

EXHIBIT A

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

S.P. 6915-138 (T.H. 53) & 6980-62 (T.H. 535)
Location: T.H. 53 from W. Michigan St. to W.
4th St and TH 535 from 0.7 mile south of TH
35 to 0.5 mile north of Minnesota State line
Utility Owner: City of Duluth
MnDOT Agreement Number 1050758

AGENCY RELOCATION AGREEMENT

This Agreement Number 1050758 (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 contracts to construct State Project Number 6915-138 (Project) on Trunk Highway Number 53. The Project is located from W. Michigan St. to West 4th St. in City of Duluth and State Project Number 6980-62 (Project) on Trunk Highway Number 535. The Project is located from 0.7 mile south of TH 35 to 0.5 mile north of Minnesota State line in City of Duluth.

The Utility Owner owns and operates lighting, water mains, sanitary sewer, and natural gas mains, their 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.

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; (IV) Indemnification; and (VI) 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

Date: _____

Approved:

By: _____
Director, Office of Land Management

Date: _____

Department of Administration

By: _____

Date: _____

STATEMENT OF ESTIMATED QUANTITIES

TAB	SHEET NO	ITEM NO	DESCRIPTION	UNITS	TOTAL ESTIMATED QUANTITY	SP 6915-138
		2011.601	VIBRATION MONITORING	LUMP SUM	1	1
		2011.601	AS BUILT	LUMP SUM	1	1
		2021.501	MOBILIZATION	LUMP SUM	1	
		2051.501	MAINT & RESTORATION OF HAUL ROADS	LUMP SUM	1	1
B	15	2101.505	CLEARING (P)	ACRE	0.4	0.4
B	15	2101.505	GRUBBING (P)	ACRE	0.5	0.5
B	15	2101.524	CLEARING	TREE	25	25
B	15	2101.524	GRUBBING	TREE	36	36
T	380	2104.502	REMOVE PIPE APRON	EACH	21	21
		2104.502	REMOVE UNDERGROUND TANK	EACH	1	1
E	18	2104.502	REMOVE ANCHORAGE ASSEMBLY	EACH	1	1
		2104.502	REMOVE RAILROAD TIES (1)	EACH	500	500
F	19	2104.502	REMOVE BOLLARDS	EACH	19	19
X	655	2104.502	REMOVE LIGHTING UNIT	EACH	34	34
X	655	2104.502	REMOVE LUMINAIRE	EACH	22	22
E	18	2104.502	REMOVE IMPACT ATTENUATOR	EACH	2	2
F	19	2104.502	REMOVE STAIRS	EACH	2	2
T	380	2104.502	REMOVE MANHOLE OR CATCH BASIN	EACH	36	36
Y	670	2104.502	REMOVE SIGN TYPE C	EACH	12	12
Y	670	2104.502	REMOVE SIGN TYPE D	EACH	5	5
Y	670	2104.502	REMOVE SIGN TYPE OH	EACH	5	5
Y	670	2104.502	REMOVE SIGN TYPE SPECIAL	EACH	1	1
X	655	2104.502	REMOVE EQUIPMENT PAD	EACH	1	1
X	655	2104.502	REMOVE HANDHOLE	EACH	28	28
X	655	2104.502	REMOVE LIGHT FOUNDATION	EACH	12	12
X	655	2104.502	REMOVE SERVICE CABINET	EACH	4	4
F	19	2104.502	REMOVE WOOD INFORMATION SIGN	EACH	1	1
F	19	2104.502	SALVAGE BOULDER (1)	EACH	46	46
X	655	2104.502	SALVAGE LIGHTING UNIT	EACH	2	2
C	16	2104.503	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT	155	155
C	16	2104.503	SAWING BIT PAVEMENT (FULL DEPTH)	LIN FT	1348	1348
P	35	2104.503	REMOVE WATER MAIN	LIN FT	228	228
T, U	380, 401	2104.503	REMOVE SEWER PIPE (STORM)	LIN FT	4034	4034
D	17	2104.503	REMOVE CURB	LIN FT	331	331
D	17	2104.503	REMOVE CURB & GUTTER	LIN FT	5360	5360
D	17	2104.503	REMOVE BITUMINOUS CURB	LIN FT	364	364
E	18	2104.503	REMOVE CONCRETE RETAINING WALL	LIN FT	90	90
F	19	2104.503	REMOVE WOOD RETAINING WALL	LIN FT	1112	1112
E	18	2104.503	REMOVE CHAIN LINK FENCE	LIN FT	513	513
E	18	2104.503	REMOVE GUARDRAIL-PLATE BEAM	LIN FT	1023	1023
F	19	2104.503	REMOVE METAL PIPE RAILING	LIN FT	250	250
E	18	2104.503	REMOVE CONCRETE BARRIER	LIN FT	161	161
E	18	2104.503	REMOVE CONCRETE MEDIAN BARRIER	LIN FT	535	535
X	655	2104.503	REMOVE UNDERGROUND WIRE	LIN FT	8725	8725
T	380	2104.503	REMOVE CONCRETE & BRICK TUNNEL-STORM	LIN FT	60	60
F	19	2104.503	REMOVE WOOD EDGER	LIN FT	1035	1035
X	655	2104.503	REMOVE CONDUIT SYSTEM	LIN FT	500	500
D	17	2104.504	REMOVE CONCRETE WALK	SQ YD	1851	1851
D	17	2104.504	REMOVE CONCRETE PAVEMENT	SQ YD	7181	7181
F	19	2104.504	REMOVE CONCRETE APPROACH PANEL	SQ YD	1000	1000
D	17	2104.504	REMOVE BITUMINOUS PAVEMENT	SQ YD	13584	13584
P	35	2104.603	ABANDON WATER MAIN	LIN FT	196	196

SPECIFIC NOTES:

- (1) STOCKPILE BOULDERS IN MNDOT PARKING LOT BETWEEN SUPERIOR ST AND W MICHIGAN ST (INCIDENTAL).
- (1) RAILROAD TIE QUANTITY ESTIMATED FROM INPLACE CONDITIONS AND LOCATED THROUGHOUT THE PROJECT.
- (P) PAID AS PLAN QUANTITY

4:07:04 PM 2/27/2022 C:\Users\jgarcia\OneDrive\Documents\2018\180220\DESIGN\Plan_Sheets\WP3\cd6982322WP3_est101.dgn

NO	DATE	DWN	CKD	REVISIONS
	02/27/22			



I HEREBY CERTIFY THAT THIS SHEET 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.

PRINT NAME: NICOLE GULICK
SIGNATURE: *Nicole Gulick*
DATE: 03/02/2022 LICENSE #: 45642

STATEMENT OF ESTIMATED QUANTITIES

SP 6915-138 (TH 53)

SHEET NO. 3 OF 716 SHEETS

STATEMENT OF ESTIMATED QUANTITIES

TAB	SHEET NO	ITEM NO	DESCRIPTION	UNITS	TOTAL ESTIMATED QUANTITY ^(A)
R	322	2411.618	ARCH SURFACE FINISH (TWO COLOR) (P) ⑤	SQ FT	1550
R	322	2411.618	ARCH CONC TEXTURE (ROCK FACE) (P) ⑤	SQ FT	1300
R	322	2411.618	ARCH CONC TEXTURE (BRICK) (P) ⑤	SQ FT	1550
A	10	2451.507	STRUCTURE EXCAVATION CLASS U ⑤	CU YD	1017
P	35	2451.507	GRANULAR BEDDING (CV)	CU YD	87
A	10	2451.607	STRUCTURAL BACKFILL (P)	CU YD	7766
R	322	2452.502	STEEL H-TEST PILE 70 FT LONG 10"	EACH	6
R	322	2452.502	STEEL H-TEST PILE 75 FT LONG 10"	EACH	2
R	322	2452.502	STEEL H-TEST PILE 80 FT LONG 10"	EACH	1
R	322	2452.502	PILE TIP PROTECTION 10"	EACH	146
		2452.601	TEMPORARY VERTICAL SHORING	LUMP SUM	1
R	322	2452.603	STEEL H-PILING 10"	LIN FT	8660
M	24	2502.502	4" PRECAST CONCRETE HEADWALL	EACH	1
M	24	2502.503	4" TP PIPE DRAIN	LIN FT	130
M	24	2502.503	4" PERF PE PIPE DRAIN	LIN FT	2713
S	380	2503.503	12" RC PIPE SEWER DES 3006 CL V	LIN FT	1413
S	380	2503.503	15" RC PIPE SEWER DES 3006 CL V	LIN FT	1245
S	380	2503.503	24" RC PIPE SEWER DES 3006	LIN FT	544
		2503.601	MAINTENANCE OF STORM SEWERS	LUMP SUM	1
S	380	2503.602	CONNECT TO EXISTING STORM SEWER	EACH	9
T	380	2503.603	PLUG FILL & ABANDON PIPE SEWER	LIN FT	188
S	380	2503.603	24" STEEL CASING PIPE	LIN FT	72
P	35	2504.601	TEMPORARY WATER SERVICE	LUMP SUM	1
P	35	2504.602	CONNECT TO EXISTING WATER MAIN	EACH	3
P	35	2504.602	ADJUST VALVE BOX	EACH	3
P	35	2504.602	8" GATE VALVE & BOX	EACH	4
P	35	2504.603	8" WATERMAIN DUCTILE IRON CL 52	LIN FT	474
P	35	2504.603	20" WATERMAIN HDPE	LIN FT	217
P	35	2504.604	3" POLYSTYRENE INSULATION	SQ YD	10
S	380	2506.502	CASTING ASSEMBLY	EACH	64
S	28, 380	2506.502	ADJUST FRAME & RING CASTING	EACH	12
S	380	2506.503	CONST DRAINAGE STRUCTURE DESIGN G	LIN FT	16
S	380	2506.503	CONST DRAINAGE STRUCTURE DESIGN H	LIN FT	32
S	380	2506.503	CONST DRAINAGE STRUCTURE DESIGN SD-48	LIN FT	23
S	380	2506.503	CONST DRAINAGE STRUCTURE DESIGN SD-60	LIN FT	5
S	380	2506.503	CONST DRAINAGE STRUCTURE DES 48-4020	LIN FT	223
S	380	2506.503	CONST DRAINAGE STRUCTURE DES 60-4020	LIN FT	31
S	380	2506.503	CONST DRAINAGE STRUCTURE DES 72-4020	LIN FT	19
S	380	2506.503	RECONSTRUCT DRAINAGE STRUCTURE	LIN FT	1
S	380	2506.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE	EACH	2
S	28, 380	2506.602	CONCRETE COLLAR	EACH	12
N	25	2511.504	GEOTEXTILE FILTER TYPE 3	SQ YD	666
N	25	2511.607	RANDOM RIPRAP (MATRIX)	CU YD	222
H	21	2521.518	4" CONCRETE WALK	SQ FT	13874
H	21	2521.518	6" CONCRETE WALK	SQ FT	11466
H	21	2531.503	CONCRETE CURB & GUTTER DESIGN B424	LIN FT	554
H	21	2531.503	CONCRETE CURB & GUTTER DESIGN B424 (MOD) ⑥	LIN FT	950
H	21	2531.503	CONCRETE CURB & GUTTER DESIGN B612	LIN FT	2348
H	21	2531.503	CONCRETE CURB & GUTTER DESIGN B624	LIN FT	1991
H	21	2531.503	CONCRETE CURB DESIGN DR4-7	LIN FT	1932

① 85% NHPP FEDERAL / 15% STATE FUNDS

SPECIFIC NOTES:
⑤ SEE DIVISION SB.
⑥ SEE TYPICAL SECTION FOR MODIFICATION.
(P) PAID AS PLAN QUANTITY

12:36:44 PM 4/29/2022 \\prc01\cfs\2018\180220\DESIGN\WP3\Drawings\SP6915138\SP3.dgn

NO	DATE	DWN	CKD	REVISIONS



I HEREBY CERTIFY THAT THIS SHEET 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.

PRINT NAME: NICOLE GULICK
SIGNATURE: *Nicole Gulick*
DATE: 04/29/2022 LICENSE #: 45642

STATEMENT OF ESTIMATED QUANTITIES

SP 6915-138 (TH 53)

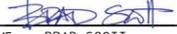
SHEET NO. 5 OF 716 SHEETS

PLOTTED/REVISED: 2/25/2022

SUMMARY OF CITY UTILITY QUANTITIES					P
SHEET NUMBER	SPEC.	ITEM	UNIT	TOTAL	SP 6915-138 TOTAL
36	2104	REMOVE WATER MAIN	LIN FT	228	228
36	2104	ABANDON WATER MAIN	LIN FT	196	196
36	2451	GRANULAR BEDDING (CV)	CU YD	87	87
46	2504	TEMPORARY WATER SERVICE	① LUMP SUM	1	1
36	2504	CONNECT TO EXISTING WATER MAIN	EACH	3	3
36	2504	ADJUST VALVE BOX	② EACH	3	3
36	2504	8" GATE VALVE AND BOX	EACH	4	4
36	2504	8" WATERMAIN DUCTILE IRON CL 52	LIN FT	474	474
36	2504	20" WATERMAIN HDPE	LIN FT	217	217
36	2504	3" POLYSTYRENE INSULATION	SQ YD	10	10

KEY NOTES

- ① PROVIDE TEMPORARY WATER SYSTEM FOR MAINTENANCE OF WATER SERVICES DURING CONSTRUCTION.
- ② SEE MISCELLANEOUS DETAILS FOR CONCRETE COLLAR DETAIL.

