- NOTES:**
- 1) MANHOLE SECTIONS TO BE MANUFACTURED TO ASTM C-478 SPECIFICATIONS AND IN ACCORDANCE WITH NORTHERN CONCRETE PIPE, INC. (800-222-9918)
  - 2) REINFORCING SHOWN FOR SCHEMATIC ONLY. ALL STEEL AREAS ARE MINIMUMS.
  - 3) CONTRACTOR TO SEAL BETWEEN PRECAST WALL & BASE WITH BUTYL ROPE.



**PIPE BEDDING DETAIL**  
 NOT TO SCALE



**CROSS SECTION VIEW**



**WEIR SIDE VIEW**

**72\"/>
 NOT TO SCALE**

**MDOT STANDARD PLANS**

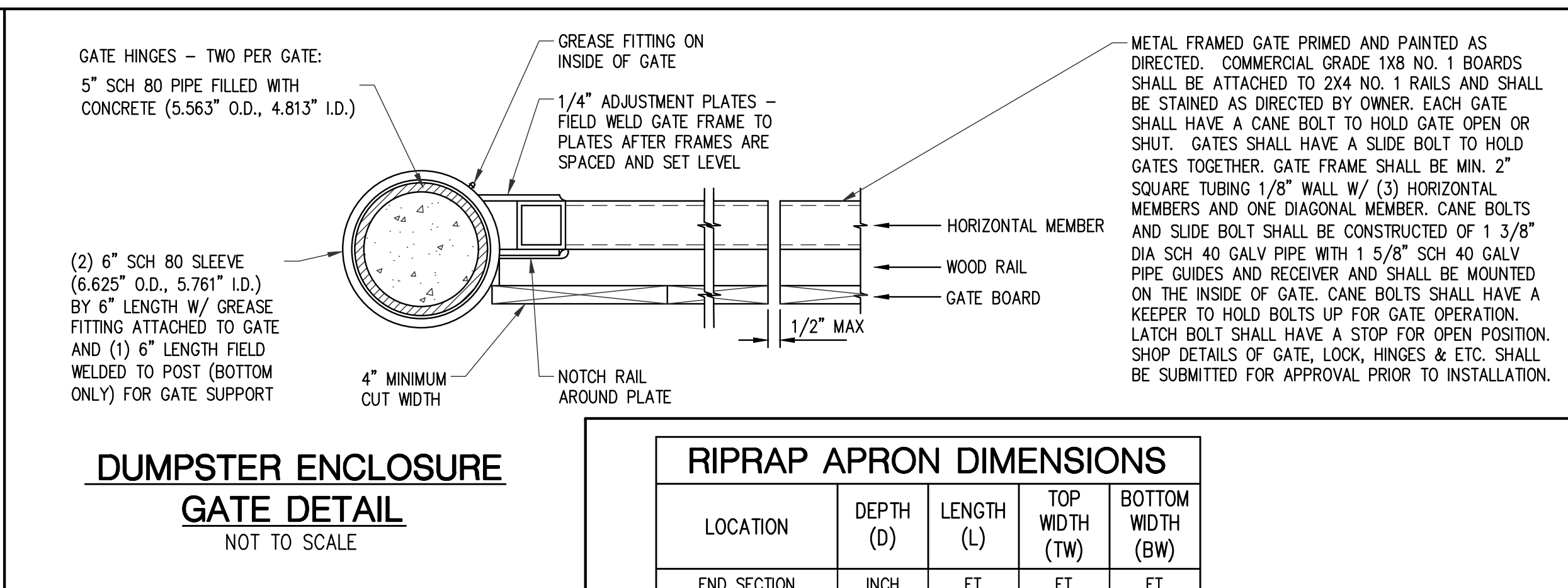
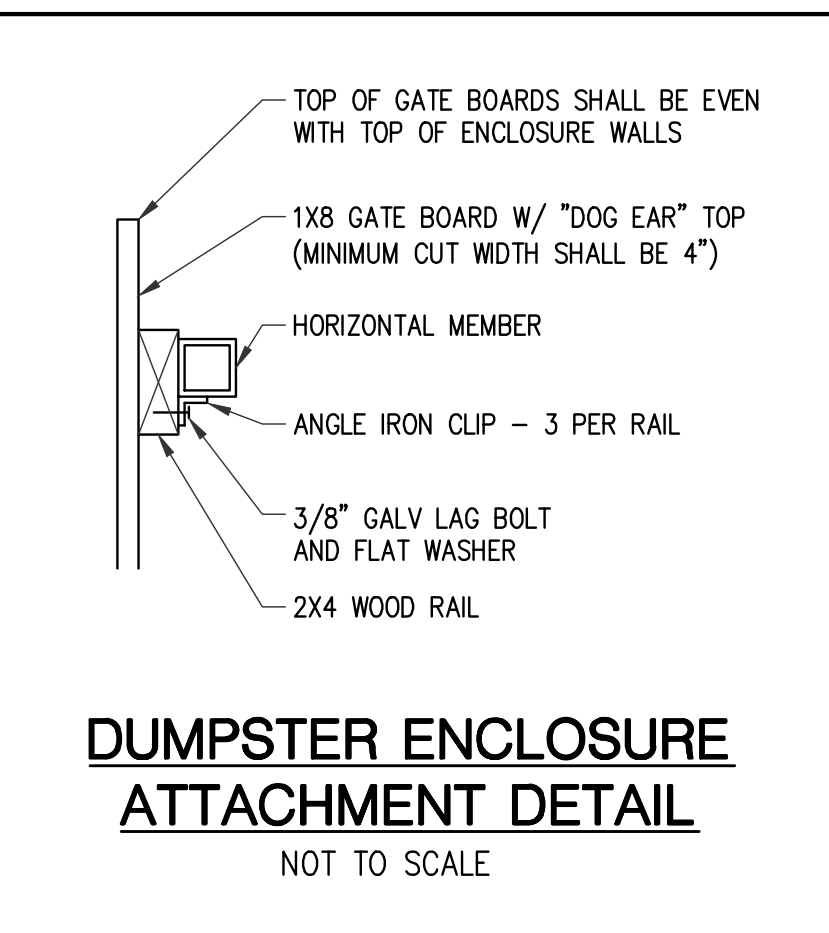
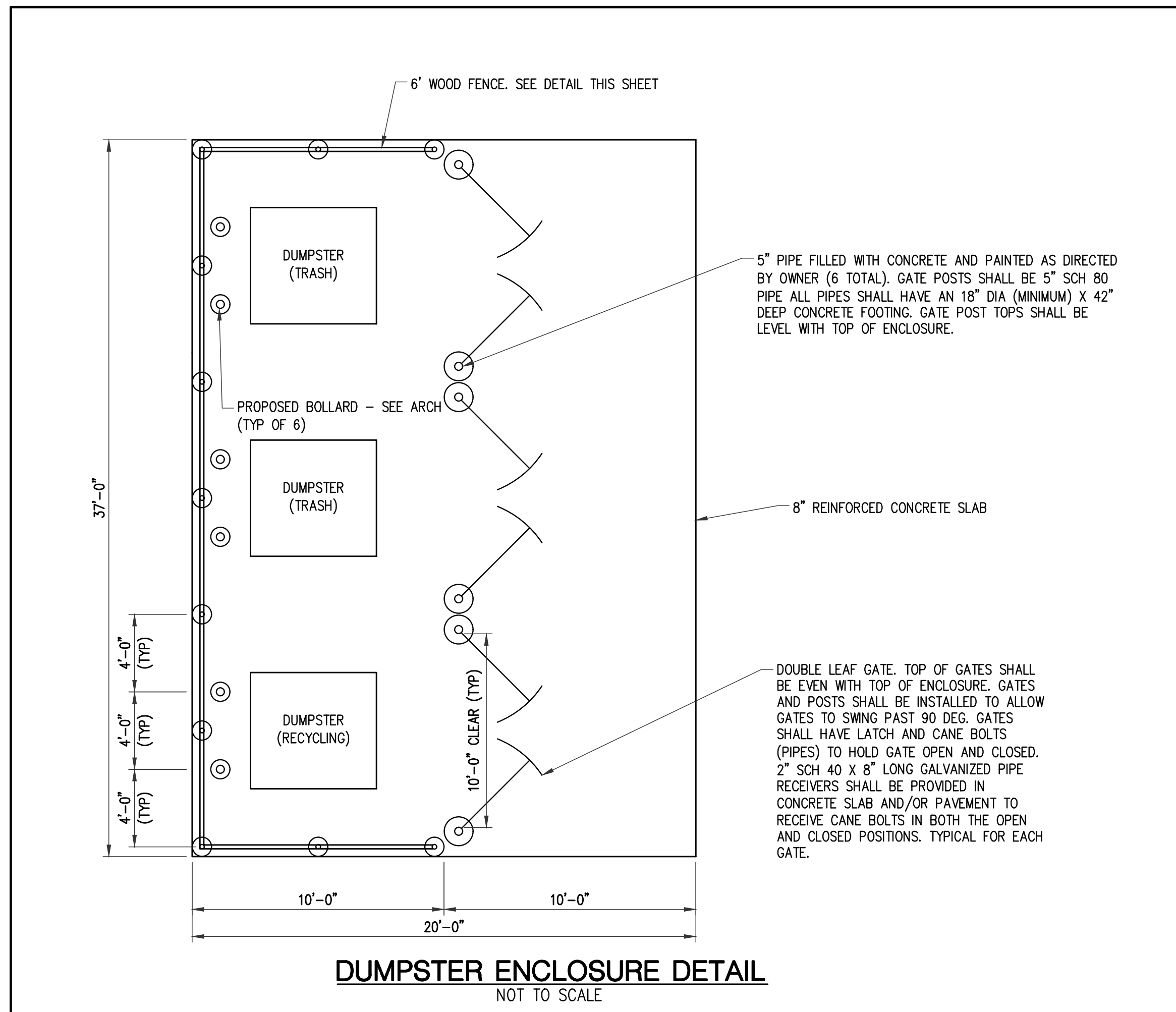
WHERE THE FOLLOWING ITEMS ARE CALLED FOR ON THE PLANS, THEY ARE TO CONFORM TO THE MDOT STANDARD PLANS LISTED UNLESS OTHERWISE INDICATED.

- |        |  |
|--------|--|
| R-7-F  | COVER B                                  |
| R-12-E | COVER G                                  |
| R-28-J | CURB RAMP AND DETECTABLE WARNING DETAILS |
| R-30-G | CONCRETE CURB AND CONCRETE CURB & GUTTER |

Drawing: R:\Projects\22MOO1\31Dwg\Construction Drawings\SH-22MOO1\3-DET.dwg  
 Date: Sep 22, 2022, 11:36am Layout: DET 3 Plotted by: 759MJM

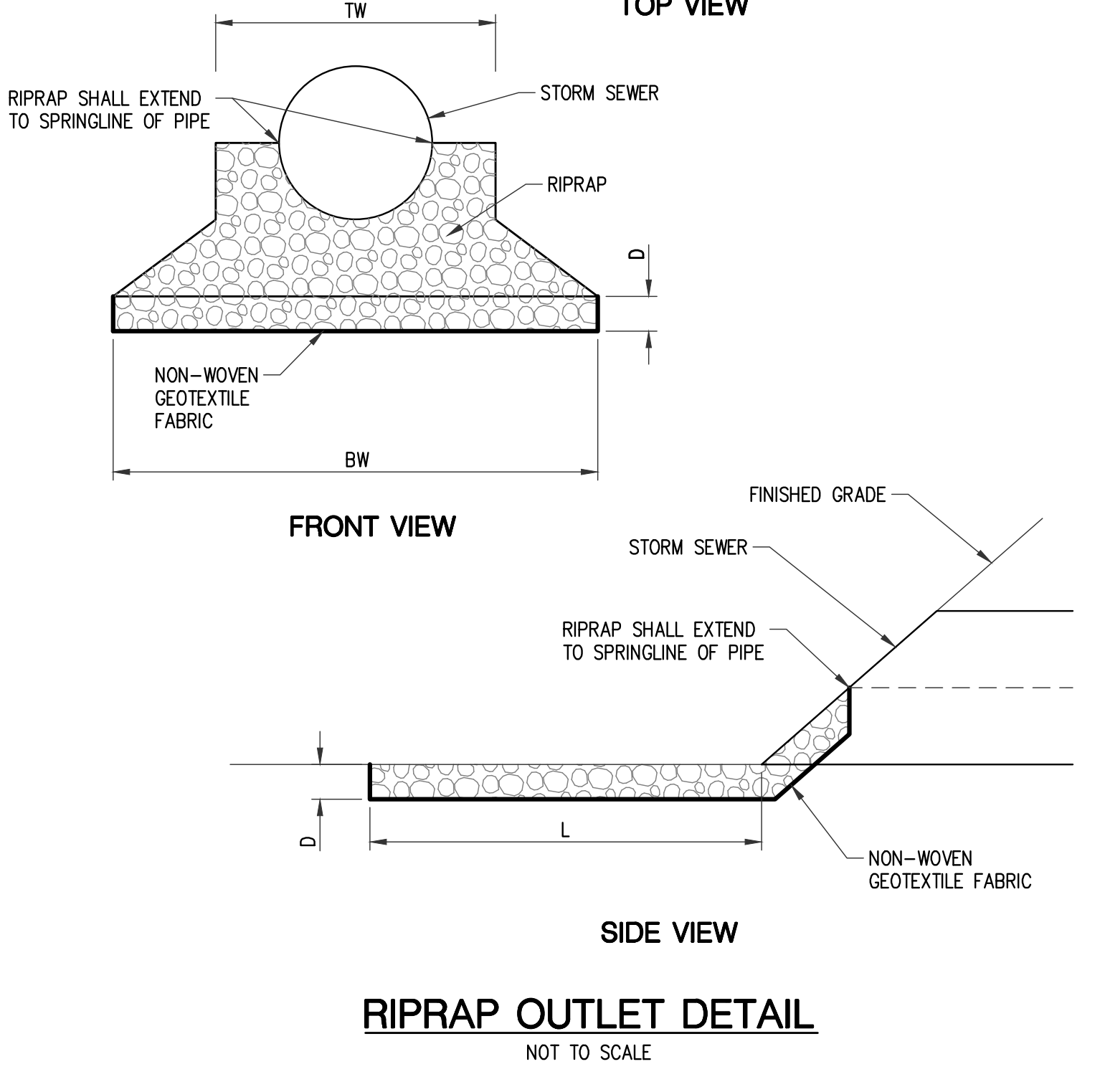
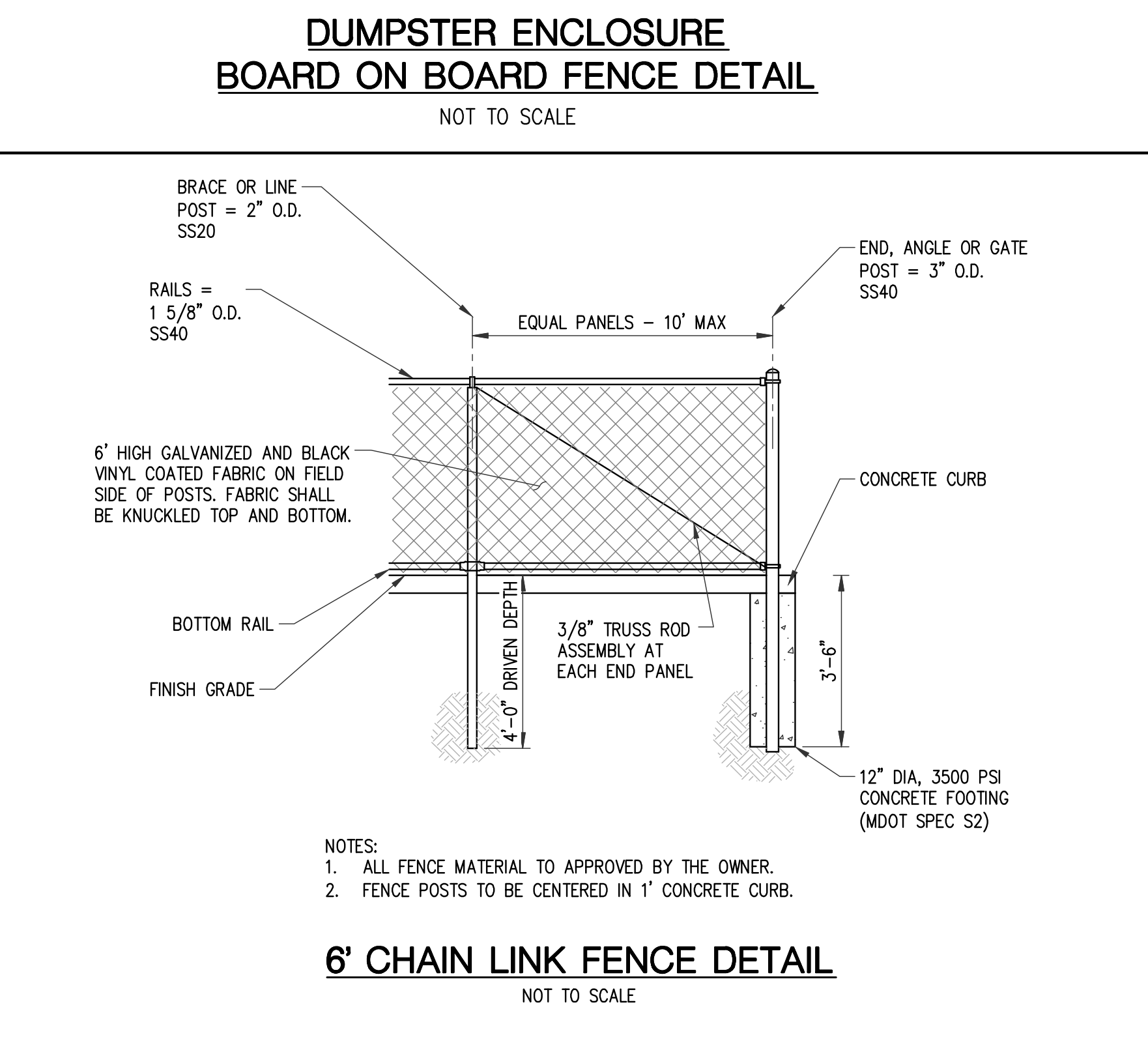
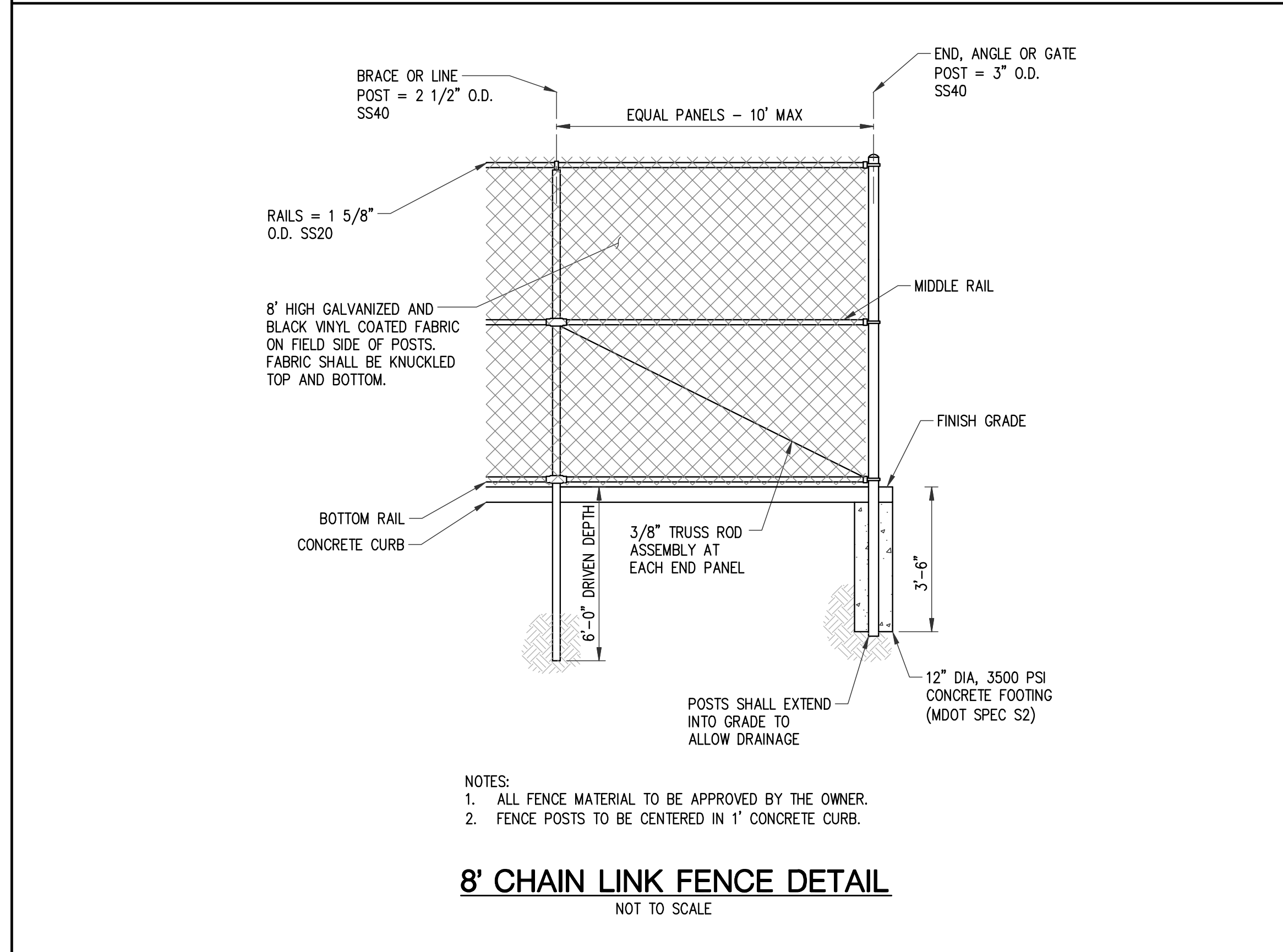
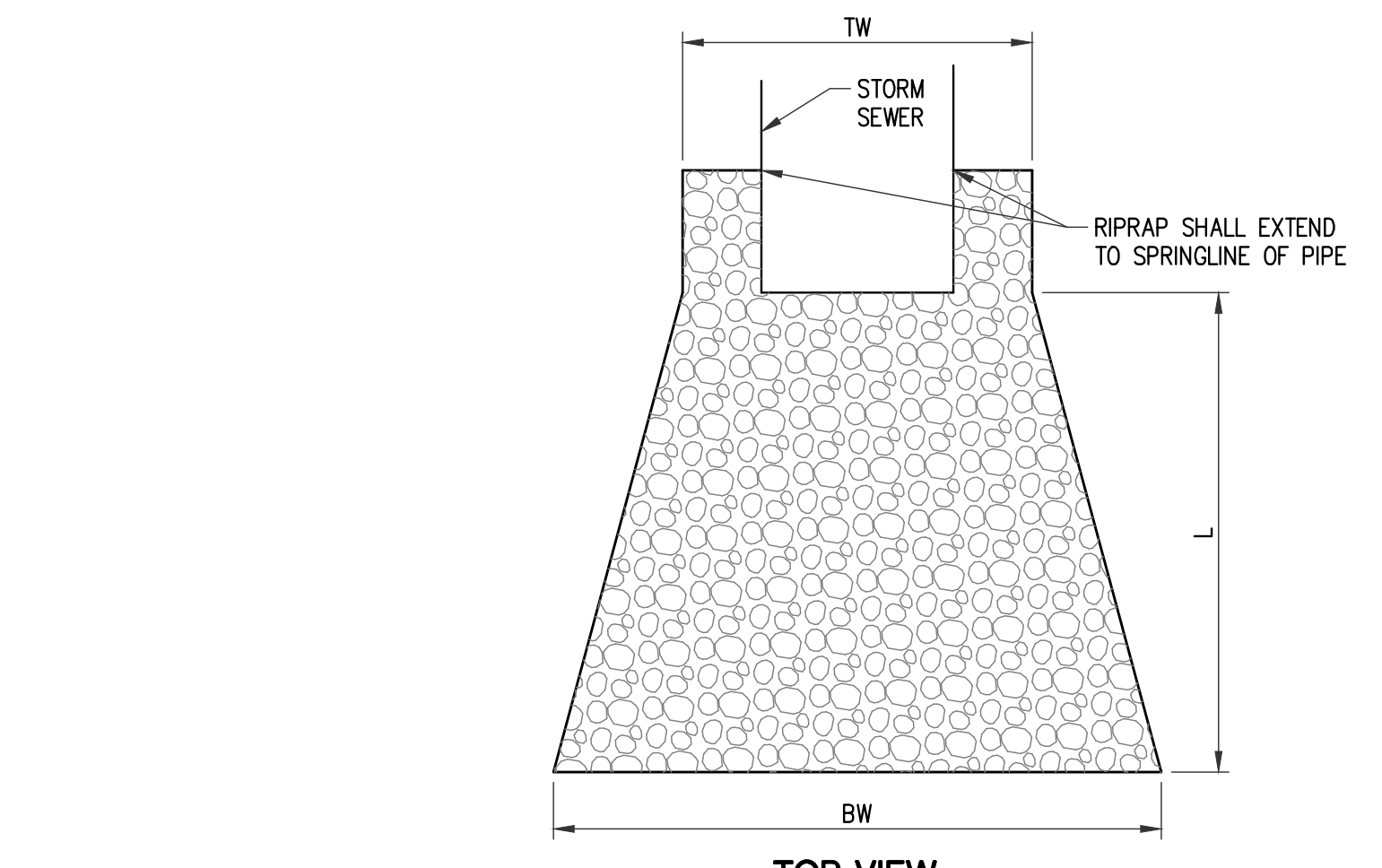
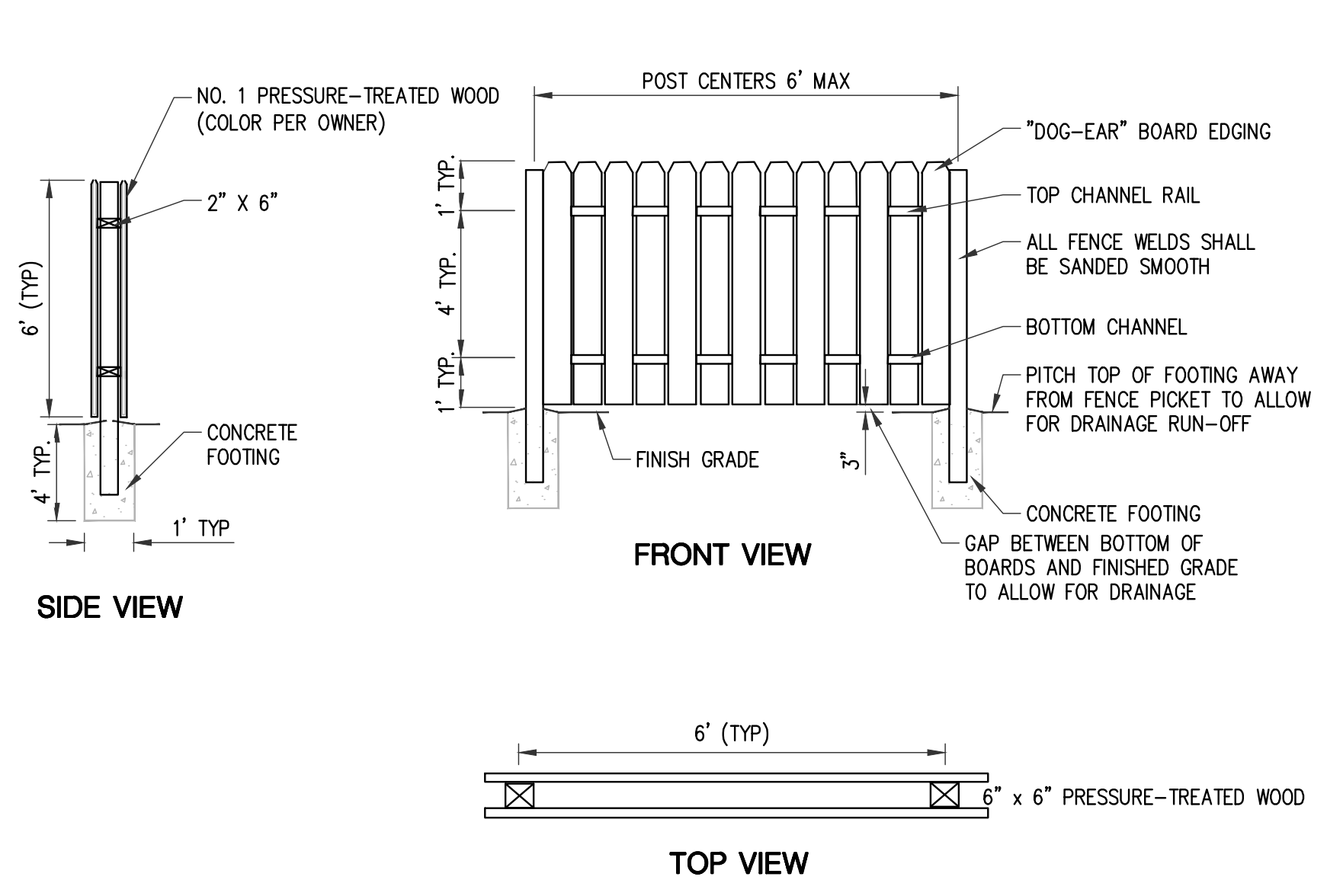


Know what's below.  
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**RIPRAP APRON DIMENSIONS**

LOCATION	DEPTH (D)	LENGTH (L)	TOP WIDTH (TW)	BOTTOM WIDTH (BW)
END SECTION	INCH	FT	FT	FT
9	12	10	6	8
12	12	10	6	8
13	12	15	12	15
15	12	5	6	8
16	12	5	6	8
18	12	5	6	8



REV. FINAL SITE PLAN REVIEW 9/21/2022  
 FINAL SITE PLAN REVIEW 8/26/2022  
 ADDENDUM 2 8/18/2022  
 ADDENDUM 1 8/12/2022  
 ISSUED FOR BIDS 8/1/2022  
 PRELIM. SITE PLAN REVIEW 5/31/2022

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**ROWE PROFESSIONAL SERVICES COMPANY**  
 CONSULTANT

SITE DETAILS

SHEET TITLE

22-703  
 PROJECT NUMBER

C-106  
 SHEET NUMBER



Know what's below.  
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Drawing: R:\Projects\22MOO1\31Dwg\Construction Drawings\SH-22MOO1\3-DET.dwg  
 Date: Sep 22, 2022, 1:21:22pm Layout: DET 3.1 Ported by: 759AJM



REV. FINAL SITE PLAN REVIEW	9/21/2022
FINAL SITE PLAN REVIEW	8/26/2022
ADDENDUM 1	8/12/2022
ISSUED FOR BIDS	8/1/2022
PRELIM. SITE PLAN REVIEW	5/31/2022

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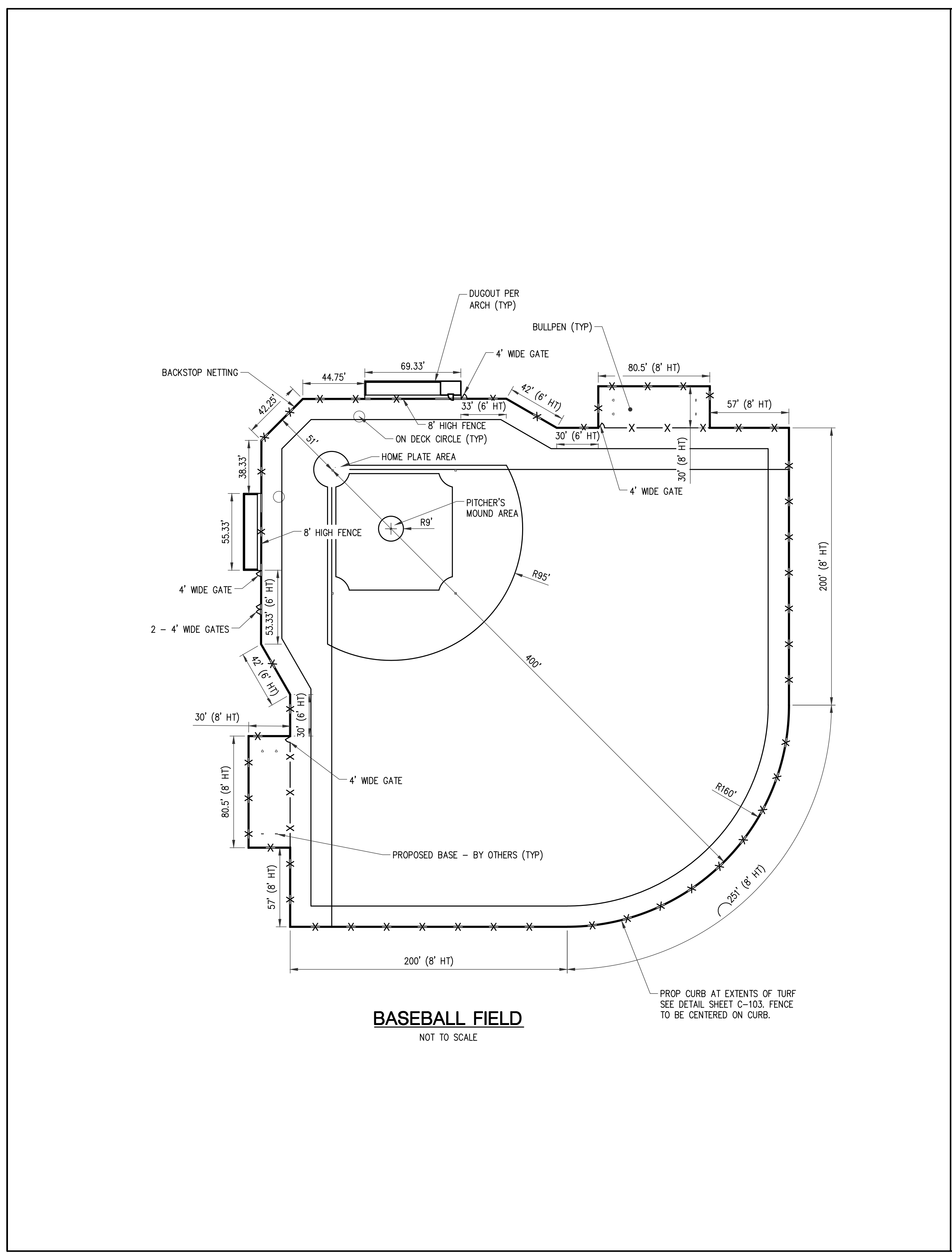
**ROWE PROFESSIONAL SERVICES COMPANY**  
 CONSULTANT

SITE DETAILS

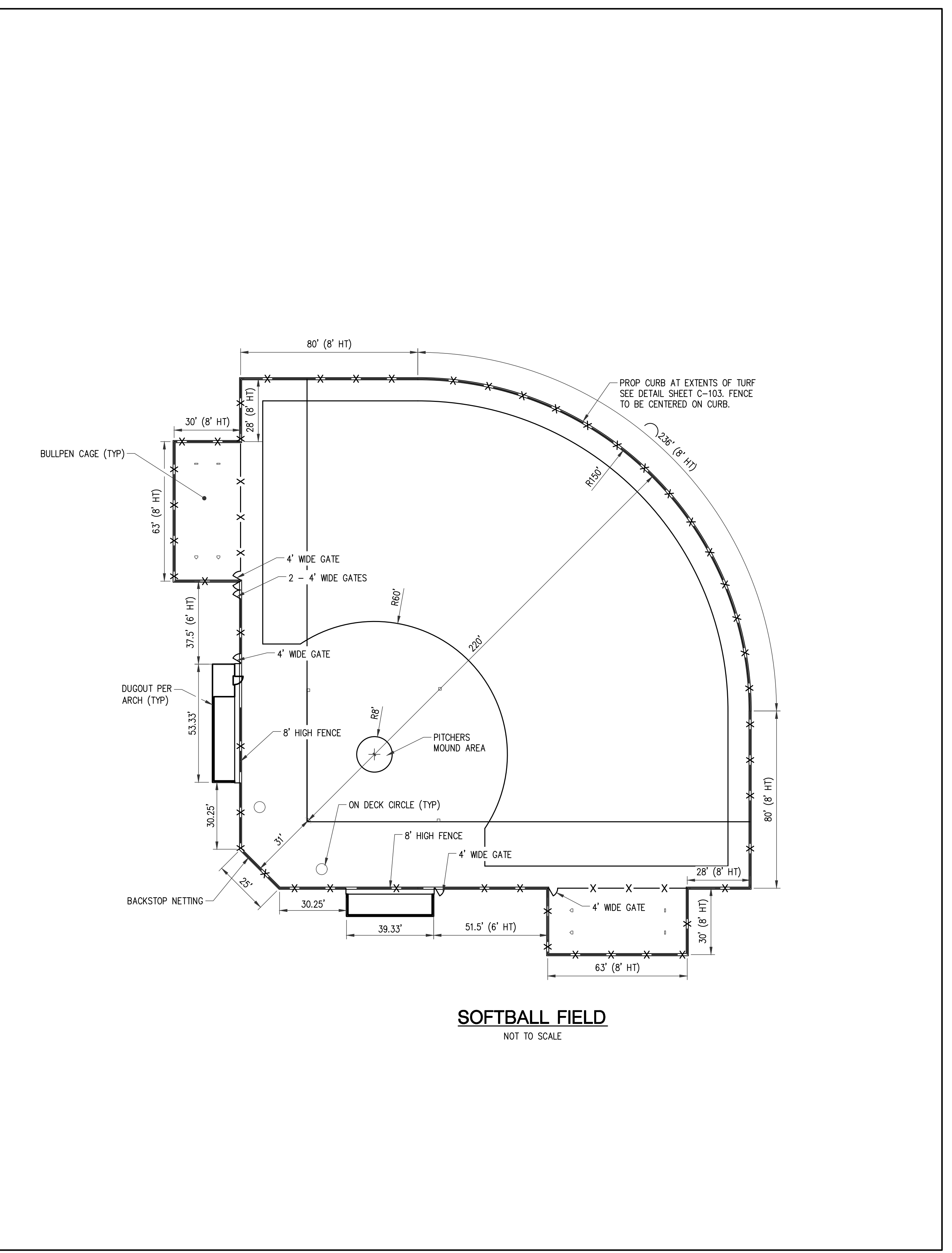
SHEET TITLE

22-703  
 PROJECT NUMBER

C-107  
 SHEET NUMBER



**BASEBALL FIELD**  
 NOT TO SCALE



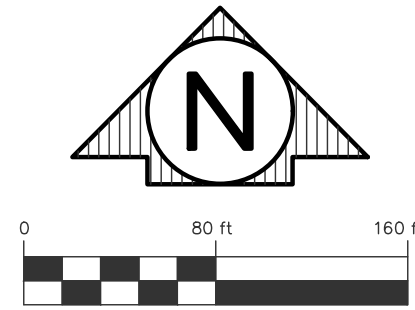
**SOFTBALL FIELD**  
 NOT TO SCALE

- NOTES:  
 1. TURF STRUCTURE AND BASES TO BE PROVIDED AS PART OF SEPARATE CONTRACT.  
 2. TURF TO EXTEND TO LIMITS OF FENCE IN FIELDS AND BULLPENS.  
 3. FIELD DIMENSIONS TO CONFORM WITH NCAA REGULATIONS.



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Drawing: R:\Projects\22MOO131\DWG\Construction Drawings\SH-22MOO131-DET.dwg  
 Date: Sep 22, 2022, 11:36am Layout: DET 4 Plotted by: 7559MJM



**LEGAL DESCRIPTION**

**PARCEL #14-013-40-001-04**  
PART OF THE EAST ONE-HALF OF THE SOUTHEAST ONE-QUARTER OF SECTION 13, T14N, R4W, UNION TOWNSHIP, ISABELLA COUNTY, STATE OF MICHIGAN DESCRIBED AS: BEGINNING AT THE EAST ONE-QUARTER CORNER OF SAID SECTION 13; THENCE N 88° 57' 50" W, ALONG THE EAST-WEST ONE-QUARTER LINE, 264.00 FEET; THENCE S 00° 22' 03" E, PARALLEL TO THE EAST SECTION LINE, 165.00 FEET; THENCE N 88° 57' 50" W, PARALLEL TO SAID EAST-WEST ONE-QUARTER LINE, 132.00 FEET; THENCE N 00° 22' 03" W, PARALLEL TO SAID EAST SECTION LINE, 165.00 FEET TO THE EAST-WEST ONE-QUARTER LINE; THENCE N 88° 57' 50" W, ALONG SAID EAST-WEST ONE-QUARTER LINE, 500.44 FEET; THENCE S 00° 33' 46" E, 330.00 FEET; THENCE N 88° 57' 50" W, PARALLEL TO SAID EAST-WEST ONE-QUARTER LINE, 447.00 FEET TO THE EAST ONE-EIGHTH LINE; THENCE S 00° 33' 41" E, ALONG SAID EAST ONE-EIGHTH LINE, 1336.11 FEET; THENCE N 89° 37' 57" E, 1337.40 FEET TO THE EAST SECTION LINE; THENCE N 00° 22' 03" W, ALONG SAID EAST SECTION LINE, 179.98 FEET; THENCE N 88° 54' 19" W, PARALLEL TO THE SOUTH ONE-EIGHTH LINE, 159.00 FEET; THENCE N 00° 22' 03" W, PARALLEL TO SAID EAST SECTION LINE, 137.00 FEET TO THE SOUTH ONE-EIGHTH LINE; THENCE N 88° 54' 19" W, ALONG SAID SOUTH ONE-EIGHTH LINE, 171.00 FEET; THENCE N 00° 22' 03" W, PARALLEL TO SAID EAST SECTION LINE, 264.00 FEET; THENCE S 88° 54' 19" E, PARALLEL TO SAID SOUTH ONE-EIGHTH LINE, 330.00 FEET TO THE EAST SECTION LINE; THENCE N 00° 22' 03" W, ALONG SAID EAST SECTION LINE, 1052.22 FEET BACK TO THE PLACE OF BEGINNING. THIS PROPERTY IS SUBJECT TO AN EASEMENT FOR THE INSTALLATION AND MAINTENANCE OF PUBLIC UTILITIES WITHIN THE RIGHT-OF-WAY OF BROADWAY ROAD AND SUMMERTON ROAD, CONTAINING 44.4 ACRES AND BEING SUBJECT TO RESTRICTIONS, RESERVATIONS, EASEMENTS, RIGHTS-OF-WAY, ZONING, GOVERNMENTAL REGULATIONS, AND MATTERS VISIBLE, IF ANY, UPON OR AFFECTING SAID LANDS.

**PARCEL #14-013-40-002-00**  
COMMENCING 132 FEET NORTH OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 13, T14N, R4W, UNION TOWNSHIP, ISABELLA COUNTY, MICHIGAN; THENCE WEST 320 FEET; NORTH 132 FEET; EAST 330 FEET; SOUTH 132 FEET TO THE POINT OF BEGINNING.

**PARCEL #14-013-40-003-00**  
COMMENCING AT THE SOUTHEAST OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 13, T14N, R4W, CHARTER TOWNSHIP OF UNION, ISABELLA COUNTY, MICHIGAN; THENCE WEST 330 FEET, THENCE NORTH 132 FEET, THENCE EAST 330 FEET, THENCE SOUTH 132 FEET TO POINT OF BEGINNING.

**PARCEL #14-013-40-012-00**  
A PARCEL OF LAND DESCRIBED AS THE NORTH 137 FEET OF THE EAST 159 FEET OF THE SOUTHEAST QUARTER (SE 1/4) OF SECTION 13, T14N, R4W, UNION TOWNSHIP, ISABELLA COUNTY, MICHIGAN

NOTE: PARCELS ARE IN THE PROCESS OF BEING COMBINED.

**EX STRUCTURE INVENTORY**

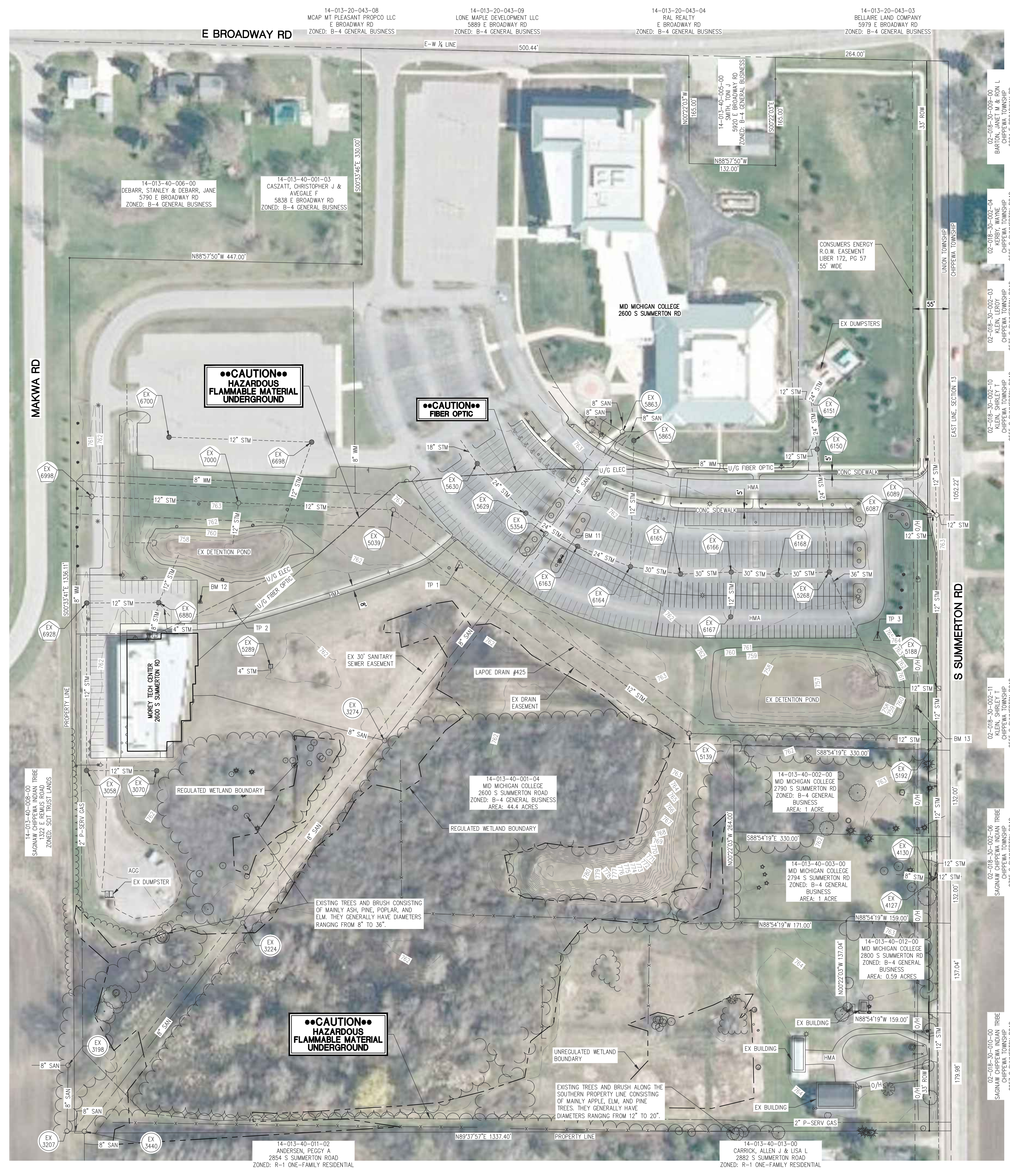
MH# 3058 TYPE: STORM COVER: BEEHIVE RIM= 762.85 12" RCP N INV.=757.85 12" RCP E INV.=757.85	MH# 4130 TYPE: STORM COVER: BEEHIVE RIM= 761.78 8" PVC N INV.=756.58 12" RCP E INV.=756.48	MH# 5629 TYPE: STORM COVER: FLAT GRATE RIM= 761.04 24" RCP NW INV.=756.74 24" RCP SE INV.=756.74	MH# 6151 TYPE: STORM COVER: SOLID RIM= 761.94 24" RCP NW INV.=756.39 24" RCP S INV.=756.39 12" PV W INV.=758.09	MH# 6700 TYPE: STORM COVER: FLAT GRATE RIM= 762.19 12" RCP E INV.=758.39
MH# 3070 TYPE: STORM COVER: BEEHIVE RIM= 761.35 12" RCP W INV.=758.25	MH# 5039 TYPE: STORM COVER: SOLID RIM= 761.30 12" RCP W INV.=756.30 12" RCP SE INV.=756.30	MH# 5630 TYPE: STORM COVER: FLAT GRATE RIM= 760.99 18" RCP NW INV.=756.79 24" RCP SE INV.=756.79	MH# 6163 TYPE: STORM COVER: FLAT GRATE RIM= 760.97 24" RCP NW INV.=756.67 24" RCP SE INV.=756.67	MH# 6880 TYPE: STORM COVER: FLAT GRATE RIM= 760.93 4" CPP SE INV.=758.43 12" RCP W INV.=757.83 8" CPP SW INV.=757.83 12" RCP N INV.=757.83
MH# 3198 TYPE: SANITARY COVER: SOLID RIM= 764.10 8" PVC S INV.=750.90 8" PVC W INV.=750.90	MH# 5139 TYPE: STORM COVER: SOLID RIM= 761.60 12" RCP NW INV.=755.90 12" RCP E INV.=755.90	MH# 5863 TYPE: SANITARY COVER: SOLID RIM= N/A 8" PVC E INV.=N/A 8" VCP NW INV.=N/A 8" VCP SW INV.=N/A 8" PVC N INV.=N/A	MH# 6164 TYPE: STORM COVER: FLAT GRATE RIM= 760.98 12" RCP N INV.=756.68 24" RCP NW INV.=756.68 30" RCP E INV.=756.68	MH# 6928 TYPE: STORM COVER: BEEHIVE RIM= 760.83 12" RCP W INV.=757.83 12" RCP E INV.=757.83
MH# 3207 TYPE: SANITARY COVER: SOLID RIM= 764.03 8" PVC N INV.=750.53 8" PVC E INV.=750.43	MH# 5188 TYPE: STORM COVER: CURB INLET RIM= 763.12 12" RCP N INV.=755.72 12" RCP S INV.=755.62 12" RCP W INV.=755.72	MH# 5865 TYPE: STORM COVER: BEEHIVE RIM= 762.44 8" CPP NW INV.=758.33 12" RCP S INV.=757.14 6" PV NE INV.=758.94	MH# 6165 TYPE: STORM COVER: FLAT GRATE RIM= 760.91 30" RCP W INV.=756.61 30" RCP E INV.=756.61	MH# 6998 TYPE: STORM COVER: BEEHIVE RIM= 761.82 12" RCP W INV.=757.12 8" PV S INV.=757.12 12" RCP E INV.=756.82
MH# 3274 TYPE: SANITARY COVER: SOLID RIM= 762.58 8" PVC NE INV.=751.46 8" PVC SW INV.=751.36	MH# 5192 TYPE: STORM COVER: CURB INLET RIM= 763.38 12" RCP S INV.=755.68 12" RCP N INV.=755.78	MH# 6087 TYPE: STORM COVER: FLAT GRATE RIM= 762.25 12" RCP W INV.=755.78 12" RCP E INV.=758.45	MH# 6166 TYPE: STORM COVER: FLAT GRATE RIM= 760.87 30" RCP W INV.=756.37 30" RCP E INV.=756.47 30" RCP E INV.=756.37	MH# 7000 TYPE: STORM COVER: SOLID RIM= 762.50 12" RCP N INV.=756.50 12" RCP E INV.=756.50
MH# 3440 TYPE: SANITARY COVER: SOLID RIM= 763.33 8" PVC S INV.=749.63 8" PVC W INV.=750.23 8" PVC NE INV.=749.73	MH# 5268 TYPE: STORM COVER: FLAT GRATE RIM= 760.96 24" RCP N INV.=756.16 30" RCP W INV.=756.06 36" RCP SE INV.=755.96	MH# 6089 TYPE: STORM COVER: SOLID RIM= 762.68 12" RCP N INV.=758.48 12" RCP W INV.=758.38	MH# 6167 TYPE: STORM COVER: FLAT GRATE RIM= 760.87 12" RCP N INV.=756.57	MH# 6168 TYPE: STORM COVER: FLAT GRATE RIM= 760.84 30" RCP E INV.=756.04 30" RCP W INV.=756.04
MH# 4127 TYPE: STORM COVER: CURB INLET RIM= 763.87 12" RCP E INV.=755.57 12" RCP S INV.=755.27 12" RCP W INV.=755.57 12" RCP N INV.=755.37	MH# 5289 TYPE: STORM COVER: FLAT GRATE RIM= 761.65 4" CPP S INV.=760.85	MH# 6150 TYPE: STORM COVER: SOLID RIM= 763.96 24" RCP S INV.=756.46 24" RCP W INV.=756.46 12" RCP W INV.=757.78	MH# 6698 TYPE: STORM COVER: FLAT GRATE RIM= 762.35 12" RCP W INV.=758.15 12" RCP S INV.=758.15	
	MH# 5354 TYPE: SANITARY COVER: SOLID RIM= 761.50 8" PVC SW INV.=754.50 8" PVC NE INV.=754.60			

