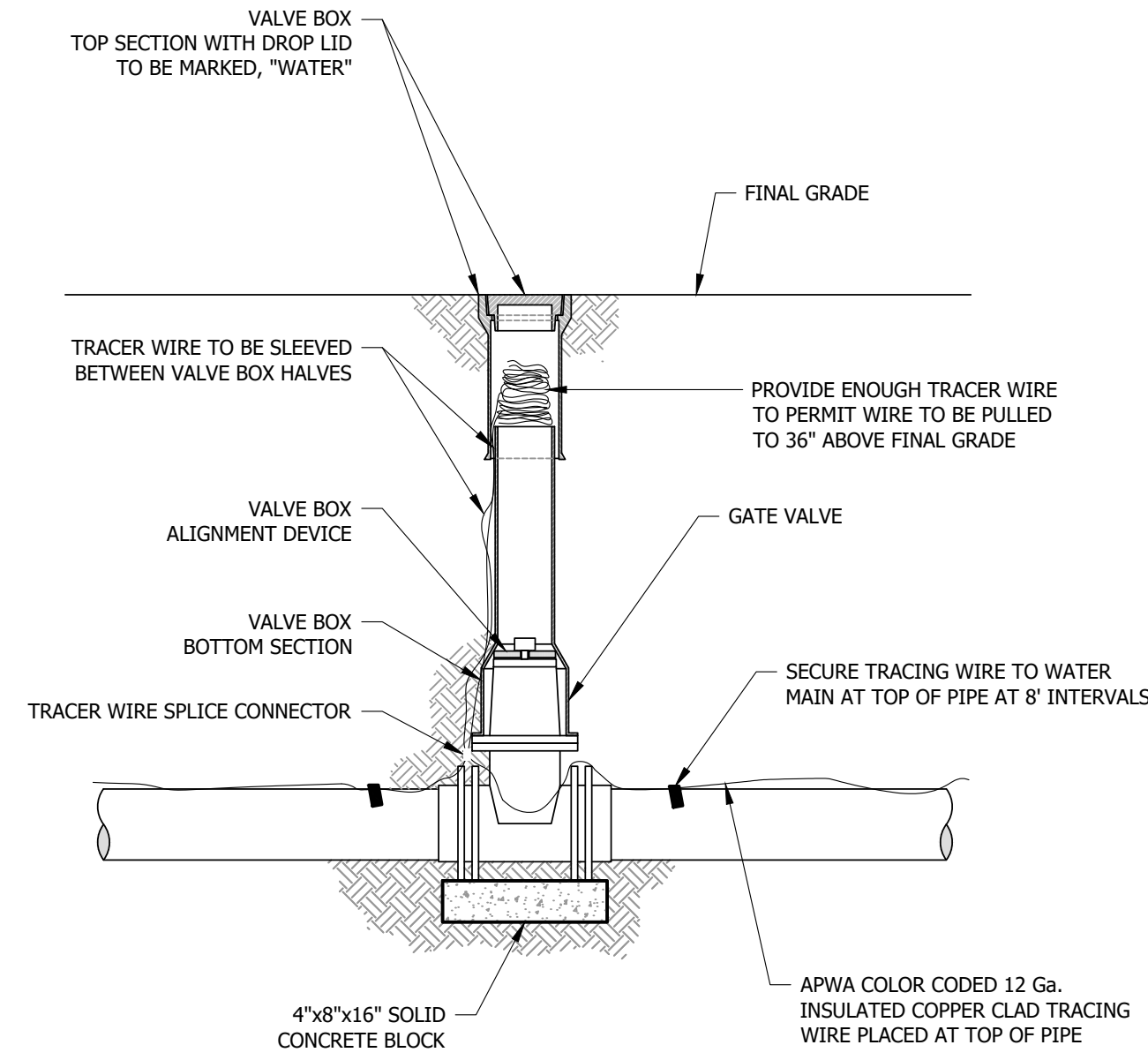


- NOTES:**
- 4" TO 16" C900 OR DUCTILE IRON PIPE.
  - SEE PLAN AND PROFILE FOR DEPTH OF COVER. MAINTAIN 48" MINIMUM.
  - MATERIALS SHALL EXCLUDE ORGANICS AS DEFINED BY ASTM D2321, CLASS V.
  - PIPE TO BE SUPPORTED ALONG THE ENTIRE LENGTH BY A FIRM TRENCH BOTTOM OR BEDDING.

**DW01 - TYPICAL WATER MAIN TRENCH**

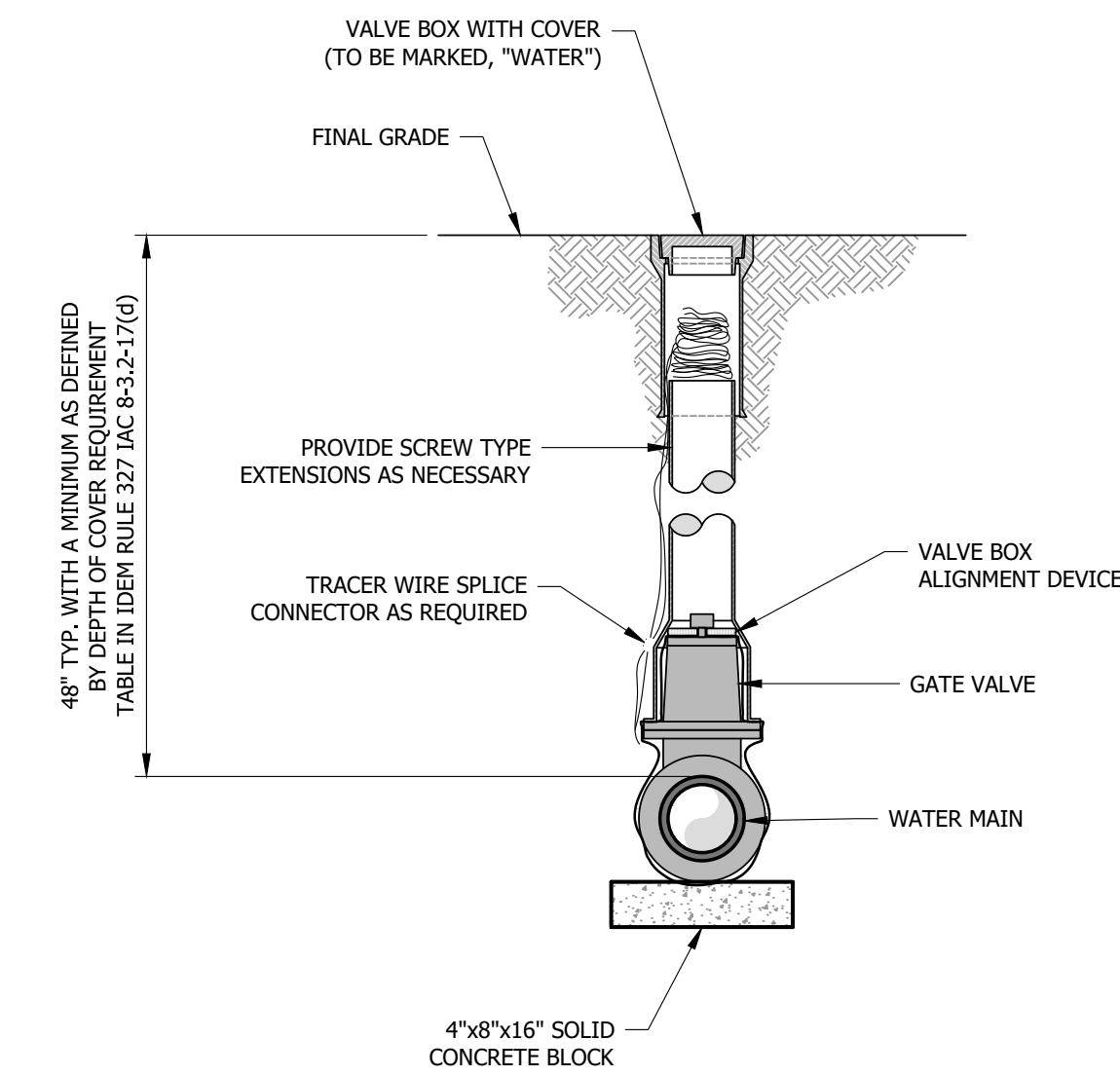
NOT TO SCALE



- NOTE:**
- USE SPLICE CONNECTORS TO ALLOW TRACING WIRE TO BE LOCATED IN ALL REQUIRED DIRECTIONS IN CASES WHERE WATER MAINS CONNECT AT TEES, JUNCTIONS, ETC.

**DW02 - TRACING WIRE DETAIL**

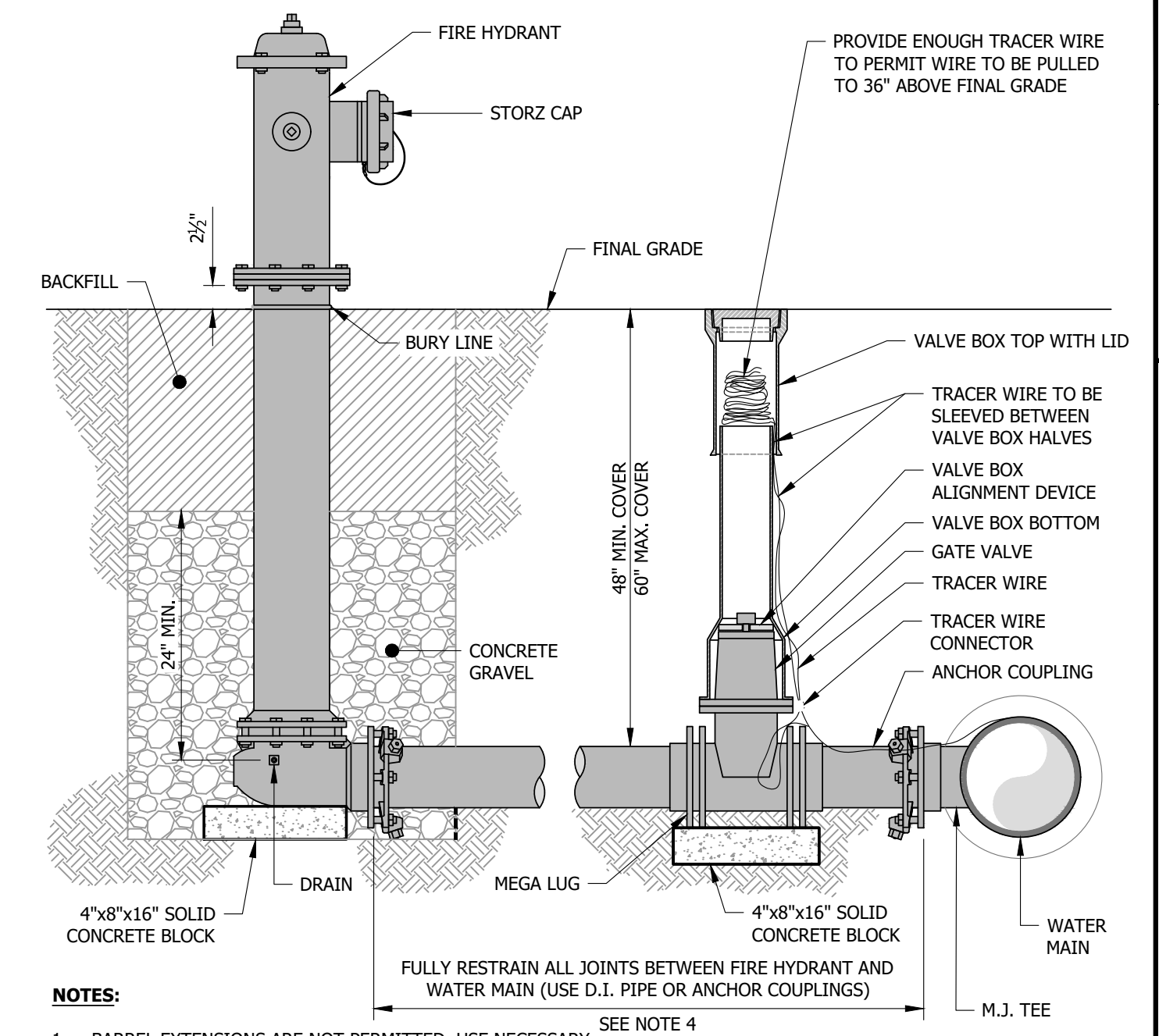
NOT TO SCALE



- NOTE:**
- GATE VALVES INSTALLED DEEPER THAN 5'-0\"/>

**DW03 - GATE VALVE INSTALLATION DETAIL**

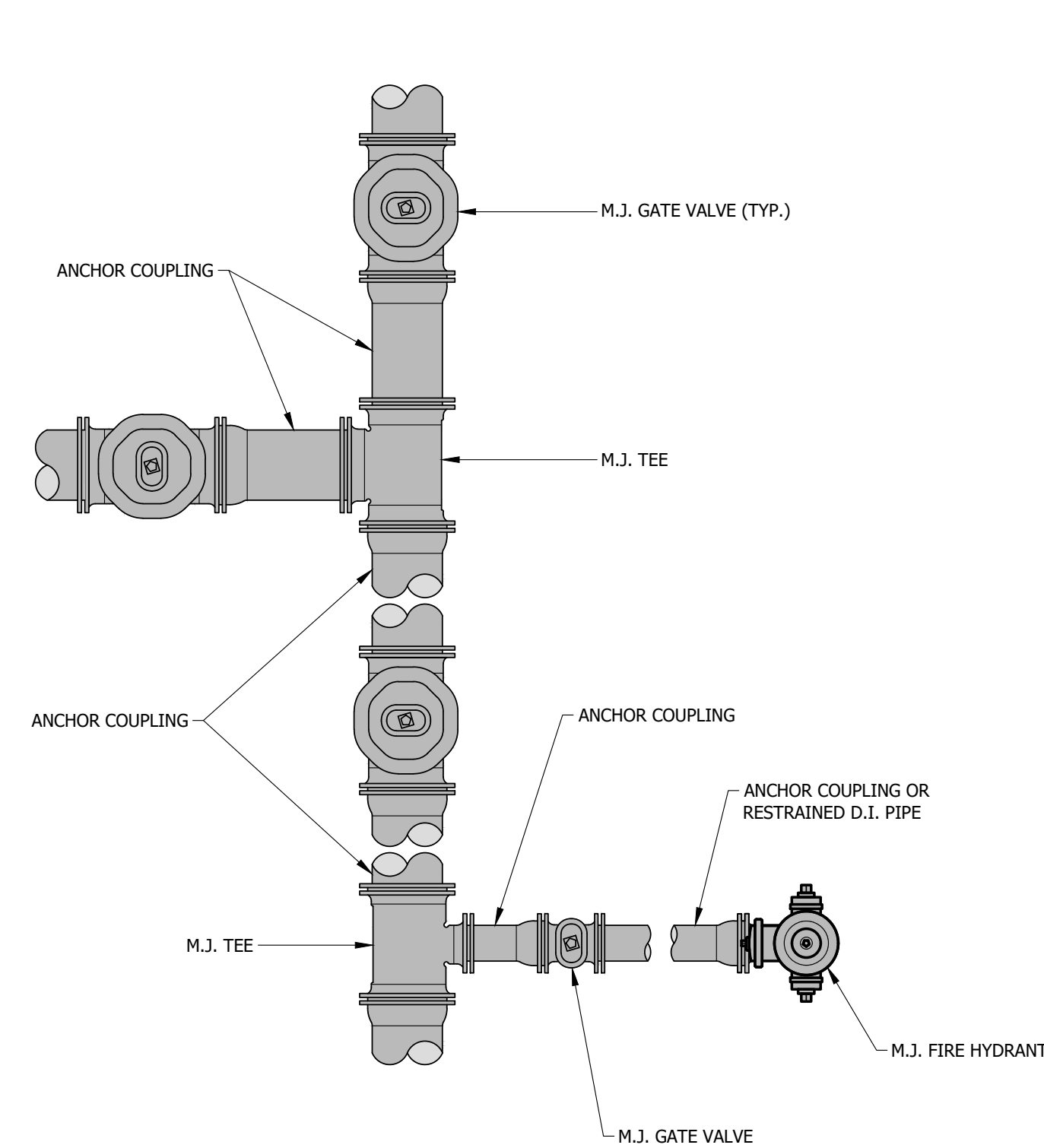
NOT TO SCALE



- NOTES:**
- BARREL EXTENSIONS ARE NOT PERMITTED. USE NECESSARY BENDS BEYOND GATE VALVE TO ACHIEVE PROPER BURY DEPTH.
  - FIRE HYDRANTS ARE LIMITED TO 5'-0\"/>

