

Prepared by the  
Utility Agreements and Permits Unit  
(\$0.00)

S.P. 6933-101 (T.H. 194)  
Location: 600' N of I-35 to 350' S. of 1<sup>st</sup> St.  
Utility Owner: City of Duluth  
MnDOT Agreement Number 1060099

## **AGENCY RELOCATION AGREEMENT**

This Agreement Number 1060099 (Agreement) is between the State of Minnesota (State), acting through its Commissioner of Transportation and City of Duluth, including its agents, contractors, and subcontractors (Utility Owner). This Agreement outlines the separate responsibilities of the State and the Utility Owner as part of a construction project.

### **RECITALS**

The State plans to let a contract to construct State Project Number 6933-101 (Project) on Trunk Highway Number 194. The Project is located in the City of Duluth from 600 feet North of Interstate 35 to 350 feet South of 1<sup>st</sup> Street.

The Utility Owner owns and operates watermain, its fixtures, and related equipment (Facilities) that are located on property where the State will construct the Project.

The Project will require the relocation and adjustment of the Utility Owner's Facilities. If the Utility Owner relocated the Facilities or let a separate contract to relocate them, that relocation work would interfere with the Project. The Utility Owner has requested that the State perform the relocation work as part of the Project. Including the Utility Owner's relocation work in the State's Construction contract may eliminate duplication of services, facilitate activity coordination, simplify supervision, and expedite Project construction and the State agrees to do so.

Pursuant to Minnesota Statutes, section 161.46, subdivision 5, the Utility Owner appoints the State as its agent to design and construct the relocation work as part of the Project and the State may relocate the Facilities as part of the Project on the trunk highway system.

State law requires a written agreement between the State and the Utility Owner that describes their separate responsibilities.

## **AGREEMENT**

### **I. Term/Termination**

- A. *Effective Date*: This Agreement is effective on the date the State obtains all signatures required by Minnesota Statutes, section 16C.05, subdivision 2.
- B. *Commencement of Work*: Upon notice of Agreement approval, the Utility Owner must promptly provide the State (and the State's Contractor (Contractor)) with any information necessary to commence and successfully prosecute the utility work according to the terms of the Notice and Order and a work schedule the State's Project Engineer (Project Engineer) approves.
- C. *Expiration Date*: This Agreement will expire on the date that all obligations, excluding the Utility Owner's ongoing maintenance obligations, have been satisfactorily fulfilled.
- D. *Termination by the State*: The State may terminate this Agreement at any time, with or without cause, on 30 calendar days' written notice to the Utility Owner. Upon termination, the State will be entitled to payment, on a pro rata basis, for satisfactorily performed services. The termination of this Agreement does not relieve the Utility Owner of its obligations under the Notice and Order.
- E. *Survival of Terms*: The following articles survive this Agreement's expiration or termination: (III) Utility Owner's Ongoing Maintenance Requirements; (V) Indemnification; and (VII) Governing Terms.

### **II. Description of Work Procedures**

- A. *Plans*: The Utility Owner will provide relocation plans. These plans, which are attached to this Agreement as Exhibit A, indicate the present and proposed locations of the Facilities.
  - 1. If any changes to the plans or character of the work become necessary, the State and the Utility Owner must agree to the changes before the State makes (or directs the Contractor to make) them. If these changes require an amendment or supplement to this Agreement, the parties will negotiate such amendment or supplement in good faith, and the State is not obligated to commence such changes until such amendment or supplement is fully executed. The State will enter into such supplemental agreements with its Contractor as the State deems necessary to implement such changes.

2. The Utility Owner authorizes the Project Engineer to make any minor field changes and adjustments to the plans, specifications, and special provisions as the State deems necessary for efficient Project construction. The Utility Owner authorizes the State, on its behalf, to enter into supplemental agreements with the Contractor as necessary to implement these changes.

B. *State's Responsibilities*

1. The State will:
  - a. Advertise the Project for bids; and
  - b. Award a construction contract for the Project. This Project will include the relocation work.
2. The Project Engineer will supervise and direct the Project, including the relocation work, but the Utility Owner may inspect the work periodically. If the Utility Owner finds that any completed relocation work is defective, it must inform the Project Engineer of these defects in writing; however, any recommendations the Utility Owner makes are not binding to the State. The State has the exclusive right to determine whether the Contractor has performed the work according to the plans, specifications, and special provisions.
3. The Project Engineer and the Utility Owner will perform a final inspection of the work. Once the State has accepted the relocation work, the Project Engineer will inform the Utility Owner in writing, and the Utility Owner will assume ownership of the Facilities.

C. *Deletion of Work:* If the Utility Owner decides to delete the relocation work from the Project, the Utility Owner will:

1. Be subject to the Notice and Order and remove and/or relocate the Facilities; and
2. Defend (at its own expense and to the extent Minnesota's Attorney General permits) indemnify, save, and hold the State and all of its agents and employees harmless of and from all claims, demands, actions, or causes of action that deleting the relocation work causes. This obligation to indemnify extends to any attorney's fees.

D. *Risk:* Risk of loss of partial or complete relocation work will be on the Contractor or the Utility Owner as the current *Standard Specifications for Construction* set forth.

### **III. Utility Owner's Ongoing Maintenance Requirements**

- A. No more than 90 calendar days after receiving as-built plans for the relocation from the State, the Utility Owner must submit one copy of the State's Application for Utility Accommodation on Trunk Highway Right of Way, Form 2525 (Permit), including two copies of "as-built" sketches, for all Facilities within the State's trunk highway right of way to the Utilities Engineer.
- B. Once construction is complete, the Utility Owner must maintain the Facilities at its own expense. The Utility Owner must follow the terms of the Permit when it performs any maintenance work.
- C. The Utility Owner may open and disturb the trunk highway right of way without a permit in the case of an emergency that is dangerous to the public and requires immediate attention. Upon learning of the emergency, the Utility Owner must immediately notify the State Patrol. The Utility Owner must take all necessary and reasonable safety measures to protect the public and must cooperate fully with the State Patrol. In this event, the Utility Owner must request a permit from the proper authority no later than the working day after it begins working in the right of way.

### **IV. Indemnification**

- A. The Utility Owner will defend (at its own expense and to the extent Minnesota's Attorney General allows), indemnify, save, and hold the State and all of its agents and employees harmless of and from all claims, demands, actions, or causes of action arising from the Utility Owner's acts and omissions and from the State's (and its Contractor's) use of plans, designs, shop drawings, specifications, and special provisions prepared, reviewed, or approved by the Utility Owner. This indemnity obligation extends to any attorney's fees the State incurs in seeking to enforce this obligation, and in defending against any claims covered by this indemnity clause.
- B. The Utility Owner does not waive any defense or immunity of third parties. The Utility Owner, in defending any action on behalf of the State, will be entitled to assert every defense or immunity that the State could assert on its own behalf.

