

**EXISTING PLAN SYMBOLS**

PROPERTY LINE/RIGHT-OF-WAY	-----
UTILITY EASEMENT	- - - - -
TREE LINE	~~~~~
SIGN	↑
DECIDUOUS TREE	+
SHRUB	*
CONIFEROUS TREE	*

**EXISTING UTILITY SYMBOLS**

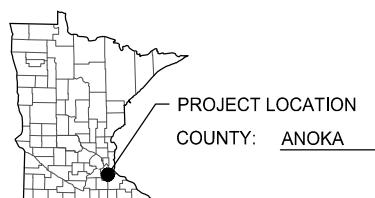
FIBER OPTIC LINE	F
GAS LINE	G
COMMUNICATION LINE	C
ELECTRIC POWER LINE	E
WATER MAIN	I
SANITARY SEWER	>
STORM SEWER	>>
COMMUNICATIONS PEDESTAL	☒
POWER POLE	○
ELECTRIC BOX	□
CATCH BASIN	☒
STORM APRON	▷
STORM SEWER MANHOLE	☒
GATE VALVE	☒
HYDRANT	☒
SANITARY SEWER MANHOLE	☒

**2023 LAKE DRIVE TRUNK WATER MAIN PROJECT****CITY OF LINO LAKES, MN**

CONSTRUCTION PLAN FOR WATER MAIN IMPROVEMENTS  
 LOCATED ON LAKE DRIVE (CSAH 23) FROM FORSHAM LAKE DRIVE TO PARK COURT

**PROJECT LOCATION MAP****EXCAVATION NOTICE SYSTEM**

A CALL TO GOPHER STATE ONE (651-454-0002)  
 IS REQUIRED A MINIMUM OF 48 HOURS PRIOR  
 TO PERFORMING ANY EXCAVATION.



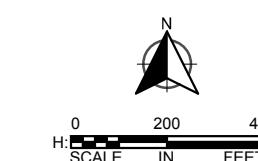
SECT 17, TWP 31, RNG 22  
 HORIZONTAL DATUM: NAD83(1996) GEOD  
 VERTICAL DATUM: NAVD88

**UTILITY INFORMATION**

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE  
 GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

GOPHER ONE CALL TICKET NUMBER: XXXXXXXX

UTILITY COORDINATION MEETING HELD ON: 12/07/2022



PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

**GOVERNING SPECIFICATIONS**  
 THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

**PLAN SET INDEX**

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL LAYOUT
3	STATEMENT OF ESTIMATED QUANTITIES
4-5	MISCELLANEOUS DETAILS
6-7	TRAFFIC CONTROL PLAN
8-10	WATER MAIN PLANS
11-12	EROSION CONTROL PLANS

THIS PLAN SET CONTAINS 17 SHEETS

THIS PLAN SET HAS BEEN PREPARED FOR:

CITY OF LINO LAKES  
 600 TOWN CENTER PARKWAY  
 LINO LAKES, MN 55014  
 (651) 982-2400

ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND ORDINANCES WILL BE  
 COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.



I HEREBY CERTIFY THAT THIS PLAN 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.

FIRST X. LAST, P.E.

DATE: 01/23/2023 LICENSE NUMBER: XXXXX

WSB PROJ. NO. 021892-000

SHEET  
 1  
 OF  
 17

## LEGEND

SHEET NO.	DESCRIPTION
○ X	WATER MAIN PLANS
○ X	EROSION CONTROL PLANS

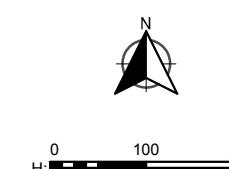
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AS SHOWN KJG  
PLAN BY: KJG  
CHECK BY: DLH

REVISIONS	
NO.	DESCRIPTION
DATE	

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LAWS OF THE STATE OF MINNESOTA.

FIRST X, LAST \_\_\_\_\_  
DATE: 01/23/2023 LIC. NO. XXXXX

## GENERAL LAYOUT

2023 LAKE DRIVE TRUNK WATER MAIN  
IMPROVEMENTS  
CITY OF LINO LAKES, MN

STATEMENT OF ESTIMATED QUANTITIES				
MNDOT SPECIFICATION NO.	DESCRIPTION	NOTES	UNIT	ESTIMATED TOTAL QUANTITY
<b>WATER MAIN IMPROVEMENTS</b>				
2021.501	MOBILIZATION		LS	1
2104.503	REMOVE WATER MAIN		LF	20
2104.504	REMOVE BITUMINOUS PAVEMENT		SY	0
2106.601	DEWATERING		LS	1
2123.610	STREET SWEEPER (WITH PICKUP BROOM)		HOUR	15
2123.610	UTILITY CREW		HOUR	10
2130.523	WATER		MGAL	15
2360.509	TYPE SP 12.5 BIT MIXTURE FOR PATCHING		TON	0
2504.602	CONNECT TO EXISTING WATER MAIN		EACH	2
2504.602	HYDRANT		EACH	1
2504.602	6" GATE VALVE & BOX		EACH	1
2504.602	12" GATE VALVE & BOX		EACH	2
2504.602	SACRIFICIAL ANODE BAG (32 LB)		EACH	3
2504.603	6" WATERMAIN DUCTILE IRON CL 52		LF	10
2504.603	12" WATERMAIN DUCTILE IRON CL 52		LF	69
2504.603	14" WATERMAIN HDPE (DIRECTIONAL DRILLED)		LF	921
2504.604	4" POLYSTYRENE INSULATION		SY	25
2504.608	DUCTILE IRON FITTINGS		LB	200
2563.601	TRAFFIC CONTROL		LS	1
2573.501	STABILIZED CONSTRUCTION EXIT		LS	1
2573.503	SEDIMENT CONTROL LOG TYPE WOOD FIBER		LF	160
2574.507	COMMON TOPSOIL BORROW		CY	81
2574.508	FERTILIZER TYPE 3		LB	30
2575.505	SEEDING		ACRE	0.1
2575.508	SEED MIXTURE 25-151		LB	12
2575.508	HYDRAULIC MULCH MATRIX		LB	100

**NOTES**

- 1 TO BE USED AS DIRECTED BY THE ENGINEER.
- 2 TOKEN ITEM.
- 3 BITUMINOUS PATCHING TO BE USED ON STREET XX
- 4 ...
- 5 ...
- 6 ...
- 7 ...
- 8 ...