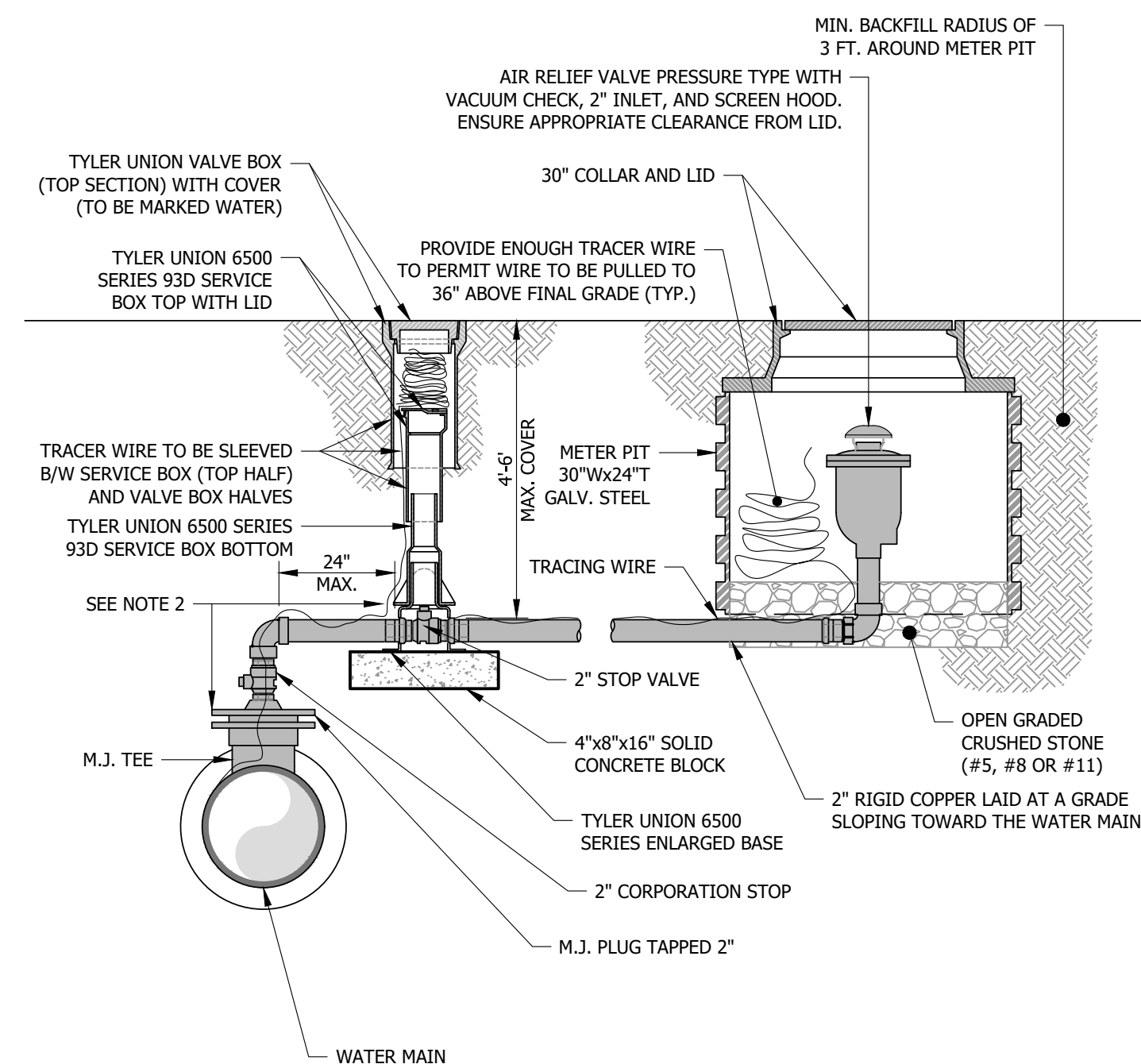
**DW04 - FIRE HYDRANT ASSEMBLY**

NOT TO SCALE



**DW05 - ANCHOR COUPLING DETAIL**

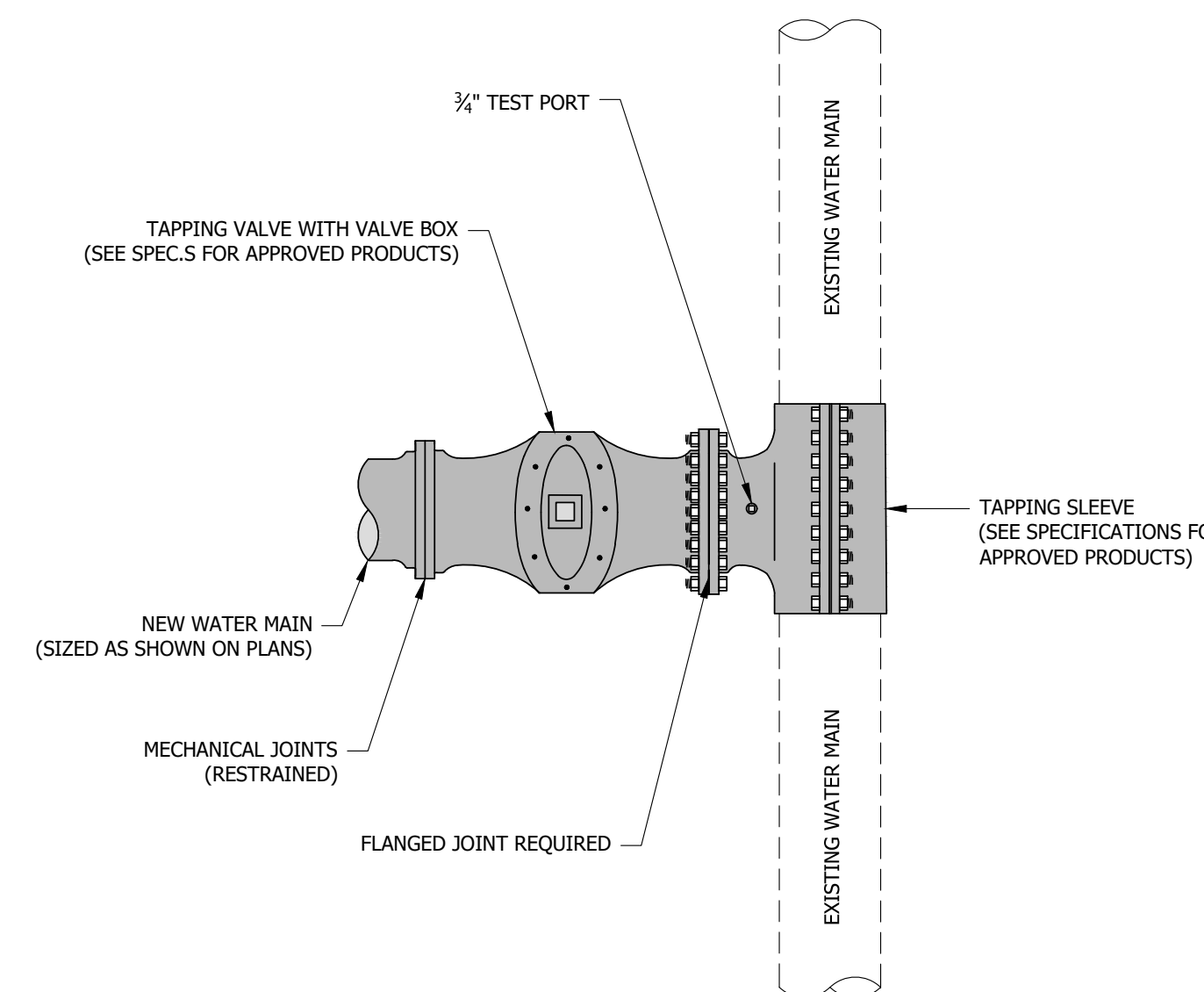
NOT TO SCALE



- NOTES:**
- IN CASES WHERE AIR RELIEF ASSEMBLY IS LOCATED IN TRAFFIC AREA, REFER TO DW26 FOR METER PIT REQUIREMENTS AND DETAILS.
  - ALL FITTINGS BETWEEN M.J. PLUG (AT WATER MAIN) AND STOP VALVE SHALL BE BRASS.

**DW06 - AIR RELIEF ASSEMBLY (NON-TRAFFIC RATED)**

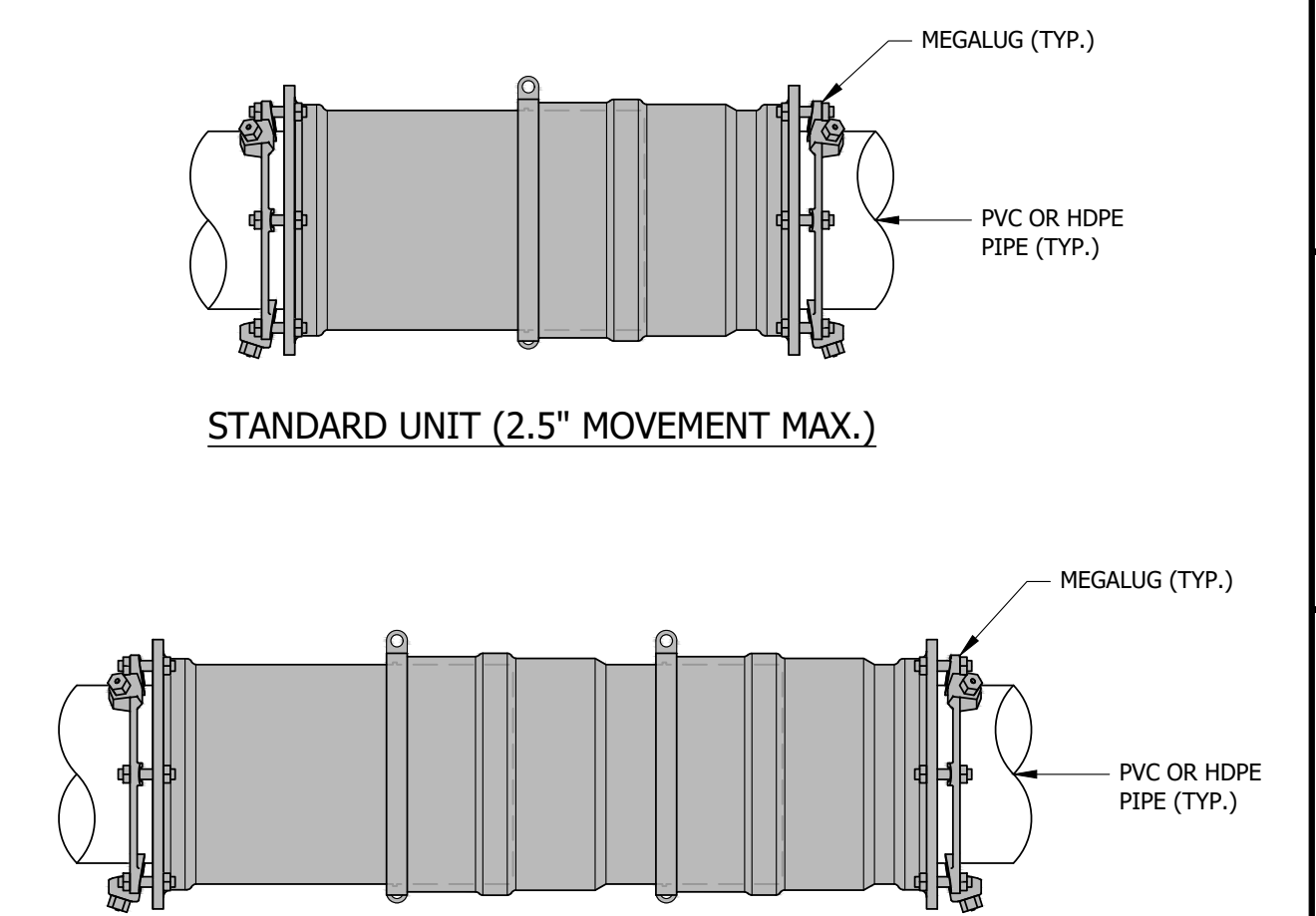
NOT TO SCALE



- NOTES:**
- TAPPING SLEEVE TO BE PRESSURE TESTED PRIOR TO TAPPING. REFER TO PROJECT SPECIFICATIONS FOR REQUIREMENTS.
  - TAPPING FUSIBLE PVC REQUIRES SPECIAL SLEEVES, COORDINATE WITH EWSU PRIOR TO INSTALLATION.

**DW07 - PRESSURE TAPPING DETAIL**

NOT TO SCALE



- NOTES:**
- ENGINEER TO PROVIDE CALCULATIONS AND PLACEMENT OF EXPANSION JOINT.
  - THIS DETAIL IS FOR SPECIAL CIRCUMSTANCES AS DETERMINED BY THE ENGINEER OF RECORD.
  - USE MANUFACTURER'S RECOMMENDED EXPANSION COUPLING COMPATIBLE WITH R.J. PIPE. COORDINATE WITH EWSU PRIOR TO USE.

**DW08 - EXPANSION COUPLING (4\"/>**

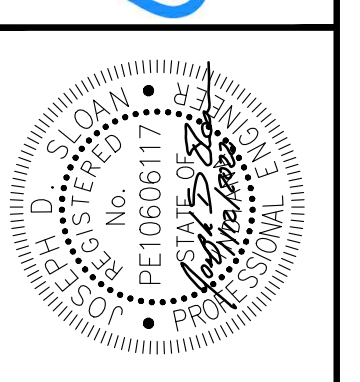
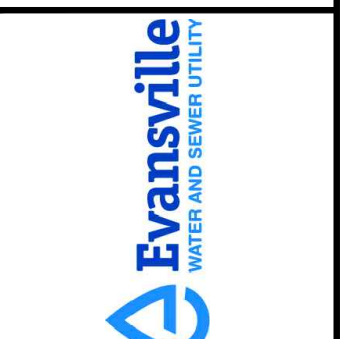
NOT TO SCALE

DESIGNED: JDS  
 CHECKED: B/JF  
 DATE: 1/12/2022  
 SCALE: NOT TO SCALE

APPROVED: JOSEPH D. SLOAN  
 DIRECTOR  
 TITLE: ENGINEERING SERVICES  
 DATE: 1/12/2022

**EVANSVILLE WATER AND SEWER UTILITY**  
 1 SE 9th Street Suite 200 - Evansville, IN 47708 (812) 421-2120

**STANDARD WATER DETAILS**

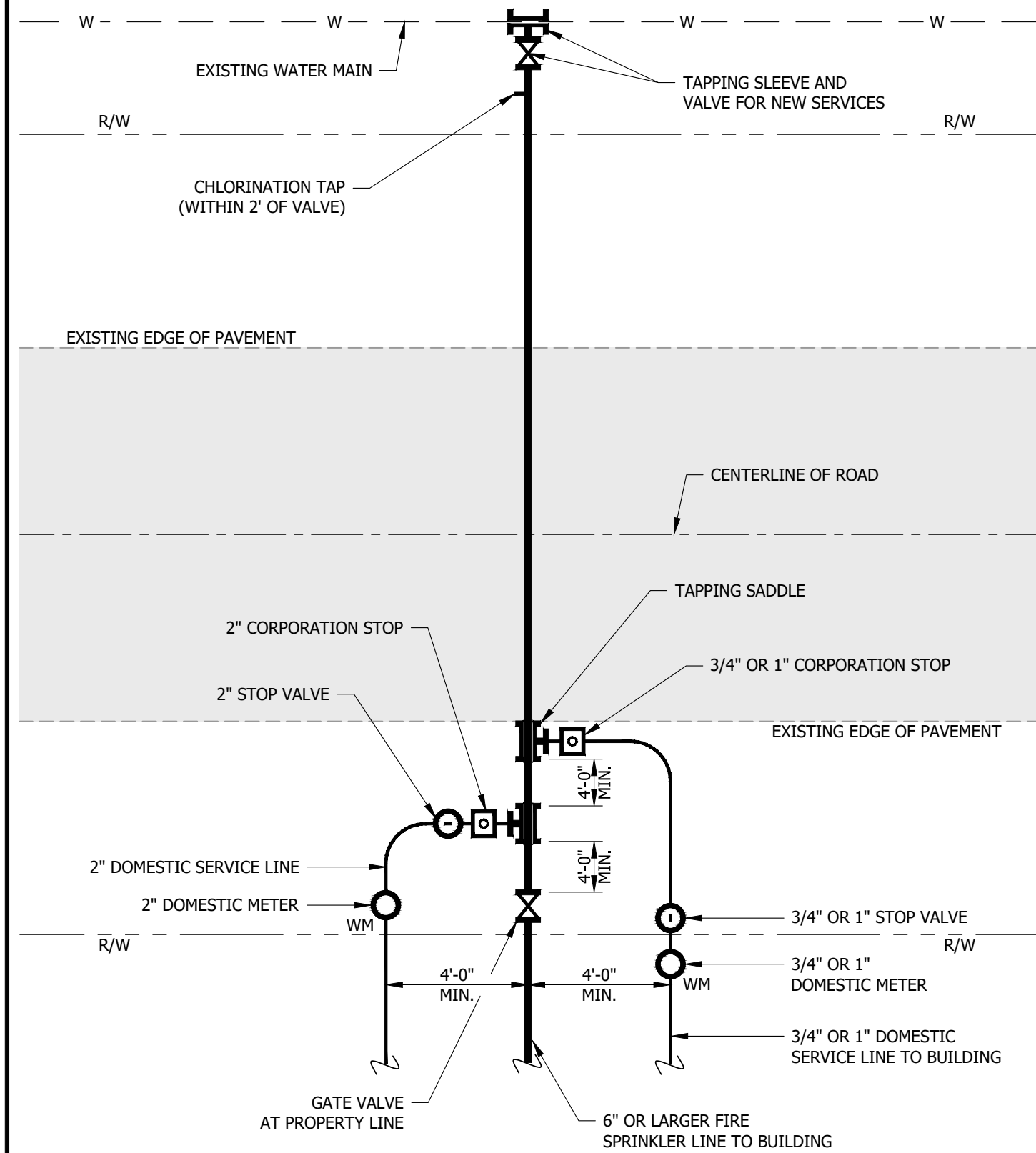


REVISIONS	DESCRIPTION	DATE



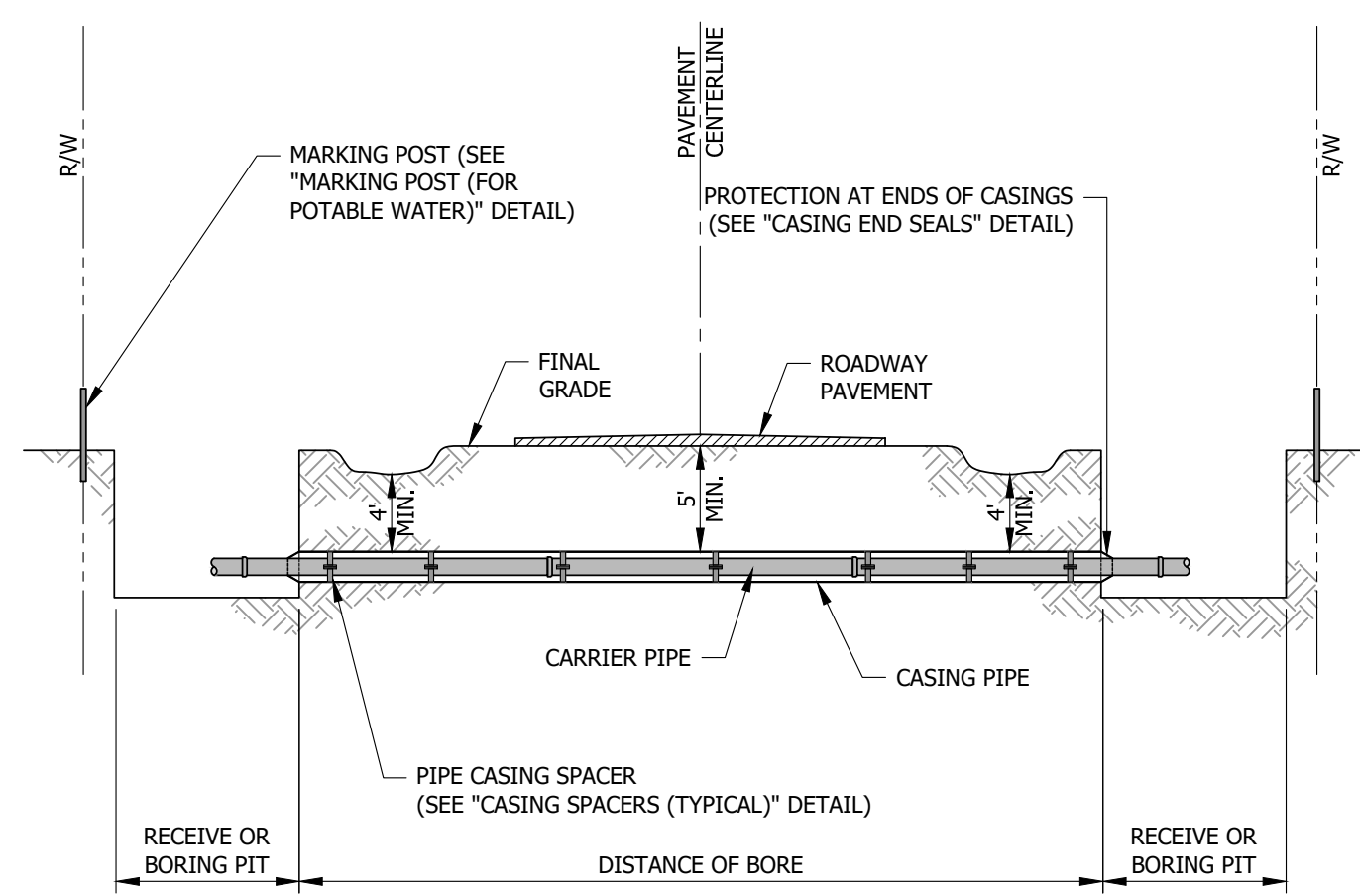






DW16 - TYPICAL COMMERCIAL SERVICE CONNECTIONS

NOT TO SCALE



DW17 - TYPICAL JACK AND BORE CASING PIPE

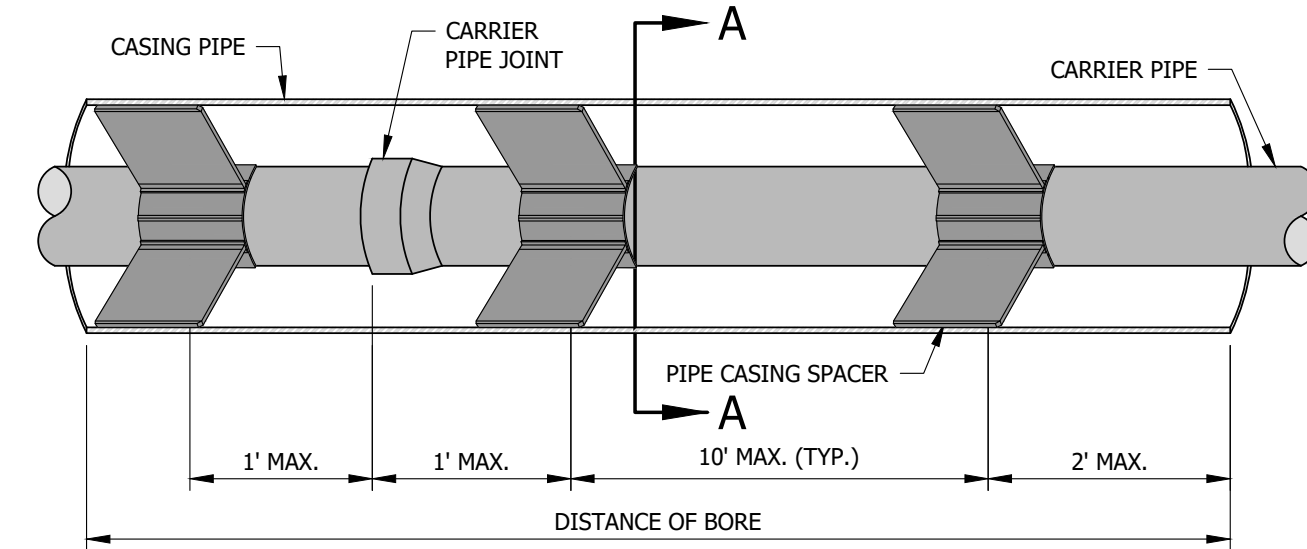
NOT TO SCALE

**WELDING:**

STEEL CASING SECTIONS SHALL BE CONNECTED BY WELDING. WELD SHALL CONFORM TO AWWA C206.