### **V. Nondiscrimination**

Minnesota Statutes, section 181.59 and any applicable local ordinances pertaining to civil rights and nondiscrimination are considered part of this Agreement.

## VI. Governing Terms

- A. *Data Practices:* All parties must comply with the Minnesota Government Data Practices Act (Minnesota Statutes, chapter 13) as it applies to any data that a party to this Agreement receives, collects, stores, or disseminates under it. The Act provides civil liability for failure to comply with its requirements.
- B. *Applicable Law:* Minnesota law governs the validity, interpretation, and enforcement of this Agreement. Venue for all legal proceedings arising out of this Agreement or its breach must be in Ramsey County, Minnesota.
- C. *Waiver:* If a party fails to enforce any provision of this Agreement, that failure does not waive the provision or the party's right to subsequently enforce the provision or any subsequent breach of that provision.
- D. *Merger:* This Agreement contains all negotiations and agreements between the State and the Utility Owner with respect to the subject matter it contains. No prior understanding regarding this Agreement, whether written or oral, may be used to bind either party.
- E. *Assignment:* The Utility Owner may neither assign nor transfer any rights or obligations under this Agreement without the State's consent and a fully executed assignment agreement. To be valid, the assignment agreement must be signed and approved by the same parties who signed and approved this Agreement, or their successors in office.
- F. *Amendments:* Any amendment to this Agreement must be in writing. An amendment will not be effective until the same parties who signed and approved this Agreement, or their successors in office, sign and approve the amendment.
- G. *Incorporation of Exhibits:* All exhibits attached to this Agreement are incorporated into this Agreement.

**The remainder of this page was left blank intentionally.**

IN WITNESS WHEREOF, the parties have caused this Contract to be duly executed to be bound hereby.

**CITY OF DULUTH**

The undersigned certify that they have lawfully executed this contract on behalf of the Governmental Unit as required by applicable charter provisions, resolutions, or ordinances.

By: \_\_\_\_\_  
Mayor

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

Attested: \_\_\_\_\_  
City Clerk

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

Approved as to form:

By: \_\_\_\_\_  
City Attorney

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

Countersigned: \_\_\_\_\_  
City Auditor

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

**STATE OF MINNESOTA  
DEPARTMENT OF TRANSPORTATION**

**Department of Transportation**

Recommended for Approval:

By: \_\_\_\_\_  
District Engineer

Approved:

By: \_\_\_\_\_  
Director, Office of Land Management

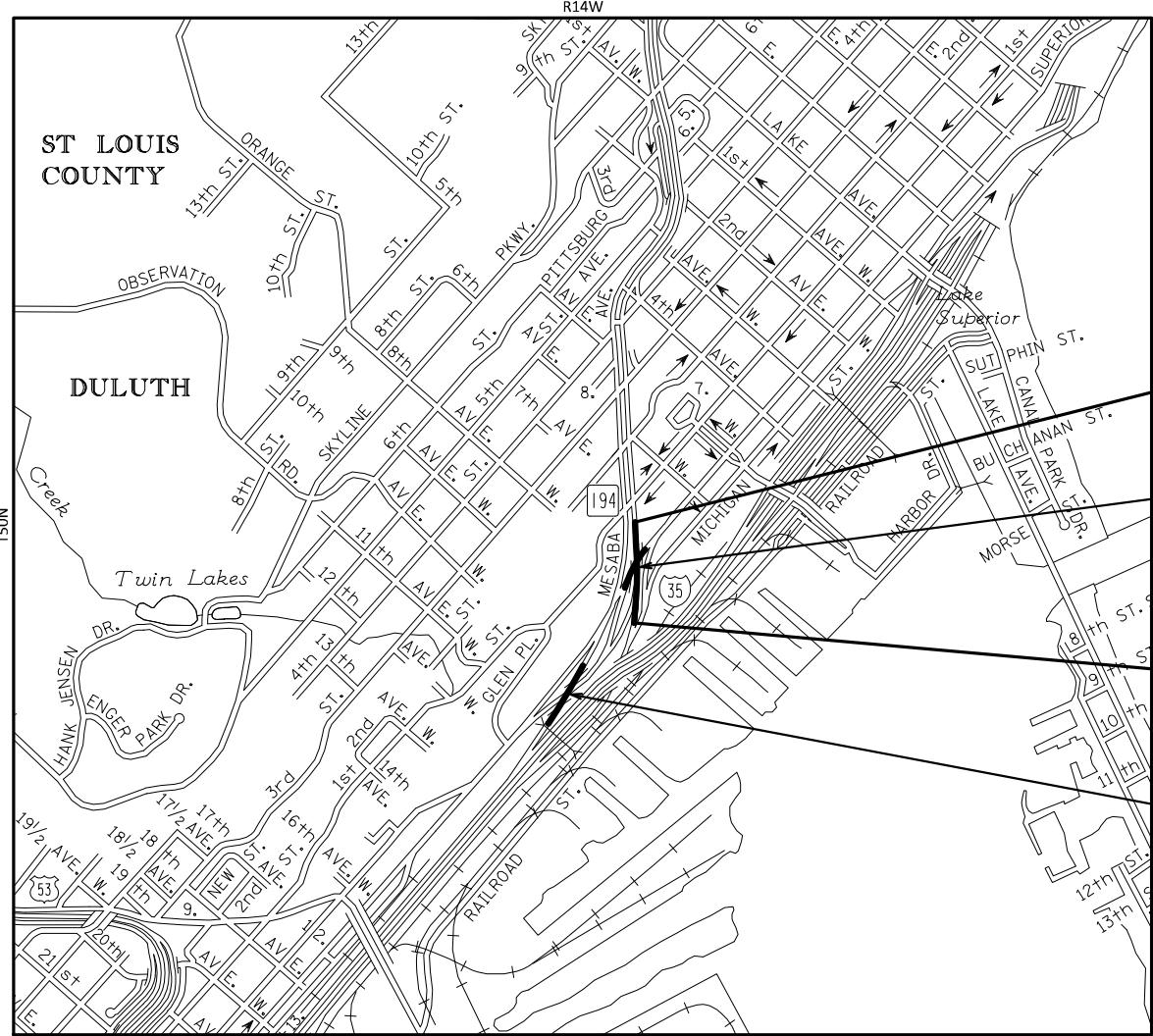
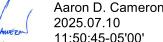
Date: \_\_\_\_\_