SCALE: DESIGN BY:  
AS SHOWN KJG  
PLAN BY: CHECK BY:  
KJG DLH

REVISIONS
NO. DATE DESCRIPTION

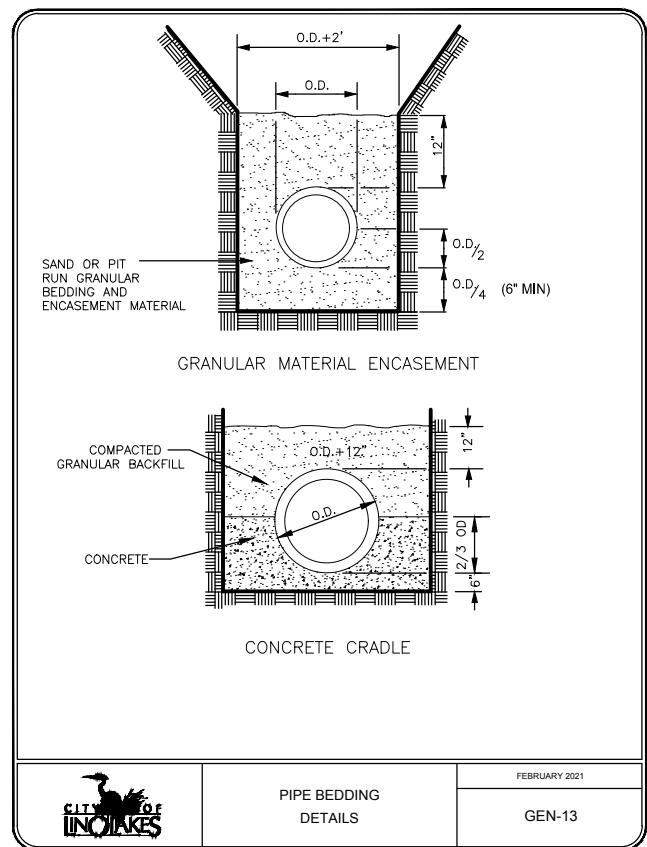
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**STATEMENT OF  
ESTIMATED  
QUANTITIES**