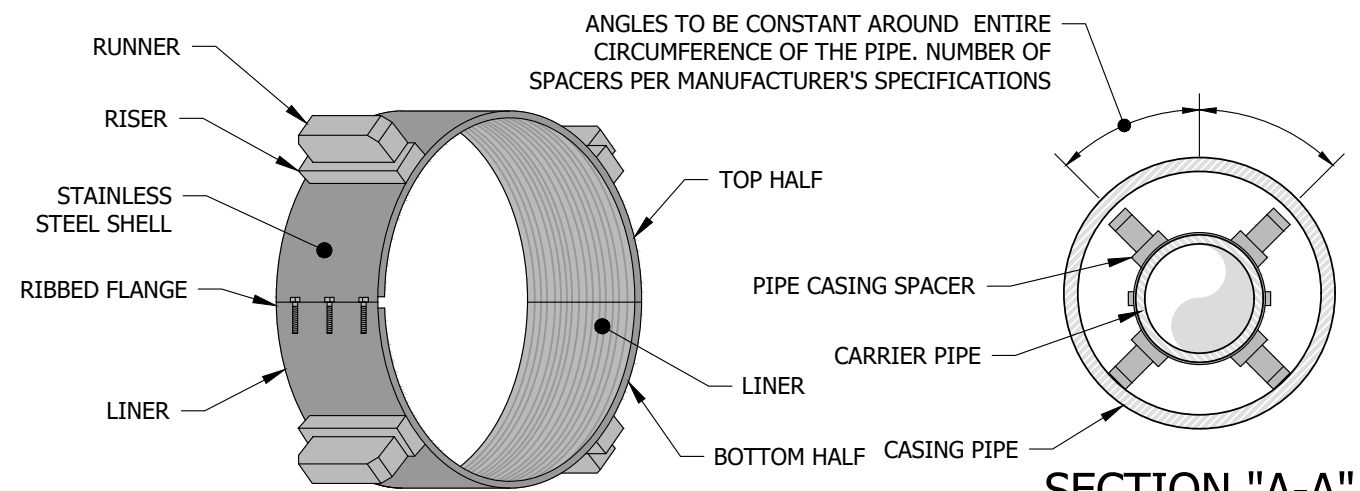
**NOTES:**

1. ALL PIPE JOINTS WITHIN THE CASING ARE TO BE RESTRAINED.
2. TRACING WIRE TO BE INSTALLED THROUGH ALL CASED BORINGS AND CONNECTED TO MARKING POSTS.
3. STEEL PIPE CASING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A283, GRADE B, C, OR D. ALL JOINTS SHALL BE WELDED. ALL WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AWWA C206, "AWWA STANDARD FOR FIELD WELDING OF STEEL WATER PIPE".
4. STEEL PIPE CASING SHALL BE INSTALLED SYMMETRICAL ABOUT WATER MAIN CENTERLINE (TYP.). PIPE CASING SHALL BE LAID TRUE TO LINE AND GRADE WITH NO BENDS OR CHANGES IN GRADE FOR THE FULL LENGTH OF THE CASING.



CARRIER PIPE			CARRIER PIPE		
PIPE SIZE	MIN. CASING O.D.	THICKNESS *	PIPE SIZE	MIN. CASING O.D.	THICKNESS *
4"	12"	1/4"	12"	24"	5/16"
6"	16"	1/4"	16"	30"	3/8"
8"	18"	1/4"	18"	30"	3/8"
10"	20"	5/16"	20"	36"	1/2"
			24"	42"	1/2"

\* UNLESS OTHERWISE REQUIRED BY INDOT, RAILROAD OR OTHER SUCH GOVERNING AUTHORITY.

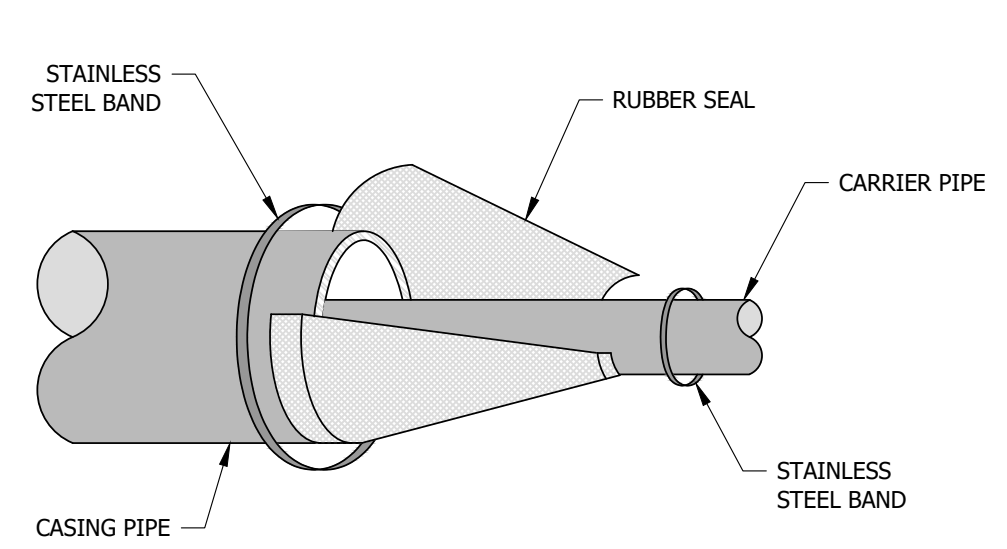


**NOTES:**

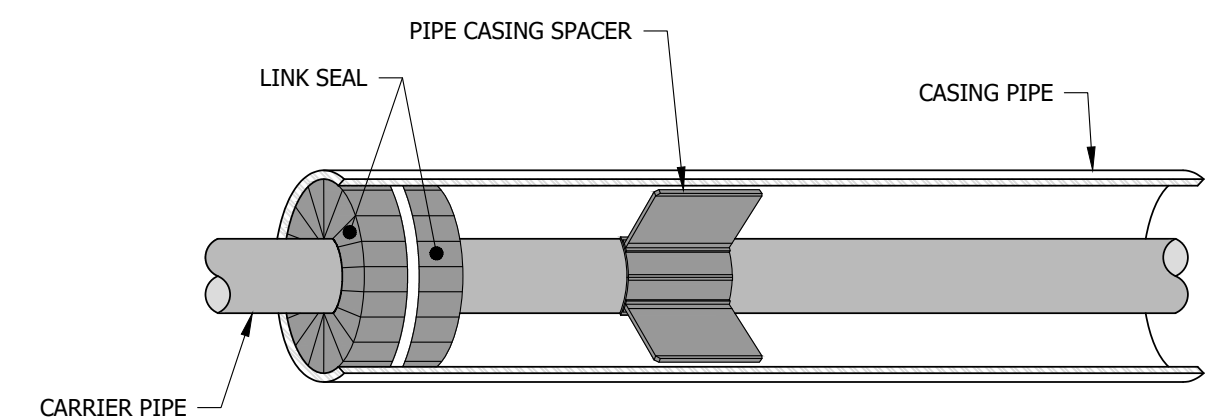
1. CASING SPACERS SHALL BE CCS SERIES BY CASCADE WATERWORKS MFG. ALTERNATE CASING SPACERS MAY BE USED WITH PRIOR APPROVAL FROM CITY UTILITIES PROJECT ENGINEER.
2. CITY UTILITIES APPROVED CASING SPACERS AND END SEALS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. USE A "CENTERED" CONFIGURATION AND PROVIDE THE MANUFACTURER WITH THE FOLLOWING INFORMATION: CARRIER PIPE O.D., CASING PIPE I.D., AND CASING LENGTH.

DW18 - TYPICAL CASING SPACERS

NOT TO SCALE



METHOD 'A'



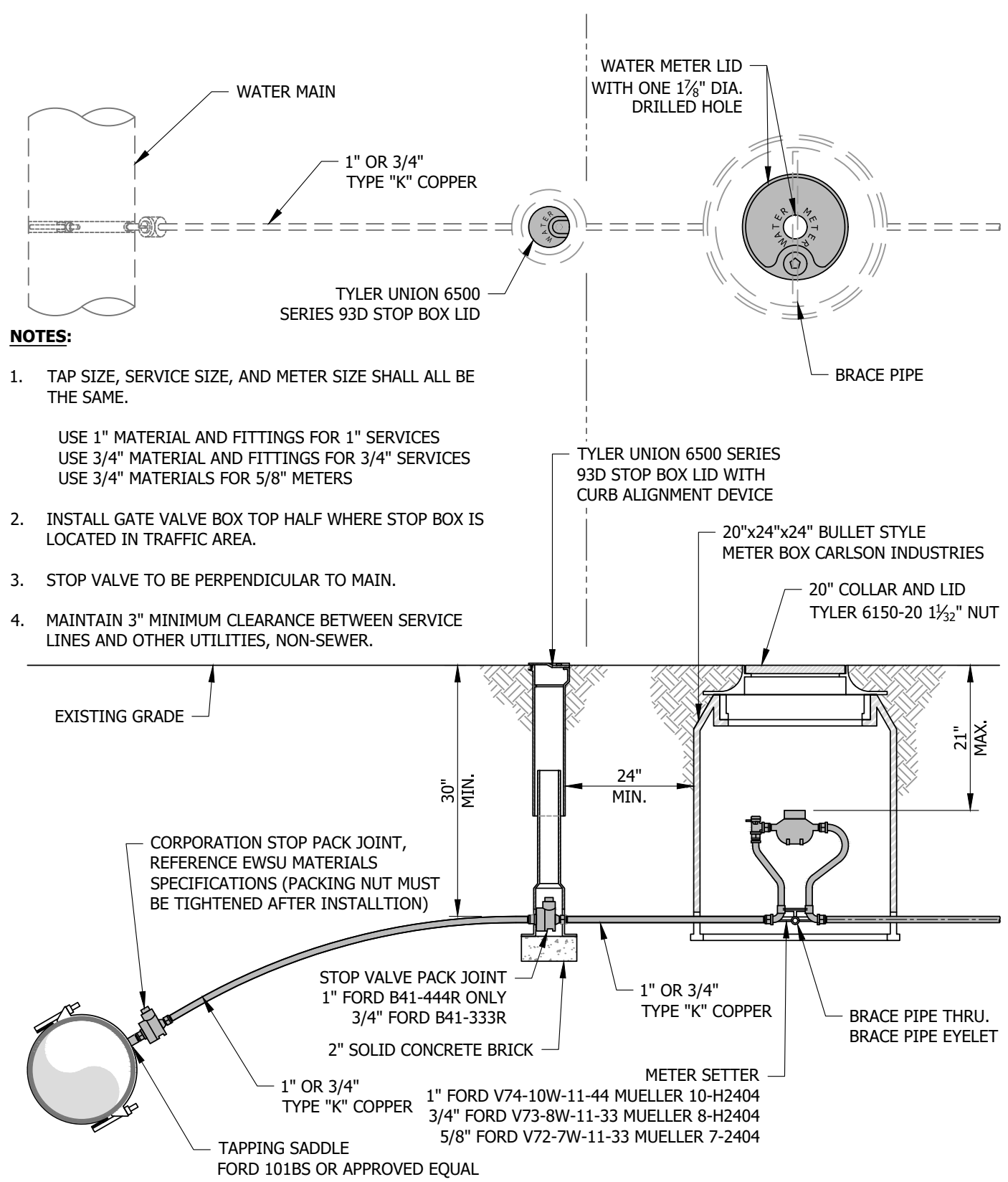
METHOD 'B'

**NOTE:**

THIS STANDARD IS APPLICABLE FOR 4" DIAMETER AND LARGER CARRIER PIPE.

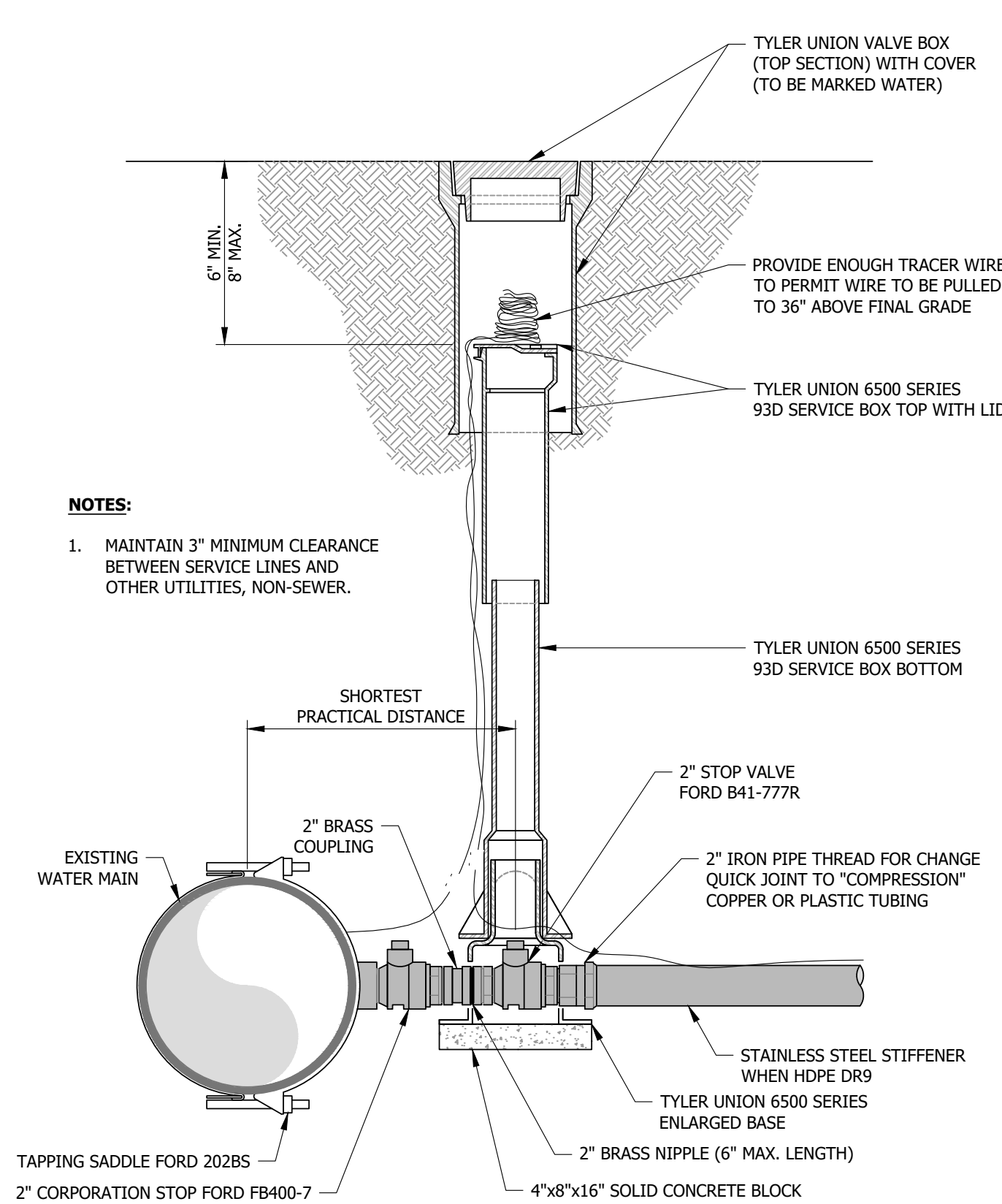
DW19 - TYPICAL CASING END SEALS

NOT TO SCALE



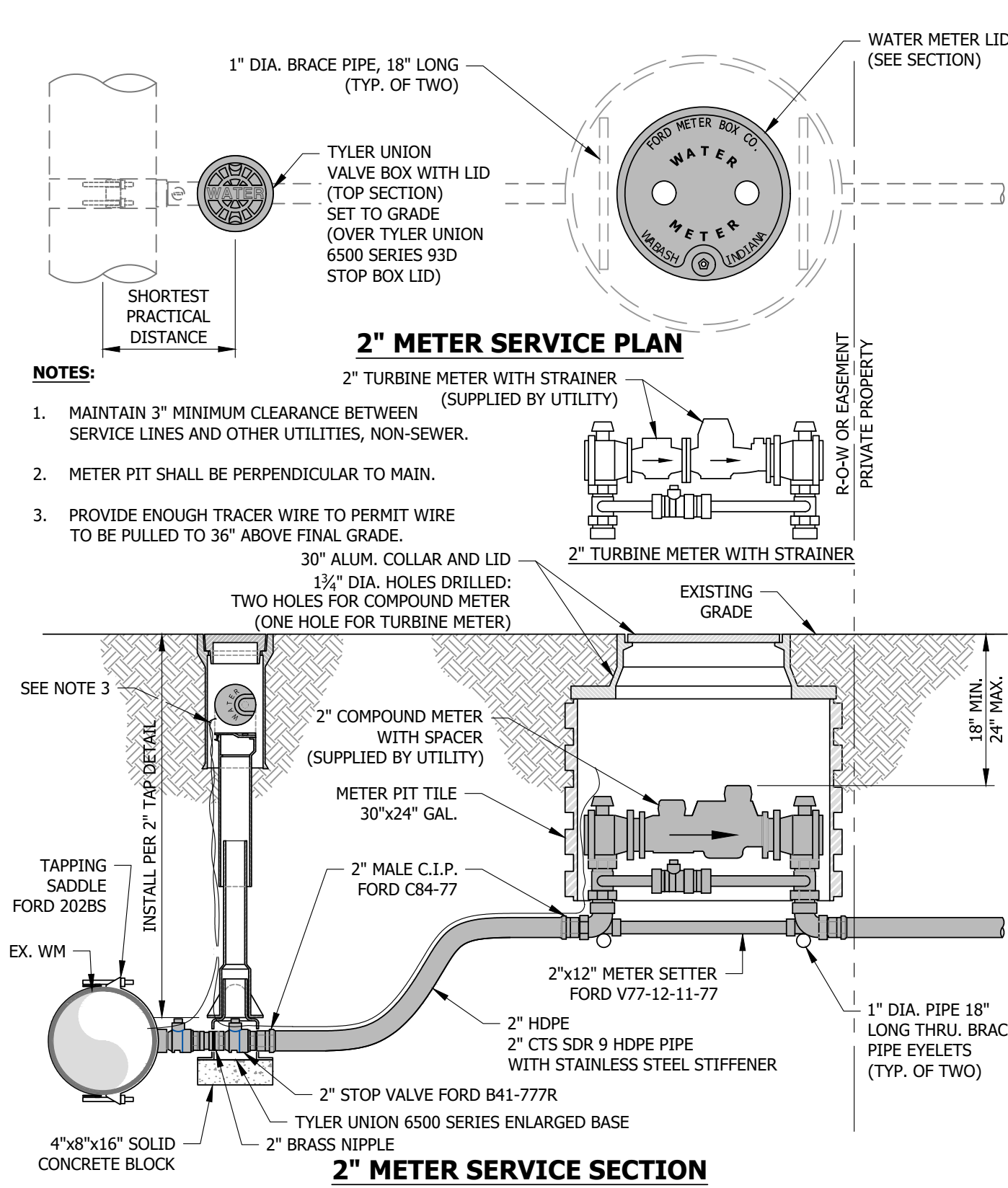
DW20 - 3/4" OR 1" METER SERVICE CONNECTION