DRAWN BY: ADB		DESIGNED BY: ADB		CHECKED BY: BPS		<small>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.</small> SIGNATURE:  DATE: 03/02/2022 PRINTED NAME: BRAD SCOTT L.I.C. NO: 46198		 PERFORMANCE DRIVEN DESIGN. LHBcorp.com		MINNESOTA DEPARTMENT OF TRANSPORTATION Mn STATE PROJECT NO: SP 6915-138 (TH 53)		CITY UTILITIES SHEET NO. 35 OF 716 SHEETS	
<small>PATH & FILENAME: Q:\199Proj\190201\600 Drawings\C\WP3-4\General\cd6982322.sqa.dgn</small>													

- NOTES:
- ① STATIONING AND OFFSET TAKEN FROM THE TH 53 ALIGNMENT.
 - ② WATERMAIN CASING.

HYDRANTS AND WATER VALVES

STATION	OFFSET	ADJUST VALVE BOX		8" GATE VALVE & BOX		HYDRANT DATA	
		EACH	EACH	EACH	EACH	BASE INVERT ELEV.	TOP NUT ELEV.
20TH AVE WEST ①							
114+77.78	249.0 RT	1	1				
115+04.51	247.7 RT	1	1				
115+09.87	256.3 RT	1	1				
115+60.12	91.7 LT	1	1				
SP 6915-138 TOTAL		3	4				
CHART TOTAL			4				

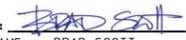
WATER REMOVALS

FROM		TO		REMOVE WATER MAIN	ABANDON WATER MAIN
STATION	OFFSET	STATION	OFFSET	LIN FT	LIN FT
20TH AVE WEST ①					
115+61.71	96.0 LT	115+56.46	81.3 LT	15.5	
115+56.46	81.3 LT	115+13.72	109.6 RT		195.6
115+13.72	109.6 RT	114+96.90	253.0 RT	144.8	
114+70.21	248.2 RT	115+14.13	257.4 RT	68.1	
SP 6915-138 TOTAL				228	196
CHART TOTAL				228	196

WATER MAIN & SERVICES

FROM		TO		CONNECT TO EXISTING WATER MAIN	8" WATERMAIN DUCTILE IRON CL 52	20" WATERMAIN HDPE ②	GRANULAR BEDDING (CV)	3" POLYSTYRENE INSULATION
STATION	OFFSET	STATION	OFFSET	EACH	LIN FT	LIN FT	CU YD	SQ YD
20TH AVE WEST ①								
114+73.53	248.6 RT	115+03.80	254.7 RT	1	64		9	
115+03.80	254.7 RT	115+61.71	96.0 LT	1	394		73	10
115+03.80	254.7 RT	115+14.01	257.4 RT	1	16		5	
115+12.12	79.5 RT	115+18.13	137.3 RT			217		
SP 6915-138 TOTAL				3	474	217	87	10
CHART TOTAL				3	474	217	87	10

PLOTTED/REVISED: 2/25/2022

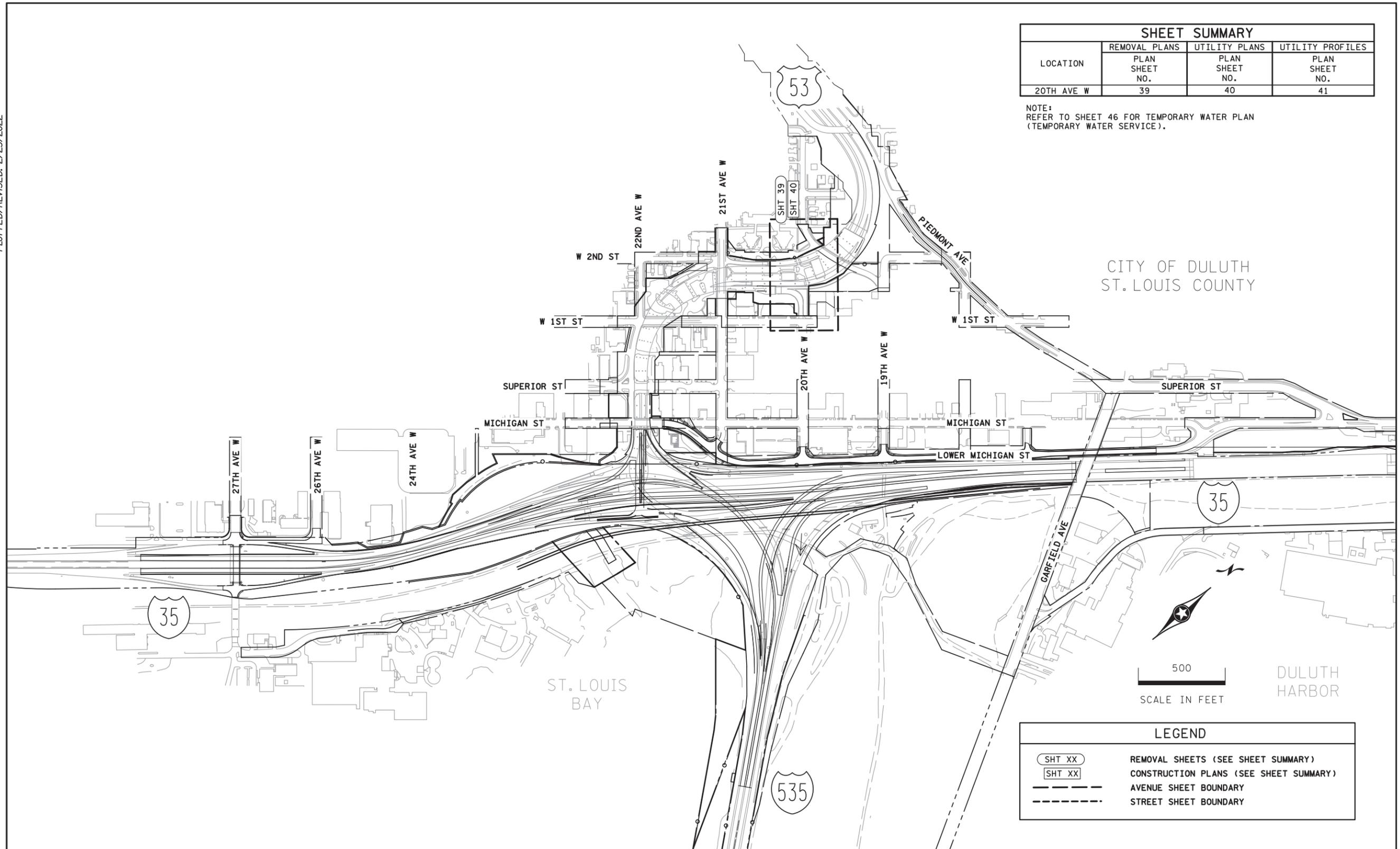
DRAWN BY: ADB						I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. SIGNATURE:  DATE: 03/02/2022 PRINTED NAME: BRAD SCOTT LIC. NO: 46198		MINNESOTA DEPARTMENT OF TRANSPORTATION		CITY UTILITIES TABULATIONS		
DESIGNED BY: ADB								MN STATE PROJECT NO:	SP 6915-138 (TH 53)		SHEET NO. 36 OF 716 SHEETS	
CHECKED BY: BPS	NO	DATE	BY	CKD	APPR			REVISION				

PATH & FILENAME: Q:\199Proj\190201\600 Drawings\C\WP3-4\General\cd6982322.tbl.dgn

PLOTTED/REVISED: 2/25/2022

SHEET SUMMARY			
LOCATION	REMOVAL PLANS	UTILITY PLANS	UTILITY PROFILES
	PLAN SHEET NO.	PLAN SHEET NO.	PLAN SHEET NO.
20TH AVE W	39	40	41

NOTE:
REFER TO SHEET 46 FOR TEMPORARY WATER PLAN
(TEMPORARY WATER SERVICE).



CITY OF DULUTH
ST. LOUIS COUNTY



LEGEND	
	REMOVAL SHEETS (SEE SHEET SUMMARY)
	CONSTRUCTION PLANS (SEE SHEET SUMMARY)
	AVENUE SHEET BOUNDARY
	STREET SHEET BOUNDARY

DRAWN BY: ADB					
DESIGNED BY: ADB					
CHECKED BY: BPS	NO	DATE	BY	CHK	APPR
					REVISION

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.
SIGNATURE: DATE: 03/02/2022
PRINTED NAME: BRAD SCOTT LIC. NO: 46198

LHB PERFORMANCE DRIVEN DESIGN.
LHBcorp.com

MINNESOTA DEPARTMENT OF TRANSPORTATION
MN STATE PROJECT NO: SP 6915-138 (TH 53)

CITY UTILITIES
SHEET SUMMARY
SHEET NO. 37 OF 716 SHEETS

PATH & FILENAME: 0:\199\proj\190201\600 Drawings\C\WP3-4\General\cd6982322.glt.dgn

UTILITY NOTES

GENERAL

THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING INPLACE UTILITIES PRIOR TO CONSTRUCTING PROPOSED UTILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

ALL PIPE LENGTHS AND SLOPES ARE BASED ON THE DISTANCE FROM CENTER TO CENTER OF STRUCTURE ROUNDED TO THE NEAREST FOOT.

ALL HDPE AND DUCTILE IRON (DI) FITTINGS, TRANSITION COUPLINGS, AND ADAPTERS SHALL BE INCIDENTAL.

ALL TRENCHING, EXCAVATION, AND BACKFILL SHALL BE INCLUDED FOR PAYMENT IN THE APPLICABLE PIPE PAY ITEM FOR THE TYPE AND SIZE INDICATED IN THE PLANS.

THE REMOVAL OF ABANDONED (IN PLACE, OUT OF SERVICE) UTILITIES AS REQUIRED TO CONSTRUCT CITY UTILITIES SHALL BE INCIDENTAL.

IN THE CITY PLANS ALL INPLACE CITY WATER, SANITARY SEWER, AND GAS INDICATED AS "ABANDONED" OR "ABAND." OR "AB" SHALL BE CONSIDERED IN PLACE, OUT OF SERVICE.

THE USE OF TRENCH BOXES, TEMPORARY SHORING, OR SPECIAL EXCAVATION TO CONSTRUCT UTILITIES AS SHOWN SHALL BE CONSIDERED INCIDENTAL UNLESS SPECIFICALLY IDENTIFIED FOR PAYMENT ELSEWHERE IN THE PLANS.

NOTIFICATION OF EXCAVATION NEAR GAS MAINS

THE CITY OF DULUTH GAS UTILITY MUST BE NOTIFIED 2 WORKING DAYS PRIOR TO ANY EXCAVATION OR DIRECTIONAL DRILLING WITHIN 6 FEET OF A 6 INCH OR LARGER NATURAL GAS MAIN. DEPARTMENT PERSONNEL WILL BE ON SITE TO MONITOR EXCAVATION AND INSPECT ANY EXPOSED MAIN 6 INCHES OR LARGER. NOTIFY THE ENGINEERING FRONT DESK AT 218-730-5200 TO COORDINATE THIS INSPECTION.

THE CONTRACTOR SHALL NOTIFY THE CITY OF DULUTH GAS UTILITY IMMEDIATELY ANY TIME A STEEL NATURAL GAS MAIN SMALLER THAN 6 INCHES IS EXPOSED WITHIN AN EXCAVATION. CONTACT THE ENGINEERING FRONT DESK AT 218-720-5200 TO COORDINATE AN INSPECTION OF THE EXPOSED MAIN.

WATER

ALL CITY WATER VALVES SHALL ONLY BE OPERATED BY THE CITY OF DULUTH.

TEMPORARY WATER SERVICE SYSTEM

THE TEMPORARY WATER SERVICE SYSTEM SHALL CONSIST OF ALL WORK TO PROVIDE CONTINUOUS WATER SERVICE (EXCEPT FOR THOSE INTERRUPTIONS PERMITTED BY THE SPECIAL PROVISIONS) TO BUILDINGS SERVED BY WATER MAINS TO BE REPLACED.

THE CONTRACTOR SHALL WORK WITH THE CITY TO ENSURE CONTINUED SERVICE TO ALL BUILDINGS AFFECTED BY THE WORK.

STAGES SHALL BE COMPLETED SEQUENTIALLY. NEW WATER MAINS SHALL BE TESTED AND PLACED IN SERVICE PRIOR TO SUBSEQUENT STAGES BEING STARTED.

THE CONTRACTOR SHALL PROVIDE A WRITTEN PLAN INCLUDING A SCHEDULE, PRODUCT INFORMATION AND EQUIPMENT LIST TO THE ENGINEER FOR APPROVAL AT LEAST 14 DAYS PRIOR TO INSTALLATION OF TEMPORARY WATER SERVICE.

THE CONTRACTOR SHALL ATTEND A PRE- INSTALLATION MEETING WITH THE CITY OF DULUTH PRIOR TO THE INSTALLATION OF THE TEMPORARY WATER SYSTEM.