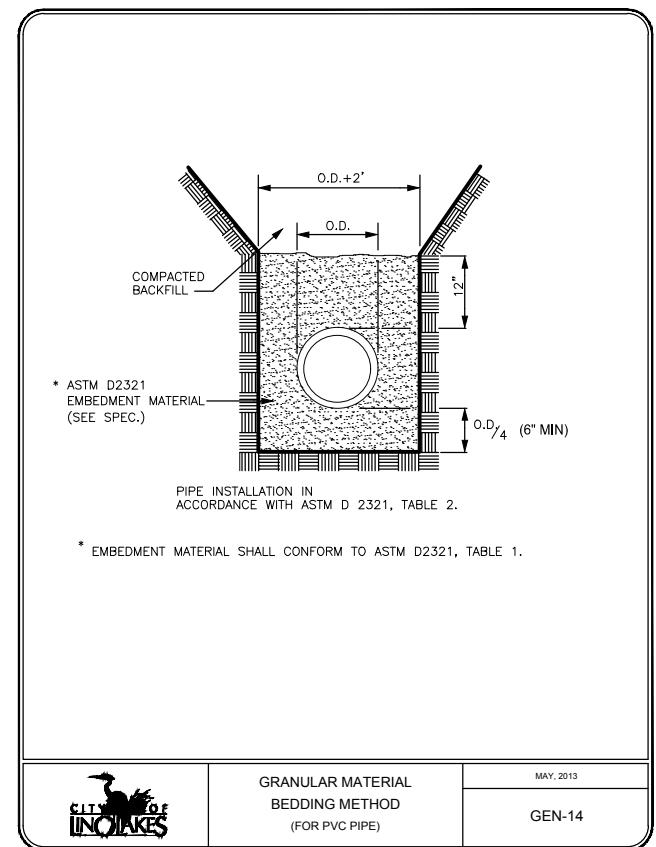
2023 LAKE DRIVE TRUNK WATER MAIN  
IMPROVEMENTS  
CITY OF LINO LAKES, MN

WSB PROJECT NO.  
021892-000

SHEET  
3 OF 12

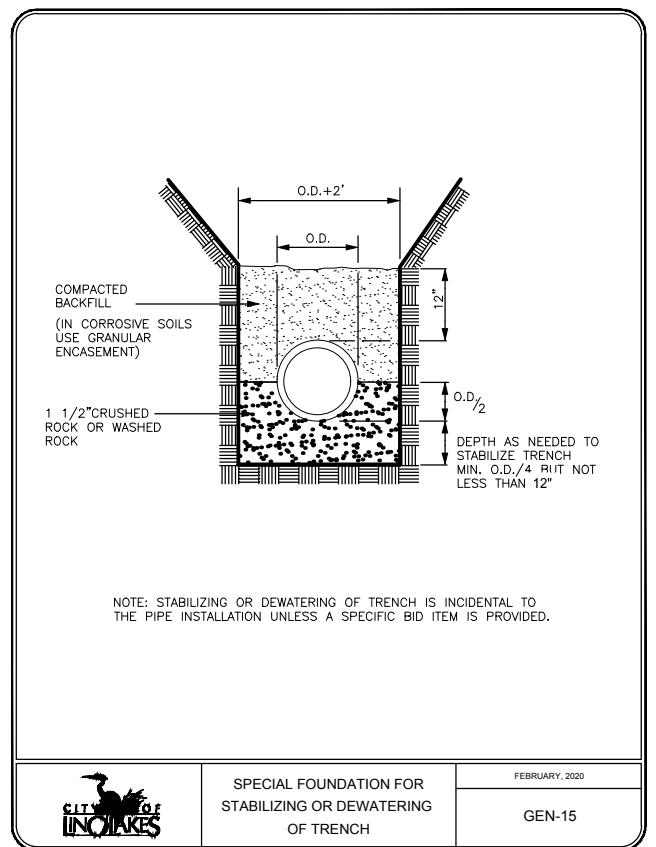


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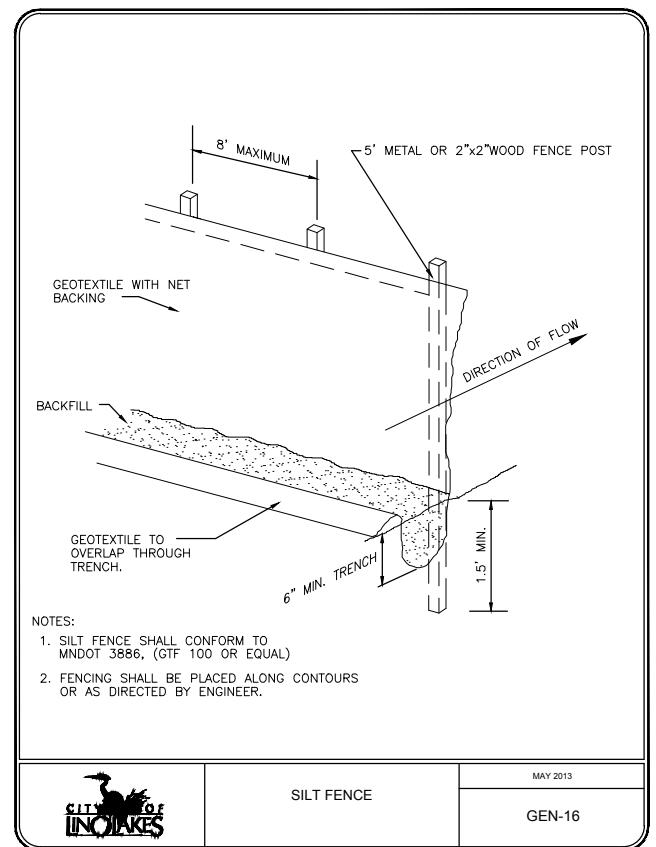
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STANDARD DETAIL EDITED FOR PROJECT



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STANDARD DETAIL EDITED FOR PROJECT



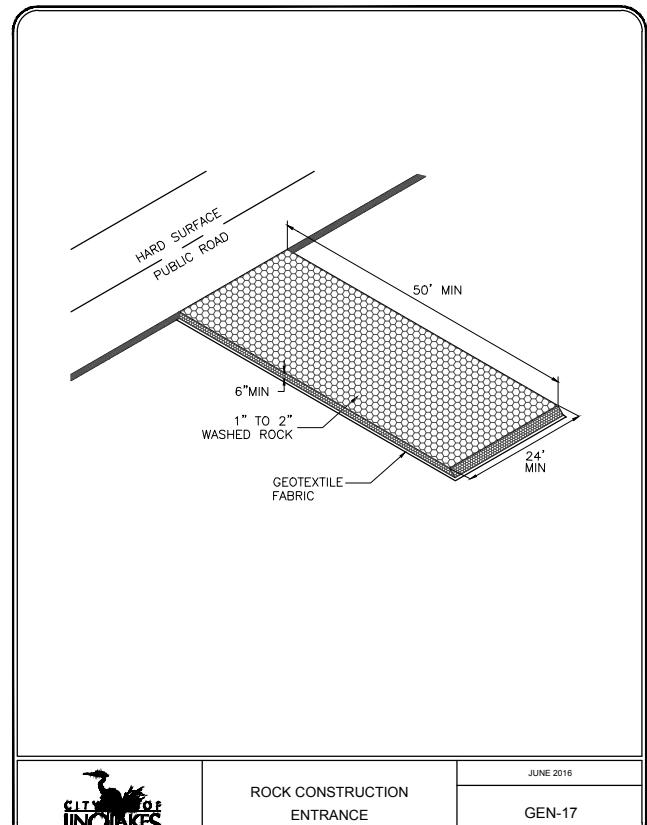
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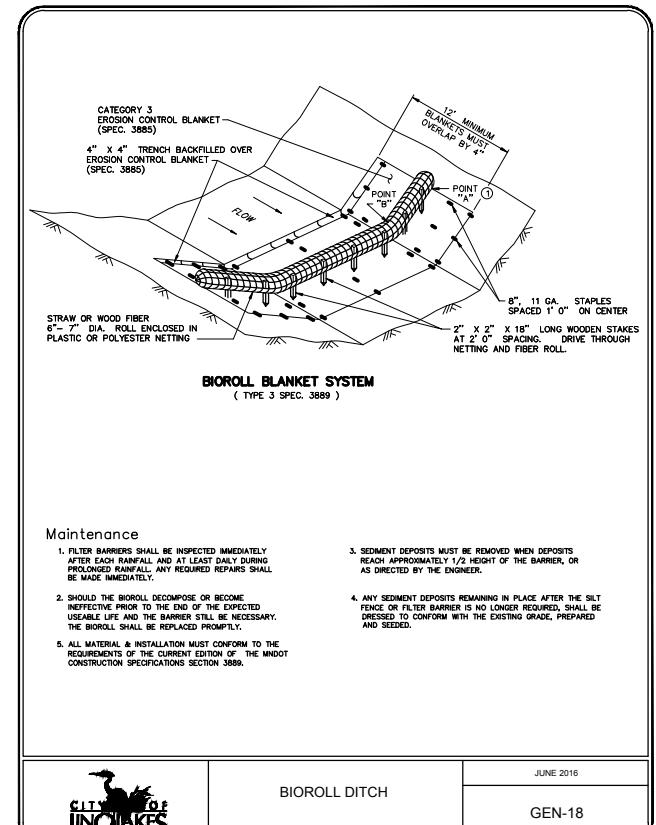
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FIRST X. LAST      DATE: 01/23/2023      LIC. NO: XXXXX