NOT TO SCALE



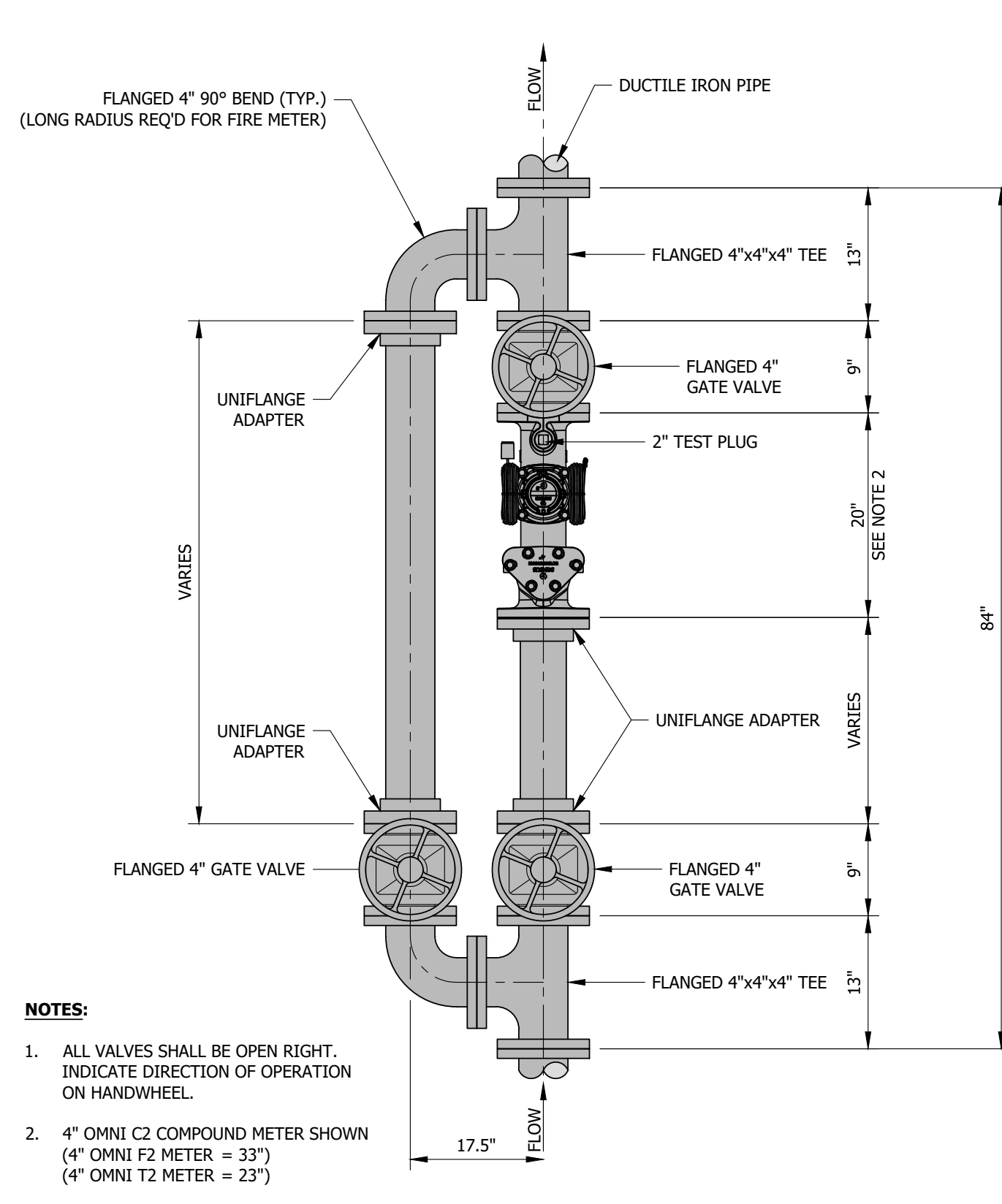
DW21 - 2" TAP DETAIL

NOT TO SCALE



DW22 - 2" METER SERVICE CONNECTION

NOT TO SCALE



DW23 - 4" METER SERVICE CONNECTION

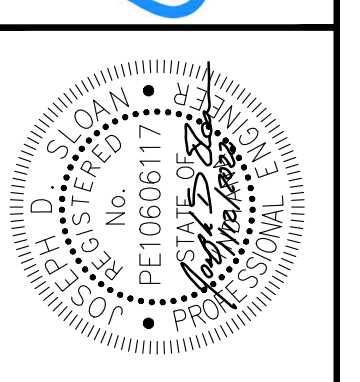
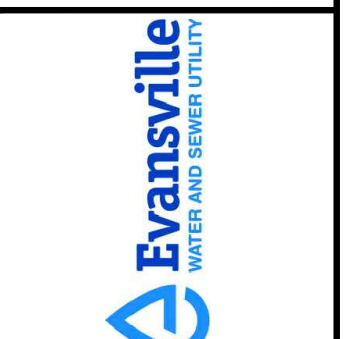
NOT TO SCALE

**NOTES:**

1. ALL VALVES SHALL BE OPEN RIGHT. INDICATE DIRECTION OF OPERATION ON HANDWHEEL.
2. 4" OMNI C2 COMPOUND METER SHOWN (4" OMNI F2 METER = 33") (4" OMNI T2 METER = 23")

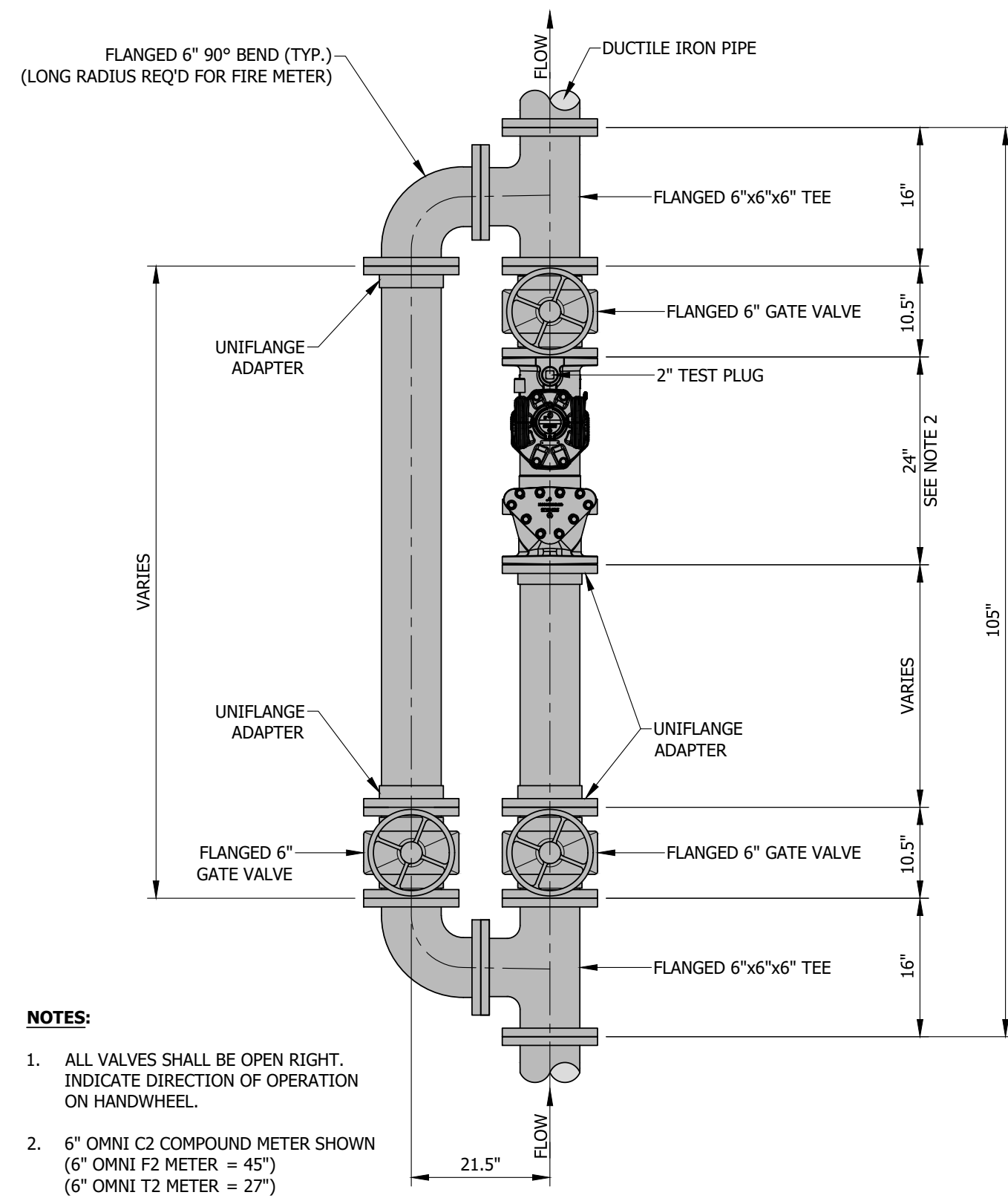
DESIGNED: JDS  
 CHECKED: B/JF  
 DATE: 1/12/2022  
 SCALE: NOT TO SCALE  
 APPROVED: JOSEPH D. SLOAN  
 TITLE: DIRECTOR OF ENGINEERING SERVICES DATE: 1/12/2022

EVANSVILLE WATER AND SEWER UTILITY  
 1 SE 8th Street Suite 200 - Evansville, IN 47708 (812) 421-2120



REVISIONS	DESCRIPTION	DATE

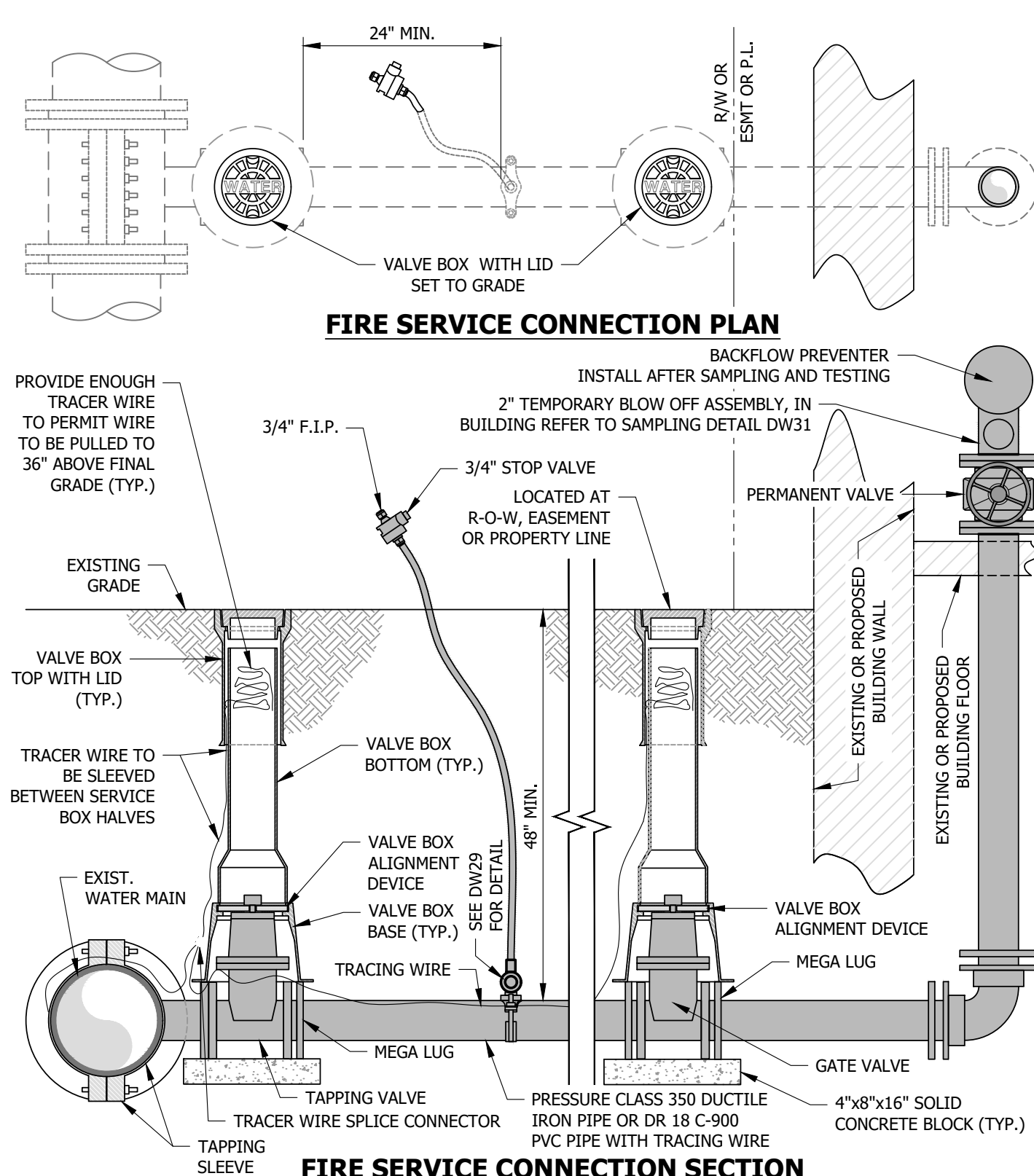




**DW24 - 6" METER SERVICE CONNECTION**

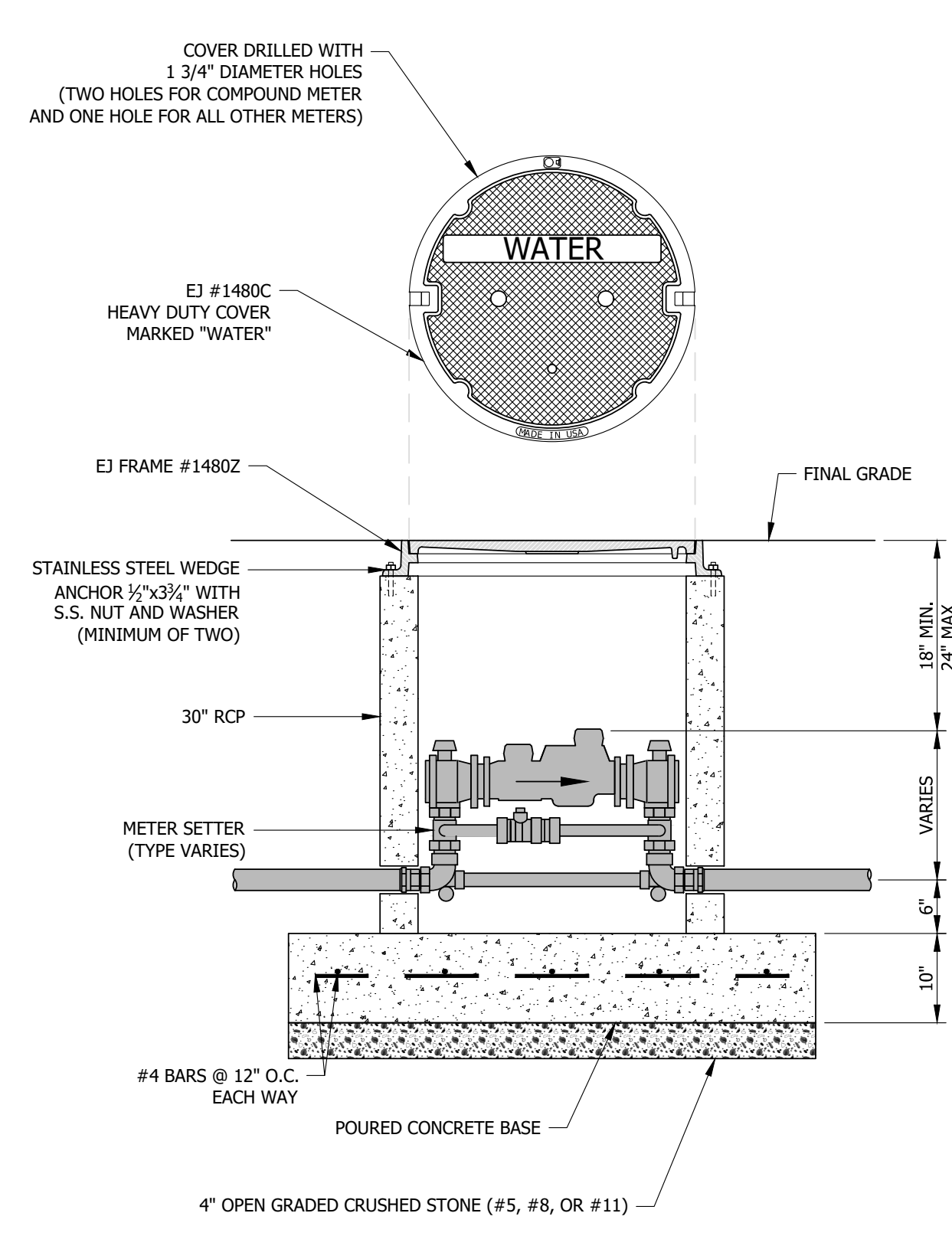
NOT TO SCALE

- NOTES:**
1. ALL VALVES SHALL BE OPEN RIGHT. INDICATE DIRECTION OF OPERATION ON HANDWHEEL.
  2. 6" OMNI C2 COMPOUND METER SHOWN (6" OMNI F2 METER = 45") (6" OMNI T2 METER = 27")