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

**Department of Administration**

By: \_\_\_\_\_

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

<b>MINNESOTA DEPARTMENT OF TRANSPORTATION</b>		<b>FED. PROJ. NO. NHPP 6926(019)</b> <b>GOVERNING SPECIFICATIONS</b> THE 2020 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.																			
CONSTRUCTION PLAN FOR GRADING, BITUMINOUS AND CONCRETE SURFACING, LIGHTING, TMS, AND BRIDGE NOS. 69839 & 69840 LOCATED ON TH 194 FROM 600' NORTH OF TH 35 TO 350' SOUTH OF 1ST ST		<b>INDEX</b> <b>SHEET NO. DESCRIPTION</b>																			
STATE PROJ. NO. 6933-101 (TH 194) GROSS LENGTH 931.28 FEET 0.176 MILES BRIDGES-LENGTH 296.79 FEET 0.056 MILES EXCEPTIONS-LENGTH FEET MILES NET LENGTH 931.28 FEET 0.176 MILES REF. POINT 17+00.037 TO REF. POINT 17+00.213 LENGTH AND DESCRIPTION IS BASED ON THE NB35OFF AND TH 194 NB ALIGNMENTS		1 TITLE SHEET 2 GENERAL LAYOUT 3-4 ESTIMATED QUANTITIES 5 STANDARD PLATES AND STANDARD PLANS 6 EARTHWORK CHARTS & SUMMARY 7 SOILS & CONSTRUCTION NOTES 8-10 CONSTRUCTION CHARTS 11-13 TYPICAL SECTIONS 14-15 CONSTRUCTION DETAILS 16-17 MODIFIED STANDARD PLANS 18-19 ALIGNMENT PLANS & CHARTS 20-24 EXISTING UTILITY PLANS 25-28 REMOVAL PLANS 29-32 CONSTRUCTION PLANS 33 PROFILES 34-35 CONCRETE PAVING PLANS 36-37 SUPERELEVATION PLANS 38 EARTH RETENTION SYSTEM 39-42 DRAINAGE PLANS 43 DRAINAGE PROFILES 44-45 DRAINAGE DETAILS 46-47 ENVIRONMENTAL MANAGEMENT PLANS 48-50 SWPPP 51-54 EROSION & TURF ESTABLISHMENT PLANS 55-73 TRAFFIC CONTROL PLANS 74-81 PERMANENT PAVEMENT MARKING PLANS 82-87 LIGHTING PLANS 88-91 SIGNING PLANS SZ1-SZ15 TRAFFIC MANAGEMENT SYSTEM PLANS U1-U6 CITY UTILITY PLANS X1-X15 CROSS SECTIONS  THIS PLAN CONTAINS 127 SHEETS																			
  EQUATION: NB35OFF 27+42.61 (BK) = A POINT 6.00' RT TH 194 NB 79+58.33 (AH)		<b>END SP 6933-101 (TH 194)</b> TH 194 NB STA. 85+75.00 RP 17+00.037  <b>INPLACE BR. NO. 69840</b>  <b>BEGIN SP 6933-101 (TH 194)</b> NB35OFF STA. 24+28.00 RP 17+00.213  <b>INPLACE BR. NO. 69839</b>																			
PLOT NAME: 001-6933101_100tsh PATH & FILE NAME: Projects\g-m\Minnesotan\20779000\04_Production\01_CAD\Highway\Sheets\6933101_100tsh.dgn  TIME: 11:16:02 AM PLOTTED: 10-JUL-2025		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.  Aaron D. Cameron  2025.07.10 11:50:45-05'00'  <b>TKDA</b> SIGNATURE:  PRINTED NAME: AARON D. CAMERON DATE: 10-JUL-2025 LIC. NO. 56592																			
SCALES INDEX MAP 750' GENERAL LAYOUT 100' PLAN 25'		RECOMMENDED FOR APPROVAL DISTRICT TRANSPORTATION ENGINEER  RECOMMENDED FOR APPROVAL DISTRICT MATERIALS ENGINEER  RECOMMENDED FOR APPROVAL DISTRICT HYDRAULICS ENGINEER  RECOMMENDED FOR APPROVAL DISTRICT TRAFFIC ENGINEER  RECOMMENDED FOR APPROVAL STATE PRE-LETTING ENGINEER  OFFICE OF LAND MANAGEMENT APPROVAL DIRECTOR, LAND MANAGEMENT																			
<b>DESIGN DESIGNATION</b>  PLAN REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>DATE</th> <th> SHEET NO.</th> <th>APPROVER</th> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>		DATE	SHEET NO.	APPROVER																ASSOCIATED PROJ. NO. SP 6933-101  FOR PLANS AND UTILITIES SYMBOLS, SEE TECHNICAL MANUAL   PROJECT LOCATION COUNTY: ST LOUIS DISTRICT: 1 (DULUTH)	
DATE	SHEET NO.	APPROVER																			
Design ESALS ..... = ..... ADT (Current Year) 2026 = 20700 ADT (Future Year) 2046 = 22700 DHV (Design Hr. Vol.) = ..... D (Directional Distr.) = ..... % T (Heavy Commercial) = ..... %		Design Speed 40 MPH Based on STOPPING, Sight Distance Height of eye 3.5'. Height of object 2.0'. Design Speed not achieved at: ..... STA. ..... TO STA. ..... MPH ..... STA. ..... TO STA. ..... MPH .....																			
<b>TITLE SHEET</b>		APPROVED STATE DESIGN ENGINEER																			
STATE PROJ. NO. 6933-101 TRUNK HWY. (T.H. 194=204)		SHEET NO. 1 TOTAL SHEETS 91																			

CONSTRUCTION NOTES:

- 1) DAMAGE TO INPLACE SURFACING, UTILITIES, OR ANY ITEM NOT DESIGNED FOR REMOVAL SHALL BE REPAIRED TO THE APPROVAL OF THE ENGINEER AT NO ADDITIONAL COST.
- 2) ALL CONSTRUCTION DEWATERING SHALL BE CONSIDERED INCIDENTAL.
- 3) THE CONTRACTOR SHALL NOT STORE EXCAVATED MATERIAL OUTSIDE THE PLANNED CONSTRUCTION LIMITS UNLESS APPROVED BY THE ENGINEER.
- 4) UNLESS A PAY ITEM IS PROVIDED THEREFORE, ABANDONED UTILITY ITEMS OR ANY OTHER INPLACE MATERIAL WHICH MAY BE ENCOUNTERED DURING CONSTRUCTION SHALL BE DISPOSED OF BY THE CONTRACTOR AT AN APPROVED DISPOSAL SITE AND SUCH COSTS SHALL BE CONSIDERED INCLUDED FOR PAYMENT IN THE ASSOCIATED PAY ITEM FOR THE EXCAVATION.
- 5) THE CITY OF DULUTH ENGINEERING SHALL BE NOTIFIED 2 WORKING DAYS PRIOR TO ANY EXCAVATION OR DIRECTIONAL DRILLING WITHIN 6 FEET OF A GAS MAIN. CITY OF DULUTH PERSONNEL WILL BE ON-SITE AS A WATCH-DOG TO MONITOR EXCAVATION AND INSPECT ANY EXPOSED MAIN.
- 6) THE CITY OF DULUTH SHALL BE NOTIFIED 14 CALENDAR DAYS PRIOR TO THE SCHEDULED REMOVAL OF ANY GAS MAIN. THIS WILL PROVIDE THE CITY OF DULUTH TIME TO ORGANIZE LABOR, EQUIPMENT, AND MATERIALS TO PERFORM CUTOFF, PURGING, AND ABANDONMENT PROCEDURES PRIOR TO THE CONTRACTOR REMOVING GAS MAIN.
- 7) ALL CITY GAS & WATER VALVES SHALL ONLY BE OPERATED BY THE CITY OF DULUTH. THE CITY OF DULUTH ENGINEERING SHALL BE NOTIFIED A MINIMUM OF 2 WORKING DAYS NOTICE PRIOR TO THE NEED OF THE OPERATION OF ANY GAS OR WATER VALVES OR THE NEED FOR ANY GAS OR WATER MAIN SHUTDOWN.