## GENERAL LAYOUT

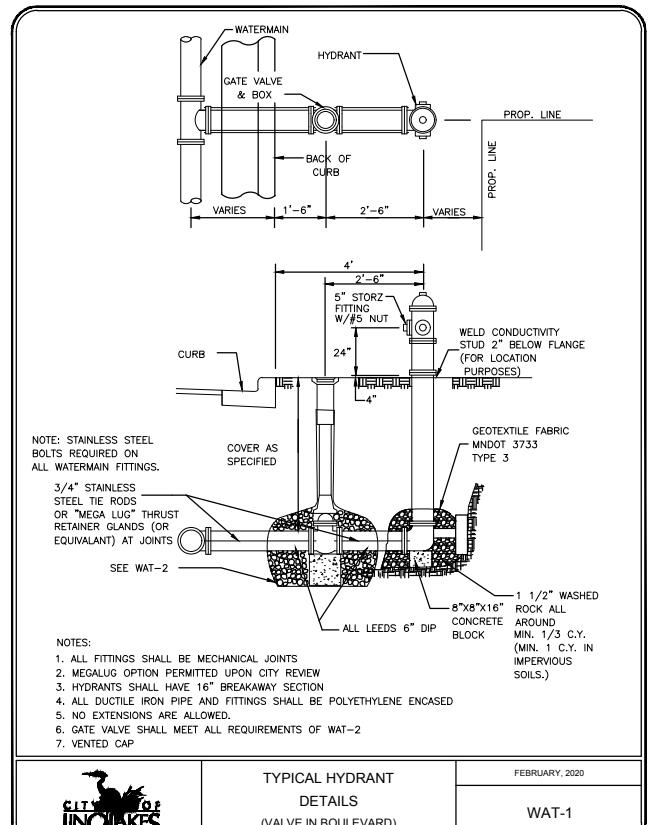


ROCK CONSTRUCTION  
ENTRANCE

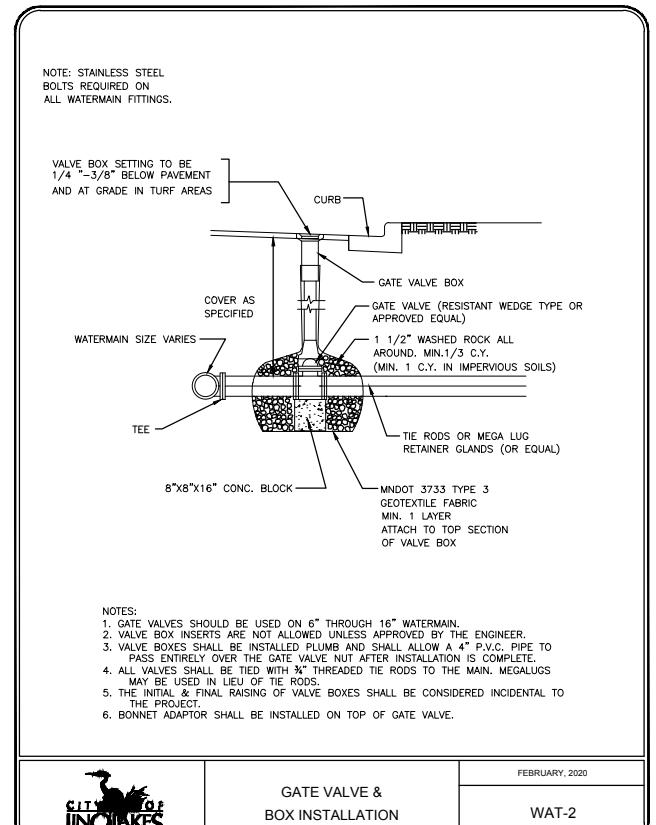


## Mainte

1. FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
2. SHOULD THE BIORILL DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USEABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE BIORILL SHALL BE REPLACED PROMPTLY.
3. FILTER DEPOSITS MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY 1/2 HEIGHT OF THE BARRIER, OR AS DIRECTED BY THE ENGINEER.
4. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE FENCE OR FILTER BARRIER IS NO LONGER REQUIRED, SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.
5. ALL MATERIAL & INSTALLATION MUST CONFORM TO THE REQUIREMENTS OF THE CURRENT EDITION OF THE MNDOT CONSTRUCTION SPECIFICATIONS, AND APPENDIX A.



**TYPICAL HYDRANT  
DETAILS  
(VALVE IN BOULEVARD)**



GATE VALVE &  
BOX INSTALLATION

2023 LAKE DRIVE TRUNK WATER MAIN  
IMPROVEMENTS  
CITY OF LINO LAKES, MN

# CITY OF LINO LAKES, MN

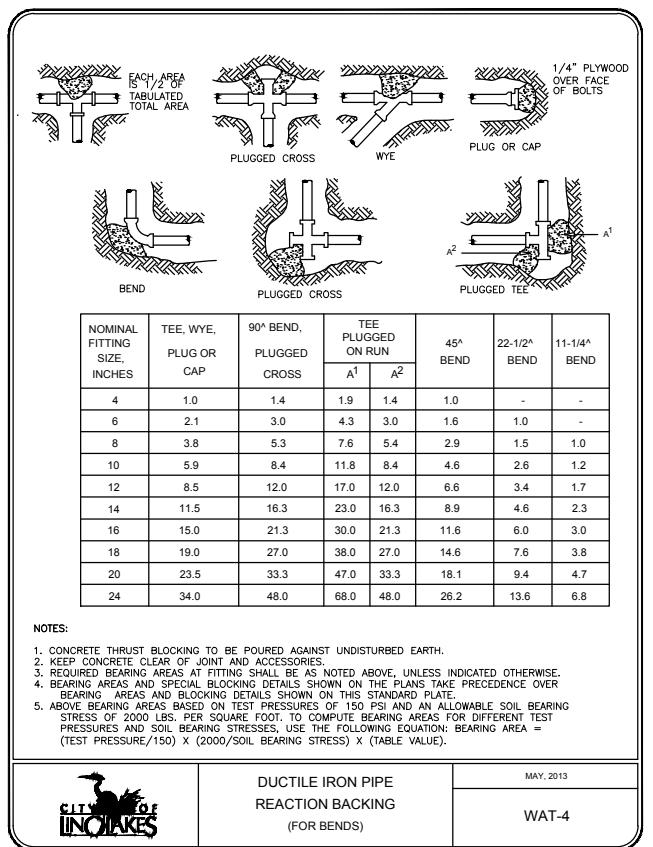
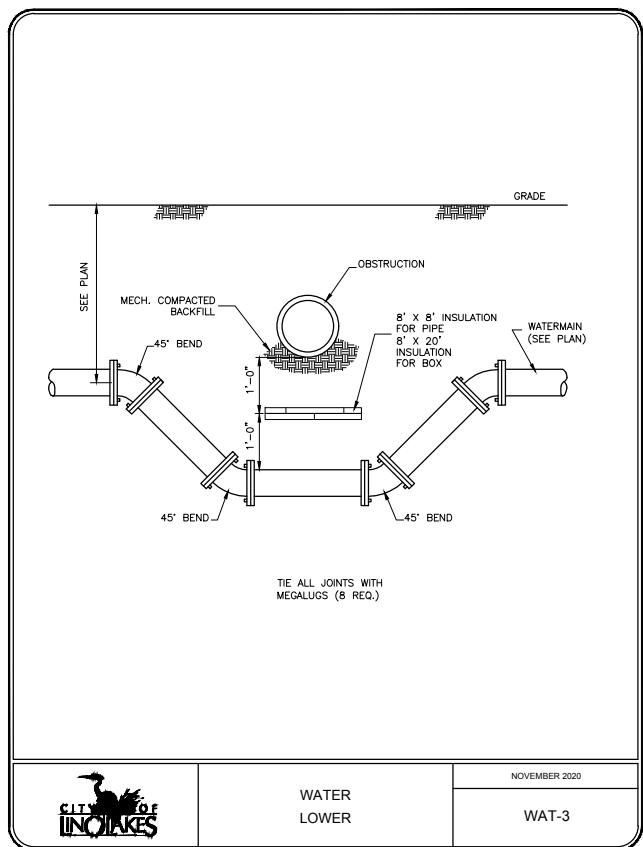
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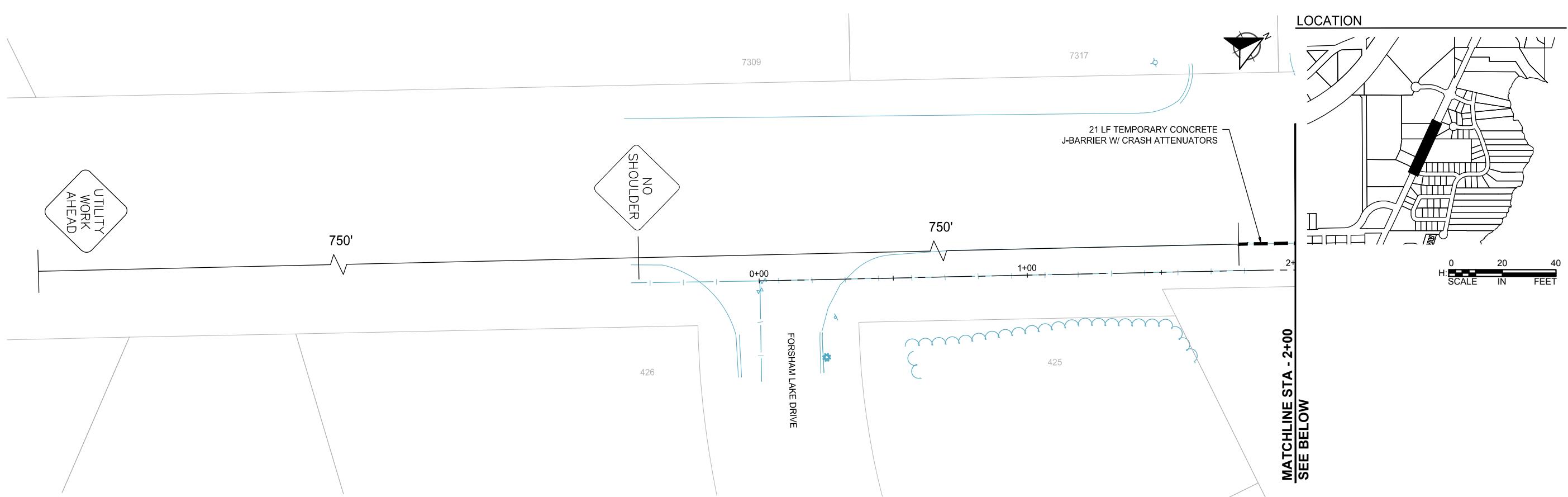
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 GENERAL  
LAYOUT