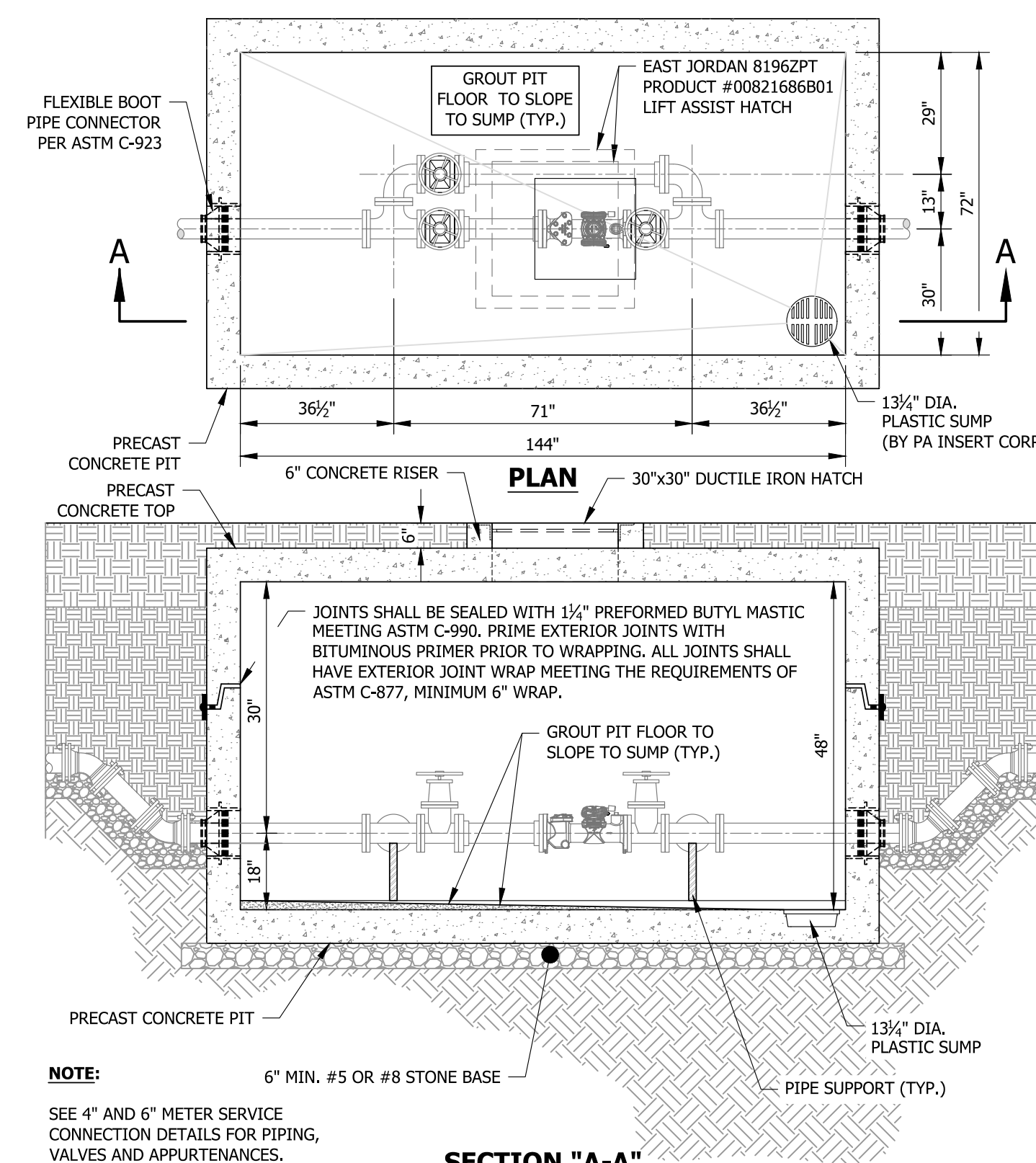
**DW25 - FIRE SERVICE CONNECTION**

NOT TO SCALE



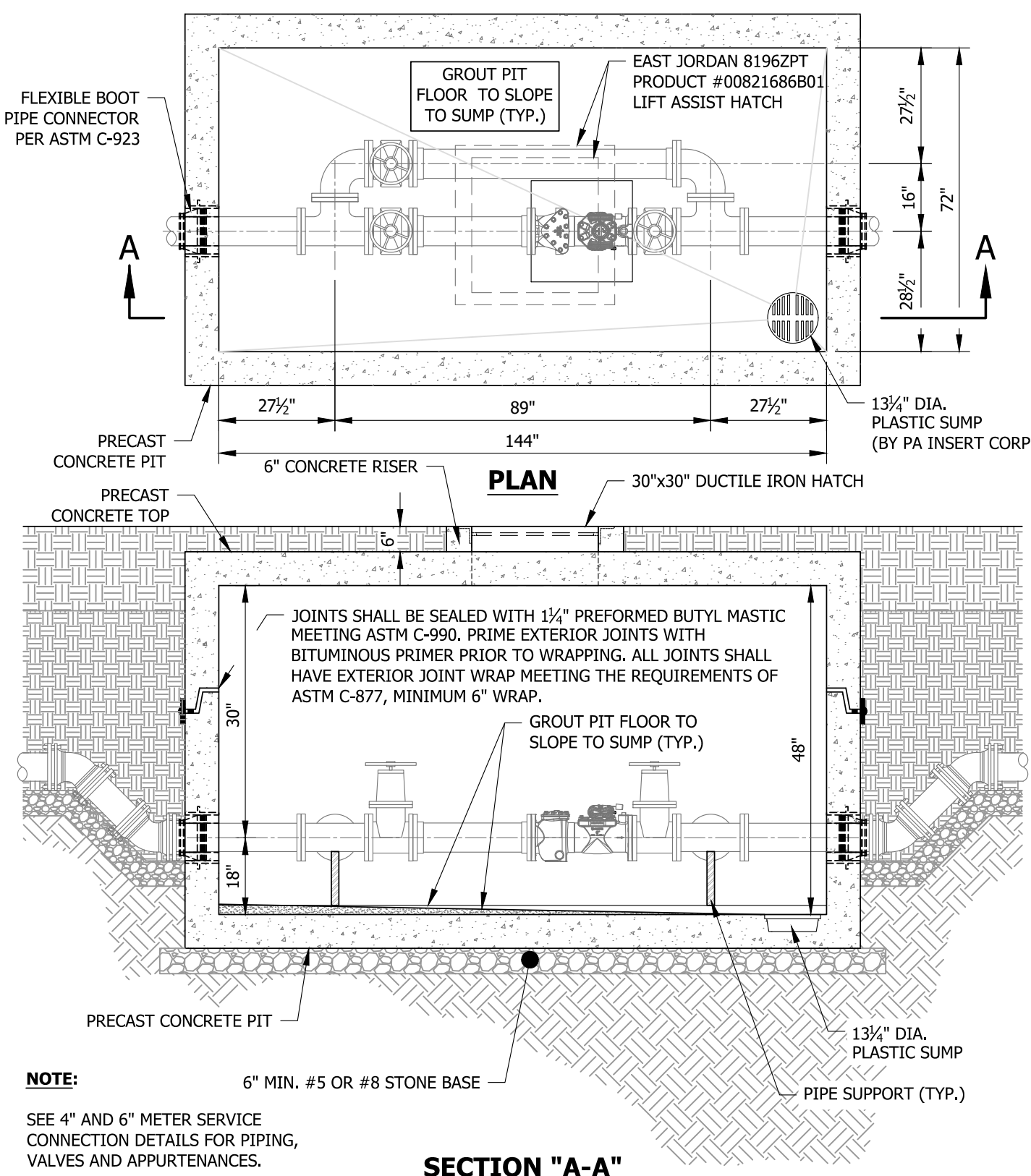
**DW26 - TRAFFIC RATED METER PIT**

NOT TO SCALE



**DW27 - 4" METER PIT**

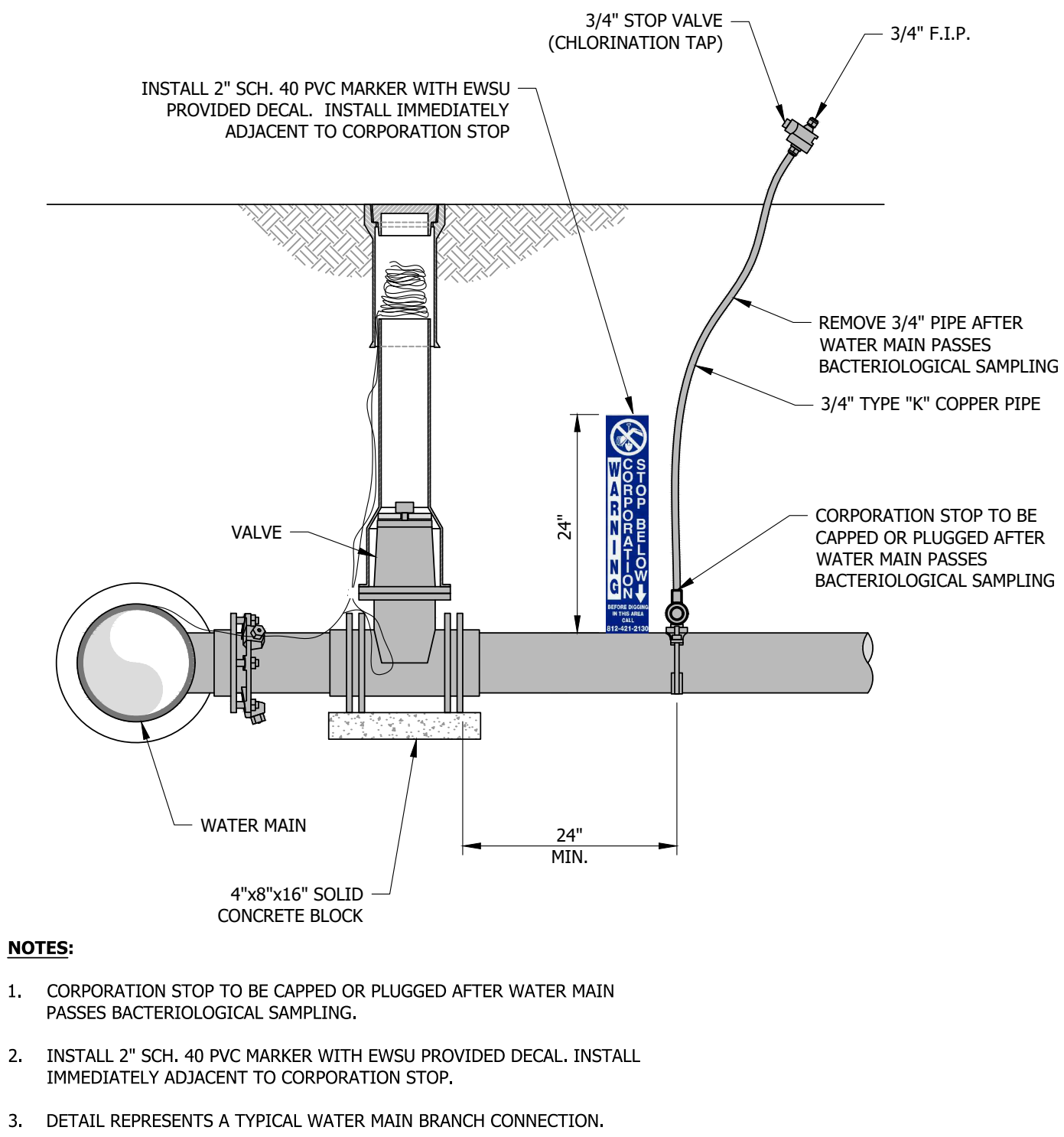
NOT TO SCALE



**DW28 - 6" METER PIT**

NOT TO SCALE

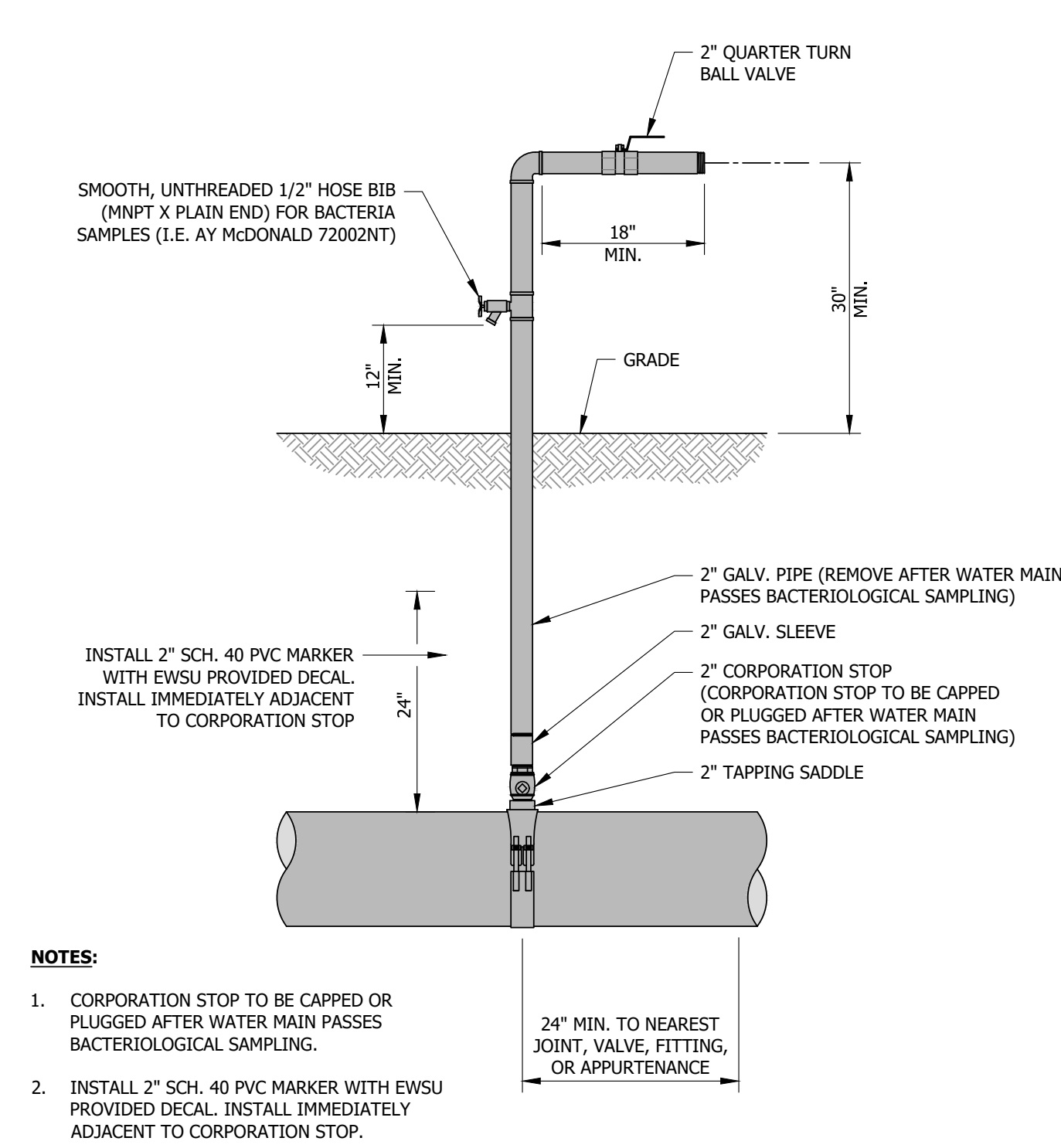
- NOTE:**
- SEE 4" AND 6" METER SERVICE CONNECTION DETAILS FOR PIPING, VALVES AND APPURTENANCES.



**DW29 - CHLORINATION / DISINFECTION TAP**

NOT TO SCALE

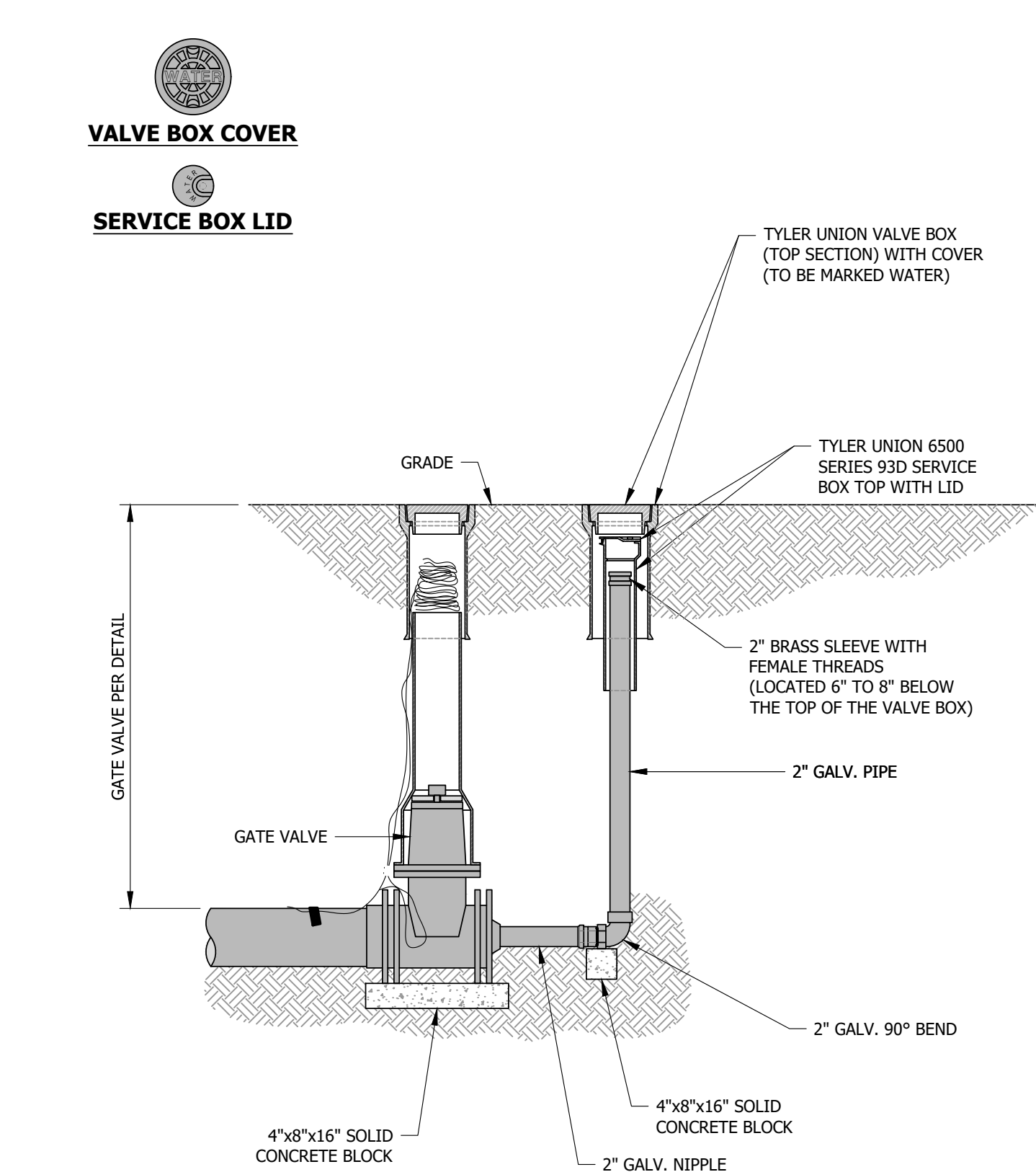
- NOTES:**
1. CORPORATION STOP TO BE CAPPED OR PLUGGED AFTER WATER MAIN PASSES BACTERIOLOGICAL SAMPLING.
  2. INSTALL 2" SCH. 40 PVC MARKER WITH EWSU PROVIDED DECAL. INSTALL IMMEDIATELY ADJACENT TO CORPORATION STOP.
  3. DETAIL REPRESENTS A TYPICAL WATER MAIN BRANCH CONNECTION.