**BENCHMARK DATA TABLE**

NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM 11	766298	13027153	764.98	SET "SQUARE" MARK ON SW SIDE OF CONCRETE LIGHT POLE BASE, THIRD LIGHT POLE FROM SE END OF PARKING LOT
BM 12	766236	13026605	764.75	SET "SQUARE" MARK ON EAST SIDE OF CONCRETE LIGHT POLE BASE, EAST END OF SMALL PARKING LOT, 50' NORTH OF NE CORNER OF BUILDING
BM 13	766074	13027699	763.78	SET SPIKE IN WEST FACE OF POWER POLE, EAST SIDE OF EXISTING DETENTION POND

**TRAVERSE POINT DATA TABLE**

NUMBER	NORTHING	EASTING	DESCRIPTION
TP 1	766291.6960	13027000.2720	SET IRON W/ "TROWE TRAV" CAP, 27' SW OF PARKING LOT EDGE, 32' SE OF BIT WALK, 16' EASTERLY OF 4" TREE
TP 2	766224.9610	13026654.8100	SET IRON W/ "TROWE TRAV" CAP, 65' NE OF NE CORNER OF TECH CENTER BUILDING, 18' NORTH OF BIT WALK
TP 3	766180.7600	13027638.5860	SET IRON W/ "TROWE TRAV" CAP, SE SIDE OF PARKING LOT, 524E 69' OF LIGHT POLE, 30 1/2 WEST OF PINE TREE



Drawing: R:\Projects\22\MOO13\DWG\Construction\Drawings\SH-22\MOO13-SURV.dwg  
Date: Sep 22, 2022, 11:36am  
Layout: EX CONDITIONS  
Printed by: 759MAM

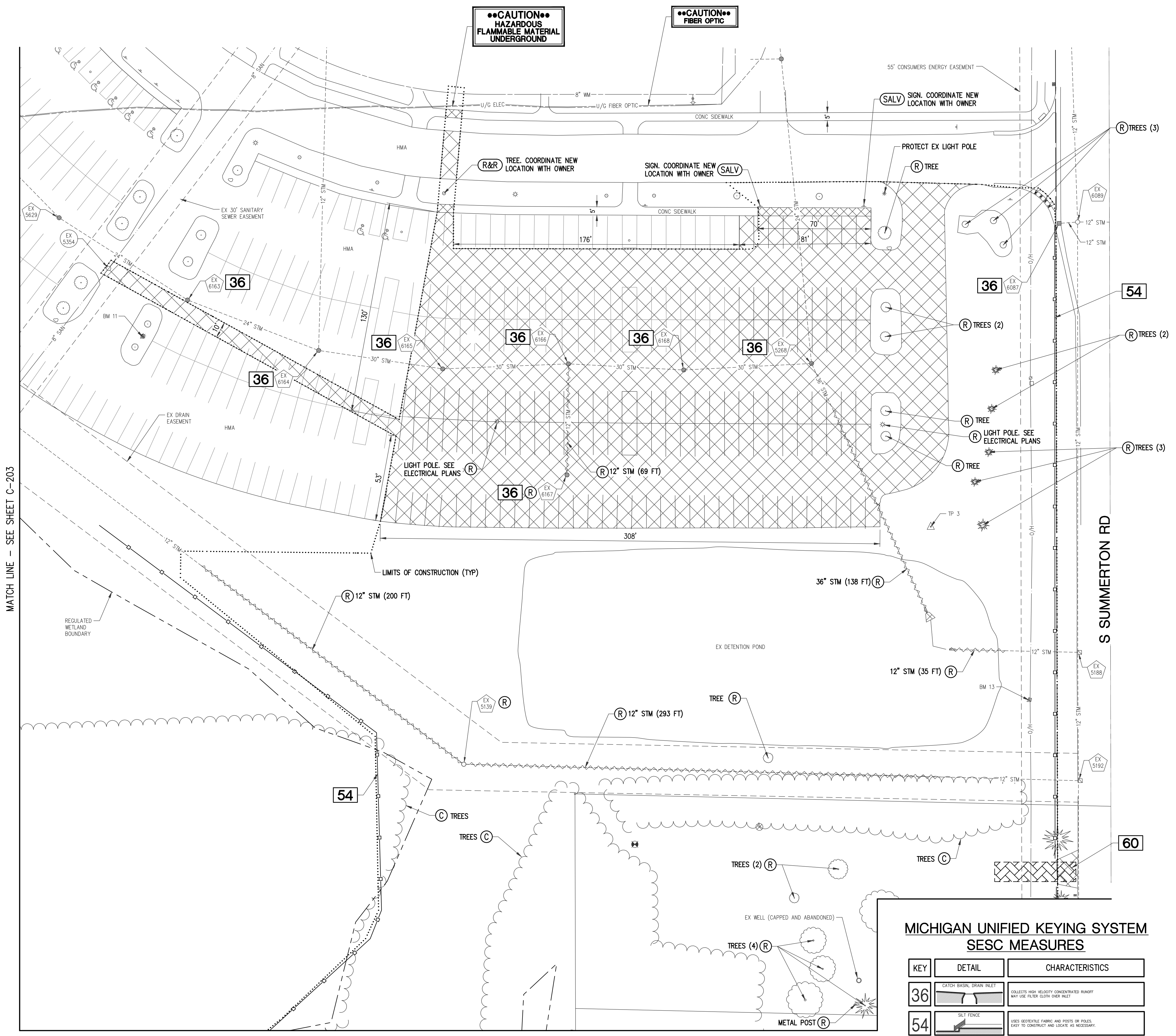
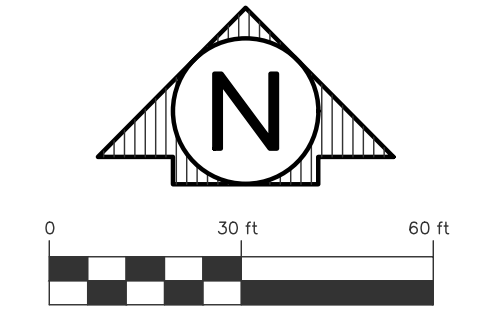
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CONSULTANT

EXISTING CONDITIONS  
SHEET TITLE  
22-703  
PROJECT NUMBER  
C-200  
SHEET NUMBER





MATCH LINE - SEE SHEET C-203

MATCH LINE - SEE SHEET C-202

REV. FINAL SITE PLAN REVIEW	9/21/2022
FINAL SITE PLAN REVIEW	8/26/2022
ADDENDUM 2	8/18/2022
ADDENDUM 1	8/12/2022
ISSUED FOR BIDS	8/1/2022
PRELIM. SITE PLAN REVIEW	5/31/2022
DATE ISSUED	
DRAWN BY	MJM
CHECKED BY	JBM

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DEMOLITION PLAN  
 NORTHEAST

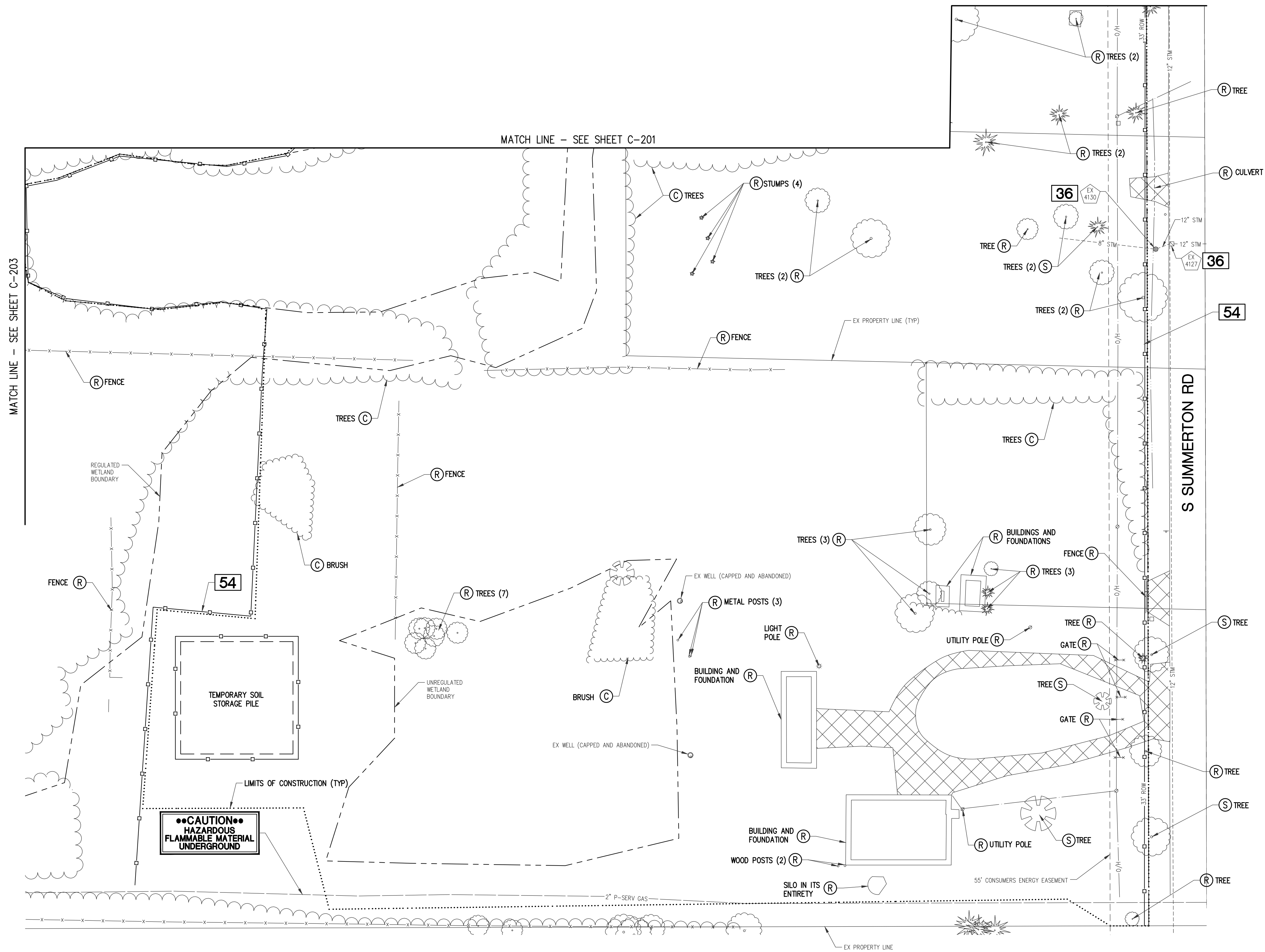
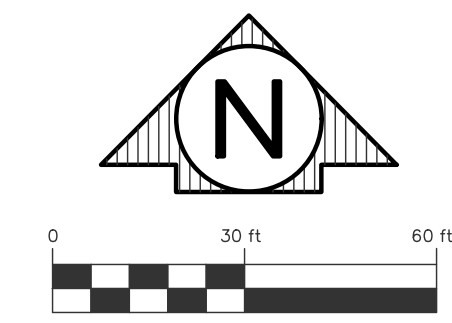
SHEET TITLE  
 22-703  
 PROJECT NUMBER  
 C-201  
 SHEET NUMBER

**MICHIGAN UNIFIED KEYING SYSTEM  
 SESC MEASURES**

KEY	DETAIL	CHARACTERISTICS
36		COLLECTS HIGH VELOCITY CONCENTRATED RUNOFF MAY USE FILTER CLOTH OVER INLET
54		USES GEOTEXTILE FABRIC AND POSTS OR POLES. EASY TO CONSTRUCT AND LOCATE AS NECESSARY.
60		ASSISTS IN REMOVING SOIL FROM FROM THE TIRES OF CONSTRUCTION EQUIPMENT/VEHICLES WHEN EXITING THE CONSTRUCTION SITE THIS REDUCES TRACKING EXCESSIVE SEDIMENT/SOIL ONTO THE ADJACENT ROAD.



Drawing: R:\Projects\22\MOO13\Draw\Construction Drawings\SH-22\MOO13-REM.dwg  
 Date: Sep 22, 2022, 11:36am  
 Plotted by: 759MJM



REV. FINAL SITE PLAN REVIEW	9/21/2022
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 Mt. Pleasant, MI 48858  
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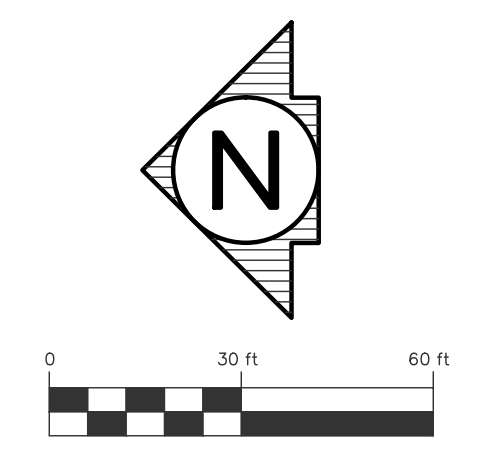
DEMOLITION PLAN  
 SOUTHEAST

SHEET TITLE	
PROJECT NUMBER	22-703
SHEET NUMBER	C-202



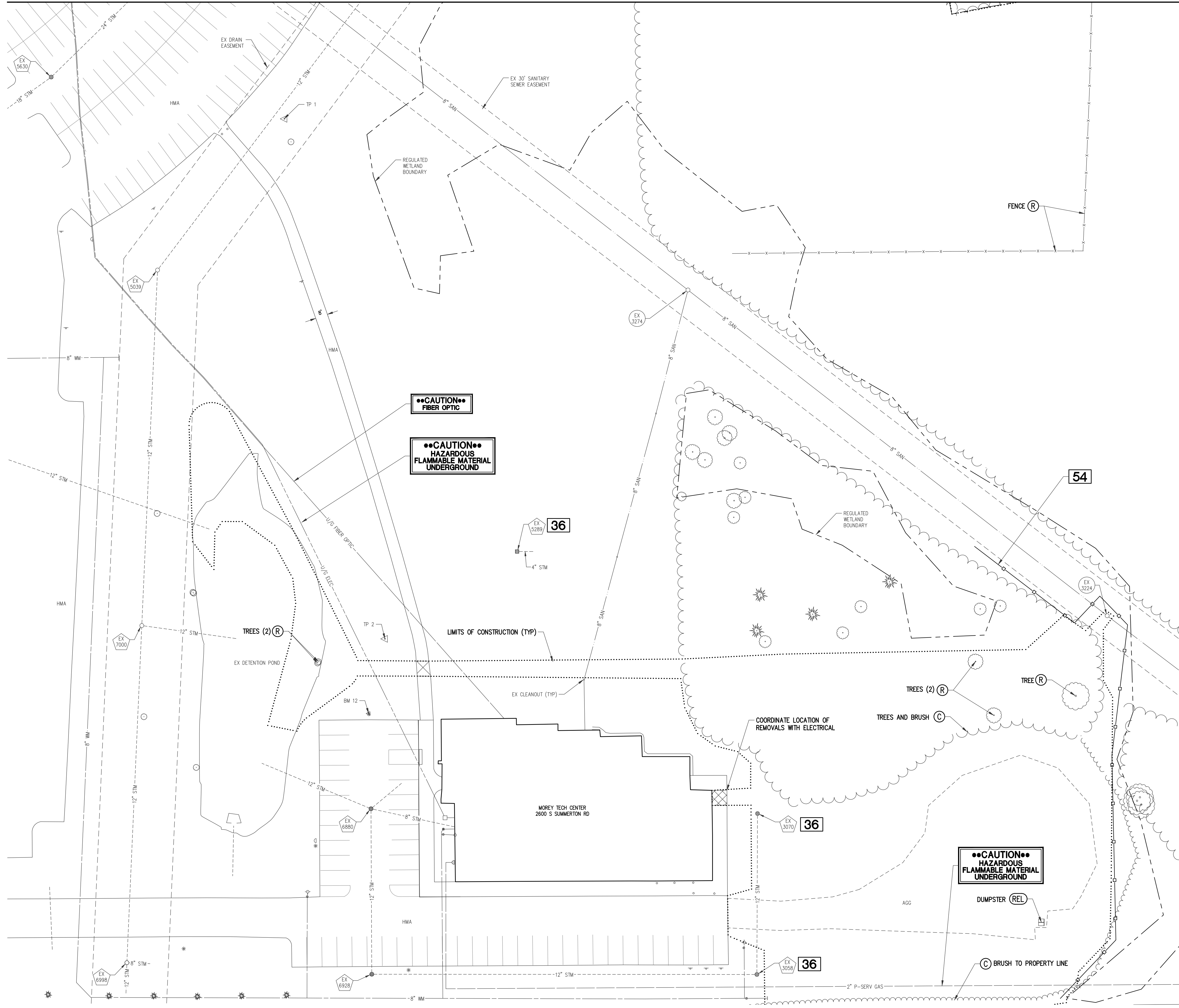
Know what's below.  
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Drawing: R:\Projects\22\MOO13\Drawings\Construction Drawings\SH-22\MOO13-REM.dwg  
 Date: 5/22/2022, 11:36am  
 Plotted by: 759MJM



MATCH LINE - SEE SHEET C-201

MATCH LINE - SEE SHEET C-202



REV.	FINAL SITE PLAN REVIEW	9/21/2022
	FINAL SITE PLAN REVIEW	8/26/2022
	ADDENDUM 1	8/12/2022
	ISSUED FOR BIDS	8/1/2022
	PRELIM. SITE PLAN REVIEW	5/31/2022
	DATE ISSUED	
	DRAWN BY	J.M.
	CHECKED BY	J.M.

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 NEW SPORTS COMPLEX  
 PROJECT

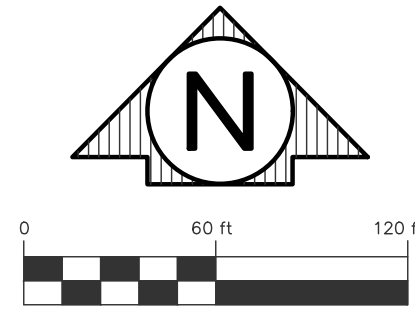
**ROWE PROFESSIONAL SERVICES COMPANY**  
 CONSULTANT

DEMOLITION PLAN  
 NORTHWEST

SHEET TITLE	22-703
PROJECT NUMBER	C-203
SHEET NUMBER	203



Drawing: R:\Projects\22\MOO13\Drawings\Construction\Drawings\SH-22\MOO13-DEM.dwg  
 Date: Sep 22, 2022, 11:13:6am  
 Layout: DEM - NW  
 Plotted by: 759MIM



**SITE PLAN NOTES**

- APPLICANT/PROPERTY OWNER**  
 MID MICHIGAN COLLEGE  
 ATTN: MATT MILLER  
 1375 S CLARE RD  
 HARRISON, MI 48625  
 P - (989) 386-6600
- FIRM PREPARING SITE PLAN**  
 ROWE PROFESSIONAL SERVICES COMPANY  
 127 S MAIN ST  
 MT PLEASANT, MI 48858  
 P - (989) 772-2138
- ADDRESS AND PROPERTY I.D. NUMBER**  
 PARCEL: 14-013-40-001-04  
 2600 S SUMMERTON RD, MT PLEASANT, MI 48858  
 PARCEL: 14-013-40-002-00  
 2790 S SUMMERTON RD, MT PLEASANT, MI 48858  
 PARCEL: 14-013-40-003-00  
 2794 S SUMMERTON RD, MT PLEASANT, MI 48858  
 PARCEL: 14-013-40-012-00  
 2800 S SUMMERTON RD, MT PLEASANT, MI 48858
- DETAILED USE STATEMENT**  
 THE MID MICHIGAN COLLEGE BASEBALL AND SOFTBALL COMPLEX AND MAINTENANCE BUILDING, PROPOSED TO BE LOCATED AT 2600 SOUTH SUMMERTON ROAD IN THE CHARTER TOWNSHIP OF UNION, WILL BE THE HOME FIELDS FOR THE COLLEGE'S BASEBALL AND SOFTBALL TEAMS AS WELL AS A SITE FOR STORAGE AND SITE MAINTENANCE.

REV. FINAL SITE PLAN REVIEW	9/21/2022
FINAL SITE PLAN REVIEW	8/26/2022
ADDENDUM 3	8/19/2022
ADDENDUM 2	8/18/2022
ADDENDUM 1	8/12/2022
ISSUED FOR BIDS	8/1/2022
PRELIM. SITE PLAN REVIEW	5/31/2022

DATE ISSUED  
 M.M.  
 DRAWN BY  
 J.B.M.  
 CHECKED BY

THE RURAL SITE IS A 47-ACRE PARCEL LOCATED DIRECTLY SOUTHWEST FROM THE INTERSECTION OF E BROADWAY AND S SUMMERTON ROADS. IT IS THE LOCATION OF THE COLLEGE'S CAMPUS AND IS SURROUNDED BY A MIX OF USES INCLUDING RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL.

IN ADDITION TO EXISTING STRUCTURES, THE SITE WILL INCLUDE A NEW MAINTENANCE BUILDING, A NEW TRAINING CENTER/CONCESSIONS/RESTROOM BUILDING, AND NEW BASEBALL AND SOFTBALL FIELDS WITH TYPICAL SURROUNDING STRUCTURES (ANNOUNCER BOOTHS, DUGOUTS, BATING CAGES, BLEACHERS, ETC.). THE MAINTENANCE BUILDING WILL BE APPROXIMATELY 300 FEET SOUTH OF THE EXISTING MOREY TECH CENTER. THE TRAINING CENTER, BASEBALL AND SOFTBALL FIELDS, AND ASSOCIATED STRUCTURES WILL BE DIRECTLY SOUTH OF THE EXISTING PARKING LOT AND ADJACENT TO SOUTH SUMMERTON ROAD.

WHILE PLANNING THE SITE, THE COLLEGE CONTACTED THE SAGINAW CHIPPEWA INDIAN TRIBE ABOUT CONNECTING MAKWA ROAD IN THE INDUSTRIAL PARK TO THE COLLEGE'S DRIVE NEAR THE MOREY TECH CENTER. THE TRIBE IS DISCUSSING THE POSSIBILITY INTERNALLY, BUT HAD NO FEEDBACK FOR THE COLLEGE AT THIS TIME.

THE COLLEGE COLLECTED DATA OF CURRENT PARKING LOT USAGE. THE FINDINGS HAVE BEEN PROVIDED TO UNION TOWNSHIP. THE SITE PLAN CALLS FOR THE REMOVAL OF 123 SPACES FROM THE EXISTING PARKING LOT IN THE SOUTHEAST CORNER OF CAMPUS. BASED ON THE RESULTS OF THE DATA COLLECTION, THE COLLEGE'S HISTORIC USAGE AT ITS CURRENT OFF-SITE BASEBALL AND SOFTBALL FIELDS, AND THE ANTICIPATED FUTURE USE, THE COLLEGE'S CURRENT PARKING - EVEN WITH THE LOSS OF 123 SPACES - WILL BE MORE THAN ADEQUATE TO MEET THE NEEDS OF THE NEW FACILITY.

THE BASEBALL AND SOFTBALL FIELDS WILL BE FULLY ARTIFICIAL TURF WITH PROPER DRAINAGE. CONCRETE AND GRAVEL PATHS NEAR THE ATHLETIC FIELDS WILL FACILITATE SPECTATOR MOVEMENT WITH THE OUTLIER AREAS LEFT NATURAL GRASS, HOWEVER MAINTAINED. NATURAL LANDSCAPE SCREENING HAS BEEN INCORPORATED TO SCREEN AND DIFFUSE VEHICULAR MOVEMENTS AND HEADLIGHTS FROM NEIGHBORING PARCELS. SITE LIGHTING WILL BE MINIMAL AND WILL BE LOCATED ON NEW STRUCTURES AS NECESSARY TO FACILITATE SAFE MOVEMENT AT DUSK. THE BASEBALL AND SOFTBALL FIELDS WILL NOT HAVE FIELD LIGHTING FOR NIGHT GAMES.

THE NEW MAINTENANCE FACILITY WILL HOUSE THE SHIPPING/RECEIVING AND GENERAL MAINTENANCE AND STORAGE OPERATIONS FOR THE COLLEGE. THIS BUILDING WILL BE USED YEAR-ROUND, GENERALLY 7AM TO 5PM MONDAY THROUGH FRIDAY WITH 4-7 EMPLOYEES IN AND OUT OF THE BUILDING THROUGHOUT THE DAY.

THE NEW TRAINING CENTER/CONCESSIONS/RESTROOM BUILDING WILL BE USED YEAR-ROUND FOR VARIOUS PURPOSES. WHILE THE CONCESSIONS AND LARGE RESTROOMS WILL PRIMARILY BE USED MARCH THROUGH NOVEMBER, THOSE AREAS WILL BE HEATED TO ALLOW FOR ACCESS IN THE WINTER. THE TRAINING CENTER, WHICH INCLUDES AN INDOOR TURF ROOM, WILL BE USED THROUGHOUT THE YEAR FOR TRAINING, CAMPS, AND VARIOUS ACTIVITIES. THE BASEBALL AND SOFTBALL FIELDS (AND ASSOCIATED STRUCTURES) WILL PRIMARILY BE USED MARCH THROUGH NOVEMBER. THE FIELDS WILL BE THE VENUE FOR THE COLLEGE'S BASEBALL AND SOFTBALL HOME GAMES AND PRACTICES. THE FIELDS WILL ALSO BE AVAILABLE FOR RENT BY COMMUNITY GROUPS FOR CAMPS, TOURNAMENTS, OR OTHER ACTIVITIES.

STORM WATER MANAGEMENT HAS BEEN ADDRESSED FOR THE PROPOSED IMPROVEMENTS BY ENLARGING THE EXISTING STORM WATER DETENTION AREA NEAR THE SOUTHEAST CORNER OF THE EXISTING PARKING AREA. THE DESIGN TEAM HAS COORDINATED THE RELOCATION OF AN EXISTING UNDERGROUND COUNTY DRAIN AND ENLARGEMENT OF THE EXISTING DETENTION AREA WITH THE COUNTY DRAIN COMMISSION. THE EXISTING DETENTION AREA NORTH OF THE MOREY TECH CENTER WILL ALSO BE ENLARGED TO ACCOMMODATE THE ADDITIONAL RUNOFF GENERATED FROM THE ADDITION OF THE MAINTENANCE BUILDING.

**5. FLOODPLAINS AND WETLANDS.**  
 THE SITE IS NOT AFFECTED BY A FLOODPLAIN. WETLANDS WILL BE IMPACTED BY THE PROJECT. A PART 303 WETLANDS PROTECTION PERMIT FROM EGLE WAS OBTAINED ON 8/25/2022.

**6. UTILITIES.**  
 DEVELOPMENT WILL BE SERVED BY PUBLIC SEWER AND PUBLIC WATER. PRIVATE UTILITIES (GAS, ELECTRIC, PHONE) SHALL BE UNDERGROUND.

**7. LIGHTING.**  
 ALL PROPOSED SITE LIGHTING WILL BE DIRECTED DOWNWARD. NO ATHLETIC FIELD LIGHTING IS PROPOSED. SEE SHEETS L201 TO L204 FOR PHOTOMETRIC PLAN.

**8. STORMWATER MANAGEMENT.**  
 ON SITE DETENTION WILL BE PROVIDED BY THE EXPANSION OF EXISTING DETENTION AREAS NEAR THE PROPOSED TRAINING BUILDING AND EXISTING MOREY TECH CENTER.

**9. TOTAL ACREAGE.**  
 DIMENSIONS OF LAND: SEE EXISTING CONDITIONS  
 ACREAGE:  
 14-013-40-001-04 - 44.4 ACRE  
 14-013-40-001-04 - 1.00 ACRE  
 14-013-40-003-00 - 1.00 ACRE  
 14-013-40-012-00 - 0.59 ACRE  
 TOTAL ACREAGE: 46.99 ACRE

**10. ZONING CLASSIFICATION**  
 14-013-40-001-04 - GENERAL BUSINESS  
 14-013-40-001-04 - GENERAL BUSINESS  
 14-013-40-003-00 - GENERAL BUSINESS  
 14-013-40-012-00 - GENERAL BUSINESS  
 NOTE: PARCELS ARE IN THE PROCESS OF BEING COMBINED.

**11. PARKING.**  
 SEE PARKING STATEMENT INCLUDED WITH THIS SUBMITTAL.  
 PARKING PROPOSED: 648 SPACES

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**MID MICHIGAN COLLEGE**  
 NEW SPORTS COMPLEX PROJECT

**ROWE PROFESSIONAL SERVICES COMPANY**  
 CONSULTANT

OVERALL SITE PLAN

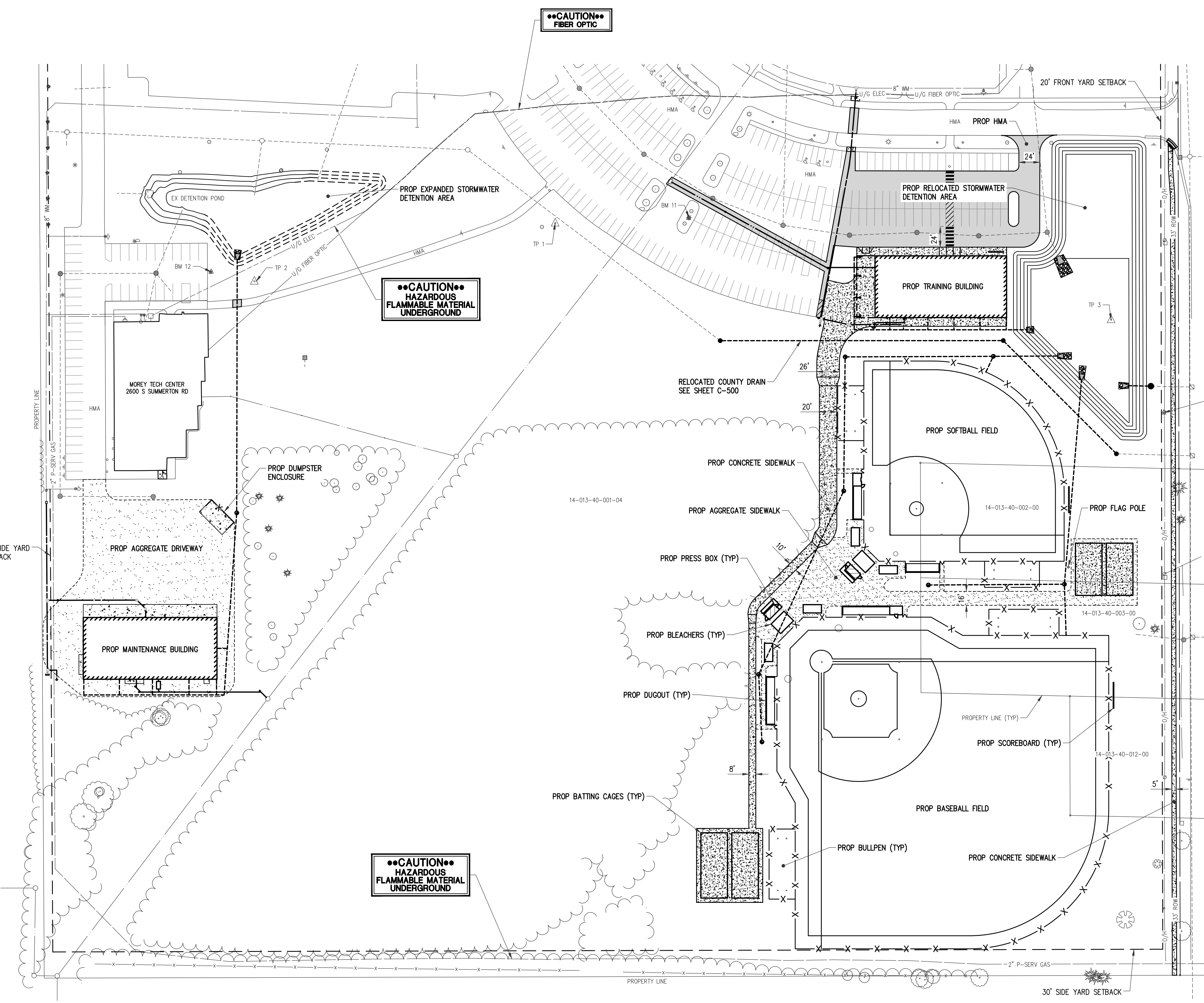
SHEET TITLE

22-703

PROJECT NUMBER

C-300

SHEET NUMBER



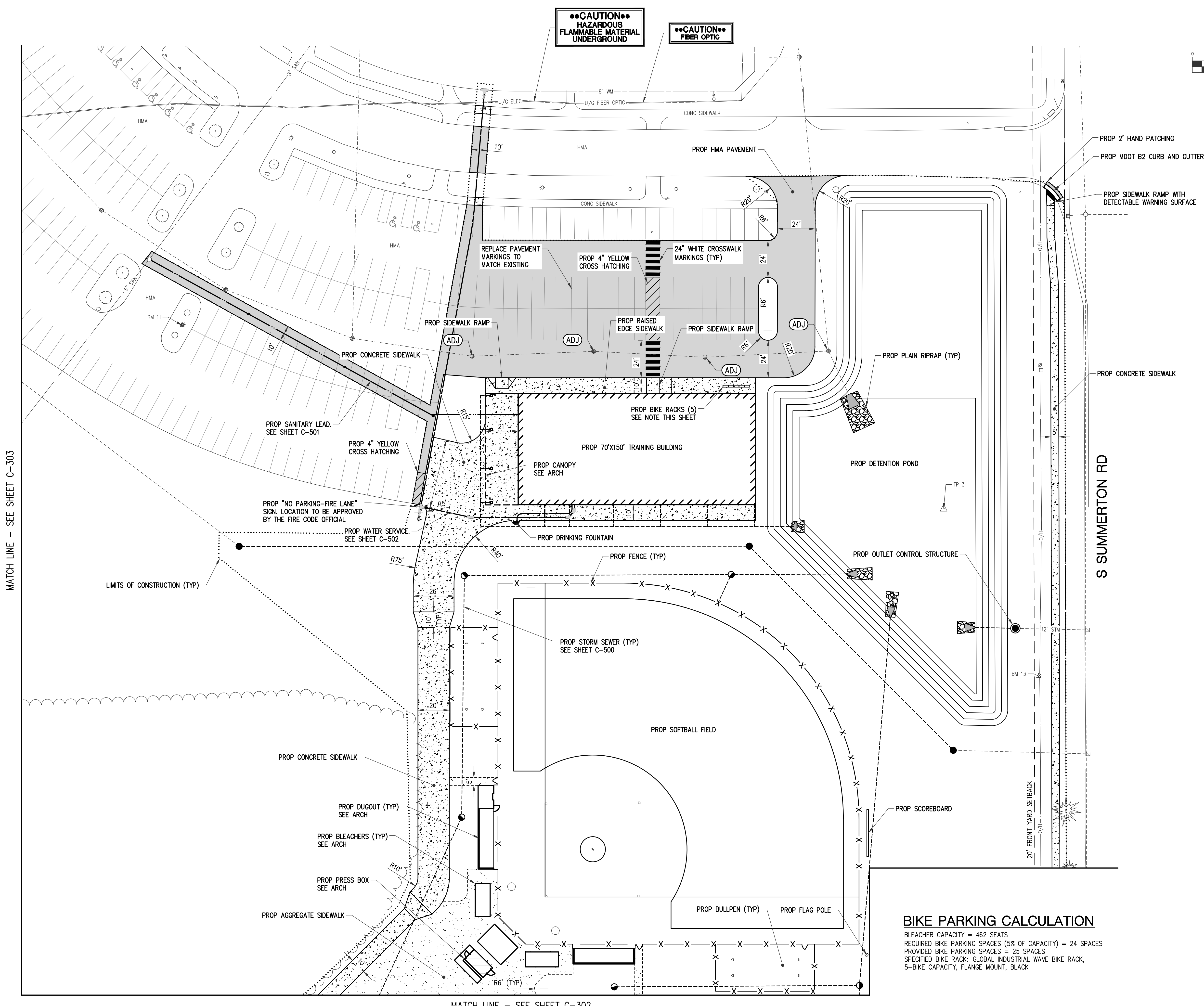
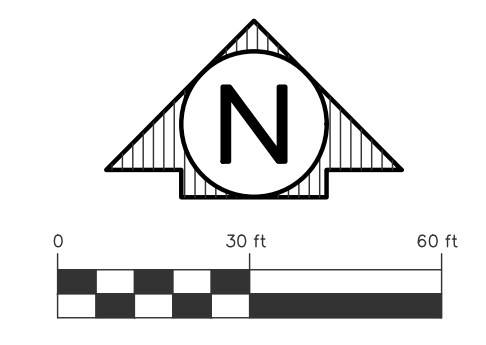
**BUILDING HEIGHTS AND AREAS**

<b>TRAINING BUILDING</b>		<b>DUGOUTS SOFTBALL</b>	
FIRST FLOOR	10,847 sf	HOME	488 sf
MEZZANINE	831 sf	VISITORS	365 sf
BUILDING HEIGHT	25'-5"	BUILDING HEIGHT	11'-0"
<b>MAINTENANCE BUILDING</b>		<b>ANNOUNCERS BOOTH BASEBALL</b>	
FIRST FLOOR	10,847 sf	FIRST FLOOR	112 sf
MEZZANINE	528 sf	SECOND FLOOR	112 sf
BUILDING HEIGHT	25'-5"	BUILDING HEIGHT	19'-6"
<b>DUGOUTS BASEBALL</b>		<b>ANNOUNCERS BOOTH SOFTBALL</b>	
HOME	612 sf	FIRST FLOOR	112 sf
VISITORS	804 sf	SECOND FLOOR	112 sf
BUILDING HEIGHTS	11'-0"	BUILDING HEIGHT	19'-6"

**RESIDENTIAL BUFFER STATEMENT**

EXISTING WOODLAND AREA ALONG THE SOUTHEAST PROPERTY LINE CONSISTS OF MAINLY APPLE, ELM, AND PINE TREES. THEY GENERALLY HAVE DIAMETERS RANGING FROM 12" TO 20". A MAJORITY OF THE EXISTING GROWTH IS ON PARCELS 14-013-40-013-00 AND 14-013-40-011-02. SEE SHEET C-600 FOR THE PROPOSED LANDSCAPING PLAN.

Drawing: R:\Projects\22\MOI\3\Drawings\Construction Drawings\SH-22\MOI\3-OVERALL SITE.dwg  
 Date: Sep 22, 2022, 11:36am Layout: O\FALL SITE Plotted by: 759\JMM



MATCH LINE - SEE SHEET C-303

MATCH LINE - SEE SHEET C-302

REV. FINAL SITE PLAN REVIEW	9/21/2022
FINAL SITE PLAN REVIEW	8/26/2022
ADDENDUM 3	8/19/2022
ADDENDUM 2	8/18/2022
ADDENDUM 1	8/12/2022
ISSUED FOR BIDS	8/1/2022
PRELIM. SITE PLAN REVIEW	5/31/2022

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**MID MICHIGAN COLLEGE**  
 NEW SPORTS COMPLEX  
 PROJECT

**ROWE PROFESSIONAL SERVICES COMPANY**  
 CONSULTANT

SITE PLAN  
 NORTHEAST

SHEET TITLE

22-703

PROJECT NUMBER

C-301

SHEET NUMBER

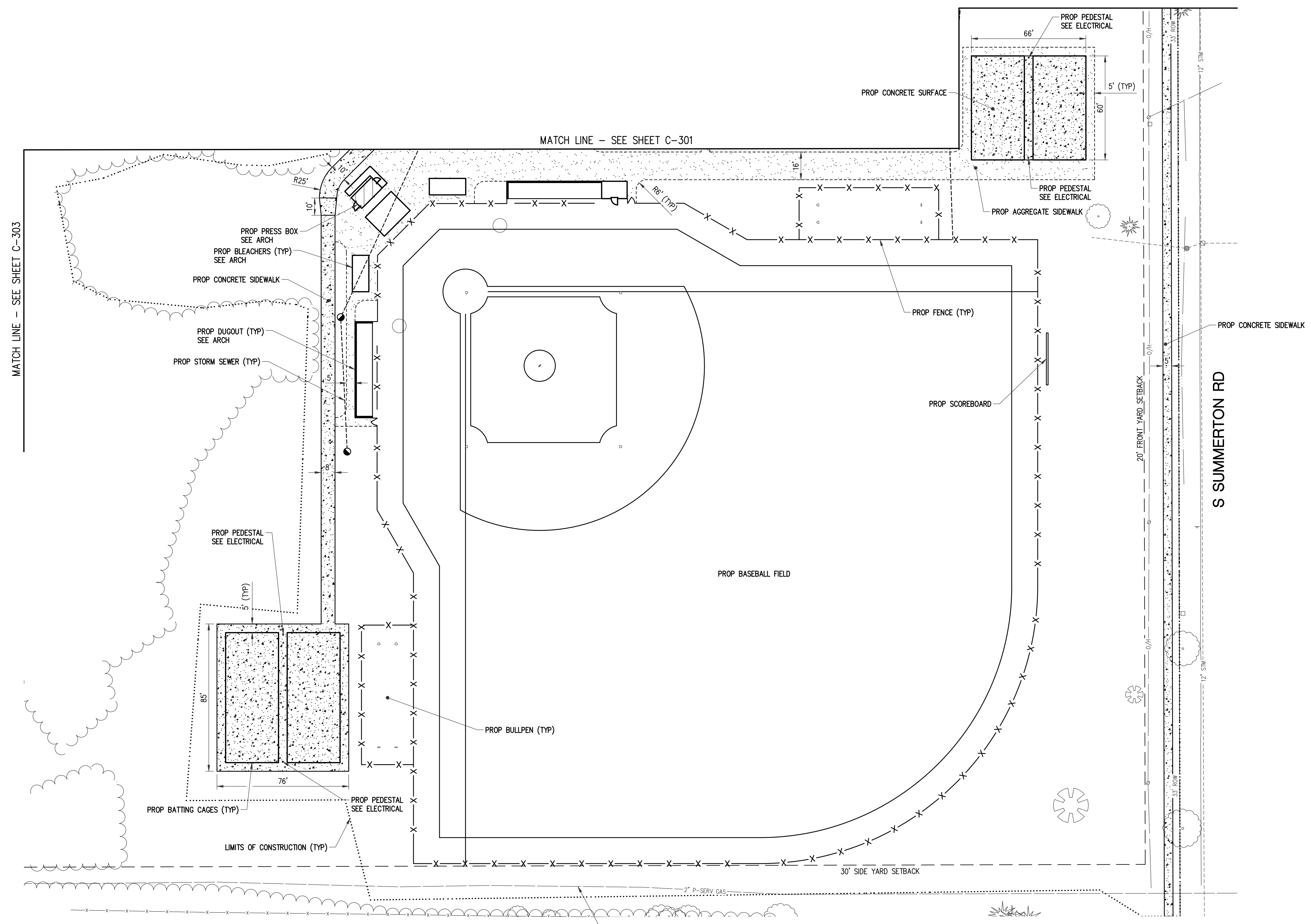
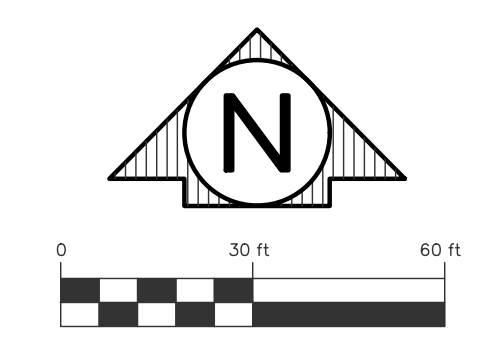
**BIKE PARKING CALCULATION**

BLEACHER CAPACITY = 462 SEATS  
 REQUIRED BIKE PARKING SPACES (5% OF CAPACITY) = 24 SPACES  
 PROVIDED BIKE PARKING SPACES = 25 SPACES  
 SPECIFIED BIKE RACK: GLOBAL INDUSTRIAL WAVE BIKE RACK,  
 5-BIKE CAPACITY, FLANGE MOUNT, BLACK



Know what's below.  
 Call before you dig.

Drawing: R:\Projects\22MOJ\3\Draw\Construction Drawings\SH-22MOJ\3-SITE.dwg  
 Date: Sep 22, 2022, 11:37am Layout: SITE - NE Plotted by: 759MJM



**••CAUTION••**  
 HAZARDOUS  
 FLAMMABLE MATERIAL  
 UNDERGROUND

REV. FINAL SITE PLAN REVIEW	9/21/2022
FINAL SITE PLAN REVIEW	8/26/2022
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**MID**  
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 NEW SPORTS  
 COMPLEX  
 PROJECT

**ROWE PROFESSIONAL**  
**SERVICES COMPANY**  
 1215 Main Street  
 St. Joseph, MI 49785  
 CONSULTANT

SITE PLAN  
 SOUTHEAST

SHEET TITLE  
 22-703  
 PROJECT NUMBER  
 C-302  
 SHEET NUMBER



Drawing: R:\Projects\22MOO13\DWG\Construction Drawings\SH-22MOO13-SITE.dwg  
 Date: Sep 22, 2022, 11:37am Layout: SITE - SE Plotted by: 759MJM



REV. FINAL SITE PLAN REVIEW	9/21/2022
FINAL SITE PLAN REVIEW	8/26/2022
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PRELIM. SITE PLAN REVIEW	5/31/2022

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**MID MICHIGAN COLLEGE**  
 NEW SPORTS COMPLEX  
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SITE PLAN  
 NORTHWEST

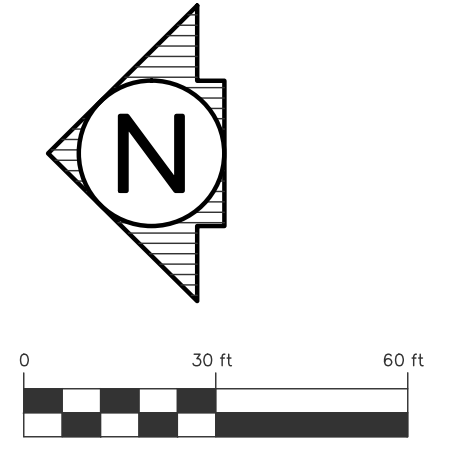
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22-703

PROJECT NUMBER

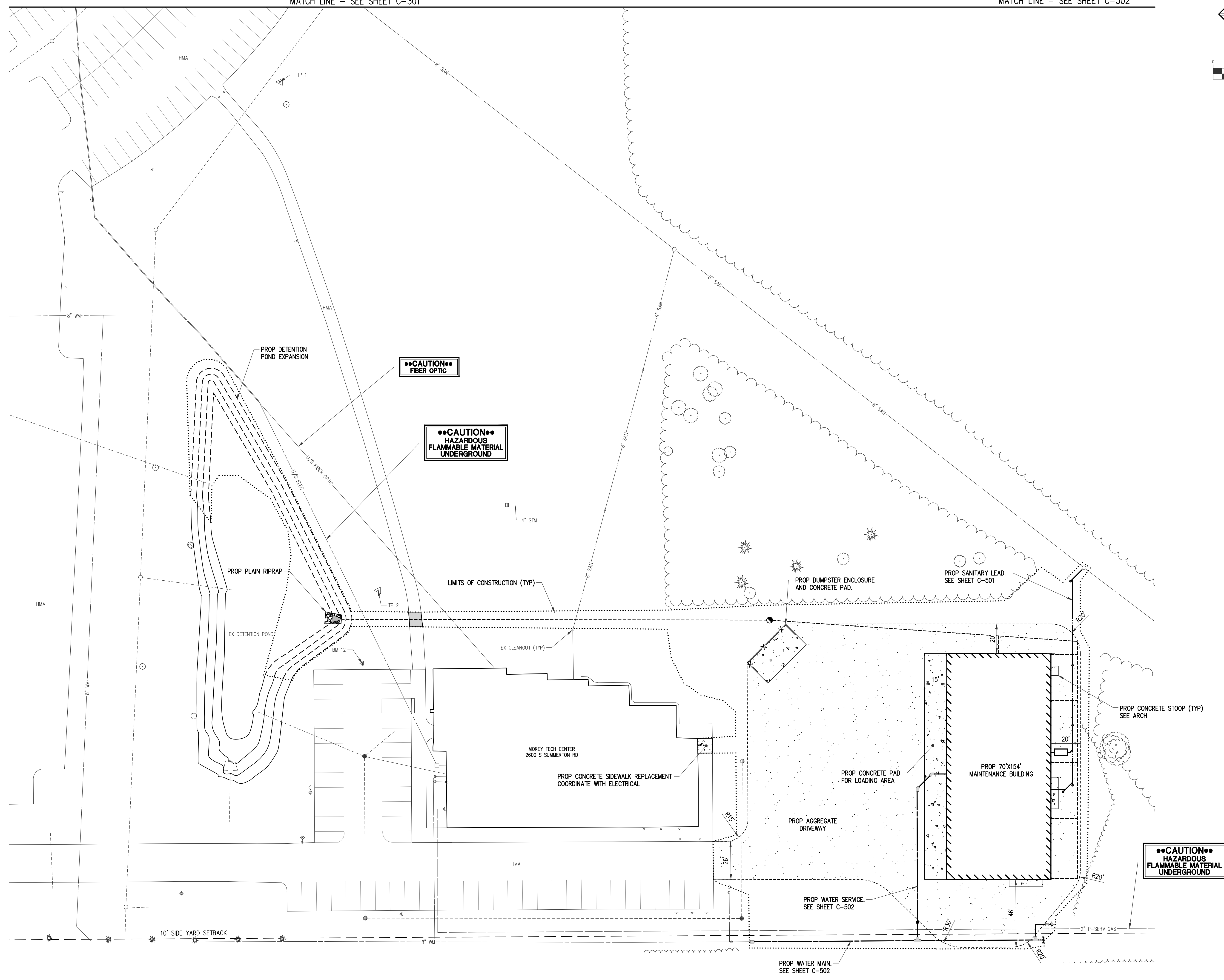
C-303

SHEET NUMBER



MATCH LINE - SEE SHEET C-301

MATCH LINE - SEE SHEET C-302

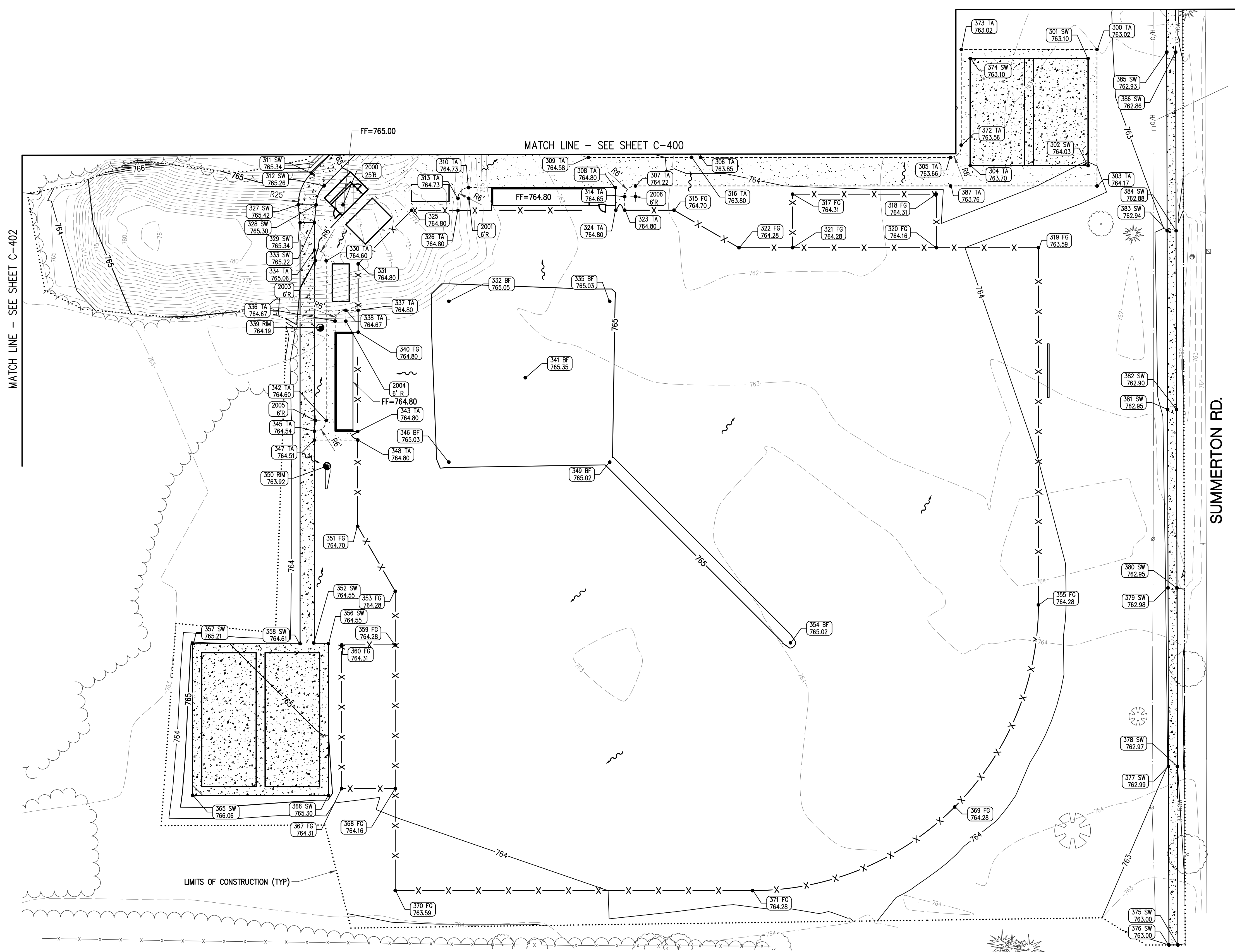
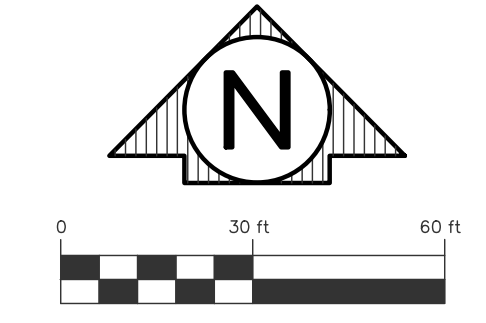