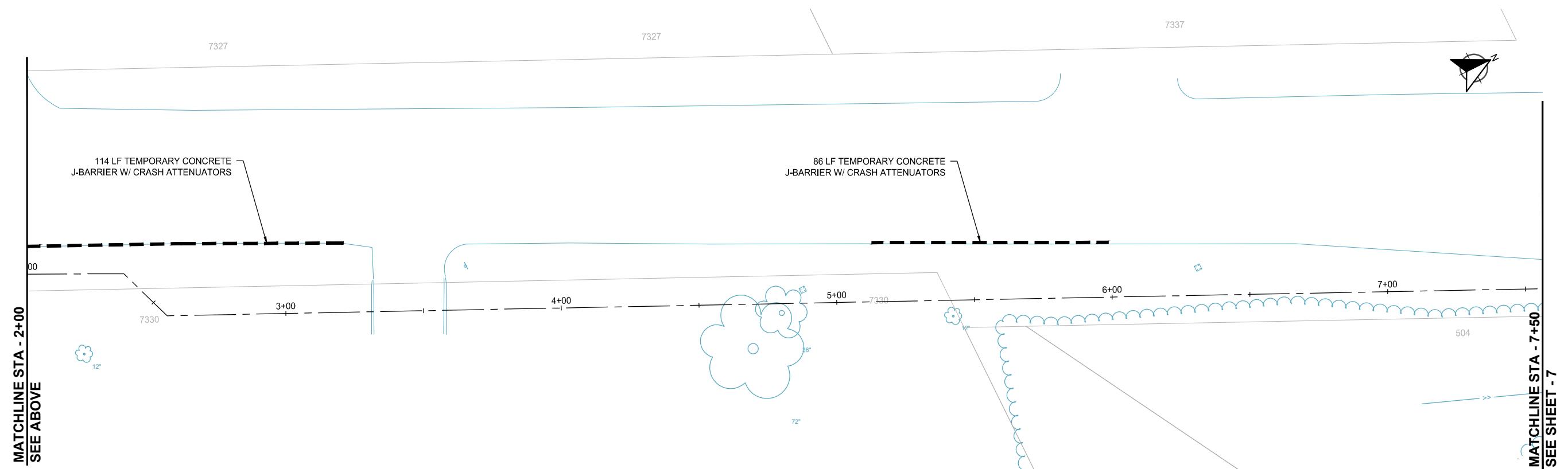
 2023 LAKE DRIVE TRUNK WATER MAIN  
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CITY OF LINO LAKES, MN


