

**MEETING DATE:** December 3, 2019

**TITLE:** Approval of plans and specifications and authorization to solicit quotes for carp barrier construction in the Six Mile Creek-Halsted Bay Subwatershed

**RES. NUMBER:** 19-102

**PREPARED BY:** Anna Brown

**E-MAIL:** abrown@minnehahacreek.org

**TELEPHONE:** (952) 641-4522

**REVIEWED BY:**  Administrator  Counsel  Program Mgr.: Michael Hayman  
 Board Committee  Engineer  Other

**WORKSHOP ACTION:**

<input type="checkbox"/> Advance to Board mtg. Consent Agenda.	<input type="checkbox"/> Advance to Board meeting for discussion prior to action.
<input type="checkbox"/> Refer to a future workshop (date):_____	<input type="checkbox"/> Refer to taskforce or committee (date):_____
<input type="checkbox"/> Return to staff for additional work.	<input type="checkbox"/> No further action requested.
<input type="checkbox"/> Other (specify): <u>Requesting final action December 3, 2019</u>	

**PURPOSE or ACTION REQUESTED:**

Approval of plans and specifications for carp barriers located in the Six Mile Creek-Halsted Bay Subwatershed (SMCHB) and authorization to solicit quotes for construction services.

**PROJECT/PROGRAM LOCATION:**

West Auburn Lake, Carver Park Reserve

**PROJECT TIMELINE:**

October 2017	MCWD recommended for funding through Lessard Sams Outdoor Heritage Fund
March 2018	Barrier design contract awarded
Winter 2018/19	First three barriers installed at Highland Road, Crown College, and Wassermann Lake
December 2019	Final design for Auburn/Lundsten Barrier
January 2019	Contract award
Spring 2019	Construction complete

**PROJECT/PROGRAM COST:**

Fund name and number: 500-5007 SMCHB Carp Management  
Current Budget: \$567,000  
Requested amount of funding: \$0

**PAST BOARD ACTION:**

May 11, 2017 Authorization to request funding from Lessard Sams Outdoor Heritage Council (17-036)  
March 8, 2018 Award contract for carp barrier design (18-021)

**SUMMARY:**

In September of 2017, the Lessard Sams Outdoor Heritage Council recommended the Six Mile Creek-Halsted Bay (SMCHB) Habitat Restoration Project for \$567,000 to the Minnesota State Legislature. The funding bill was approved by the legislature and the grant period began on July 1, 2018.

The program takes a holistic and comprehensive approach to managing common carp in the SMCHB Subwatershed based on the University of Minnesota's SMCHB carp assessment (2014-2017), which developed a carp population census for each waterbody, identified migration patterns between waterbodies, and identified likely reproduction areas. To address the carp population holistically, the University researchers worked with District staff to develop a management approach, consisting primarily of three management strategies:

- Adult biomass removal
- Aeration of shallow lakes to prevent successful carp reproduction
- Barriers to prevent carp movement between waterbodies and assist with removal

Consistent with the accomplishment plan approved by the Lessard Sams Outdoor Heritage Council, the grant funds will be used to pay for the capital cost of barrier installation, utility installation for aeration, and the fish removal contracts. The District match includes equipment for removal and monitoring, the aeration units, and design services.

In March of 2018, the MCWD Board of Managers awarded a contract with Wenck Associates to design barriers at four locations. The first three barriers – Wassermann, Crown College, and Highland Road – were designed in 2018 and constructed in the winter of 2019. The fourth location, at the outlet of West Auburn Lake, will be constructed this winter.

Upon approval of the plans and specifications, the quote package will be finalized and released in early December 2019. The contract award will be brought before the Board on January 9, 2020.

The Lessard Sams funding allocated for this project is \$30,000.

**ATTACHMENTS:**

- Lake Auburn Carp Barrier Plan Set

**RESOLUTION**

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**RESOLUTION NUMBER:** 19-102

**TITLE:** **Approval of plans and specifications and authorization to solicit quotes for carp barrier construction in the Six Mile Creek-Halsted Bay Subwatershed**

WHEREAS, pursuant to Resolution 14-047 the MCWD Board of Managers has identified the Six Mile Creek-Halsted Bay (SMCHB) Subwatershed as a priority area for focusing District planning activities and coordination efforts with subwatershed partners; and

WHEREAS, on October 10, 2013, the MCWD Board of Managers authorized the execution of a contract with Dr. Peter Sorenson and the University of Minnesota to conduct a three-year carp assessment of the SMCHB subwatershed which facilitated the development of a carp management strategy for the subwatershed; and

WHEREAS, beginning in 2016, MCWD led in the development of a comprehensive restoration strategy for the SMCHB subwatershed to achieve the District's goals of protecting and improving water quality, water quantity, ecological integrity, and thriving communities through land use and water integration, and includes rough fish management as a principle strategy for restoration;

WHEREAS, in September 2017, the Lessard Sams Outdoor Heritage Council recommended the SMCHB Habitat Restoration project for \$567,000 in funding, and in May of 2018 the funding was approved by the Minnesota Legislature;

WHEREAS, in March 2018, the MCWD Board of Managers authorized a contract with Wenck Associates to complete barrier design, including the development of plans and specification, and facilitation of the quote process for construction services for four carp barriers;

WHEREAS, in winter 2018/2019 the first three carp barriers were installed at Highland Road, Crown College, and the Lake Wassermann outlet, and the construction of the fourth barrier will follow the standard design established through that design and construction process;

NOW, THEREFORE, BE IT RESOLVED, that the Minnehaha Creek Watershed District Board of Managers hereby approves plans and specifications for barrier construction at the outlet of West Auburn Lake; and

BE IT FURTHER RESOLVED that the MCWD Board of Managers authorizes staff to solicit quotes for construction.

Resolution Number 19-102 was moved by Manager \_\_\_\_\_, seconded by Manager \_\_\_\_\_.  
Motion to adopt the resolution \_\_\_ ayes, \_\_\_ nays, \_\_\_ abstentions. Date: December 3, 2019.

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

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**DRAFT for discussion purposes only and subject to Board approval and the availability of funds.  
Resolutions are not final until approved by the Board and signed by the Board Secretary.**



11/20/2019 4:23:44 PM

### CLIENT



MINNEHAHA CREEK WATERSHED DISTRICT  
15320 MINNETONKA BLVD  
MINNETONKA, MN 55345  
(P) - 952-471-0590  
CONTACT: ANNA BROWN

### ENGINEER



WENCK ASSOCIATES, INC.  
7500 OLSON MEMORIAL HWY  
SUITE 300  
GOLDEN VALLEY, MN 55427  
(P) - 763-252-6800  
CONTACT: CHRIS MEEHAN, P.E.

# SITE CONSTRUCTION PLANS FOR LAKE AUBURN CARP BARRIER

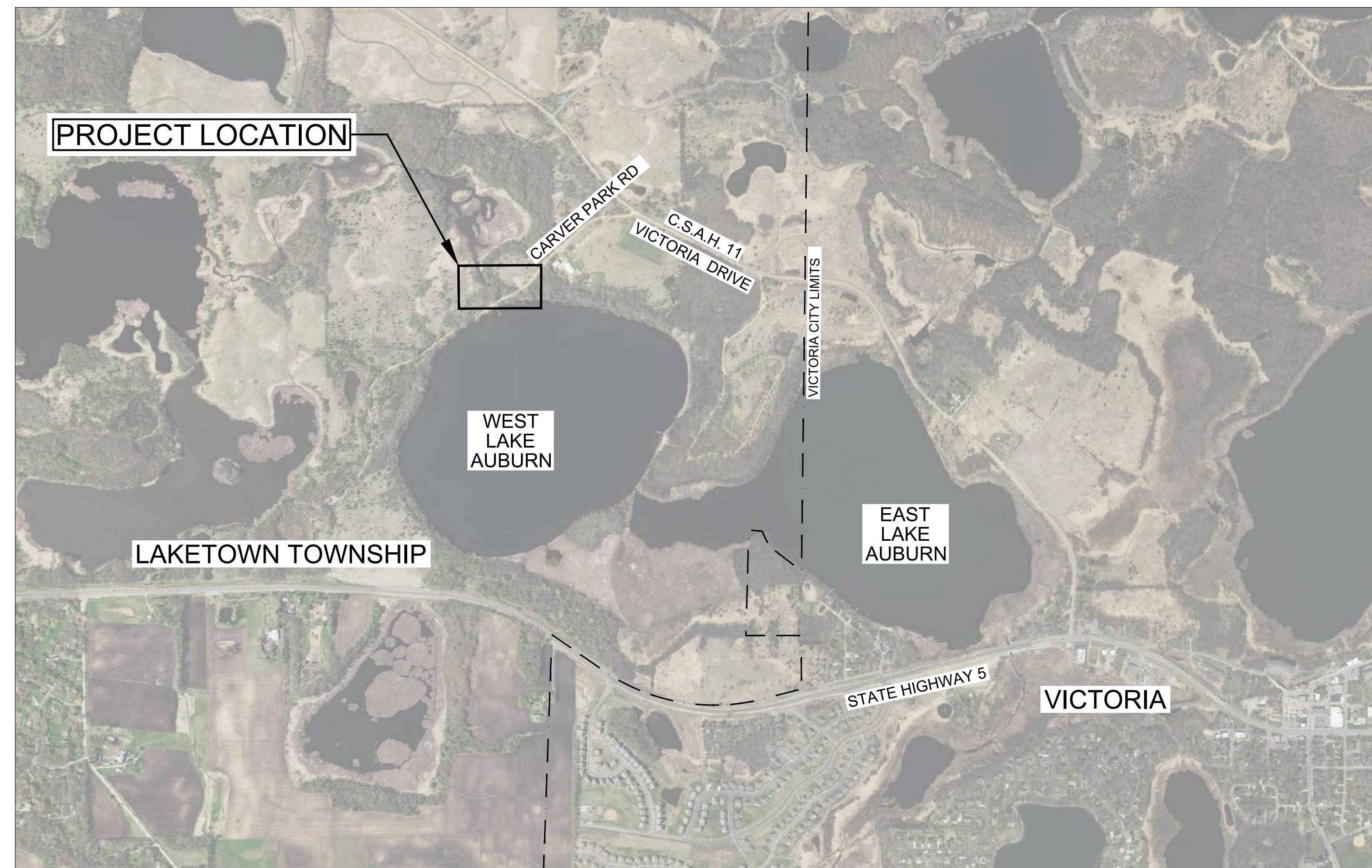
## PREPARED FOR MINNEHAHA CREEK WATERSHED DISTRICT