Drawing: R:\Projects\22MOO13\DWG\Construction Drawings\SH-22MOO13-517E.dwg  
 Date: Sep 22, 2022, 11:37am Layout: SITE - NW Plotted by: 759MAM



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GRADING TABLE				
POINT	ELEVATION	DESCRIPTION	NORTHING	EASTING
300	TA=763.02		765929.14	13027668.66
301	SW=763.10	TA	765924.14	13027663.66
302	SW=764.03	TA	765864.14	13027663.66
303	TA=764.17		765852.72	13027668.66
304	TA=763.70		765864.14	13027597.66
305	TA=763.66	PC	765868.72	13027586.66
306	TA=763.85		765868.72	13027446.80
307	TA=764.22	PC	765852.72	13027410.33
308	TA=764.80		765851.81	13027399.08
309	TA=764.58	PC	765868.72	13027383.95
310	TA=764.73	PC	765851.81	13027317.00
311	SW=765.34	PC	765859.86	13027228.95
312	SW=765.26	PC	765852.79	13027236.02
313	TA=764.73	PC	765845.81	13027311.00
314	TA=764.65	PC	765846.72	13027404.33
315	FG=764.70		765839.14	13027431.90
316	TA=763.80		765868.72	13027441.80
317	FG=764.31		765848.14	13027498.27
318	FG=764.31		765848.14	13027578.77
319	FG=763.59		765818.14	13027635.88
320	FG=764.16		765818.14	13027578.77
321	FG=764.28		765818.14	13027498.27
322	FG=764.28		765818.14	13027468.27
323	TA=764.80		765839.14	13027404.33
324	TA=764.80		765839.14	13027399.33
325	FF=764.80		765838.98	13027285.00
326	TA=764.80		765838.98	13027311.00
327	SW=765.42	PC	765842.18	13027221.63
328	SW=765.30	PC	765842.18	13027231.63
329	SW=765.34		765832.18	13027222.63
330	TA=764.60	PC	765810.85	13027237.21
331	FF=764.80		765809.10	13027255.13
332	BF=765.05		765788.15	13027305.88
333	SW=765.22		765832.18	13027230.63
334	TA=765.06	SW, PC	765816.85	13027230.63
335	BF=765.03		765788.14	13027395.94
336	TA=764.67	PC	765777.10	13027242.21
337	TA=764.80		765783.10	13027255.13
338	TA=764.67	PC	765783.10	13027248.21
339	RM=764.19		765773.37	13027233.92
340	FG=764.80		765770.86	13027255.13
341	BF=765.35		765745.36	13027348.66
342	TA=764.60	PC	765721.44	13027237.21
343	TA=764.80		765715.19	13027254.88
345	TA=764.54	SW, PC	765715.44	13027230.63
346	BF=765.03		765698.08	13027305.88
347	TA=764.51	SW	765710.44	13027230.63
348	TA=764.80		765710.44	13027254.88
349	BF=765.02		765698.08	13027395.94
350	RM=763.92		765695.85	13027237.67
351	FG=764.70		765662.12	13027254.88
352	SW=764.55		765596.80	13027230.24
353	FG=764.28		765625.75	13027275.88
354	BF=765.02		765596.90	13027497.12
355	FG=764.28	PC	765618.14	13027635.88
356	SW=764.55		765596.41	13027238.44
357	SW=765.21		765596.41	13027162.54
358	SW=764.61		765596.41	13027222.63
359	FG=764.28		765595.75	13027275.88
360	FG=764.31		765595.75	13027245.88

GRADING TABLE				
POINT	ELEVATION	DESCRIPTION	NORTHING	EASTING
365	SW=766.06		765511.41	13027162.54
366	SW=765.30		765511.41	13027238.54
367	FG=764.31		765515.25	13027245.88
368	FG=764.16		765515.25	13027275.88
369	FG=764.28	MID	765505.01	13027589.01
370	FG=763.59		765458.14	13027275.88
371	FG=764.28	PC	765458.14	13027475.88
372	TA=763.56	PC	765875.62	13027592.66
373	TA=763.02		765929.14	13027592.66
374	SW=763.10	TA	765924.14	13027597.66
375	SW=763.00		765427.74	13027713.93
376	SW=763.00		765427.74	13027708.93
377	SW=762.99		765527.72	13027708.68
378	SW=762.97		765527.72	13027713.68
379	SW=762.98		765627.72	13027708.43
380	SW=762.95		765627.72	13027713.40
381	SW=762.95		765727.70	13027708.18
382	SW=762.90		765727.71	13027713.18
383	SW=762.94		765827.68	13027707.93
384	SW=762.88		765827.68	13027712.93
385	SW=762.93		765927.72	13027707.68
386	SW=762.86		765927.70	13027712.68
387	TA=763.76		765852.72	13027586.66

RADIUS POINTS			
POINT	DESCRIPTION	NORTHING	EASTING
2000	25' SW RADIUS	765842.18	13027246.63
2001	6' AGG RADIUS	765845.81	13027317.00
2003	6' AGG RADIUS	765810.85	13027231.21
2004	6' AGG RADIUS	765777.01	13027248.21
2005	6' AGG RADIUS	765721.44	13027231.21
2006	6' AGG RADIUS	765846.72	13027410.33

GRADING LEGEND	
TA	TOP OF AGGREGATE
SW	TOP OF SIDEWALK
TP	TOP OF PAVEMENT
TC	TOP OF CONCRETE CURB
FG	FINISH GRADE
BF	BALL FIELD
RO	RAMP OPENING
RE	RAISED EDGE
RIM	RIM ELEVATION
ME	MATCH EXISTING
PC	POINT OF CURVATURE
FF	FINISHED FLOOR
MID	MID POINT OF CURVE
EOM	EDGE OF METAL
AGG	AGGREGATE
~ ~ ~	SURFACE FLOW DIRECTION

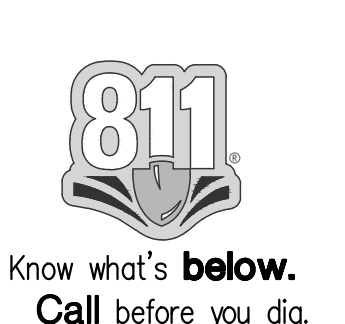
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JBM	
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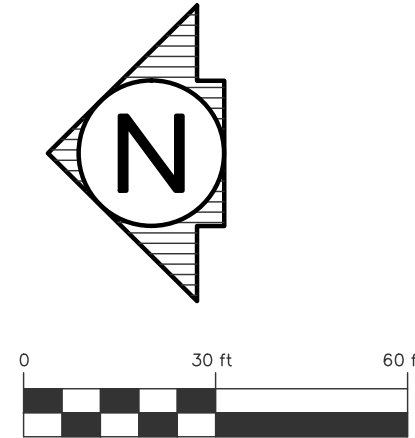
GRADING PLAN  
 SOUTHEAST



Drawing: R:\Projects\22\MOO13\DWG\Construction Drawings\SH-22\MOO13.GRAD.dwg  
 Date: Sep 22, 2022, 11:13:7am Layout: GRAD - SE Plotted by: 759JMJM

MATCH LINE - SEE SHEET C-400

MATCH LINE - SEE SHEET C-401



**GRADING LEGEND**

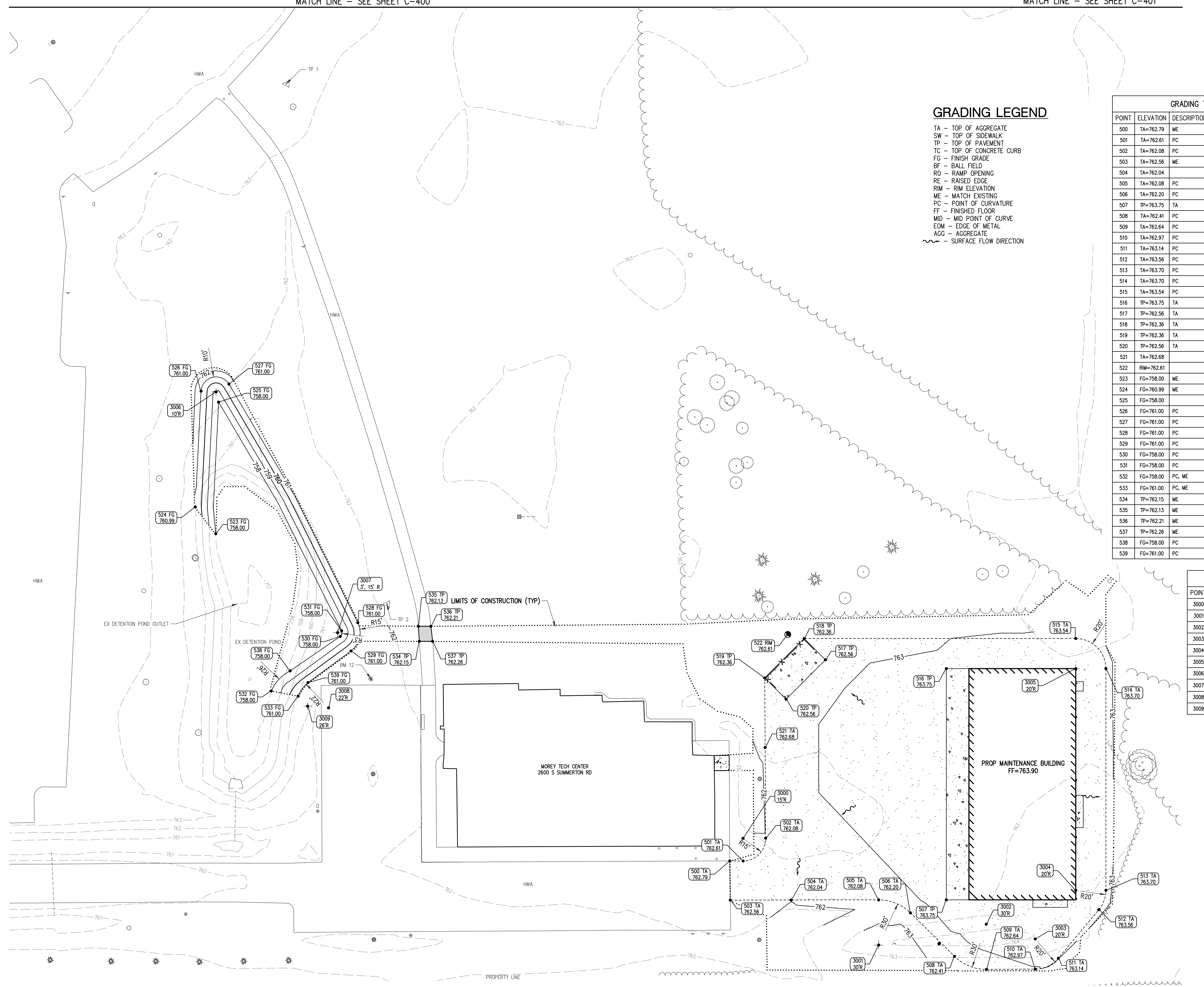
- TA - TOP OF AGGREGATE
- SW - TOP OF SIDEWALK
- TP - TOP OF PAVEMENT
- TC - TOP OF CONCRETE CURB
- FG - FINISH GRADE
- BF - BALL FIELD
- RO - RAMP OPENING
- RE - RAISED EDGE
- RIM - RIM ELEVATION
- ME - MATCH EXISTING
- PC - POINT OF CURVATURE
- FF - FINISHED FLOOR
- MID - MID POINT OF CURVE
- EDM - EDGE OF METAL
- AGG - AGGREGATE
- - SURFACE FLOW DIRECTION

**GRADING TABLE**

POINT	ELEVATION	DESCRIPTION	NORTHING	EASTING
500	TA=762.79	ME	765997.47	13026484.16
501	TA=762.61	PC	765988.60	13026484.19
502	TA=762.08	PC	765973.64	13026499.28
503	TA=762.56	ME	765997.14	13026458.16
504	TA=762.04		765956.72	13026458.24
505	TA=762.08	PC	765898.62	13026458.35
506	TA=762.20	PC	765877.55	13026449.71
507	TP=763.75	TA	765853.71	13026458.35
508	TA=762.41	PC	765848.26	13026420.82
509	TA=762.64	PC	765827.02	13026412.18
510	TA=762.97	PC	765794.61	13026412.38
511	TA=763.14	PC	765779.36	13026419.57
512	TA=763.56	PC	765752.44	13026451.85
513	TA=763.70	PC	765747.80	13026464.66
514	TA=763.70	PC	765747.80	13026811.93
515	TA=763.54	PC	765767.80	13026631.93
516	TP=763.75	TA	765853.71	13026611.93
517	TP=762.56	TA	765933.94	13026617.79
518	TP=762.36	TA	765948.08	13026631.93
519	TP=762.36	TA	765974.24	13026605.77
520	TP=762.56	TA	765960.10	13026591.63
521	TA=762.68		765973.98	13026559.54
522	RIM=762.61		765958.97	13026634.57
523	FG=758.00	ME	766338.67	13026701.55
524	FG=760.99	ME	766352.25	13026719.28
525	FG=758.00		766336.78	13026788.95
526	FG=761.00	PC	766348.43	13026796.21
527	FG=761.00	PC	766329.89	13026800.90
528	FG=761.00	PC	766244.36	13026642.44
529	FG=761.00	PC	766248.89	13026623.64
530	FG=758.00	PC	766256.00	13026633.31
531	FG=758.00	PC	766255.10	13026637.08
532	FG=758.00	PC, ME	766301.82	13026597.04
533	FG=761.00	PC, ME	766283.97	13026593.66
534	TP=762.15	ME	766203.53	13026630.04
535	TP=762.13	ME	766204.19	13026640.05
536	TP=762.21	ME	766195.84	13026640.03
537	TP=762.26	ME	766194.70	13026630.03
538	FG=758.00	PC	766289.30	13026610.41
539	FG=761.00	PC	766277.46	13026602.64

**RADIUS POINTS**

POINT	DESCRIPTION	NORTHING	EASTING
3000	15' AGG RADIUS	765988.64	13026499.19
3001	30' AGG RADIUS	765898.62	13026428.35
3002	30' AGG RADIUS	765827.20	13026442.18
3003	20' AGG RADIUS	765794.72	13026432.38
3004	20' AGG RADIUS	765767.80	13026464.66
3005	20' AGG RADIUS	765767.81	13026611.95
3006	10' FG RADIUS	766338.44	13026795.72
3007	3', 15' FG RADIUS	766257.78	13026635.73
3008	22' FG RADIUS	766263.80	13026585.90
3009	26' FG RADIUS	766277.68	13026586.98



Drawing: R:\Projects\22\MOO1\3\Drawings\Construction Drawings\SH-22\MOO1\3\_GRADE.dwg  
 Date: Sep 22, 2022, 11:37am Layout: GRAAD - NW Plotted by: 759\JMJM

REV. FINAL SITE PLAN REVIEW	9/21/2022
FINAL SITE PLAN REVIEW	8/26/2022
ADDENDUM 1	8/12/2022
ISSUED FOR BIDS	8/1/2022
PRELIM. SITE PLAN REVIEW	5/31/2022

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 CONSULTANT

GRADING PLAN  
 NORTHWEST

SHEET TITLE

22-703

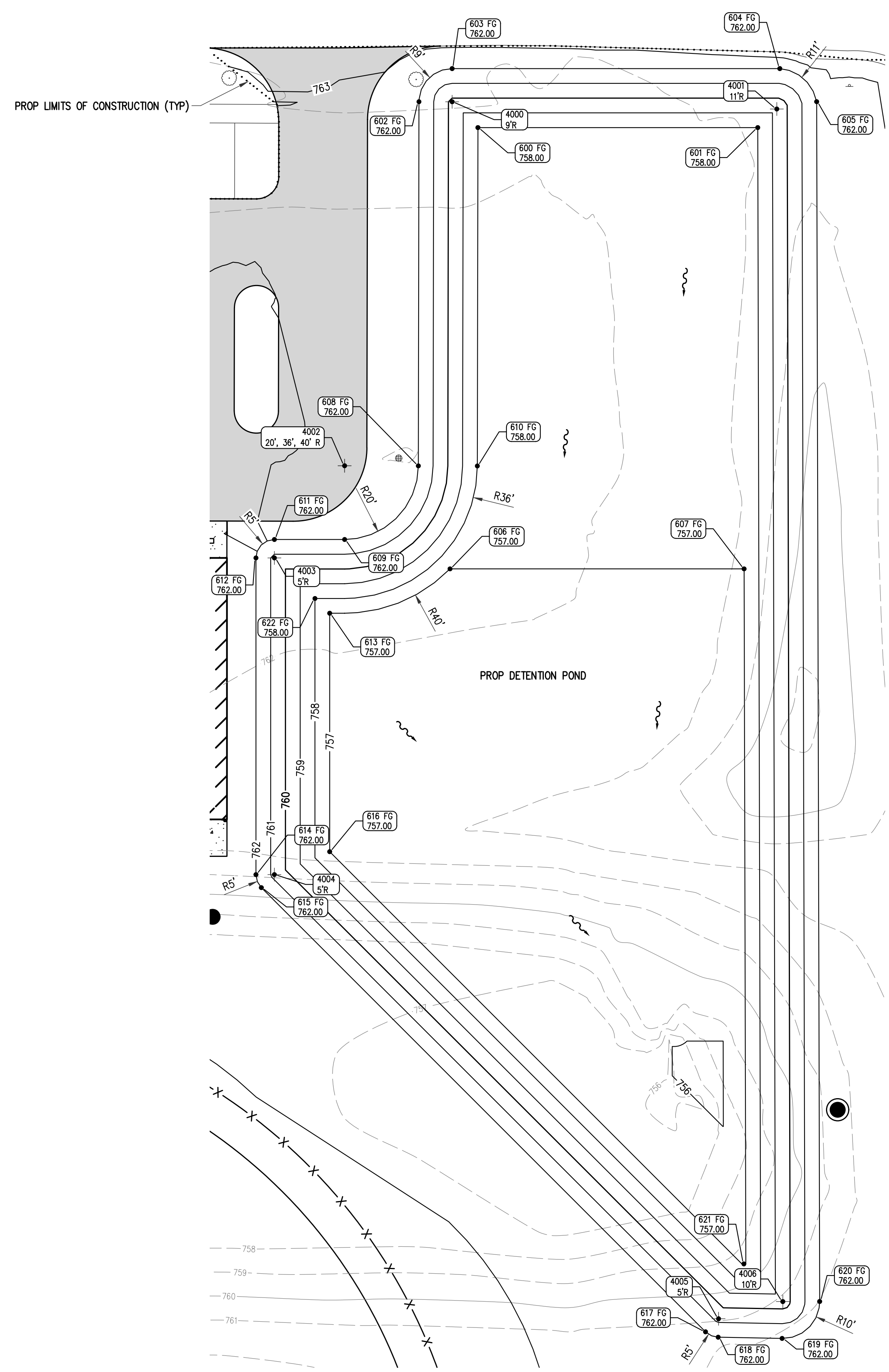
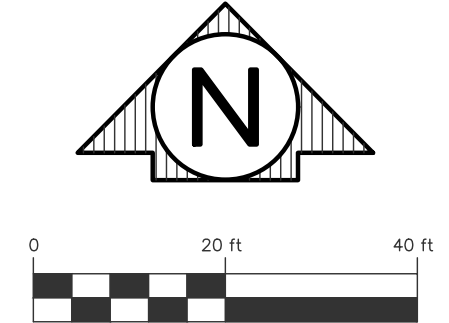
PROJECT NUMBER

C-402

SHEET NUMBER



Know what's below.  
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GRADING TABLE				
POINT	ELEVATION	DESCRIPTION	NORTHING	EASTING
600	FG=758.00		766370.85	13027586.71
601	FG=758.00		766370.85	13027662.60
602	FG=762.00	PC	766377.87	13027570.72
603	FG=762.00	PC	766386.85	13027579.72
604	FG=762.00	PC	766386.85	13027668.58
605	FG=762.00	PC	766377.87	13027678.58
606	FG=757.00	PC	766251.17	13027579.14
607	FG=757.00		766251.17	13027658.90
608	FG=762.00	PC	766279.11	13027570.55
609	FG=762.00	PC	766259.15	13027550.55
610	FG=758.00	PC	766279.08	13027586.55
611	FG=762.00	PC	766259.15	13027531.50
612	FG=762.00	PC	766254.15	13027526.50
613	FG=757.00	PC	766239.15	13027546.50
614	FG=762.00		766168.26	13027526.50
615	FG=762.00		766164.72	13027527.97
616	FG=757.00		766174.47	13027546.50
617	FG=762.00	PC	766044.27	13027648.43
618	FG=762.00	PC	766042.80	13027651.87
619	FG=762.00	PC	766042.47	13027669.20
620	FG=762.00	PC	766052.49	13027679.39
621	FG=757.00		766062.67	13027658.83
622	FG=758.00	PC	766243.15	13027542.50

RADIUS POINTS			
POINT	DESCRIPTION	NORTHING	EASTING
4000	9' FG RADIUS	766377.85	13027579.72
4001	11' FG RADIUS	766375.89	13027667.77
4002	20', 36', 40' FG RADIUS	766279.15	13027550.55
4003	5' FG RADIUS	766254.15	13027531.50
4004	5' FG RADIUS	766168.26	13027531.50
4005	5' FG RADIUS	766047.80	13027651.97
4006	10' FG RADIUS	766052.47	13027669.39

- GRADING LEGEND**
- TA - TOP OF AGGREGATE
  - SW - TOP OF SIDEWALK
  - TP - TOP OF PAVEMENT
  - TC - TOP OF CONCRETE CURB
  - FG - FINISH GRADE
  - BF - BALL FIELD
  - RO - RAMP OPENING
  - RE - RAISED EDGE
  - RIM - RIM ELEVATION
  - ME - MATCH EXISTING
  - PC - POINT OF CURVATURE
  - FF - FINISHED FLOOR
  - MID - MID POINT OF CURVE
  - EDM - EDGE OF METAL
  - AGG - AGGREGATE
  - - SURFACE FLOW DIRECTION

REV. FINAL SITE PLAN REVIEW 9/21/2022  
 FINAL SITE PLAN REVIEW 8/26/2022  
 DATE ISSUED  
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GRADING DETAIL

SHEET TITLE

22-703

PROJECT NUMBER

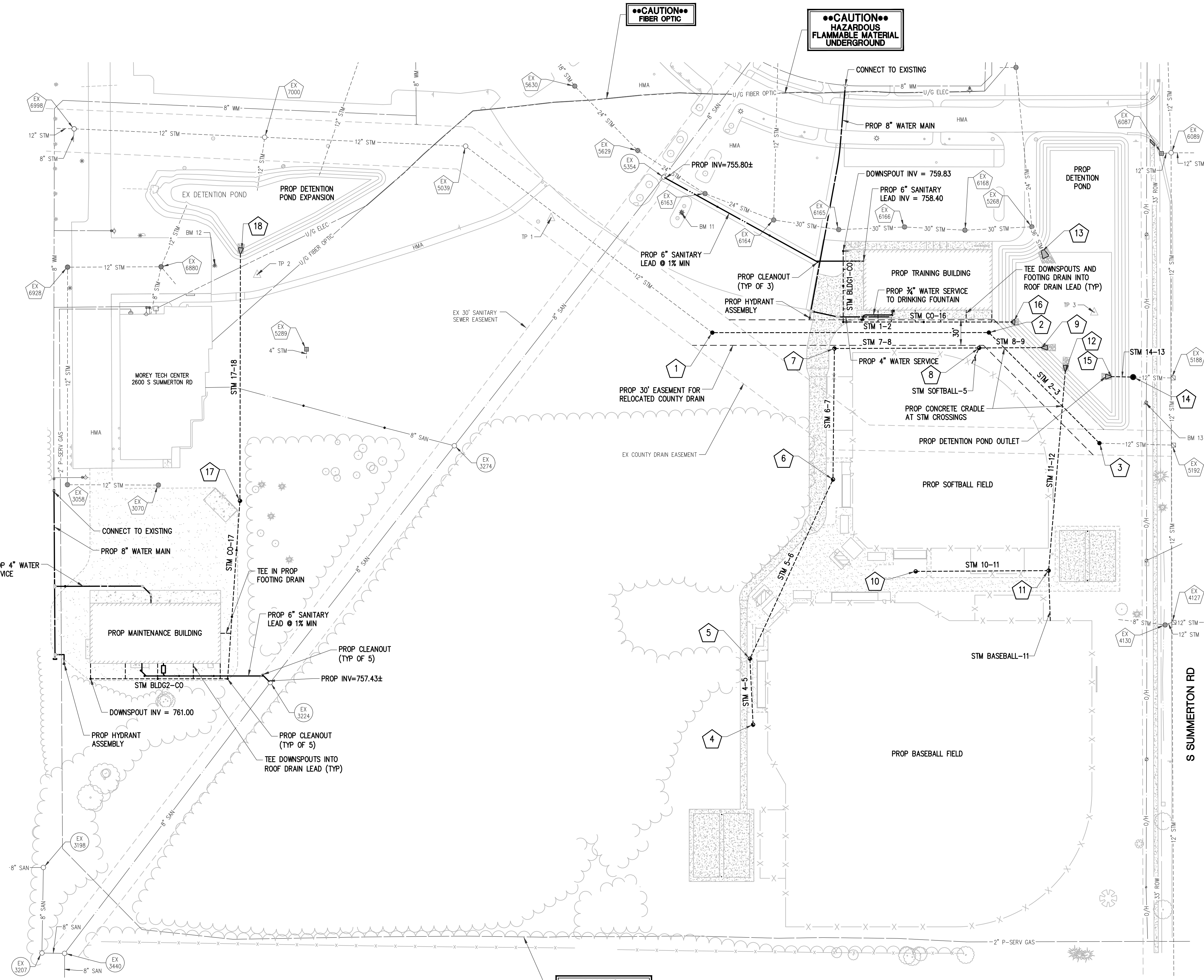
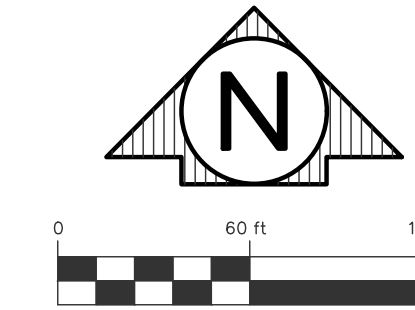
C-403

SHEET NUMBER



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Drawing: R:\Projects\22MOO1\3\Drawings\Construction Drawings\SH-22MOO1-3-GRAD.dwg  
 Date: Sep 22, 2022, 11:13:7am Layout: GRAD - POINTS Plotted by: 7859MJM



**PROPOSED STORM SEWER STRUCTURE TABLE**

STRUCT NO.	DIA.	COVER TYPE	RIM ELEVATION	INVERT	NORTHING	EASTING	SUMP DEPTH
1	48"	B	RIM=762.88	12" 756.05 E (PR) 12" 756.05 NW (EX)	766156.72	13027189.73	2.00'
2	48"	B	RIM=762.10	12" 755.90 W (PR) 12" 755.90 SE (PR)	766156.80	13027514.75	2.00'
3	48"	B	RIM=762.35	12" 755.81 NW (PR) 12" 755.81 E (EX)	766026.79	13027644.67	2.00'
4	48"	G	RIM=763.92	12" 760.90 N (PR)	765695.85	13027237.67	2.00'
5	48"	G	RIM=764.19	12" 760.51 S (PR) 12" 760.51 NE (PR)	765773.37	13027233.92	2.00'
6	48"	G	RIM=762.58	12" 759.35 N (PR) 12" 759.35 SW (PR)	765984.14	13027331.55	2.00'
7	48"	G	RIM=761.91	12" 758.58 E (PR) 12" 758.58 S (PR)	766138.08	13027333.19	2.00'
8	48"	G	RIM=762.00	12" 757.73 W (PR) 18" 757.73 E (PR) 12" 757.73 SW (PR)	766138.73	13027503.29	2.00'
10	48"	G	RIM=763.60	12" 760.50 E (PR)	765876.05	13027428.69	2.00'
11	48"	G	RIM=763.58	12" 759.59 W (PR) 18" 759.59 N (PR) 12" 759.59 S (PR)	765876.94	13027584.95	2.00'
14	72"	B	RIM=762.16	12" 755.81 W (PR) 12" 755.81 E (EX)	766104.48	13027684.26	2.00'
17	48"	G	RIM=762.61	12" 759.20 N (PR) 8" 759.20 S (PR)	765958.97	13026634.57	2.00'

**PROPOSED STORM SEWER END SECTION TABLE**

STRUCT NO.	DIA.	END OF PIPE INVERT	END OF PIPE NORTHING	END OF PIPE EASTING
9	18"	18" 757.36	766139.12	13027577.02
12	18"	18" 757.18	766111.70	13027604.61
13	36"	36" 756.30	766253.20	13027578.20
15	12"	12" 755.86	766105.05	13027658.50
16	8"	8" 758.40	766169.23	13027543.04
18	12"	12" 758.00	766249.86	13026635.13

**PROPOSED STORM SEWER PIPE TABLE**

PIPE NUMBER	DIAMETER	TOTAL LENGTH	SLOPE
STM 1-2	12"	325'	0.05%
STM 2-3	12"	184'	0.05%
STM 4-5	12"	78'	0.50%
STM 5-6	12"	232'	0.50%
STM 6-7	12"	154'	0.50%
STM 7-8	12"	170'	0.50%
STM 8-9	18"	74'	0.50%
STM 10-11	12"	156'	0.59%
STM 11-12	18"	236'	1.02%
STM 14-13	12"	26'	0.19%
STM 17-18	12"	291'	0.41%
STM BASEBALL-11	12"	59'	0.50%
STM BLDG1-CO	8"	83'	0.50%
STM BLDG2-CO	8"	161'	0.49%
STM CO-16	8"	199'	0.51%
STM CO-17	8"	210'	0.48%
STM SOFTBALL-5	12"	20'	0.50%

**HAZARDOUS FLAMMABLE MATERIAL UNDERGROUND**

**STORM WATER MANAGEMENT NOTES**

REQUIRED WEST DETENTION VOLUME: 44,140 CFT      REQUIRED EAST DETENTION VOLUME: 131,371 CFT  
 PROVIDED WEST DETENTION VOLUME: 46,147 CFT      PROVIDED EAST DETENTION VOLUME: 132,493 CFT

REV. FINAL SITE PLAN REVIEW 9/21/2022  
 FINAL SITE PLAN REVIEW 8/26/2022  
 ADDENDUM 3 8/19/2022  
 ADDENDUM 2 8/18/2022  
 ADDENDUM 1 8/12/2022  
 ISSUED FOR BIDS 8/1/2022  
 PRELIM. SITE PLAN REVIEW 5/31/2022

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 CONSULTANT

UTILITY PLAN

SHEET TITLE

22-703

PROJECT NUMBER

C-500

SHEET NUMBER



Drawing: R:\Projects\22\MOO13\DWG\Construction Drawings\SH-22\MOO13\UTIL.dwg  
 Date: Sep 22, 2022, 11:39am Layout: UTIL

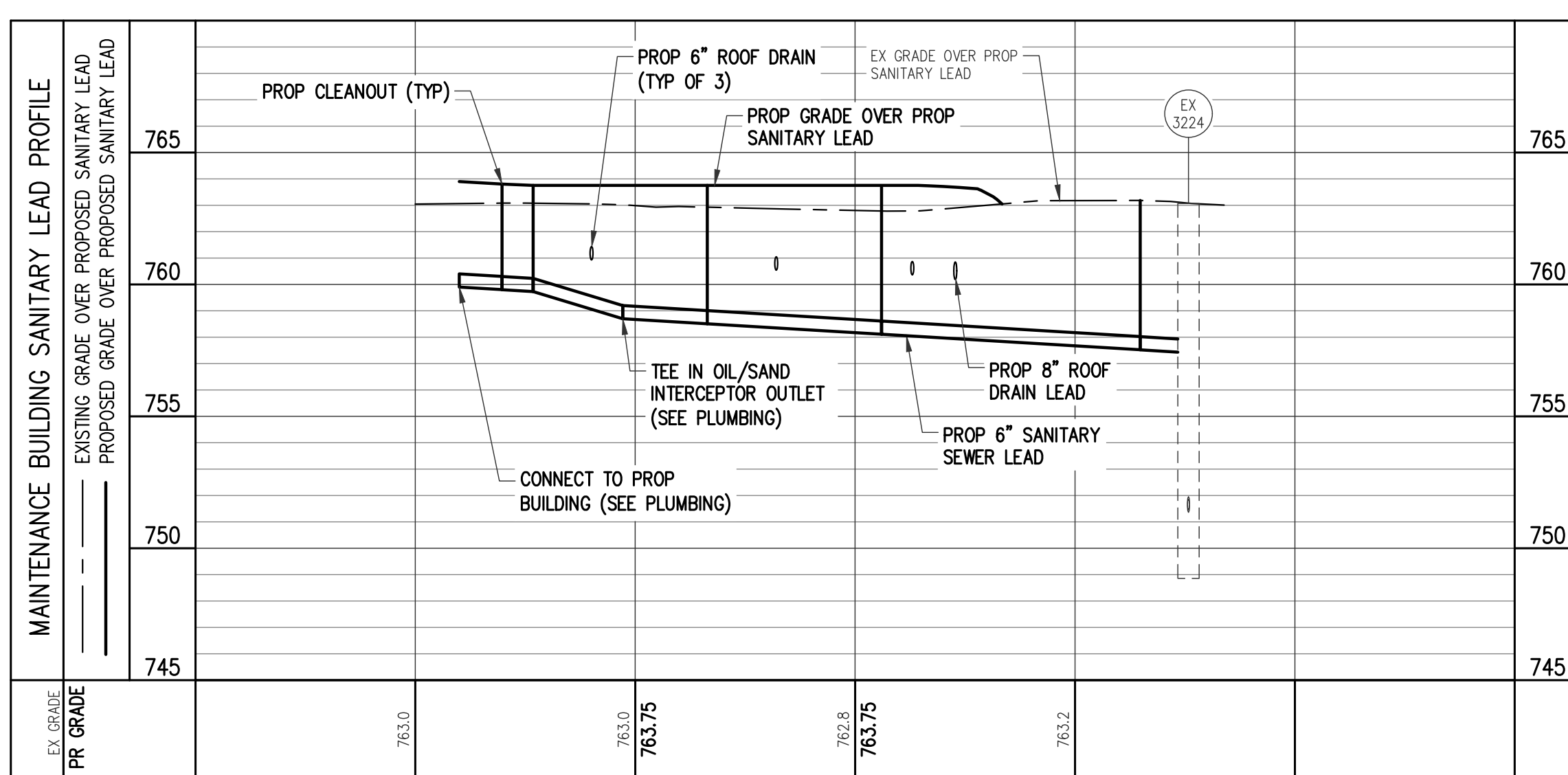
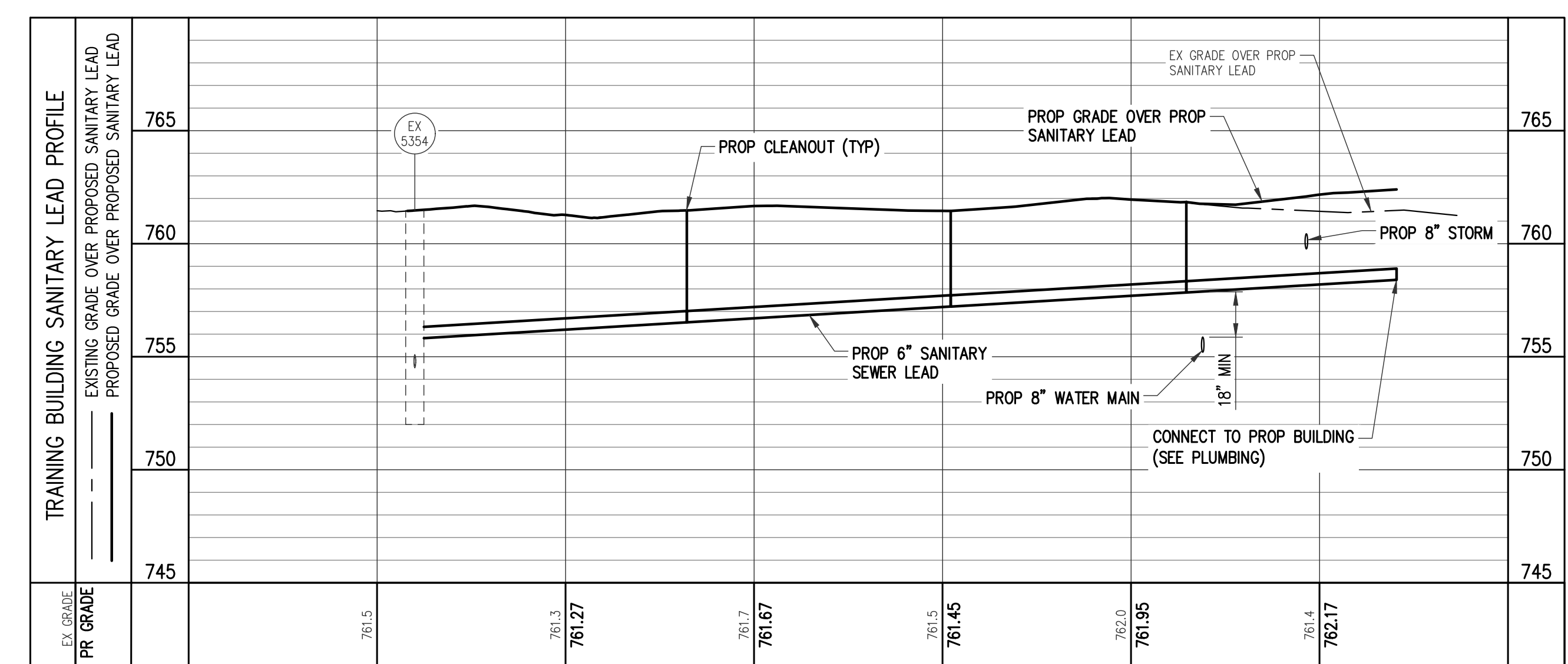
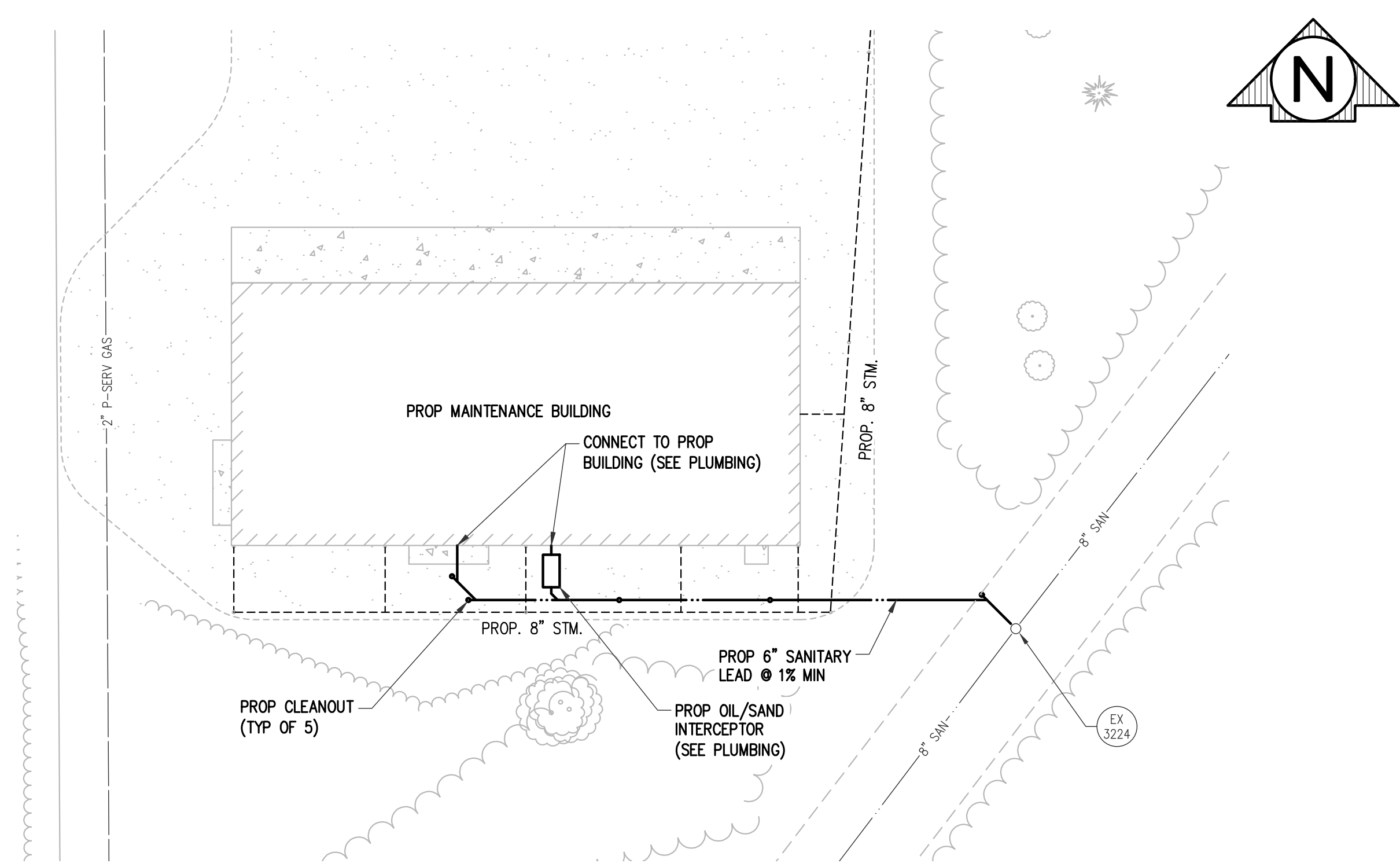
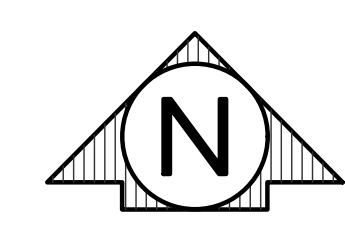
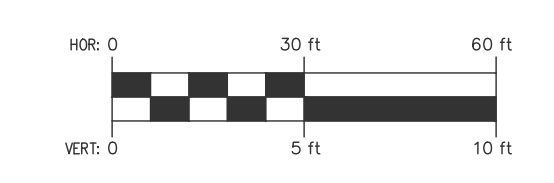
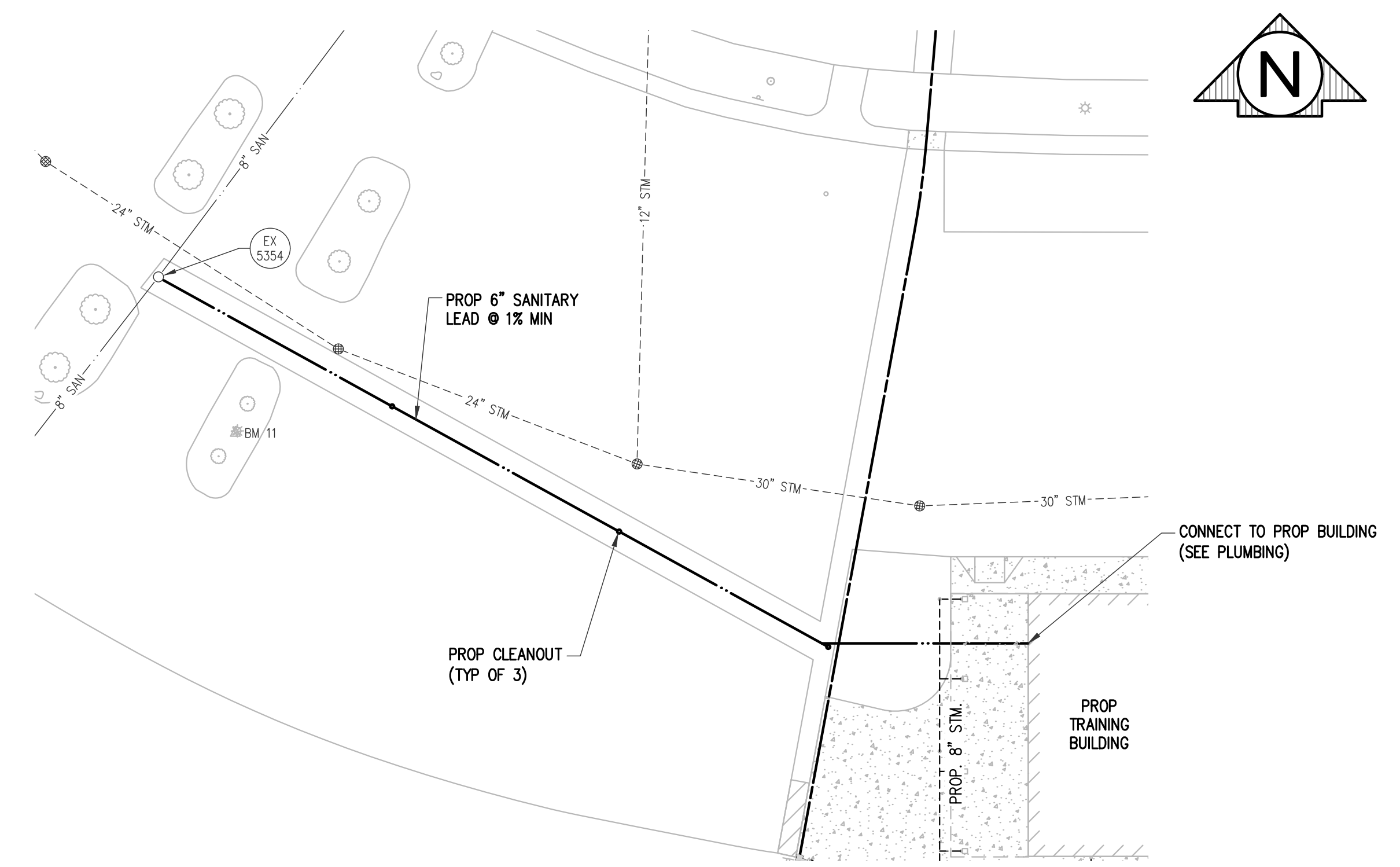
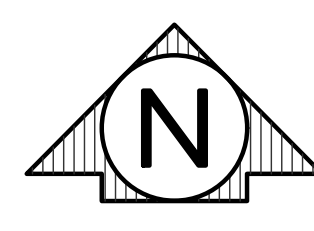
REV. FINAL SITE PLAN REVIEW	9/21/2022
FINAL SITE PLAN REVIEW	8/26/2022
ADDENDUM 1	8/12/2022
ISSUED FOR BIDS	8/1/2022
PRELIM. SITE PLAN REVIEW	5/31/2022
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DRAWN BY	JEM
CHECKED BY	JEM

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SANITARY SEWER PLAN & PROFILE

SHEET TITLE	
PROJECT NUMBER	22-703
SHEET NUMBER	C-501



Drawing: R:\Projects\22MOO13\DWG\Construction Drawings\SH-22MOO13-UTIL-PROFILES.dwg  
 Date: Sep 22, 2022, 11:39am Layout: SAN Plotted by: 759JMM

REV. FINAL SITE PLAN REVIEW	9/21/2022
FINAL SITE PLAN REVIEW	8/26/2022
ADDENDUM 3	8/19/2022
ADDENDUM 1	8/12/2022
ISSUED FOR BIDS	8/1/2022
PRELIM. SITE PLAN REVIEW	5/31/2022

DATE ISSUED  
 M.M.  
 DRAWN BY  
 J.M.  
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 NEW SPORTS COMPLEX PROJECT