CITY OF  
LINO LAKES  
WATER  
LOWER  
NOVEMBER 2020  
WAT-3

CITY OF  
LINO LAKES  
DUCTILE IRON PIPE  
REACTION BACKING  
(FOR BENDS)  
MAY, 2013  
WAT-4



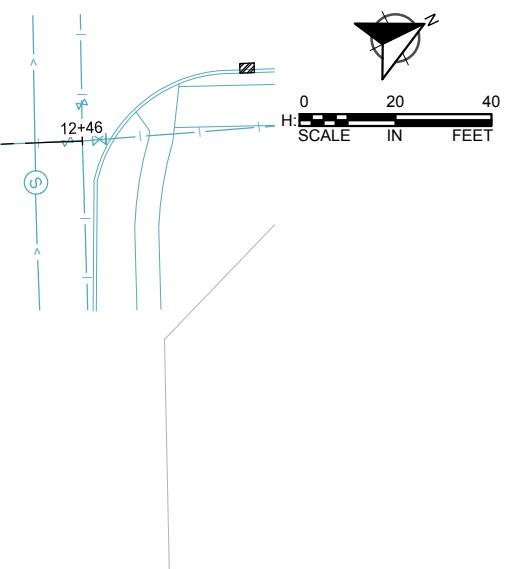
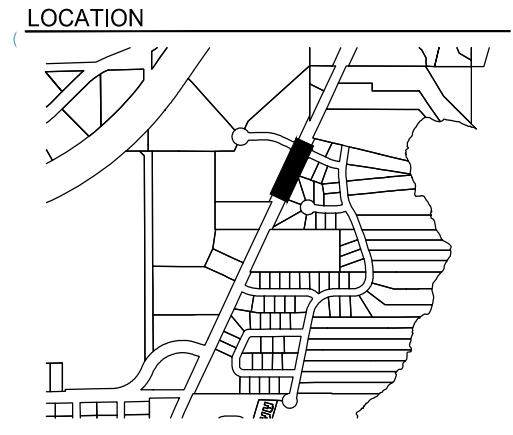
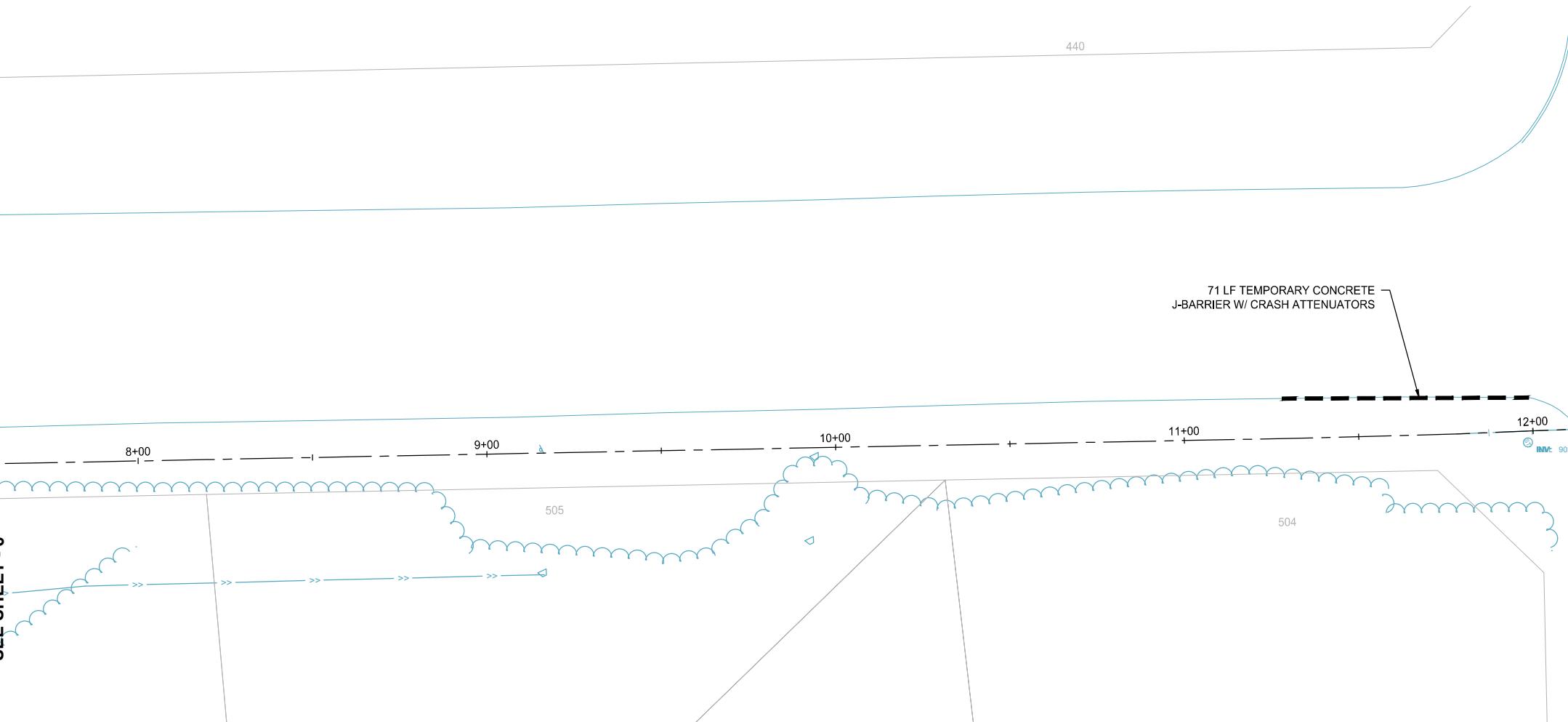
## LAKE DRIVE (CSAH 23)



2023 LAKE DRIVE TRUNK WATER MAIN  
IMPROVEMENTS  
CITY OF LINO LAKES, MN

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WSB PROJECT NO.  
021802-000