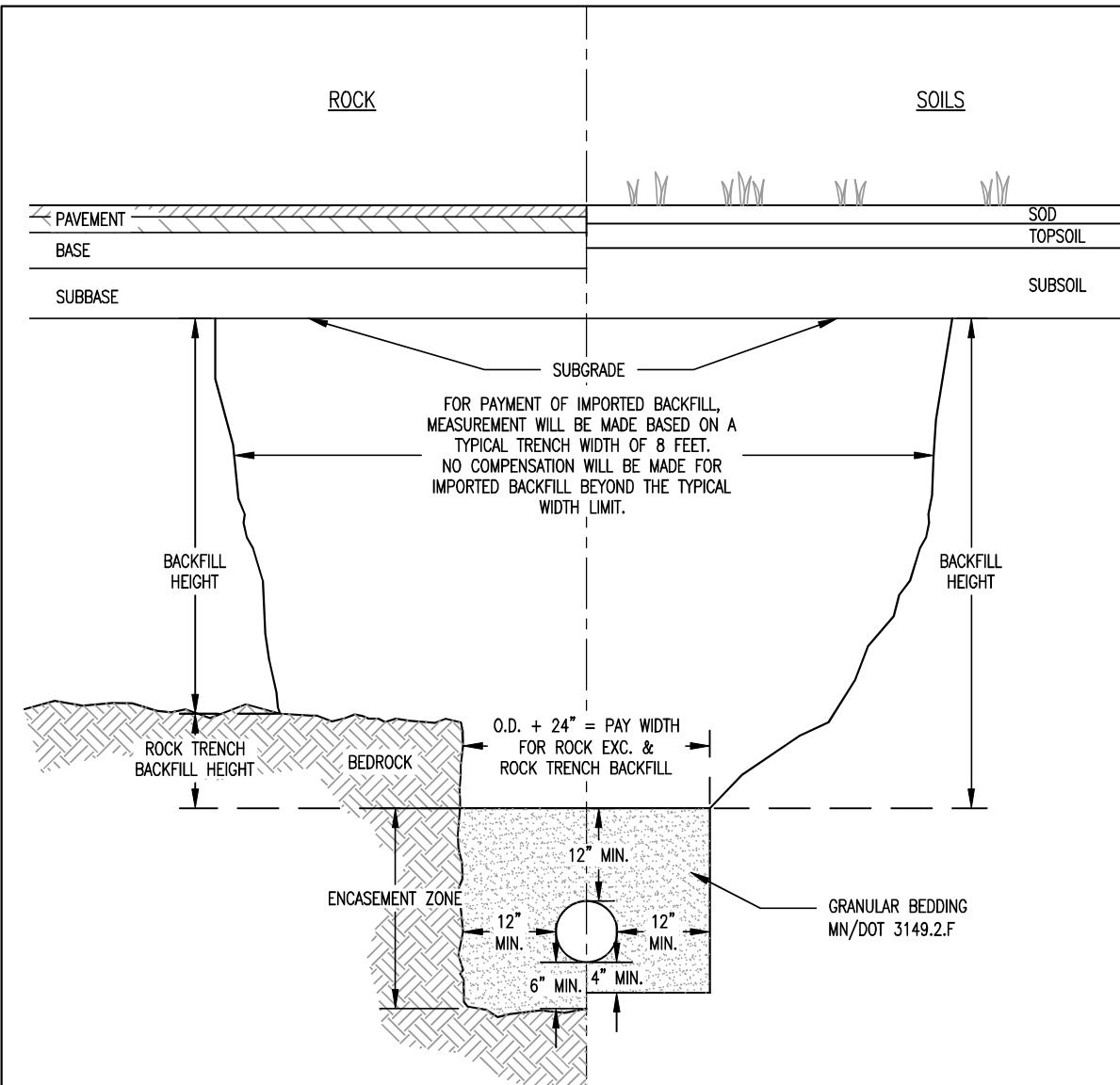
ITEM NUMBER	SPEC.	ITEM	UNIT	U TOTAL CHART QUANTITIES
1	2104	REMOVE GAS MAIN	LIN FT	275
2	2104	REMOVE WATER MAIN	LIN FT	273
3	2504	20" BUTTERFLY VALVE AND BOX	EACH	1
4	2504	CONNECT TO EXISTING WATER MAIN	EACH	2
5	2504	20" WATERMAIN HDPE	LIN FT	231

THE 2019 EDITION OF THE CITY OF DULUTH PUBLIC WORKS AND UTILITIES DEPARTMENT CONSTRUCTION STANDARDS AND SUPPLEMENTS OR ADDENDUMS SHALL APPLY.

CITY OF DULUTH UTILITIES  
PLAN INDEX

U1	TITLE SHEET
U2-U4	CONSTRUCTION DETAILS
U5	REMOVALS
U6	CONSTRUCTION PLAN & PROFILE

DRAWN BY: JDO		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.	DATE: 07/02/2025		CITY OF DULUTH ENGINEERING DIVISION 411 W. 1ST ST. STE. 240 DULUTH, MN 55802	MINNESOTA DEPARTMENT OF TRANSPORTATION	CITY UTILITY QUANTITIES
CHECKED BY: HDS		SIGNATURE: <i>Howard Smith P.E.</i>	HOWARD SMITH, P.E. TYPE NAME	LIC. NO: 46875	MN STATE PROJECT NO:	SP 6933-101 (T.H. 194)	SHEET NO. U1 OF U6 SHEETS