TEMPORARY WATER SERVICE SHALL BE FULLY ESTABLISHED FOR EACH LOCATION PRIOR TO THE CONSTRUCTION OF THE NEW WATER MAINS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING THE TEMPORARY WATER SERVICE SYSTEM AS SHOWN ON THE PLAN. THE CONTRACTOR SHALL TAKE ADEQUATE STEPS TO PROTECT TEMPORARY WATER SERVICE LINES DURING CONSTRUCTION (INCIDENTAL).

THE TEMPORARY WATER SYSTEM MUST MEET THE PRESSURE AND BACTERIA TEST REQUIREMENTS AS SPECIFIED IN THE CITY OF DULUTH STANDARD CONSTRUCTION SPECIFICATIONS SECTION 2504.

PRIOR TO MOVING ANY SEGMENT OF TEMPORARY WATER SERVICE PIPE THE ENDS SHALL BE CAPPED WITH WATER TIGHT CAPS (DUCT TAPE IS NOT ACCEPTABLE). IF THE PIPE BECOMES CONTAMINATED WITH DIRT OR DEBRIS WHILE BEING MOVED IT SHALL BE RE-DISINFECTED AND RETESTED FOR BACTERIA BEFORE BEING PUT INTO SERVICE.

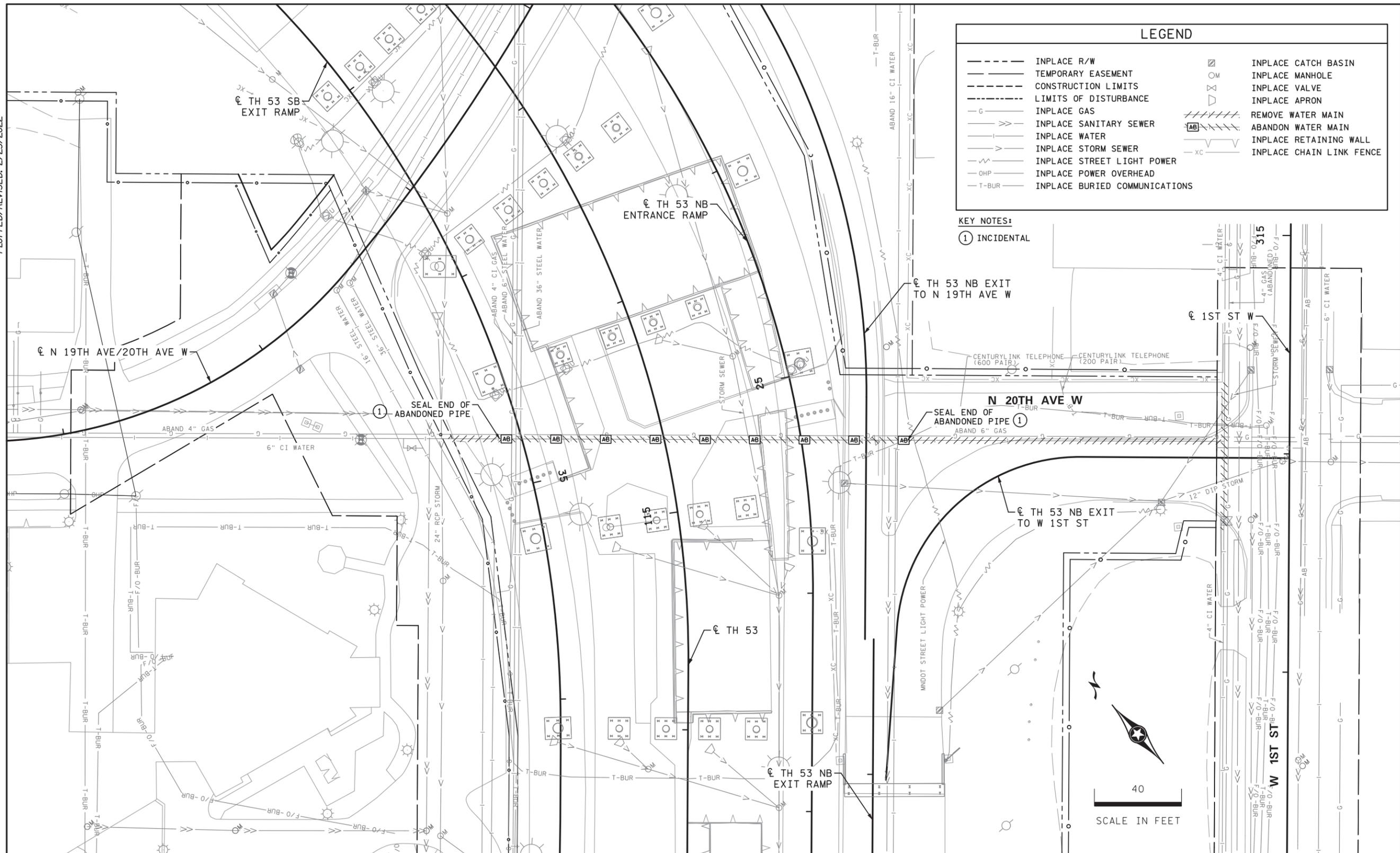
THE CONTRACTOR SHALL PROVIDE TWO (2) EMERGENCY BACKUP CONTACT PERSONNEL FOR THE TEMPORARY WATER SYSTEM. THE EMERGENCY CONTACTS SHALL BE AVAILABLE 24 HOURS A DAY 7 DAYS A WEEK. IF CITY OF DULUTH STAFF ARE CALLED TO THE PROJECT SITE TO REPAIR THE TEMPORARY WATER SERVICE SYSTEM THE CONTRACTOR WILL BE BACK CHARGED THE COST OF REPAIR.

REFER TO SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

PLOTTED/REVISED: 2/25/2022

DRAWN BY: ADB		DESIGNED BY: ADB		CHECKED BY: BPS		NO		DATE		BY		CKD		APPR		REVISION		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.		 PERFORMANCE DRIVEN DESIGN. LHBcorp.com		MINNESOTA DEPARTMENT OF TRANSPORTATION MN STATE PROJECT NO: SP 6915-138 (TH 53)		CITY UTILITIES UTILITY NOTES SHEET NO. 38 OF 716 SHEETS	
																SIGNATURE:  DATE: 03/02/2022		PRINTED NAME: BRAD SCOTT LIC. NO: 46198							
PATH & FILENAME: 0:\199\proj\190201\600 Drawings\C\WP3-4\General\cd6982322.g12.dgn																									

PLOTTED/REVISED: 2/25/2022



LEGEND			
---	INPLACE R/W	☐	INPLACE CATCH BASIN
---	TEMPORARY EASEMENT	○	INPLACE MANHOLE
---	CONSTRUCTION LIMITS	△	INPLACE VALVE
---	LIMITS OF DISTURBANCE	▽	INPLACE APRON
—G—	INPLACE GAS		REMOVE WATER MAIN
—S—	INPLACE SANITARY SEWER	AB	ABANDON WATER MAIN
—W—	INPLACE WATER	—XC—	INPLACE RETAINING WALL
—T—	INPLACE STORM SEWER		INPLACE CHAIN LINK FENCE
—P—	INPLACE STREET LIGHT POWER		
—OHP—	INPLACE POWER OVERHEAD		
—T-BUR—	INPLACE BURIED COMMUNICATIONS		

KEY NOTES:
① INCIDENTAL

DRAWN BY:	ADB				
DESIGNED BY:	ADB				
CHECKED BY:	BPS				
NO	DATE	BY	CKD	APPR	REVISION

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.

SIGNATURE: *Brad Scott* DATE: 03/02/2022
PRINTED NAME: BRAD SCOTT LIC. NO: 46198

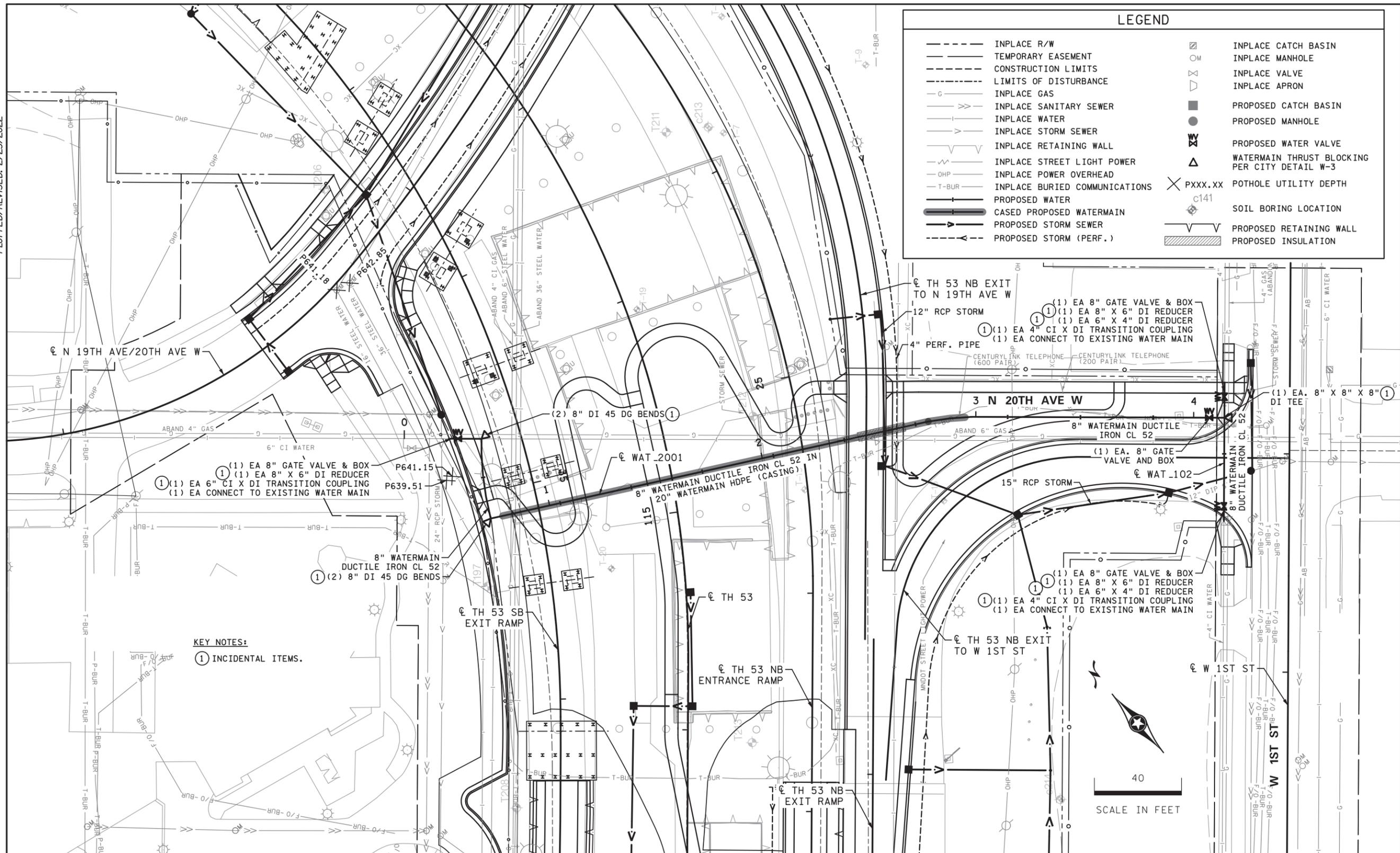


MINNESOTA DEPARTMENT OF TRANSPORTATION
MN STATE PROJECT NO: SP 6915-138 (TH 53)

REMOVAL PLANS
20TH AVE W
SHEET NO. 39 OF 716 SHEETS

PATH & FILENAME: 0:\199\proj\190201\600 Drawings\C\WP3-4\Removals\cd6982322.C00.rem.20th-W.dgn

PLOTTED/REVISED: 2/25/2022



LEGEND			
	INPLACE R/W		INPLACE CATCH BASIN
	TEMPORARY EASEMENT		INPLACE MANHOLE
	CONSTRUCTION LIMITS		INPLACE VALVE
	LIMITS OF DISTURBANCE		INPLACE APRON
	INPLACE GAS		PROPOSED CATCH BASIN
	INPLACE SANITARY SEWER		PROPOSED MANHOLE
	INPLACE WATER		PROPOSED WATER VALVE
	INPLACE STORM SEWER		WATERMAIN THRUST BLOCKING PER CITY DETAIL W-3
	INPLACE RETAINING WALL		POTHOLE UTILITY DEPTH
	INPLACE STREET LIGHT POWER		SOIL BORING LOCATION
	INPLACE POWER OVERHEAD		PROPOSED RETAINING WALL
	INPLACE BURIED COMMUNICATIONS		PROPOSED INSULATION
	PROPOSED WATER		
	CASED PROPOSED WATERMAIN		
	PROPOSED STORM SEWER		
	PROPOSED STORM (PERF.)		

KEY NOTES:
① INCIDENTAL ITEMS.



DRAWN BY: ADB					
DESIGNED BY: ADB					
CHECKED BY: BPS					
NO	DATE	BY	CKD	APPR	REVISION

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.