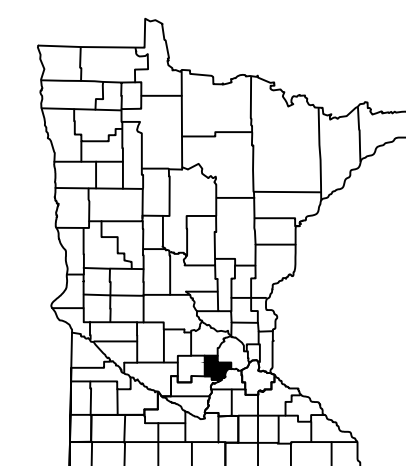
MINNEHAHA CREEK WATERSHED DISTRICT  
QUALITY OF WATER, QUALITY OF LIFE



LAKE AUBURN  
CARP BARRIER  
VICTORIA, MN

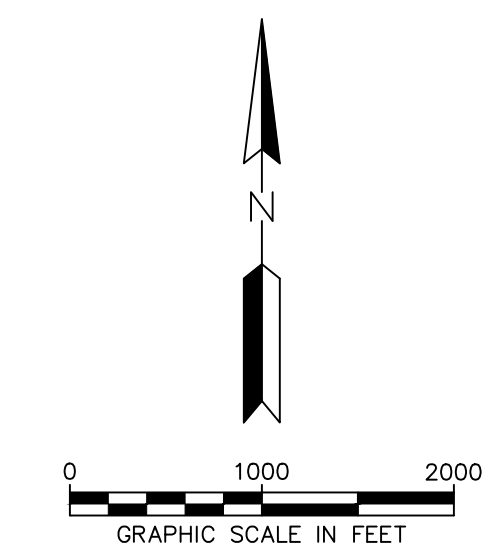


VICINITY MAP



PROJECT LOCATION  
NEAREST CITY: VICTORIA, MN  
COUNTY: CARVER

SHEET INDEX	
SHEET NUMBER	SHEET TITLE
G-100	COVER SHEET
C-100	EXISTING CONDITIONS
C-101	SITE PLAN
C-800	DETAILS
C-801	DETAILS
S-106	BARRIER PLAN AND ISO VIEW
S-107	BARRIER DETAILS



PROJECT TITLE:

ISSUE NO.:

ISSUE #

DESCRIPTION:

DESCRIPTION

DATE:

XXXXXX

CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

LICENSE NO.:

DATE:

PROJECT NO.:

PROJECT #

DWN BY:

MJK

CHK'D BY:

ERM

APPD BY:

CJM

ISSUE DATE:

DATE

ISSUE NO.:

ISSUE #

SHEET TITLE:

COVER SHEET

SHEET NO.:

G-100

### WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND/OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

CALL BEFORE YOU DIG

**GOPHER STATE ONE CALL**

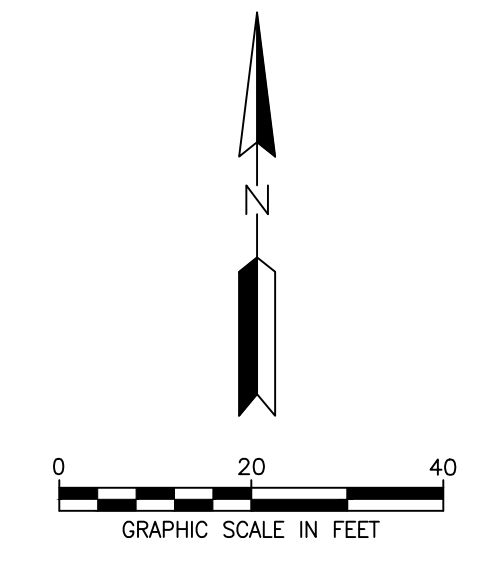
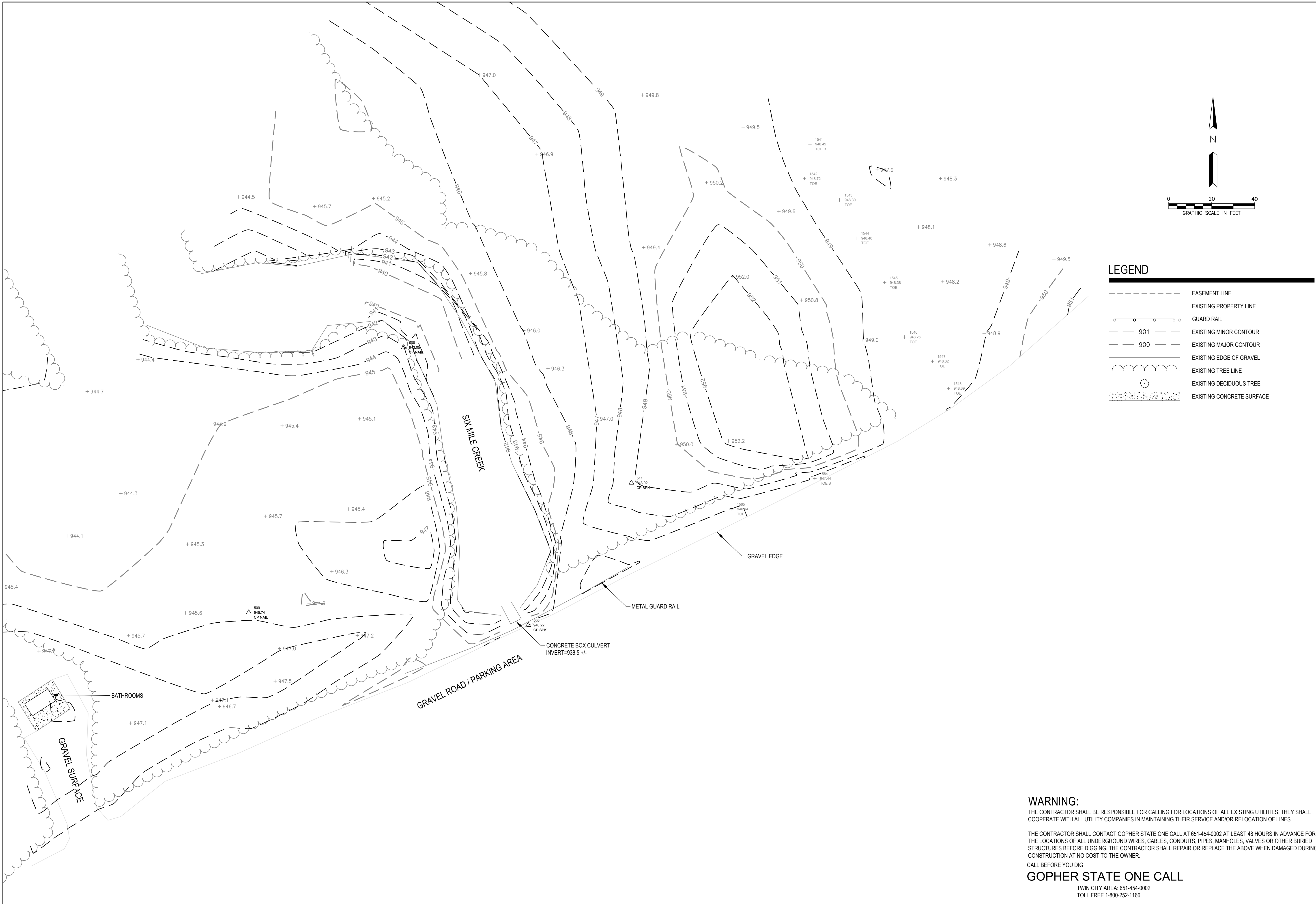
TWIN CITY AREA: 651-454-0002  
TOLL FREE 1-800-252-1166

M:\01850123\5\_DESIGN\1\_CAD\31\_PLANS\01850123-G-100\_Cover\_Sheet.dwg





**LAKE AUBURN  
 CARP BARRIER**  
 VICTORIA, MN



**LEGEND**

- EASEMENT LINE
- EXISTING PROPERTY LINE
- GUARD RAIL
- 901 EXISTING MINOR CONTOUR
- 900 EXISTING MAJOR CONTOUR
- EXISTING EDGE OF GRAVEL
- EXISTING TREE LINE
- EXISTING DECIDUOUS TREE
- EXISTING CONCRETE SURFACE

PROJECT TITLE:

ISSUE NO.:

ISSUE #

DESCRIPTION:

DESCRIPTION

DATE:

XXXXXX

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LICENSE NO.:

DATE:

PROJECT NO.:

PROJECT #

DWN BY: MJK

CHKD BY: ERM

APPD BY: CJM

ISSUE DATE:

DATE

ISSUE NO.:

ISSUE #

SHEET TITLE:

EXISTING CONDITIONS

SHEET NO.:

C-100

**WARNING:**

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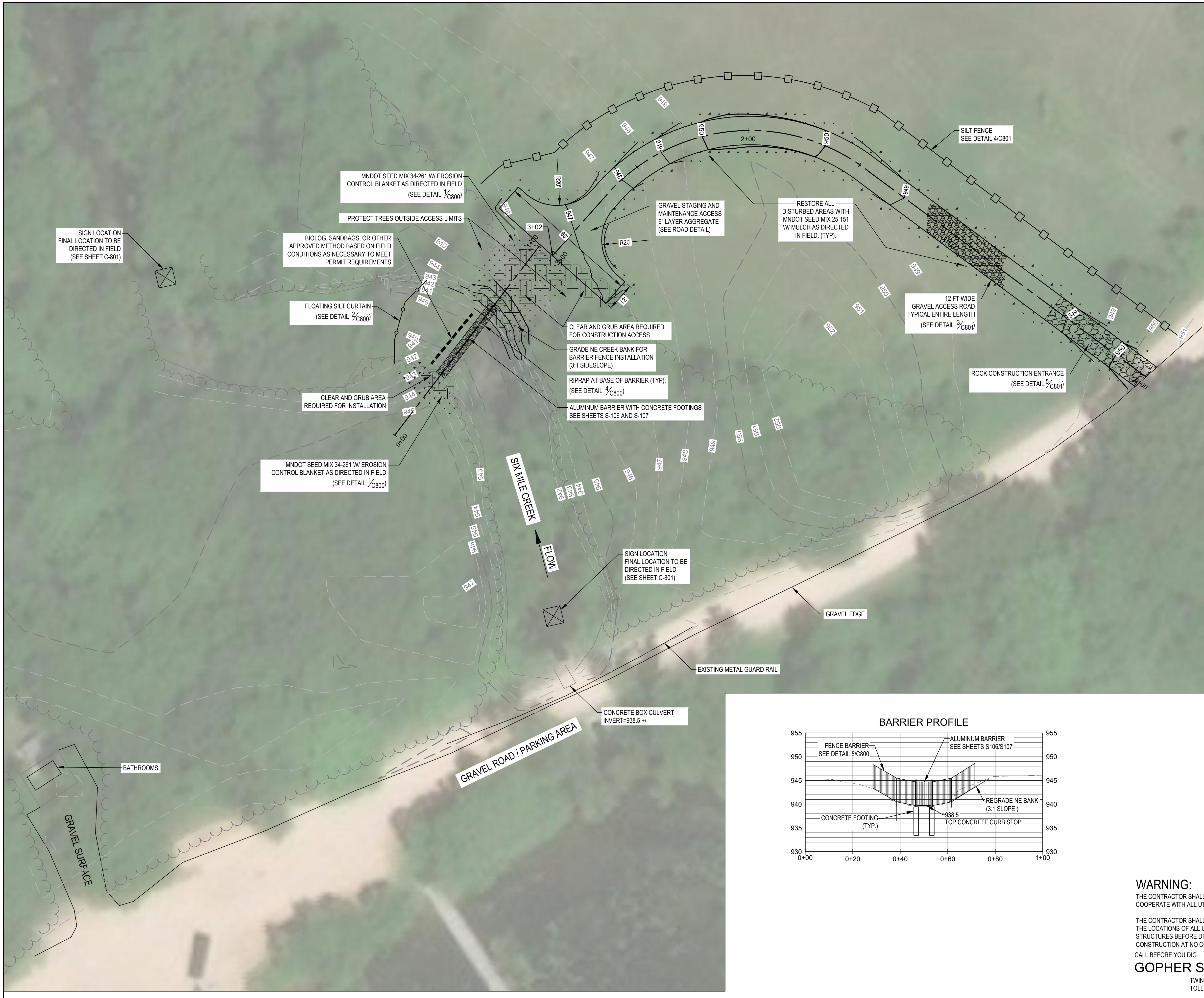
THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

CALL BEFORE YOU DIG

**GOPHER STATE ONE CALL**

TWIN CITY AREA: 651-454-0002  
 TOLL FREE 1-800-252-1166





**LEGEND**

- Grass / Landscaping
- Guard Rail
- Gravel Surfacing
- Erosion Control Blanket
- Seed (or Sod)
- Riprap
- Flotation Silt Curtain
- Biolog (per Detail 3/C-800)
- Silt Fence
- Rock Construction Entrance

**SITE PLAN NOTES**

- CLEAR AND GRUB BRUSH AS REQUIRED.
- COORDINATE ANY TREE REMOVAL WITH ENGINEER/OWNER PRIOR TO REMOVAL.
- PROTECT ALL EXISTING SIGNS OR SALVAGE AND REINSTALL (INCIDENTAL)

**WENCK**  
7500 OLSON MEMORIAL HWY  
SUITE 300  
GOLDEN VALLEY, MN 55427  
PHONE: 763-252-6800  
FAX: 952-831-1268  
WWW.WENCK.COM

**MINNEHAHA CREEK WATERSHED DISTRICT**  
QUALITY OF WATER, QUALITY OF LIFE

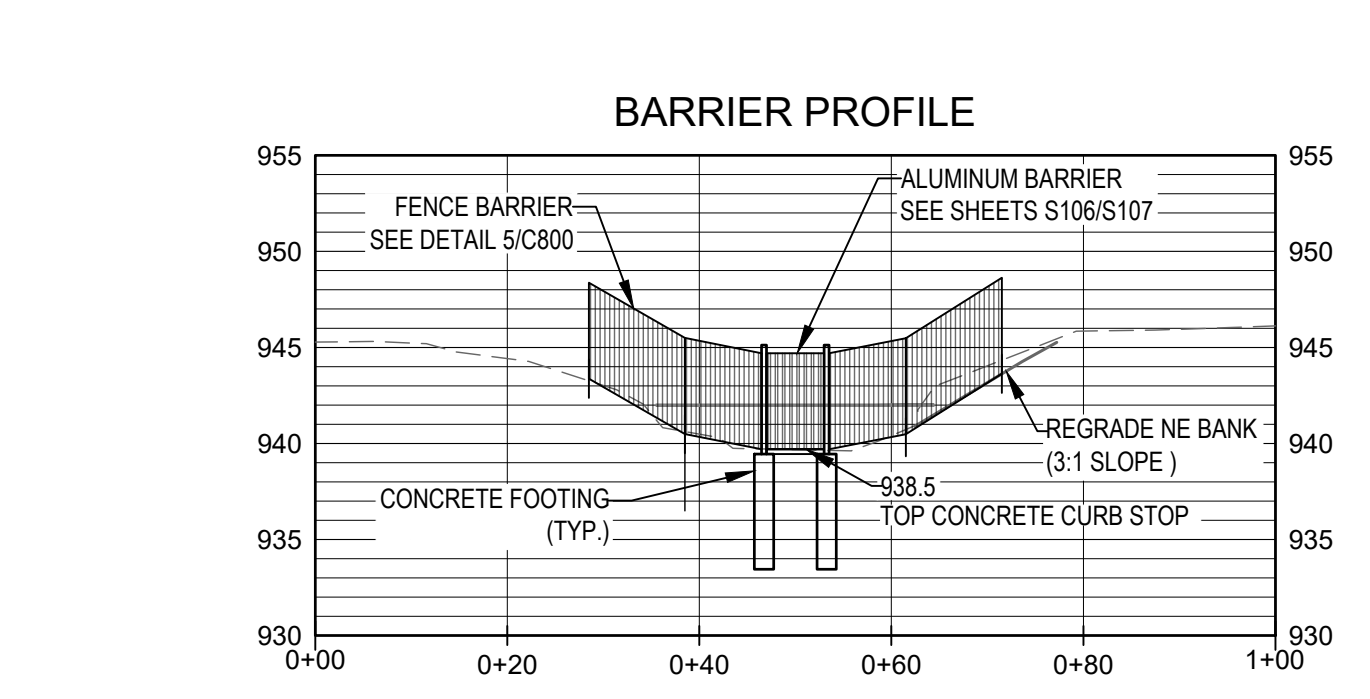
**LAKE AUBURN CARP BARRIER**  
VICTORIA, MN

**WARNING:**  
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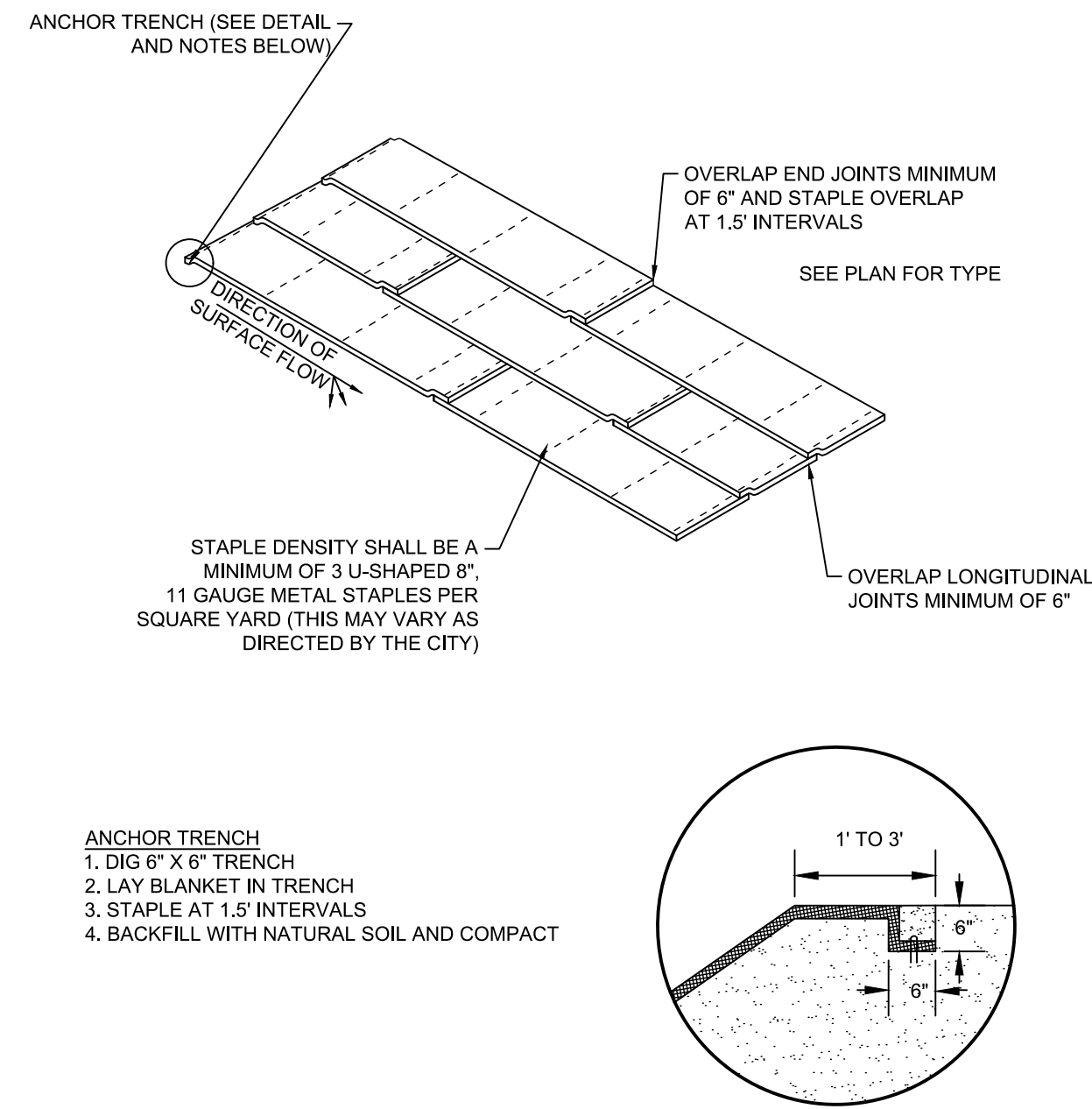
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CALL BEFORE YOU DIG  
**GOPHER STATE ONE CALL**  
TWIN CITY AREA: 651-454-0002  
TOLL FREE 1-800-252-1166