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WATER PLAN & PROFILE

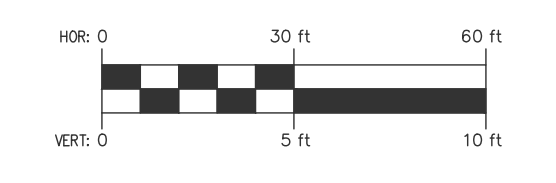
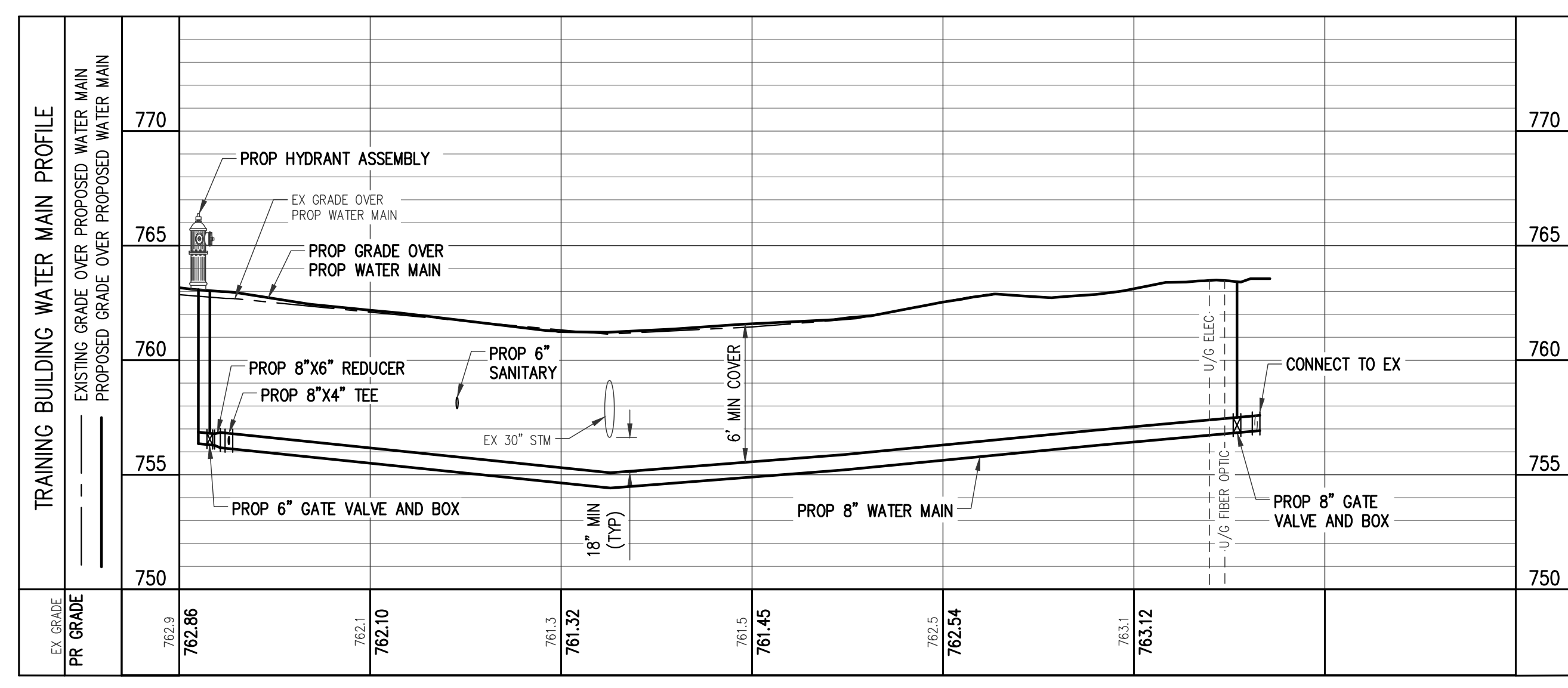
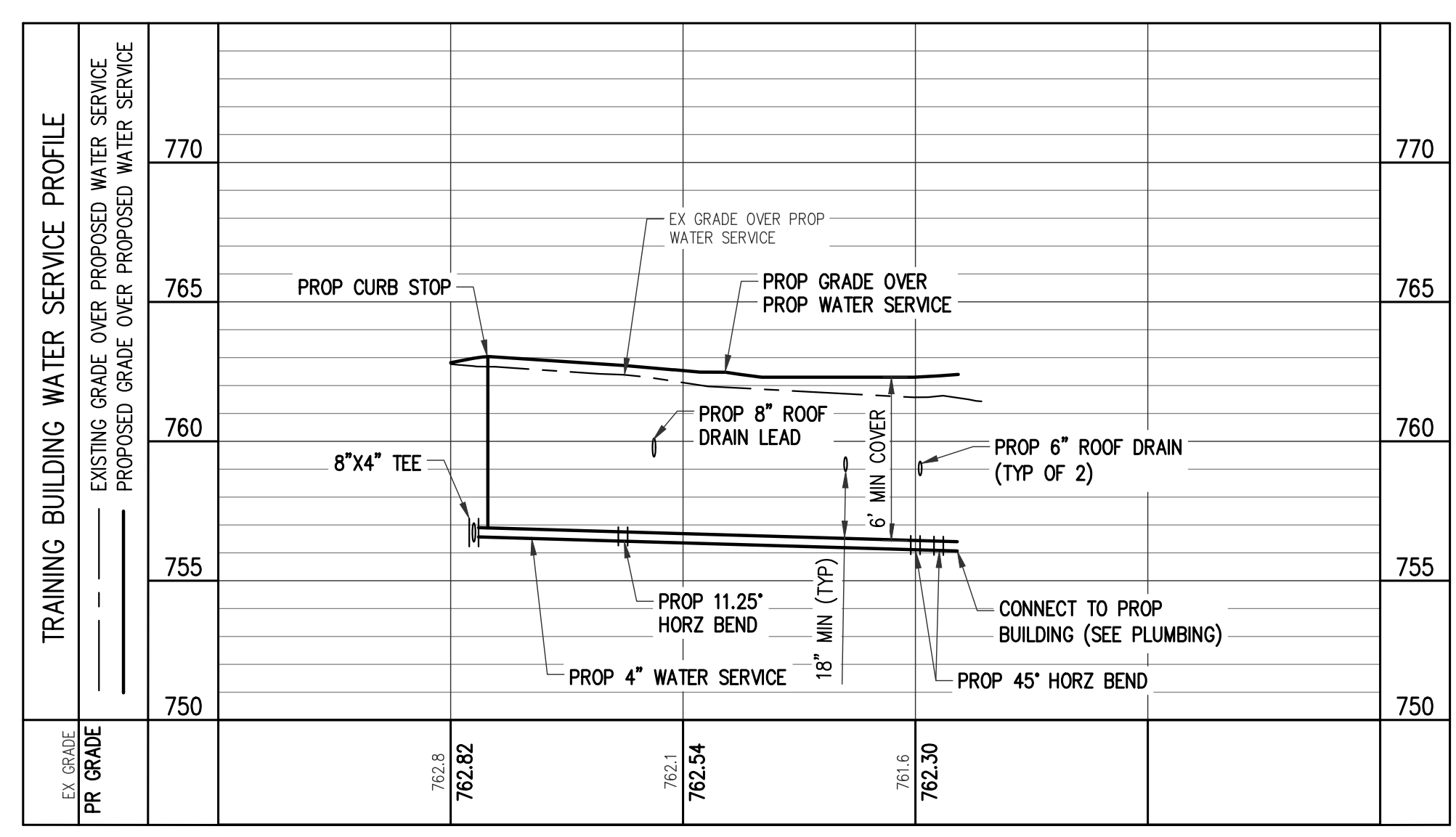
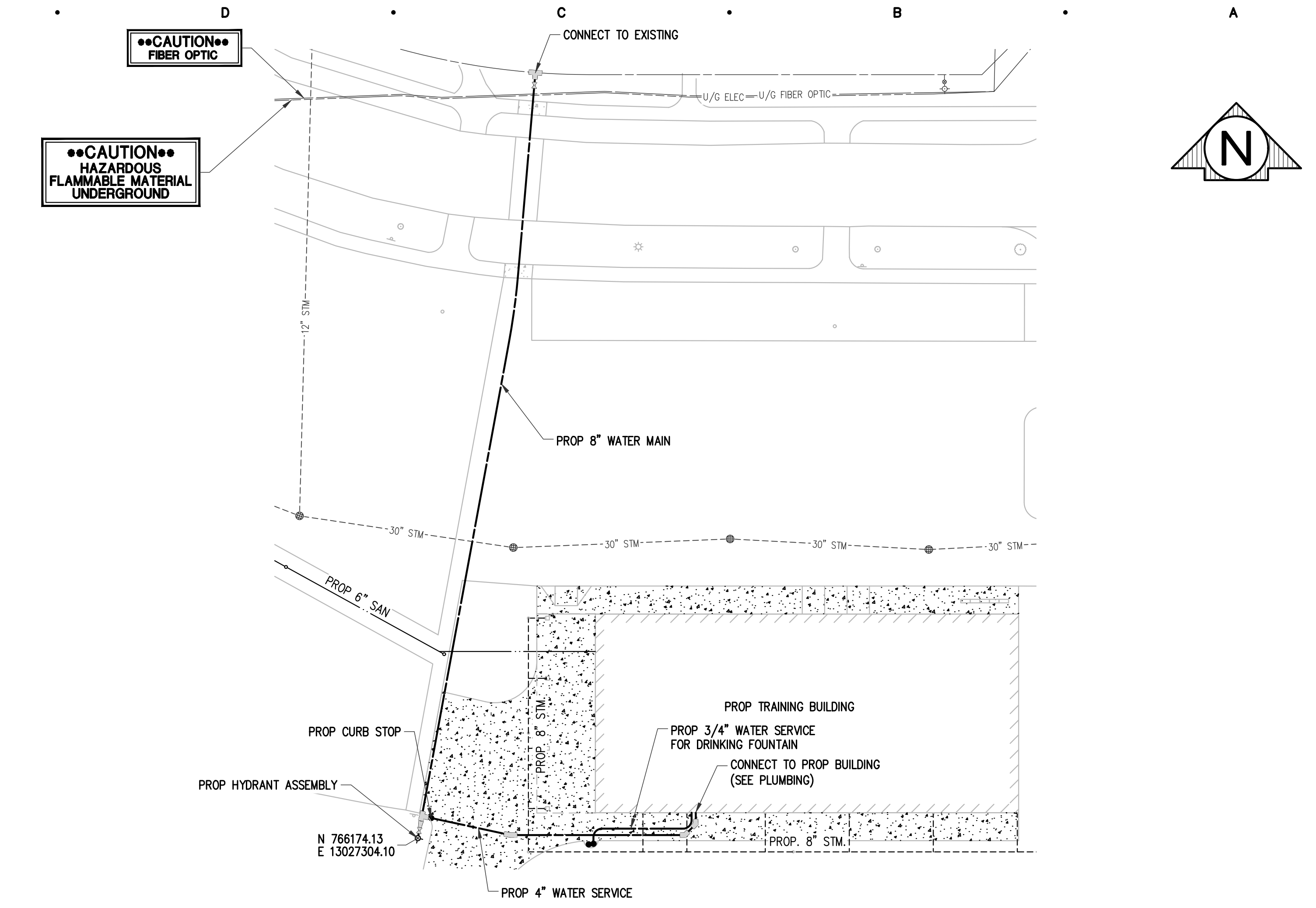
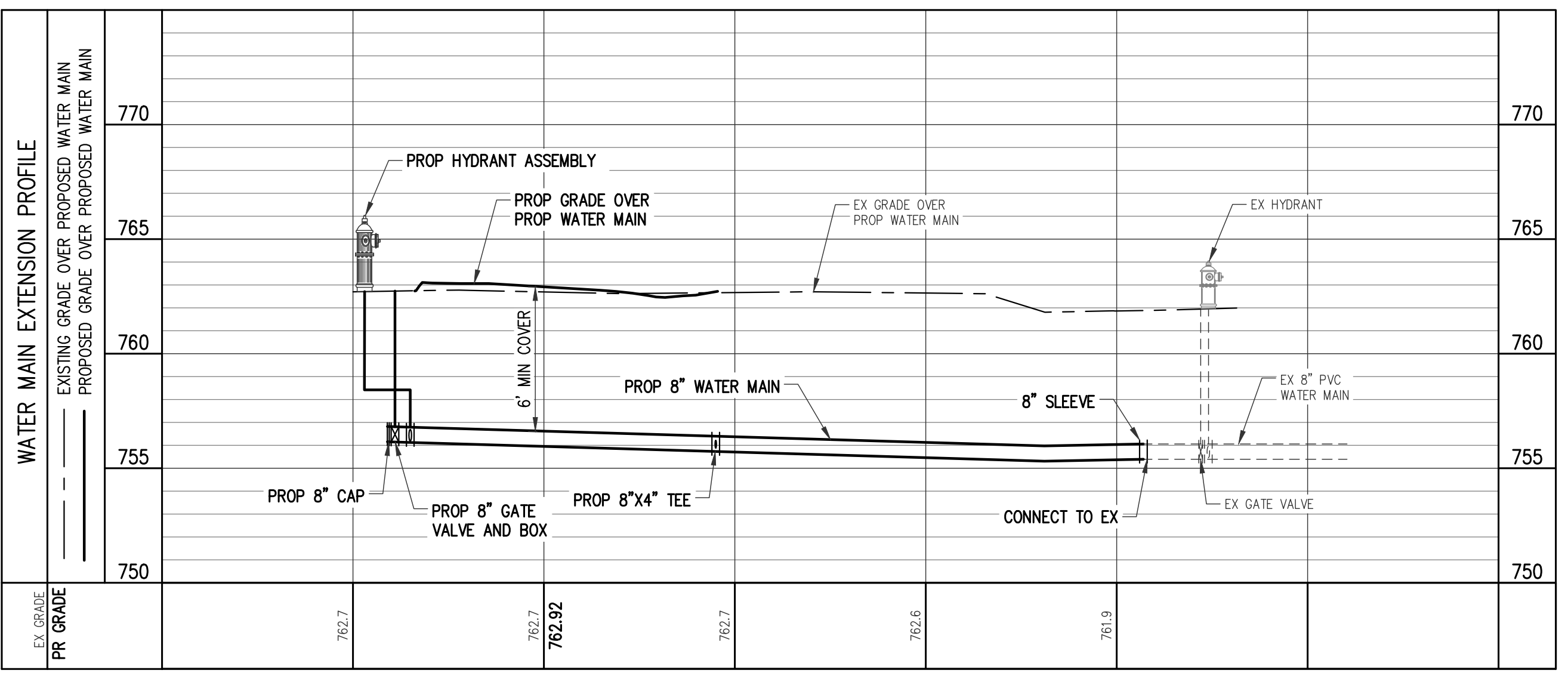
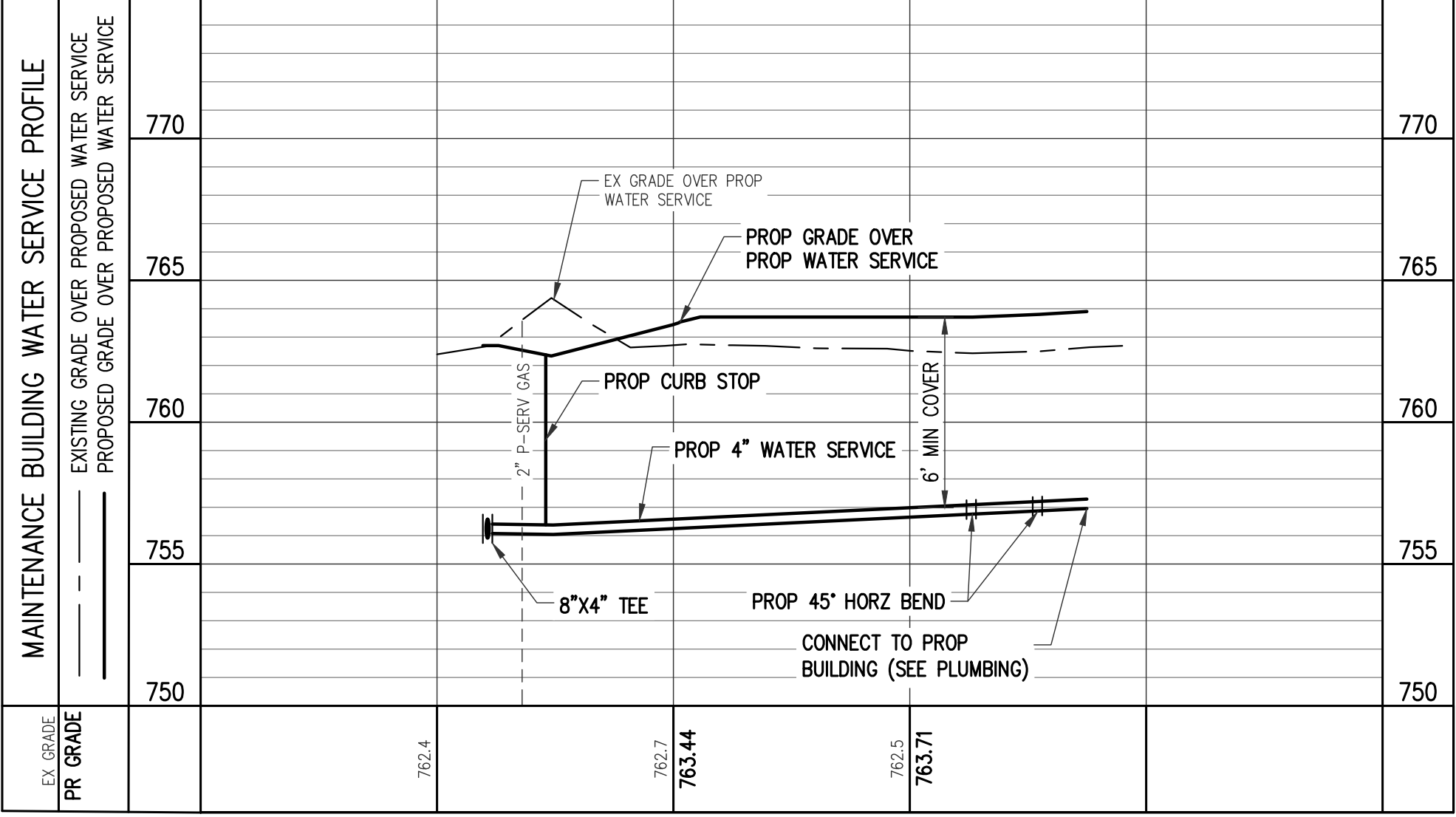
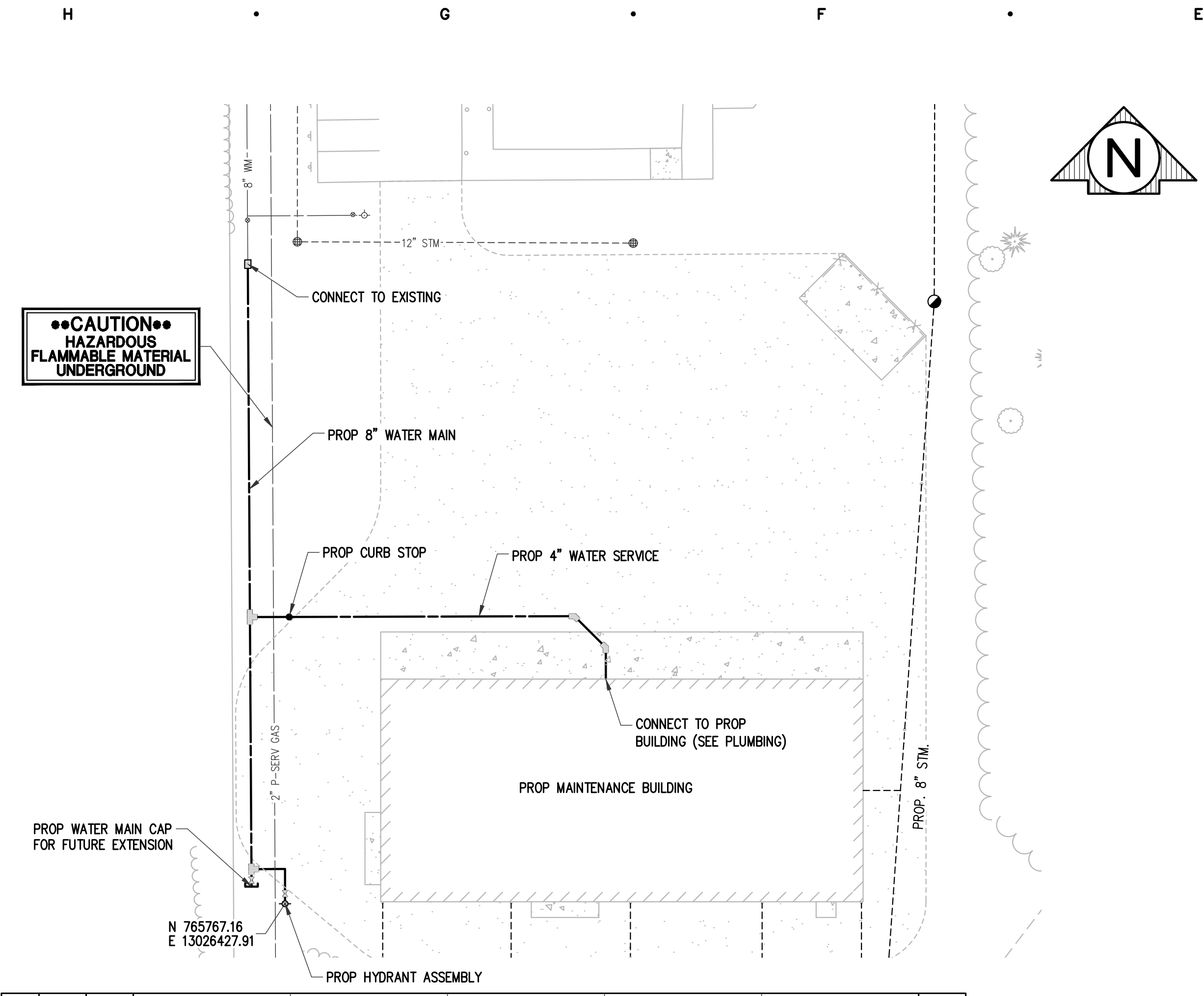
SHEET TITLE

22-703

PROJECT NUMBER

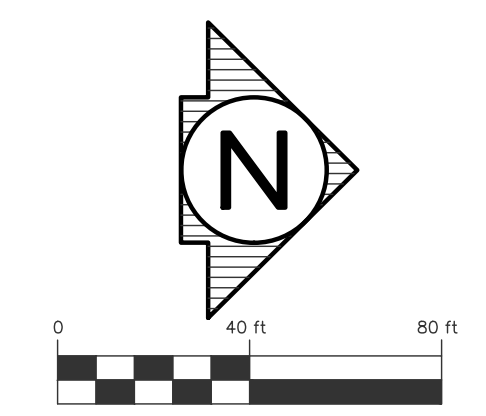
C-502

SHEET NUMBER



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 Date: Sep 22, 2022, 11:39am Layout: WATER Plotted by: 759MAM





DECIDUOUS SHADE TREE SCHEDULE					
KEY	SIZE	BOTANICAL NAME	COMMON NAME	NOTES	QUANTITY
AF	2 1/2" CAL.	ACER PLATANOIDES 'DEBORAH'	DEBORAH NORWAY MAPLE	B&B	8
AO	2 1/2" CAL.	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	B&B	8
PC	2 1/2" CAL.	PYRUS CALLERYANA 'CHANTICLEER'	CHANTICLEER PEAR	B&B	8

ORNAMENTAL TREE SCHEDULE					
KEY	SIZE	BOTANICAL NAME	COMMON NAME	NOTES	QUANTITY
AL	2" CAL.	AMELANCHIER LAEVIS	ALLEGHENY SERVICEBERRY	CLUMPED B&B	2
BN	2" CAL.	BETULA NIGRA	RIVER BIRCH	B&B	2
CI	2" CAL.	CRAEGUS CRUSGALI INERMIS 'CRUZAM'	CRUSADER HAWTHORN	B&B	2
MP	2" CAL.	MALUS 'PRARIEFIRE'	PRARIEFIRE CRABAPPLE	B&B	4

EVERGREEN TREE SCHEDULE					
KEY	SIZE	BOTANICAL NAME	COMMON NAME	NOTES	QUANTITY
TC	6' HT.	TSUGA CANADENSIS	CANADIAN HEMLOCK	B&B	23
PA	6' HT.	PICEA ABIES	NORWAY SPRUCE	B&B	25
PP	6' HT.	PICEA PUNGENS	COLORADO SPRUCE	B&B	25

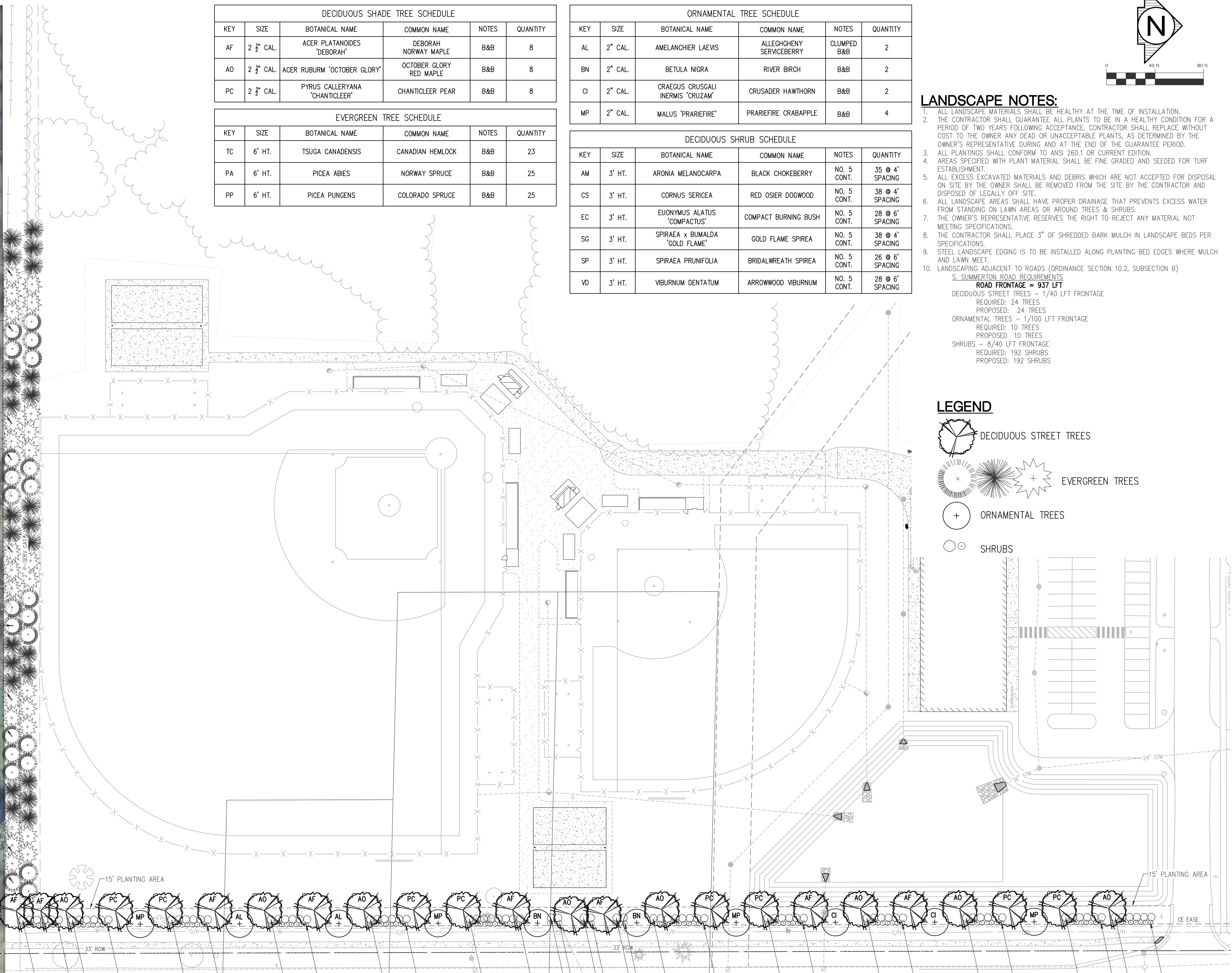
DECIDUOUS SHRUB SCHEDULE					
KEY	SIZE	BOTANICAL NAME	COMMON NAME	NOTES	QUANTITY
AM	3' HT.	ARONIA MELANOCARPA	BLACK CHOKEBERRY	NO. 5 CONT. 35 @ 4' SPACING	
CS	3' HT.	CORNUS SERICEA	RED OSIER DOGWOOD	NO. 5 CONT. 38 @ 4' SPACING	
EC	3' HT.	EUONYMUS ALATUS 'COMPACTUS'	COMPACT BURNING BUSH	NO. 5 CONT. 28 @ 6' SPACING	
SG	3' HT.	SPIRAEA x BUMALDA 'GOLD FLAME'	GOLD FLAME SPIREA	NO. 5 CONT. 38 @ 4' SPACING	
SP	3' HT.	SPIRAEA PRUNIFOLIA	BRIDALWREATH SPIREA	NO. 5 CONT. 26 @ 6' SPACING	
VD	3' HT.	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	NO. 5 CONT. 28 @ 6' SPACING	

**LANDSCAPE NOTES:**

- ALL LANDSCAPE MATERIALS SHALL BE HEALTHY AT THE TIME OF INSTALLATION.
- THE CONTRACTOR SHALL GUARANTEE ALL PLANTS TO BE IN A HEALTHY CONDITION FOR A PERIOD OF TWO YEARS FOLLOWING ACCEPTANCE. CONTRACTOR SHALL REPLACE WITHOUT COST TO THE OWNER ANY DEAD OR UNACCEPTABLE PLANTS, AS DETERMINED BY THE OWNER'S REPRESENTATIVE DURING AND AT THE END OF THE GUARANTEE PERIOD.
- ALL PLANTINGS SHALL CONFORM TO ANSI 260.1 OR CURRENT EDITION.
- AREAS SPECIFIED WITH PLANT MATERIAL SHALL BE FINE GRADED AND SEEDED FOR TURF ESTABLISHMENT.
- ALL EXCESS EXCAVATED MATERIALS AND DEBRIS WHICH ARE NOT ACCEPTED FOR DISPOSAL ON SITE BY THE OWNER SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AND DISPOSED OF LEGALLY OFF SITE.
- ALL LANDSCAPE AREAS SHALL HAVE PROPER DRAINAGE THAT PREVENTS EXCESS WATER FROM STANDING ON LAWN AREAS OR AROUND TREES & SHRUBS.
- THE OWNER'S REPRESENTATIVE RESERVES THE RIGHT TO REJECT ANY MATERIAL NOT MEETING SPECIFICATIONS.
- THE CONTRACTOR SHALL PLACE 3" OF SHREDDED BARK MULCH IN LANDSCAPE BEDS PER SPECIFICATIONS.
- STEEL LANDSCAPE EDGING IS TO BE INSTALLED ALONG PLANTING BED EDGES WHERE MULCH AND LAWN MEET.
- LANDSCAPING ADJACENT TO ROADS (ORDINANCE SECTION 10.2, SUBSECTION B)
  - SUMMERTON ROAD REQUIREMENTS
  - ROAD FRONTAGE = 937 LFT
  - DECIDUOUS STREET TREES - 1/40 LFT FRONTAGE
    - REQUIRED: 24 TREES
    - PROPOSED: 24 TREES
  - ORNAMENTAL TREES - 1/100 LFT FRONTAGE
    - REQUIRED: 10 TREES
    - PROPOSED: 10 TREES
  - SHRUBS - 8/40 LFT FRONTAGE
    - REQUIRED: 192 SHRUBS
    - PROPOSED: 192 SHRUBS

**LEGEND**

- DECIDUOUS STREET TREES
- EVERGREEN TREES
- ORNAMENTAL TREES
- SHRUBS



S SUMMERTON RD  
**S SUMMERTON RD LANDSCAPE PLANTING PLAN**

REV. FINAL SITE PLAN REVIEW	9/21/2022
FINAL SITE PLAN REVIEW	8/26/2022
ADDENDUM 1	8/12/2022
ISSUED FOR BIDS	8/1/2022
PRELIM. SITE PLAN REVIEW	5/31/2022

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 NEW SPORTS COMPLEX PROJECT

**ROWE PROFESSIONAL SERVICES COMPANY**  
 CONSULTANT

LANDSCAPE PLAN

SHEET TITLE

22-703

PROJECT NUMBER

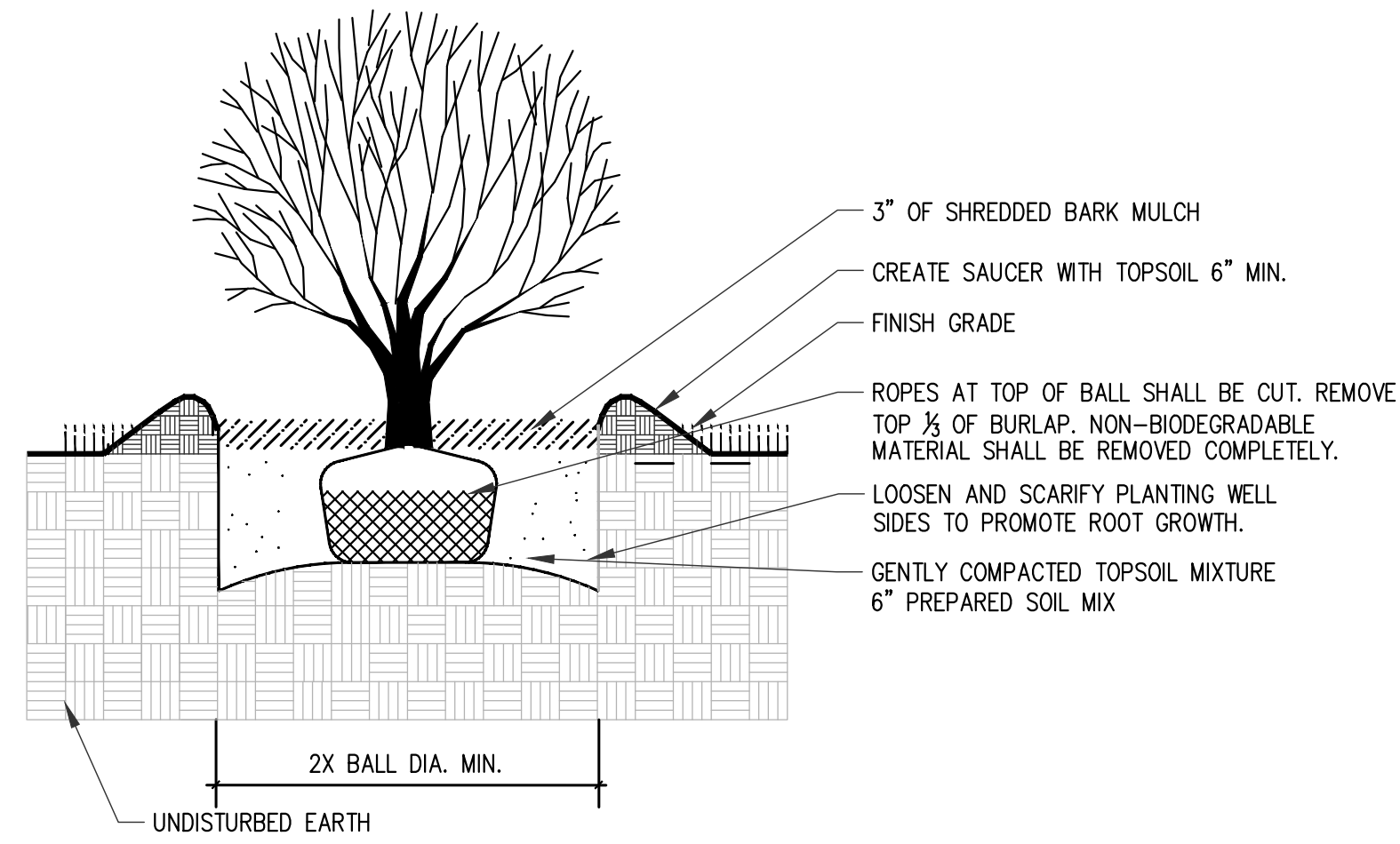
C-600

SHEET NUMBER

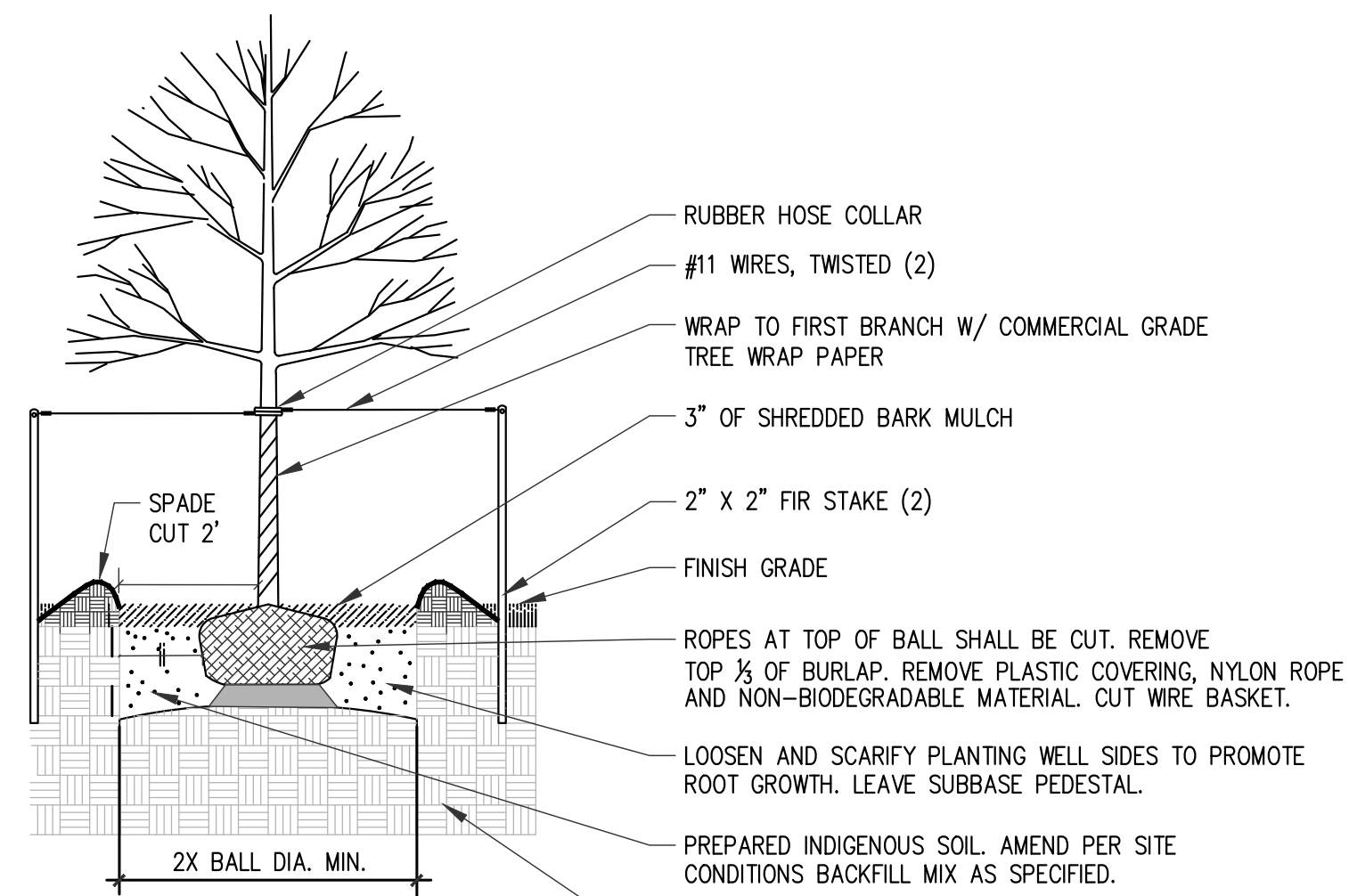


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 Layout: LA  
 Plotted by: 7859MM

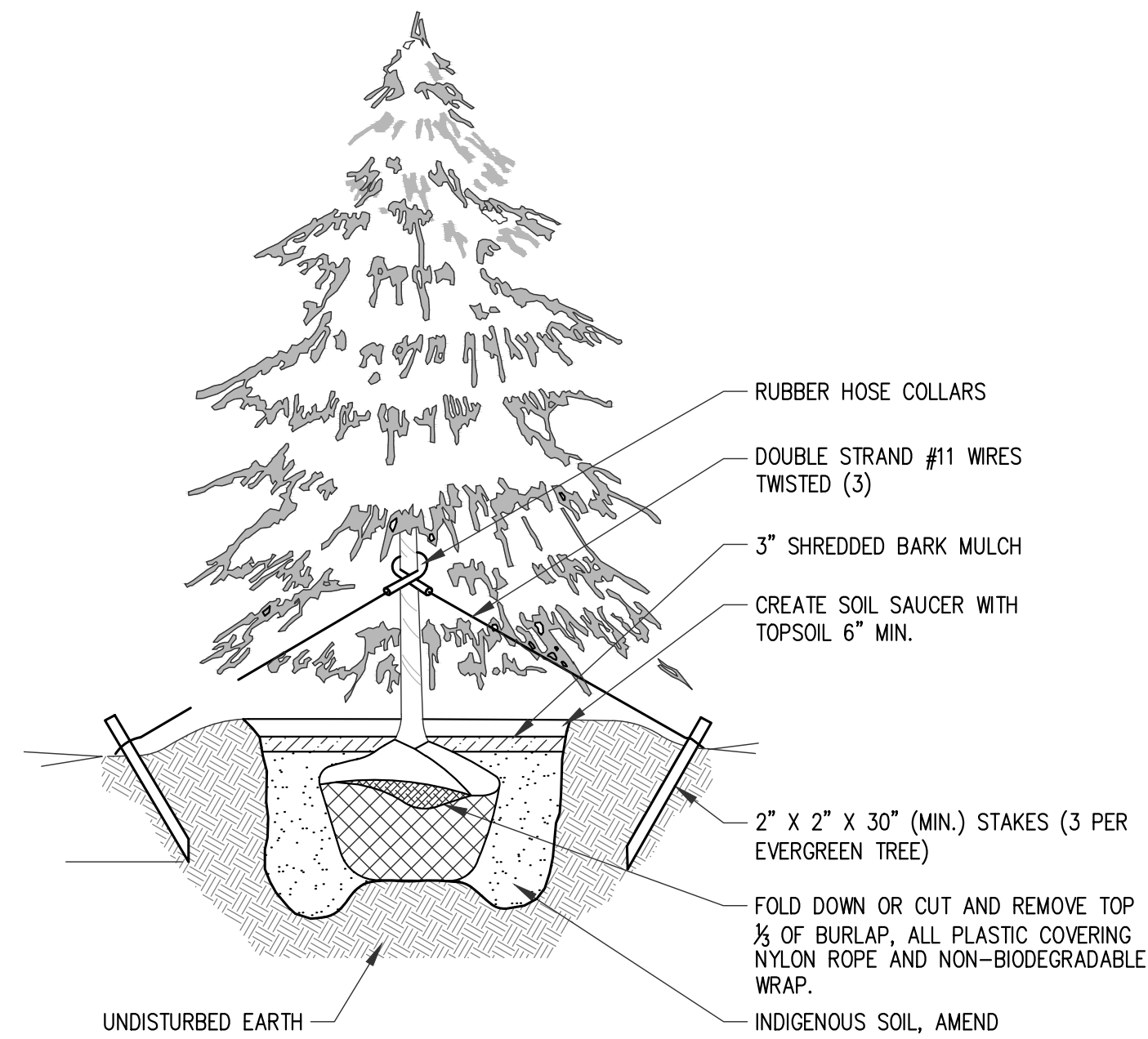
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 Date: Sep 22, 2022, 11:55am Layout: LA - DET. Plotted by: 759MJM



**SHRUB PLANTING DETAIL**  
NOT TO SCALE



**DECIDUOUS TREE PLANTING DETAIL**  
NOT TO SCALE



**TYPICAL EVERGREEN PLANTING DETAIL**  
NOT TO SCALE

Sheet Size - 24x36  
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REV.	FINAL SITE PLAN REVIEW	9/21/2022
	FINAL SITE PLAN REVIEW	8/26/2022
	ADDENDUM 1	8/12/2022
	ISSUED FOR BIDS	8/1/2022
	PRELIM. SITE PLAN REVIEW	5/31/2022

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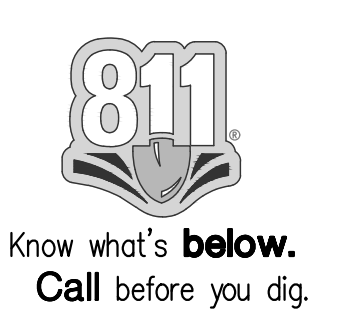
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LANDSCAPE DETAILS

SHEET TITLE

22-703  
PROJECT NUMBER

C-601  
SHEET NUMBER



**ABBREVIATIONS**

- BCS - BABY CHANGING STATION
- DS - DOWN SPOUT
- CR - CARD READER
- FD - FLOOR DRAIN
- CB - CATCH BASIN
- EHD - ELECTRIC HAND DRYER
- MS - MOP SINK
- MB - MOP BUCKET
- PC - POP COOLER
- ICE - ICE MACHINE
- PCM - POPCORN MACHINE
- HDR - HOTDOG ROLLER
- HWS - HAND WASH SINK
- T - TRASH
- R - RECYCLE
- POS - POINT OF SALE
- FEQ - FIRE EXTINGUISHER CABINET
- FEH - FIRE EXTINGUISHER HOOK

**FLOOR PLAN NOTES**

1. CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS AND PROMPTLY NOTIFY ARCHITECT OF ANY DISCREPANCIES.
2. ALL DIMENSIONS ARE TO CENTER OF COLUMN, FACE OF STUD WALL, OR FACE OF MASONRY WALL, UNLESS NOTED OTHERWISE.
3. FINISH FLOOR ELEVATION = 100'-0" UNLESS NOTED OTHERWISE
4. WHERE FLOOR DRAINS OCCUR, SLOPE FLOOR TO DRAIN.
5. INDICATES PARTITION TYPE - SEE SHEET A-910.A FOR PARTITION DETAILS
6. ALL PARTITIONS TO BE TYPE 1A U.N.O.
7. ALL EXPOSED OUTSIDE CORNERS OF CMU TO BE BULLNOSE CMU

- TB TACKBOARD
- X-X" LENGTH
- GB GLASSBOARD
- X-X" LENGTH
- 100'-0" FLOOR ELEVATION

REV. FINAL SITE PLAN REVIEW 8/21/2022  
 FINAL SITE PLAN REVIEW 8/26/2022  
 PRELIM. SITE PLAN REVIEW 5/31/2022  
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**FIRST FLOOR PLAN TRAINING BUILDING**

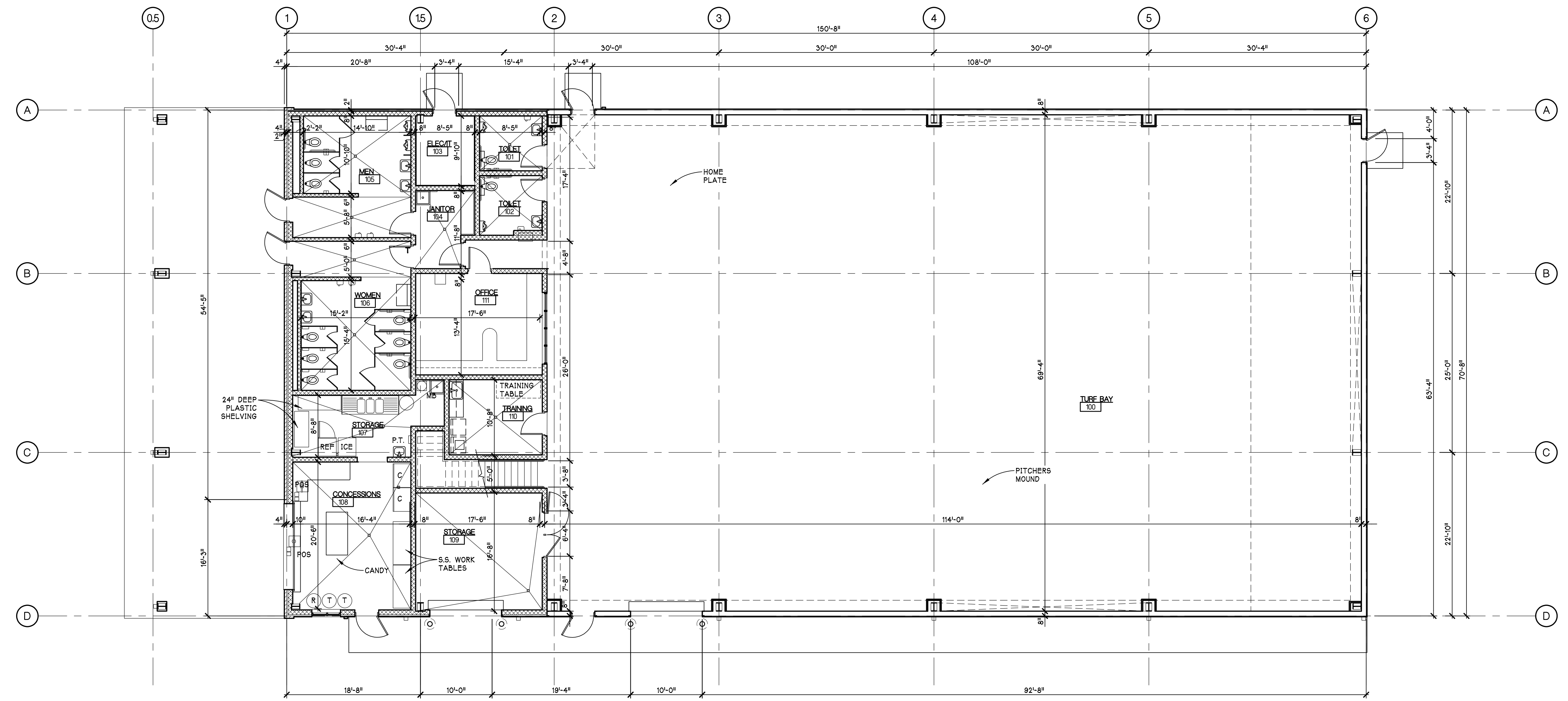
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**22-703**

PROJECT NUMBER

**A-100**

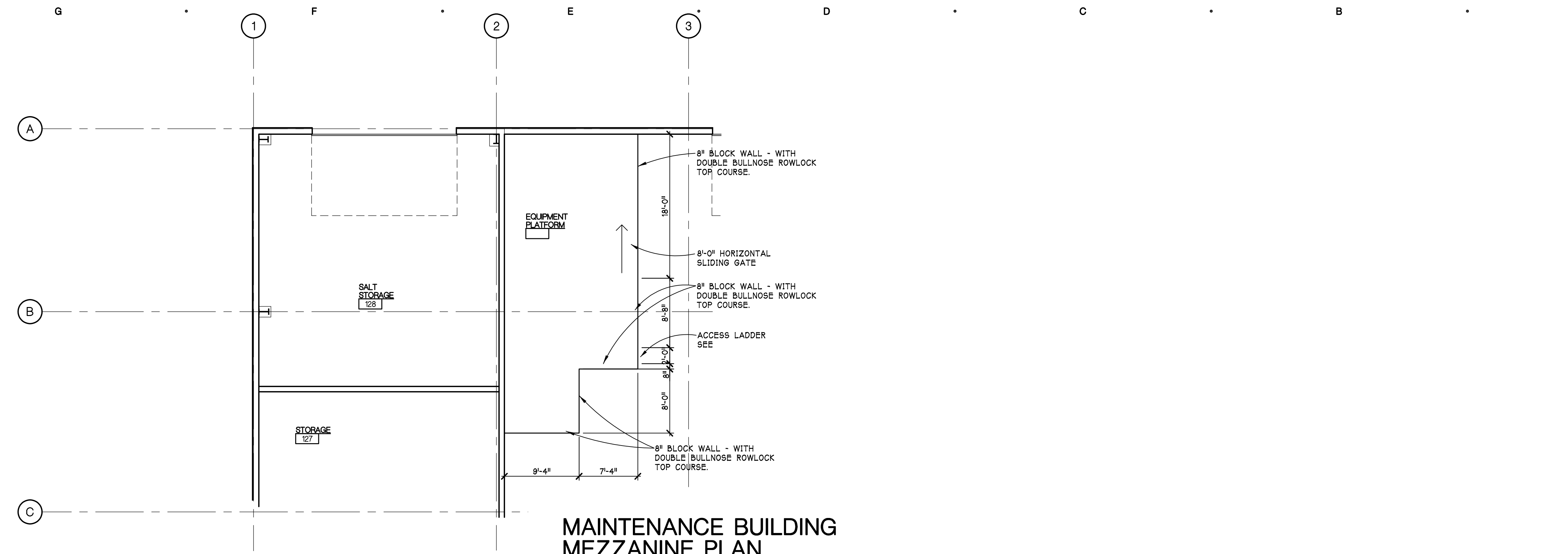
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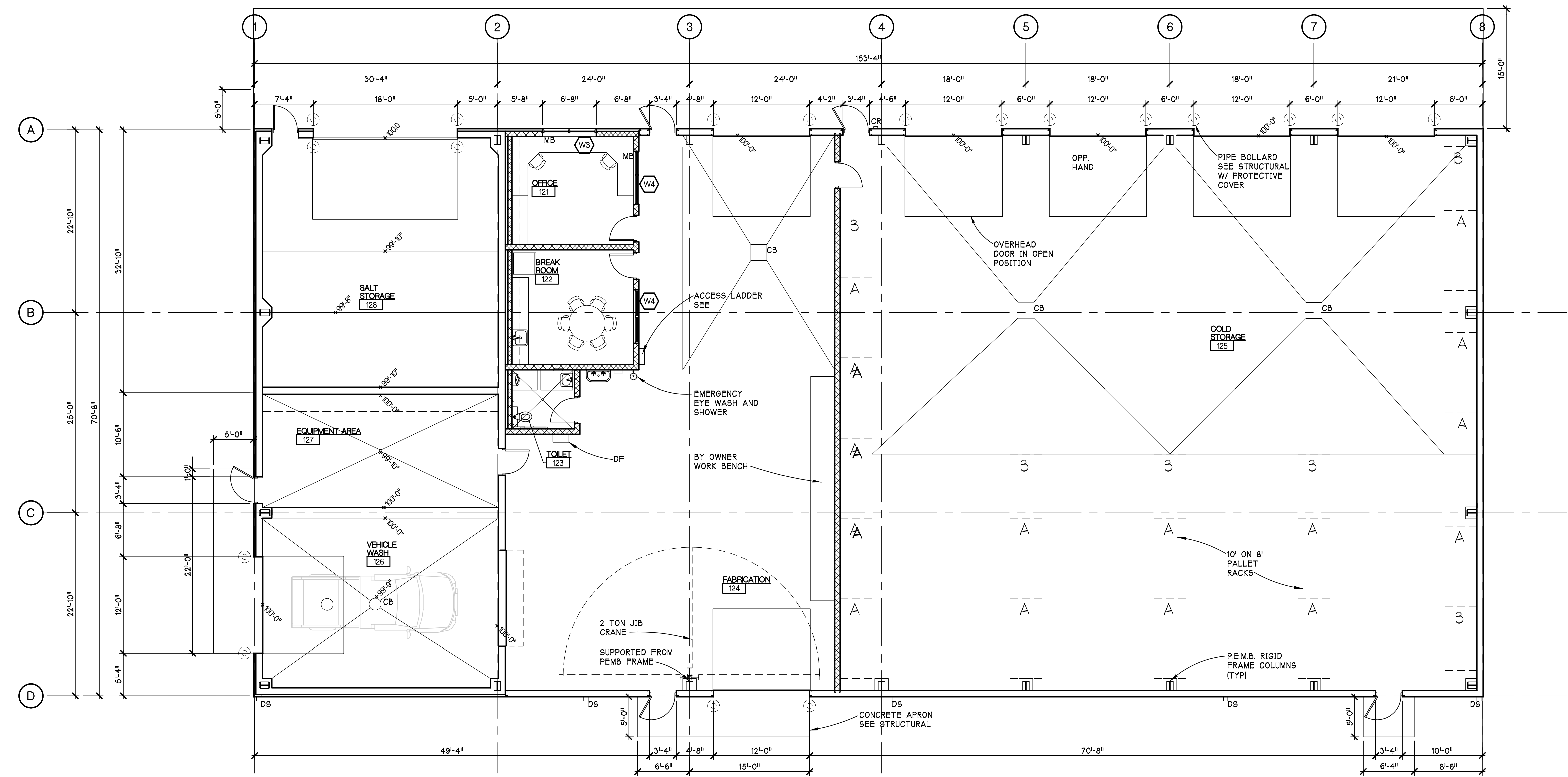
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 SCALE - 1/8"=1'-0"  
 10,647 SQ.FT.