SIGNATURE: *Brad Scott* DATE: 03/02/2022
PRINTED NAME: BRAD SCOTT LIC. NO: 46198

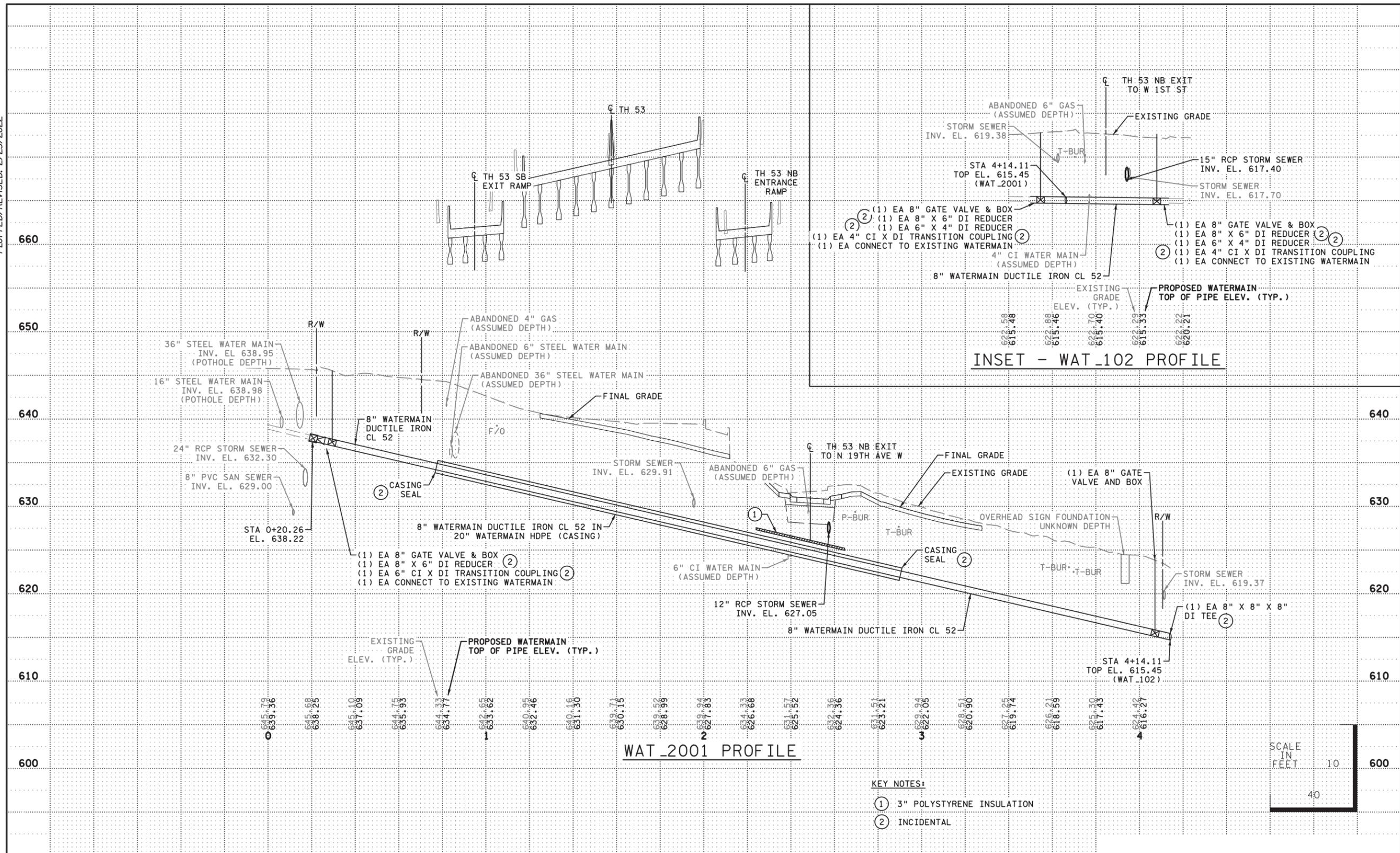


MINNESOTA DEPARTMENT OF TRANSPORTATION
MN STATE PROJECT NO: SP 6915-138 (TH 53)

UTILITY PLANS
20TH AVE W
SHEET NO. 40 OF 716 SHEETS

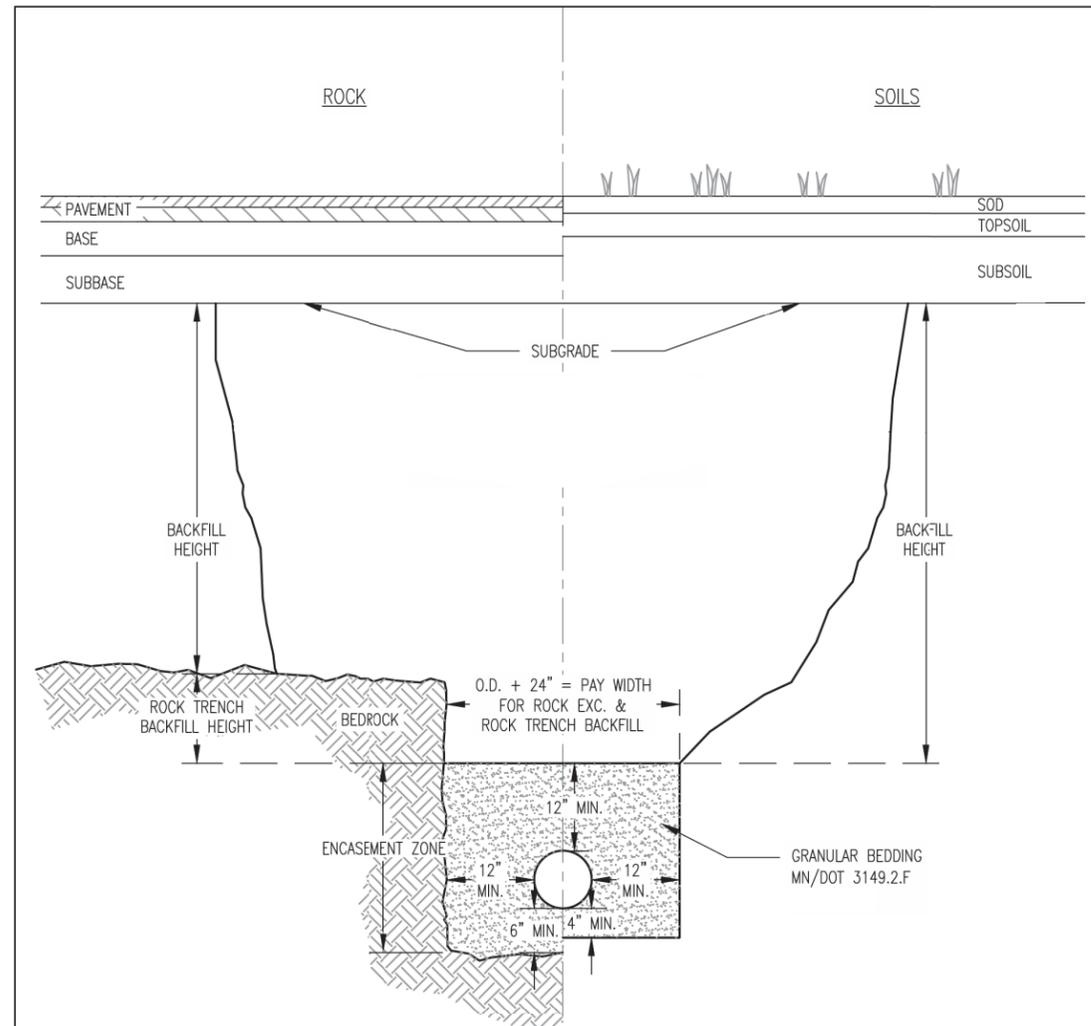
PATH & FILENAME: 0:\199\proj\190201\600 Drawings\1\WP3-4\Utility\Hes\cd6982322.CAD.ut_20th-w_01.dgn

PLOTTED/REVISED: 2/25/2022



DRAWN BY: ADB		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.	PERFORMANCE DRIVEN DESIGN. <small>LHBcorp.com</small>	MINNESOTA DEPARTMENT OF TRANSPORTATION <small>MN STATE PROJECT NO:</small> SP 6915-138 (TH 53)	UTILITY PROFILES 20TH AVE W - WATERMAIN PROFILE SHEET NO. 41 OF 716 SHEETS
DESIGNED BY: ADB		SIGNATURE: DATE: 03/02/2022			
CHECKED BY: BPS		PRINTED NAME: BRAD SCOTT L.C. NO: 46198			
PATH & FILENAME: G:\199\proj\190201\600 Drawings\C\WP3-4\U\1111\hes\cd6982322.CAD.ut_20th-W_02.dgn					

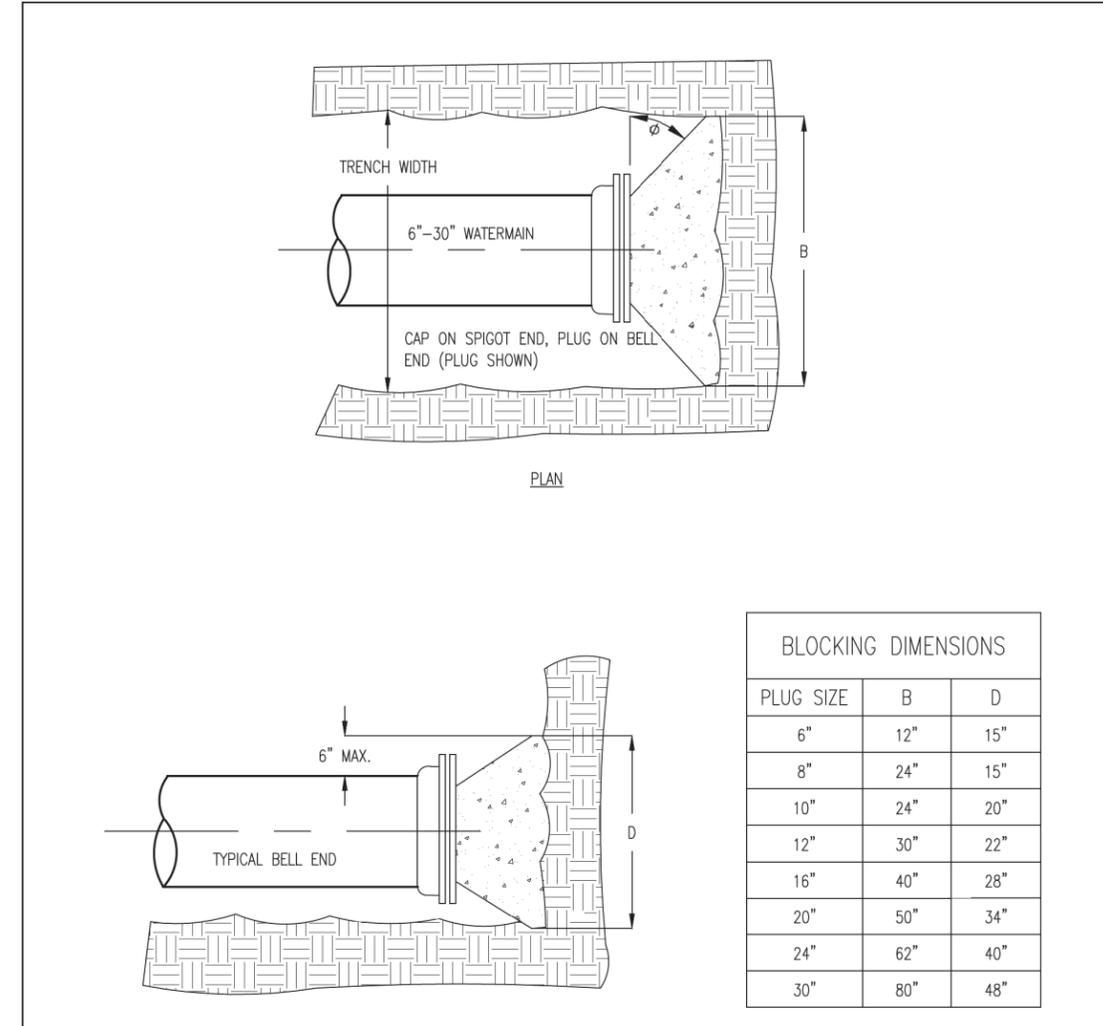
PLOTTED/REVISED: 2/25/2022



- NOTES:
- EXCESS EXCAVATION MATERIAL SHALL BE DISPOSED OF OFF PROJECT R.O.W. (INCIDENTAL)
 - PAY WIDTH FOR ROCK EXCAVATION SHALL BE BASED ON OUTSIDE DIAMETER OF PIPE PLUS 24".
 - A MINIMUM OF 1 CUBIC YARD OF STRUCTURE EXCAVATION, CLASS R, WILL BE PAID FOR EVERY 10' OF PIPE WHERE ROCK REMOVAL IS REQUIRED.
 - TRENCH STABILIZATION BEDDING MATERIAL MAY BE USED IN AREAS AS DETERMINED BY THE ENGINEER.
 - ENCASEMENT ZONE MATERIAL SHALL BE COMPACTED TO 95% OF MAXIMUM STANDARD PROCTOR DENSITY.
 - 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 COMMON BORROW SPECIAL (LV) SHALL BE PROVIDED. USE OF NATIVE ON-SITE MATERIAL IS INCIDENTAL.
 - 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
MODIFIED FOR PROJECT	CITY OF DULUTH STANDARD DETAIL DEPT. OF PUBLIC WORKS AND UTILITIES	NO SCALE

NOTE: COMMON BORROW SPECIAL (LV) SHALL BE PAID FOR SEPARATELY. ALL OTHER WORK IN THIS DETAIL SHALL BE INCLUDED FOR PAYMENT UNDER THE PIPE PAY ITEM FOR THE TYPE AND SIZE OF PIPE INDICATED IN THE PLANS.