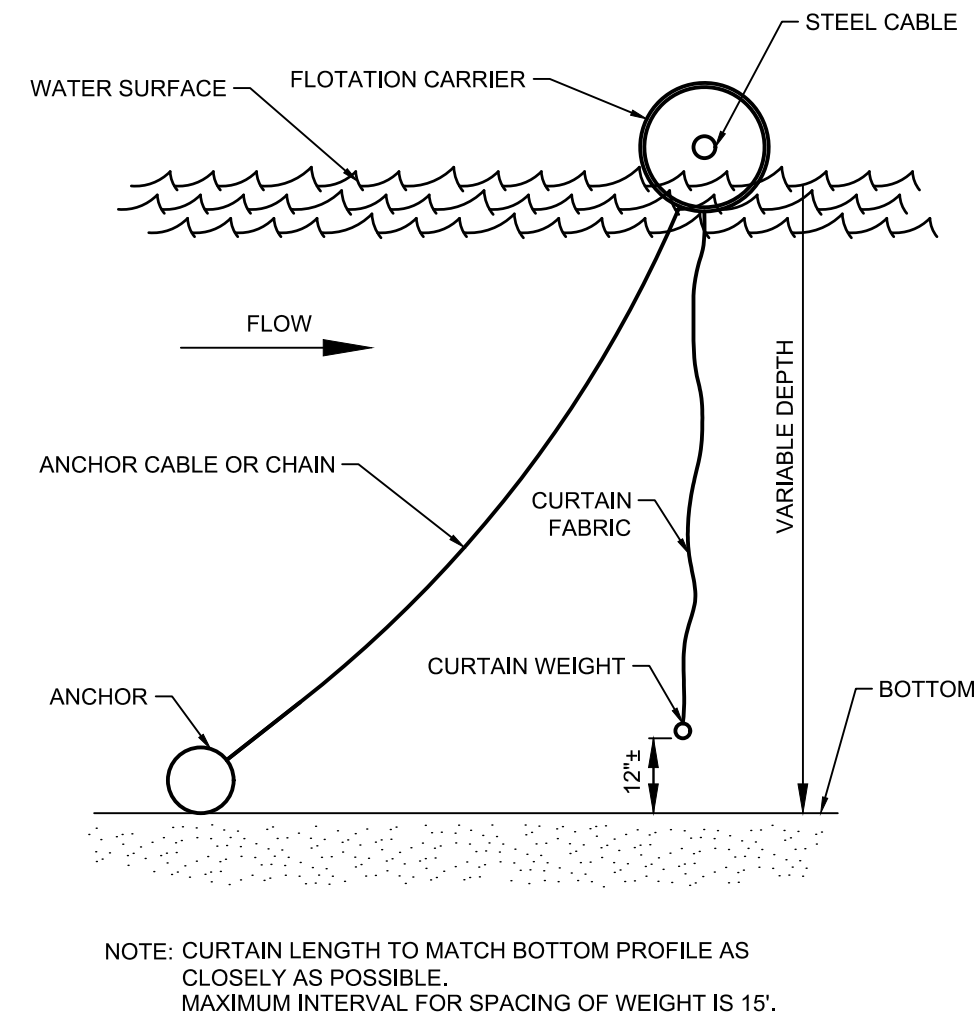
PROJECT NO.:	PROJECT #
DWN BY: MJK	CHKD BY: ERM
ISSUE DATE:	DATE
ISSUE NO.:	ISSUE #
SHEET TITLE: SITE PLAN	
SHEET NO.:	
<b>C-101</b>	



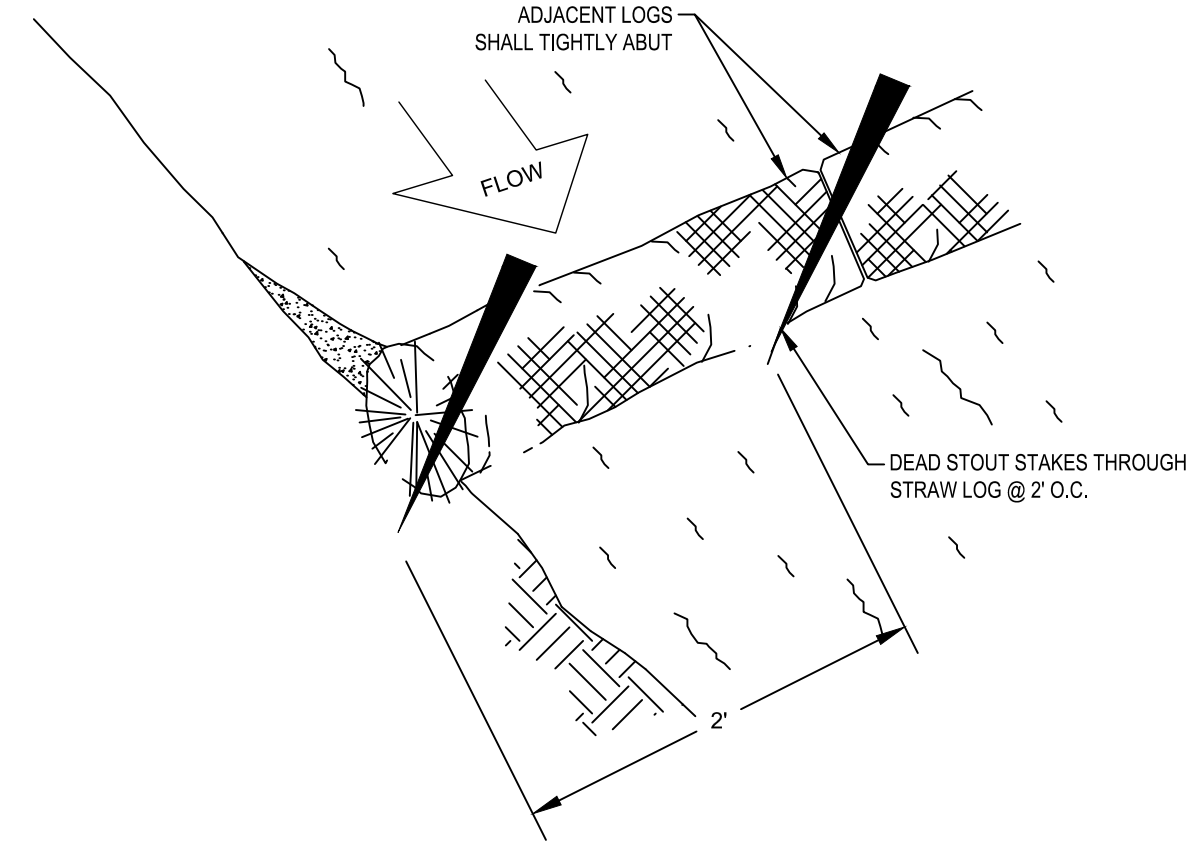




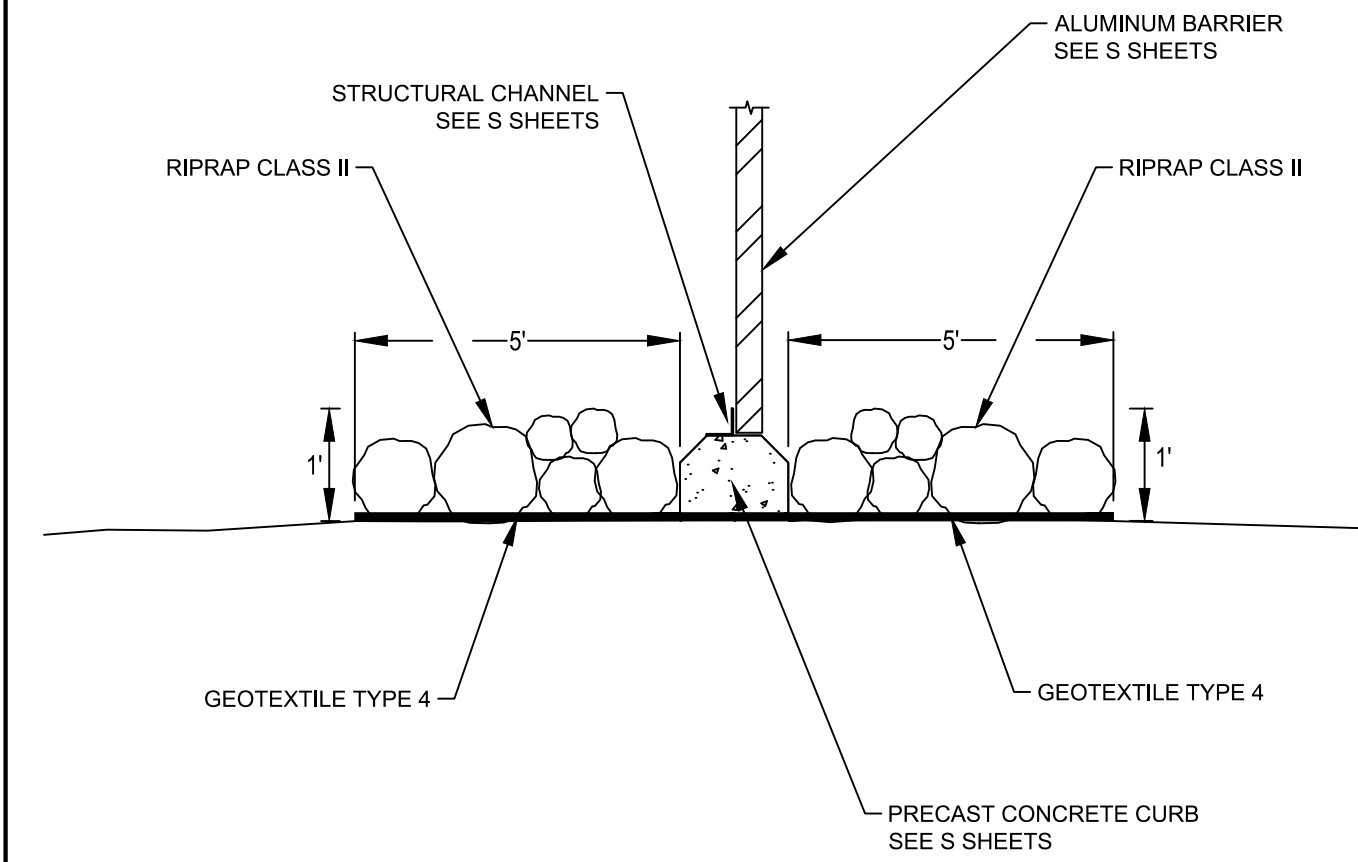
**1** EROSION CONTROL BLANKET INSTALLATION  
C800 NOT TO SCALE