NORTH

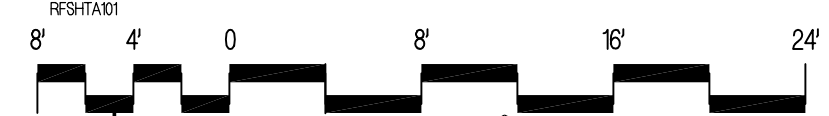
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 Plotted by: architect



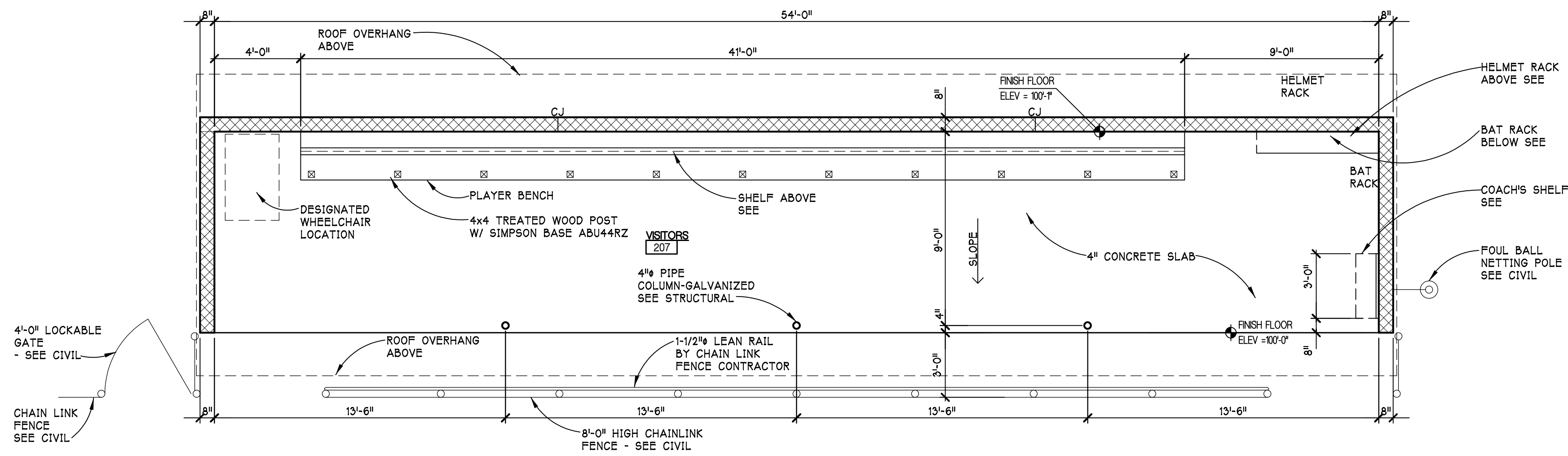
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 MEZZANINE PLAN**  
 SCALE - 1/8"=1'-0"  
 564 SQ. FT.



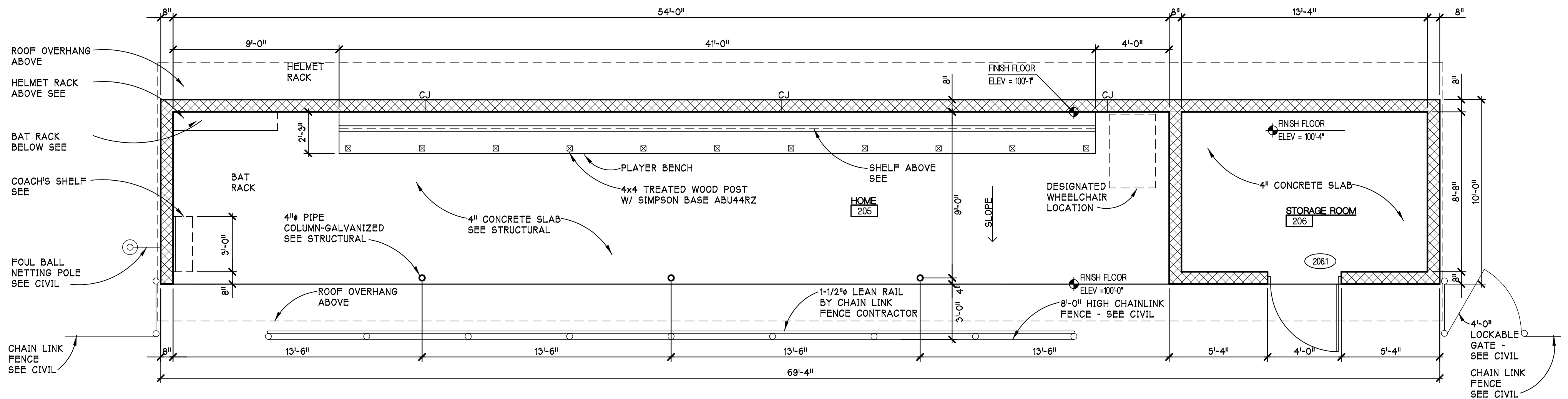
**MAINTENANCE BUILDING  
 FLOOR PLAN**  
 SCALE - 1/8"=1'-0"  
 953 SQ. FT.



Drawing: P:\2022\22703\DWG\CD\ACR\DWG\SITE PLAN REVIEW - RE-DESIGN\KFSHTA\_101.dwg  
 Date: Sep 21, 2022, 12:56pm  
 Layout: A\_101  
 Plotted by: architect



PLAN NORTH  
**FLOOR PLAN  
 VISITOR BASEBALL DUGOUT**  
 SCALE - 1/4" = 1'-0"



PLAN NORTH  
**FLOOR PLAN  
 HOME BASEBALL DUGOUT**  
 SCALE - 1/4" = 1'-0"

**FLOOR PLAN NOTES**

1. DIMENSIONS READ FACE TO CMU
2. CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS AND PROMPTLY NOTIFY ARCHITECT OF ANY DISCREPANCIES
3. SEE FLOOR PLAN FOR FINISH FLOOR ELEVATIONS
4. ALL DIMENSIONED LUMBER FOR BENCHES AND SHELVING TO BE PRESSURE TREATED
5. CJ - INDICATES MASONRY CONTROL JOINT

REV. FINAL SITE PLAN REVIEW	9/21/2022
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PRELIM. SITE PLAN REVIEW	5/31/2022
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**BASEBALL  
 DUGOUT PLANS**

SHEET TITLE

**22-703**  
 PROJECT NUMBER

**A-102**  
 SHEET NUMBER

Drawing: P:\2022\22703\DWG\CD\ARCH\DWG\SITE PLAN REVIEW - RE-DESIGN\KFSHTA\_102.dwg  
 Date: Sep 21, 2022, 12:57pm  
 Layout: A\_102  
 Plotted by: architect

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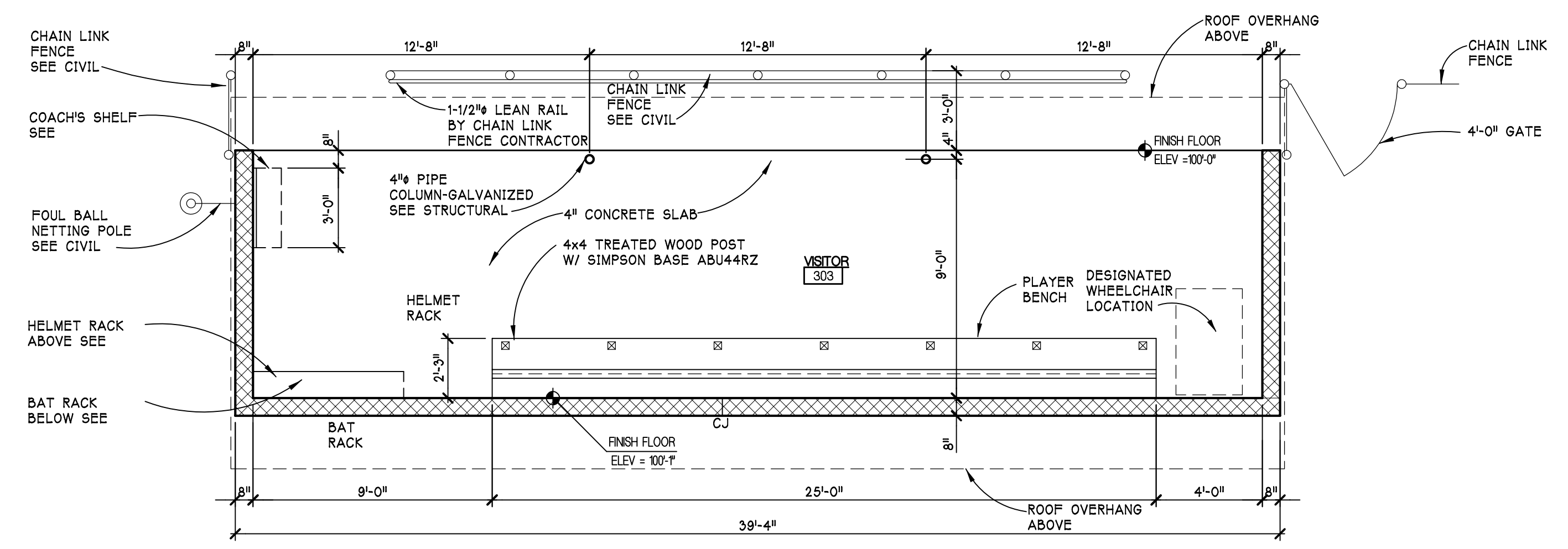
PROJECT  
 CONSULTANT

**SOFTBALL DUGOUT PLANS**

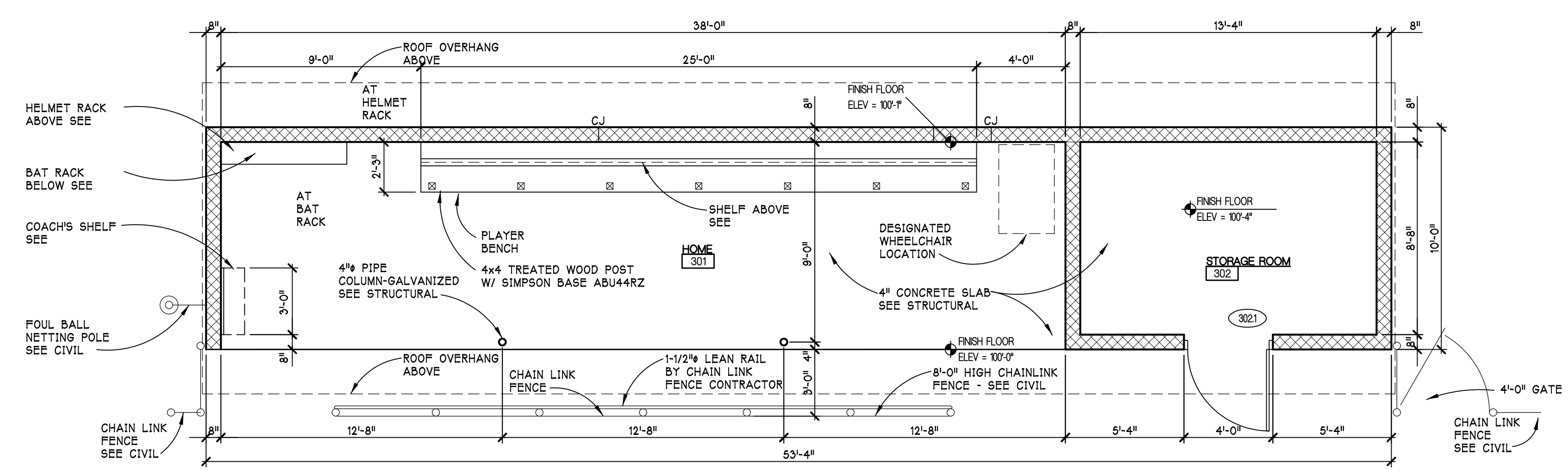
SHEET TITLE

**22-703**  
 PROJECT NUMBER

**A-103**  
 SHEET NUMBER



PLAN NORTH  
**FLOOR PLAN VISITOR SOFTBALL DUGOUT**  
 SCALE - 1/4" = 1'-0"



PLAN NORTH  
**FLOOR PLAN HOME SOFTBALL DUGOUT**  
 SCALE - 1/4" = 1'-0"

**FLOOR PLAN NOTES**

1. DIMENSIONS READ FACE TO CMU
2. CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS AND PROMPTLY NOTIFY ARCHITECT OF ANY DISCREPANCIES
3. SEE FLOOR PLAN FOR FINISH FLOOR ELEVATIONS
4. ALL DIMENSIONED LUMBER FOR BENCHES AND SHELVING TO BE PRESSURE TREATED
5. CJ - INDICATES MASONRY CONTROL JOINT

Drawing: P:\2022\22703\dwg\CD\Arch\DWG\SITE PLAN REVIEW - RE-DESIGN\KFSHTA\_103.dwg  
 Date: Sep 21, 2022, 12:56pm  
 Layout: A\_103  
 Plotted by: architect

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PROJECT

CONSULTANT

FIELD ANNOUNCER BOOTH PLANS

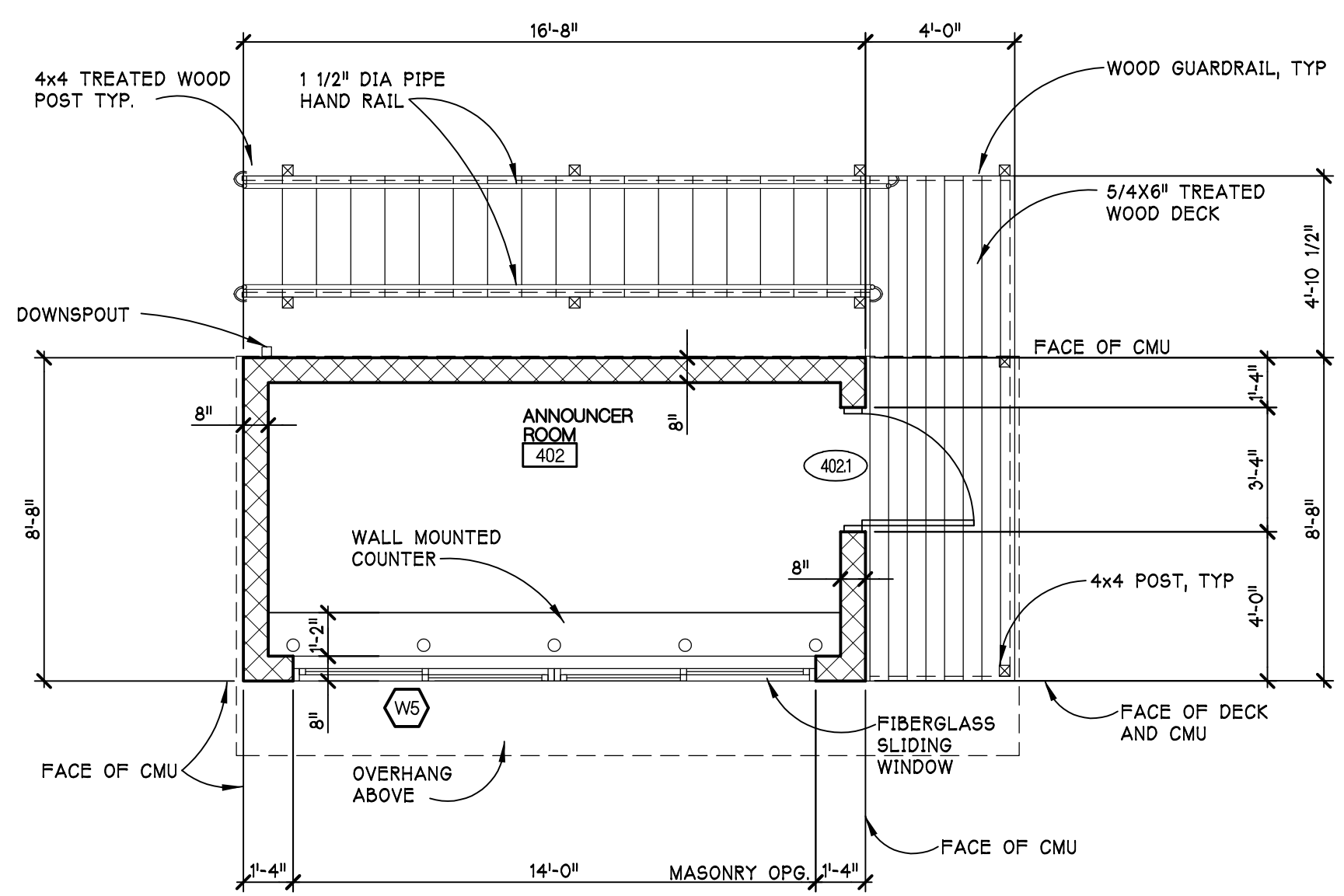
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22-703

PROJECT NUMBER

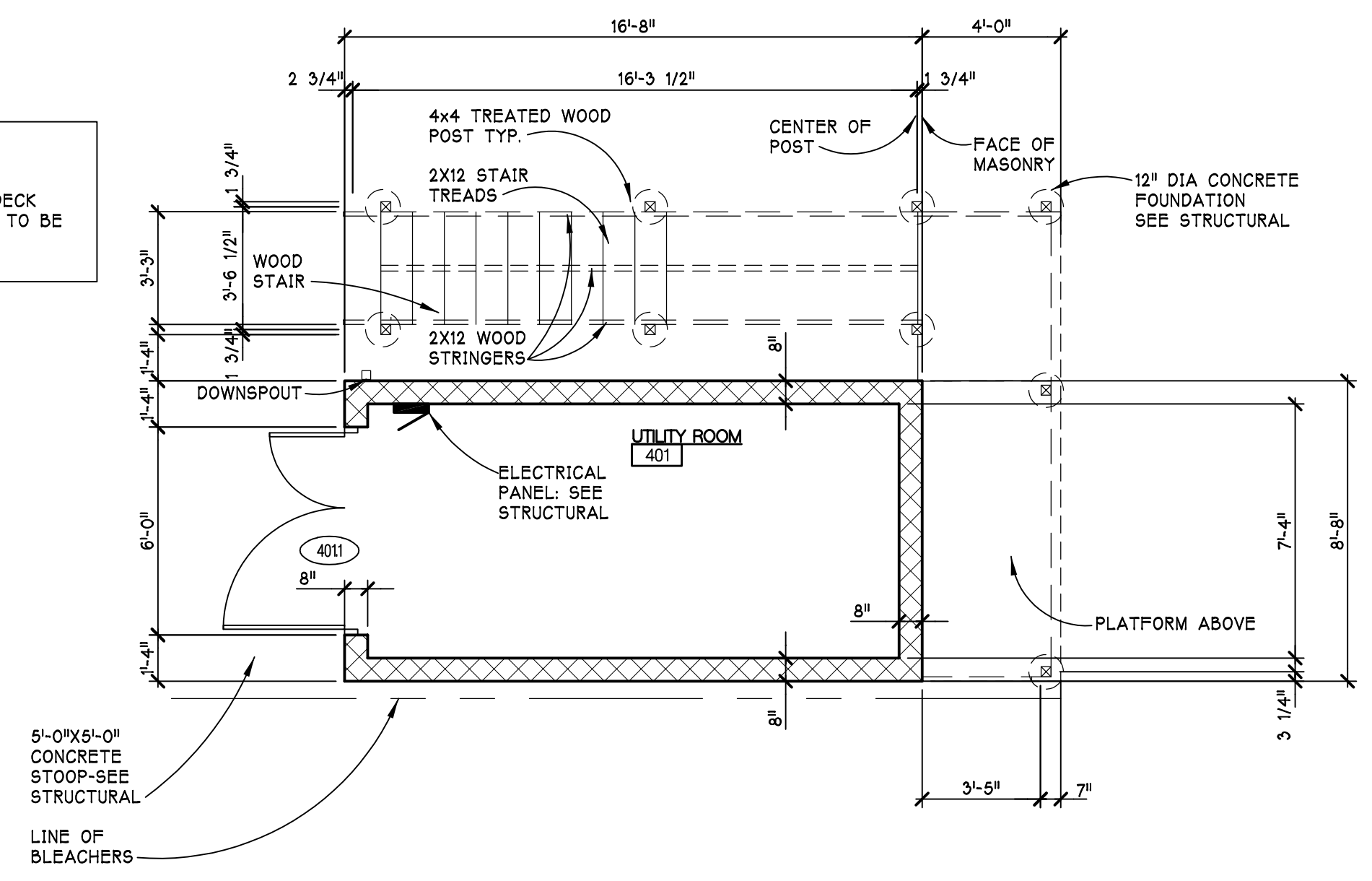
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SHEET NUMBER

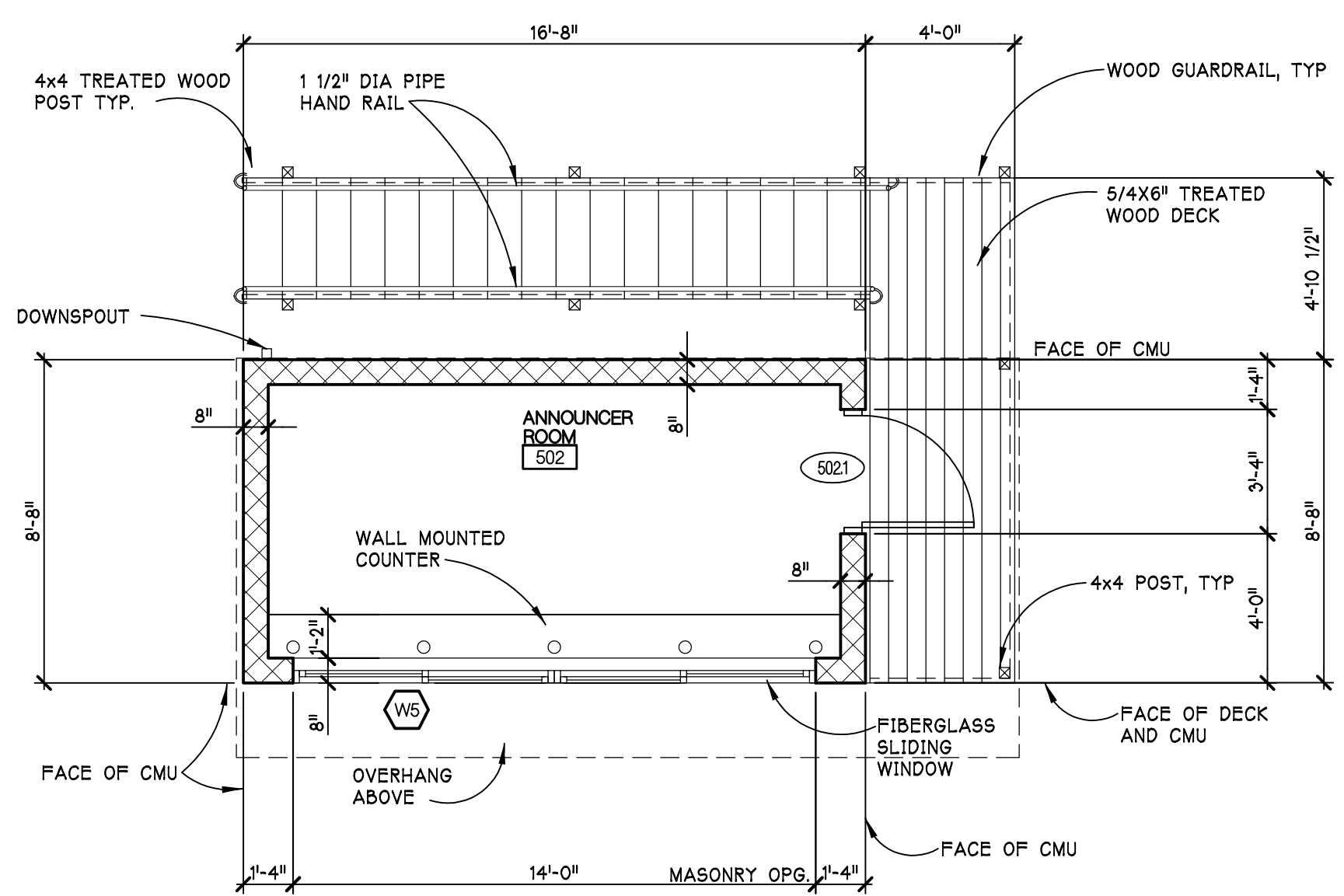


**BASEBALL FIELD ANNOUNCERS BOOTH SECOND FLOOR PLAN**  
 SCALE - 1/4" = 1'-0"

NOTE:  
 ALL EXPOSED WOOD FRAMING AND DECK MATERIAL AT PLATFORM AND STAIR TO BE PRESSURE TREATED.

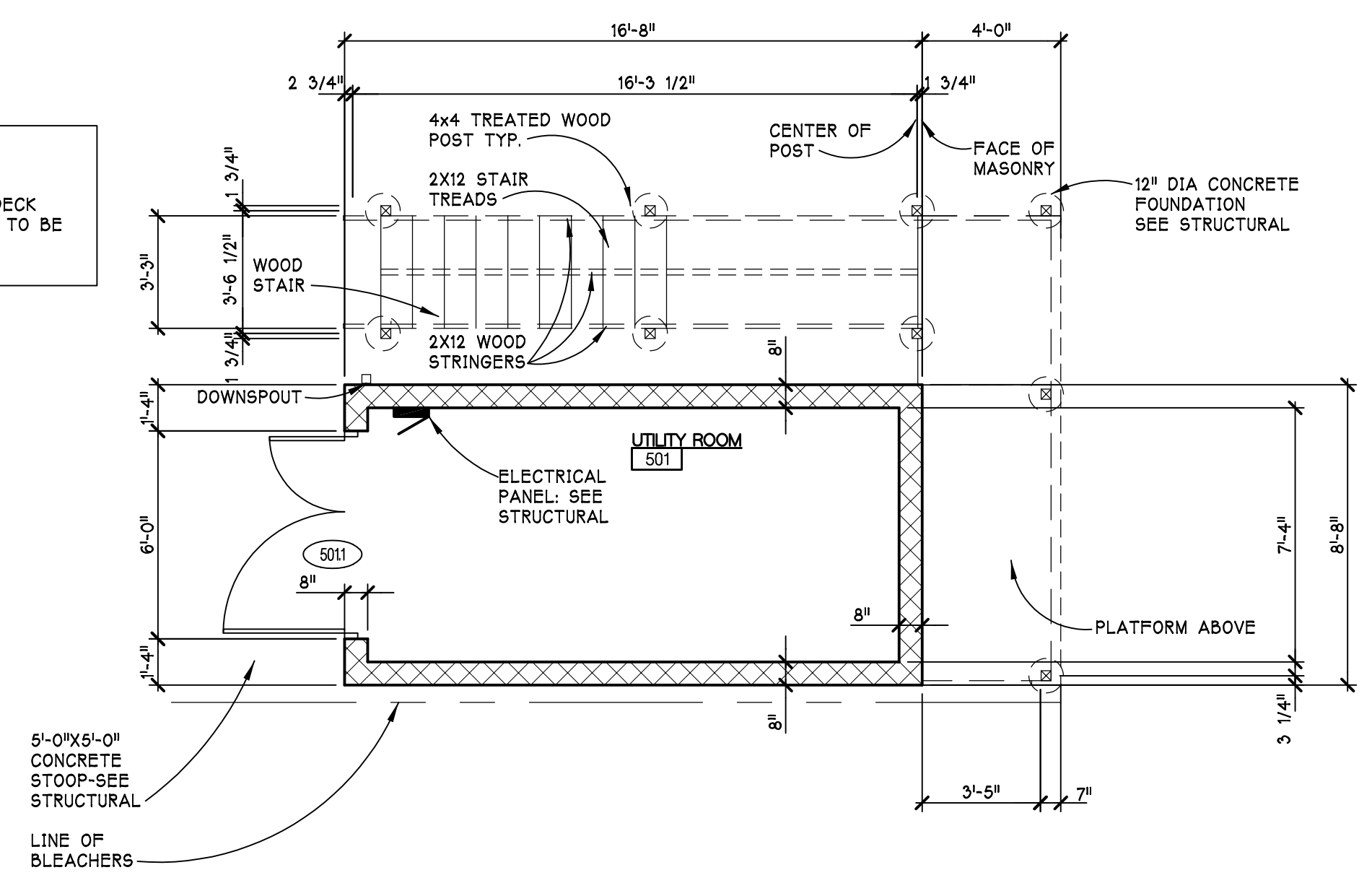


**BASEBALL FIELD ANNOUNCERS BOOTH FIRST FLOOR PLAN**  
 SCALE - 1/4" = 1'-0"



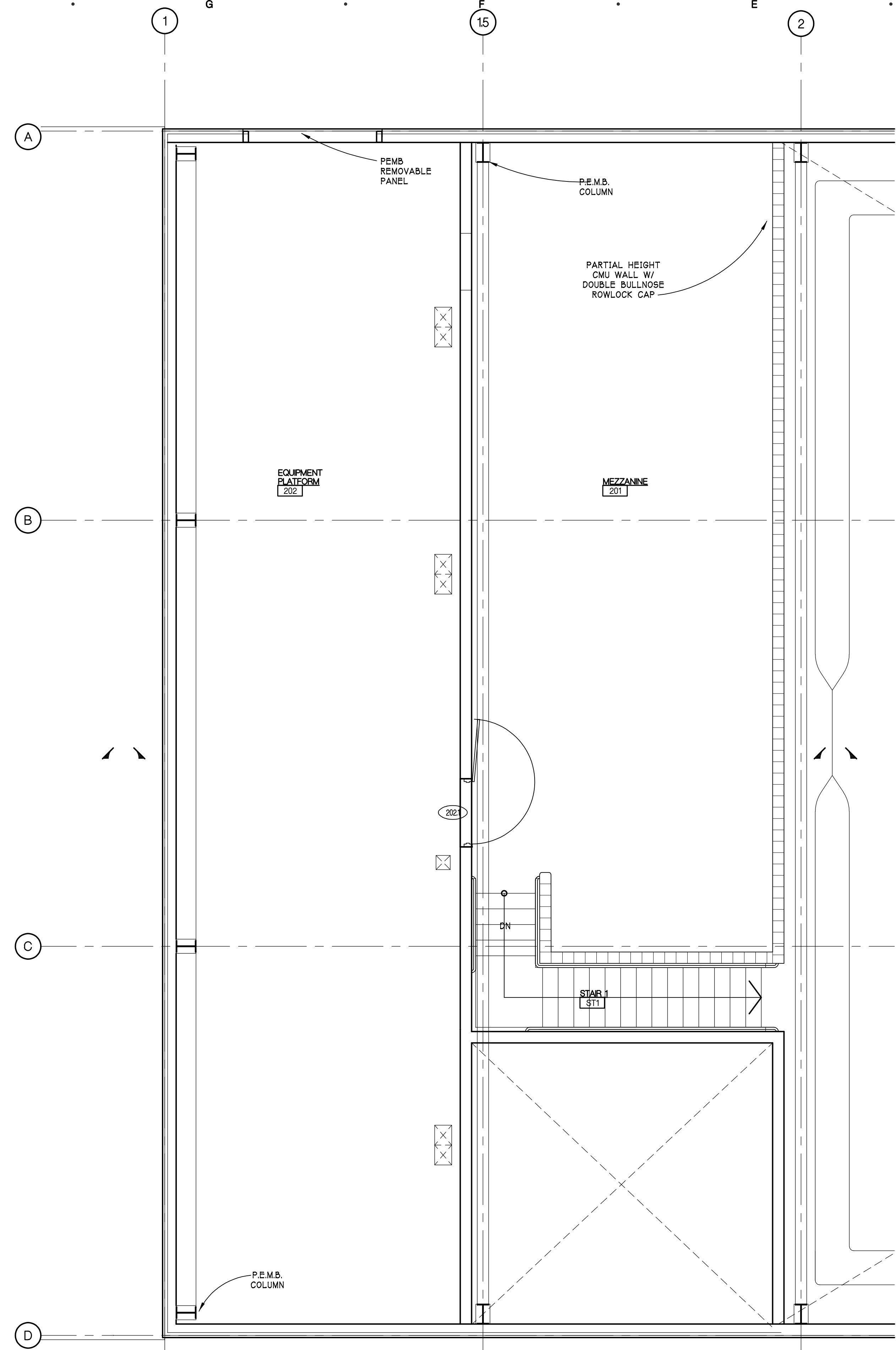
**SOFTBALL FIELD ANNOUNCERS BOOTH SECOND FLOOR PLAN**  
 SCALE - 1/4" = 1'-0"

NOTE:  
 ALL EXPOSED WOOD FRAMING AND DECK MATERIAL AT PLATFORM AND STAIR TO BE PRESSURE TREATED.

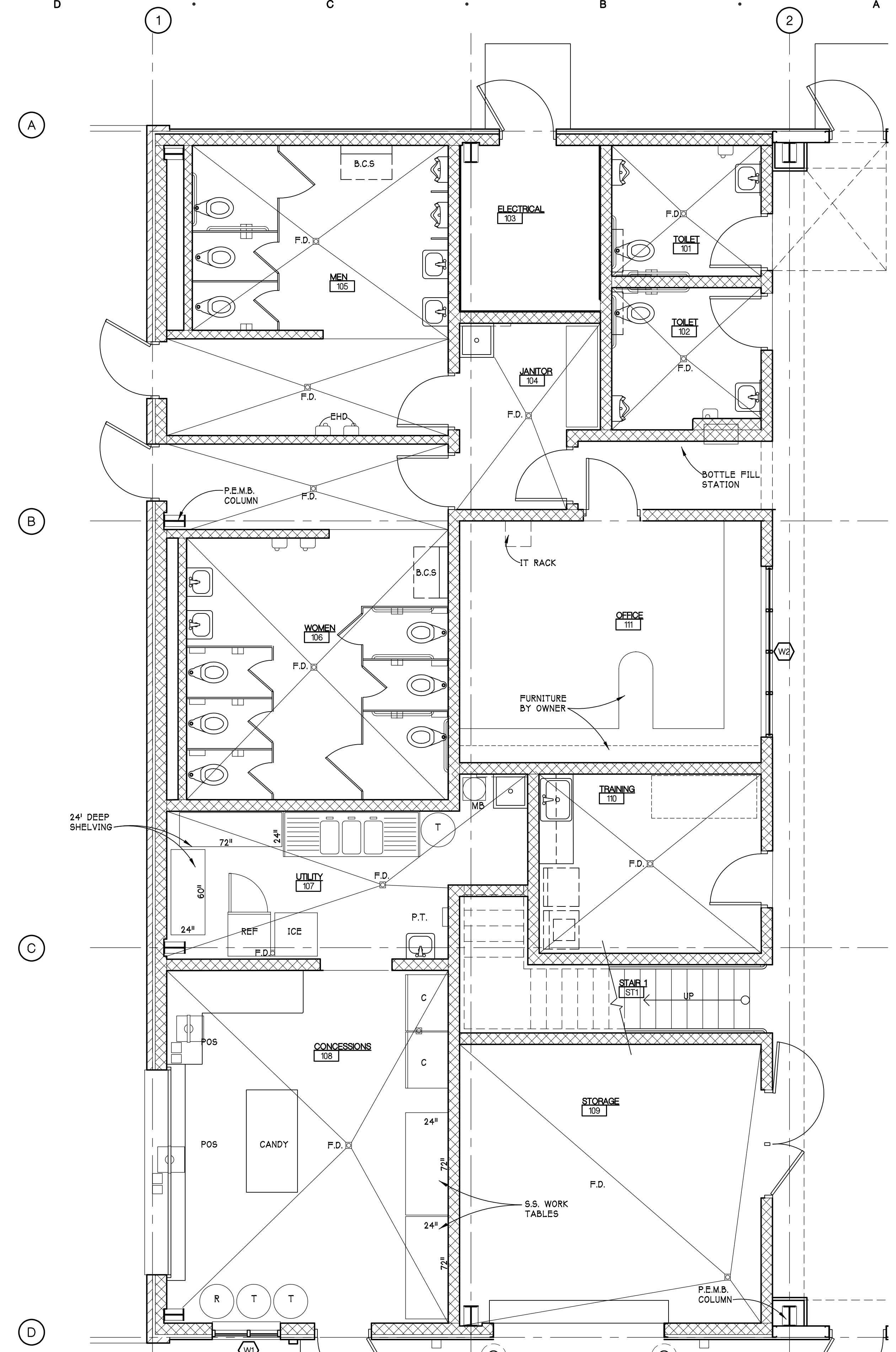


**SOFTBALL FIELD ANNOUNCERS BOOTH FIRST FLOOR PLAN**  
 SCALE - 1/4" = 1'-0"

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 Layout: A\_104  
 Plotted by: architect



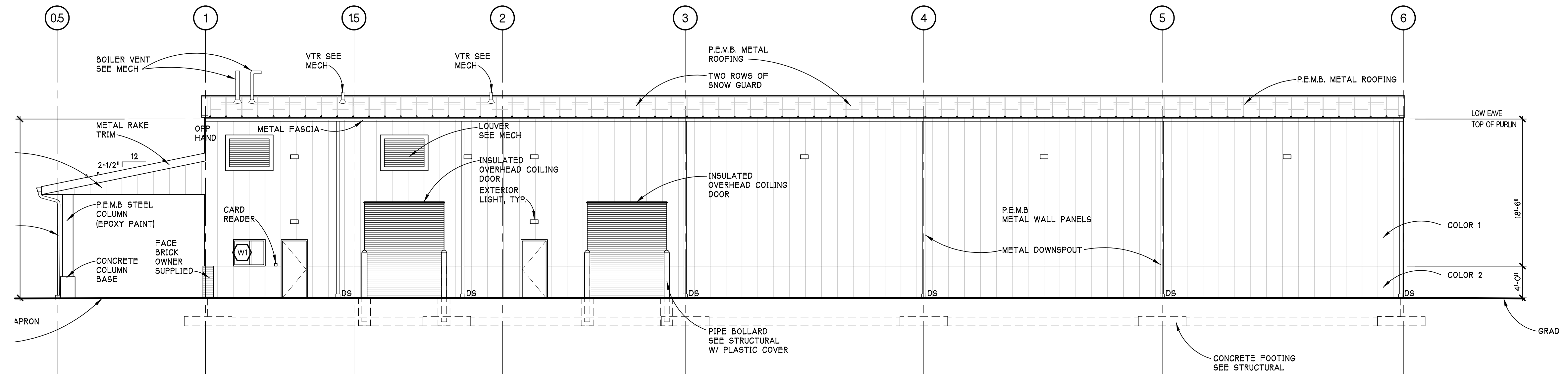
NORTH  
**ENLARGED SECOND FLOOR PLAN**  
 SCALE - 1/4" = 1'-0"  
 4' 2' 0' 4' 8' 12'



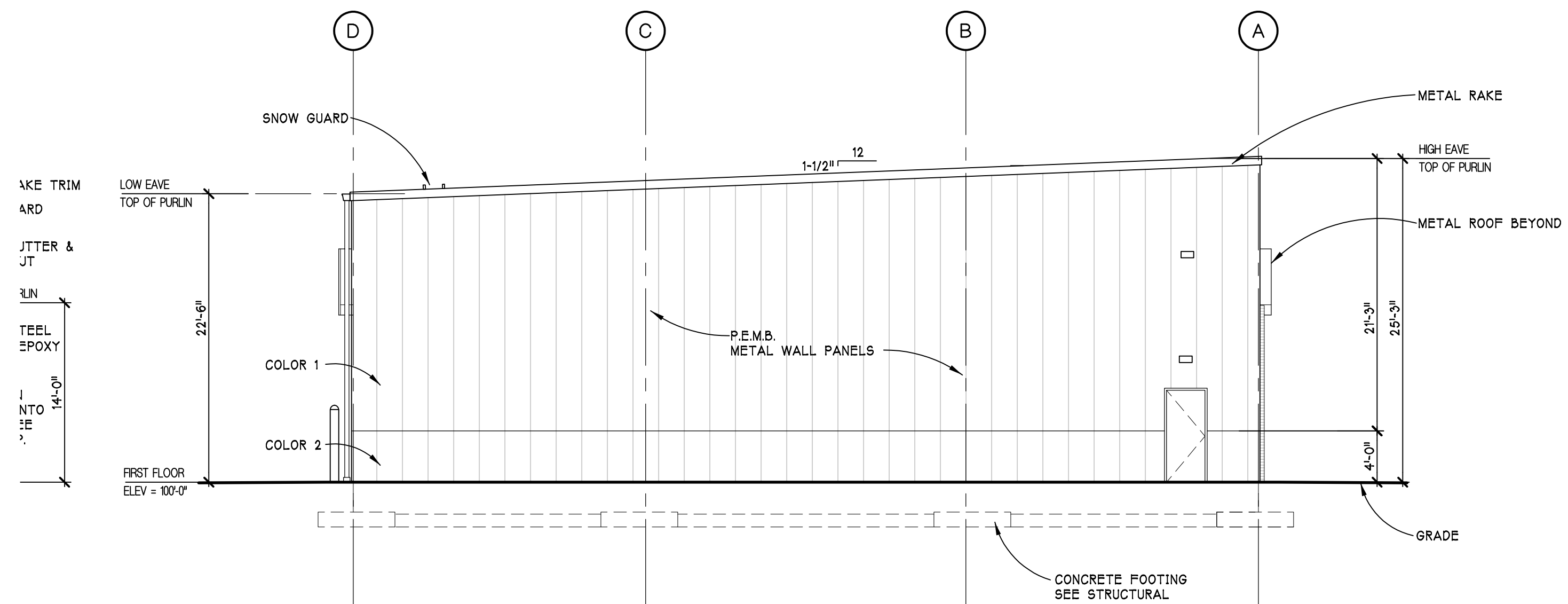
NORTH  
**ENLARGED FIRST FLOOR PLAN**  
 SCALE - 1/4" = 1'-0"  
 4' 2' 0' 4' 8' 12'

Drawing: P:\2022\22703\DWG\CD\ARCH\DWG\SITE PLAN REVIEW - RE-DESIGN\KFSHTA\_110.dwg  
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 Layout: A-110  
 Plotted by: architect

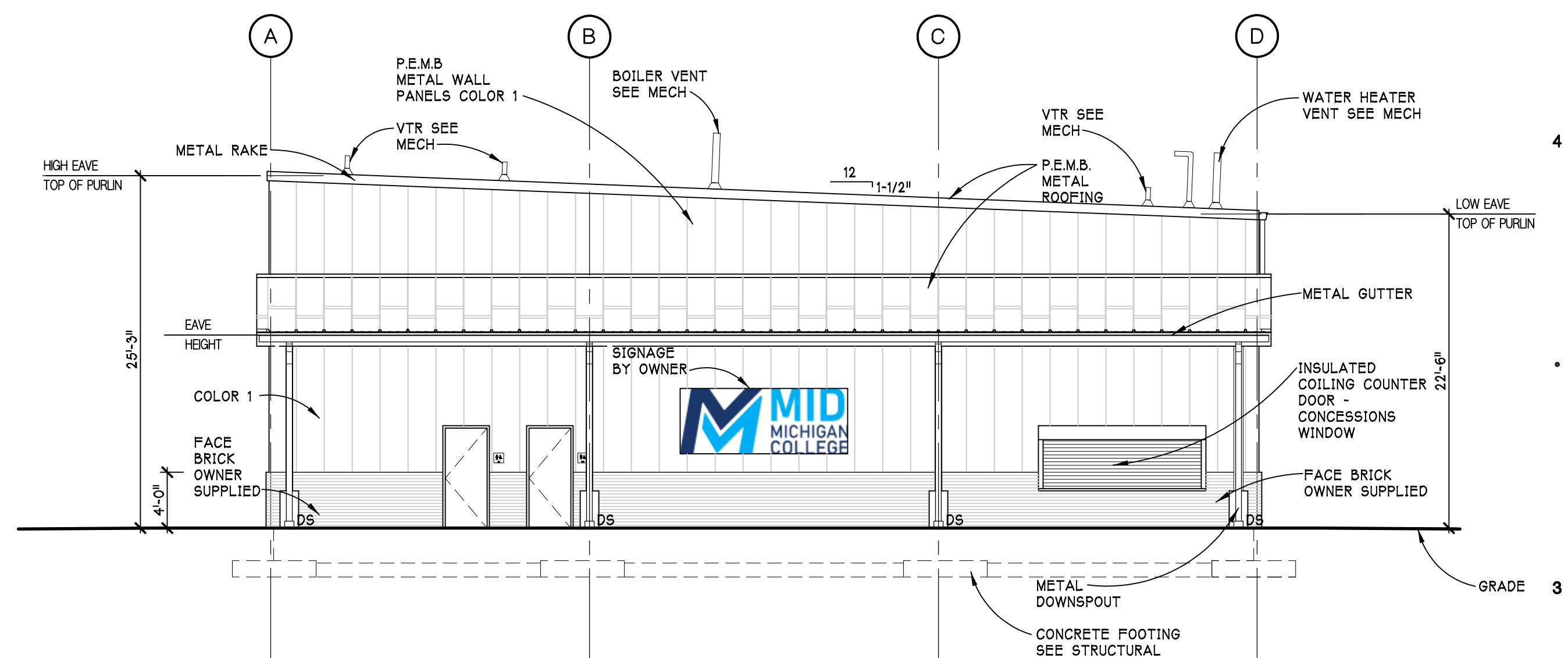




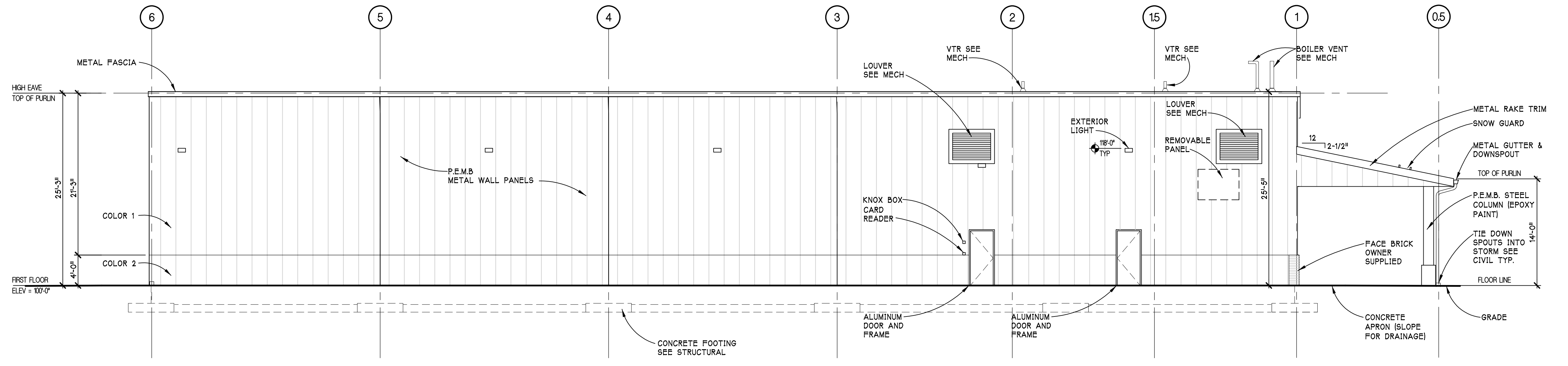
**F5 SOUTH ELEVATION**  
SCALE - 1/8" = 1'-0"  
A-300



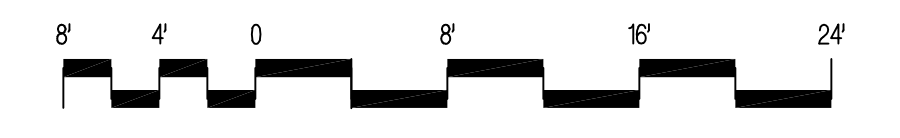
**F3 EAST ELEVATION**  
SCALE - 1/8" = 1'-0"  
A-300