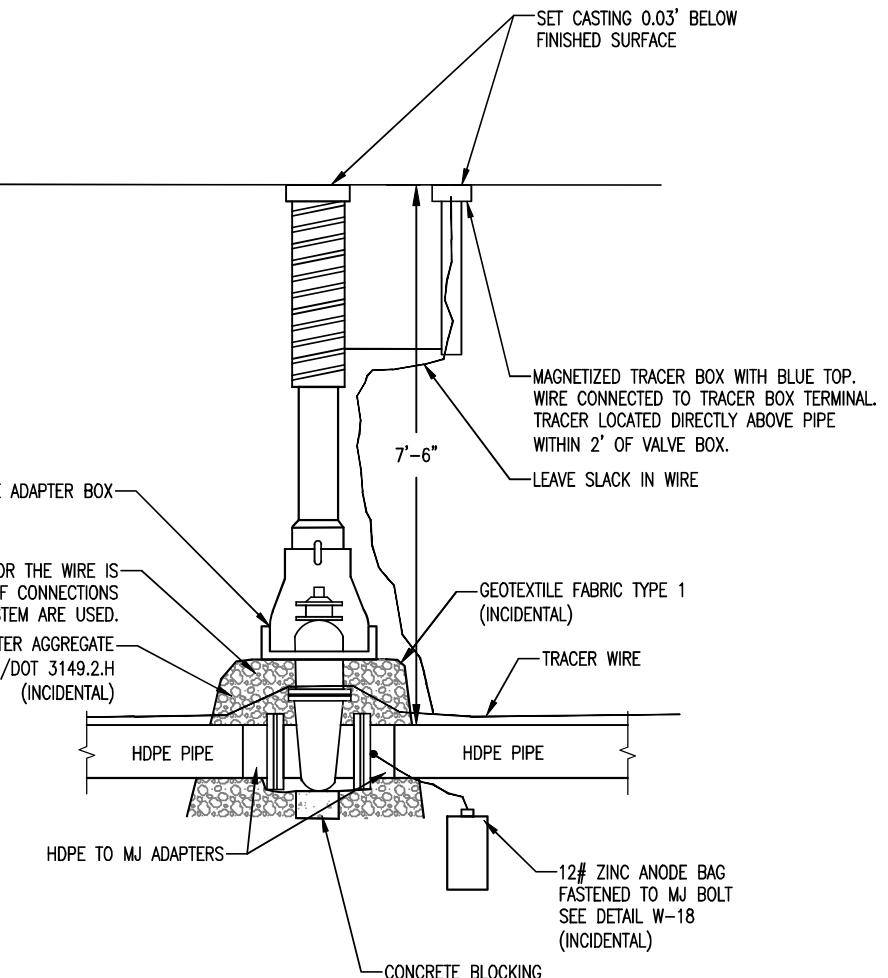


NOTES:

1. ANY EXCAVATION MATERIAL NOT UTILIZED ON THIS PROJECT SHALL BE DISPOSED OF OFF PROJECT R.O.W. (INCIDENTAL)
2. PAY WIDTH FOR ROCK EXCAVATION SHALL BE BASED ON OUTSIDE DIAMETER OF PIPE PLUS 24".
3. A MINIMUM OF 1 CUBIC YARD OF EXCAVATION - ROCK WILL BE PAID FOR EVERY 10' OF PIPE WHERE ROCK REMOVAL IS REQUIRED.
4. TRENCH STABILIZATION BEDDING MATERIAL MAY BE USED IN AREAS AS APPROVED BY THE ENGINEER.
5. ENCASEMENT ZONE MATERIAL SHALL BE COMPACTED TO 95% OF MAXIMUM STANDARD PROCTOR DENSITY.
6. BACKFILL SHALL BE SELECT GRADING MATERIAL FOUND ON-SITE WHEN DEEMED SUITABLE BY THE ENGINEER OR AS OTHERWISE DEFINED IN THE PROJECT SPECIAL PROVISIONS. WHEN ON-SITE MATERIAL IS NOT SUITABLE AND WHEN BACKFILL MATERIAL IS NOT SPECIFIED, IMPORTED MATERIAL MEETING MN/DOT 3149.2.D.1 GRANULAR BACKFILL SHALL BE PROVIDED. CONTRACTOR SHALL USE SUITABLE NATIVE ON-SITE MATERIAL FOR BACKFILL MATERIAL.
7. COMPACT BACKFILL MATERIALS TO 100% OF MAXIMUM STANDARD PROCTOR DENSITY FOR THE UPPER 3' BELOW THE SUBGRADE, AND TO 95% OF MAXIMUM STANDARD PROCTOR DENSITY BELOW THE UPPER 3'.

DUCTILE IRON, PE WATERMAIN, PRESSURE SEWER, & FORCEMAIN BEDDING

EX-1



NOTES:

1. VALVES SHALL BE CONNECTED DIRECTLY TO HDPE WITH HDPE TO MECHANICAL JOINT ADAPTERS.
2. USE EPOXY COATING ON EXTERIOR OF VALVES.
3. ALL BOLTS SHALL BLUE COATED BE COR-TEN WITH 6 OUNCE ZINC ANODE CAPS CONFORMING TO ASTM B-418 FOR ALL MECHANICAL JOINT FITTINGS.
4. FOR OPEN CUT PIPE INSTALLATIONS, ELECTROFUSION COUPLINGS ARE NOT ALLOWED FOR CONNECTION OF HDPE TO MJ ADAPTERS. FOR DIRECTIONAL DRILLED INSTALLATIONS, ONE ELECTROFUSION COUPLING MAY BE USED PER VALVE.
5. GATE VALVES WITH ALPHA RESTRAINT COUPLERS MAY BE USED IN LIEU OF MJ FITTINGS. ANODE SHALL BE CONNECTED DIRECTLY TO THE VALVE BONNET BOLTS.