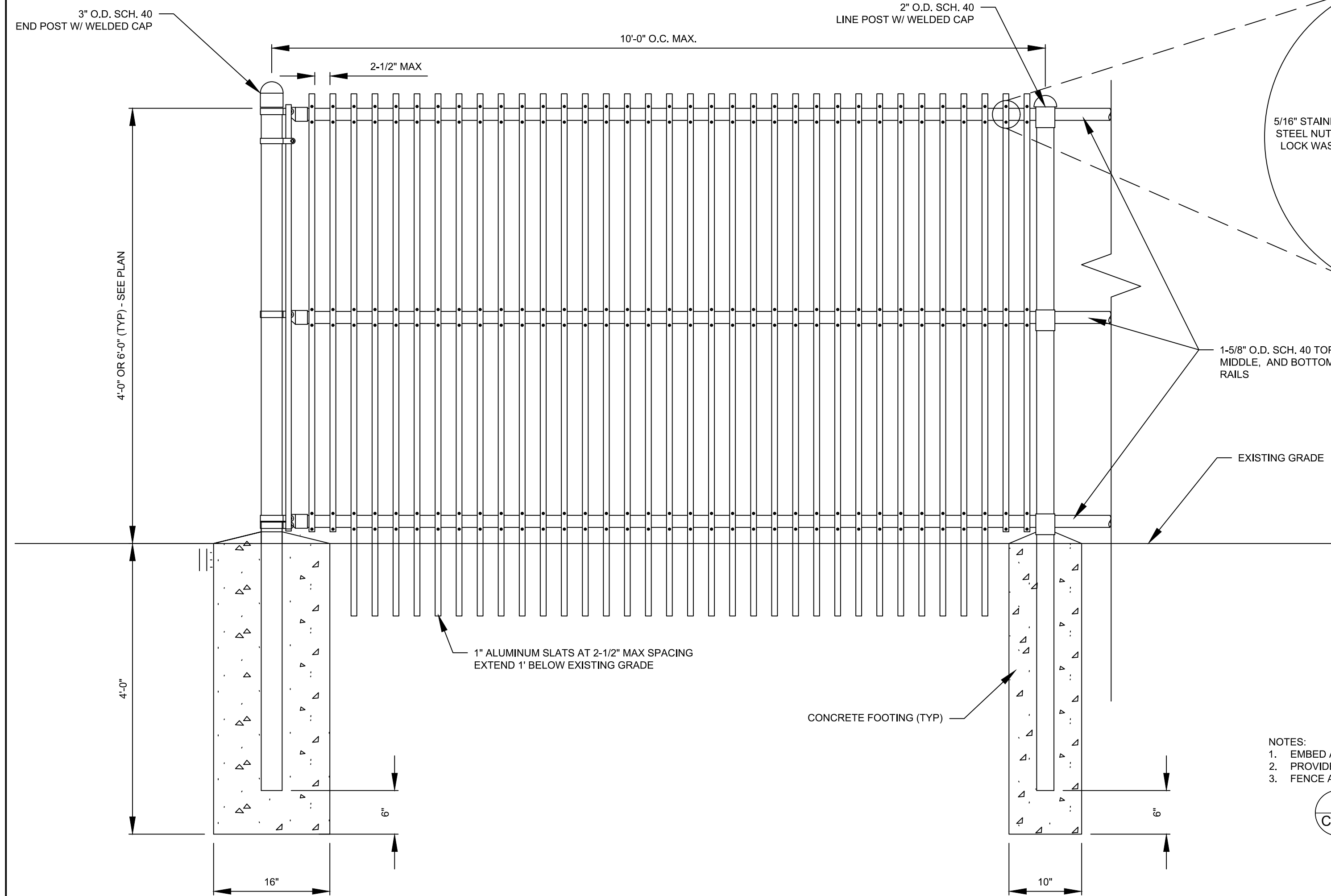
**2** FLOATING SILT CURTAIN  
C800 NOT TO SCALE



**3** BIOLOG  
C800 NOT TO SCALE

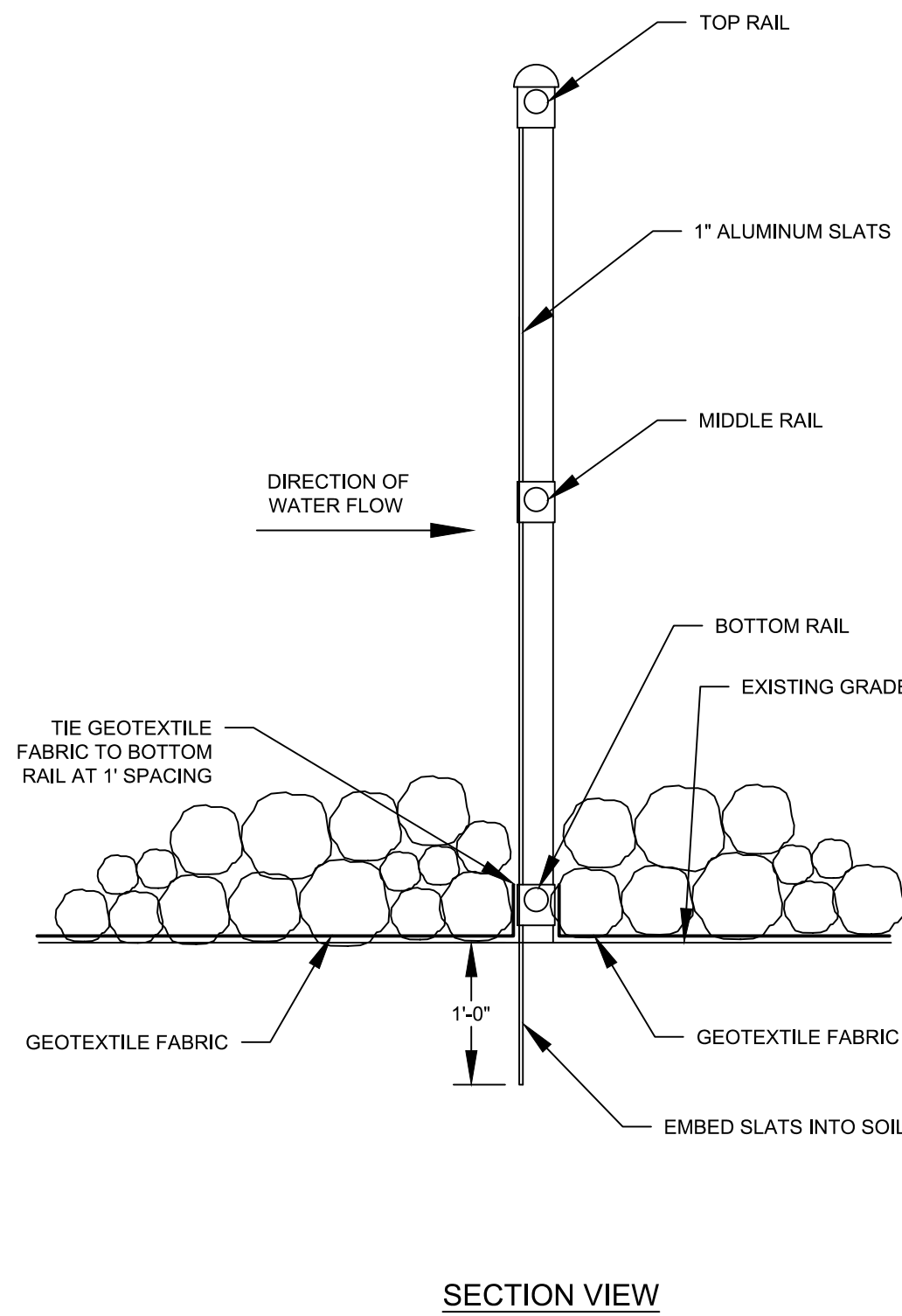


**4** RIPRAP AT BARRIER DETAIL  
C800 NOT TO SCALE



- NOTES:
1. EMBED ALUMINUM SLATS 1 FOOT INTO SOIL AS DETAILED.
  2. PROVIDE END POSTS AT ALL TERMINATION POINTS AND CHANGES IN DIRECTION.
  3. FENCE AND POSTS SHALL BE BLACK POLY COATED AS SPECIFIED.

**5** ALUMINUM SLAT FENCING  
C800 NOT TO SCALE



SECTION VIEW



PROJECT TITLE:

ISSUE NO.:

ISSUE #

DESCRIPTION:

DESCRIPTION

DATE:

XXXXXX

LICENSE NO.:

DATE:

PROJECT NO.:

PROJECT #

DWN BY:

MJK

CHKD BY:

ERM

APPD BY:

CJM

ISSUE DATE:

DATE

ISSUE NO.:

ISSUE #

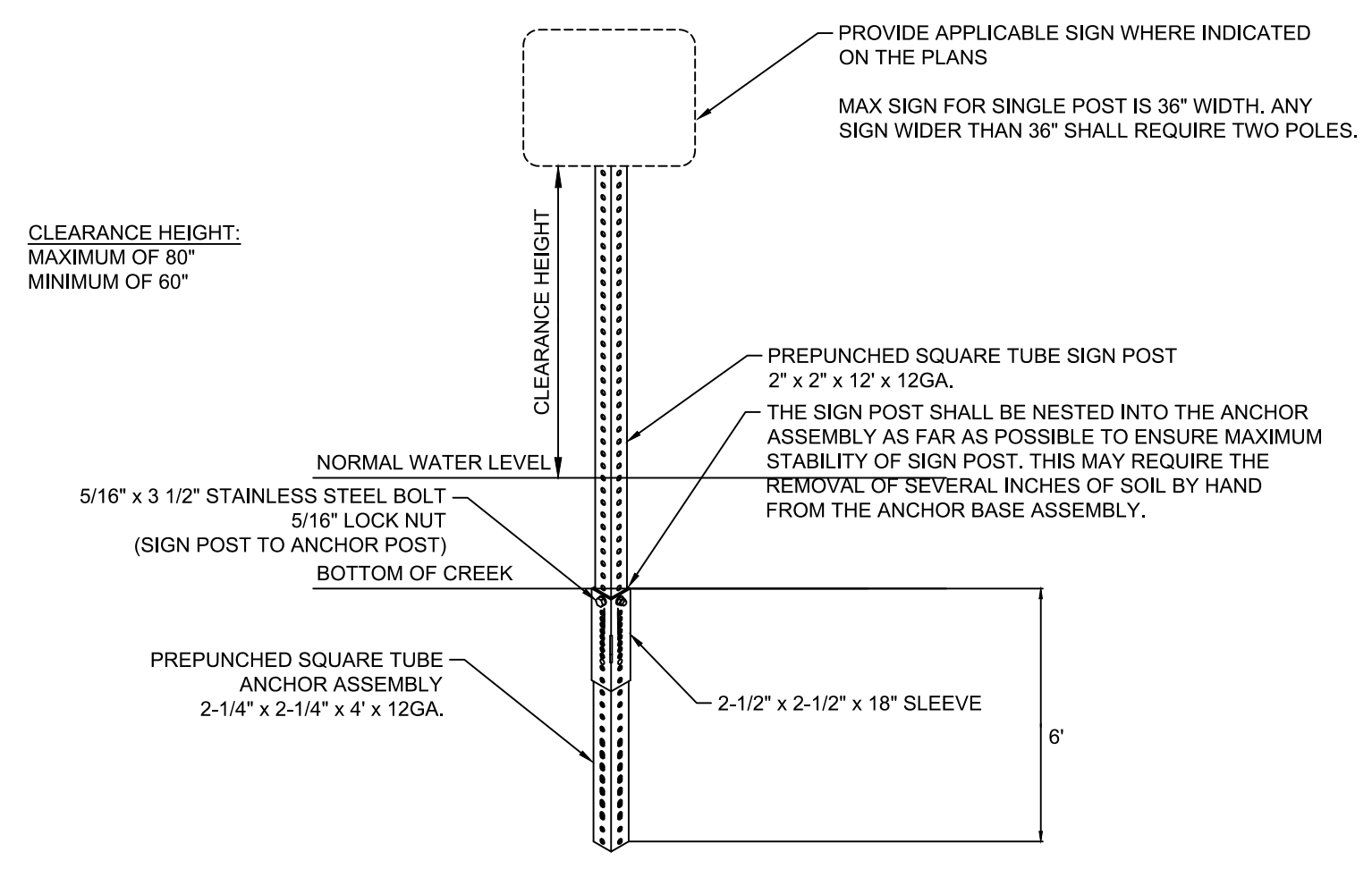
SHEET TITLE:

DETAILS

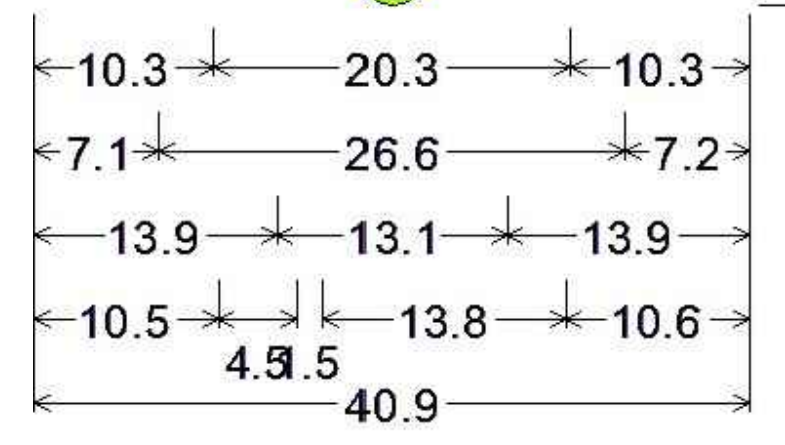
SHEET NO.:

C-800

NOTE:  
SEE MNDOT STANDARD SIGN MANUAL FOR PUNCHING CODE AND DETAILED DRAWINGS OF TYPE "C" SIGN PANELS.  
SEE MNDOT TRAFFIC ENGINEERING MANUAL CHAPTER 6 FOR DETAILS OF TRAFFIC SIGN INSTALLATION.

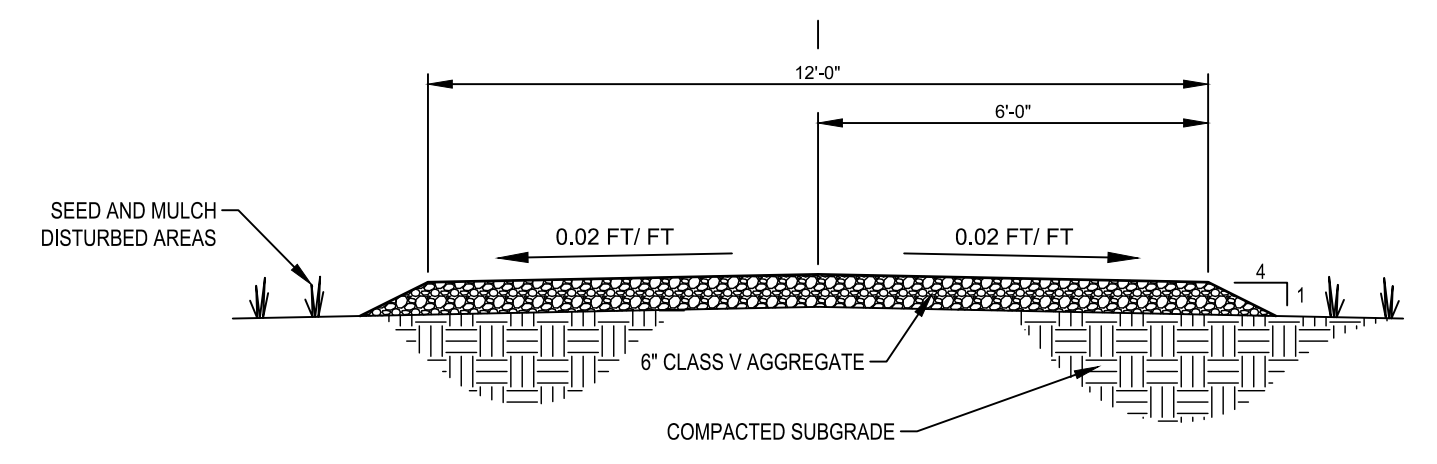


1 SIGN POST DETAIL  
C801 NOT TO SCALE

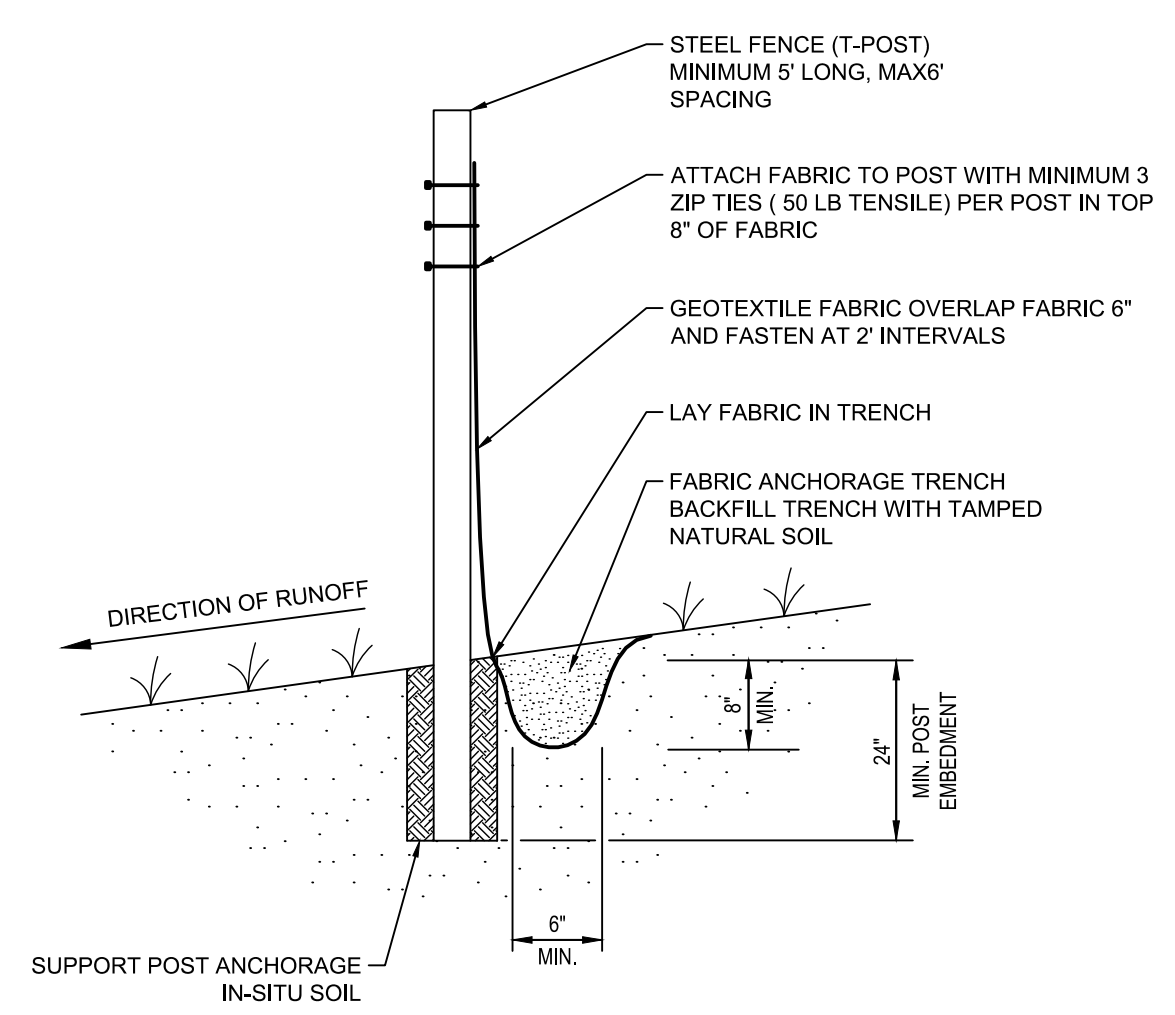


30.0" across sides 1.9" Radius, 0.8" Border, 0.5" Indent, Black on Bright yellow green;  
"CAUTION" E Mod;  
"OBSTRUCTION" D;  
"AHEAD" D;  
"NO ACCESS" D 50% spacing;