MATCHLINE STA - 7+50  
SEE SHEET - 6

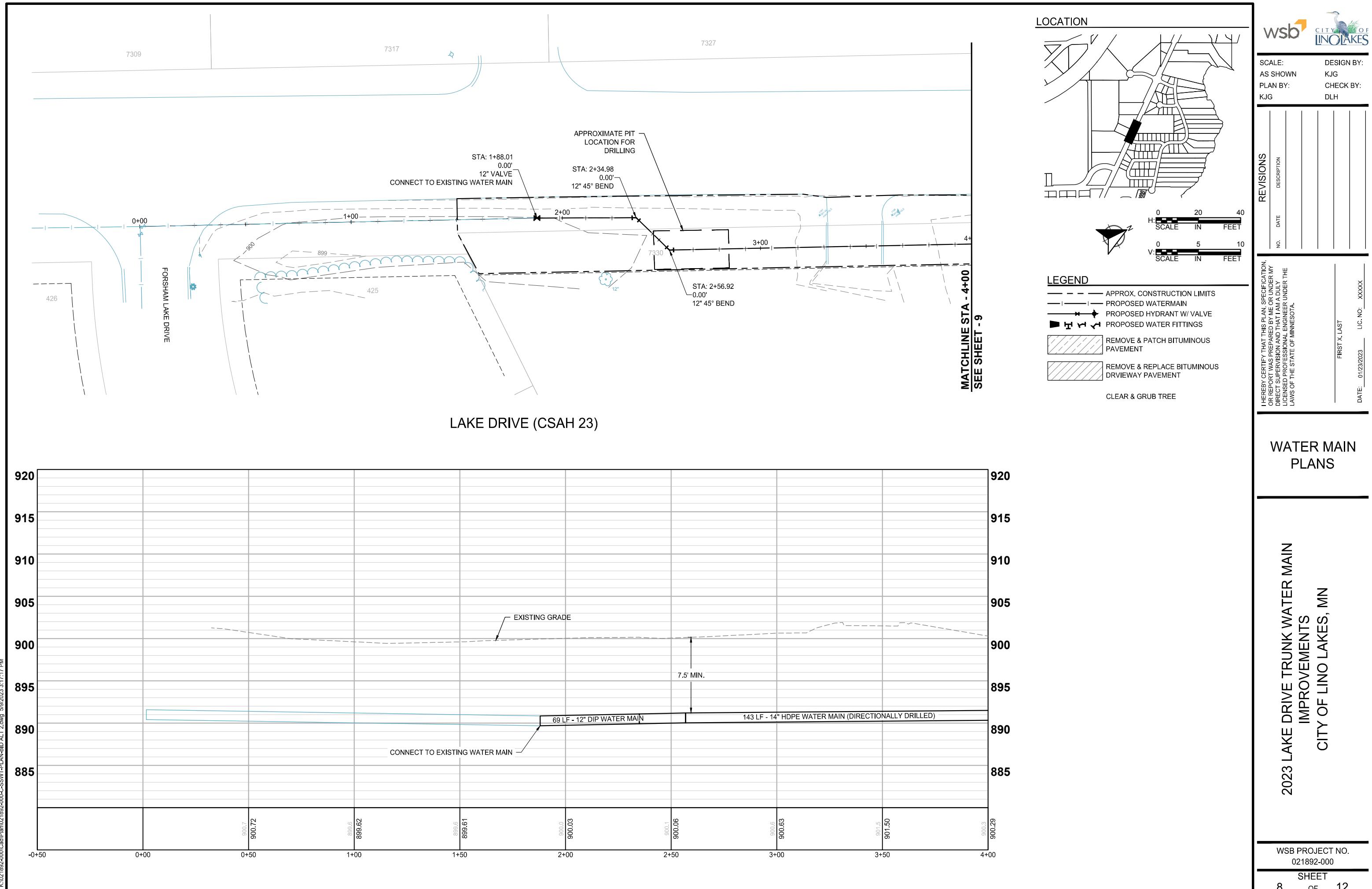
2023 LAKE DRIVE TRUNK WATER MAIN  
IMPROVEMENTS  
CITY OF LINO LAKES, MN

WSB PROJECT NO.  
021892-000  
SHEET  
7 OF 12

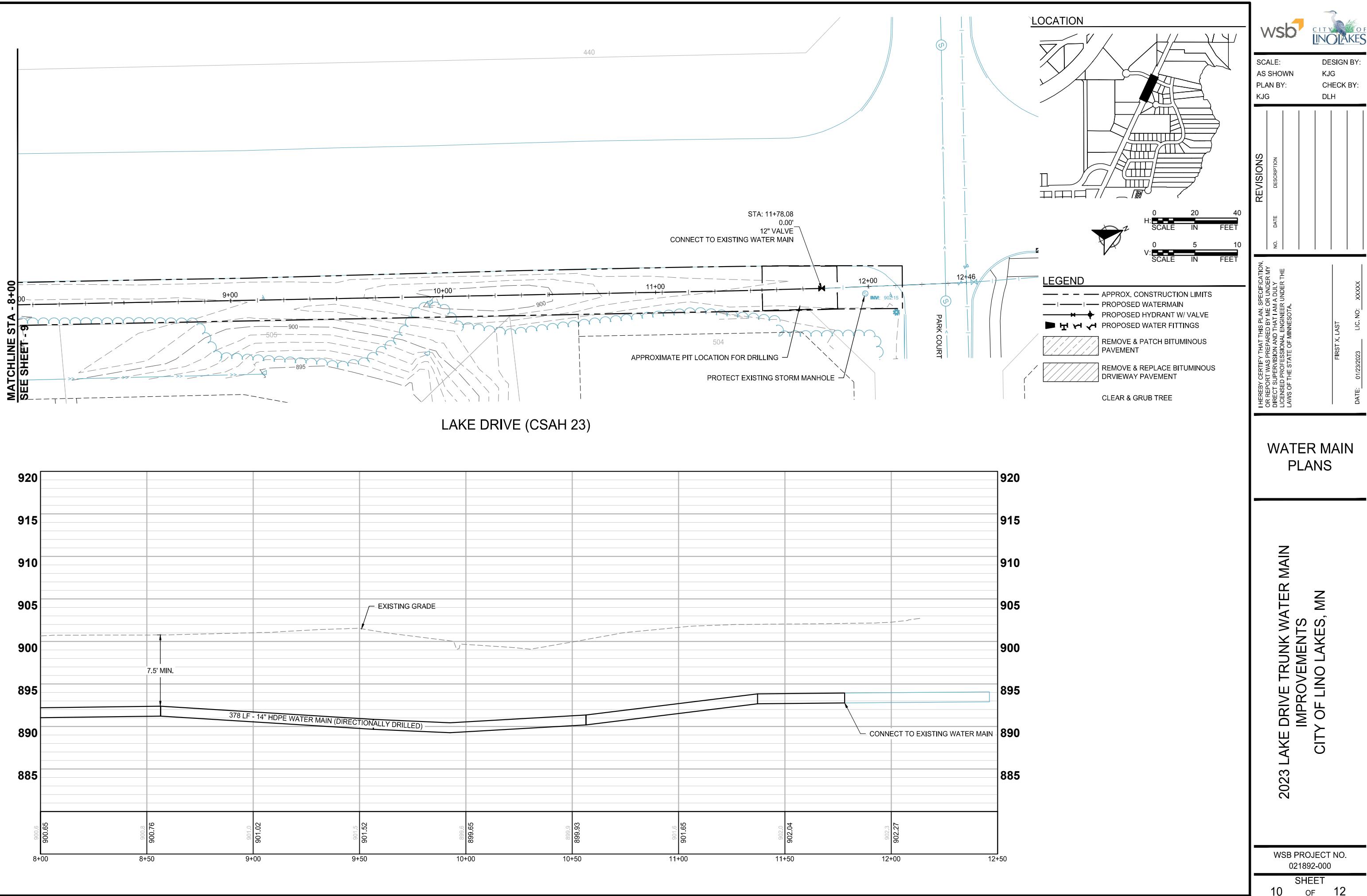
TRAFFIC  
CONTROL PLAN

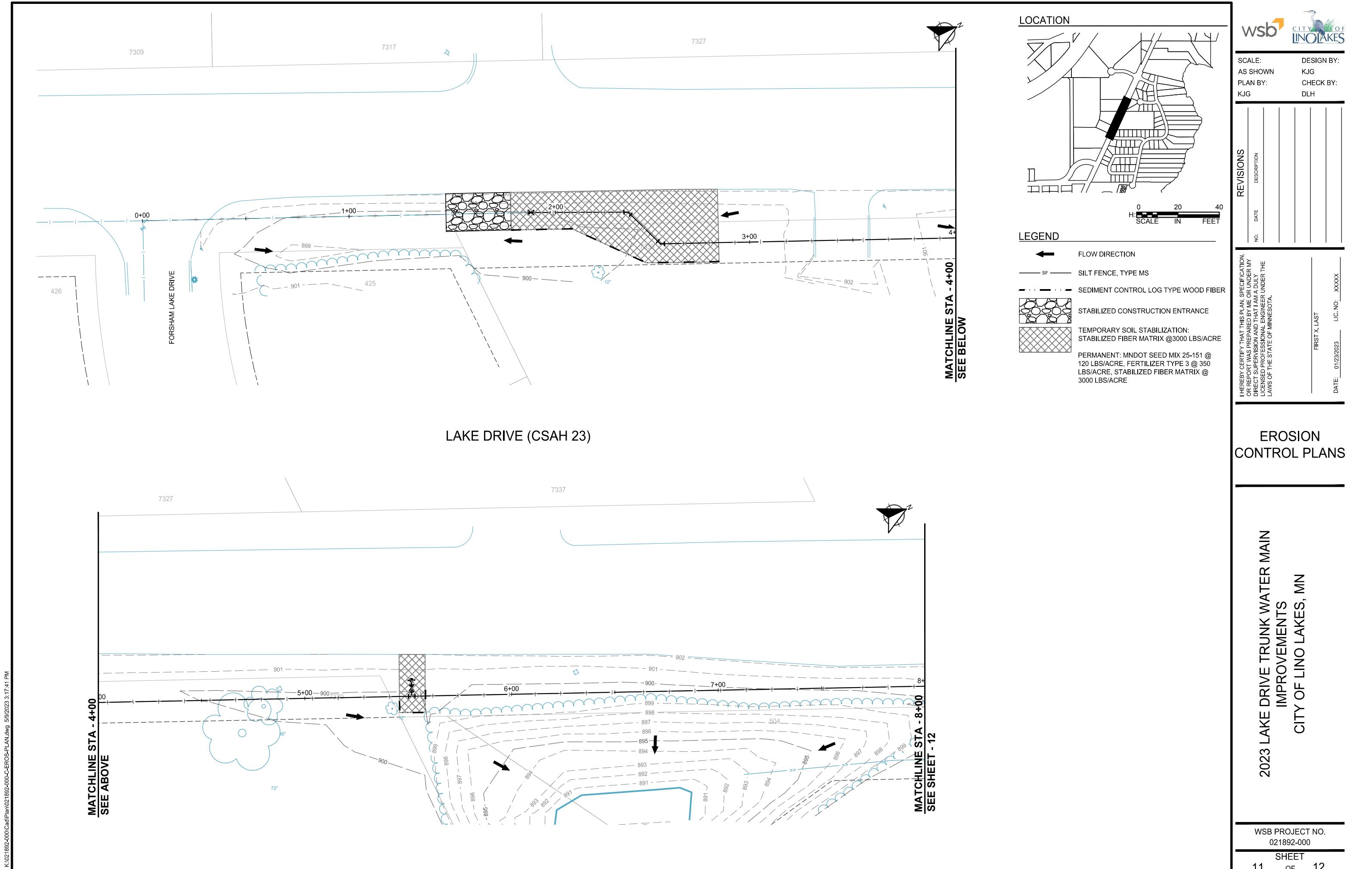
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PLAN BY: KJG	CHECK BY: DLH
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FIRST X, LAST	LIC. NO. XXXXX
DATE: 01/23/2023	
DRAFT	











**MATCHLINE STA - 8+00**  
**SEE SHEET -11**

440

## LOCATION

A diagram showing a circle with a triangle inscribed within it. A line segment connects the midpoints of two non-adjacent sides of the triangle. This line segment is parallel to the third side of the triangle and is half its length, according to the Midsegment Theorem.

This figure is a detailed cross-sectional diagram of a road embankment, likely a bridge abutment. The diagram illustrates the construction layers and drainage systems. Key features include:

- Vertical Axis:** A vertical axis on the right side indicates elevation, with markers for 12, 11, 10, 9, and 8.