- NOTES:
- BLOCKING DIMENSIONS BASED ON EARTH RESISTANCE OF 2 TONS PER SQ. FT. WHERE, IN THE OPINION OF THE ENGINEER, EARTH IS POOR, BLOCKING SHALL BE INCREASED IN SIZE AS DIRECTED OR STRAPPING MAY BE NECESSARY.
 - ANGLE ϕ SHALL BE EQUAL TO OR LARGER THAN 45°.
 - BLOCKING SHALL BE CENTERED ON MAIN.
 - CONCRETE SHALL BE MIX 3G52 - MNDOT 2461.
 - POLYETHYLENE SHALL BE USED TO SEPARATE CONCRETE FROM FITTING.
 - REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

PLUG BLOCKING FOR WATERMAIN		W-2
REVISED/APPROVED 01/20/2017	CITY OF DULUTH STANDARD DETAIL DEPT. OF PUBLIC WORKS AND UTILITIES	NO SCALE

NOTE: ALL WORK IN THIS DETAIL SHALL BE CONSIDERED INCIDENTAL.

DRAWN BY: ADB					
DESIGNED BY: ADB					
CHECKED BY: BPS	NO	DATE	BY	CKD	APPR
REVISION					

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.

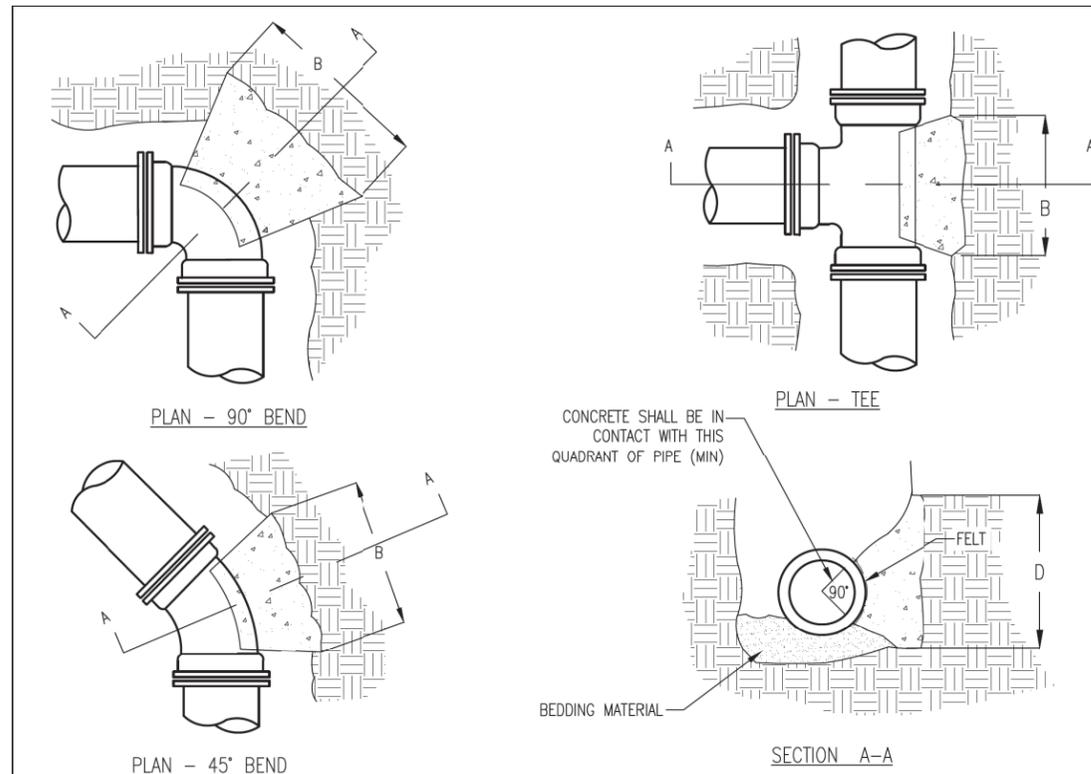
SIGNATURE: *Brad Scott* DATE: 03/02/2022
PRINTED NAME: BRAD SCOTT L.I.C. NO: 46198



MINNESOTA DEPARTMENT OF TRANSPORTATION	
MN STATE PROJECT NO:	SP 6915-138 (TH 53)

CITY DETAILS		
SHEET NO. 42	OF 716	SHEETS

PLOTTED/REVISED: 2/25/2022



NOTES

1. DIMENSIONS IN TABLE ARE BASED ON A WATER PRESSURE OF 150 P.S.I. & AN EARTH RESISTANCE OF 2 TONS/S.F.
2. BLOCKING TO BE SET AGAINST UNDISTURBED SOIL
3. CONCRETE SHALL BE MIX 3652. (MNDOT SPEC. 2461) CONCRETE SHALL NOT INTERFERE WITH MECHANICAL JOINTS
4. POLYETHYLENE SHALL BE USED TO SEPARATE CONCRETE FROM FITTING.
5. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

BEND OR BRANCH SIZE	BLOCKING DIMENSIONS							
	22-1/2° BENDS		45° BENDS		90° BENDS		TEES	
	B	D	B	D	B	D	B	D
0'-6"	1'-0"	1'-0"	1'-0"	1'-0"	1'-4"	1'-2"	1'-3"	1'-0"
0'-8"	1'-0"	1'-0"	1'-4"	1'-2"	1'-10"	1'-6"	1'-6"	1'-4"
1'-0"	1'-4"	1'-4"	1'-10"	1'-10"	2'-8"	2'-3"	2'-3"	2'-0"
1'-4"	1'-10"	1'-8"	2'-6"	2'-4"	3'-10"	2'-10"	3'-2"	2'-4"
1'-8"	2'-4"	2'-0"	3'-3"	2'-10"	5'-0"	3'-4"	4'-0"	3'-0"
2'-0"	2'-10"	2'-4"	4'-0"	3'-3"	6'-4"	3'-10"	5'-3"	3'-4"
2'-6"	3'-6"	3'-0"	5'-4"	3'-10"	8'-0"	4'-8"	6'-3"	4'-3"

THRUST BLOCKING FOR WATERMAIN

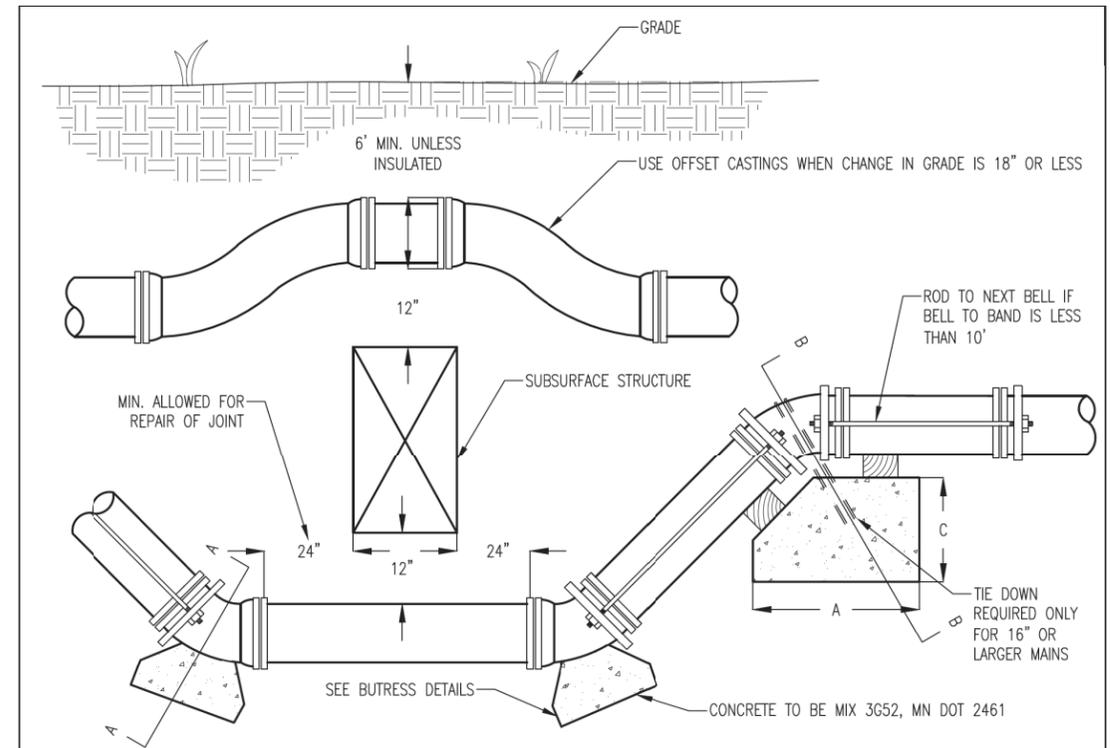
W-3

REVISED/APPROVED 01/20/2017

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

NO SCALE

NOTE: ALL WORK IN THIS DETAIL SHALL BE CONSIDERED INCIDENTAL.



NOTES

1. TIE RODS, BOLTS, NUTS, BANDS, AND WASHERS TO BE FURNISHED BY THE CONTRACTOR AND INSTALLED BY CONTRACTOR. ALL RODS AND CONNECTING HARDWARE SHALL BE GALVANIZED. ALL BOLTS SHALL BE BLUE COATED COR-TEN WITH ZINC ANODE CAPS
2. STRAPPING MATERIAL:
 - 2.1. NO. RODS 2 PER TIE
 - 2.2. DIA. RODS 1 INCH
 - 2.3. STRAP SIZE 1/2" X 2"
 - 2.4. BOLT DIA. 3/4"
 - 2.5. WASHER SIZE 1/2" X 3" X 5"
3. OFFSETS FOR 16" WATER MAIN AND LARGER, TIE DOWNS SHALL BE INSTALLED AS SHOWN. TURNBUCKLE AND BLOCK SIZES:

PIPE SIZE	A	B	C	D
16"	6'-0"	2'-6"	3'-0"	0'-1"
20"	8'-0"	3'-0"	3'-0"	0'-1 1/4"
24"	8'-0"	3'-0"	5'-0"	0'-1 1/2"
30"	8'-0"	5'-0"	5'-0"	0'-2"

STRAPPING WATERMAIN VERTICAL OFFSETS

W-6

REVISED/APPROVED 04/05/2019

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

NO SCALE

NOTE: ALL WORK IN THIS DETAIL SHALL BE CONSIDERED INCIDENTAL.

DRAWN BY: ADB					
DESIGNED BY: ADB					
CHECKED BY: BPS	NO	DATE	BY	CKD	APPR
REVISION					

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.

SIGNATURE: *Brad Scott* DATE: 03/02/2022
PRINTED NAME: BRAD SCOTT LIC. NO: 46198

LHB PERFORMANCE DRIVEN DESIGN.
LHBcorp.com

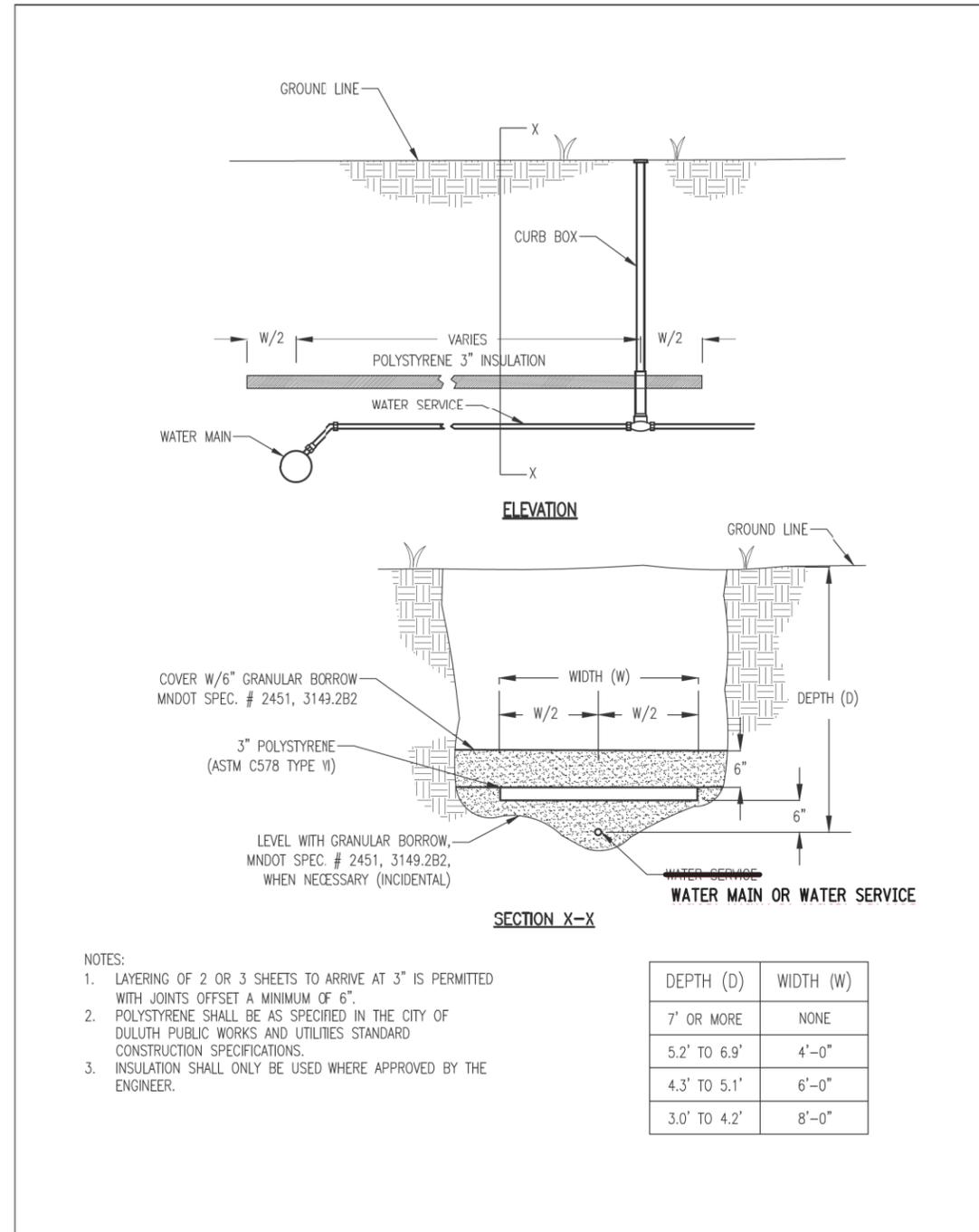
MINNESOTA DEPARTMENT OF TRANSPORTATION

MN STATE PROJECT NO: SP 6915-138 (TH 53)