**C3 WEST ELEVATION**  
SCALE - 1/8" = 1'-0"  
A-300

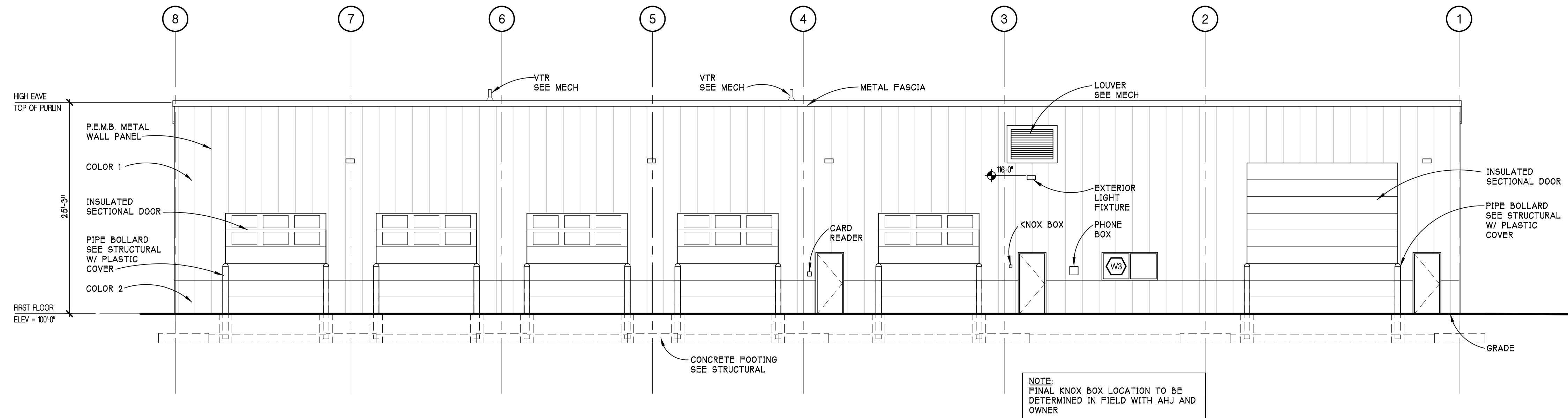


**F1 NORTH ELEVATION**  
SCALE - 1/8" = 1'-0"  
A-300

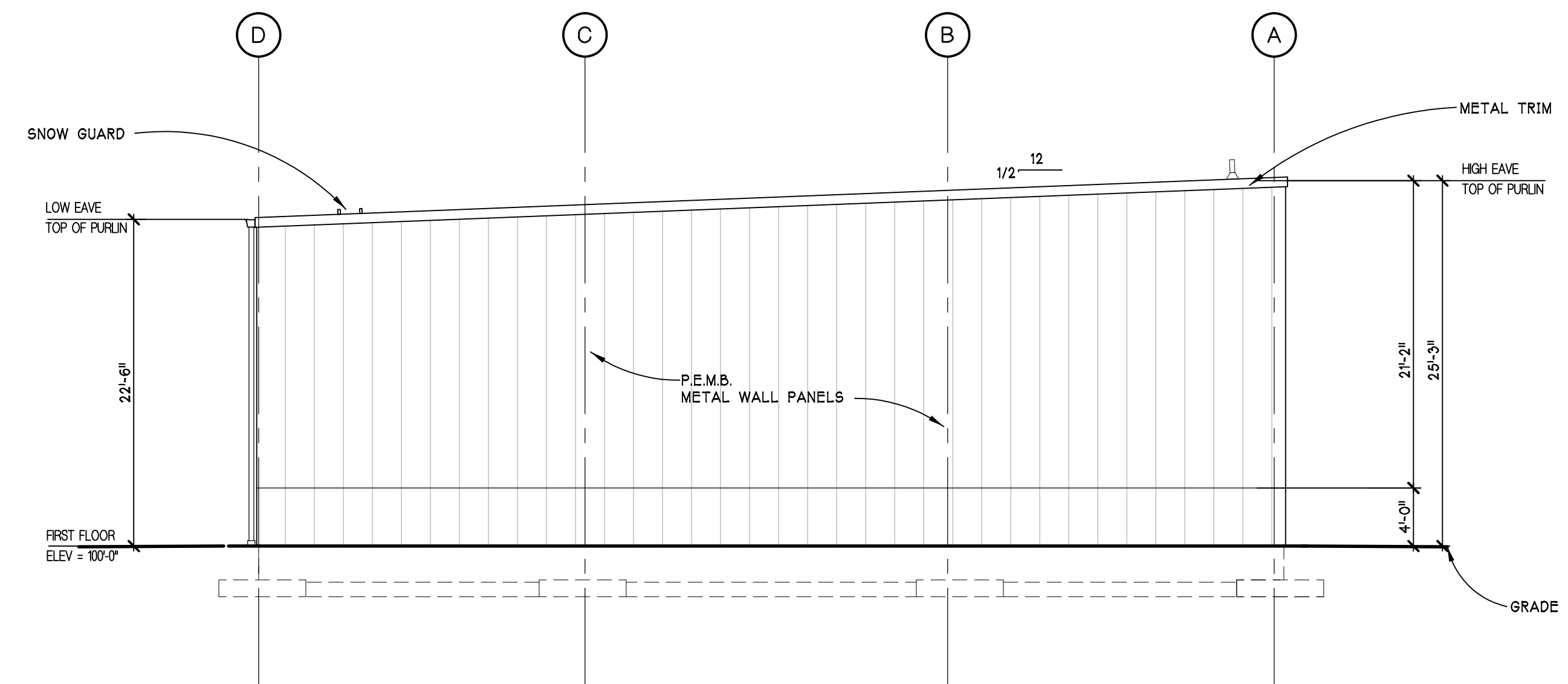


NOTE:  
FINAL KNOX BOX LOCATION TO BE  
DETERMINED IN FIELD WITH AHJ AND  
OWNER

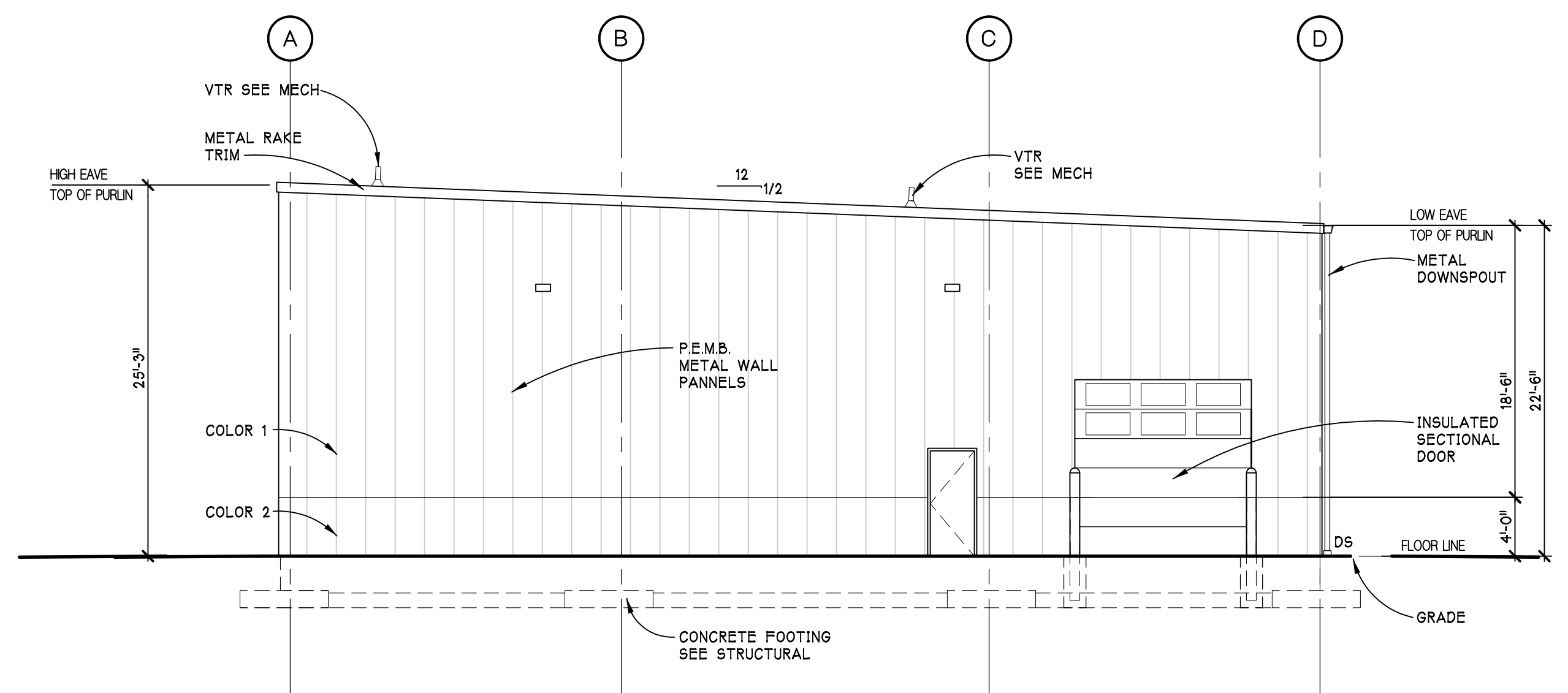
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Date: Sep 21, 2022, 1:03pm  
Layout: A-300  
Plotted by: architect



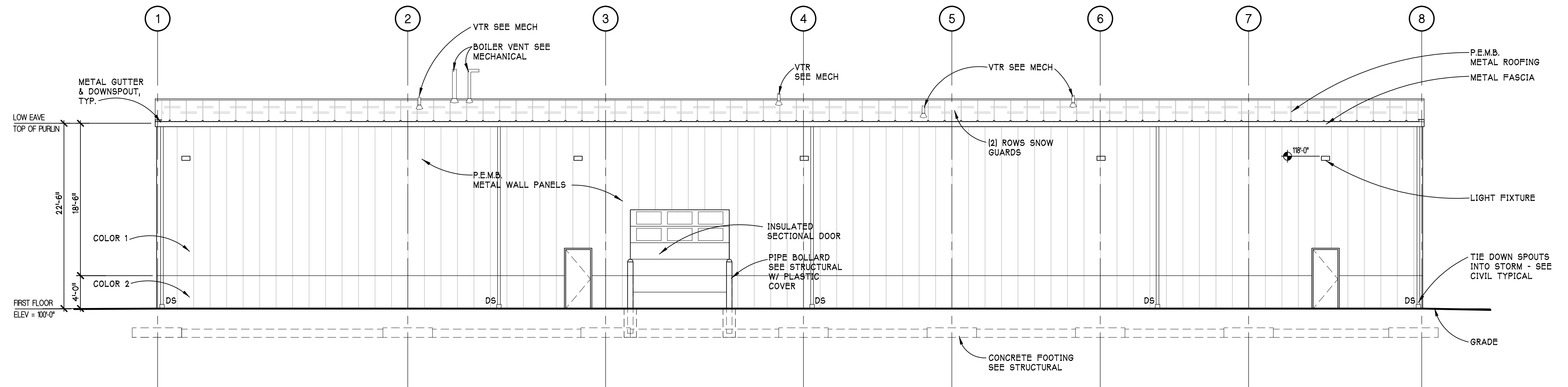
**F5 NORTH ELEVATION**  
 SCALE - 1/8" = 1'-0"



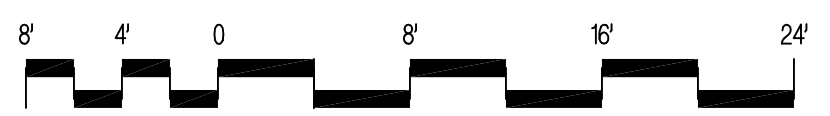
**F3 EAST ELEVATION**  
 SCALE - 1/8" = 1'-0"



**C3 WEST ELEVATION**  
 SCALE - 1/8" = 1'-0"



**F1 SOUTH ELEVATION**  
 SCALE - 1/8" = 1'-0"



Drawing: P:\2022\2703\DWG\CD\ARCH\DWG\SITE PLAN REVIEW - RE-DESIGN\KFSHTA301.dwg  
 Date: Sep 21, 2022, 1:04pm  
 Layout: A-301  
 Plotted by: architect

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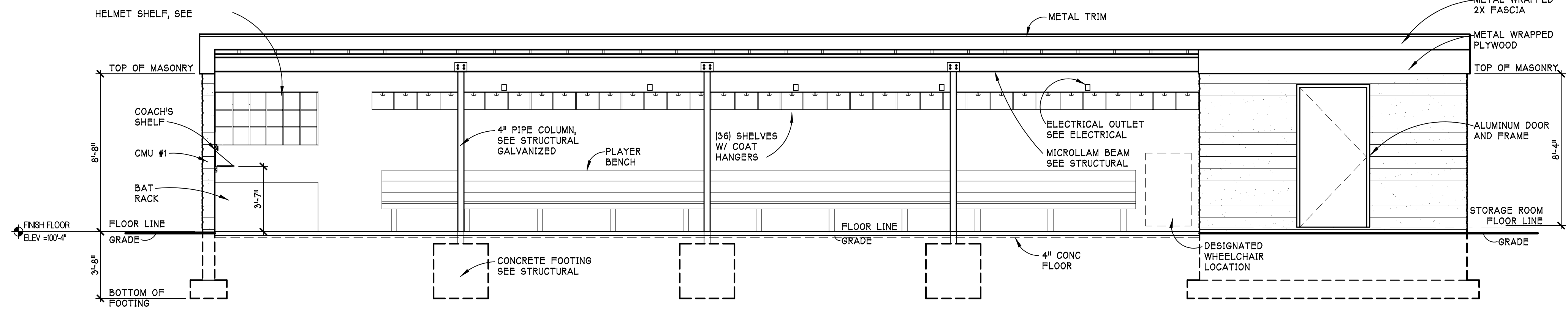
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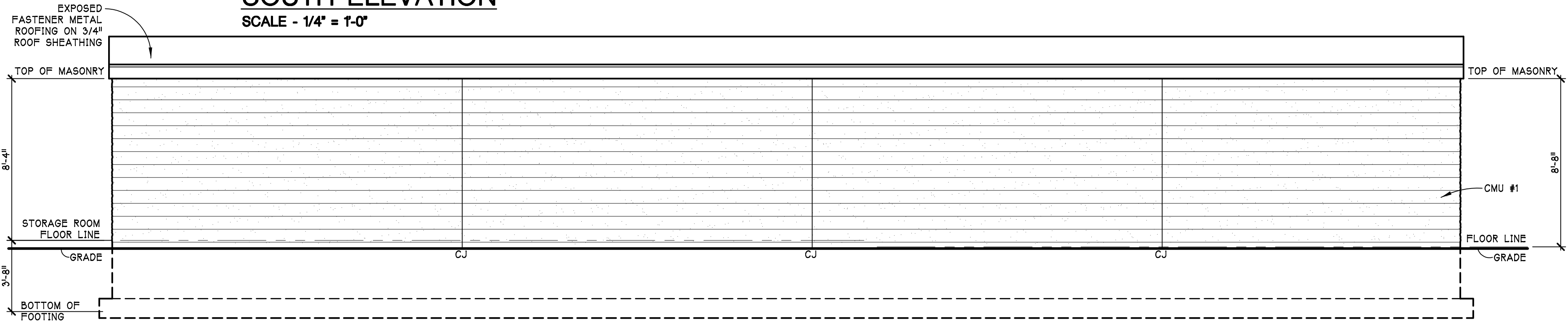
EXTERIOR ELEVATIONS  
 MAINTENANCE BUILDING  
 SHEET TITLE

22-703  
 PROJECT NUMBER

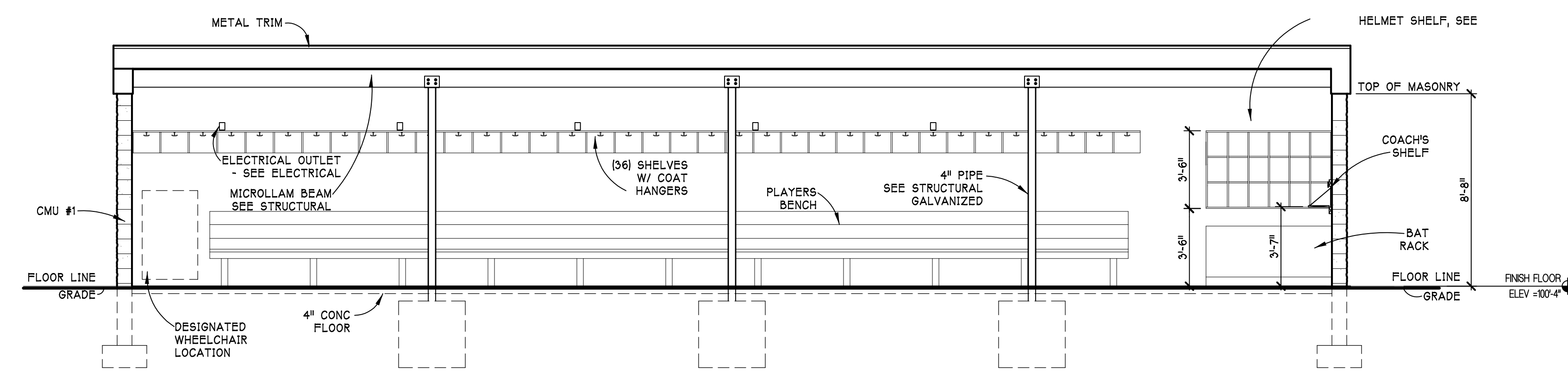
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 SHEET NUMBER



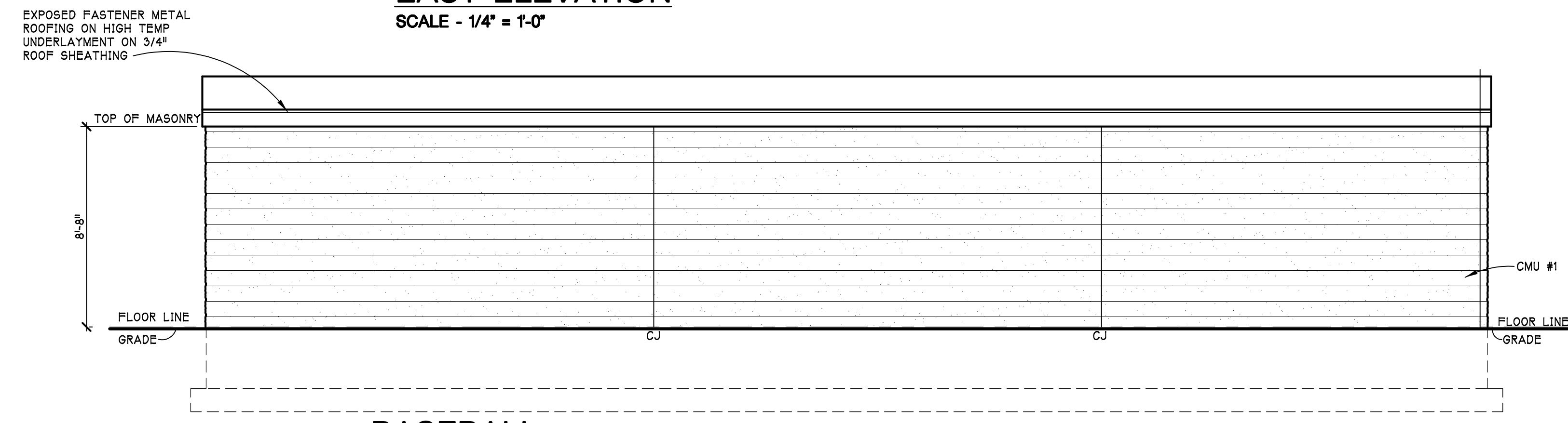
**BASEBALL HOME DUGOUT SOUTH ELEVATION**  
 SCALE - 1/4" = 1'-0"



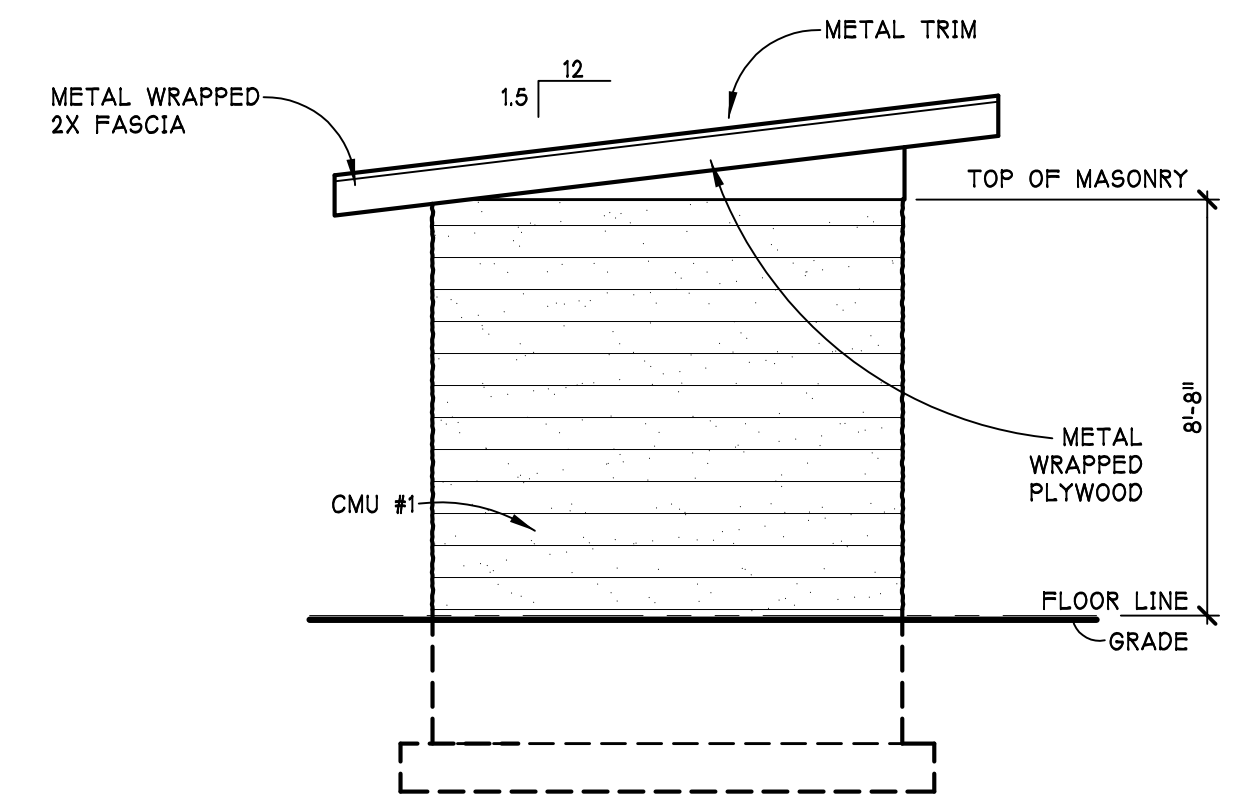
**BASEBALL HOME DUGOUT NORTH ELEVATION**  
 SCALE - 1/4" = 1'-0"



**BASEBALL VISITOR DUGOUT EAST ELEVATION**  
 SCALE - 1/4" = 1'-0"

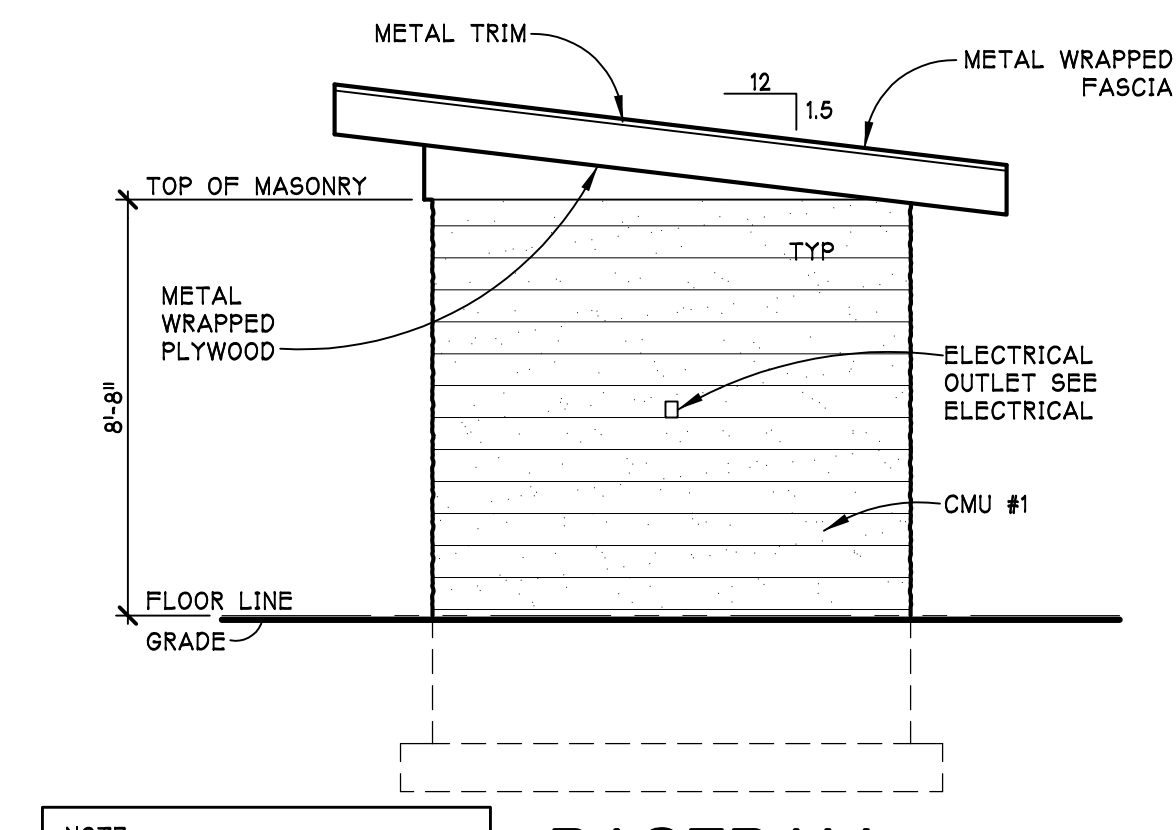


**BASEBALL VISITOR DUGOUT WEST ELEVATION**  
 SCALE - 1/4" = 1'-0"



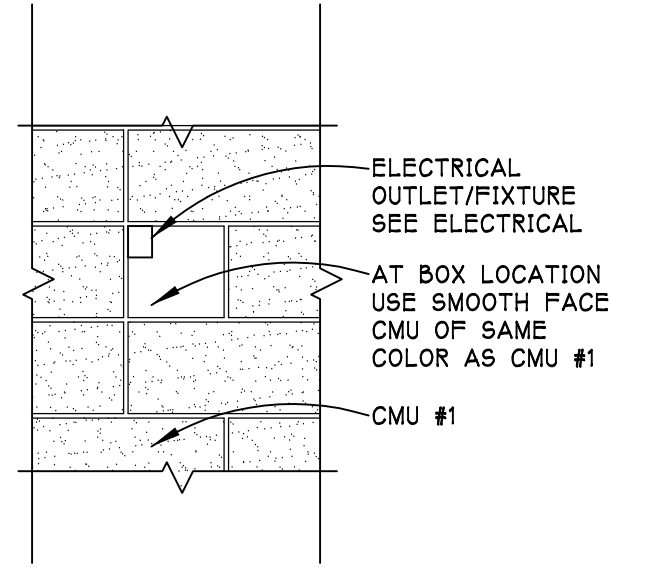
**BASEBALL HOME DUGOUT WEST ELEVATION**  
 SCALE - 1/4" = 1'-0"

NOTE:  
 VISITOR DUGOUT SOUTH ELEVATION SIMILAR.



**BASEBALL HOME DUGOUT EAST ELEVATION**  
 SCALE - 1/4" = 1'-0"

NOTE:  
 VISITOR DUGOUT NORTH ELEVATION SIMILAR.



**A4 ELEVATION DETAIL**  
 SCALE - 3/4" = 1'-0"

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**EXTERIOR ELEVATIONS BASEBALL DUGOUTS**

SHEET TITLE

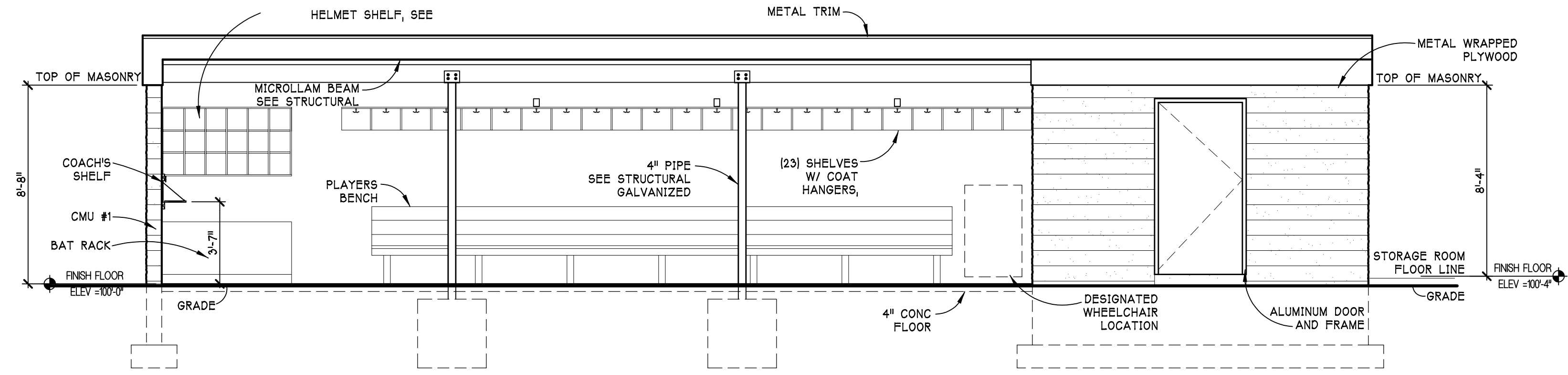
**22-703**

PROJECT NUMBER

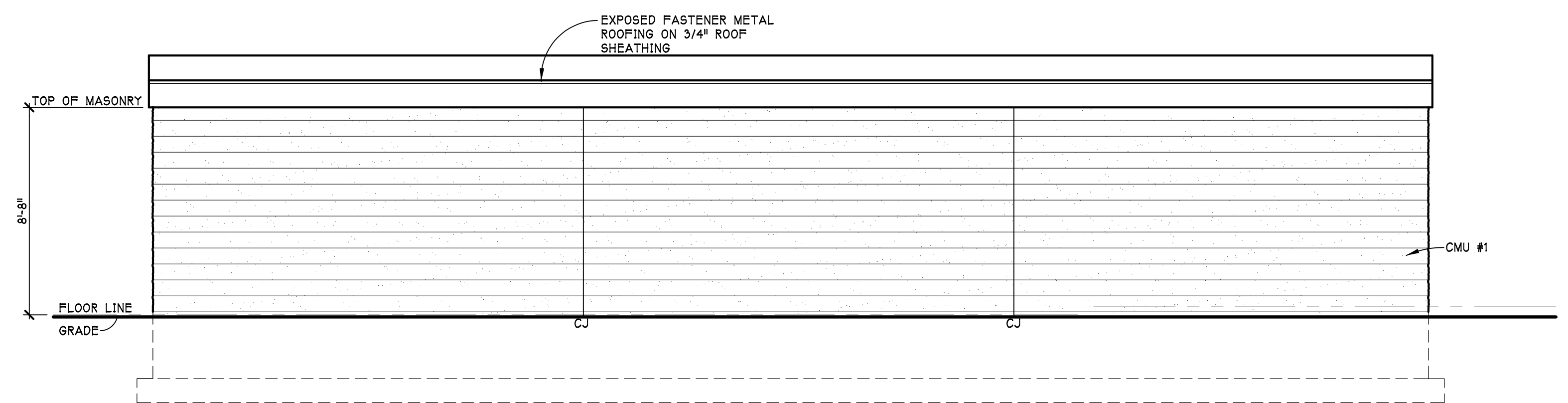
**A-302**

SHEET NUMBER

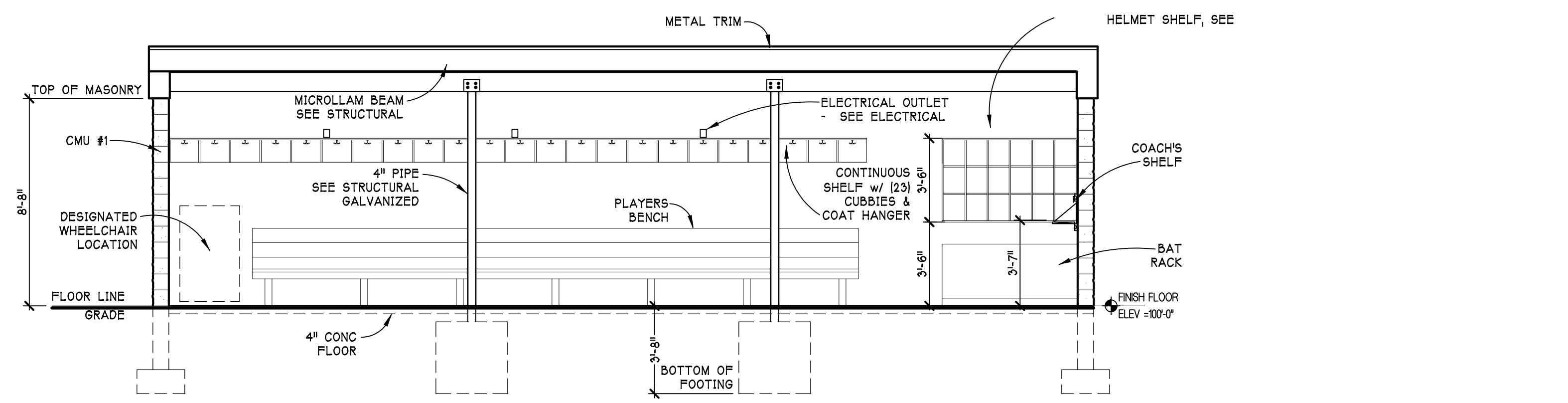
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 Layer: A-302  
 Plotted by: architect



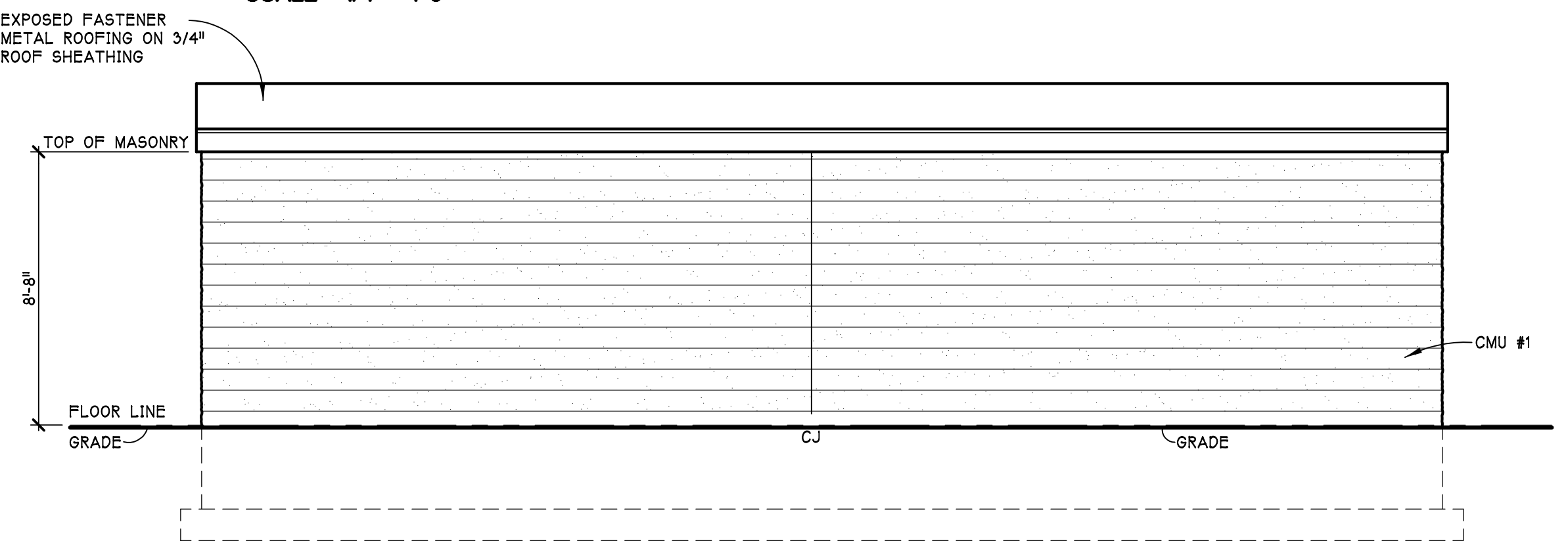
**SOFTBALL HOME DUGOUT EAST ELEVATION**  
 SCALE - 1/4" = 1'-0"



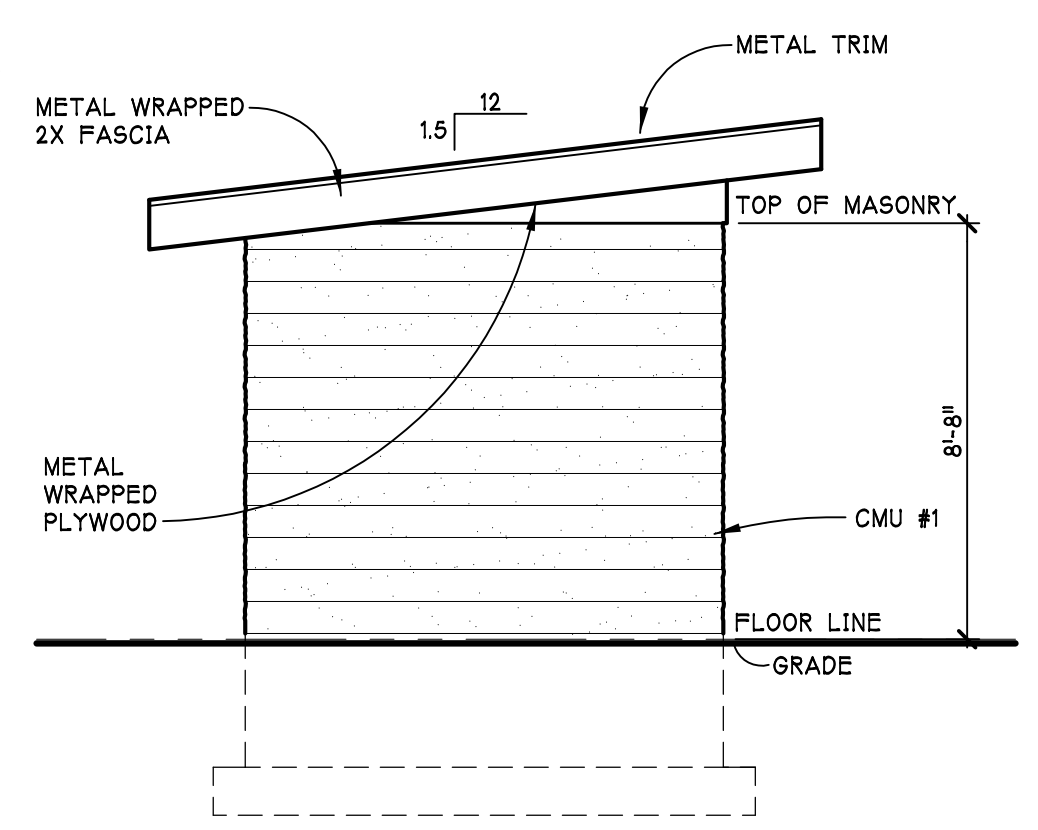
**SOFTBALL HOME DUGOUT WEST ELEVATION**  
 SCALE - 1/4" = 1'-0"



**SOFTBALL VISITOR DUGOUT NORTH ELEVATION**  
 SCALE - 1/4" = 1'-0"

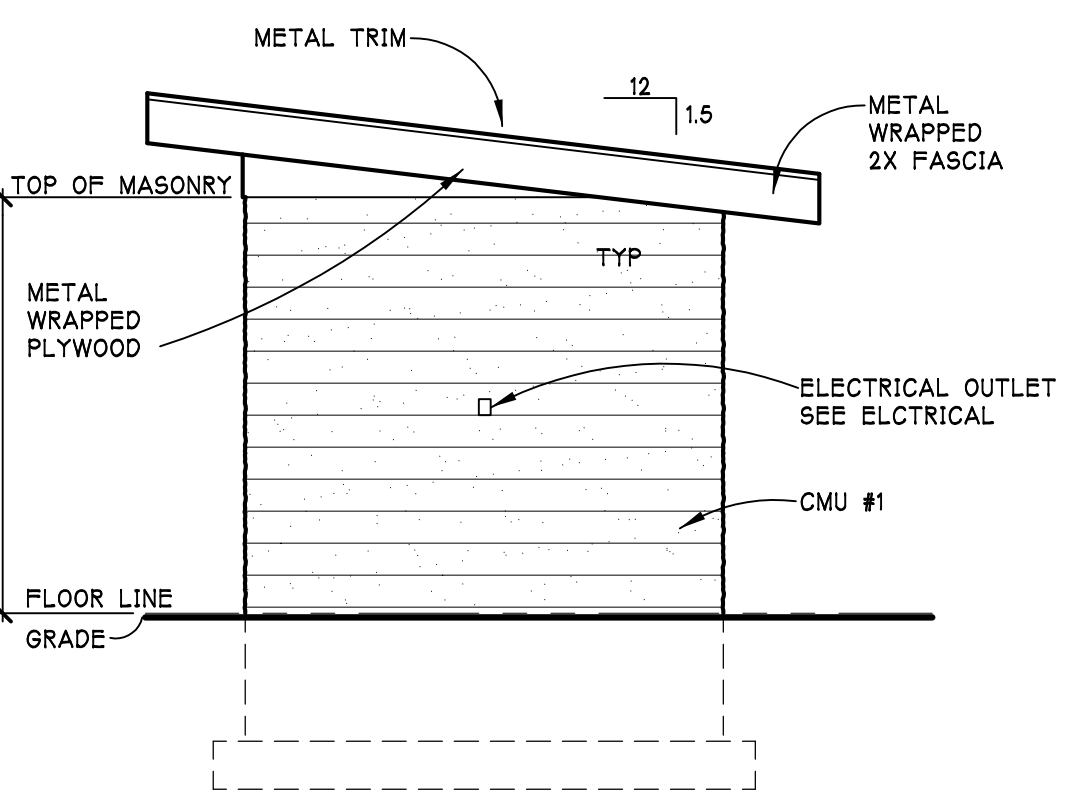


**SOFTBALL VISITOR DUGOUT SOUTH ELEVATION**  
 SCALE - 1/4" = 1'-0"



**SOFTBALL HOME DUGOUT SOUTH ELEVATION**  
 SCALE - 1/4" = 1'-0"

NOTE: NORTH ELEVATION SIMILAR BUT OPPOSITE HAND.



**SOFTBALL VISITOR DUGOUT WEST ELEVATION**  
 SCALE - 1/4" = 1'-0"

NOTE: EAST ELEVATION SIMILAR BUT OPPOSITE HAND

REV. FINAL SITE PLAN REVIEW 8/21/2022  
 FINAL SITE PLAN REVIEW 8/26/2022  
 PRELIM. SITE PLAN REVIEW 5/31/2022  
 DATE ISSUED  
 DRAWN BY  
 CHECKED BY

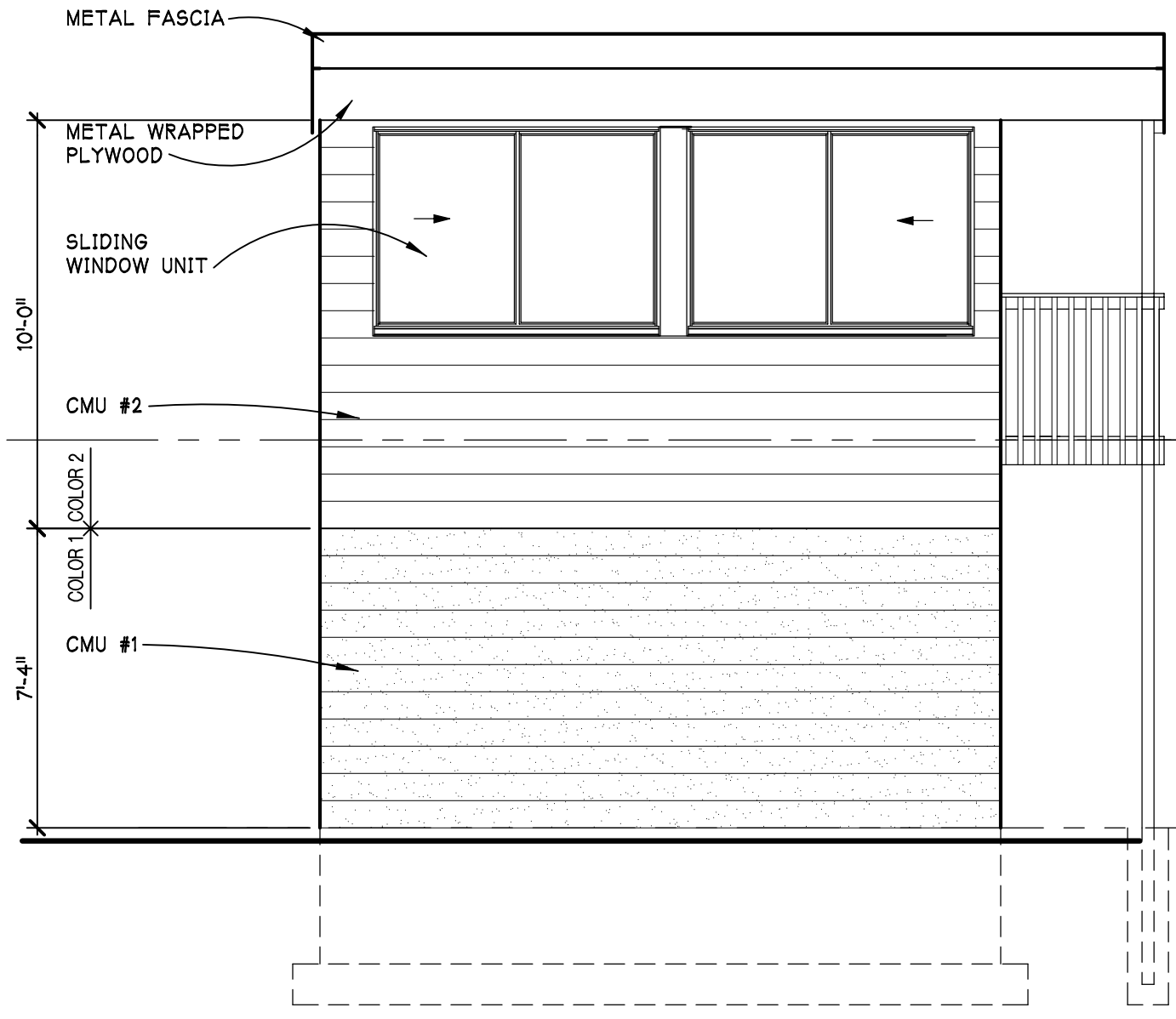
**HOBBS + BLACK ARCHITECTS**  
 117 E. Allegan Street  
 Lansing, MI 48933  
 P: 517.464.4870  
 www.hobbs-black.com

**MID MICHIGAN COLLEGE**  
 NEW SPORTS COMPLEX  
 2600 South Summerton Road  
 Mt. Pleasant, Michigan

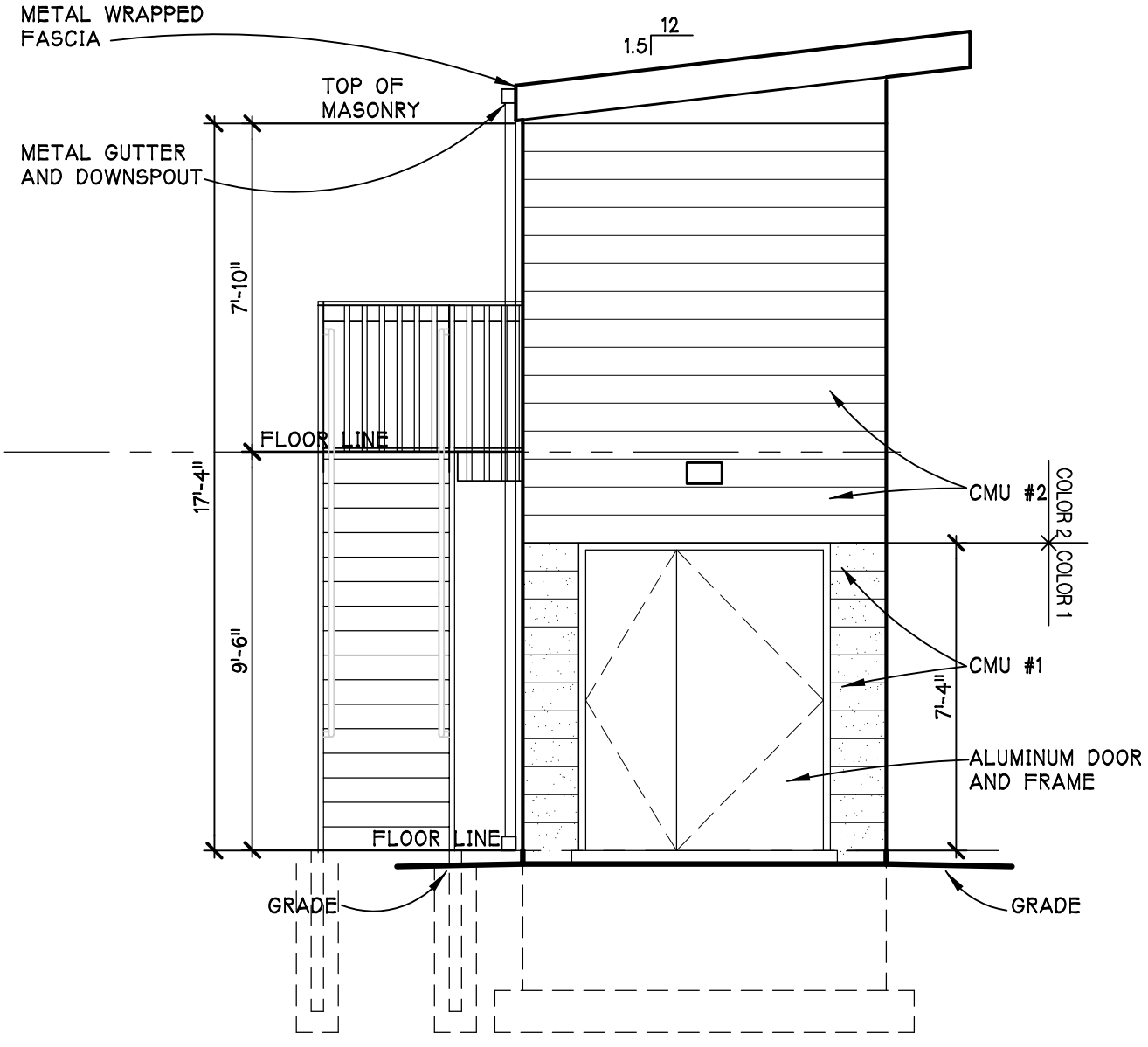
PROJECT  
 CONSULTANT

**EXTERIOR ELEVATIONS SOFTBALL DUGOUTS**  
 SHEET TITLE  
**22-703**  
 PROJECT NUMBER  
**A-303**  
 SHEET NUMBER

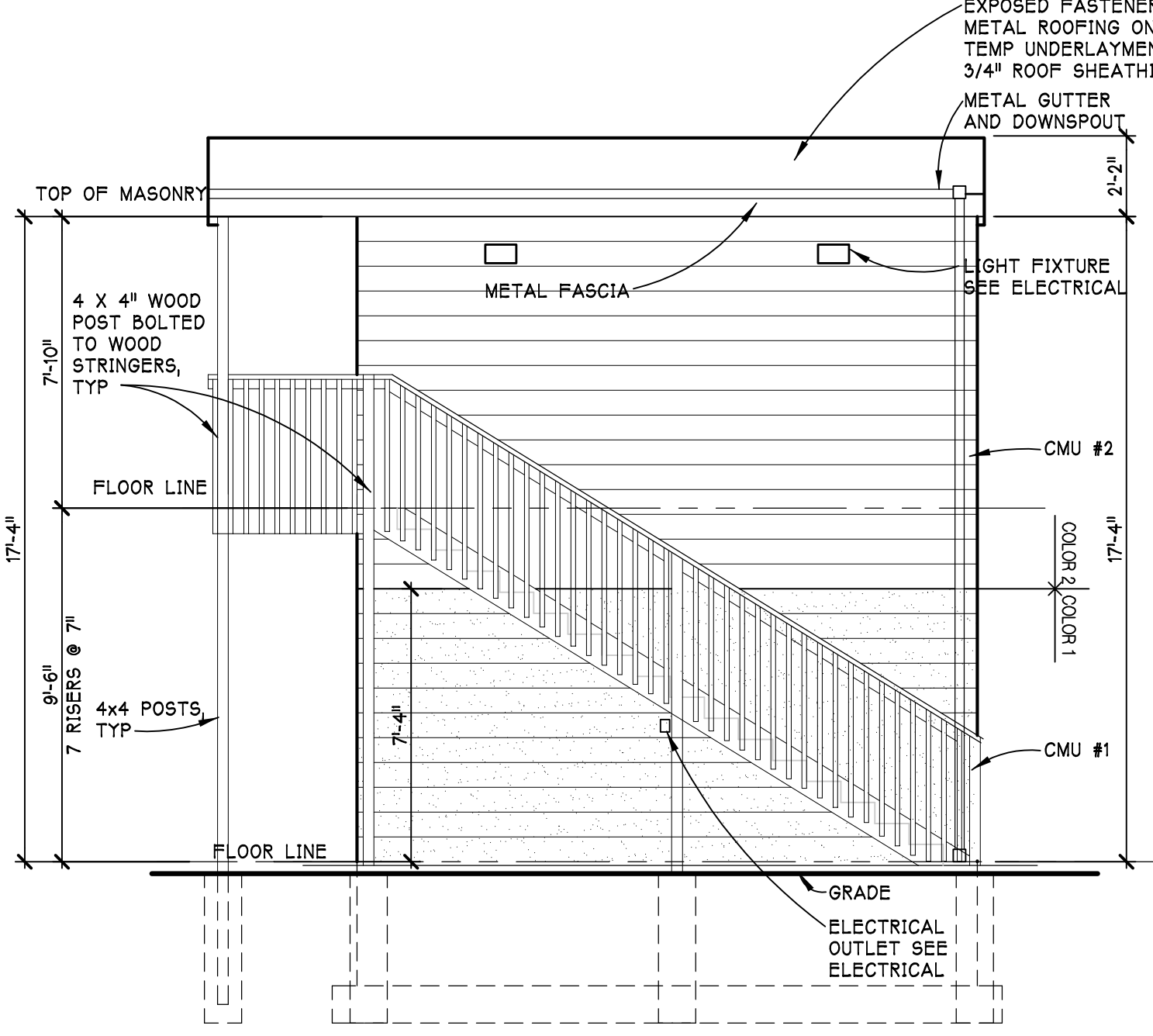
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 Layer: A-303  
 Plotted by: architect