- Horizontal Axis:** A horizontal axis at the top indicates distance, with station markers 9+00, 10+00, 11+00, and 12+00.
- Soil Layers:** The embankment is composed of various soil layers, labeled as follows:
  - Top surface: 902
  - Soil layers: 901, 902, 903, 904
  - Fill layers: 504, 505, 506
  - Drainage pipes: 895, 896, 897, 898, 899
  - Drainage pipe at the top right: 12+00
- Drainage:** A network of cross-drain pipes (895-899) is embedded within the embankment fill (504) to manage water flow.
- Construction Details:** The diagram shows the transition from the embankment fill to the road surface, with a vertical arrow pointing up and a horizontal arrow indicating the direction of construction or flow.
- Labels:** Other labels include 'PARK COURT' at the top right and a vertical label '440' at the top center.

## LAKE DRIVE (CSAH 23)

## LEGEND

### FLOW DIRECTION

#### SILT FENCE, TYPE MS

## — SEDIMENT CONTROL LOG TYPE WOOD FIBER

## STABILIZED CONSTRUCTION ENTRANCE TEMPORARY SOIL STABILIZATION:

PERMANENT: MNDOT SEED MIX 25-151 @ 120 LBS/ACRE, FERTILIZER TYPE 3 @ 350 LBS/ACRE, STABILIZED FIBER MATRIX @ 3000 LBS/ACRE

PARK COURT

# EROSION CONTROL PLANS

# 2023 LAKE DRIVE TRUNK WATER MAIN IMPROVEMENTS CITY OF LINO LAKES, MN