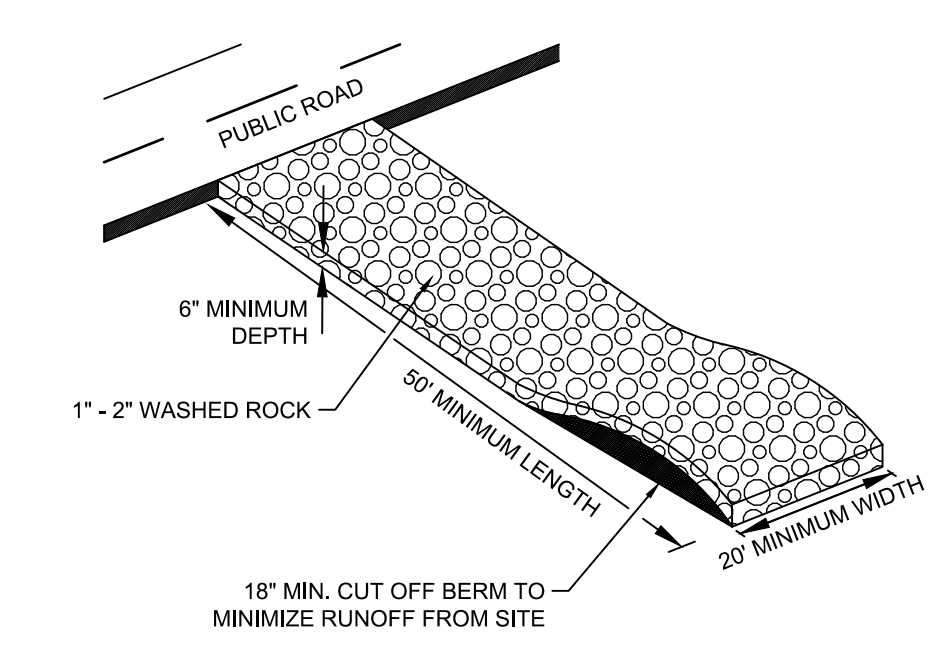
2 WARNING SIGN DETAIL  
C801 NOT TO SCALE



3 ACCESS ROAD DETAIL  
C801 NOT TO SCALE



4 SILT FENCE MACHINE SLICED  
C801



5 CONSTRUCTION ENTRANCE  
C801

PROJECT TITLE:	
ISSUE NO.:	
ISSUE #	
DESCRIPTION:	
DESCRIPTION	
DATE:	
XXXXXX	

CERTIFICATION:  
I HEREBY CERTIFY THAT THIS PLAN SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

LICENSE NO.:  
DATE:

PROJECT NO.:	PROJECT #	
DWN BY:	CHKD BY:	APPD BY:
MJK	ERM	CJM
ISSUE DATE:	DATE	
ISSUE NO.:	ISSUE #	

SHEET TITLE:  
DETAILS

SHEET NO.:



11/20/2019 8:46:51 AM

R:\Drafting\0185 6 Mile Creek\02 Carp Barrier\S-SERIES Rev 1.rvt

**APPROXIMATE WEIGHTS - 6' LONG w/ CHANNELS**

- 2-6' LONG CHORDS = 12' x 2.16 LBS/FT = 26 LBS
- 23-4' LONG SPINDALS = 92' x 1.44 LBS/FT = 133 LBS
- TOTAL WEIGHT = 159 LBS

**CONCRETE:**

- $f_c = 4,000$  PSI
- AIR CONTENT = 5% - 7%

**REINFORCEMENT:**

- ASTM A615 GRADE 60
- $f_y = 60,000$  PSI
- CLEAR COVER = 3"

**ALUMINUM SECTIONS:**

- 6061-T6

**STEEL SECTIONS:**

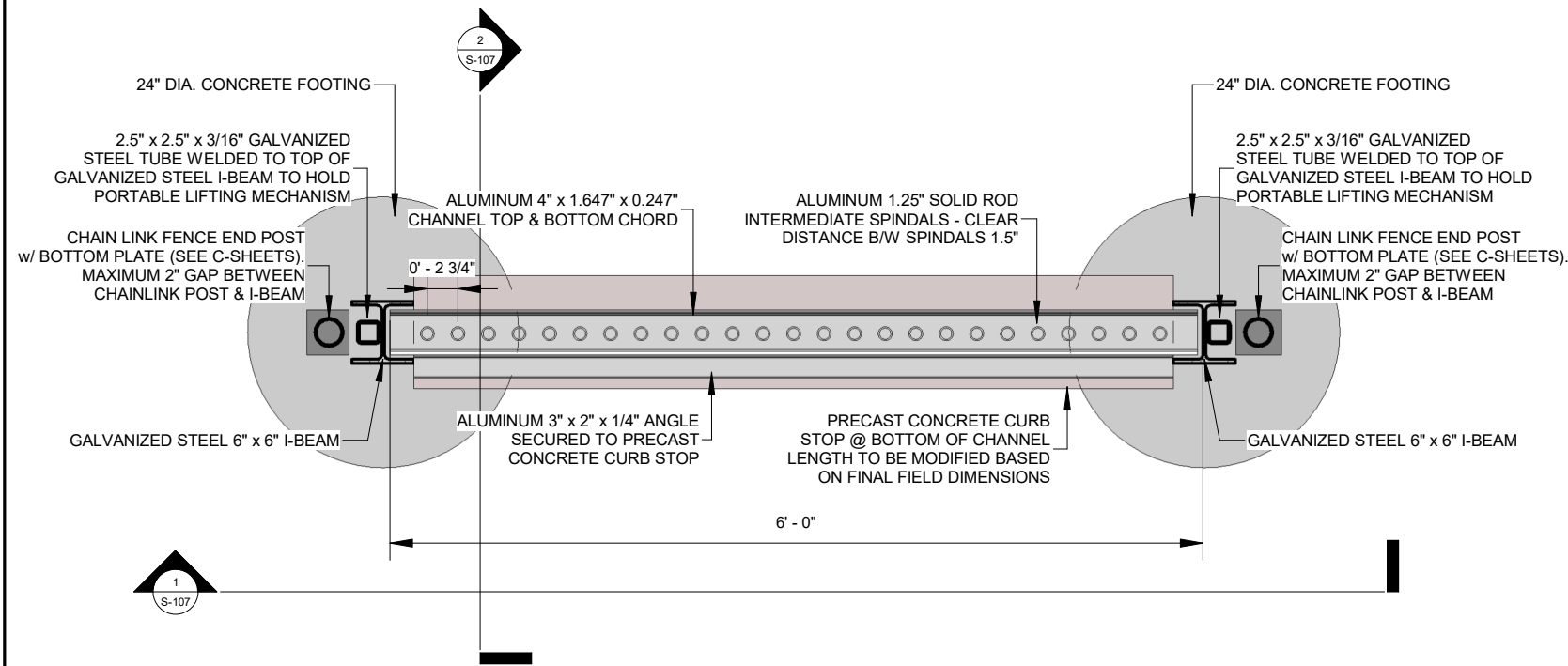
- HOT DIPPED GALVANIZED
- YIELD STRENGTH 50 KSI

**LIFTING MECHANISM:**

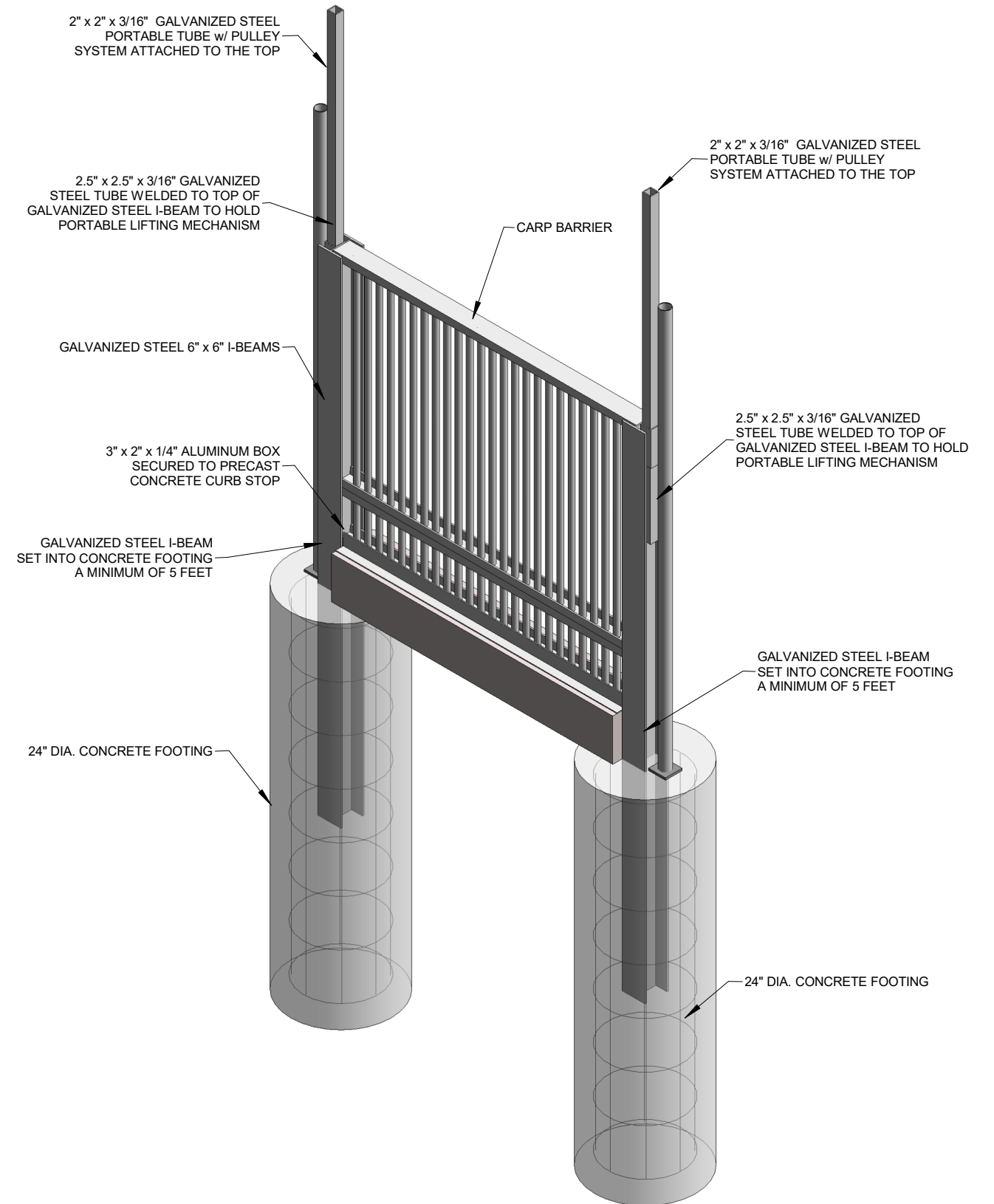
- MECHANISM IS TO CONSIST OF A PULLEY SYSTEM
- MECHANISM IS TO HAVE A 225 LB LIFTING WEIGHT CAPACITY
- MECHANISM IS TO BE ABLE TO LOCK IN PLACE AT VARIOUS LIFTING HEIGHTS
- MECHANISM IS TO BE ABLE TO BE OPERATED FROM SHORELINE

**BARRIER & LIFTING MECHANISM SECURITY:**

- BARRIERS ARE TO HAVE THE CAPABILITY TO BE SECURELY LOCKED IN-PLACE TO PREVENT STEALING AND VANDALISM IN BOTH DOWN AND UP POSITIONS.
- LIFTING MECHANISM IS TO HAVE THE CAPABILITY TO BE SECURELY LOCKED IN-PLACE TO PREVENT STEALING AND VANDALISM.