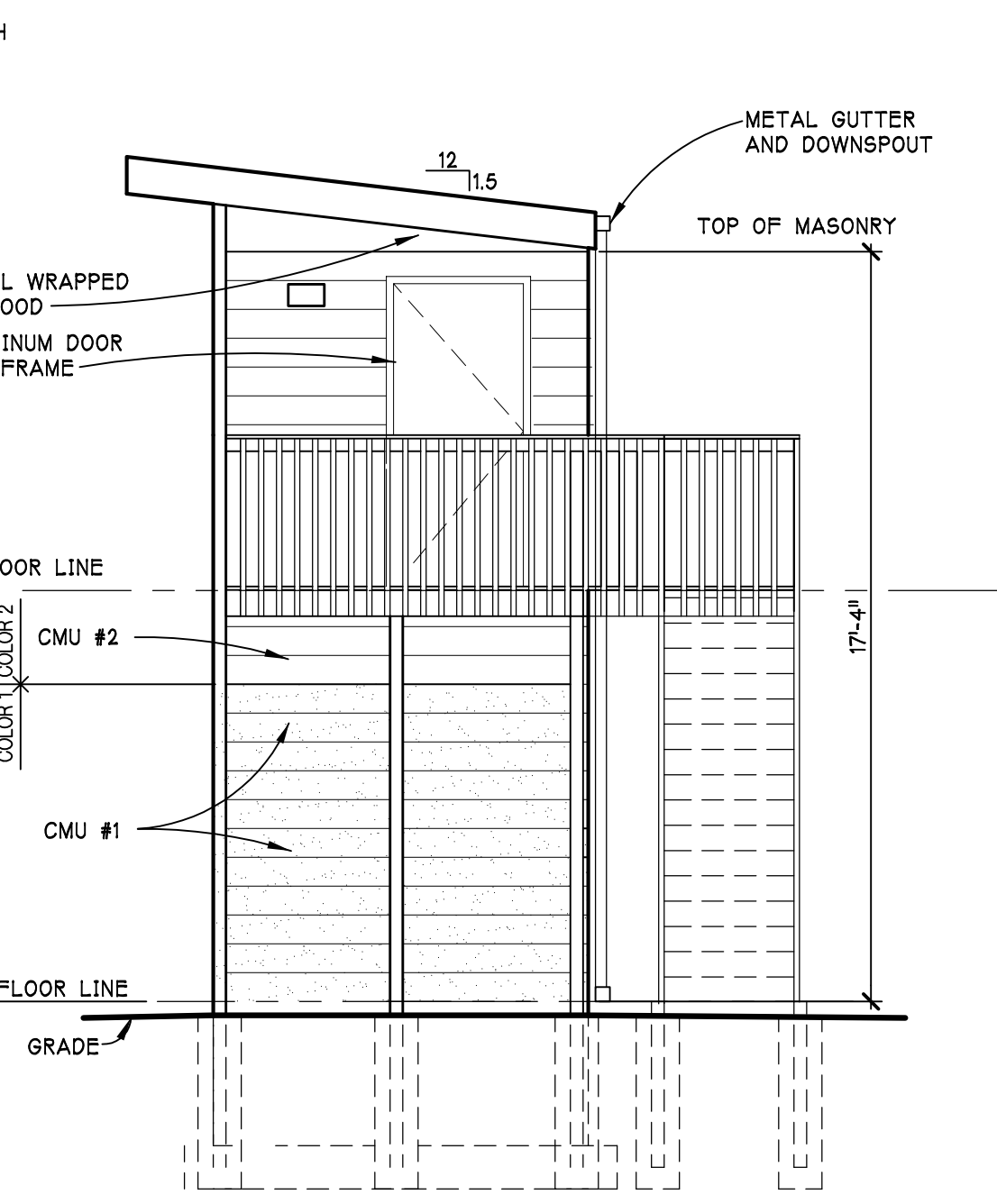
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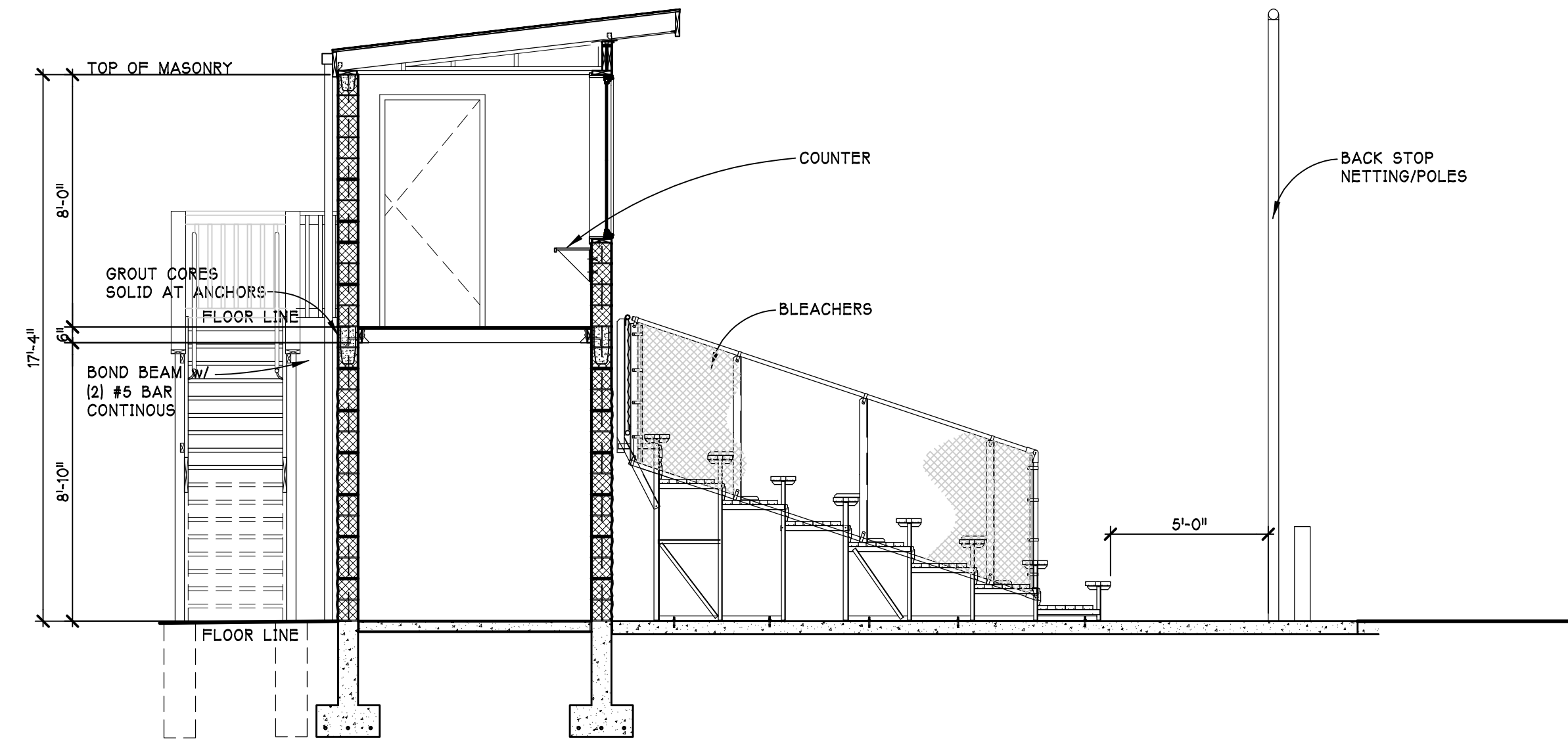
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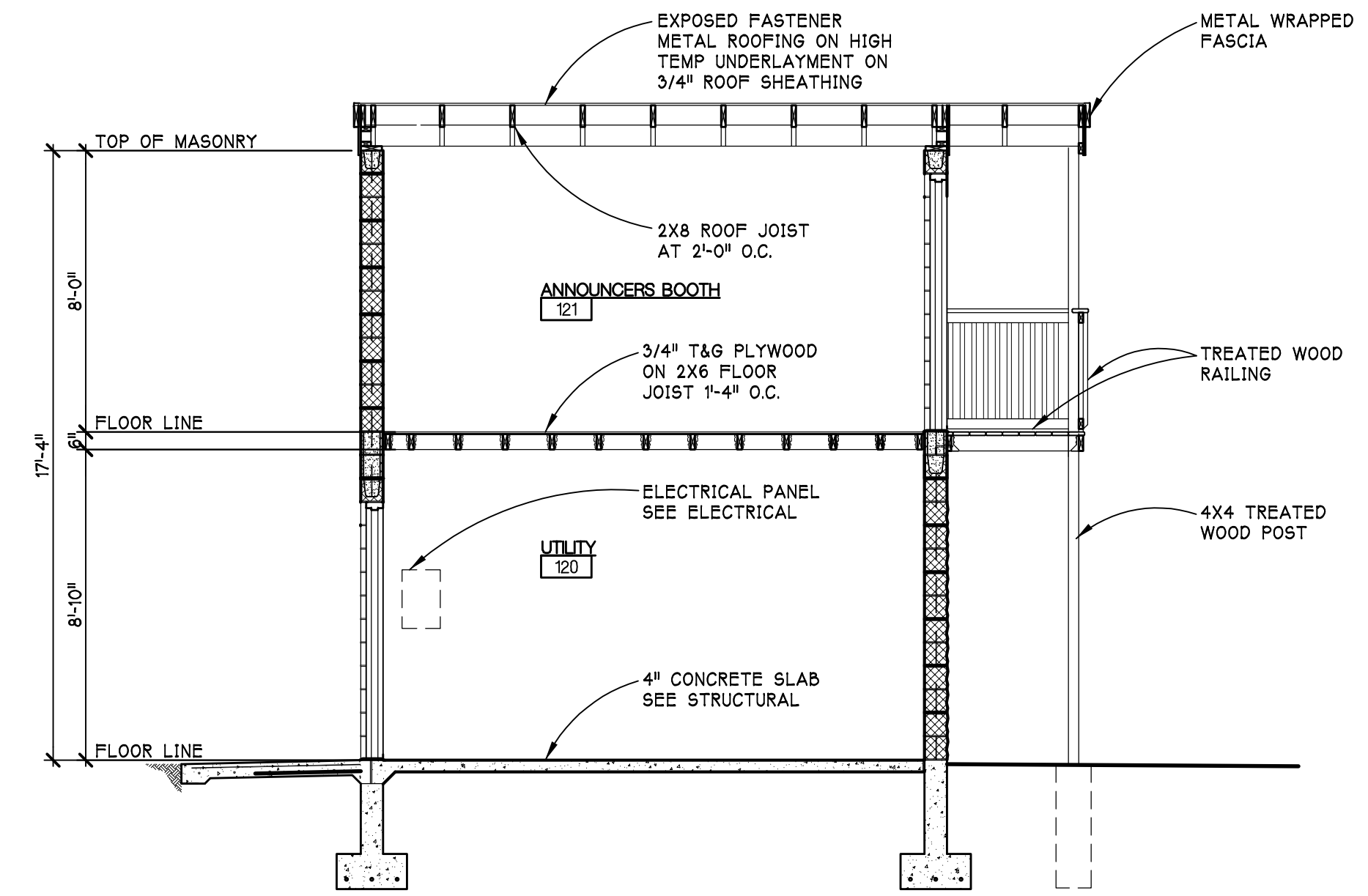
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**FIELD ANNOUNCER BOOTH EAST ELEVATION**  
 SCALE - 1/4" = 1'-0"



**FIELD ANNOUNCER BOOTH SECTION B**  
 SCALE - 1/4" = 1'-0"  
 G1 A-303 W9161A24



**FIELD ANNOUNCER BOOTH SECTION A**  
 SCALE - 1/4" = 1'-0"  
 C1 A-303 W9161A24

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 Layout: A-304  
 Plotted by: architect

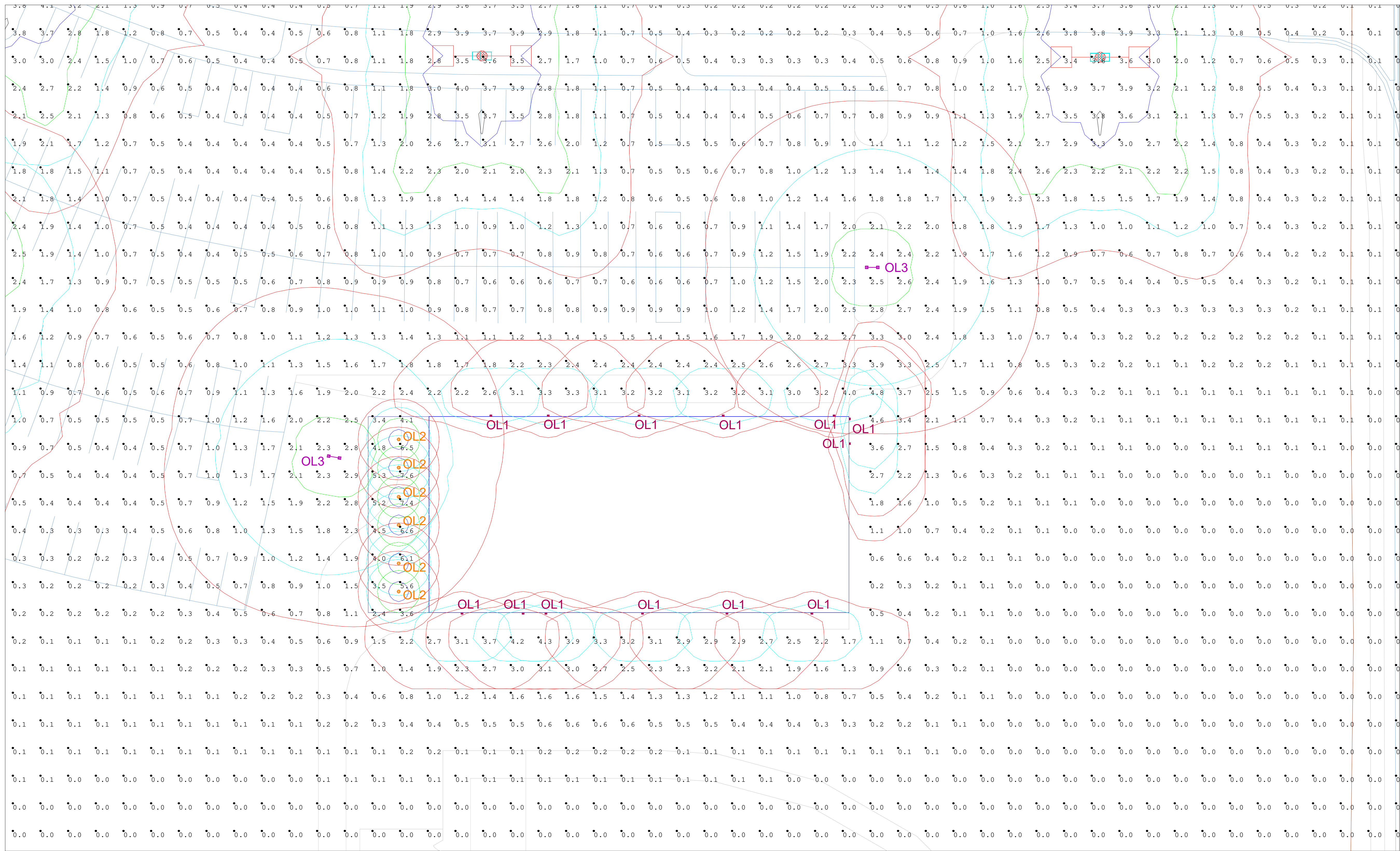
REV. FINAL SITE PLAN REVIEW	8/21/2022
FINAL SITE PLAN REVIEW	8/26/2022
PRELIM. SITE PLAN REVIEW	5/31/2022
DATE ISSUED	
DRAWN BY	
CHECKED BY	

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**MID MICHIGAN COLLEGE**  
**NEW SPORTS COMPLEX**  
 2600 South Sumner Road  
 Mt. Pleasant, Michigan

PROJECT	
CONSULTANT	

EXTERIOR ELEVATIONS ANNOUNCER BOOTHS
SHEET TITLE
22-703
PROJECT NUMBER
A-304
SHEET NUMBER



Scale: 1 inch= 18 Ft.

Luminaire Schedule								
Symbol	Qty	Label	Lumens/Lamp	No. Lamps	Lum. Lumens	LLF	Lum. Watts	Description
	4	EX SB	36000	1	22968	0.750	0	AU1 400 MH (Volt) III LG (color)
	2	EX SA	36000	1	26194	0.750	0	AU1 400 MH (Volt) VQ LG (color)
	47	WEDGE2	N/A.	1	3369	0.900	32.1375	WEDGE2 LED P3 30K 70CRI T3M
	6	LX6C15D010	N/A.	241	1396	0.900	15.8	LX6C15D010 EX6C159030 6LBWH
	2	RSX2	N/A.	1	10269	0.900	72.06	RSX2 LED P1 30K R5

Calculation Summary					
Label	Units	Avg	Max	Min	Max/Min
Site_Planar	Fc	0.22	7.9	0.0	N.A.

date

REVISION

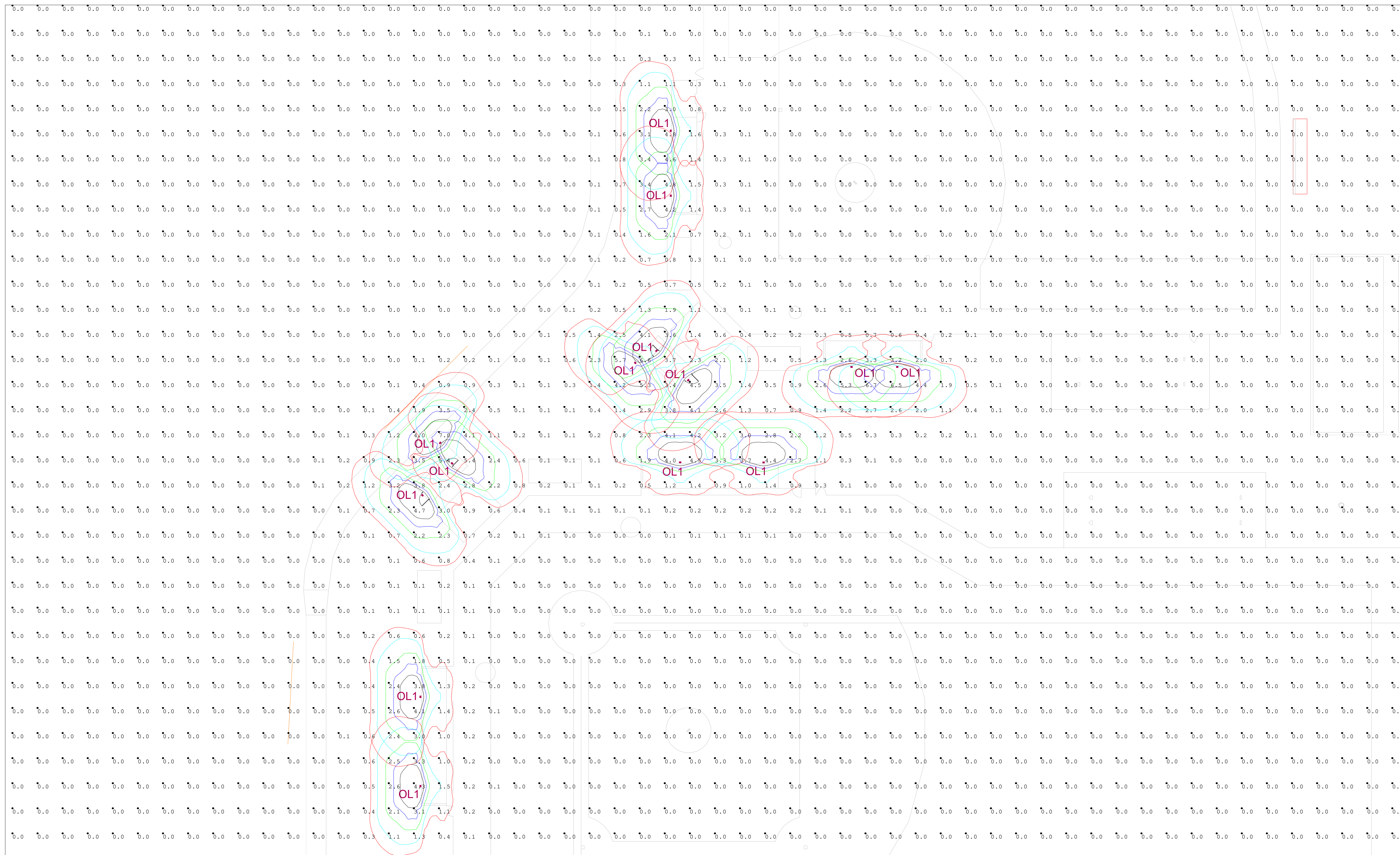
5145 Livernois, Suite 100  
Troy, Michigan 48068-3275  
T: 248-879-5666 F: 248-879-007  
www.PeterBassoAssociates.com  
PBA Project #

PROJECT TITLE  
MID MICHIGAN COLLEGE  
NEW SPORTS COMPLEX

SHEET TITLE  
LIGHTING CALCULATIONS  
TRAINING CENTER

DATE  
09/21/2022

ISSUE  
REV. FINAL SITE  
PLAN REVIEW  
SHEET No.



Scale: 1 inch= 20 Ft.

Luminaire Schedule								
Symbol	Qty	Label	Lumens/Lamp	No. Lamps	Lum. Lumens	LLF	Lum. Watts	Description
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	2	EX SA	36000	1	26194	0.750	0	AU1 400 MH (Volt) VQ LG (color)
	47	WEDGE2 LED	71.6	1	3369	0.900	32.1375	WEDGE2 LED P3 30K 70CRI T3M
	6	LX6C15D010	229.6	241	1396	0.900	15.8	LX6C15D010 EX6C159030 6LBWH
	2	RSX2 LED	51.0	1	10269	0.900	72.06	RSX2 LED P1 30K R5

Calculation Summary					
Label	Units	Avg	Max	Min	Max/Min
Site_Planar	Fc	0.22	7.9	0.0	N.A.

date

REVISION

5145 Livernois, Suite 100  
Troy, Michigan 48068-3275  
T: 248-879-5666 F: 248-879-007  
www.PeterBassoAssociates.com  
PBA Project #

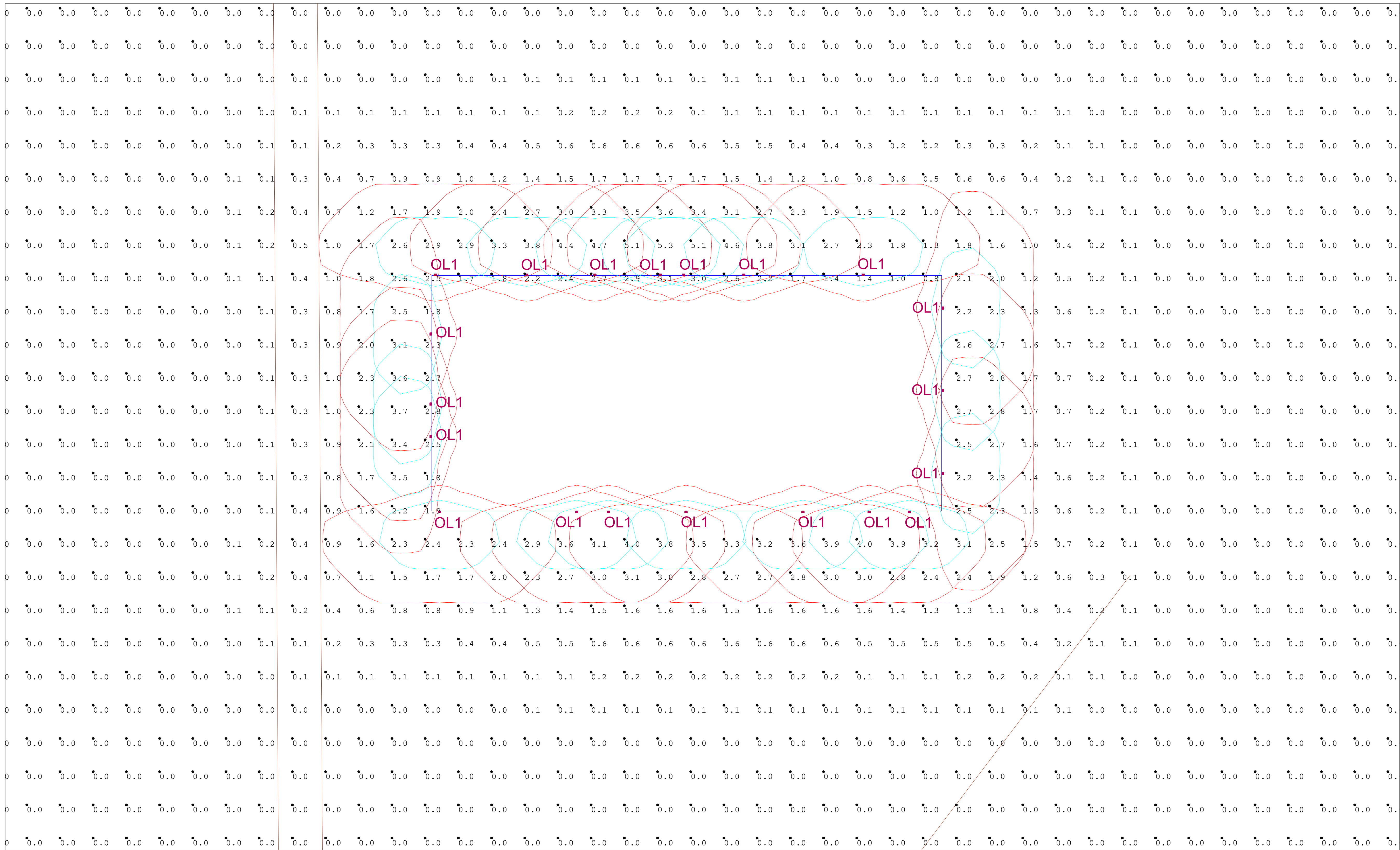
Peter Basso Associates Inc  
CONSULTING ENGINEERS

PROJECT TITLE  
MID MICHIGAN COLLEGE  
NEW SPORTS COMPLEX

SHEET TITLE  
LIGHTING CALCULATIONS  
DUGOUTS AND PRESS BOXES

DATE  
09/21/2022  
ISSUE  
REV. FINAL SITE  
PLAN REVIEW  
SHEET No.

L202



Scale: 1 inch= 15 Ft.

Luminaire Schedule								
Symbol	Qty	Label	Lumens/Lamp	No. Lamps	Lum. Lumens	LLF	Lum. Watts	Description
	4	EX SB	36000	1	22968	0.750	0	AU1 400 MH (Volt) III LG (color)
	2	EX SA	36000	1	26194	0.750	0	AU1 400 MH (Volt) VQ LG (color)
	47	WDGE2	71.6	1	3369	0.900	32.1375	WDGE2 LED P3 30K 70CRI T3M
	6	LX6C15D0	229.33	241	1396	0.900	15.8	LX6C15D010 EX6C159030 6LBWH
	2	RSX2	5130.5	1	10269	0.900	72.06	RSX2 LED P1 30K R5

Calculation Summary					
Label	Units	Avg	Max	Min	Max/Min
Site_Planar	Fc	0.22	7.9	0.0	N.A.

date

REVISION

5145 Livernois, Suite 100  
Troy, Michigan 48068-3275  
T: 248-879-5666 F: 248-879-007  
www.PeterBassoAssociates.com  
PBA Project #

PROJECT TITLE  
MID MICHIGAN COLLEGE  
NEW SPORTS COMPLEX

SHEET TITLE  
LIGHTING CALCULATIONS  
MAINTENANCE BUILDING

DATE  
09/21/2022  
ISSUE  
REV. FINAL SITE  
PLAN REVIEW  
SHEET No.





**FINAL SITE PLAN REPORT**

<b>TO:</b>	Planning Commission	<b>DATE:</b>	September 30, 2022
<b>FROM:</b>	Peter Gallinat – Zoning Administrator	<b>ZONING:</b>	B-4, General Business District
<b>PROJECT:</b>	PSPR22-15 final site plan approval application – Mid Michigan College Mt. Pleasant Athletic Complex		
<b>PARCEL(S):</b>	PID 14-013-40-001-04, 14-013-40-002-00, 14-013-40-003-00, 14-013-40-012-00		
<b>OWNER(S):</b>	Mid-Michigan College		
<b>LOCATION:</b>	Approximately 47 acres located at 2600 S. Summerton Road in the SE 1/4 of Section 13.		
<b>EXISTING USE:</b>	Mid-Michigan College	<b>ADJACENT ZONING:</b>	B-4, R-1, SCIT, and Commercial/AG in Chippewa Township
<b>FUTURE LAND USE DESIGNATION:</b>	<i>Recreation/Institutional</i> : This category is designated primarily for indoor/outdoor recreation both private and publicly owned.		
<b>ACTION:</b>	To review the updated PSPR22-15 final site plan dated 9/21/2022 for the Mid-Michigan College Sports Complex located at 2600 Summerton Road in the SE 1/4 of Section 13 and in the B-4 (General Business) District.		

**Site Plan Approval Process**

Per Section 14.2.C. of the Zoning Ordinance, both preliminary site plan approval and final site plan approval are required for this project. Per Section 14.2.J., approval of a preliminary site plan by the Planning Commission “shall indicate its general acceptance of the proposed layout of buildings, streets, drives, parking areas, and other facilities and areas.” Planning Commission approval of a final site plan “constitutes the final zoning approval for the project and allows for issuance of a building permit to begin site work or construction, provided all other construction and engineering requirements have been met” (Section 14.2.L.). Documentation of applicable outside agency permits and approvals will be required as part of a final site plan application.

**Background Information**

In March 2010, Mid-Michigan College was before the Planning Commission for approval of a 15,800 square foot addition to the south of their main building. In March of 2013, the College was again before the Planning Commission for the construction of a new Tech Center. Both additions have been open to the public since 2014. The College now proposes to construct a set of athletics-related improvements to their campus, including two (2) 10,500 square foot buildings for training and for maintenance, along with batting cages and two (2) new state-of-the-art fields for softball and baseball.

## Final Site Plan Review Comments

The following comments are based on the standards for final site plan approval, and the specific elements of the proposed site plan:

1. **Section 14.2.P. (Required Site Plan Information).** The site plan conforms to the minimum Section 14.2.P. information requirements for a final site plan. **CONFORMS**
2. **Section 8 (Environmental Performance Standards).** The hazardous substance reporting form and EGLE permit checklist are included in the application materials. **CONFORMS**
3. **Section 9 (Off-Street Parking, Loading Requirements).** The current parking layout contains five (5) parking areas with a total of 771 parking spaces. The project includes reducing parking spaces in lot 4 from 272 to 149 for a reduction of 123 spaces. The plan notes the total will then drop to 657 spaces which would be an elimination of 114 spaces. Section 9 only requires a minimum of one (1) space per employee based on the largest daily work shift plus adequate off-street parking for students and visitors based on anticipated use.

An updated parking study is included on sheet C-101, which addresses changes in student enrollment and includes a detailed usage survey which shows significant excess capacity in the existing parking areas. The survey includes both parking for students and College employees together. Staff has no objection to the proposed adjustments in the number of spaces and would recommend that the proposed number of spaces for the expanded site be accepted as presented.

Section 9.5.B.7 requires one (1) loading area for the maintenance building, which is now correctly depicted and dimensioned (15 feet by 70 feet) near the maintenance building on sheet C-303. Per Section 9.1.C.5 (Bicycle Parking), the minimum required amount of open short-term bicycle parking capacity is based on 5% of capacity for the sports complex, which in this case would be 24 bike spaces. Five (5) bicycle parking facilities to secure five bikes each (25-total) are proposed. Locations of these facilities have been revised to eliminate pedestrian and barrier-free conflicts. **CONFORMS**

4. **Section 7.10 (Sidewalks and Pathways).** The applicant has proposed to provide additional 5-foot-wide sidewalk along S. Summerton Rd. from the south end of the existing sidewalk approximately 940 feet to the south lot boundary. In addition to sidewalks along the road frontages, there exists an internal path connecting parking lot 3 to parking lot 5 where the Morey Tech Center is located. A similar internal path has been added through the northeast parking lot with pavement striping to provide a safe pathway connection from the College to the athletic facilities. **CONFORMS**
5. **Section 7.14 (Trash Removal and Collection).** Sheet C-106 identifies three (3) separate dumpsters inside of the enclosure, one of which will be utilized for recycling. A six-foot high wood fence dumpster enclosure with opaque (wood-on-metal-frame) gates is now proposed, which satisfies the screening requirements. **CONFORMS**

6. **Section 10 (Landscaping and Screening).** The updated landscape plan details are on sheets C-600 & C-601), and now include a low resolution aerial photo insert to indicate where adjacent residences are located to the immediate south of the baseball field. Per Section 10.3.A.4. standards, the landscape plan on sheet C-600 includes a proposed mix of evergreen trees along the southern border of the property where it abuts part of the adjacent property that is zoned R-1. The applicant chose not to follow staff's suggestion in our previous report to consider the alternative of a more naturalized approach to the greenbelt plantings along the S. Summerton Rd. frontage.

The planting calculations are based upon the correct formula for number of shrubs, ornamental trees, and deciduous trees, and the proposed landscaping improvements along the portion of S. Summerton Rd. frontage adjacent to the ballfields and other site improvements are consistent with Section 10 greenbelt standards. **CONFORMS**

7. **Section 8.2 (Exterior Lighting).** A note on sheet C-300 confirms that the athletic fields are not proposed to be illuminated for nighttime activities. On the updated photometric plan (sheets L-201 – L204), light intensity levels are consistent with the maximum 10.0 footcandles allowed per Section 8.2. Two (2) light poles are shown on page L-201. The height of these light poles on page L-204 will not exceed 22-feet and appear to be 21-feet in height. Six (6) recessed light fixtures (OL2 on the photometric plan) are proposed to be located under the covered porch roof on the west side of the training building. Specification sheets for all proposed lighting are included on sheet L-204. **CONFORMS**

8. **Outside agency approvals.** All required outside agency permits or approvals have been provided or are assured of approval. The Township has received approvals for the project from the Township Public Services Department, County Transportation Commission, County Road Commission, and Mt. Pleasant Fire Department. In addition, The Twp. Assessor has confirmed that everything is in order for approval of the land combination requested to merge the four (4) existing parcels into one (1) new parcel.

With regards to the County Drain Office, Township staff received a letter of confirmation from the Drain Commissioner that the re-location of the drain has been accepted and that they are working on completing the legal process for this re-location to occur. The Township also received a separate letter from the Drain Office confirming that the stormwater plan is consistent with the Township Stormwater Management Ordinance and that the stormwater application is approved. **CONFORMS**

### **Objective**

The Planning Commission shall review the application materials and site plan, together with any reports and recommendations. The Planning Commission shall identify and evaluate all relevant factors and shall then take action by motion to approve the site plan, to approve the site plan with conditions, to deny the site plan application, or to postpone further consideration of the site plan to a date certain in accordance with Section 14.2.H. of the Zoning Ordinance.

### **Key Findings**

1. The final site plan conforms to the minimum Section 14.2.P. information requirements, and is fully consistent with the applicable standards for final site plan approval in Section 14.2.S.
2. All required outside agency permits or approvals have been provided or are assured of approval. The County Drain Office has accepted re-location of the drain and is working to complete the legal process to make the re-location official.
3. The application as presented is ready for Planning Commission review and action as a final site plan.

### **Recommendations**

Based on the above findings, I would recommend that the PSPR22-15 final site plan dated 9/21/2022 for the Mid-Michigan College Sports Complex located at 2600 Summerton Road in the SE 1/4 of Section 13 and in the B-4 (General Business) District be approved as presented.

Please contact me at (989) 772-4600 ext. 241 or via email at [pgallinat@uniontownshipmi.com](mailto:pgallinat@uniontownshipmi.com), with any questions about this information.

Respectfully submitted,

***Peter Gallinat, Zoning Administrator***

**Draft Motions: PSPR 22-15 Mid Michigan College Mt. Pleasant Athletic Complex**  
**Updated Final Site Plan Review Application**

**MOTION TO APPROVE THE FINAL SITE PLAN AS PRESENTED:**

Motion by \_\_\_\_\_, supported by \_\_\_\_\_, to approve the PSPR 22-15 final site plan dated September 21, 2022 for the Mid Michigan College Mt. Pleasant Athletic Complex located at 2600 Summerton Road in the southeast quarter of Section 13 and in the B-4 (General Business) zoning district, finding that the site plan fully complies with the applicable Zoning Ordinance requirements for final site plan approval, including Sections 14.2.P. (Required Site Plan Information) and 14.2.S. (Standards for Site Plan Approval).

**MOTION TO APPROVE THE FINAL SITE PLAN WITH CONDITIONS:**

Motion by \_\_\_\_\_, supported by \_\_\_\_\_, to approve the PSPR 22-15 final site plan dated September 21, 2022 for the Mid Michigan College Mt. Pleasant Athletic Complex located at 2600 Summerton Road in the southeast quarter of Section 13 and in the B-4 (General Business) zoning district, finding that the site plan can comply with applicable Zoning Ordinance requirements for final site plan approval, including Sections 14.2.P. (Required Site Plan Information) and 14.2.S. (Standards for Site Plan Approval), subject to the following condition(s):

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**MOTION TO POSTPONE ACTION:**

Motion by \_\_\_\_\_, supported by \_\_\_\_\_, to postpone action on the PSPR 22-15 final site plan for the Mid Michigan College Mt. Pleasant Athletic Complex located at 2600 Summerton Road until \_\_\_\_\_, 2022 for the following reasons:

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**MOTION TO DENY:**

Motion by \_\_\_\_\_, supported by \_\_\_\_\_, to deny the PSPR 22-15 final site plan dated September 21, 2022 for the Mid Michigan College Mt. Pleasant Athletic Complex located at 2600 Summerton Road in the southeast quarter of Section 13 and in the B-4 (General Business) zoning district, finding that the site plan does not comply with applicable Zoning Ordinance requirements, including Sections 14.2.P. (Required Site Plan Information) and 14.2.S. (Standards for Site Plan Approval), for the following reasons:

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## ZONING ORDINANCE AMENDMENT REPORT

<b>TO:</b>	Planning Commission	<b>DATE:</b>	October 11, 2022
<b>FROM:</b>	Rodney C. Nanney, AICP Community and Economic Development Director		
<b>PROJECT:</b>	PTXT 22-01 - Proposed Zoning Ordinance text amendments		
<b>ACTIONS REQUESTED:</b>	To introduce, discuss, and consider scheduling a public hearing for the PTXT 22-01 set of proposed text amendments to the Zoning Ordinance No. 20-06.		

### Background Information

During the adoption process for our current Zoning Ordinance No. 20-06 (which went into effect in September of 2020), our project consultant noted that with any comprehensive Zoning Ordinance update project it is expected that some details may be identified for correction as the new ordinance is implemented. In November of last year, an initial set of “punch list” amendments were adopted by the Board of Trustees after a Planning Commission public hearing and recommendation for approval.

As staff has continued to administer the new Zoning Ordinance, some additional issues have arisen that are best resolved through consideration of amendments. In addition, new or amended state laws require corresponding changes to the Zoning Ordinance.

### Summary of Proposed Amendments

Additional background information is provided below to highlight various changes to the Zoning Ordinance included in this set of proposed amendments:

#### **Correcting Gaps in the Allowable Uses.**

The definition of “Public and Institutional Buildings and Uses” is proposed to be revised, and “Dwelling, Accessory,” “Bakeries,” “Printing, Copying, and Bookbinding Operations,” and various recreation facilities are proposed to be added to eliminate staff-identified gaps in our current list of allowable uses in various zoning districts.

Where needed, appropriate standards for these uses have been added or updated in Section 6.

#### **Correcting Errors and Regulatory Conflicts.**

Several typographical errors are proposed to be corrected, and outdated references in a number of sections to Township Board approval of special uses will be removed. Changes in state law require us to amend the licensed capacity limits for family and group day care homes, and to insert “qualified residential treatment programs for 10 or fewer individuals” as an allowable use in districts where single-family dwellings are allowed.

A regulatory conflict identified by the Zoning Administrator related to provisions for nonconforming single-family dwellings is proposed to be resolved by inserting a new Section 12.6 to more properly and completely address the concerns of mortgage companies and insurance companies related to replacement of a damaged or destroyed nonconforming dwelling.

The responsibilities of the Zoning Administrator (listed in Section 13.5.B.) are also proposed to be updated to remove inconsistencies between the provisions of this subsection and the established job description for this position.

### **Planned Unit Development (PUD) Updates**

The eligibility criteria and provisions for permitted uses in a PUD project are proposed to be updated to clarify and expand the criteria for consideration of a potential project for PUD review, to expand land use options that can be considered on a PUD Concept Plan, and to better integrate the Master Plan into the land use review component of the PUD review process. An additional amendment to the “regulatory flexibility” subsection is intended to allow proposed “limited deviations” to signage standards to also be considered as part of a PUD application.

### **Self-storage Buildings.**

To correct a regulatory conflict, self-storage buildings are proposed to be added back into the table in Section 3.4 (to match the reference in Section 3.13). To minimize impacts on a vibrant business district and to maximize the economic development potential of the limited amount of vacant industrial land in the Township, additional location and site arrangement standards are proposed to be added to Section 6.38 and these facilities are proposed to be moved to require special use permit approval in the Industrial Districts. The minimum parking standard is also proposed to be revised to eliminate the potential for excessive or unnecessary required parking.

### **Zoning Board of Appeals**

Amendments are proposed to consolidate all Zoning Board of Appeals-related provisions into one section (these provisions are currently incomplete and divided between Sections 13.4 and 14.4), to correct inconsistencies in the current text with sections 601, 603, and 604 of the Michigan Zoning Enabling Act (Public Act 110 of 2006, as amended), to correct discrepancies in the application requirements, and to clarify and expand upon the variance criteria related to “substantial justice.”

As part of the updates, a clarification is also proposed to be made related to the timing of application or appeal. For any land use, structure or other project that is subject by a provision of this Ordinance to review and action or interpretation by the Planning Commission or Zoning Administrator, an application to the Zoning Board of Appeals shall only be accepted for review and a public hearing subsequent to the conclusion of that administrative process.

## **Board of Trustees Goals Addressed**

Board of Trustees goals addressed from Policy 1.0: Global End, of the Board of Trustees’ Policy Governance document:

- 1. Community well-being and common good**
- 3. Safety**



#### **4. Health**

#### **6. Commerce**

The proposed set of amendments will help to ensure that the Township's Zoning Ordinance supports a sustainable community (1.0) and provides for fair and nondiscriminatory code enforcement (1.1.1.2). The updated provisions are intended in part to help ensure that all residents of all ages and abilities may enjoy a safe environment (1.3), have access to facilities that enable an active, healthy lifestyle (1.4), and can take pride in their community (1.1.1.3). The commerce-friendly changes proposed to the standards for the Business Districts and Industrial Districts are intended to support economic development and further encourage innovative and traditional commercial establishments to locate in the Township (1.6), while also providing for reasonable regulation of potentially undesirable businesses designed to minimize adverse impacts on neighboring properties and land uses (1.6.1).

### **Objective**

Planning Commission review of the proposed set of Zoning Ordinance text amendments in anticipation of setting a public hearing date for the amendments.

### **Recommendation**

The proposed set of Zoning Ordinance text amendments compiled by staff are ready for an introduction and initial review by the Planning Commission. If the Commission determines that the proposed amendments are ready for a public hearing, I would ask that the Planning Commission take action to set a public hearing date for the PTXT 22-01 proposed amendments to Sections 2 (Definitions), 3 (Zoning Districts and Maps), 5 (Supplemental Zoning District Standards), 6 (Standards Applicable to Specific Land Uses), 7 (General Provisions), 9 (Parking, Loading, and Access Management), 12 (Nonconformities), 13 (Administrative Organization), and 14 (Administrative Procedures) of the Zoning Ordinance No. 20-06.

Please contact me at (989) 772-4600 ext. 232, or via email at rnanney@uniontownshipmi.com, with any questions about this information.

Respectfully submitted,

***Rodney C. Nanney, AICP***

Community and Economic Development Director

CHARTER TOWNSHIP OF UNION  
ISABELLA COUNTY, MICHIGAN

ORDINANCE NO. \_\_\_\_\_

An ordinance to amend the Charter Township of Union Zoning Ordinance No. 20-06 by amending Sections 2 (Definitions), 3 (Zoning Districts and Maps), 5 (Supplemental Zoning District Standards), 6 (Standards Applicable to Specific Land Uses), 7 (General Provisions), 9 (Parking, Loading, and Access Management), 12 (Nonconformities), 13 (Administrative Organization), and 14 (Administrative Procedures) by authority of the Michigan Zoning Enabling Act, Public Act 110 of 2006, as amended (MCL 125.3101 et seq.); to provide for repeal; to provide for severability; to provide for publication; and to provide an effective date.

Proposed additions to the current text of the Zoning Ordinance are highlighted below in blue underlined text and proposed deletions are shown using ~~red strikethrough text~~. Where an entirely new section or sub-section is proposed, this is stated in the header, with the new text left unhighlighted for readability.

THE CHARTER TOWNSHIP OF UNION, ISABELLA COUNTY, MICHIGAN, HEREBY ORDAINS:

**PART ONE – Title**

This Ordinance shall be known and may be referred to as the “Charter Township of Union Ordinance Number \_\_\_\_\_, Ordinance Amending the Charter Township of Union Zoning Ordinance.”

**PART TWO – Amendments to Section 2.2 (Definitions)**

Section 2.2 (Definitions) is hereby amended to Delete “Unit” from “Dwelling, Accessory;” to revise the definition; to delete the duplicative “Dwelling, Accessory Apartment” definition; to amend the “public and institutional buildings and uses” to include K-12 school buildings in the definition; and to amend the state-licensed capacities of family and group child day care homes consistent with recent changes to state law.

**Section 2.2 Definitions**

~~**Dwelling, Accessory Apartment:** A dwelling unit that is accessory to and contained within a principal single family dwelling, and which is occupied by either persons related to the occupant of the principal residence by blood, marriage, or legal adoption; domestic servants; or gratuitous guests. An ‘accessory apartment’ commonly has its own kitchen, bath, living area, sleeping area, and usually a separate entrance.~~

**Dwelling-Unit, Accessory:** A secondary ary dwelling unit that is accessory to and located on the same ~~property~~ premises as ~~a the~~ principal dwelling ~~unit, included in the same deed, title, parcel/tax identification number as the principal dwelling unit,~~ and which cannot be sold ~~or leased~~ separately from the principal dwelling ~~unit, and which does not contain a kitchen.~~

**Public and Institutional Buildings and Uses:** Principal structures dedicated to the use by the public or government operations. For the purposes of this Ordinance, Public and Institutional Buildings shall include libraries, museums, municipal offices, County, State, or Federal Offices, police and fire stations, K-12 schools, and other buildings used by the public or government. Exceptions: ~~K-12 Schools, Colleges, universities~~ ~~Institutions of Higher Education~~, and publicly-owned recreational facility buildings shall be defined as described in this section, and shall not be considered Public and Institutional Buildings.

**State-Licensed Residential Facility:** Any structure constructed for residential purposes and licensed by the State of Michigan pursuant to Michigan Public Act 116 of 1973 (the Child Care Licensing Act) or Michigan Public Act 218 of 1979 (the Adult Foster Care Facility Licensing Act), including **adult foster care facilities, foster family homes, foster family group homes, family day care homes, and group day care homes.**

- B. Child day care: The care and supervision for periods of less than 24 hours a day of minor children, unattended by a parent or legal guardian, except children related to an adult member of the family by blood, marriage, or adoption.
  - (1) *Family child day care home:* A **private home** in which ~~one but fewer than up to~~ seven (7) minor children are received for **child day care**, including a home in which care is given to an unrelated minor child for more than four (4) weeks during a calendar year.
  - (2) *Group child day care home:* A **private home** in which ~~more than six but not more than 12~~ up to 14 minor children are received for **child day care**, including a home in which care is given to an unrelated minor child for more than four (4) weeks during a calendar year.

**PART THREE – Amendments to Section 3.4 (Permitted Uses by District)**

Section 3.4 (Permitted Uses by District) is hereby amended to remove a regulatory conflict by specifying the zoning districts where “Dwelling, Accessory” would be an allowable use, to insert “qualified residential treatment programs” as an allowable use consistent with recent state law changes, to correct a typographical error by inserting “universities” into the table, to clarify and expand provisions for recreation facilities in certain zoning districts, and to add bakeries and printing, copying, and bookbinding facilities into the business and industrial districts, as follows:

**Key:** A=Accessory Use  
 P=Principal Permitted Use  
 S=Special Use  
 [blank]=Use Not Permitted

	AG	R-1	R-2A	R-2B	R-3A	R-3B	R-4	B-4	B-5	B-7	I-1	I-2	OS		Use Standards
<b>Land Use</b>															
<b>Residential Uses</b>															
Child or Day Care, Family Home	P	P	P	P	P	P	P								<a href="#">Section 6.14</a>
<u>Dwelling, Accessory</u>	S	S	S	S											<a href="#">Section 6.56</a>

Land Use	AG	R-1	R-2A	R-2B	R-3A	R-3B	R-4	B-4	B-5	B-7	I-1	I-2	OS	Use Standards
<a href="#">Qualified residential treatment program for 10 or fewer individuals</a>	P	P	P	P										<a href="#">Section 6.42</a>
<b>Public, Quasi-Public, and Recreational Uses</b>														
Airports, Public or Private	S													Section 6.3
Amusement Parks								S						Section 6.4
Amusement Enterprises									P					
Bus, Train, and other Forms of Transportation Systems, Passenger Stations								P	P	P				
Business Schools, Colleges, <a href="#">Universities</a> , and Private Schools Operated for Profit								P	P	P				
Campgrounds or Recreation Grounds	S													Section 6.10
Cemeteries, Public or Private, including Mausoleums	P													Section 6.11
Conservation Areas, Public or Private	S													
Country Clubs and Golf Courses	S	S	S	S	S	S								Section 6.12
Health, Exercise Club, or Spa								P	P	P				
Indoor Commercial <a href="#">or Privately-Owned Recreation Facilities</a>								P	P	P			S	
<a href="#">Indoor Publicly-Owned Recreation Facilities</a>	S	S	P	P	P	P		P	P	P			S	<a href="#">Section 6.34</a>
Indoor Gun and Archery Range	S							P	P	P				
Miniature Golf and/or Driving Ranges	S							S						Section 6.23
Municipal Public Utility Uses, such as Water Treatment Plants and Reservoirs, Sewage Treatment Plants, including outdoor storage												P		
<a href="#">Outdoor Commercial or Privately Owned Recreation Facilities</a>	S							S						
<a href="#">Outdoor Publicly-Owned Recreation Facilities</a>	S	S	P	P	P	P							P	
Private Clubs, Fraternal Organizations, and Lodge Halls								P	P	P				
Public and Institutional Buildings and Uses	S	S	S	P	S	P	S	P					S	P
Religious Institutions	S	S	P	P	P	P		P	P	P			P	Section 6.34
Theaters, Assembly Halls, Concert Halls, and Similar Places of Assembly								P	P					
Trade or Industrial Schools											P	P		
<b>Commercial and Retail Uses</b>														
<a href="#">Bakeries</a>								P	P	P	P	P		<a href="#">Section 6.43</a>
<a href="#">Printing, Copying, and Bookbinding Operations</a>								P	P	P	P	P		<a href="#">Section 6.43</a>
<b>Other Uses</b>														
Self-storage Facilities (Mini-Warehouse, Mini-Storage)								S	S		P	S	P	Section 6.38

**PART FOUR – Amendments to Section 3.6 (AG, Agricultural District)**

The lists of Principal Permitted Uses and Special Uses in Section 3.6 are hereby amended, as follows:

- A. Add the following as allowable Principal Permitted Uses in the AG zoning district:
  - Qualified residential treatment programs for 10 or fewer individuals
- B. Add the following as allowable Special Uses in the AG zoning district:
  - Dwelling, Accessory
  - Indoor Publicly-Owned Recreation Facilities

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- Outdoor Commercial or Privately-Owned Recreation Facilities
- Outdoor Publicly-Owned Recreation Facilities

**PART FIVE – Amendments to Section 3.7 (R-1, Rural Residential District)**

The lists of Principal Permitted Uses and Special Uses in Section 3.7 are hereby amended, as follows:

- A. Add the following as allowable Principal Permitted Uses in the R-1 zoning district:
  - Qualified residential treatment programs for 10 or fewer individuals
- B. Add the following as allowable Special Uses in the R-1 zoning district:
  - Dwelling, Accessory
  - Indoor Publicly-Owned Recreation Facilities
  - Outdoor Publicly-Owned Recreation Facilities

**PART SIX – Amendments to Section 3.8 (R-2A, One- and Two-Family, Low-Density Residential District) and to Section 3.9 (R-2B, One- and Two-Family, Medium-Density Residential District)**

The lists of Principal Permitted Uses and Special Uses in Section 3.8 and Section 3.9 are hereby amended, as follows:

- A. Add the following as allowable Principal Permitted Uses in the R-2A and R-2B zoning districts:
  - Qualified residential treatment programs for 10 or fewer individuals
  - Indoor Publicly-Owned Recreation Facilities
  - Outdoor Publicly-Owned Recreation Facilities
- B. Add the following as allowable Special Uses in the R-2A and R-2B zoning districts:
  - Dwelling, Accessory
- C. Move “Public and Institutional Buildings and Uses” from the list of allowable Special Uses to the list of Principal Permitted Uses in the R-2A and R-2B zoning districts.

**PART SEVEN – Amendments to Section 3.10 (R-3A, Multiple-Family Residential District) and Section 3.11 (R-3B, Medium-Density Multiple-Family Residential District)**

The lists of Principal Permitted Uses and Special Uses in Section 3.10 and Section 3.11 are hereby amended, as follows:

- A. Add the following as allowable Principal Permitted Uses in the R-3A and R-3B zoning districts:
  - Qualified residential treatment programs for 10 or fewer individuals
  - Indoor Publicly-Owned Recreation Facilities
  - Outdoor Publicly-Owned Recreation Facilities
- B. Add the following as allowable Special Uses in the R-3A and R-3B zoning districts:
  - Dwelling, Accessory

- C. Move “Public and Institutional Buildings and Uses” from the list of allowable Special Uses to the list of Principal Permitted Uses in the R-3A and R-3B zoning districts.