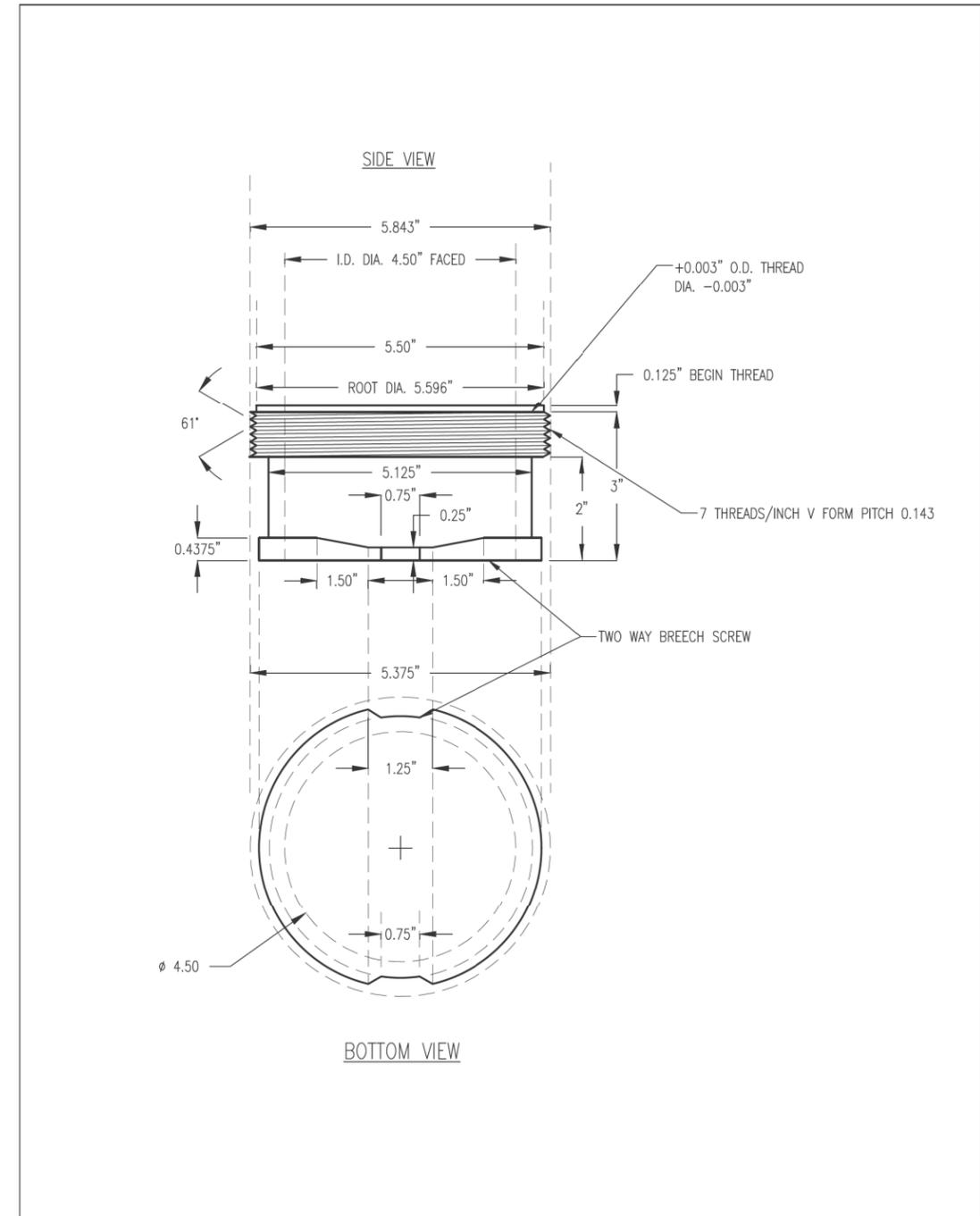
CITY DETAILS

SHEET NO. 43 OF 716 SHEETS

PLOTTED/REVISED: 2/25/2022



WATER MAIN AND SERVICE INSULATION		W-13
MODIFIED FOR PROJECT	CITY OF DULUTH STANDARD DETAIL DEPT. OF PUBLIC WORKS AND UTILITIES	NO SCALE



DULUTH THREAD FOR HYDRANT PUMPER NOZZLE		W-16
REVISED/APPROVED 01/30/2017	CITY OF DULUTH STANDARD DETAIL DEPT. OF PUBLIC WORKS AND UTILITIES	NO SCALE

DRAWN BY: ADB					
DESIGNED BY: ADB					
CHECKED BY: BPS	NO	DATE	BY	CKD	APPR
REVISION					

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.

SIGNATURE: *Brad Scott* DATE: 03/02/2022
PRINTED NAME: BRAD SCOTT LIC. NO: 46198



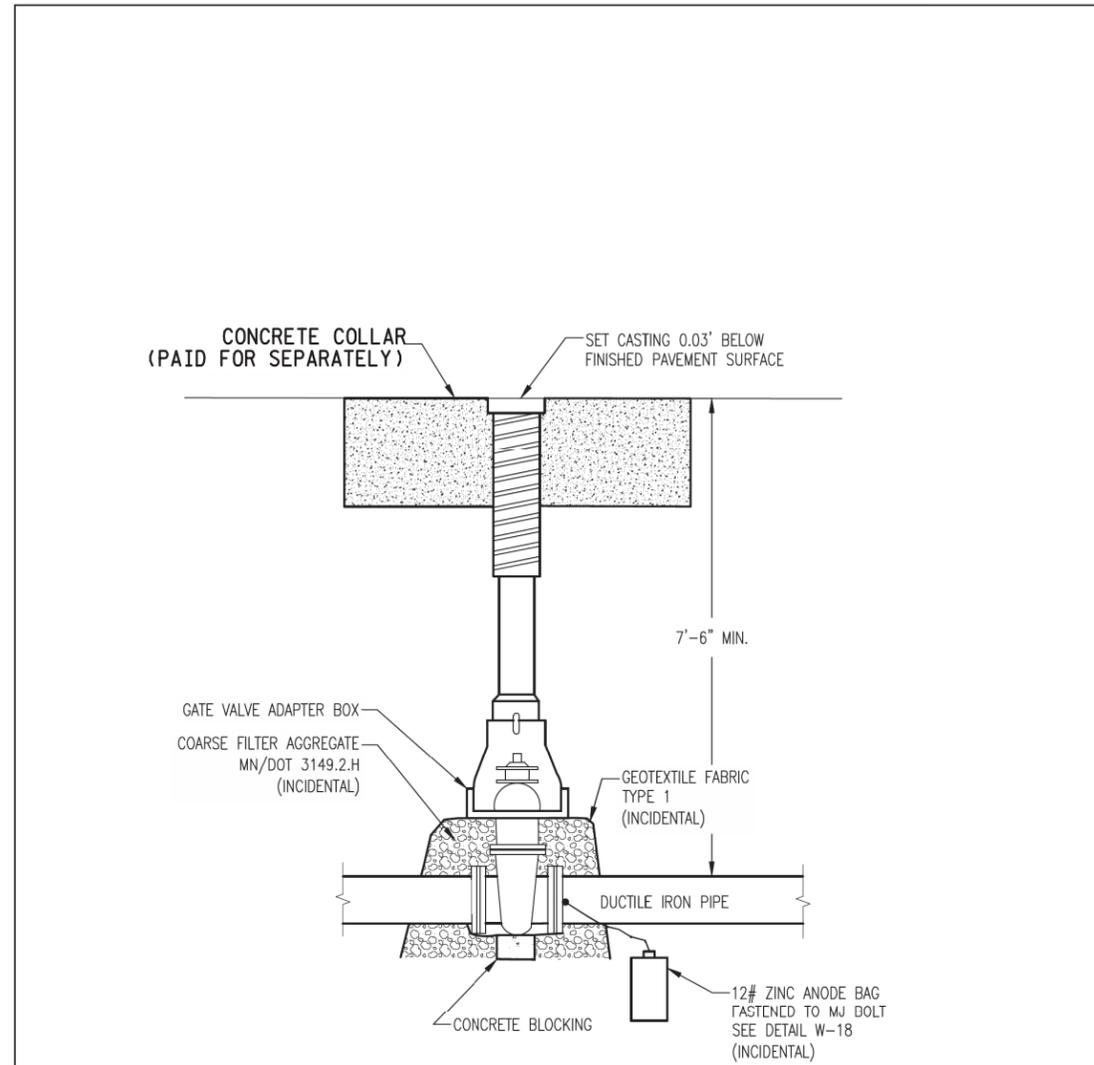
MINNESOTA DEPARTMENT OF TRANSPORTATION

MN STATE PROJECT NO: SP 6915-138 (TH 53)

CITY DETAILS

SHEET NO. 44 OF 716 SHEETS

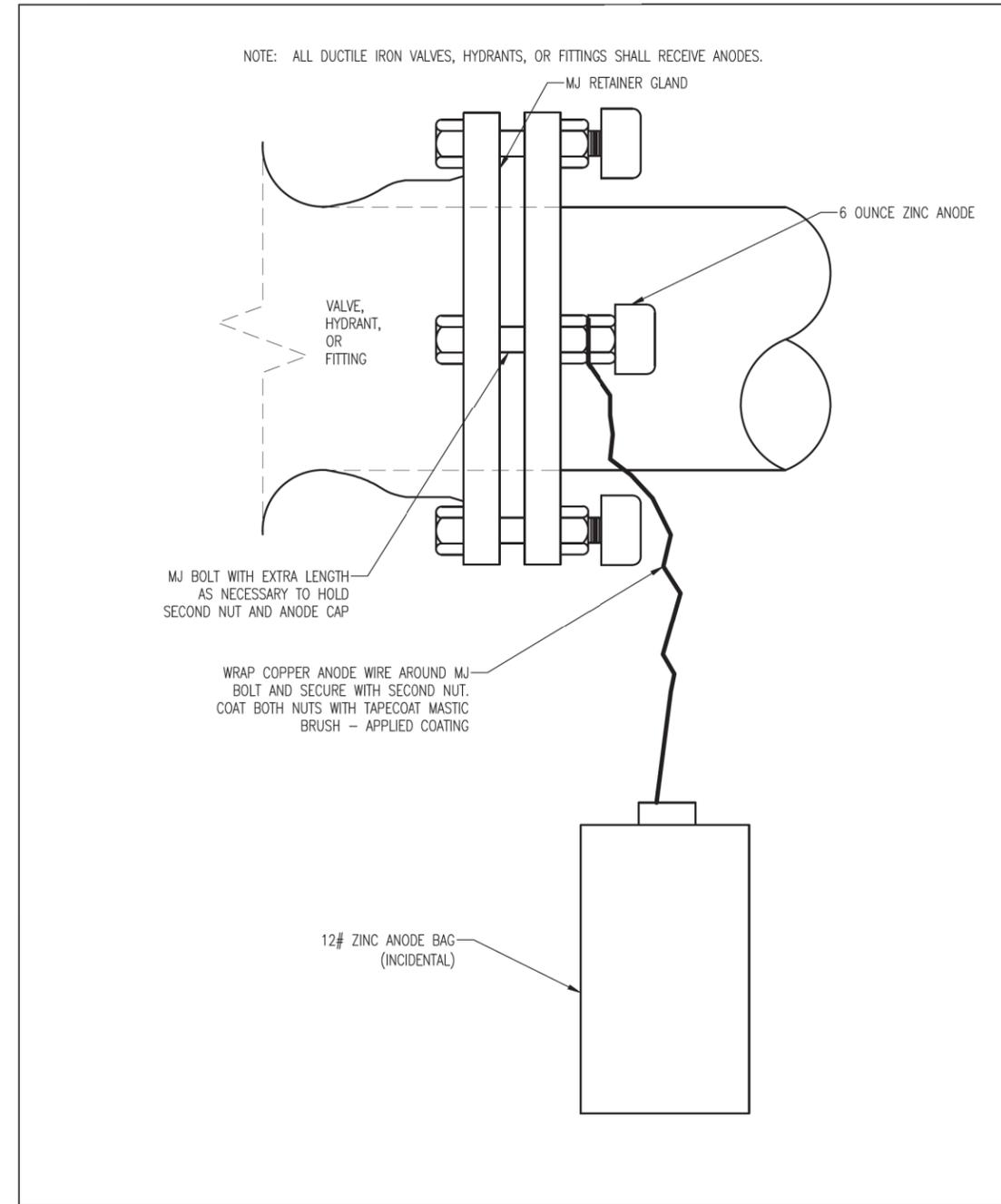
PLOTTED/REVISED: 2/25/2022



- NOTES:
1. USE EPOXY COATING ON EXTERIOR OF VALVES
 2. ALL BOLTS SHALL BE BLUE COATED COR-TEN WITH 6 OUNCE ZINC ANODE CAPS CONFORMING TO ASTM B-418 FOR ALL MECHANICAL JOINT FITTINGS.
 3. GATE VALVES WITH ALPHA RESTRAINT COUPLERS MAY BE USED IN LIEU OF MJ FITTINGS.