① Plan View - Lake Auburn Barrier  
3/4" = 1'-0" AT 11" x 17" PAPER



② Isometric View - Lake Auburn Barrier

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

DATE: 10/4/2018  
LICENSE NUMBER 15051

REV	REVISION DESCRIPTION	DWN	APP	REV DATE
1	Add split gate to barrier	TNT	MPJ	11/19/2019



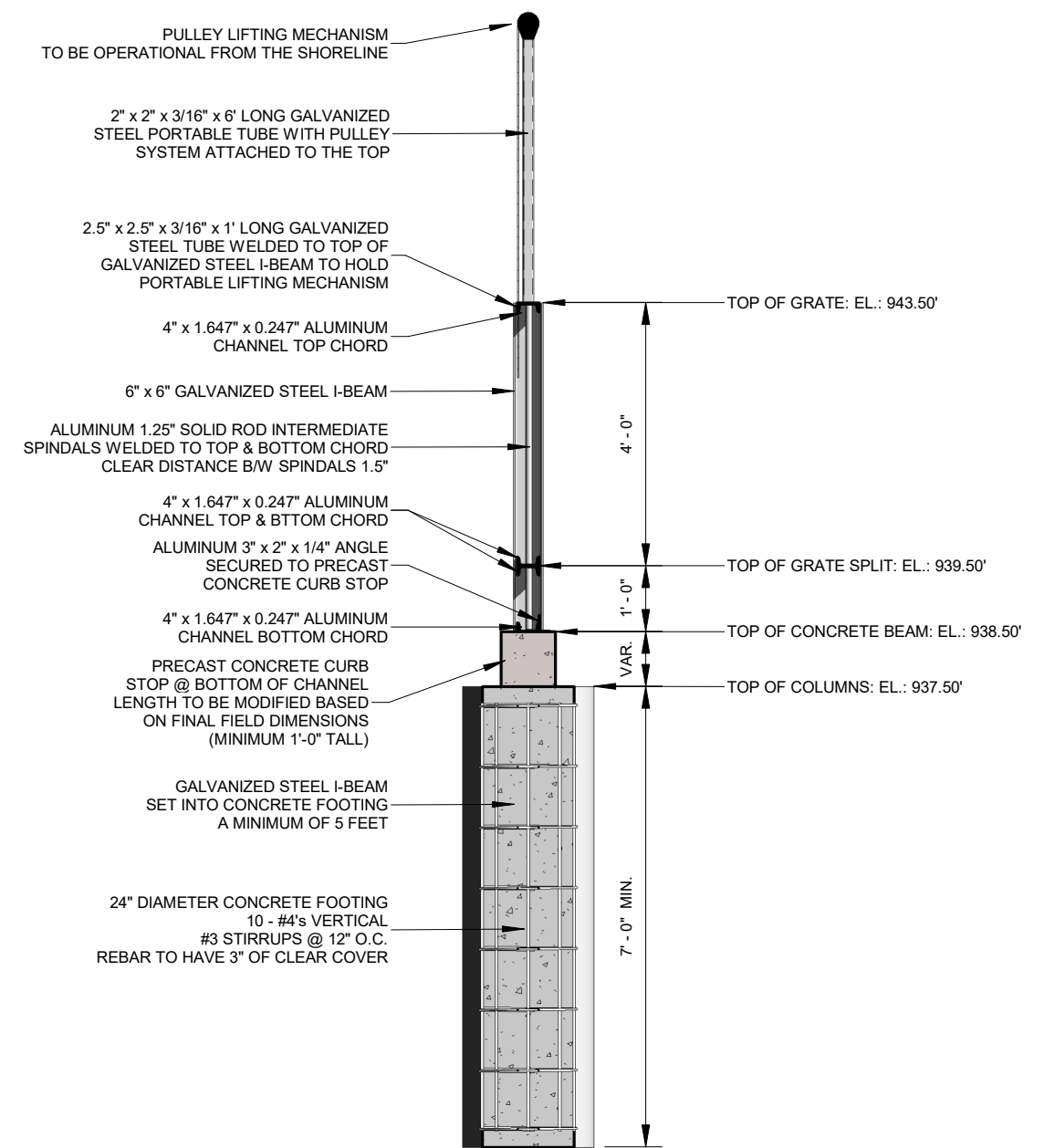
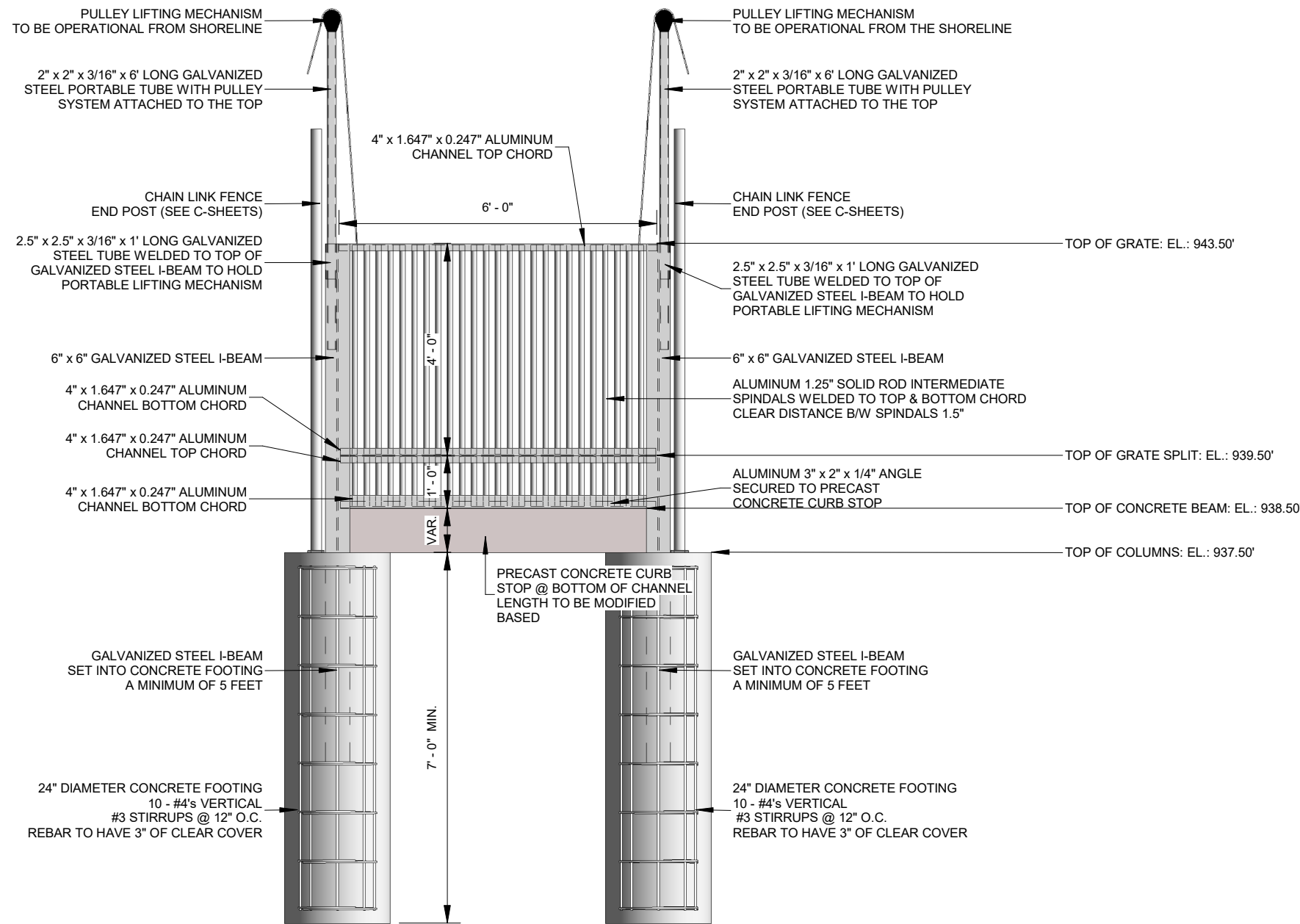
1012 5th AVE., Suite 1B  
WINDOM, MN 56101  
507-831-2703  
507-831-5271

Responsive partner. Exceptional outcomes.

DWN BY MPJ	CHK'D DJJ	APP'D DJJ	PROJECT SIX MILE CREEK CARP BARRIERS
DWG DATE 10/2/2018		CLIENT Minnehaha Creek Watershed District 15320 Minnetonka Blvd Minnetonka, MN 55345	
SCALE 3/4" = 1'-0"			

SHEET TITLE PLAN VIEW - HIGHLAND Plan & ISO View- Lake Auburn		
PROJECT NO. 0185-0100	SHEET NO. S-106	REV NO.





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*[Signature]*

DATE: 10/4/2018

LICENSE NUMBER 15051

REV	REVISION DESCRIPTION	DWN	APP	REV DATE



1012 5th AVE., Suite 1B  
WINDOM, MN 56101  
507-831-2703  
507-831-5271

DWN BY MPJ	CHK'D DJJ	APP'D DJJ
DWG DATE 10/2/2018		
SCALE 3/8" = 1'-0"		

PROJECT SIX MILE CREEK CARP BARRIERS	CLIENT Minnehaha Creek Watershed District 15320 Minnetonka Blvd Minnetonka, MN 55345
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SHEET TITLE Lake Auburn Barrier Details		
PROJECT NO. 0185-0100	SHEET NO. S-107	REV NO.