**PART EIGHT – Amendments to Section 3.13 (B-4, General Business District), Section 3.14 (B-5, Highway Business District, and Section 3.15 (B-7, Retail and Service Highway Business District)**

The lists of Principal Permitted Uses and Special Uses in Section 3.13, Section 3.14, and Section 3.15 are hereby amended, as follows:

- A. Add the following as allowable Principal Permitted Uses in the B-4, B-5, and B-7 zoning districts:
  - Indoor Publicly-Owned Recreation Facilities
  - Bakeries
  - Printing, Copying, and Bookbinding Operations
- B. Add the following as allowable Special Uses only in the B-4 zoning district:
  - Outdoor Commercial or Privately-Owned Recreation Facilities
- C. Revise the titles of the following allowable Principal Permitted Uses in the B-4, B-5, and B-7 zoning districts:
  - Business Schools, Colleges, [Universities](#), and Private Schools Operated for Profit
  - Indoor Commercial [or Privately-Owned Recreation Facilities](#)

**PART NINE – Amendments to Section 3.16 (I-1, Light Industrial District), 3.17 (I-2, General Industrial District)**

The lists of Principal Permitted Uses and Special Uses in Section 3.16 and Section 3.17 are hereby amended, as follows:

- A. Add the following as allowable Principal Permitted Uses in the I-1 and I-2 zoning districts:
  - Bakeries
  - Printing, Copying, and Bookbinding Operations
- B. Move “Self-storage Facilities (Mini-Warehouse, Mini-Storage)” from the list of allowable Principal Permitted Uses to the list of Special Uses in the I-1 and I-2 zoning districts.

**PART TEN – Amendments to Section 3.18 (OS, Office Service District)**

The lists of Principal Permitted Uses and Special Uses in Section 3.18 are hereby amended, as follows:

- A. Add the following as allowable Principal Permitted Uses in the OS zoning district:
  - Outdoor Publicly-Owned Recreation Facilities
- B. Add the following as allowable Special Uses in the OS zoning district:
  - Indoor Commercial or Privately-Owned Recreation Facilities
  - Indoor Publicly-Owned Recreation Facilities
- C. Move “Public and Institutional Buildings and Uses” from the list of allowable Special Uses to the list of Principal Permitted Uses in the OS zoning district.

## **PART ELEVEN – Amendments to Section 3.19 (PUD, Planned Unit Development District)**

Section 3.19 (PUD, Planned Unit Development District) is hereby amended to update subsection “A.” (Eligibility Criteria) to clarify and expand the criteria for consideration of a potential project for PUD review, to update subsection “B.2.” to also allow limited sign-related deviations to be proposed on the PUD Concept Plan, and to update subsection “C.1.” (Permitted Uses) to expand land use options and replace references to underlying zoning and better integrate the Master Plan into the land use review process.

### **Section 3.19 PUD, Planned Unit Development District**

#### **A. Eligibility Criteria**

To be eligible for Planned Unit Development approval, the applicant must demonstrate that the following criteria will be met:

1. Sufficient land area for proposed uses. The proposed PUD site includes sufficient contiguous land area to comply with all applicable regulations of this Ordinance, to adequately serve the needs of all permitted uses in the PUD project, and to ensure compatibility between uses and the surrounding area. ~~Minimum Size.~~ The minimum size of a Planned Unit Development site shall be five (5) acres of contiguous land, unless the Planning Commission determines that at least one (1) of the following conditions exists:
  - a. The proposed PUD site is located in the East or the West Downtown Development Authority District or within the Mixed-Use Bluegrass Center area as described in the Master Plan, in which case the site size may be less than five (5) acres.
  - b. ~~Furthermore, in the interest of maximizing the use of Planned Unit Development as a tool to promote high quality planning and development, the Planning Commission may permit a smaller Planned Unit Development outside of the DDA or Bluegrass area if:~~ (a) The proposed project has unique characteristics and recognizable and material benefits (including historic and/or architectural value), and/or (b) that will be realized by the future users of the development and the Township as a whole, where such benefits would otherwise be unachievable under this Ordinance.
  - c. The parcel in question has unique characteristics that significantly impact development, such as significant blight, environmental contamination or obsolete buildings that would be fully resolved by the PUD project, unusual topography, or significant historical, cultural or archeological features ~~tree stands, wetlands, poor soil conditions on portions of the parcel, water courses, unusual shape or proportions, or utility easements which cross the parcel.~~

~~In such case, the applicant shall submit a letter to the Township requesting a waiver of the minimum Planned Unit Development size requirements. The request shall be submitted prior to submittal of a site plan and application for Planned Unit Development approval. The Planning Commission shall review the request and make the final decision concerning a request to waive the Planned Unit Development size requirements.~~

2. **Unified Control.** The proposed development shall be under single ownership or control such that there is a single person or entity having responsibility for completing the project, or assuring completion of the project, in conformity with this Ordinance. The property owner must have a physical street address. The applicant shall provide legal documentation of single ownership or control ~~in the form of agreements, contracts, covenants, and deed restrictions which indicate that the development can be completed as shown on the plans as part of the PUD application. These legal documents shall bind all development successors in title to any commitments made as a part of the documents.~~ This provision shall not prohibit a transfer of ownership or control, provided notice of such transfer is given to the ~~Township Clerk~~ Zoning Administrator.
3. **Consistent with the purpose for the PUD District.** The proposed PUD is consistent with the Statement of Purpose for the PUD District in Section 3.19.
4. **Compatibility with the Master Plan.** The intent and all of the proposed uses within the requested PUD zoning district are compatible with the goals, objectives, and policies of the Master Plan, including the future land use designation(s) for the site, unless the Planning Commission determines that conditions have changed significantly since the Plan was prepared or new information supports a change.
5. **Availability and capacity of services.** The proposed type and intensity of use will not exceed the existing or planned capacity of public or municipal services or infrastructure; including but not limited to roads, police and fire protection services, refuse disposal, municipal water or sewerage systems, other utilities, drainage facilities, and public or private wells. The proposed use will not create additional requirements at public cost for services or infrastructure that will be detrimental to the economic welfare of the community.

**B. Regulatory Flexibility**

2. Such deviations may include limited modifications to specific requirements found in Sections 4 through 10 11 of this Ordinance that apply to the PUD project, and to specific PUD project design standards found in this Section.

**C. Permitted Uses and Density**

1. **Permitted Uses.** The following uses shall be permitted in a Planned Unit Development, ~~unless a broader mixture of uses is called for on the land in question in the Master Plan~~ subject to Planning Commission recommendation and Township Board approval:
  - a. ~~If the underlying zoning is R-1, R-2A, R-2B, R-3A, or R-3B: any use allowed as principal permitted use or special use within the specified district.~~
  - b. ~~If the underlying zoning is B-4: any use allowed as principal permitted use or special use within the B-4 district, housing for the elderly, and shopping centers.~~
  - c. ~~If the underlying zoning is B-5: any use allowed as principal permitted use or special use within the B-5 district and shopping centers.~~



- ~~d. If the underlying zoning is B-7: any use allowed as principal permitted use within the B-7 district, one and two family dwellings, and multiple family dwellings.~~
- ~~e. If the underlying zoning is I-1 or I-2: any use allowed as principal permitted use within the specified district and industrial parks.~~
- ~~f. If the underlying zoning is OS: any use allowed as principal permitted use within the OS district.~~
- a. Uses in a PUD District shall be limited to those specific uses included in the listing of uses shown on the approved PUD Concept Plan, along with customary accessory uses and structures. All other uses shall be prohibited, unless otherwise permitted by this Ordinance.
- b. Uses in a PUD District shall be compatible with the goals, objectives, and policies of the Master Plan, including the future land use designation(s) for the site, unless the Planning Commission determines that conditions have changed significantly since the Plan was prepared or new information supports a change.
- c. Uses in a PUD District shall not be hazardous, detrimental or injurious to the environment or the public health, safety or general welfare by reason of traffic, noise, vibration, smoke, fumes, odors, dust, glare, light, drainage, pollution or other adverse impacts.
- d. A residential area as designated on the approved PUD Concept Plan may contain one (1) or more types of dwelling units, provided that such combination of dwelling unit types and location and arrangement of the residential development will not interfere with orderly and reasonable planning, development, and use of an area.
- e. The Planning Commission may require that a variety of housing types be provided as part of a residential PUD project.
- f. Home occupations shall be permitted in single-family dwellings in a PUD District.
- g. To support the inclusion of a specified use in a PUD project, the applicant may be required to provide documentation, such as a professional market study, that a demand exists for the proposed use within the market area.

## **PART TWELVE – Amendments to Section 5.5 (Wireless Communication Facilities)**

Section 5.5 (Wireless Communication Facilities) is hereby amended to clarify approval procedures by deleting errant references to Township Board approvals from subsections “B,” “C,” and “G.”

### **Section 5.5 Wireless Communications Facilities**

#### **B. Approval Procedures.**

The following procedures have been established to achieve approval of a proposed wireless communications facility:

1. Standard A. Standard A Wireless communication equipment proposals require no zoning approval. However, plans for Standard A improvements shall be submitted to the Township.
2. Standard B. Standard B wireless communication equipment proposals require special use approval. Accordingly, such proposals are subject to the procedures in Section 14.3 and the following ~~special procedures~~ additional requirements:

Steps   Action

1. Applicant submits plan and \$1,000 fee.
2. Within 14 days Township administration determines if application is complete.
3. If application is incomplete, administration notifies applicant.
4. If application is complete, administration initiates SLU review by scheduling special use public hearing. Special use review must be complete (60) days after the application is considered complete.
- ~~5. Township Planner reviews plan, transmits letter to Planning Commission.~~
- ~~6. Planning Commission reviews plan, makes recommendation to Township Board.~~
- ~~7. Township Board approves or denies application.~~

3. Standard C. Standard C wireless communication equipment proposals require special use approval. Accordingly, such proposals are subject to the procedures outlined for Standard B, except that in Step 4 the special use review must be complete not more than ninety (90) days after the application is considered complete.

**C. Requirements.**

All applications for wireless communication facilities that require special use approval shall be reviewed in accordance with the following standards and conditions. If approved, such facilities shall be constructed and maintained in accordance with such standards and conditions and any additional conditions imposed by the Planning Commission ~~and Township Board.~~

**G. Summary of Review Requirements.**

The following chart summarizes review requirements for wireless communications facilities:

Type of Wireless Communications Facility	Required Review and Approval		
	Township Board Planning Commission	Zoning Administrator	Exempt
<b>ANTENNAE &amp; ANTENNA STRUCTURES</b>			
Installation of any amateur radio transmission or reception antenna or antenna structure, short wave facility, contractor’s business antenna structure, television reception	Exceeding 130.0 feet in height	•	

Type of Wireless Communications Facility		Required Review and Approval		
		Township Board Planning Commission	Zoning Administrator	Exempt
antenna, wireless Internet antenna, citizen's band base station antenna or similar antennae or antenna structure:	Up to 130.0 feet in height		•	
<b>SATELLITE DISH ANTENNAE</b>				
Installation of a satellite dish antenna with a diameter of:	1.5 meters or larger		•	
	Less than 1.5 meters			•
<b>OTHER ANTENNAE MOUNTED ON A STRUCTURE</b>				
Antenna(e) installation on an existing principal building or accessory structure that also includes use of an outside ground equipment enclosure area.		•		
Antenna(e) installation on an existing principal building or accessory structure where all accessory equipment is installed within the building or structure		•		
<b>OTHER WIRELESS COMMUNICATION FACILITIES</b>				
Construction of a new wireless communication facility not otherwise addressed in this table.		•		
Alteration or enlargement of an existing tower that would conform to maximum height requirements:	With an increase in the overall tower height by more than 20 feet or 10% of its original height, whichever is greater. <b>Also see Sections 5.5(A) and (B)</b>	•		
	Without increasing the overall tower height by more than 20 feet or 10% of its original height, whichever is greater		•	
Construction or expansion of equipment building(s) within an approved ground equipment enclosure			•	
Expansion of a previously approved ground equipment enclosure to a total area greater than 2,500 square feet. <b>Also see Sections 5.5 (A) and (B)</b>		•		
Collocation of new antennae on an existing tower that would conform to maximum height requirements:	With an increase in the overall tower height by more than 20 feet or 10% of its original height, whichever is greater. <b>Also see Sections 5.5 (A) and (B)</b>	•		
	Without increasing the overall tower height by more than 20 feet or 10% of its original height, whichever is greater		•	
Expansion of a previously approved ground equipment enclosure area to a total area less than or equal to 2,500 square feet			•	
Installation of new ground equipment within an approved ground equipment building or enclosure			•	
<b>OTHER PROJECTS EXEMPT FROM TOWNSHIP REVIEW</b>				
Installation of municipal and other facilities subject to federal or state preemption of local authority				•
Repair, service or maintenance of an existing wireless communications facility, provided that all work conforms to approved plans and applicable codes				•

**PART THIRTEEN – Amendments to Section 6.13 (Group Day Care Home....)**

Section 6.13 (Group Day Care Home....) is hereby amended to amend the section title to delete the reference to the number of children served consistent with recent changes in state law:

**Section 6.13 Group Day Care Home ~~(for 7 to 12 Children)~~**

**PART FOURTEEN – Amendments to Section 6.14 (Day Care, Family Home....)**

Section 6.14 (Day Care, Family Home....) is hereby amended to amend the section title to delete the reference to the number of children served consistent with recent changes in state law:

**Section 6.14 Day Care, Family Home ~~(for 1 to 6 Children)~~**

**PART FIFTEEN – Amendments to Section 6.28 (Extraction Operations)**

Section 6.28 (Extraction Operations) is hereby deleted and replaced in its entirety to amend the Section as follows:

**Section 6.28 Extraction Operations**

Extraction operations shall conform to all applicable federal, state, and county regulations and the requirements of the Township's adopted Extraction Ordinance ~~No. 20-01~~.

**PART SIXTEEN – Amendments to Section 6.35 (Biofuel Production Facility)**

Section 6.35 (Biofuel Production Facility) is hereby amended to delete the errant references to the Township Board from subsection "E.6." as follows:

**Section 6.35 Biofuel Production Facility**

- E. **Special Use Application Requirements.** An application for special use approval for a biofuel production facility shall include all of the following:
  - 6. Information Requested by the Planning Commission ~~or Township Board~~. Any additional information requested by the Planning Commission ~~or Township Board~~ that is necessary to make a determination on the special use application.

**PART SEVENTEEN – Amendments to Section 6.38 (Self-Storage Buildings)**

Section 6.38 (Self-Storage Buildings) is hereby amended to add new subsections "E." entitled "Additional Standards for the Business Districts" and "F." entitled "Additional Standards for the Industrial Districts" to establish additional requirements for new self-storage buildings designed to preserve the character, purpose, and function of these districts.

**Section 6.38 Self-Storage Buildings**

- E. **Additional Standards for the Business Districts.** In the B-4 and B-5 zoning districts, self-storage buildings shall be accessory to Principal Permitted Use(s) as allowed in the zoning district and located to the rear of the lot or otherwise arranged in a manner clearly secondary to the Principal Permitted Use(s).
- F. **Additional Standards for the Industrial Districts.** Self-storage buildings shall only be allowed in the I-1 and I-2 zoning districts where they are either accessory to Principal

Permitted Use(s) as allowed in the zoning district and located to the rear of the lot or otherwise arranged in a manner clearly secondary to the Principal Permitted Use(s), or shall be limited to lots that the Planning Commission has determined to be unsuitable by size, location or configuration for development of Principal Permitted Use(s) as allowed in the zoning district.

#### **PART EIGHTEEN – Amendments to Section 6.39 (Solar Energy Systems)**

Section 6.39 (Solar Energy Systems) is hereby amended to correct a typographical error in subsection “G.6.d.” as follows:

#### **Section 6.39 Solar Energy Systems**

##### **G. Primary Use Solar Energy Facilities.**

##### **6. Decommissioning Plan.**

##### **d. Surety:**

- i. The owner(s) and/or operator of the SEFs shall post a surety in a form acceptable to the Township, such as security bond, irrevocable letter of credit, escrow, or other form deemed acceptable by the Township equal to one-hundred fifty (150) percent of the total estimated decommissioning and reclamation costs, prior to issuance of a building permit. The cost of decommissioning shall be reviewed between the operator and the Township ~~Board~~ Planner every five (5) years to ensure adequate funds are allocated for decommissioning; the surety shall be appropriately adjusted to reflect the current decommissioning estimate.

#### **PART NINETEEN – Add a New Section 6.42 (Qualified Residential Treatment Programs)**

Section 6 (Standards Applicable to Specific Uses) is hereby amended to add a new Section 6.42 entitled “Qualified Residential Treatment Programs” as follows:

#### **Section 6.42 Qualified Residential Treatment Programs**

Consistent with Section 206(1)(c) of the Michigan Zoning Enabling Act, A qualified residential treatment program that provides services for 10 or fewer individuals is a residential use of property for the purposes of zoning, to which all of the following apply:

1. The program has a trauma-informed treatment model, evidenced by the inclusion of trauma awareness, knowledge, and skills into the program’s culture, practices, and policies.
2. The program has registered or licensed nursing and other licensed clinical staff on-site or available 24 hours a day, seven days a week, who provide care in the scope of their practice as provided in Part 170 (Medicine), Part 172 (Nursing), Part 181 (Counseling), Part 182

(Psychology), Part 182A (Applied Behavior Analysis), and Part 185 (Social Work) of the Public Health Code.

3. The program integrates families into treatment, including maintaining sibling connections.
4. The program provides aftercare services for at least six months post discharge.
5. The program is accredited by an independent not-for-profit organization as described in 42 USC 672(k)(4)(G).
6. The program does not include a detention facility, forestry camp, training school, or other facility operated primarily for detaining minor children who are determined to be delinquent.

### **PART TWENTY – Add a New Section 6.43 (Bakeries)**

Section 6 (Standards Applicable to Specific Uses) is hereby amended to add a new Section 6.43 entitled “Bakeries” as follows:

#### **Section 6.43 Bakeries and Printing, Copying, and Bookbinding Operations**

Bakeries and Printing, Copying, and Bookbinding Operations shall be subject to the following standards by zoning district:

1. In the I-1 and I-2 zoning districts, the principal use of the premises shall be for the preparation and manufacturing of products to be distributed and sold at off-site locations. Any area(s) for sales of products prepared on the premises shall be limited to no more than twenty percent (20%) of the usable floor area occupied by the principal use.
2. In the B-4, B-5, and B-7 zoning districts, the principal use of the premises shall be the preparation and on-site sales of products. Distribution of products to off-site locations shall be permitted as an accessory use, provided that such activities remain incidental and subordinate to the principal use of the premises.

### **PART TWENTY-ONE – Amendments to Section 6.56 (Accessory Apartment)**

Section 6.56 (Accessory Apartment) is hereby deleted and replaced in its entirety with a new Section 6.56 entitled “Accessory Dwelling” to revise the title and change the references in the text to match defined terms, to revise the maximum floor area limitation, and to add a reference to the Township’s Housing Licensing Ordinance, as follows:

#### **Section 6.56 Accessory ~~Apartment~~ Dwelling**

An accessory ~~apartments~~ dwelling shall comply with the following regulations:

- ~~1. Accessory Apartment Defined. An accessory apartment is a dwelling unit that is accessory to and contained within a principal single family dwelling, and which is occupied by either persons related to the occupant of the principal residence by blood, marriage, or legal adoption; domestic servants; or gratuitous guests. An accessory apartment typically has its own kitchen, bath, living area, sleeping area, and usually a separate entrance.~~

1. **Residence an Incidental Use.** The accessory ~~apartment dwelling~~ shall be clearly incidental to the principal ~~residence~~ single-family dwelling on the site. Accordingly, the following conditions shall be met:
  - a. An accessory ~~apartments dwelling~~ shall be established in and attached to an owner-occupied ~~homes~~ single-family dwelling only by means of a fully enclosed, insulated and heated space.
  - b. Only one (1) such accessory ~~residence dwelling~~ shall be permitted on each parcel.
  - c. The ~~total gross~~ floor area of the accessory ~~apartment dwelling~~ shall not exceed ~~eight hundred (800)~~ square feet or fifty percent (50%) of the principal single-family dwelling's gross floor area, whichever is less.
2. **Setbacks and Placement on the Parcel.** Accessory ~~residences dwellings~~ shall comply with all setback requirements for the zoning district in which they are located.
3. **Compatibility with Surrounding Land Use.** The design of the accessory ~~residence dwelling~~ shall not detract from the single-family character and appearance of the principal ~~residence dwelling on the lot~~, or the surrounding neighborhood. The accessory ~~residence dwelling~~ shall not have a front entrance visible from the front yard, other than the entrance that serves the principal ~~residence dwelling on the lot~~. When viewed from the outside, it shall appear that only one (1) household occupies the site.
4. **Parking and Access.** In addition to the minimum required parking for the principal ~~dwelling residence~~, one (1) additional required parking space shall be provided for the accessory ~~dwelling residence~~.
5. **Termination.** An accessory ~~apartment dwelling~~ that is no longer needed for the purposes outlined herein shall be incorporated into and become a part of the principal single-family ~~home dwelling~~ to which it is attached.
6. **Rental Certification.** The accessory dwelling shall be subject to the applicable requirements of the Township's Housing Licensing Ordinance.

## **PART TWENTY-TWO – Amendments to Section 7.14 (Trash Removal and Collection)**

Subsection “C” (Screening) of Section 7.14 (Trash Removal and Collection) is hereby amended to clarify that durable and opaque non-wood fence materials can be used for trash enclosure screening (subject to Planning Commission approval).

### **Section 7.14 Trash Removal and Collection**

#### **C. Screening.**

Dumpsters shall be screened from view from adjoining property and public streets and thoroughfares. Dumpsters shall be screened on three sides with a permanent building, decorative masonry wall, or solid, durable, and opaque ~~wood~~ fencing, not less than six (6) feet in height or at least one foot above the height of the enclosed dumpster, whichever is taller. Durable, lockable and visually opaque gates of equivalent height shall be provided on the fourth side of the enclosure.

**PART TWENTY-THREE – Amendments to Section 9.2 (Schedule of Required Parking)**

Subsection “F.” (Schedule of Off-Street Parking by Use) of Section 9.2 (Schedule of Required Parking) is hereby amended to revise the parking standard for self-storage buildings, as follows:

**Section 9.2 (Schedule of Required Parking)**

**F. Schedule of Required Parking by Use**

Land Use	Minimum Required Off-Street Parking Standard
<b>Other Uses</b>	
Self-storage <del>Facilities-Buildings</del> (Mini-Warehouse, Mini-Storage)	<del>0.1 spaces per storage unit, plus R</del> required parking for any office or other uses <u>accessory to the facility</u> .

**PART TWENTY-FOUR – Amendments to Section 12.2 (General Requirements)**

Section 12.2 (General Requirements) is hereby amended to delete and replace the text of subsection “J.” as follows:

**Section 12.2 General Requirements**

- J. **Nonconforming Single-Family Uses.** ~~Notwithstanding the limitations outlined in Section 12, any structure used for single family residential purposes and maintained as a nonconforming use may be enlarged or replaced with a similar structure of a larger size, so long as the enlargement or replacement does not create new nonconformities or increase the extent of existing nonconformities with respect to such matters as setback and parking requirements~~ See Section 12.6 (Nonconforming Single-Family Dwellings).

**PART TWENTY-FIVE – Amendments to Section 12.4 (Modifications to Nonconforming Uses or Structures)**

Subsection “A.” (Applicability) of Section 12.4 (Modifications to Nonconforming Uses or Structures) is hereby amended to revise subsection “A.5.” for clarity, and to add new subsections “A.6.” to reference the new Section 12.6 and “A.7.” to reference the existing Section 11.14.

**Section 12.4 Modifications to Nonconforming Uses or Structures**

- A. **Applicability.** The following regulations shall apply to any nonconforming use or structure, including:
  1. Nonconforming uses of open land.
  2. Nonconforming use of buildings designed for a conforming use.
  3. Nonconforming use of buildings specifically designed for the type of use which occupies them but not suitable for a conforming use.
  4. Buildings designed and used for a conforming use but not in conformance with area and bulk, parking, loading, or landscaping requirements.
  5. Nonconforming buildings and structures, including accessory structures ~~such as fences and signs.~~
  6. Nonconforming single-family dwellings shall not be subject to regulation under this Section, but rather shall be subject to the requirements of Section 12.6.



7. Nonconforming signs shall not be subject to regulation under this Section, but rather shall be subject to the requirements of Section 11.14.

**PART TWENTY-SIX – Add a New Section 12.6 (Nonconforming Single-Family Dwellings)**

Section 12 (Nonconformities) is hereby amended to add a new Section 12.6 entitled “Nonconforming Single-Family Dwellings” to eliminate regulatory conflicts in the existing regulations and to expand protections for nonconforming single-family dwellings, as follows:

**Section 12.6 Nonconforming Single-Family Dwellings.**

It is the intent of this Section to regulate the alteration and reconstruction of nonconforming single-family dwellings consistent with the intent and purposes of Section 12 and this Ordinance, and in a manner that avoids unnecessary hardship for homeowners seeking mortgage financing or homeowner’s insurance coverage for a nonconforming dwelling. Accordingly, the provisions of Section 12.4 (Modifications to Nonconforming Uses or Structures) shall not apply to nonconforming dwellings as regulated under this Section. Nonconforming single-family dwellings may be used, repaired, expanded, altered, or replaced if destroyed, subject to the following:

- A. **Dwelling as a Nonconforming Use.** A nonconforming single-family dwelling and nonconforming customary accessory structures located in a zoning district in which single-family dwellings are not an allowable use may be repaired, altered, or replaced if destroyed, provided that:
  - 1. Such work shall conform to all applicable standards of this Ordinance as if the property and use were located in the residential zoning district for which the lot area and lot width dimensional standards most closely align with that of the subject lot. Accessory structures shall conform to the requirements of Section 7.5 for the applicable residential zoning district.
  - 2. The use, dwelling, and accessory structures shall be maintained in conformance with all other applicable federal, state, and local laws, ordinances, regulations and rules.
- B. **Dwelling as a Nonconforming Structure.** Where a single-family dwelling is an allowable use in the zoning district but is nonconforming with respect to the zoning district’s dimensional standards or Section 6.16 (Residential Design Requirements) the following standards shall apply:
  - 1. Structural alterations to a nonconforming single-family dwelling that decrease or do not affect the degree of nonconformity shall be permitted. The dwelling may be expanded, provided that:
    - a. The addition shall conform to the dimensional standards and other requirements of the zoning district in which it is located.
    - b. The expanded dwelling shall not exceed the ground floor coverage and floor area ratio limits of the district in which it is located.

2. A nonconforming single-family dwelling may be repaired, reconstructed or replaced if damaged or destroyed, provided that:
  - a. All repairs and maintenance shall conform to the State Construction Code and all other applicable code requirements.
  - b. A damaged dwelling shall be adequately secured, and shall be protected against further damage from the elements.
  - c. Any replacement dwelling shall conform to the dimensional standards of the zoning district where it is located, except where, in the determination of the Zoning Administrator, existing site conditions would prevent reasonable conformance. In such cases, the dwelling may be reconstructed on the existing location.
  - d. Application for a building permit shall be made within 365 calendar days of the date of such damage, and all work shall be completed within the building permit approval period. Where pending insurance claims require an extension of time, the Zoning Administrator may grant one (1) extension of up to 365 calendar days, provided that the property owner submits a certification from the insurance company attesting to the delay.
3. A nonconforming dwelling moved within a lot or to another lot shall thereafter conform to the regulations of the district in which it is located.
4. If the dwelling became physically unsafe or unlawful due to a lack of repairs or unsecured exposure to the elements, or is declared to be unsafe or unlawful by reason of physical condition under the State Construction Code or applicable fire or property maintenance codes, it shall not thereafter be restored, repaired or rebuilt except in conformity with all Ordinance requirements.

**PART TWENTY-SEVEN – Amendments to Section 13.2 (Township Board of Trustees)**

Section 13.2 (Township Board of Trustees) is hereby amended to correct the references to required Township Board approvals, as follows:

**Section 13.2 Township Board of Trustees**

**B. Review and Approval of Plans.**

1. Township Board review and approval shall be required for all ~~Special Uses rezoning applications~~, in accordance with Section ~~14.5 (Amendments)~~-14-3.
2. Township Board review and approval shall be required for all Planned Unit Development ~~(PUD) applications~~, in accordance with Section ~~3.19 (PUD, Planned Unit Development District)~~-3-18.

**PART TWENTY-EIGHT – Amendments to Section 13.4 (Zoning Board of Appeals)**

Section 13.4 (Zoning Board of Appeals) is hereby amended to delete and consolidate all provisions for establishment, authority, and general rules in an updated Section 14.4.

### **Section 13.4 Zoning Board of Appeals**

The Township Zoning Board of Appeals (hereinafter referred to as "ZBA") is created pursuant to Michigan Public Act 110 of 2006, as amended.

~~A. **Membership and Operation.** The ZBA shall consist of five (5) members who shall be appointed in accordance with Section 601(3) of Michigan Public Act 110 of 2006, as amended, as follows:~~

- ~~1. The first member shall be a member of the Planning Commission.~~
- ~~2. The remaining members (including any alternate members) shall be electors of the Township residing outside of incorporated cities and villages and shall be representative of the population distribution and of the various interests present in the Township.~~
- ~~3. No employee or contractor of the Township may be a member or employee of the Board of Appeals. No elected officer of the Township may serve as chairperson of the Board of Appeals.~~
- ~~4. The qualifications of members, the term of each member, filling of vacancies, compensation of members, and operation of the ZBA shall be in accordance with Act 110. The ZBA shall not conduct business unless a majority of the members of the Board are present.~~
- ~~5. The Township Board may appoint up to 2 alternate members for the same term as regular members to the ZBA. An alternate member may be called to serve as a member of the ZBA in the absence of a regular member if the regular member will be unable to attend one (1) or more meetings. An alternate member may also be called to serve as a member for the purpose of reaching a decision on a case in which the member has abstained for reasons of conflict of interest. The alternate member appointed shall serve in the case until a final decision is made. The alternate member has the same voting rights as a regular member of the ZBA.~~

~~B. **Meetings.** Meetings of the ZBA shall be held in accordance with an adopted schedule, or at the call of the Chairperson, or at such other times as the ZBA may specify in its rules and procedures. The ZBA shall state the grounds of each determination, and shall maintain a record of its proceedings, which shall be filed in the office of the Township Clerk.~~

~~C. **Removal of Members.** A member of the ZBA may be removed by the Township Board for misfeasance, malfeasance, or nonfeasance in office upon written charges and after a public hearing. A member shall disqualify himself or herself from a vote in which the member has a conflict of interest. Failure of a member to disqualify himself or herself from a vote in which the member has a conflict of interest constitutes malfeasance in office.~~

~~D. Jurisdiction.~~ The ZBA shall have the authority outlined in Section 14.4 ([Zoning Board of Appeals](#))

## **PART TWENTY-NINE – Amendments to Section 13.5 (Enforcement Officials)**

Subsection “B.” (Responsibilities of the Zoning Administrator) of Section 13.5 (**Enforcement Officials**) is hereby amended to remove inconsistencies between the provisions of this subsection and the established job description for this position, as follows:

### **Section 13.5 Enforcement Officials**

- A. **Overview.** As specified throughout this Ordinance, certain actions necessary for the implementation of this Ordinance shall be administered by the Zoning Administrator, the Township Planner, and other Township administrative officials, or their duly authorized assistants or representatives. In carrying out their designated duties, all such enforcement officers shall administer the Ordinance precisely as it is written and shall not make changes or vary the terms of the Ordinance. The positions of Zoning Administrator and Township Planner may be filled by one person.
- B. **Responsibilities of the Zoning Administrator.** The provisions of this Ordinance shall be administered and enforced by the Zoning Administrator, under the direction of the Township Planner. In addition to specific responsibilities outlined elsewhere in this Ordinance, the Zoning Administrator ~~or his/her duly authorized assistants~~ shall have the following responsibilities:
1. The Zoning Administrator shall administer and enforce this Ordinance precisely as written, and shall not modify, vary or ignore the terms of this Ordinance nor grant exceptions to the actual meaning of any clause, order or regulation.
  2. The Zoning Administrator shall have the authority to interpret this Ordinance in such a way as to preserve and promote the character of the zoning district in question, and carry out the intent and purposes of this Ordinance and Township Master Plan. Such interpretations shall be subject to appeal to the Zoning Board of Appeals in accordance with Section 14.4 (Zoning Board of Appeals).
  - ~~1.3.~~ The Zoning Administrator shall provide citizens and public officials with information relative to this Ordinance and related matters.
  - ~~2.4.~~ The Zoning Administrator shall assist applicants in determining and completing appropriate forms and procedures related to site plan review, special use, rezoning, and other zoning matters.
  - ~~3.5.~~ The Zoning Administrator shall review and investigate permit applications to determine compliance with the provisions of the Zoning Ordinance.
  - ~~4.6.~~ The Zoning Administrator shall issue zoning permits upon compliance with provisions of this Ordinance and other applicable ordinances.

- ~~5-7.~~ The Zoning Administrator shall perform inspections of buildings, structures, and premises to ensure proposed land use changes or improvements are and will remain in compliance with this Ordinance.
- ~~6-8.~~ The Zoning Administrator shall investigate alleged violations of this Ordinance and enforce appropriate corrective measures when required, including issuance of violation notices, issuance of orders to stop work, and revoking of permits.
9. The Zoning Administrator shall order the discontinuance of unlawful uses of land or structures, removal of unlawful structures or alterations, discontinuance of work performed in violation of this Ordinance, and shall take such action(s) authorized by this Ordinance to ensure compliance with this Ordinance.
- ~~7-10.~~ The Zoning Administrator shall perform other related duties required to administer this Ordinance.

### **PART THIRTY – Amendments to Section 14.3 (Special Use Permits)**

Section 14.3 (Special Use Permits) is hereby amended to correct a typographical error by removing “or Township Board” from subsection “J.3.” as follows:

#### **Section 14.3 Special Use Permits**

##### **J. Standards for Special Use Approval.**

1. The special use will be designed, constructed, operated, and maintained in a manner compatible with adjacent uses, the surrounding area, and the intent of the zoning district. Where determined necessary by the Planning Commission ~~or Township Board~~, the applicant has provided adequately for any restrictions on hours or days of operation, minimization of noise, and screening improvements or other land use buffers to ensure land use compatibility and minimize adverse impacts.

### **PART THIRTY-ONE – Amendments to Section 14.4 (Variances and Appeals)**

Section 14.4 (Variances and Appeals) is hereby deleted and replaced in its entirety with a new Section 14.4 entitled “Zoning Board of Appeals” to correct inconsistencies with sections 601, 603, and 604 of the Michigan Zoning Enabling Act (Public Act 110 of 2006, as amended), to correct discrepancies in the application requirements, and to clarify and expand upon the variance criteria related to substantial justice, as follows:

#### **Section 14.4 Zoning Board of Appeals**

There is hereby established a Zoning Board of Appeals (ZBA), which shall perform its duties and exercise its powers as provided for in the Michigan Zoning Enabling Act and this Ordinance, in such a way that the objectives of this Ordinance are observed, public health and safety secured, and substantial justice done.

**A. Membership.**

The Zoning Board of Appeals shall consist of three (3) regular members, appointed by the Township Board. One (1) member of the ZBA shall also be a member of the Planning Commission. The remaining two (2) members shall be selected from the electors of the Township. One (1) member may also be a member of the Township Board. In the event a member is elected to the Township Board and such election increases the number of Township Board members serving on the ZBA to more than one (1), then such member's seat on the ZBA shall be deemed vacant.

The members selected shall be representative of the population distribution, and of the various interests present in the Township. Employees and contractors of the Township shall be prohibited from serving as ZBA members.

**B. Alternates.**

The Township Board may appoint not more than two (2) alternate ZBA members for the same term as regular members. An alternate may be called to serve as a regular member for the ZBA in the absence of a regular member if the regular member is absent from or will be unable to attend one (1) or more ZBA meetings. An alternate may also be called to serve as a regular member for the purpose of reaching a decision on a case in which the regular member has abstained for reasons described in subsection 14.4.D. (Abstaining). The alternate member appointed shall serve in the case until a final decision is made, and shall have the same voting rights as a regular ZBA member.

**C. Terms and Vacancies.**

The term of each member shall be for three (3) years, except for members serving because of their membership on the Planning Commission or Township Board where terms shall be limited to the time they are members of those bodies. If multiple members are appointed at the same time, the appointments may be for less than three (3) years to provide for staggered terms. A successor shall be appointed not more than one (1) month after the term of the preceding member has expired. Vacancies for unexpired terms shall be filled for the remainder of the term.

**D. Abstaining.**

A member shall abstain from participating in a public hearing or voting on any question in which he or she has a conflict of interest, subject to the following:

1. Before casting a vote on a matter on which a member may reasonably be considered to have a conflict of interest, the member shall disclose the potential conflict of interest to the remaining members of the ZBA.
2. The member is disqualified from voting on the matter if:
  - a. A majority vote of the remaining members of the ZBA agree that a conflict exists; or if
  - b. A ZBA member who is also a member of the Township Board or Planning Commission previously voted on the same matter as a member of the Board or Commission. The member may consider and vote on other unrelated matters involving the same property.

3. The ZBA may define "conflict of interest" in its bylaws, or the Township Board may adopt a conflict of interest policy for the Township by resolution.
4. Failure of a member to disclose a potential conflict of interest or to abstain as required by this subsection shall constitute malfeasance in office.

**E. Removal From Office.**

The Township Board may remove a member from office for misfeasance, malfeasance or nonfeasance in office, upon written charges and following a public hearing held in accordance with Section 14.6 (Public Hearing Notice). Minutes of the meeting at which the hearing is held shall record the reasons for the hearing, any motions or resolutions, and the roll call vote of the Township Board.

**F. General Rules.**

The following general rules shall apply to the Zoning Board of Appeals:

1. **Officers.** The ZBA shall annually elect a Chair, Vice-Chair, Secretary, and Vice-Secretary from its membership. The Township Board Representative shall not serve as ZBA Chair. Such election shall be held at the first regular ZBA meeting of each calendar year, or at the first regular meeting of the ZBA following departure of an existing officer from the ZBA.
  - a. The Chair shall preside at and conduct ZBA meetings; and shall have the power to subpoena and require attendance of witnesses, administer oaths, compel testimony and production of books, papers, files, and other evidence pertinent to matters before the ZBA. The Chair shall also decide all points of order or procedure. In the absence of the Chair, the Vice-Chair shall exercise all powers and authority of the Chair.
  - b. The Secretary shall be responsible for ensuring that complete and accurate written records are kept of all ZBA proceedings.
2. **Meetings.** Meetings of the ZBA shall be held at the call of the Chair and at such other times as any ZBA bylaws may specify. All ZBA meetings shall be open to the public. Three (3) ZBA members shall constitute a quorum, without which the ZBA shall not conduct business other than to open and close the meeting. The concurring vote of a minimum of three (3) ZBA members shall be necessary for any decision.
3. **Timing of application or appeal.** For any land use, structure or other project that is subject by a provision of this Ordinance to review and action or interpretation by the Planning Commission or Zoning Administrator, an application to the Zoning Board of Appeals shall only be accepted for review and a public hearing subsequent to the conclusion of that administrative process.
4. **Stay of action.** An application or appeal stays all proceedings in the furtherance of the action subject to the application or appeal, unless the Zoning Administrator, Township Planner, Township Engineer, or Building Official certifies to the Zoning Board of Appeals that, in their opinion and by reason of facts stated in the certificate, a stay would cause imminent peril to life or property. In such case, proceedings shall

not be stayed other than by a restraining order which may be granted by the Zoning Board of Appeals or by the Circuit Court upon due cause shown.

5. **Hearing.** After receipt of a complete and accurate application, a reasonable time and date for public hearing shall be established. Notice shall be given and the hearing shall be held per Section 14.6 (Public Hearing Notice). All hearings shall be open to the public.
6. **Representation.** An applicant may appear or be represented by an agent or attorney.
7. **Motions.** A motion for action on an application shall include specific findings of fact and conclusions made by the ZBA in the case. Approved motions, including findings of fact and conclusions, shall be incorporated into the written record for the case. A copy shall be provided to the applicant of the approved written record of the meeting, or a written decision signed by the Chair or acting Chair.
8. **Postponement and dismissal.** The ZBA may postpone consideration of an application until a later meeting upon request by the applicant, failure of the applicant to attend the meeting, or determination that the application is not sufficiently complete or accurate for action. Failure of the applicant to attend two (2) or more meetings where the application is on the agenda shall constitute grounds for dismissal of the application without further consideration.
9. **Record of Proceedings.** The Township administrative staff, under the supervision of the secretary of the ZBA, shall prepare and keep minutes of the ZBA proceedings, showing the findings, decisions, conditions, if any, and votes of each member in each case, including a member's absence or failure to vote. The minutes shall be within the ultimate authority, and shall be the responsibility, of the secretary of the ZBA, and shall be subject to approval of the ZBA.

To the extent that a written decision statement in a case is prepared and issued in accordance with Section 606(3)(a) of the Michigan Zoning Enabling Act, it shall include the date of the meeting when the decision was made, it shall include the full text of the adopted motion, the signature of the Chair or acting Chair, and the date the written decision statement was signed.

10. **Period of Validity.** A decision of the ZBA shall have immediate validity, subject to the provisions of subsection 14.4.M. (Appeals to Circuit Court).
  - a. Any decision of the ZBA favorable to the applicant shall remain valid only as long as the information and data relating to such decision are found to be correct, and the conditions upon which the decision was based are maintained.
  - b. Relief granted by the ZBA shall be valid for a period not longer than 365 calendar days, unless otherwise specified by the ZBA. Within such period of effectiveness any required permits must be secured and any actual on-site improvement of property in accordance with the approved plan and the relief granted must be commenced or the grant of relief shall be deemed void.
11. **Bylaws.** The ZBA may also adopt bylaws to govern its procedures.



**G. Powers and Duties of the ZBA.**

The Zoning Board of Appeals shall hear, decide, and rule on the following:

1. **Interpretations.** The ZBA shall hear and decide questions that arise in the administration of the zoning ordinance, including the interpretation of the text and the Official Zoning Map, subject to the provisions of subsection 14.4.I.
2. **Administrative appeals.** The ZBA shall hear and decide appeals from and review any administrative order, requirement, decision, or determination made by an administrative official or body charged with enforcement of this Ordinance, subject to the provisions of subsection 14.4.J.
3. **Variances.** The ZBA shall hear and decide requests for variances for relief from the strict application of one (1) or more non-use provisions of this Ordinance, subject to the provisions of subsection 14.4.I.K.
4. **Other matters.** The ZBA shall have the authority to hear and decide on other matters referred to them upon which this Ordinance or Michigan Zoning Enabling Act specifically authorizes the ZBA to act.
5. **Prohibited actions.** The ZBA shall not alter or change the zoning district classification of any property, or make any change in the terms of this Ordinance, and shall not take any action that would result in making a legislative change. The ZBA shall not hear and shall have no authority regarding use variances or any issue involving a special use permit or planned unit development approval or denial.

**H. Applications.**

All applications to the ZBA shall be made by filing at least ten (10) paper copies and two (2) digital copies (in a format compatible with Township systems) of a complete and accurate application with the Zoning Administrator or designee, on forms provided by the Township, and shall be accompanied by the applicable fee and any required escrow deposit as established by Township Board resolution. In addition to the applicable fee and any required escrow deposit, a complete and accurate application shall at a minimum include the following:

1. Name, address, telephone and facsimile numbers, and other contact information for the applicant and owners of record, along with proof of ownership.
2. The applicant's interest in the property, and if the applicant is not the property owner of record, a signed authorization of the owner(s) for the application.
3. Address, location, legal description, and tax identification number of the parcel.
4. Zoning classification of the subject parcel(s) and all abutting parcels.
5. A letter from the applicant stating the reasons for the request, and addressing the applicable criteria specified in this Article for the type of request.
6. Copies of all plans, studies and other information and data to be relied upon by the applicant.

7. Any additional information required by this Article or deemed necessary by the ZBA to make a determination on the issue in question.
8. For variance requests, the following additional requirements shall apply:
  - a. The applicant shall submit a plot plan drawn to scale and including lot boundaries, easements, dimensions, setbacks, locations of septic systems and wells where applicable, significant natural features, and all existing and proposed structures and improvements.
  - b. The ZBA shall have the authority to require a certified survey prepared by a registered land surveyor when determined necessary to verify the accuracy of the plot plan.
  - c. For projects subject to site plan approval per Section 14.2, a complete site plan shall be provided.

**I. Interpretations.**

The ZBA shall have the power to hear and decide questions that arise in the interpretation of the text of the Zoning Ordinance in a manner consistent with the intents and purposes stated in the Ordinance, and in such a way as to preserve and promote the character of the zoning district in question. The ZBA shall also have the power to hear and decide questions that arise in the interpretation of the Official Zoning Map in such a way as to carry out the intents and purposes of this Ordinance and the Master Plan, subject to the standards of Section 10.105.E (Rules for Interpretation).

Applications for questions that arise from an interpretation of the text of the Zoning Ordinance or of the Official Zoning Map made by the Planning Commission, Zoning Administrator or other Township official shall be reviewed by the ZBA as an administrative appeal subject to subsection 14.4.J. (Administrative Appeals).

**J. Administrative Appeals.**

Consideration of administrative appeals shall be subject to the following:

1. **Standing to Appeal.** Appeals shall be taken to the ZBA through submittal of a complete and accurate application to the Township Clerk by a person, firm or corporation aggrieved by the order, requirement, decision or determination; or by an officer, department, board, commission or bureau of the Township, county, state, or federal governments. Such appeals shall be filed within 60 calendar days of the order, requirement, decision or determination in question.
  - a. The appellant shall submit a clear description of the order, requirement, decision, or determination from which the appeal is made and the grounds of the appeal. The appellant may be required by the ZBA to submit additional information to clarify the appeal.
  - b. The Township Clerk shall compile and transmit to the ZBA copies of all relevant papers constituting the record upon which the action appealed from was taken.

2. **Determinations.** The ZBA shall reverse an administrative decision only upon determining that the order, requirement, decision or determination:
  - a. Constituted an abuse of discretion;
  - b. Was arbitrary or capricious;
  - c. Was based upon an erroneous finding of a material fact; or
  - d. Was based upon an erroneous interpretation of the Zoning Ordinance.

After making such a determination, the ZBA may, reverse or affirm wholly or in part; modify the order, requirement, decision or determination; or make such order, requirement, decision, or determination as ought to be made, and may issue or direct the issuance of a permit. To that end, the ZBA shall have all of the powers of the official(s) from whom the appeal is taken.

**K. Variances.**

The ZBA shall have the authority to grant non-use variances where, owing to special conditions, strict enforcement of this Ordinance would result in unnecessary hardship or practical difficulty, subject to Michigan Zoning Enabling Act requirements and the following:

1. **Standards for Review.** A variance shall not be granted unless all of the following standards are met:
  - a. **Practical difficulties.** Strict compliance with the specified dimensional standard(s) will deprive the applicant of rights commonly enjoyed by other property owners in the same zoning district, create an unnecessary burden on the applicant, or unreasonably prevent the owner from using the property for a permitted purpose.
  - b. **Substantial justice.** The variance will give substantial relief and justice to the applicant, consistent with justice to other property owners in the same district.
  - c. **Unique circumstances.** The need for the variance is due to unique circumstances peculiar to the land or structures involved, that are not applicable to other land or structures in the same district.
  - d. **Preservation of property rights.** The variance is necessary for the preservation and enjoyment of a substantial property right possessed by other property owners in the same zoning district.
  - e. **Public safety and welfare.** The requested variance can be granted in such fashion that the spirit of this Ordinance will be observed and public safety and welfare secured. In addition:
    - i. The granting of a variance will not increase the hazard of fire or otherwise endanger public safety.

- ii. The granting of a variance will not unreasonably diminish or impair the value of surrounding properties.
  - iii. The granting of a variance will not alter the essential character of the area or surrounding properties.
  - iv. The granting of a variance will not impair the adequate supply of light and air to any adjacent property.
  - f. **Not self-created.** The problem and resulting need for the variance has not been self-created by the applicant or the applicant’s predecessors.
  - g. **More than mere inconvenience.** The alleged hardship and practical difficulties that will result from a failure to grant the variance include substantially more than mere inconvenience or an inability to attain a higher financial return.
  - h. **Minimum necessary action.** The reasons set forth in the application justify the granting of the variance, and the variance is the minimum necessary relief to allow reasonable use of the land, building, or structure. The granting of a lesser variance will not give substantial relief and justice to the applicant, consistent with justice to other property owners in the same district.
2. **Use Variances Prohibited.** Under no circumstances shall the ZBA grant a variance to allow a use not permissible under the terms of this Ordinance in the district involved, or any use expressly or by implication prohibited by the terms of this Ordinance in said district.
3. **Reapplication for Variance.** No application for a variance that has been denied wholly or in part by the ZBA shall be resubmitted for a period of 365 calendar days from the date of denial, except on grounds of new evidence of changed conditions found by the ZBA to be valid.

**L. Conditions of Approval.**

The ZBA may impose conditions or limitations upon any affirmative decision, as it may deem reasonable and necessary in accordance with the purposes of this Ordinance and the Michigan Zoning Enabling Act. Such conditions shall be consistent with procedures, requirements, standards, and policies of the Township, where applicable. Violation of any condition imposed shall be deemed a violation of this Ordinance.

**M. Appeals to Circuit Court.**

Any person aggrieved by a decision of the ZBA in a particular case shall have the right to appeal to the Circuit Court as permitted by Section 606 of the Michigan Zoning Enabling Act [MCL125.3606(1)]. The appeal shall be filed within 30 calendar days after the Zoning Board of Appeals issues its written decision signed by the Chair or acting Chair, or within 21 calendar days after the Zoning Board of Appeals approves the minutes of its decision, whichever comes first.

**Draft Date: October 11, 2022**

**PART THIRTY-TWO – Repeal**

All ordinances or parts of ordinances in conflict with the provisions of this amendatory ordinance, except as herein provided, are hereby repealed only to the extent necessary to give this amendatory ordinance full force and effect.

**PART THIRTY-THREE – Severability**

If any section, subsection, clause, phrase or portion of this amendatory ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct and independent provision, and such holding shall not affect the validity of the remaining portion thereof.

**PART THIRTY-FOUR – Publication**

The Clerk for the Charter Township of Union shall cause this amendatory ordinance to be published in the manner required by law.

**Draft Date: October 11, 2022**

**PART THIRTY-THREE – Effective Date**

This amendatory ordinance was approved and adopted by the Charter Township of Union Board of Trustees, Isabella County, Michigan, on \_\_\_\_\_, 202\_\_, after initiation and a public hearing by the Planning Commission on \_\_\_\_\_, 202\_\_ as required pursuant to the Michigan Public Act 110 of 2006, as amended, and after introduction and a first reading by the Township Board on \_\_\_\_\_, 202\_\_ and publication after such first reading as required by Michigan Act 359 of 1947, as amended. This amendatory ordinance shall be effective on \_\_\_\_\_, 202\_\_, which date is more than seven days after publication of the ordinance as is required by Section 401(6) of Act 110 of 2006, as amended, provided that this effective date shall be extended as necessary to comply with the requirements of Section 402 of Act 110 of 2006, as amended.

**CERTIFICATION OF ADOPTION AND PUBLICATION OF TOWNSHIP ORDINANCE**

I, Lisa Cody, the duly elected Clerk of the Charter Township of Union, Isabella County, Michigan, hereby certify that the foregoing amendatory ordinance was adopted at a meeting of the Charter Township of Union Board of Trustees on the \_\_\_\_\_ day of \_\_\_\_\_, 202\_\_, at which the following named members of the Charter Township of Union Board of Trustees were present and voted in person as follows:

- (a) Voting in favor of the Ordinance: \_\_\_\_\_
- (b) Voting against adoption of the Ordinance: \_\_\_\_\_
- (c) Absent: \_\_\_\_\_ (d) Abstain: \_\_\_\_\_

I further certify that a notice of adoption of this amendatory ordinance was published in the Morning Sun, a newspaper of general circulation within the Charter Township of Union on the \_\_\_\_\_ day of \_\_\_\_\_, 202\_\_ and that proof of same is filed in the Charter Township of Union Ordinance Book.

Certification Date: \_\_\_\_\_, 202\_\_

\_\_\_\_\_  
Lisa Cody, Clerk