WATER VALVE BOX – DUCTILE IRON MAIN		W-17
MODIFIED FOR PROJECT	CITY OF DULUTH STANDARD DETAIL DEPT. OF PUBLIC WORKS AND UTILITIES	NO SCALE

NOTE: ALL WORK ON THIS DETAIL SHALL BE INCLUDED FOR PAYMENT UNDER ITEM "VALVE AND BOX" FOR THE TYPE AND SIZE INDICATED IN THE PLANS.



NOTE: ALL DUCTILE IRON VALVES, HYDRANTS, OR FITTINGS SHALL RECEIVE ANODES.

MJ BOLT WITH EXTRA LENGTH AS NECESSARY TO HOLD SECOND NUT AND ANODE CAP

WRAP COPPER ANODE WIRE AROUND MJ BOLT AND SECURE WITH SECOND NUT. COAT BOTH NUTS WITH TAPECOAT MASTIC BRUSH – APPLIED COATING

ANODE CONNECTION		W-18
REVISED/APPROVED 04/05/2019	CITY OF DULUTH STANDARD DETAIL DEPT. OF PUBLIC WORKS AND UTILITIES	NO SCALE

NOTE: ALL WORK IN THIS DETAIL SHALL BE CONSIDERED INCIDENTAL.

DRAWN BY: ADB					
DESIGNED BY: ADB					
CHECKED BY: BPS	NO	DATE	BY	CKD	APPR
REVISION					

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.

SIGNATURE: *Brad Scott* DATE: 03/02/2022
PRINTED NAME: BRAD SCOTT LIC. NO: 46198

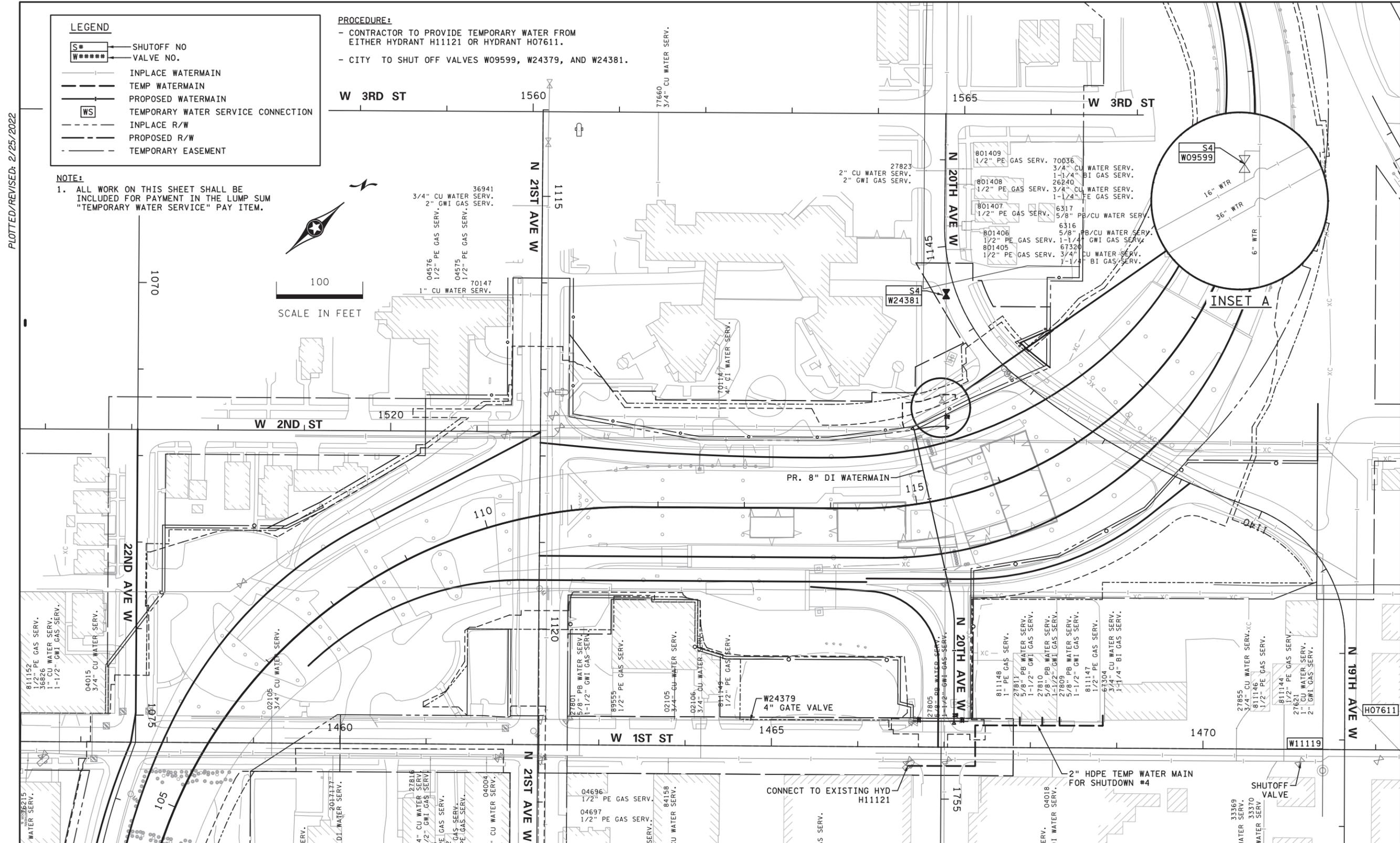
LHB
PERFORMANCE DRIVEN DESIGN.
LHBcorp.com

MINNESOTA DEPARTMENT OF TRANSPORTATION

MN STATE PROJECT NO: SP 6915-138 (TH 53)

CITY DETAILS

SHEET NO. 45 OF 716 SHEETS



LEGEND

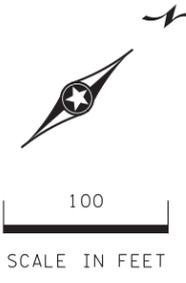
- S# — SHUTOFF NO
- W##### — VALVE NO.
- INPLACE WATERMAIN
- - - TEMP WATERMAIN
- - - PROPOSED WATERMAIN
- WS — TEMPORARY WATER SERVICE CONNECTION
- - - INPLACE R/W
- - - PROPOSED R/W
- - - TEMPORARY EASEMENT

PROCEDURE:

- CONTRACTOR TO PROVIDE TEMPORARY WATER FROM EITHER HYDRANT H11121 OR HYDRANT H07611.
- CITY TO SHUT OFF VALVES W09599, W24379, AND W24381.

NOTE:

1. ALL WORK ON THIS SHEET SHALL BE INCLUDED FOR PAYMENT IN THE LUMP SUM "TEMPORARY WATER SERVICE" PAY ITEM.



PLOTTED/REVISED: 2/25/2022

INSET A

DRAWN BY: ADB	DESIGNED BY: ADB	CHECKED BY: BPS			
NO	DATE	BY	CKD	APPR	REVISION
PATH & FILENAME: 0:\199\proj\190201\600 Drawings\C\WP3-4\U11111es\cd6982322.temp.wat.02.dgn					

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.

SIGNATURE: *Brad Scott* DATE: 03/02/2022
PRINTED NAME: BRAD SCOTT LIC. NO: 46198



MINNESOTA DEPARTMENT OF TRANSPORTATION

PROJECT NO: SP 6915-138 (TH 53)

TEMPORARY WATER PLAN
(TEMPORARY WATER SERVICE)

SHEET NO. 46 OF 716 SHEETS

STATEMENT OF ESTIMATED QUANTITIES					
TAB	SHEET NO	ITEM NO	DESCRIPTION	UNITS	TOTAL ESTIMATED QUANTITY
T	228	2501.502	12" RC PIPE APRON	EACH	4
T	228	2501.502	15" RC PIPE APRON	EACH	2
T	228	2501.502	21" RC PIPE APRON	EACH	1
T	228	2501.502	30" RC PIPE APRON	EACH	1
T	228	2501.502	36" SPAN RC PIPE-ARCH APRON	EACH	1
T	228,231	2501.602	PIPE TIES	EACH	12
N	22	2502.502	4" PRECAST CONCRETE HEADWALL	EACH	4
N	22	2502.503	4" TP PIPE DRAIN	LIN FT	40
N	22	2502.503	4" PERF PE PIPE DRAIN	LIN FT	8746
Q	182	2502.601	DRAINAGE SYSTEM	LUMP SUM	1
T	228	2503.503	22" SPAN RC PIPE-ARCH SEWER CL IIA	LIN FT	55
T	228	2503.503	36" SPAN RC PIPE-ARCH SEWER CL IIA	LIN FT	114
T	228	2503.503	51" SPAN RC PIPE-ARCH SEWER CL IIA	LIN FT	363
T	228	2503.503	12" RC PIPE SEWER DES 3006 CL V	LIN FT	3279
T	228	2503.503	15" RC PIPE SEWER DES 3006 CL V	LIN FT	959
T	228	2503.503	18" RC PIPE SEWER DES 3006	LIN FT	30
T	228	2503.503	21" RC PIPE SEWER DES 3006	LIN FT	162
T	228	2503.503	24" RC PIPE SEWER DES 3006	LIN FT	161
T	228	2503.503	30" RC PIPE SEWER DES 3006	LIN FT	719
T	228	2503.503	33" RC PIPE SEWER DES 3006	LIN FT	300
		2503.601	MAINTENANCE OF STORM SEWERS	LUMP SUM	
T	228	2503.602	CONNECT TO EXISTING STORM SEWER	EACH	8
S	228	2503.603	PLUG FILL & ABANDON PIPE SEWER	LIN FT	145
T	228,234	2503.603	24" STEEL CASING PIPE	LIN FT	12
U	258	2503.603	12" PIPE SEWER	LIN FT	101
U	258	2503.603	18" PIPE SEWER	LIN FT	43
	24,34	2504.602	ADJUST VALVE BOX-WATER	EACH	1
T	228,244	2506.502	CONST DRAINAGE STRUCTURE DESIGN SPEC 1	EACH	1
T	228	2506.502	CASTING ASSEMBLY	EACH	90
T	24,228	2506.502	ADJUST FRAME & RING CASTING	EACH	5
T	228	2506.503	CONST DRAINAGE STRUCTURE DESIGN F	LIN FT	12
T	228	2506.503	CONST DRAINAGE STRUCTURE DESIGN H	LIN FT	41
T	228	2506.503	CONST DRAINAGE STRUCTURE DESIGN SD-48	LIN FT	88
T	228,241	2506.503	CONST DRAINAGE STRUCTURE DESIGN SD-60	LIN FT	15
T	228,241	2506.503	CONST DRAINAGE STRUCTURE DESIGN SD-84	LIN FT	10
T	228	2506.503	CONST DRAINAGE STRUCTURE DES 48-4020	LIN FT	228
T	228	2506.503	CONST DRAINAGE STRUCTURE DES 60-4020	LIN FT	52
T	228	2506.503	CONST DRAINAGE STRUCTURE DES 72-4020	LIN FT	40
T	228	2506.503	CONST DRAINAGE STRUCTURE DES 84-4020	LIN FT	11
T,U	228,258	2506.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE	EACH	6
T	34,228	2506.602	CONCRETE COLLAR	EACH	8
T	228	2511.504	GEOTEXTILE FILTER TYPE 3	SQ YD	35
T	228	2511.504	GEOTEXTILE FILTER TYPE 4	SQ YD	106
T	228	2511.507	RANDOM RIPRAP CLASS II	CU YD	42

4:09:18 PM 3/7/2022 c:\p2\cbs\2018\180220\DESIGN\1on_Sheets\WP4\cbs\6982322WP4_est303.dgn

NO	DATE	DWN	CKD	REVISIONS



I HEREBY CERTIFY THAT THIS SHEET 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.