WATER VALVE BOX - HDPE MAIN

W-17A

CITY OF DULUTH STANDARD DETAIL  
 DEPT. OF PUBLIC WORKS AND UTILITIES

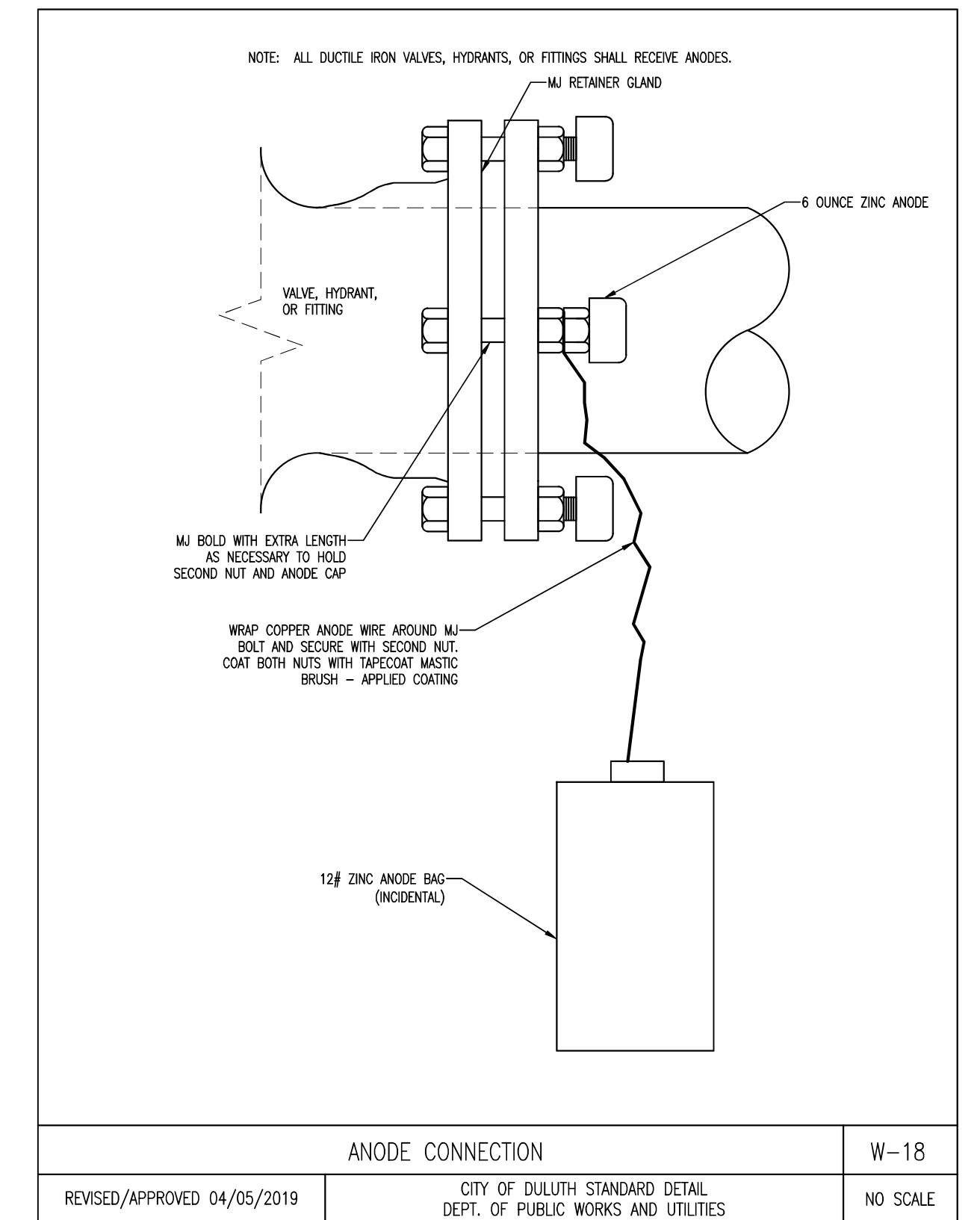
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MODIFIED

CITY OF DULUTH STANDARD DETAIL  
 DEPT. OF PUBLIC WORKS AND UTILITIES

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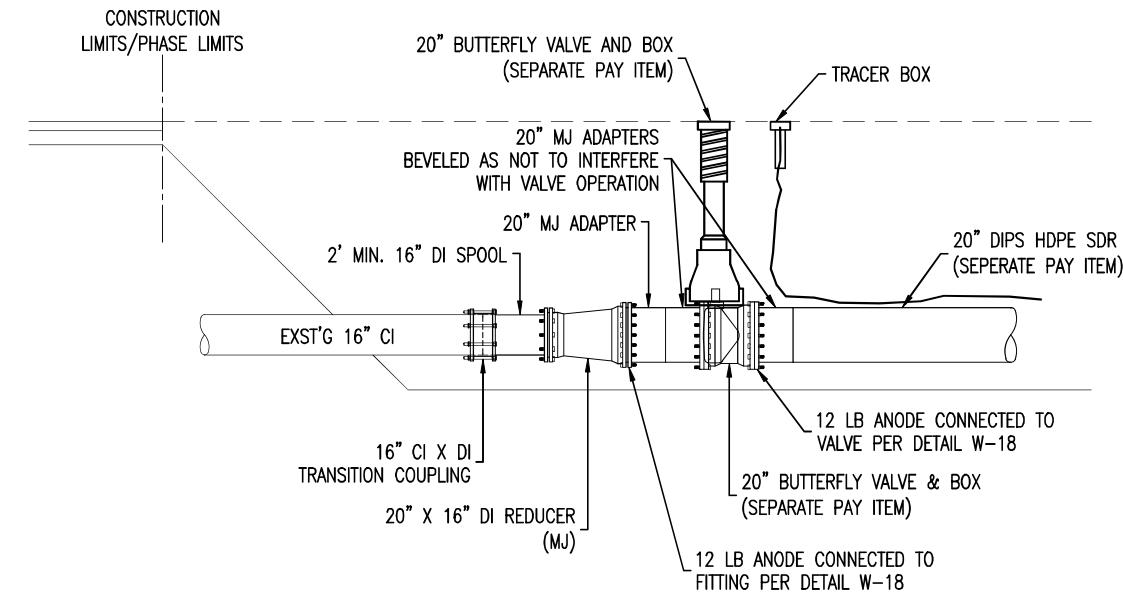
DRAWN BY: JDO	DATE: 07/02/2025	CITY OF DULUTH  ENGINEERING DIVISION 411 W. 1ST ST. STE. 240 DULUTH, MN 55802	MINNESOTA DEPARTMENT OF TRANSPORTATION MN STATE PROJECT NO: SP 6933-101 (T.H. 194)	CITY UTILITY CONSTRUCTION DETAILS
CHECKED BY: HDS	SIGNATURE: <u>Howard Smith PC</u> HOWARD SMITH, P.E. TYPE NAME	LIC. NO: 46875		SHEET NO. U2 OF U6 SHEETS



DRAWN BY: JDO	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.			DATE: 07/02/2025	 <b>DULUTH</b> MINNESOTA	CITY OF DULUTH ENGINEERING DIVISION 411 W. 1ST ST. STE. 240 DULUTH, MN 55802	MINNESOTA DEPARTMENT OF TRANSPORTATION	CITY UTILITY CONSTRUCTION DETAILS SP 6933-101 (T.H. 194)
CHECKED BY: HDS	SIGNATURE: <i>Howard Smith P.E.</i>	HOWARD SMITH, P.E.	TYPE NAME	LIC. NO: 46875		MN STATE PROJECT NO:		

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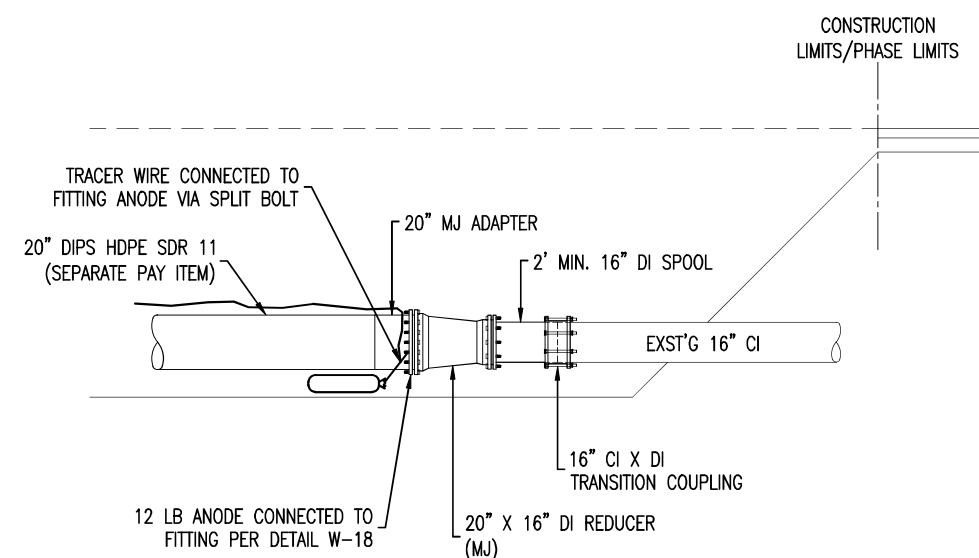
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#### CONNECT TO EXISTING WATER MAIN (SOUTHERN)