**DW30-1 - TEMPORARY BLOWOFF ASSEMBLY WITH SADDLE**

NOT TO SCALE

- NOTES:**
1. CORPORATION STOP TO BE CAPPED OR PLUGGED AFTER WATER MAIN PASSES BACTERIOLOGICAL SAMPLING.
  2. INSTALL 2" SCH. 40 PVC MARKER WITH EWSU PROVIDED DECAL. INSTALL IMMEDIATELY ADJACENT TO CORPORATION STOP.

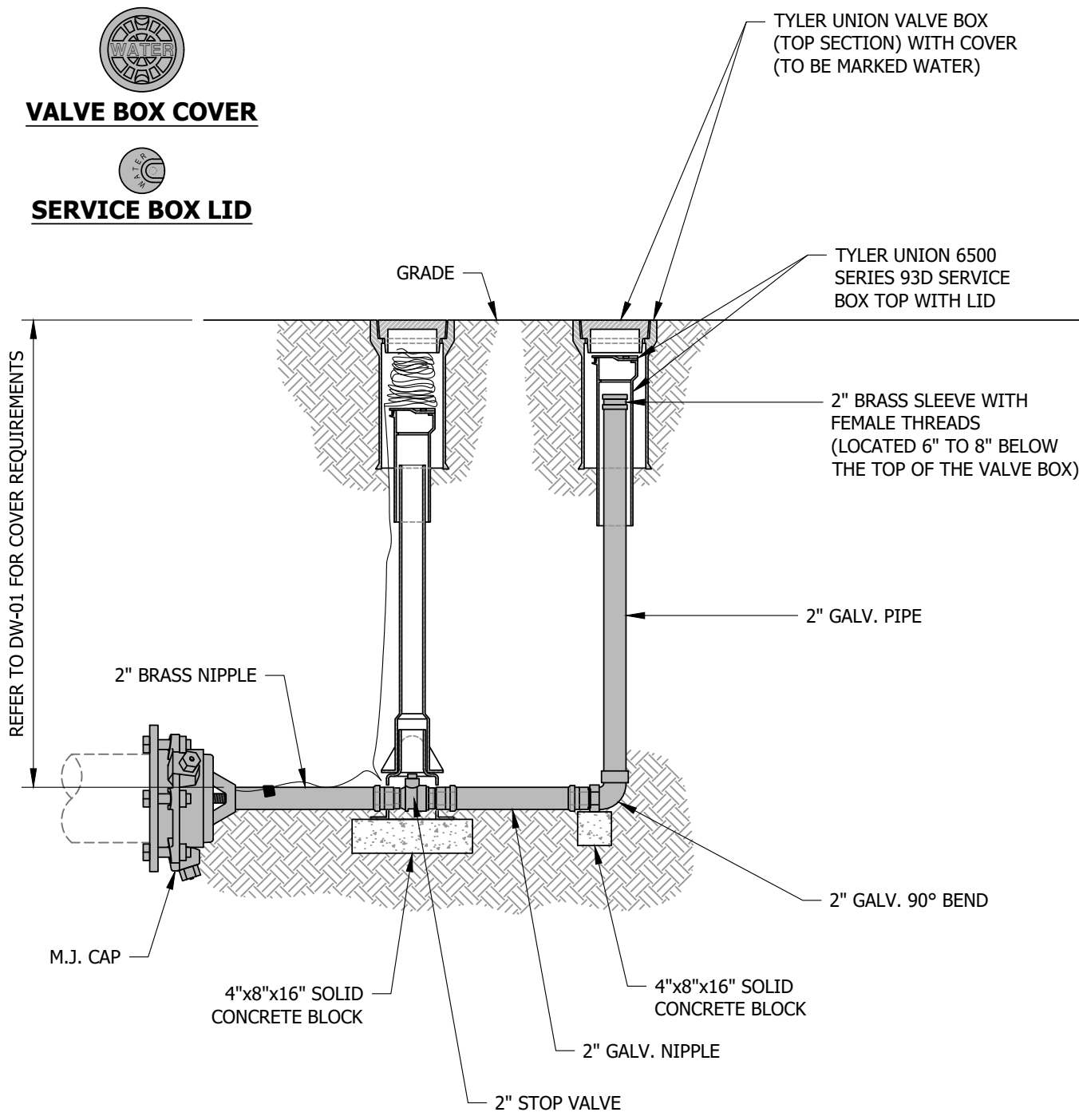


**DW30-2 - TEMPORARY BLOWOFF ASSEMBLY IN TRAFFIC AREA**

NOT TO SCALE

DESIGNED: JDS	DATE: 1/12/2022
DRAWN: PJT	CHECKED: BJF
SCALE: NOT TO SCALE	TITLE: STANDARD WATER DETAILS
APPROVED: JOSEPH D. SLOAN DIRECTOR OF ENGINEERING SERVICES DATE: 1/12/2022	
<p><b>EVANSVILLE WATER AND SEWER UTILITY</b> 1 SE 9th Street Suite 200 - Evansville, IN 47708 (812) 421-2120</p>	
REVISIONS	DESCRIPTION
DATE	
EWSU PROJECT NO:	
SHEET NO:	
<p><b>4</b> of <b>6</b></p>	

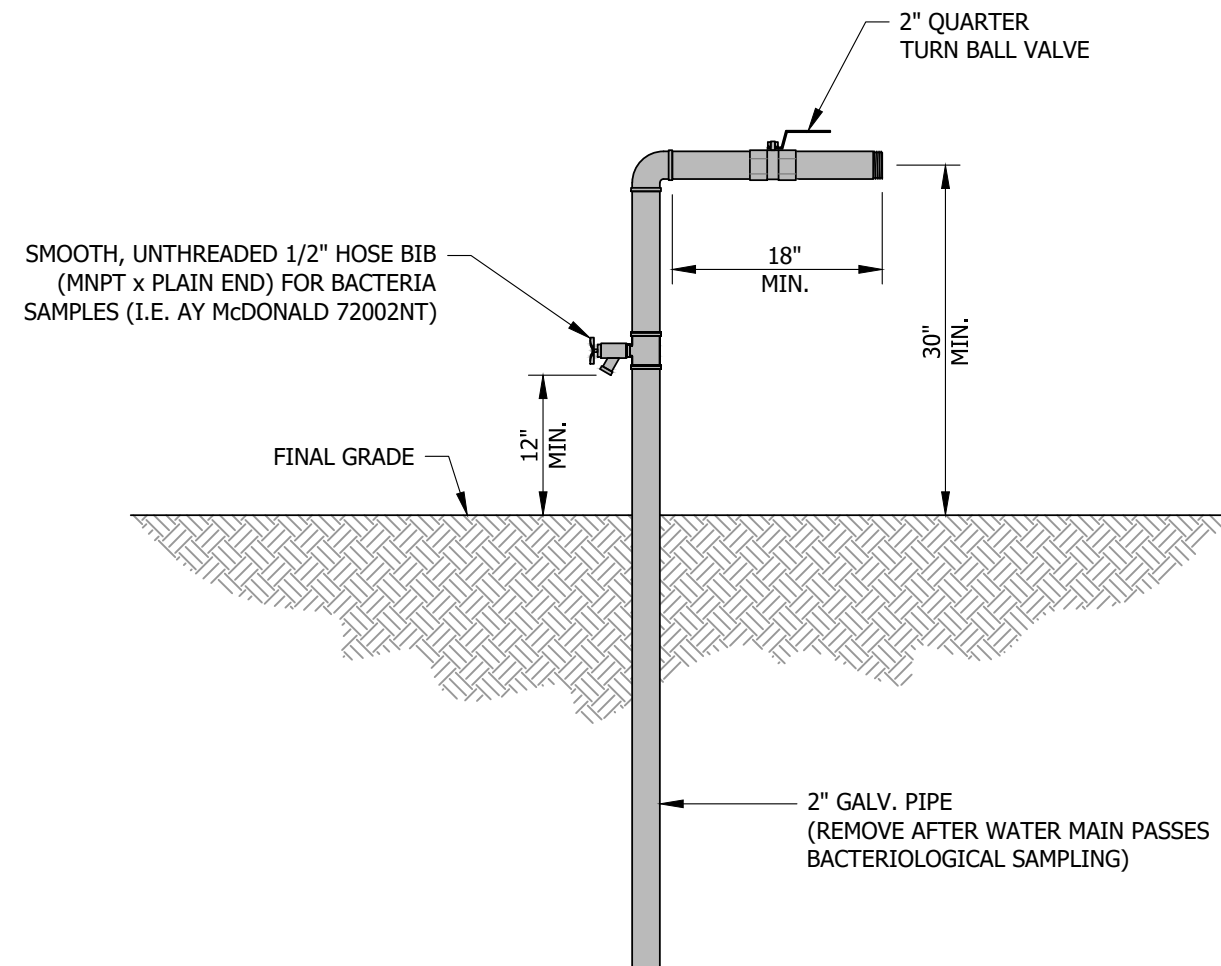




**NOTE:**  
HISTORIC DETAIL. FOR REFERENCE ONLY FOR USE IN WATER MAIN EXTENSION INSTALLATION CLARIFICATION.

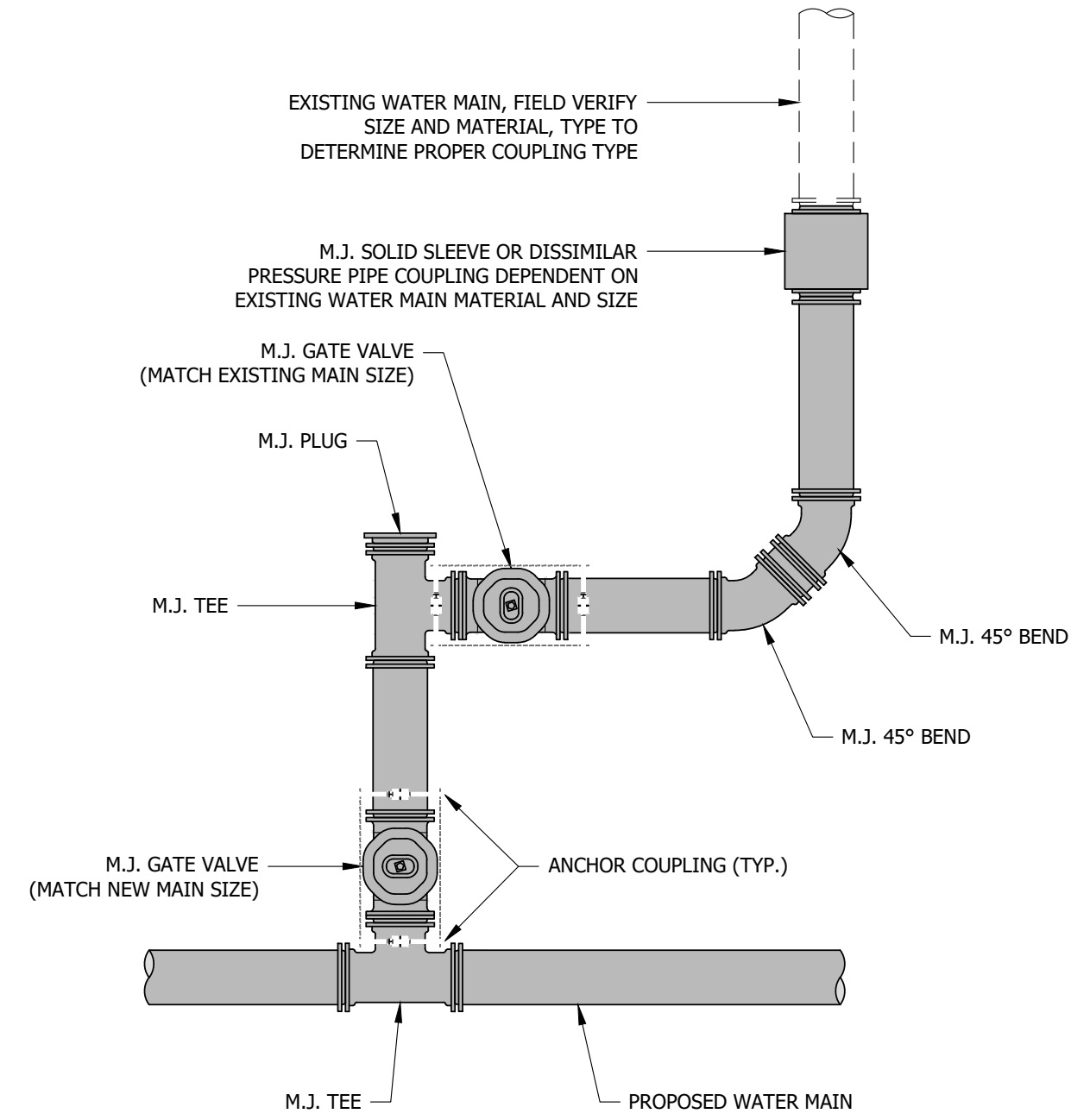
**DW30-3 - PERMANENT BLOWOFF ASSEMBLY WITH 2" STOP VALVE**

NOT TO SCALE



**DW31 - WATER MAIN FLUSHING AND SAMPLING ASSEMBLY**

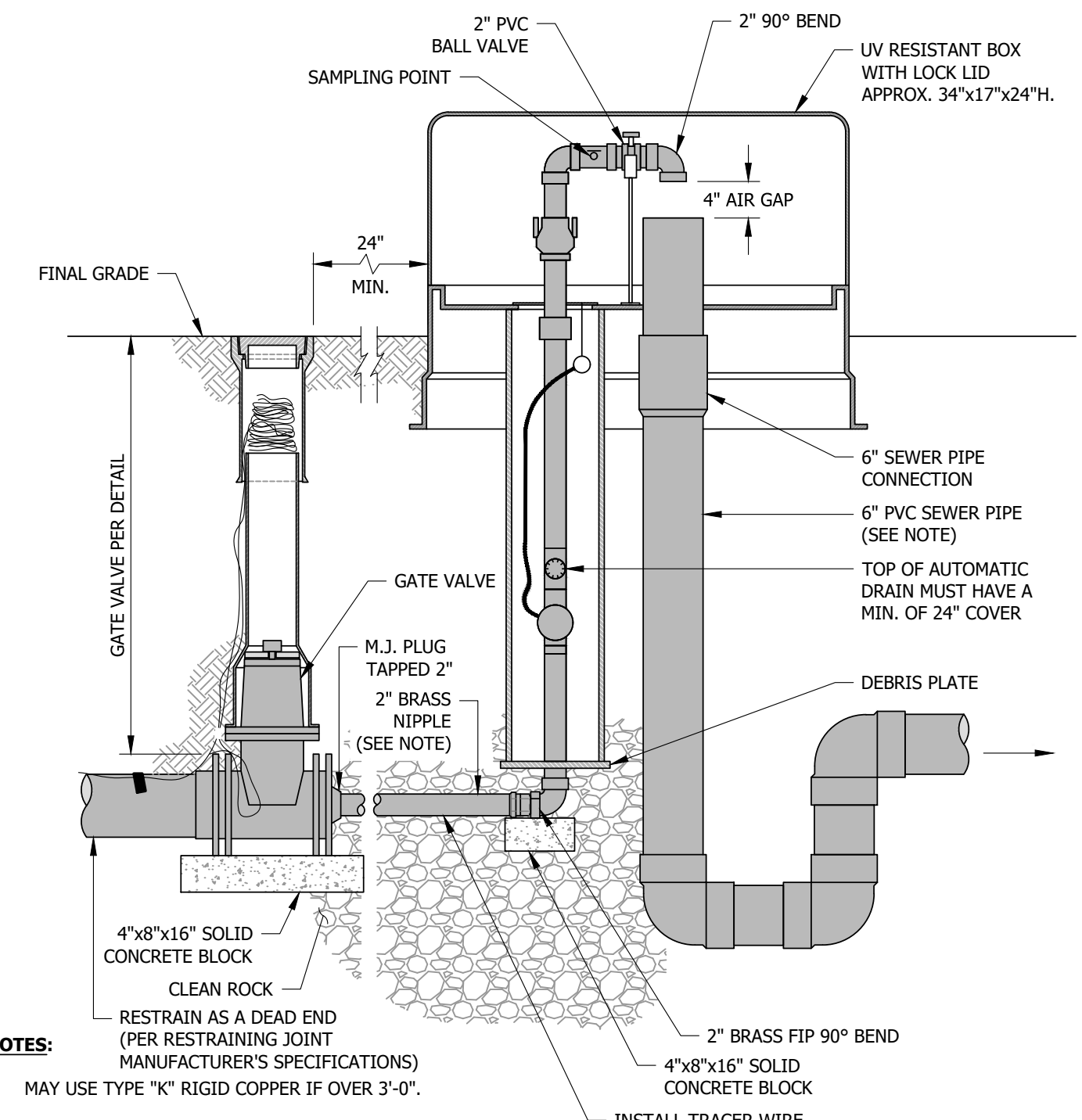
NOT TO SCALE



**NOTE:**  
IF CONNECTING EXISTING WATER MAIN IS DEAD END OR IF LENGTH OF NEW ANCILLARY PIPING IS GREATER THAN 20 FEET, AN M.J. GATE VALVE SHOULD BE ADDED BETWEEN THE M.J. TEE AND M.J. PLUG.