PRINT NAME: KAREN L. ERICKSON
SIGNATURE: Karen Erickson
DATE: 03/02/2022 LICENSE # 46662

STATEMENT OF ESTIMATED QUANTITIES

SP 6980-62 (TH 535)			
SHEET NO.	5	OF	354 SHEETS

CENTURYLINK							
STATION TO STATION	OFFSET (FT.)	DESCRIPTION	OWNER	ACTION			REMARKS
				ADJUST	RELOCATE	LEAVE AS IS	
NB GARFIELD AVE 60+19	8RT	MANHOLE	CENTURYLINK			X	
NB GARFIELD AVE 60+19 TO 61+09	8RT TO 138LT	FIBER	CENTURYLINK			X	
NB GARFIELD AVE 60+19 TO 64+50	8RT to 6RT	BURIED DUCT BANK	CENTURYLINK		X		
NB GARFIELD AVE 64+50	6RT	MANHOLE	CENTURYLINK		X		
NB GARFIELD AVE 64+50 TO 69+60	6RT TO 12RT	BURIED DUCT BANK	CENTURYLINK		X		
NB GARFIELD AVE 69+60	12RT	MANHOLE	CENTURYLINK		X		
NB GARFIELD AVE 69+60 TO 74+16	12RT TO 38RT	BURIED DUCT BANK	CENTURYLINK			X	
NB GARFIELD AVE 74+16	38RT	MANHOLE	CENTURYLINK			X	
NB GARFIELD AVE 74+16 TO 74+11	38RT TO 99RT	BURIED DUCT BANK	CENTURYLINK			X	
NB GARFIELD AVE 74+11	99RT	MANHOLE	CENTURYLINK			X	
NB GARFIELD AVE 74+11 TO 80+31	99RT TO 137RT	BURIED DUCT BANK	CENTURYLINK			X	
NB GARFIELD AVE 80+31	137RT	MANHOLE	CENTURYLINK			X	

CITY OF DULUTH - GAS							
STATION TO STATION	OFFSET (FT.)	DESCRIPTION	OWNER	ACTION			REMARKS
				ADJUST	RELOCATE	LEAVE AS IS	
NB GARFIELD AVE 60+00 TO 60+68	35LT TO 44RT	GAS LINE	DULUTH CITY			X	
NB GARFIELD AVE 79+25 TO 79+70	243LT TO 71RT	GAS LINE	DULUTH CITY			X	
NB GARFIELD AVE 79+67 TO 85+56	36LT TO 36LT	2" MDPE GAS LINE	DULUTH CITY			X	
NB GARFIELD AVE 81+78 TO 81+90	36LT TO 13RT	2" MDPE GAS LINE	DULUTH CITY			X	
NB GARFIELD AVE 81+78 TO 83+03	10RT TO 33RT	2" MDPE GAS LINE	DULUTH CITY			X	
NB GARFIELD AVE 85+42	52LT	GAS VALVE	DULUTH CITY			X	
NB GARFIELD AVE 85+39 TO 85+40	70LT TO 36LT	GAS LINE	DULUTH CITY			X	
SB GARFIELD AVE INP 85+50 TO 86+00	50RT TO 600RT	GAS LINE IN CASING	DULUTH CITY			X	③

CITY OF DULUTH - SANITARY							
STATION TO STATION	OFFSET (FT.)	DESCRIPTION	OWNER	ACTION			REMARKS
				ADJUST	RELOCATE	LEAVE AS IS	
T.H. 535 INP 68+11	229RT	MANHOLE	DULUTH CITY			X	
T.H. 535 INP 68+11 TO 71+00	229RT TO 287LT	SANITARY LINE	DULUTH CITY			X	
SB GARFIELD AVE INP 79+83 TO 82+34	12LT TO 34LT	10" PVC SANITARY LINE	DULUTH CITY			X	
SB GARFIELD AVE INP 82+34	34LT	MANHOLE	DULUTH CITY	X			①
SB GARFIELD AVE INP 82+34 TO 85+06	34LT TO 117LT	10" PVC SANITARY LINE	DULUTH CITY			X	
SB GARFIELD AVE INP 85+06	117LT	MANHOLE	DULUTH CITY			X	
SB GARFIELD AVE INP 84+44 TO 85+06	263LT TO 117LT	FORCE MAIN	DULUTH CITY			X	
SB GARFIELD AVE INP 85+06 TO 85+40	117LT TO 6RT	SANITARY LINE	DULUTH CITY			X	
SB GARFIELD AVE INP 85+40	6RT	MANHOLE	DULUTH CITY			X	
SB GARFIELD AVE INP 85+40 TO 85+50	6RT TO 45RT	SANITARY LINE	DULUTH CITY			X	
SB GARFIELD AVE INP 85+40	45RT	LIFT STATION	DULUTH CITY			X	
SB GARFIELD AVE INP 85+50 TO 86+00	50RT TO 600RT	FORCE MAIN IN CASING	DULUTH CITY			X	③

CITY OF DULUTH - WATER							
STATION TO STATION	OFFSET (FT.)	DESCRIPTION	OWNER	ACTION			REMARKS
				ADJUST	RELOCATE	LEAVE AS IS	
NB GARFIELD AVE 79+03	44LT	WATER VALVE	DULUTH CITY	X			②
NB GARFIELD AVE 79+00	66LT	HYDRANT	DULUTH CITY			X	
NB GARFIELD AVE 79+00 TO 79+01	66LT TO 40LT	WATER LINE	DULUTH CITY			X	
NB GARFIELD AVE 79+61 TO 79+58	620LT TO 41LT	WATER LINE	DULUTH CITY			X	③
NB GARFIELD AVE 81+11	38LT TO 13RT	WATER LINE	DULUTH CITY			X	
NB GARFIELD AVE 85+51	52LT	HYDRANT	DULUTH CITY			X	
NB GARFIELD AVE 85+51	42LT	WATER VALVE	DULUTH CITY			X	
NB GARFIELD AVE 79+00 TO 85+53	52LT TO 39LT	WATER LINE	DULUTH CITY			X	

MINNESOTA POWER							
STATION TO STATION	OFFSET (FT.)	DESCRIPTION	OWNER	ACTION			REMARKS
				ADJUST	RELOCATE	LEAVE AS IS	
T.H. 535 INP 63+88	102LT	ELECTRIC POLE	MINNESOTA POWER	X			
T.H. 535 INP 65+78	95LT	ELECTRIC POLE	MINNESOTA POWER			X	
T.H. 535 INP 63+88 TO 65+78	102LT TO 95LT	OVERHEAD POWER	MINNESOTA POWER			X	
T.H. 535 INP 67+63	107LT	ELECTRIC POLE	MINNESOTA POWER			X	
T.H. 535 INP 65+78 TO 67+63	95LT TO 107LT	OVERHEAD POWER	MINNESOTA POWER			X	
T.H. 535 INP 68+17	118LT	ELECTRIC POLE	MINNESOTA POWER			X	
T.H. 535 INP 67+63 TO 68+17	107LT TO 105LT	OVERHEAD POWER	MINNESOTA POWER			X	
T.H. 535 INP 68+63	105LT	ELECTRIC POLE	MINNESOTA POWER			X	

GENERAL NOTES:

- I. GENERAL NOTES APPLY TO ALL INPLACE TOPOGRAPHY AND UTILITY PLANS.
 - II. ALL UTILITY WORK SHOWN ON THESE SHEETS SHALL BE DONE BY OTHERS UNLESS OTHERWISE NOTED.
 - III. 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".
 - IV. ALL POWERLINES ARE DISTRIBUTION UNLESS NOTED OTHERWISE.
 - V. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE THE "ONE CALL EXCAVATION NOTICE SYSTEM" REQUIRED BY MINNESOTA STATUTE 216D.
 - VI. INPLACE/ OUT-OF-SERVICE UTILITIES ARE SHOWN WHERE RECORDS HAVE BEEN PROVIDED BY UTILITY OWNERS. ADDITIONAL INPLACE/ OUT-OF-SERVICE UTILITIES ARE LIKELY TO BE ENCOUNTERED WITHIN THE PROJECT AREA.
 - VII. UTILITY CONTRACTORS ARE REQUIRED TO READ, UNDERSTAND, IMPLEMENT AND COMPLY WITH ALL PERMIT CONDITIONS COMMENSURATE TO THE WORK. SEE STORM WATER POLLUTION PREVENTION PLAN SHEETS AND APPROPRIATE STAGED DRAINAGE, EROSION AND SEDIMENT CONTROL SHEETS.
 - VIII. THE CITY OF DULUTH GAS UTILITY MUST BE NOTIFIED 2 WORKING DAYS PRIOR TO ANY EXCAVATION OR DIRECTIONAL DRILLING WITHIN 6 FEET OF A 6 INCH OR LARGER NATURAL GAS MAIN. DEPARTMENT PERSONNEL WILL BE ON SITE TO MONITOR EXCAVATION AND INSPECT ANY EXPOSED MAIN 6 INCHES OR LARGER. NOTIFY THE ENGINEERING FRONT DESK AT 218-730-5200 TO COORDINATE THIS INSPECTION.
- THE CONTRACTOR SHALL NOTIFY THE CITY OF DULUTH GAS UTILITY IMMEDIATELY ANY TIME A STEEL NATURAL GAS MAIN SMALLER THAN 6 INCHES IS EXPOSED WITHIN AN EXCAVATION. CONTACT THE ENGINEERING FRONT DESK AT 218-730-5200 TO COORDINATE AN INSPECTION OF THE EXPOSED MAIN.

SPECIFIC NOTES:

- ① - ADJUST FRAME AND RING CASTING AND CONCRETE COLLAR. WORK PERFORMED UNDER THIS CONTRACT.
- ② - ADJUST VALVE BOX - WATER. WORK PERFORMED UNDER THIS CONTRACT. SEE MISCELLANEOUS DETAIL SHEET 34 FOR DETAIL.
- ③ - FIELD VERIFY THE ELEVATION OF THE UTILITY. COORDINATE WITH THE ENGINEER IF THERE ARE CONFLICTS.

UTILITY ABBREVIATIONS

EHH	= ELECTRICAL HAND HOLE
PED	= PEDESTAL
VAULT	= UTILITY VAULT

UTILITY

THE FOLLOWING LIST SHOWS THE UTILITY COMPANIES INVOLVED ON THIS PROJECT:
CENTURYLINK
DULUTH CITY = CITY OF DULUTH (WATER, SEWER, GAS, STREET LIGHTING)
CONSOLIDATED COMMUNICATIONS
MINNESOTA POWER
MnDOT = MINNESOTA DEPARTMENT OF TRANSPORTATION (STREET LIGHTING, TRAFFIC, TRAFFIC MANAGEMENT SYSTEM)

INPLACE UTILITY TABULATION

8:07:15 AM 2/27/2022 11:18:02Z D:\DESIGN\INP\on_Sheets\WP4\cd6982322\WP4_ufb01.dgn

NO	DATE	DWN	CKD	REVISIONS



I HEREBY CERTIFY THAT THIS SHEET 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.

PRINT NAME: HEATHER SPENCER
SIGNATURE: *Heather Spencer*
DATE: 03/02/2022 LICENSE #: 54654

INPLACE UTILITY TABULATION

SP 6980-62 (TH 535)			
SHEET NO.	24	OF	354 SHEETS

S.P. 6915-138 (TH 53) AGREEMENT					
ITEM NO	DESCRIPTION	UNITS	TOTAL ESTIMATED QUANTITY	UNIT COST	TOTAL ESTIMATED COST
2104.503	REMOVE WATER MAIN	LIN FT	228	\$25.00	\$5,701
2104.603	ABANDON WATER MAIN	LIN FT	196	\$14.78	\$2,896
2451.507	GRANULAR BEDDING (CV)	CU YD	87	\$17.52	\$1,524
2504.601	TEMPORARY WATER SERVICE	LUMP SUM	1	\$65,927.00	\$65,927
2504.602	CONNECT TO EXISTING WATER MAIN	EACH	3	\$1,502.67	\$4,508
2504.602	ADJUST VALVE BOX	EACH	3	\$315.00	\$945
2504.602	8" GATE VALVE & BOX	EACH	4	\$3,642.00	\$14,568
2504.603	8" WATERMAIN DUCTILE IRON CL 52	LIN FT	474	\$162.02	\$76,799
2504.603	20" WATERMAIN HDPE	LIN FT	217	\$454.14	\$98,549
2504.604	3" POLYSTYRENE INSULATION	SQ YD	10	\$58.50	\$585
				6915-138 TOTAL =	\$272,002
				Total City Cost =	\$0.00

S.P. 6980-62 (TH 535) AGREEMENT					
ITEM NO	DESCRIPTION	UNITS	TOTAL ESTIMATED QUANTITY	UNIT COST	TOTAL ESTIMATED COST
2504.602	ADJUST VALVE BOX-WATER	EACH	1	\$2,050	\$2,050
2506.502	ADJUST FRAME & RING CASTING	EACH	1	\$444	\$444
2506.602	CONCRETE COLLAR	EACH	1	\$1,746.00	\$1,746
				6980-62 TOTAL =	\$4,240
				Total City Cost =	\$0.00