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NOT TO SCALE



## DETAIL NOTES

1. ALL LABOR, EQUIPMENT, AND MATERIALS TO PROVIDE WORK AS SHOWN IN THIS DETAIL SHALL BE CONSIDERED TO BE INCLUDED FOR PAYMENT IN THE PAY ITEM, "CONNECT TO EXISTING WATER MAIN" UNLESS OTHERWISE NOTED

## CONNECT TO EXISTING WATER MAIN (NORTHERN)

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NOT TO SCALE

DRAWN BY: JDC

CHECKED

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.

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DATE: 07/03/2023

DATE: 07/02/20

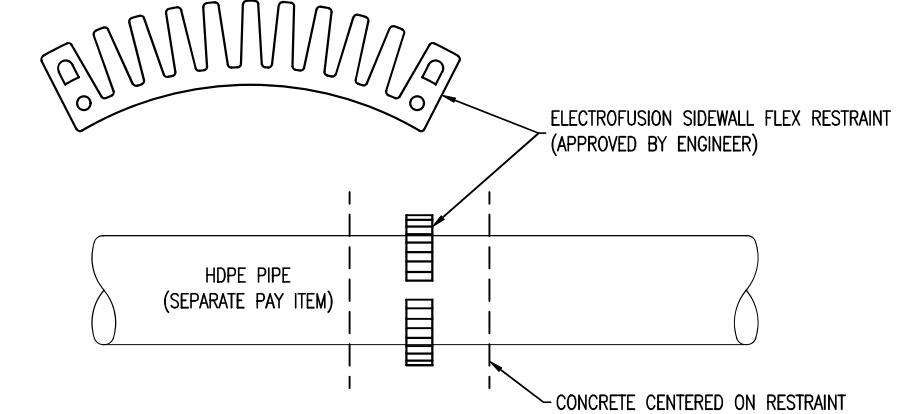


**CITY OF DULUTH  
ENGINEERING DIVISION  
411 W. 1ST ST. STE. 2  
DULUTH, MN 55802**

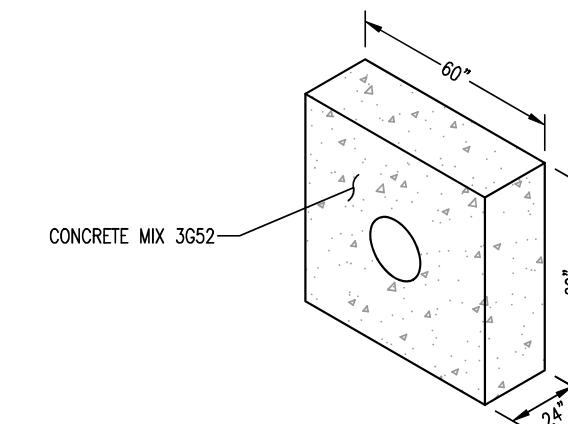
MINNESOTA DEPARTMENT OF TRANSPORTATION

MN STATE  
PROJECT NO: SP 6933-101 (T.H. 194)

CITY UTILITY  
CONSTRUCTION DETAILS



NUMBER OF RESTRAINTS NEEDED	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	30"	32"	36"	42"	48"
SDR 11	2	2	2	3	4	5	6	7	10	13	15	17	21	29	37
SDR 17	2	2	2	2	3	3	4	5	7	9	10	11	17	19	25