**DW32 - TYPICAL ANCILLARY WATER MAIN CONNECTION DETAIL**

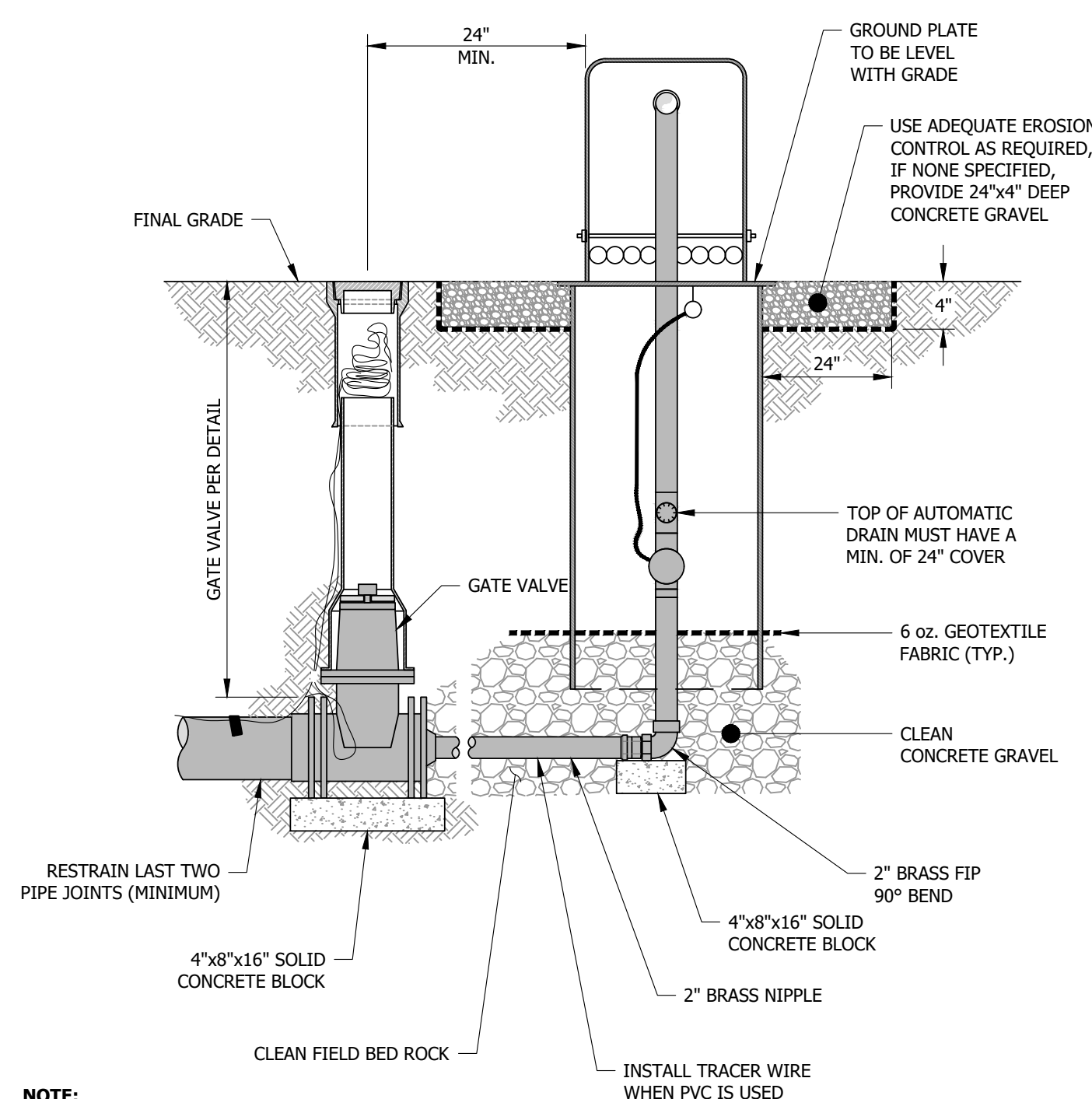
NOT TO SCALE



**NOTES:**  
1. MAY USE TYPE "K" RIGID COPPER IF OVER 3'-0".  
2. CONTRACTOR TO PROVIDE KEYS TO EWSU UPON INSTALLATION.  
3. PRIOR TO THE PERMANENT INSTALLATION OF THE VERTICAL PIPING FOR THE AUTOMATIC FLUSHING DEVICE, THE VERTICAL PIPING AND SURFACE COMPONENTS OF THE TEMPORARY BLOWOFF ASSEMBLY REPRESENTED IN DW31 MAY BE INSTALLED ABOVE THE 2" BRASS FIP 90° BEND FOR A FLUSHING AND SAMPLING LOCATION DURING TESTING.

**DW33 - AUTOMATIC FLUSHING DEVICE W/ GATE VALVE (ECLIPSE 9800)**

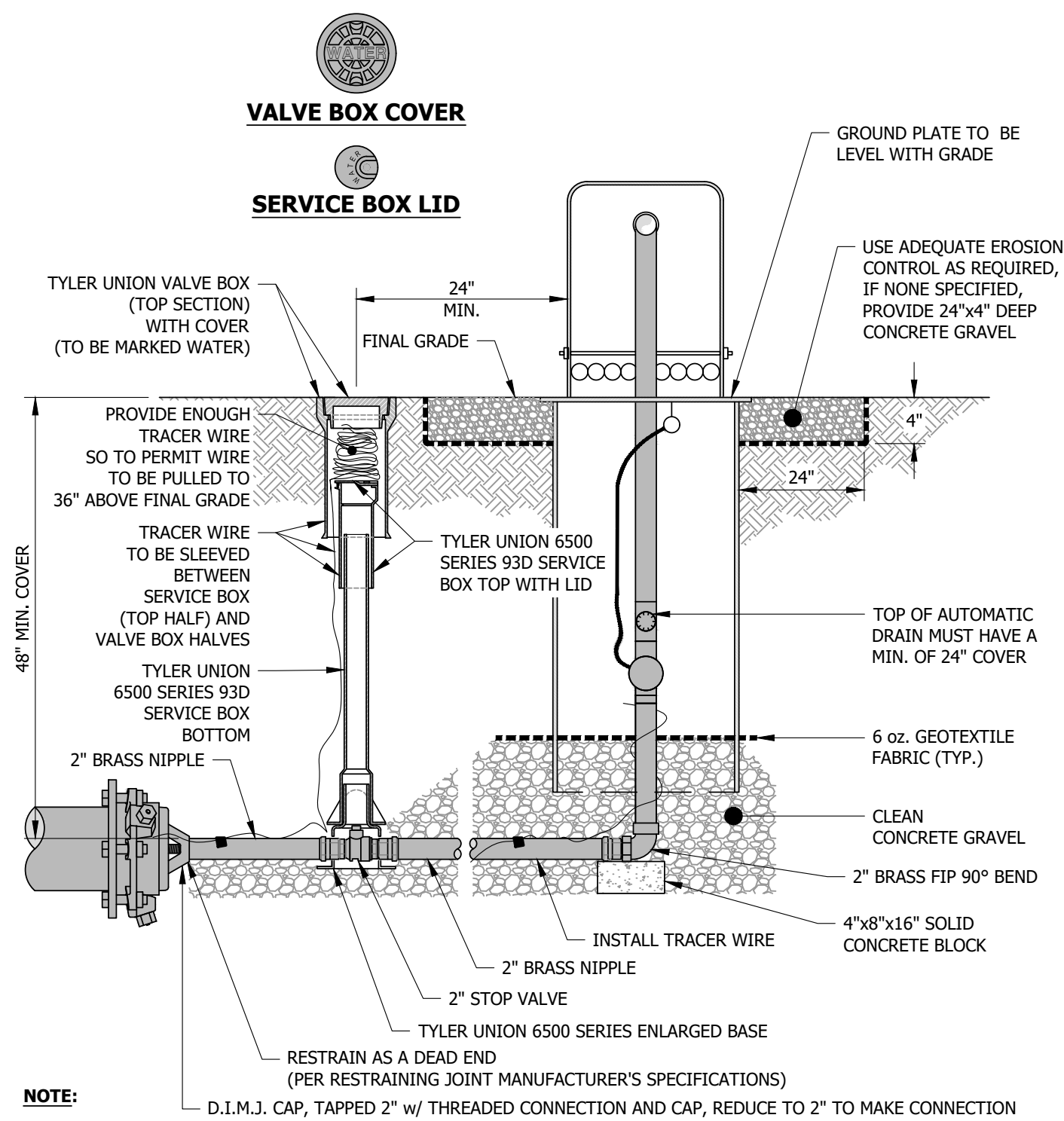
NOT TO SCALE



**NOTE:**  
PRIOR TO THE PERMANENT INSTALLATION OF THE VERTICAL PIPING FOR THE AUTOMATIC FLUSHING DEVICE, THE VERTICAL PIPING AND SURFACE COMPONENTS OF THE TEMPORARY BLOWOFF ASSEMBLY REPRESENTED IN DW31 MAY BE INSTALLED ABOVE THE 2" BRASS FIP 90° BEND FOR A FLUSHING AND SAMPLING LOCATION DURING TESTING.

**DW34 - AUTOMATIC FLUSHING DEVICE W/ GATE VALVE (ECLIPSE 9400)**

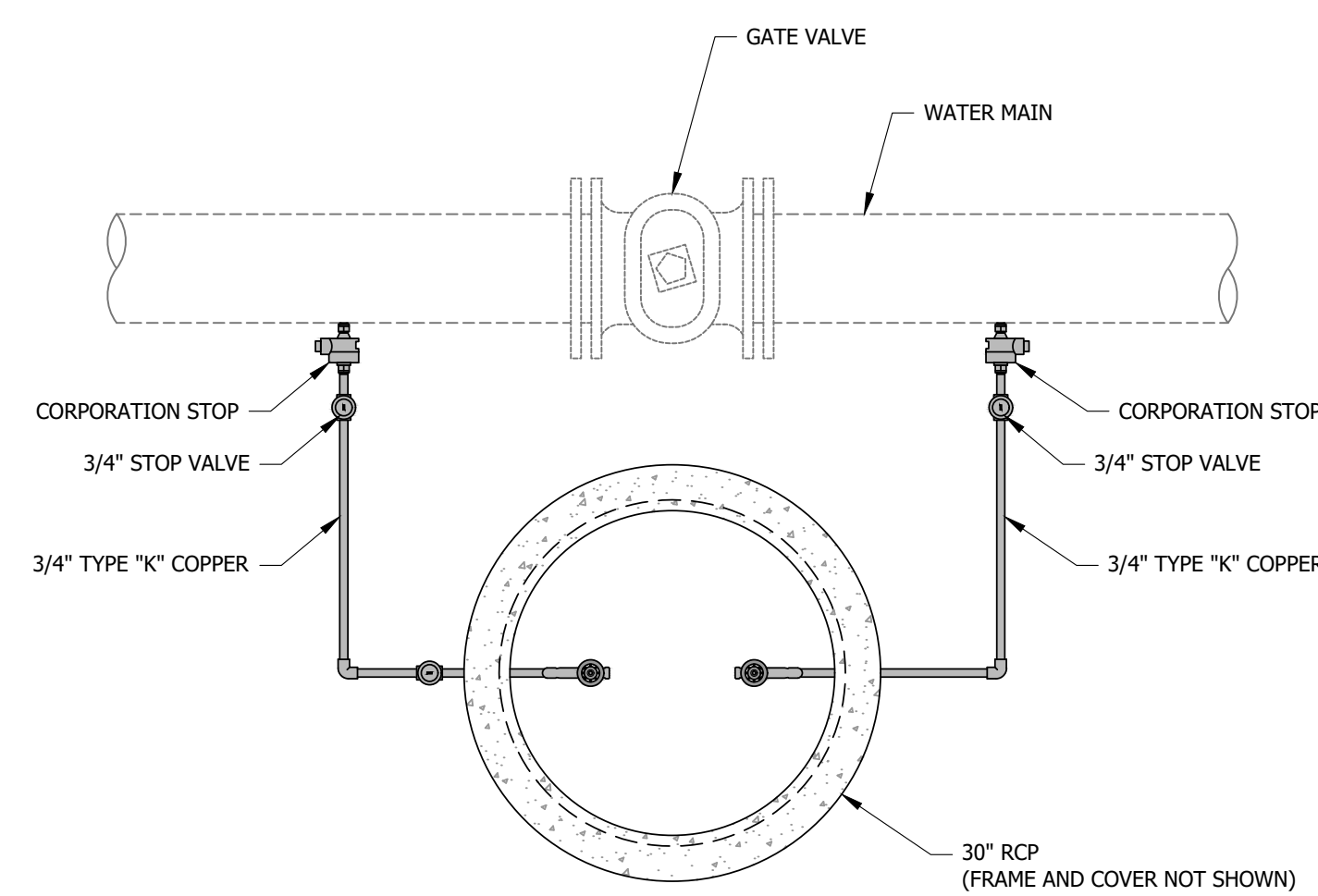
NOT TO SCALE



**NOTE:**  
PRIOR TO THE PERMANENT INSTALLATION OF THE VERTICAL PIPING FOR THE AUTOMATIC FLUSHING DEVICE, THE VERTICAL PIPING AND SURFACE COMPONENTS OF THE TEMPORARY BLOWOFF ASSEMBLY REPRESENTED IN DW31 MAY BE INSTALLED ABOVE THE 2" BRASS FIP 90° BEND FOR A FLUSHING AND SAMPLING LOCATION DURING TESTING.

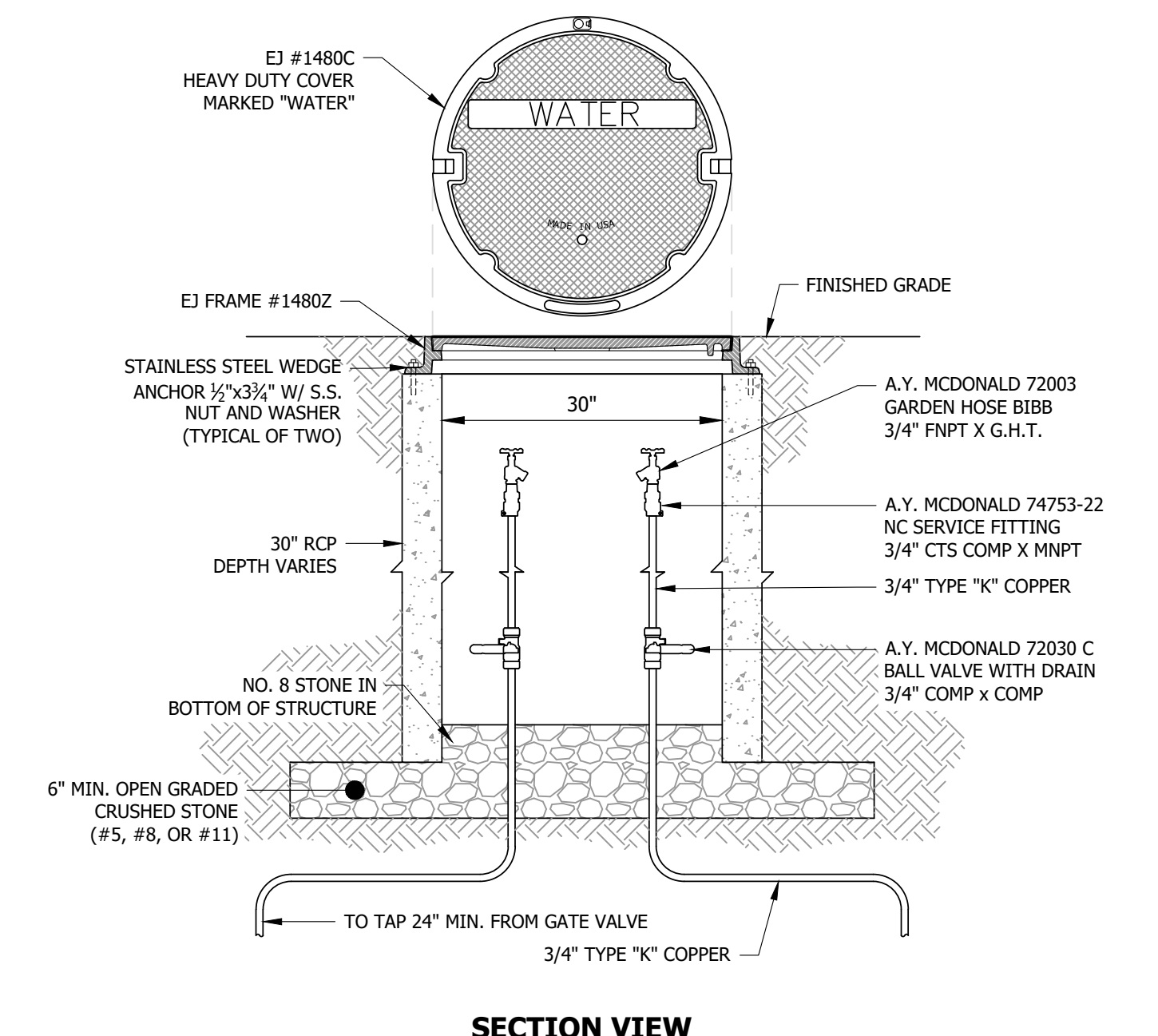
**DW35 - AUTOMATIC FLUSHING DEVICE W/ 2" STOP VALVE (ECLIPSE 9400)**