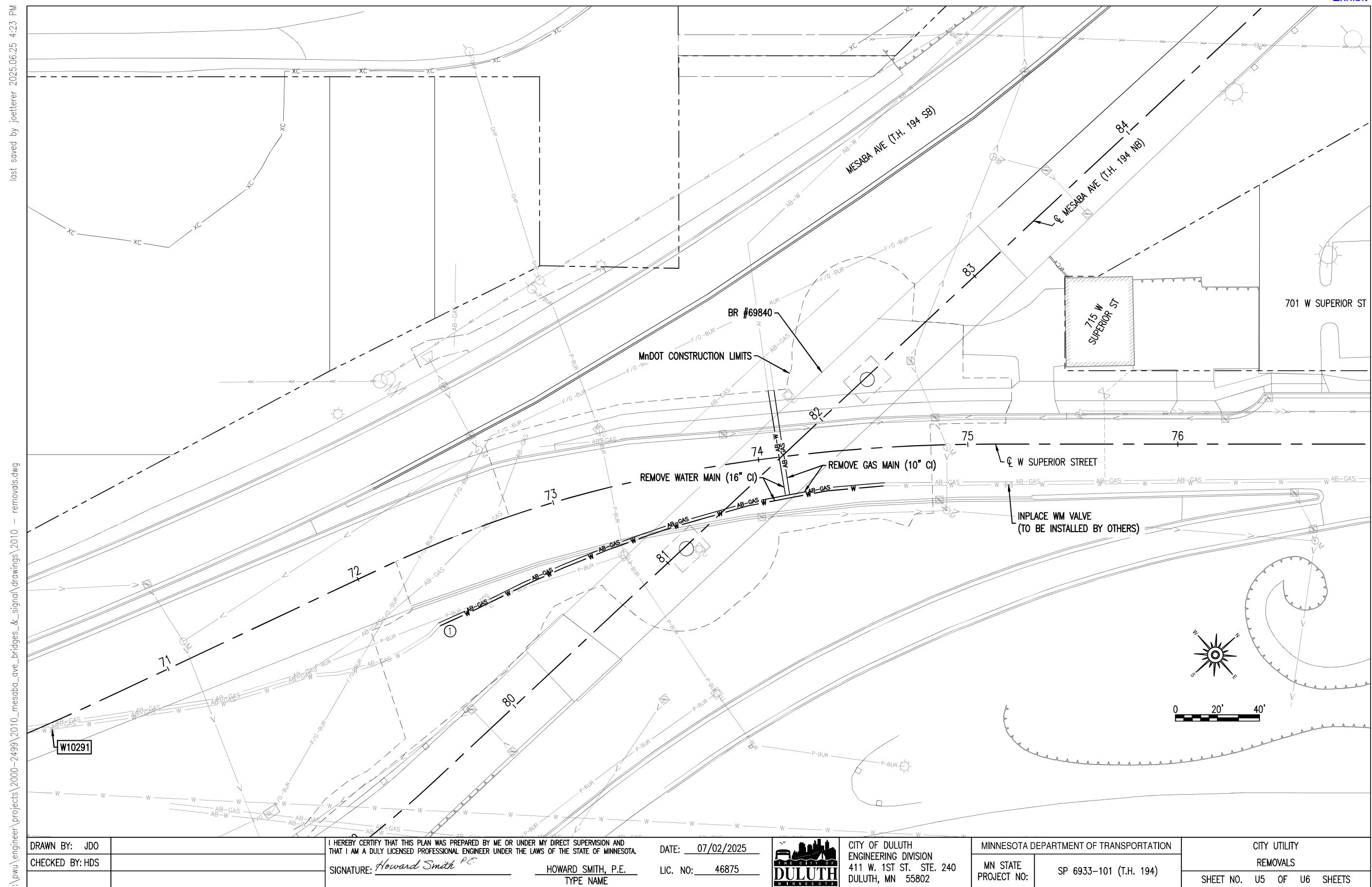


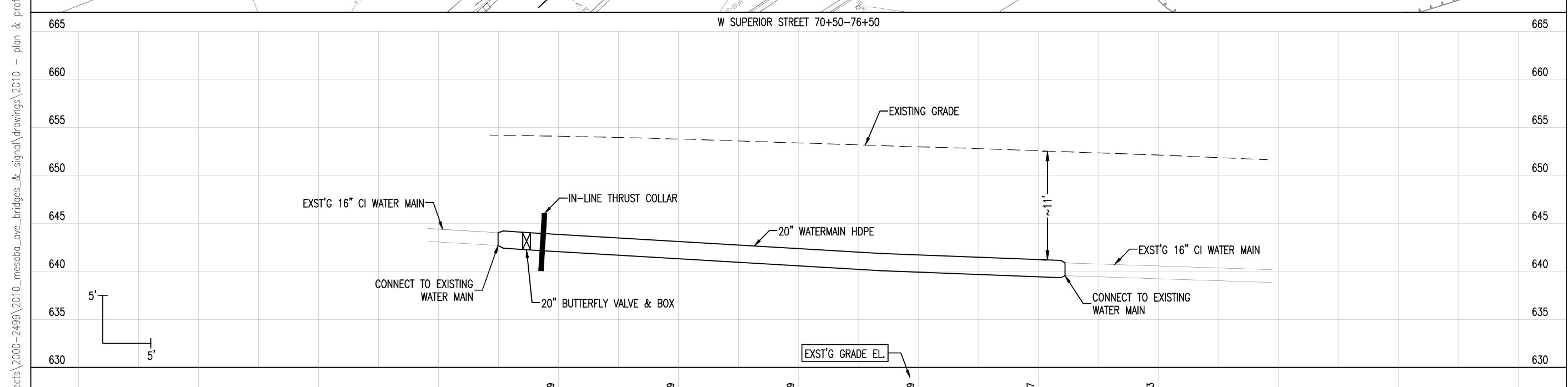
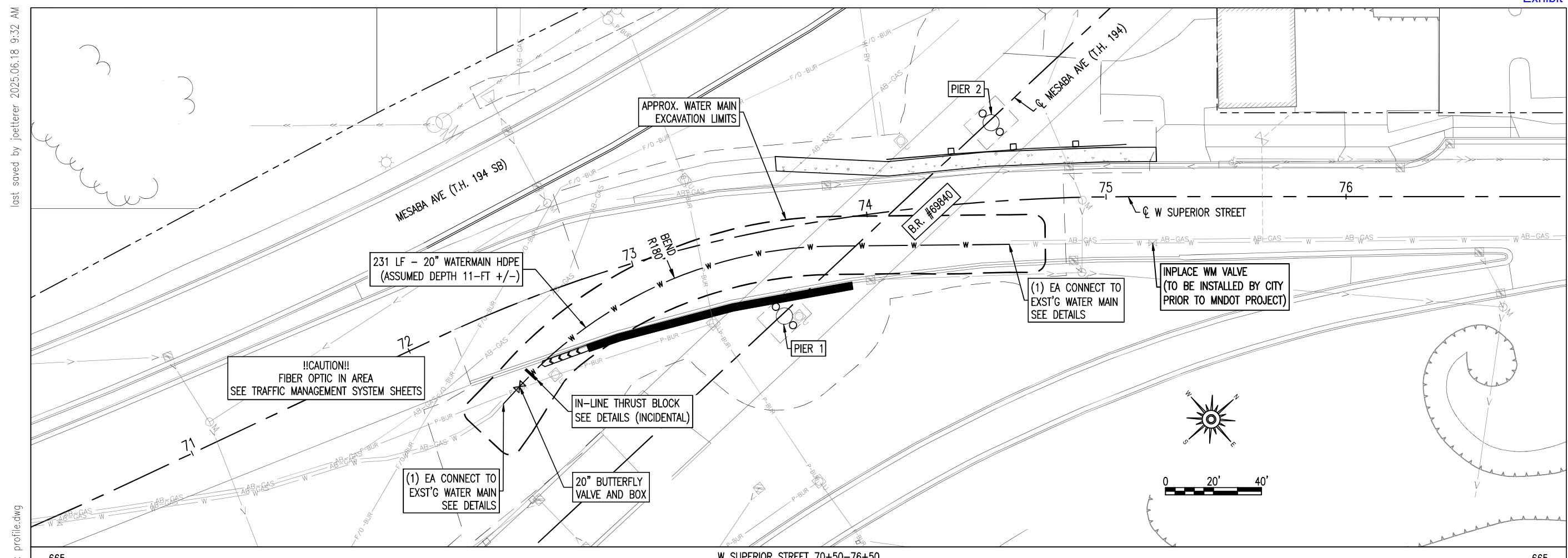
### ISOMETRIC VIEW

1. ALL LABOR, EQUIPMENT, AND MATERIALS TO PROVIDE WORK AS SHOWN IN THIS DETAIL SHALL BE CONSIDERED TO BE INCIDENTAL UNDER PAYMENT IN THE APPLICABLE PIPE PAY ITEM.

## IN-LINE THRUST COLLAR

**NOT TO SCALE**





DRAWN BY: JDO	CHECKED BY: HDS	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.		DATE: 07/02/2025	CITY OF DULUTH ENGINEERING DIVISION 411 W. 1ST ST. STE. 240 DULUTH, MN 55802	MINNESOTA DEPARTMENT OF TRANSPORTATION	CITY UTILITY CONSTRUCTION PLAN AND PROFILE
		SIGNATURE: <u>Howard Smith</u> P.E.	TYPE NAME: <u>HOWARD SMITH, P.E.</u>	LIC. NO: 46875	MN STATE PROJECT NO: SP 6933-101 (T.H. 194)	SHEET NO. U6 OF U6 SHEETS	