NOT TO SCALE



**DW36-1 - STREAM CROSSING LEAKAGE AND SAMPLING STRUCTURE**

NOT TO SCALE

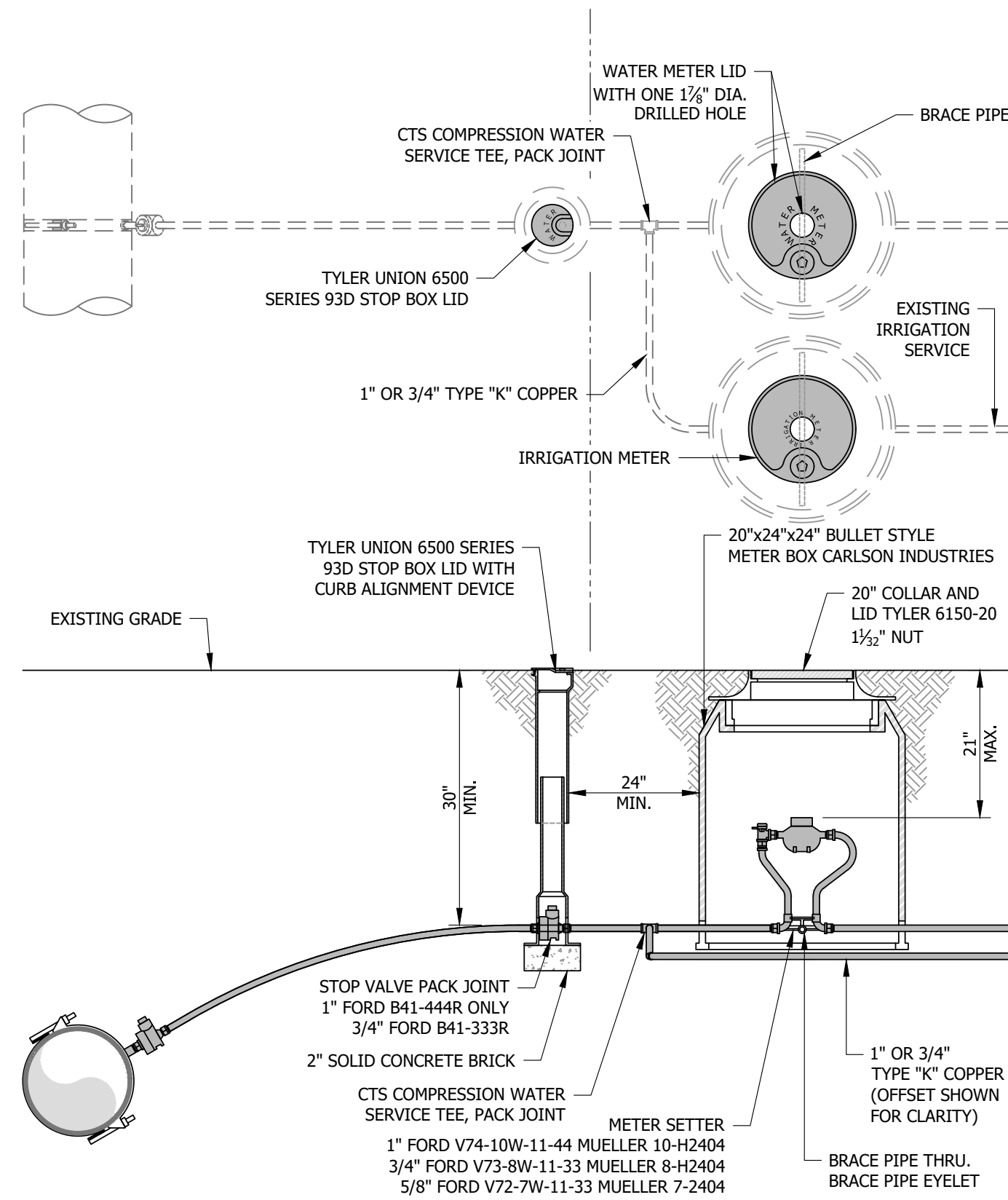


**DW36-2 - STREAM CROSSING LEAKAGE AND SAMPLING STRUCTURE**

NOT TO SCALE

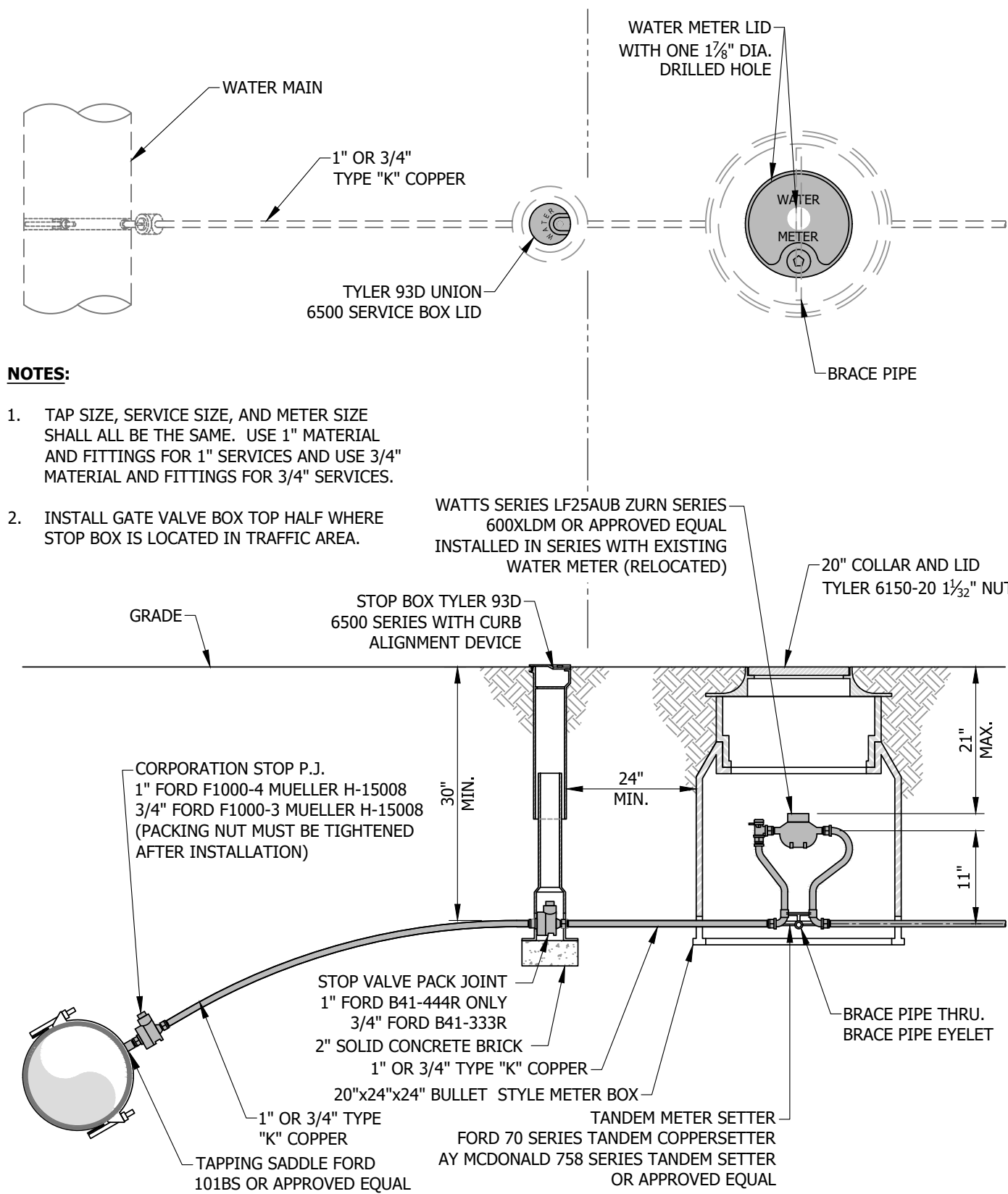
DESIGNED: JDS	DATE: 1/12/2022	NOT TO SCALE	APPROVED: JOSEPH D. SLOAN DIRECTOR ENGINEERING SERVICES DATE: 1/12/2022
DRAWN: PJT	CHECKED: BJF		
SCALE: NOT TO SCALE			
EVANSVILLE WATER AND SEWER UTILITY 1 SE 9th Street Suite 200 - Evansville, IN 47708 (812) 421-2120		STANDARD WATER DETAILS	
REVISIONS	DESCRIPTION	DATE	
EWSU PROJECT NO:		SHEET NO:	
		<b>5</b>	
		5 of 6	





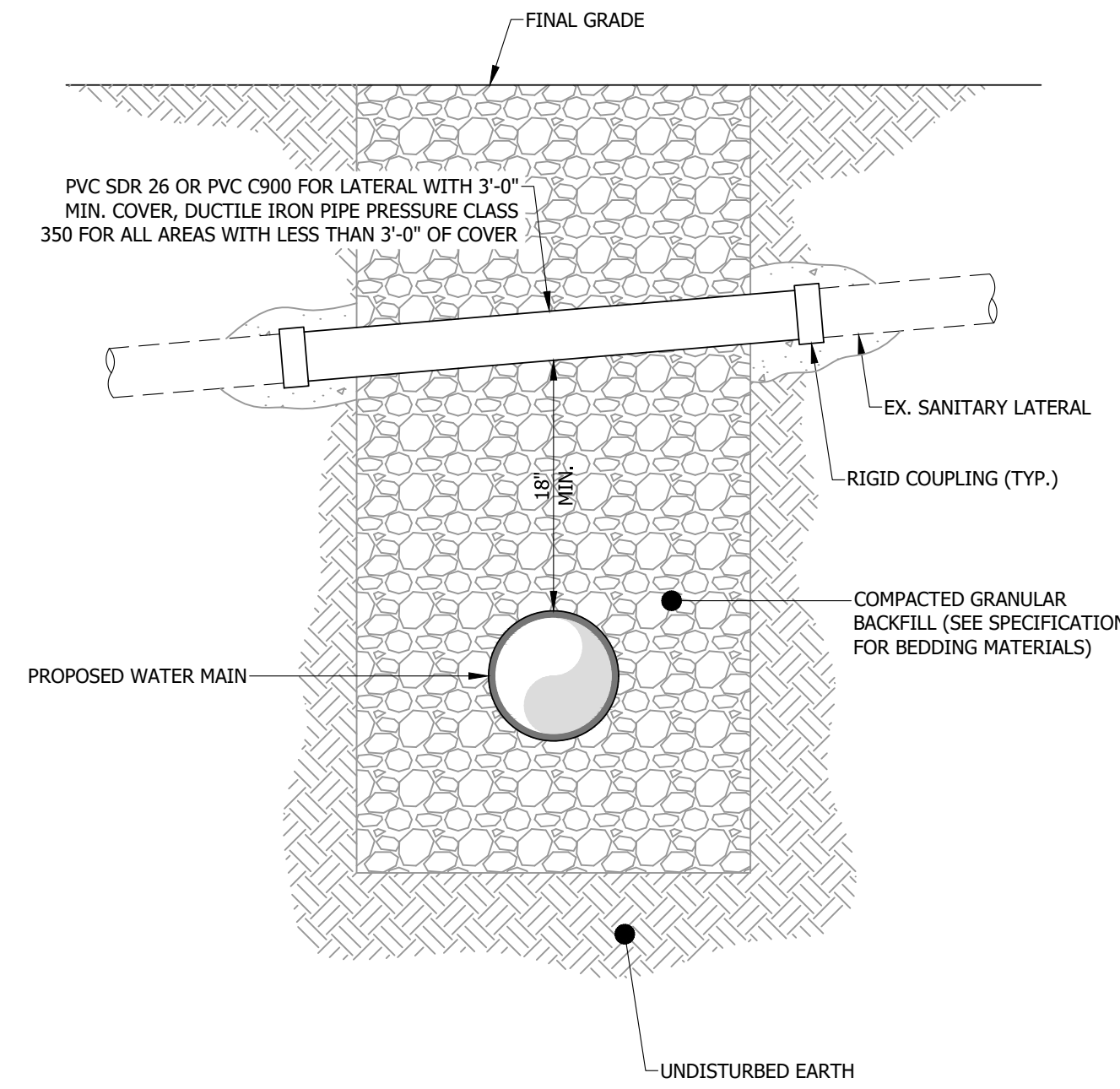
**DW37 - 3/4" OR 1" IRRIGATION SPLIT SERVICE CONNECTION**

NOT TO SCALE



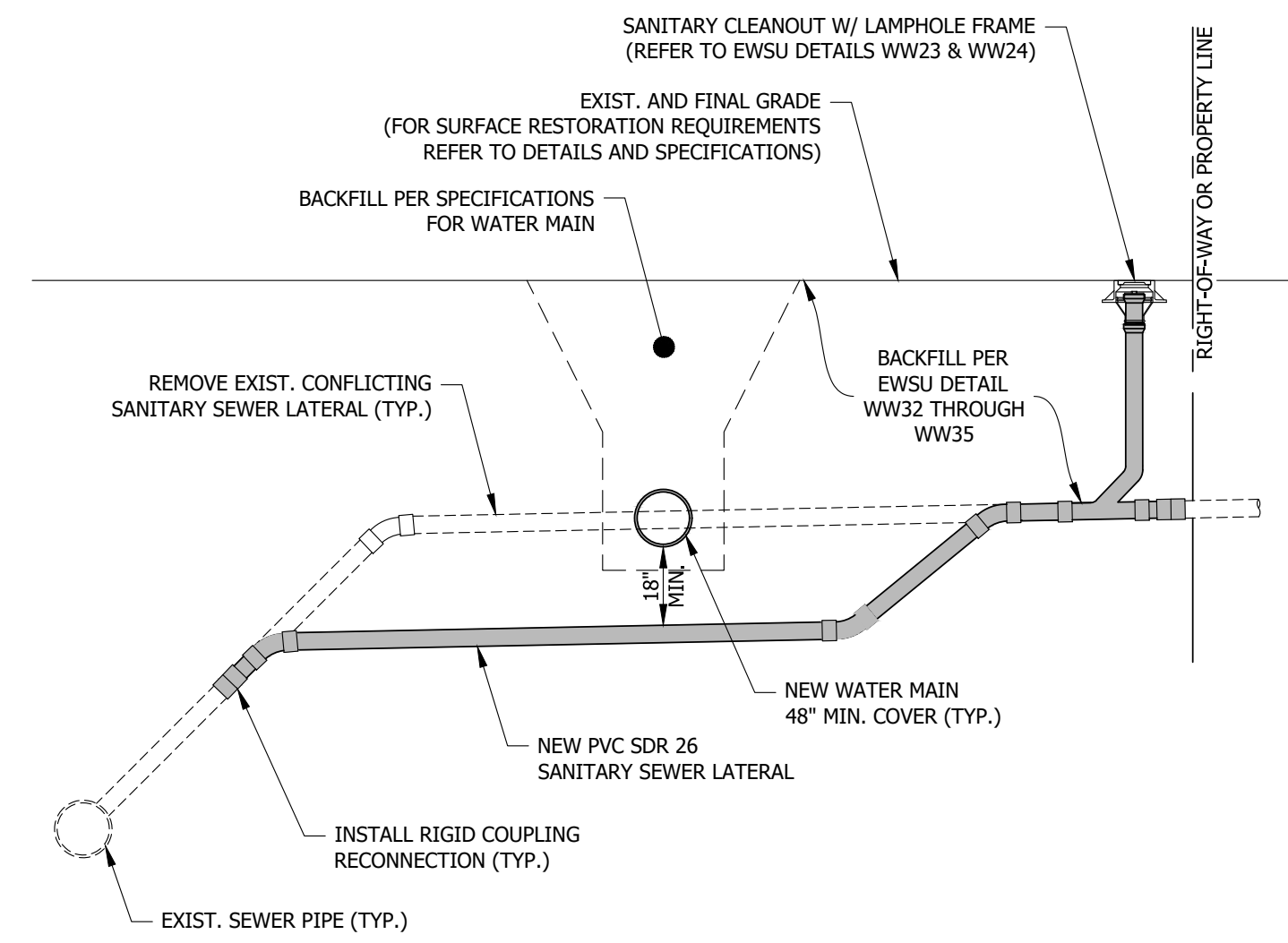
**DW38 - 3/4" OR 1" METER SERVICE CONNECTION WITH PRESSURE REDUCING VALVE**

NOT TO SCALE



**DW39 - SANITARY SEWER - LATERAL REPAIR DETAIL**

NOT TO SCALE

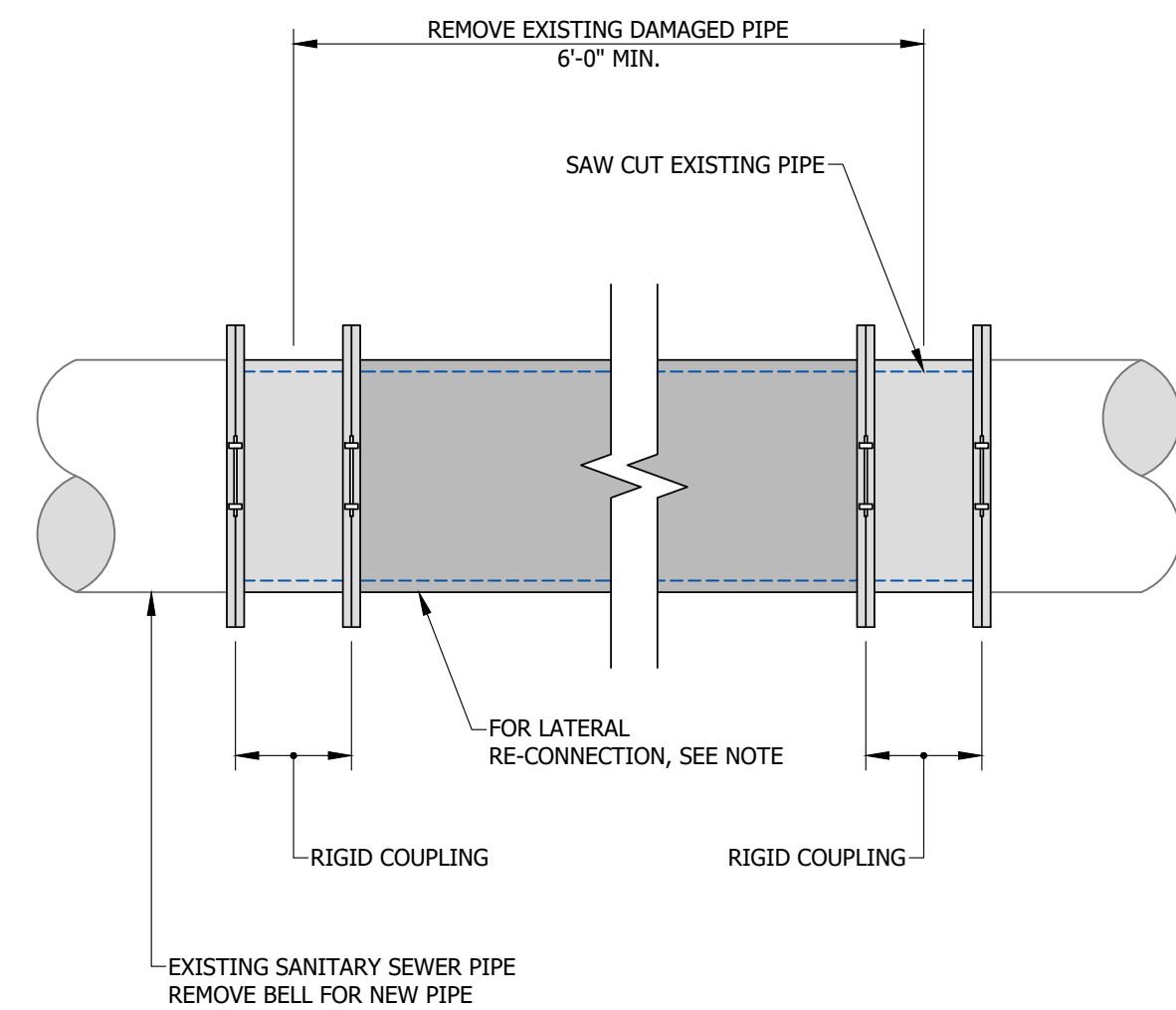


**DW40 - SANITARY SEWER - LATERAL ADJUSTMENT**

NOT TO SCALE

**GENERAL NOTES:**

- LATERAL ADJUSTMENTS REQUIRE ENGINEER AND OWNER APPROVAL. DEPENDENT UPON SANITARY SEWER LAYOUT, EACH ADJUSTMENT IS UNIQUE IN NATURE AND THIS DETAIL IS A GENERAL PROCEDURE. IN GENERAL, CONTRACTOR SHALL PROVIDE SEPARATION BY ADJUSTING WATER MAIN. CONTRACTOR SHALL FIELD LOCATE LATERALS PRIOR TO WATER MAIN INSTALLATION.
- CONTRACTOR SHALL MATCH EXISTING INSIDE PIPE DIAMETER AS CLOSELY AS POSSIBLE.
- REFER TO EWSU STANDARD DETAILS WW21 THROUGH WW24 FOR ADDITIONAL SANITARY SEWER LATERAL AND SANITARY SEWER MAIN DETAILS AND REQUIREMENTS.
- DETAIL IS INTENDED TO BE USED WHEN WATER MAIN PROFILE CANNOT BE ADJUSTED DUE TO DEPTHS OF EXISTING FACILITIES.



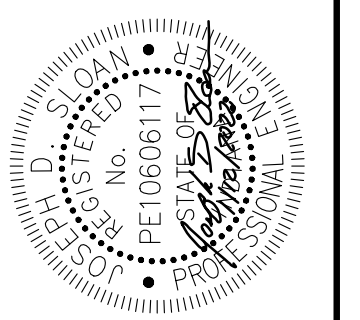
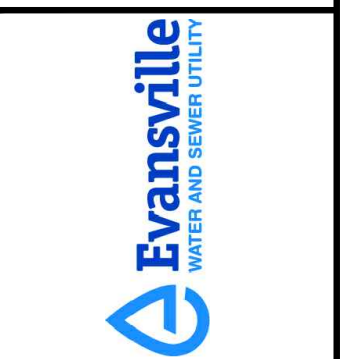
**DW41 - SANITARY SEWER - MAIN REPAIR DETAIL**

NOT TO SCALE

**NOTE:**  
FOR RE-CONNECTIONS, REFER TO EWSU STANDARD DETAILS WW21 TO WW24 AND WW22 TO WW23 FOR ADDITIONAL LATERAL DETAILS. IN GENERAL, LATERAL SEWER RE-CONNECTIONS IS CONSIDERED FOR PAVEMENT FROM NEW OR RELOCATED SEWER MAIN WYE TO MIN. OF 5 FT. BEYOND SEWER MAIN OR EDGE OF EASEMENT OR RIGHT-OF-WAY OR AS REQUIRED TO PROVIDE RE-CONNECTION. CLEANOUTS ARE ONLY NECESSARY WHERE SPECIFICALLY SHOWN ON THE PLANS OR REQUIRED WITHIN THE DETAIL SPECIFICATIONS.

DESIGNED:	JDS
CHECKED:	BJF
DATE:	1/12/2022
SCALE:	NOT TO SCALE
APPROVED:	JOSEPH D. SLOAN
TITLE:	ENGINEERING SERVICES
DATE:	1/12/2022

**EVANSVILLE WATER AND SEWER UTILITY**  
1 SE 9th Street Suite 200 - Evansville, IN 47708 (812) 421-2120



REVISIONS	DESCRIPTION	DATE

EWSU PROJECT NO:

SHEET NO: