

**UNIFORM DESIGN AND CONSTRUCTION
STANDARDS FOR EXTENDING WATER
DISTRIBUTION SYSTEMS**

SECTION 5

STANDARD DETAILS

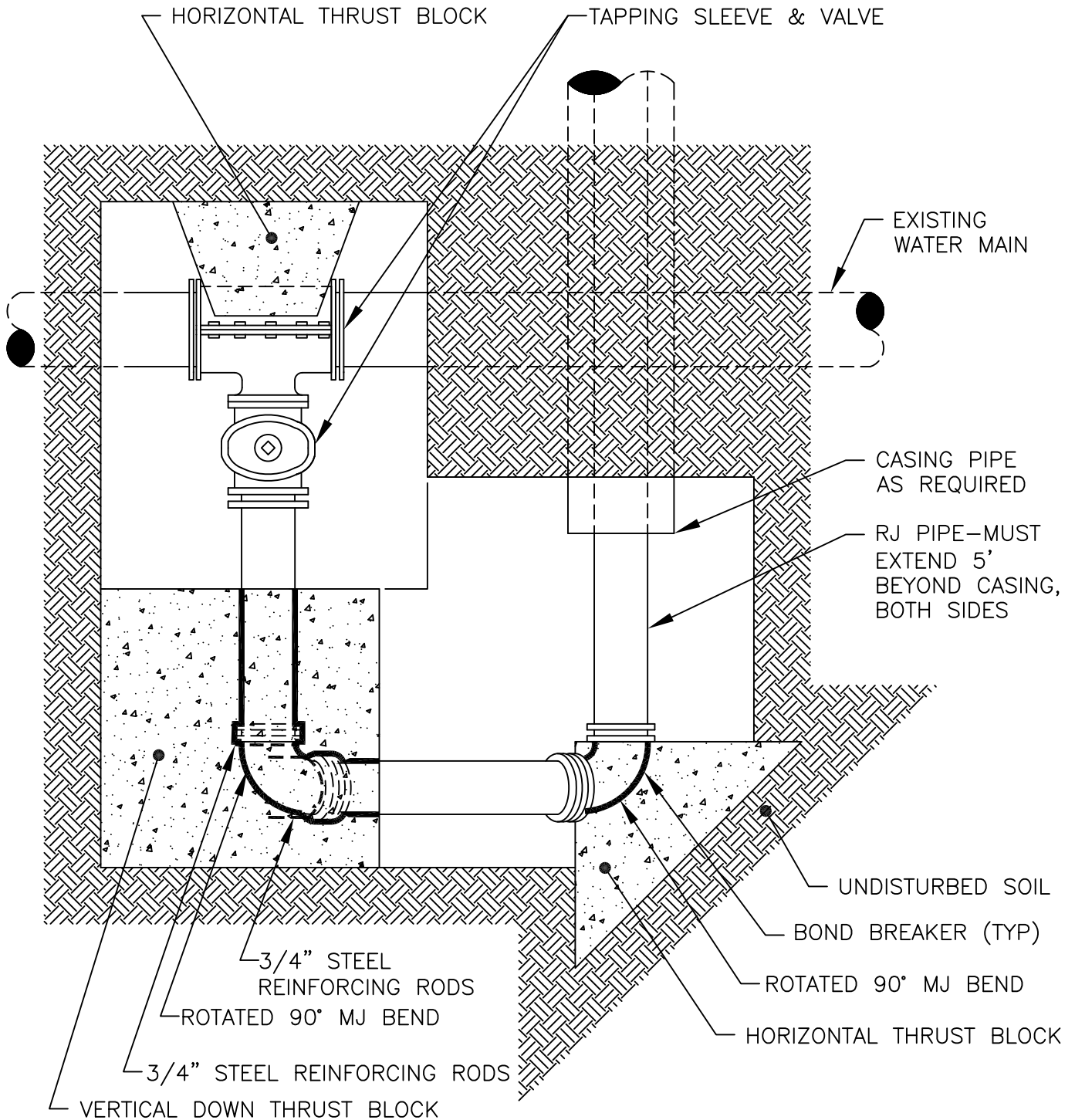
Revised: January 2025

STANDARD DETAILS

SECTION 5

INDEX

<u>DRAWING NO.</u>	<u>TITLE</u>
DME 1	Backside Tap – Plan View (Jan. 2025)
DME 2	Backside Tap – Side Elevation (Jan. 2025)
DME 3	DIP Trench (Jan. 2025)
DME 4	Casing Pipe (Jan. 2025)
DME 5	Valve (Jan. 2025)
DME 6	Horizontal Thrust Block with Charts (Jan. 2025)
DME 7	Vertical Down Thrust Blocks with Charts (Jan. 2025)
DME 8	Hydrant Marker (Jan. 2025)
DME 9	Perpendicular Hydrant Assembly (Jan. 2025)
DME 10	Perpendicular Blow-Off Hydrant Assembly (Jan. 2025)
DME 11	Dead End Perpendicular Hydrant Assembly (Jan. 2025)
DME 12	1" Permanent Manual Air Release (Jan. 2025)
DME 13	Automatic Air Release Valve (Jan. 2025)
DME 14	Disinfection/Blow-Off/Sampling Tap (Temporary) (Jan. 2025)
DME 15	Tee w/2" Blow-Off (Jan. 2025)
DME 16	Copper Service Installation on DI or CI Pipe (Jan. 2025)
DME 17	1-1/2" and 2" Tap for Insulated Corporation w/ Copper Service (Jan. 2025)
DME 18	1-1/2" and 2" Tap for Non-Insulated Corporation w/ Plastic Service (Jan. 2025)
DME 19	Meter Tile Installation (Jan. 2025)
DME 20	Creek Crossing Test Meter (Jan. 2025)
DME 21	Reducer (Jan. 2025)
DME 22	Reducer from $\geq 4"$ to 2" (Jan. 2025)
DME 23	Polyethylene Encasement (Jan. 2025)
DME 24	HDPE Trench (Jan. 2025)
DME 25	HDPE to DIP or CIP Connection (Jan. 2025)
DME 26	4" and Larger Public Water Service Line Notes (Jan. 2025)
DME 27	1", 1-1/2" and 2" Public Water Service Line Notes (Jan. 2025)
DME 28	Public Water System Notes (Jan. 2025)



BACKSIDE TAP - PLAN VIEW

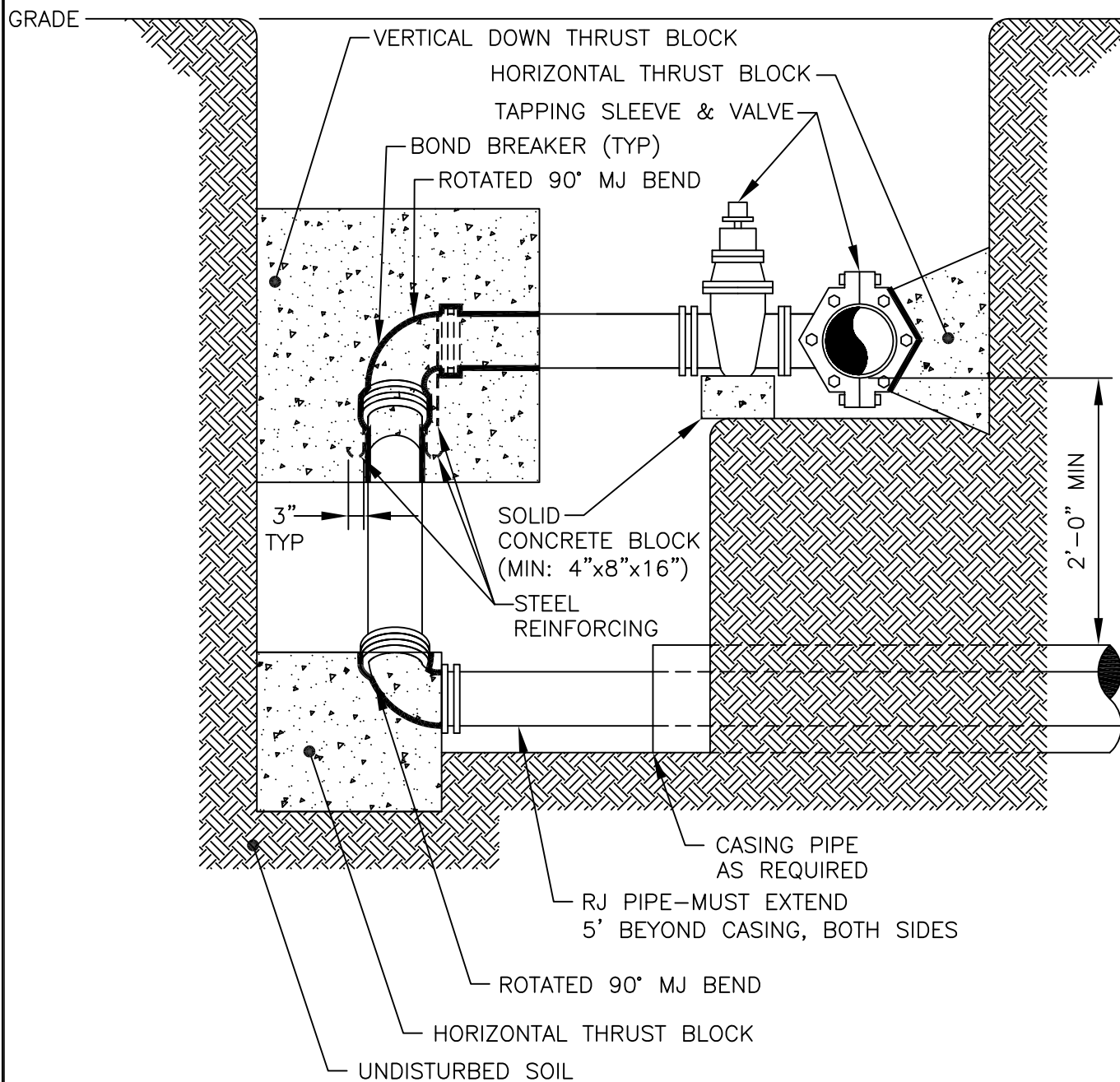
NOT TO SCALE



MONROE COUNTY
WATER AUTHORITY
ROCHESTER, NEW YORK

JAN 2025
DATE

DME 1



BACKSIDE TAP - SIDE ELEVATION

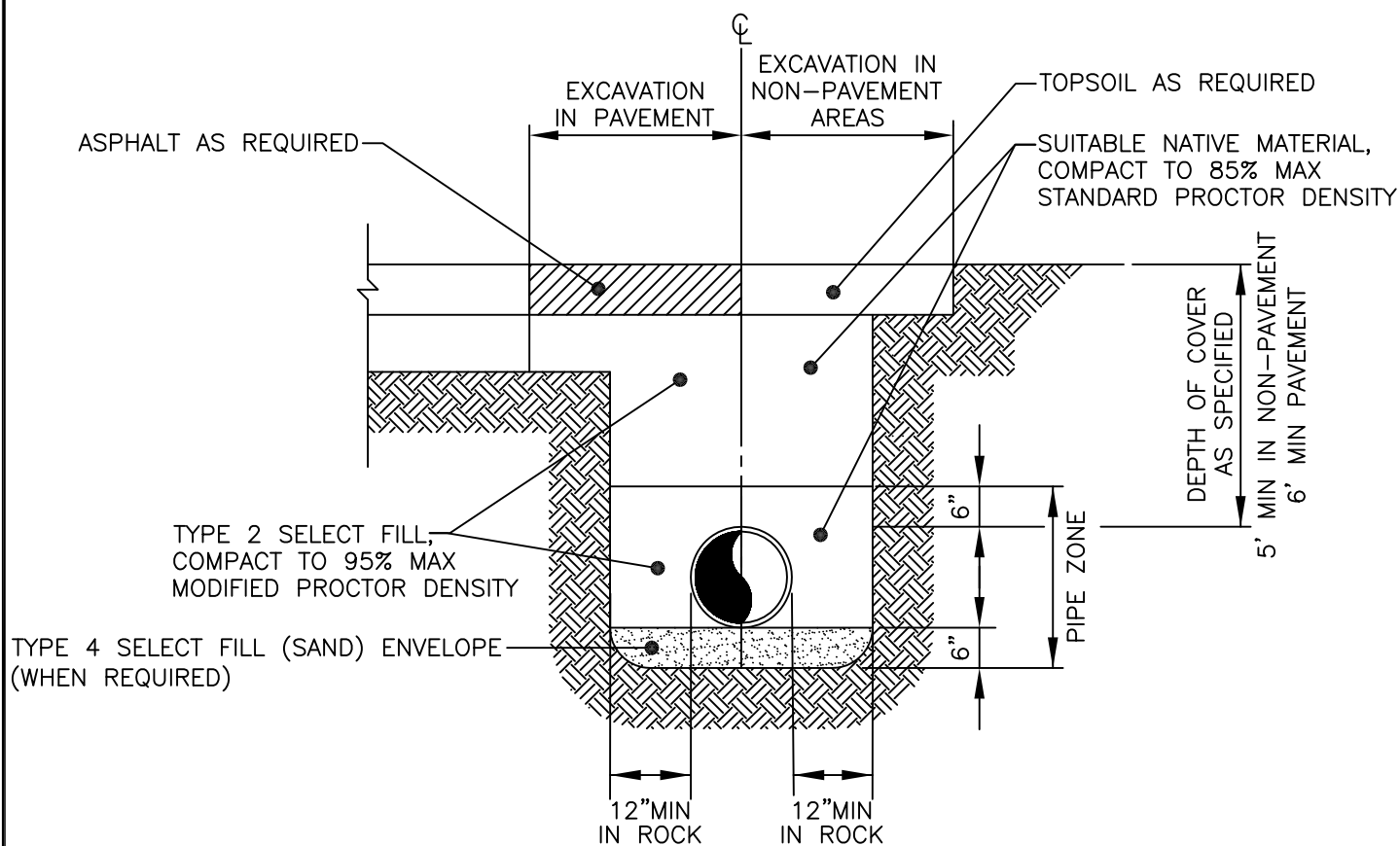
NOT TO SCALE



MONROE COUNTY
WATER AUTHORITY
ROCHESTER, NEW YORK

JAN 2025
DATE

DME 2



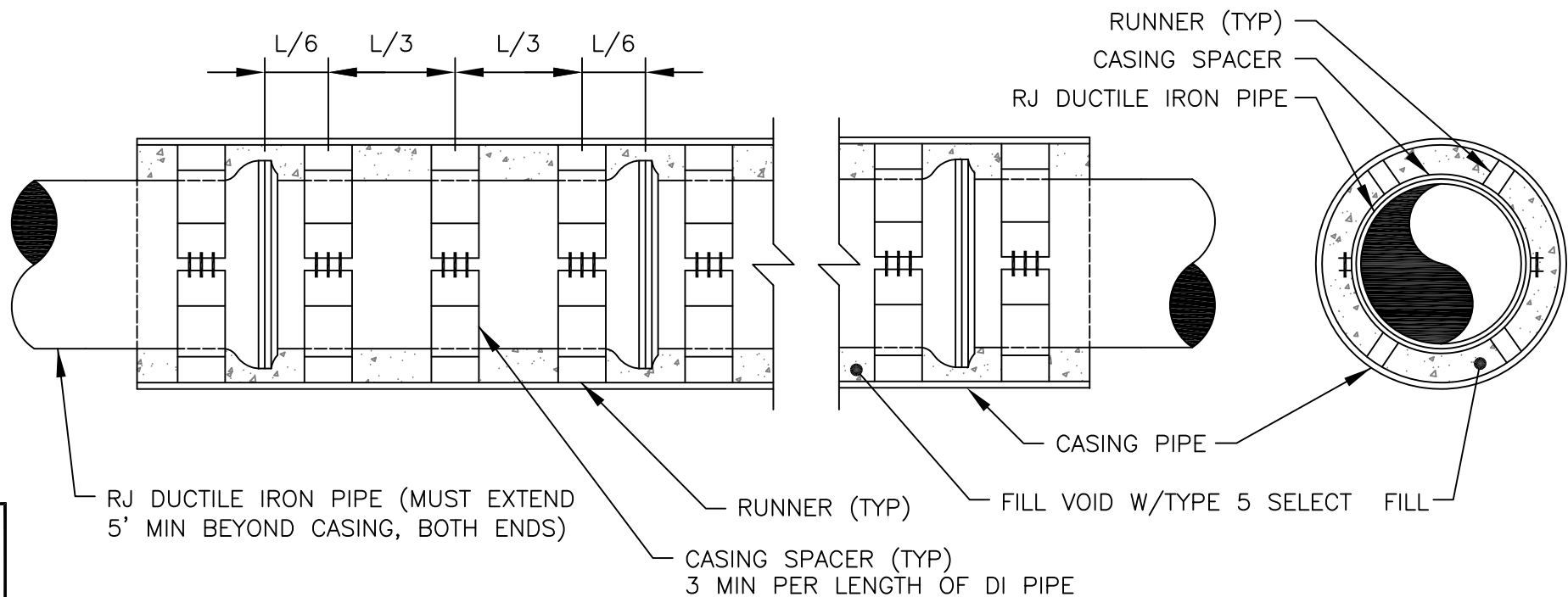
DIP TRENCH NOT TO SCALE



MONROE COUNTY
WATER AUTHORITY
ROCHESTER, NEW YORK

JAN 2025
DATE

DME 3



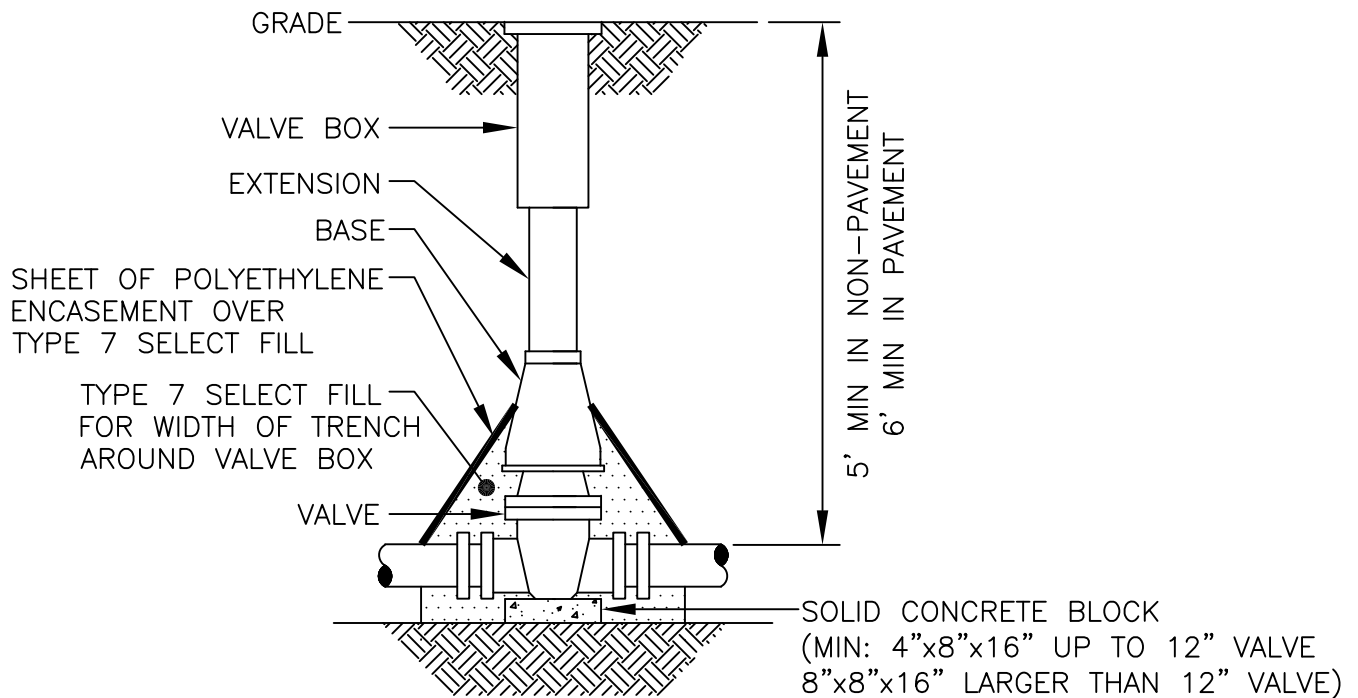
CASING PIPE

NOT TO SCALE



MONROE COUNTY
WATER AUTHORITY
ROCHESTER, NEW YORK

JAN 2025
DATE
DME 4



NOTES:

1. CENTER VALVE BOX ON VALVE AND SET ON COMPACTED BACKFILL.
2. VALVE SHALL NOT SUPPORT VALVE BOX.
3. ALL VALVES SHALL BE OPEN LEFT EXCEPT:
TOWN OF WEBSTER – VALVES 12" AND SMALLER SHALL OPEN RIGHT.
TOWN OF HENRIETTA – SHALL OPEN RIGHT

VALVE
NOT TO SCALE



MONROE COUNTY
WATER AUTHORITY
ROCHESTER, NEW YORK

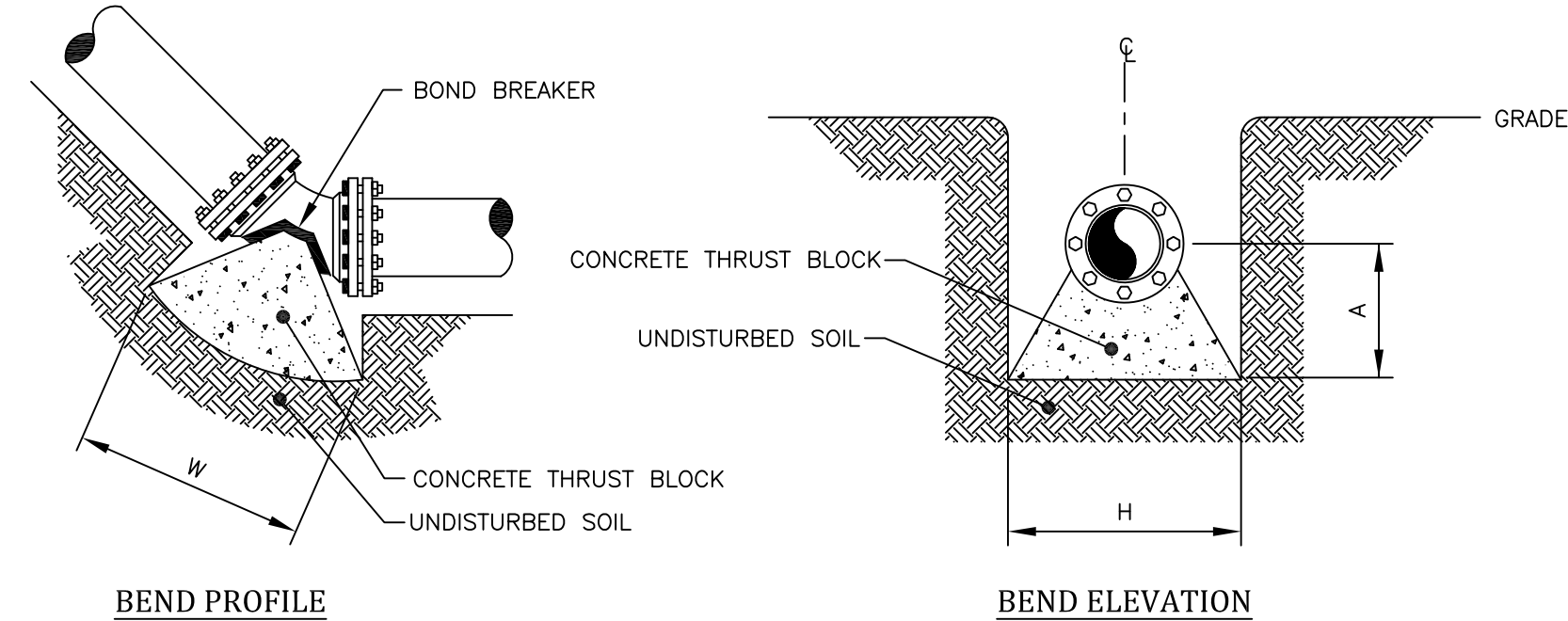
JAN 2025
DATE

DME 5

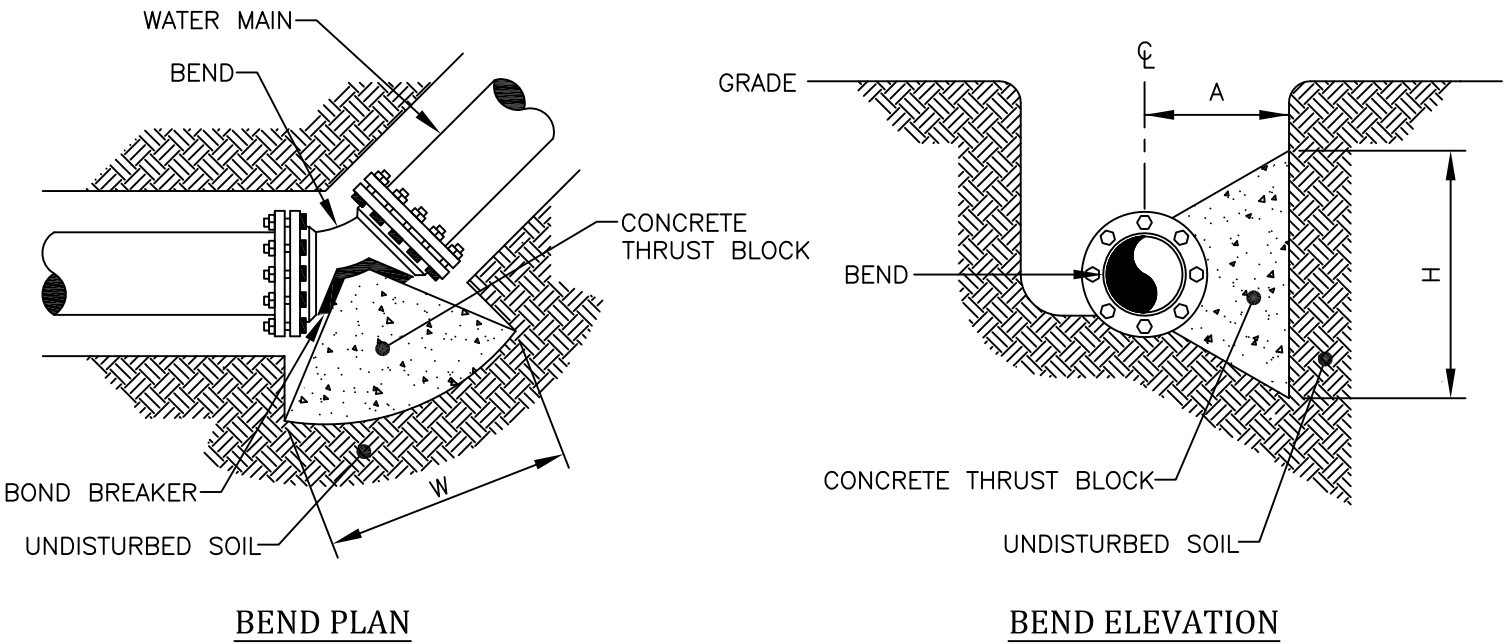
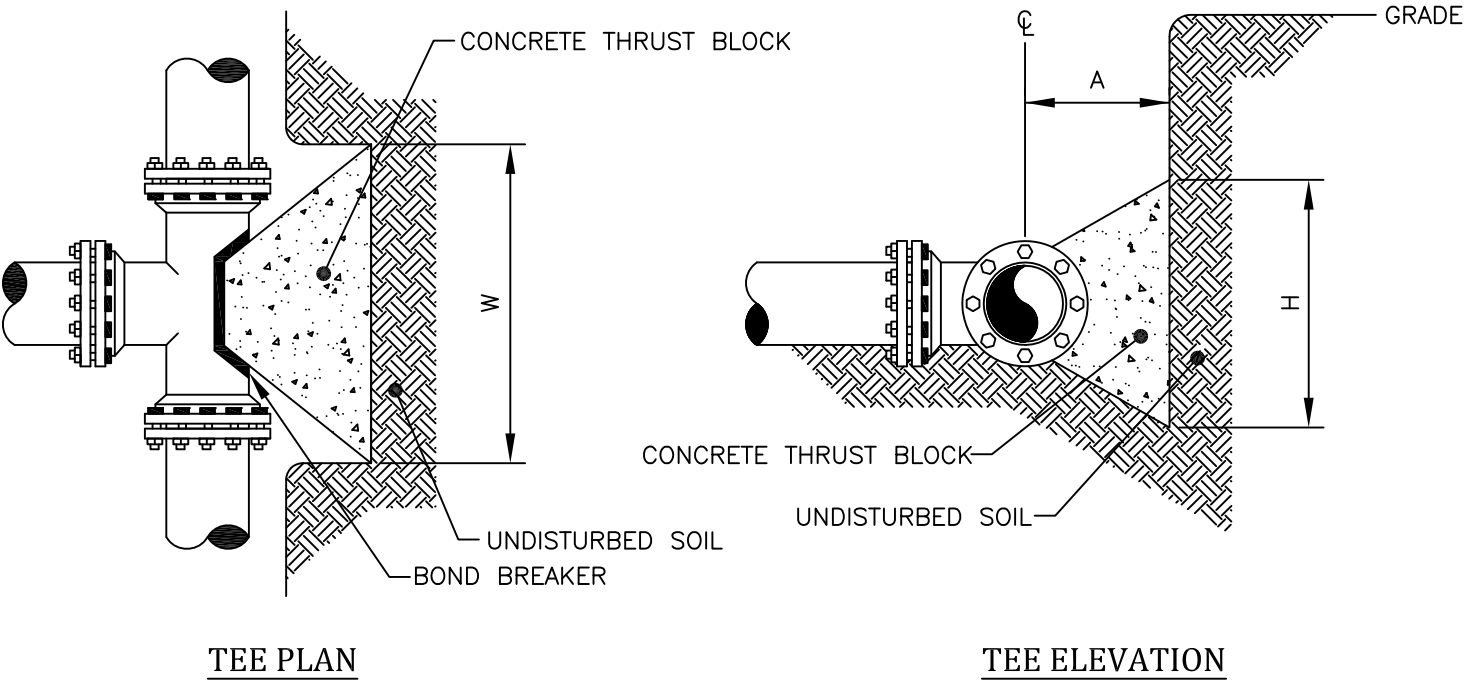
PIPE DIAMETER	BEND OR FITTING														
	11¼ DEGREE			22½ DEGREE			45 DEGREE			90 DEGREE			TEE*, CAP OR PLUG		
	H (FT)	W (FT)	A (FT)	H (FT)	W (FT)	A (FT)	H (FT)	W (FT)	A (FT)	H (FT)	W (FT)	A (FT)	H (FT)	W (FT)	A (FT)

* SIZE BLOCK BASED ON BRANCH DIAMETER.
SOIL BEARING STRENGTH - _____ PSF
_____ PSI TEST PRESSURE

HORIZONTAL AND VERTICAL UP THRUST BLOCKS



VERTICAL UP THRUST BLOCKS
NOT TO SCALE

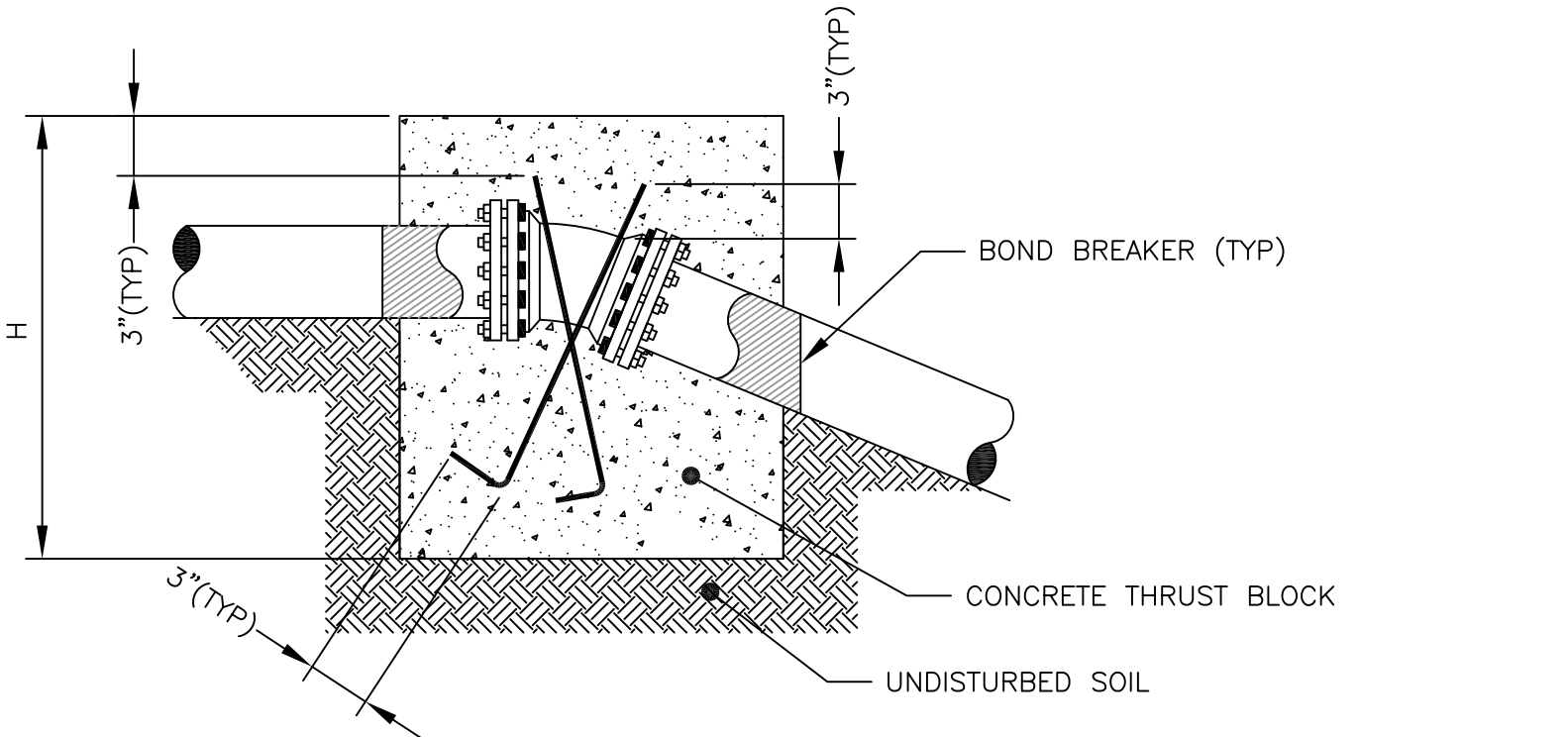


HORIZONTAL THRUST BLOCKS
NOT TO SCALE

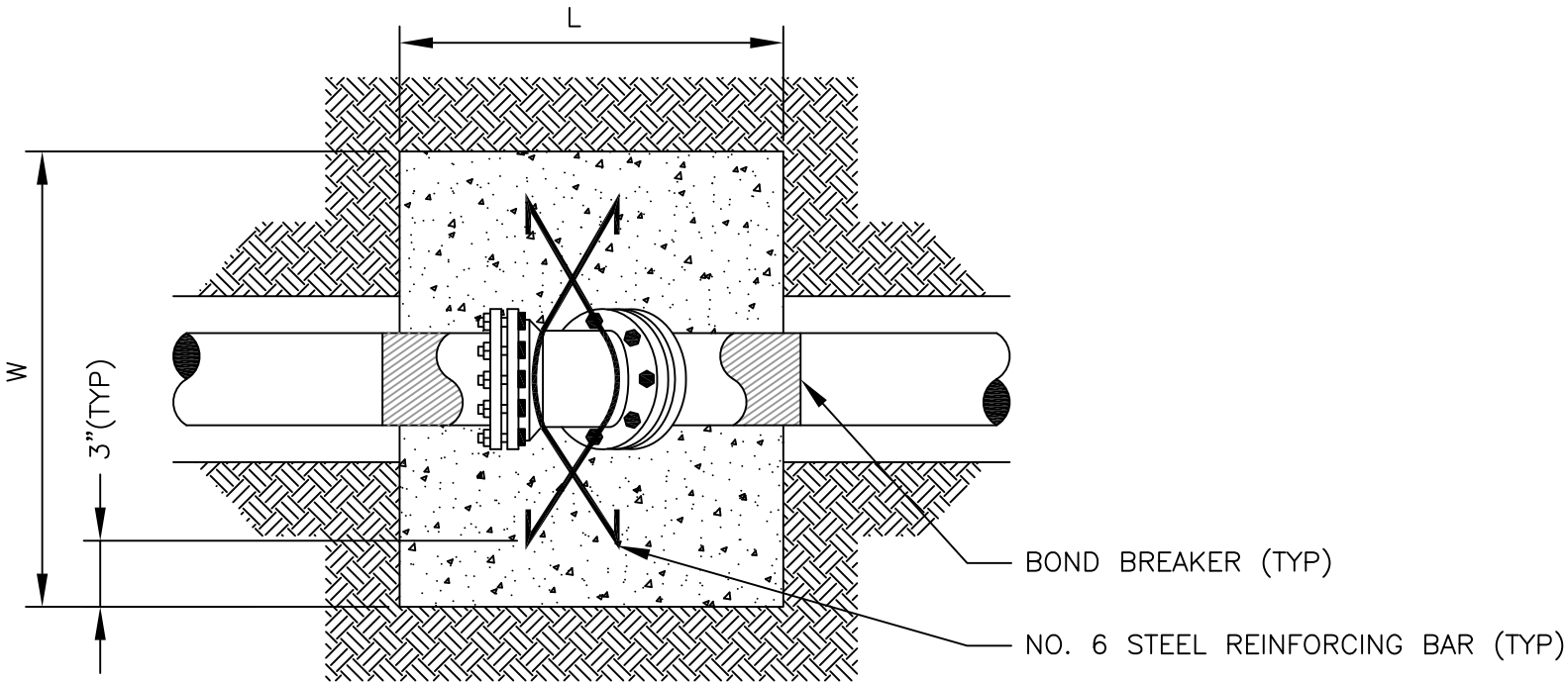
PIPE DIAMETER	BEND															
	11¼ DEGREE				22½ DEGREE				45 DEGREE				90 DEGREE			
	L (FT)	W (FT)	H (FT)	VOL (CY)	L (FT)	W (FT)	H (FT)	VOL (CY)	L (FT)	W (FT)	H (FT)	VOL (CY)	L (FT)	W (FT)	H (FT)	VOL (CY)

SOIL BEARING STRENGTH - PSF
PSI TEST PRESSURE

VERTICAL DOWN THRUST BLOCKS



BEND ELEVATION



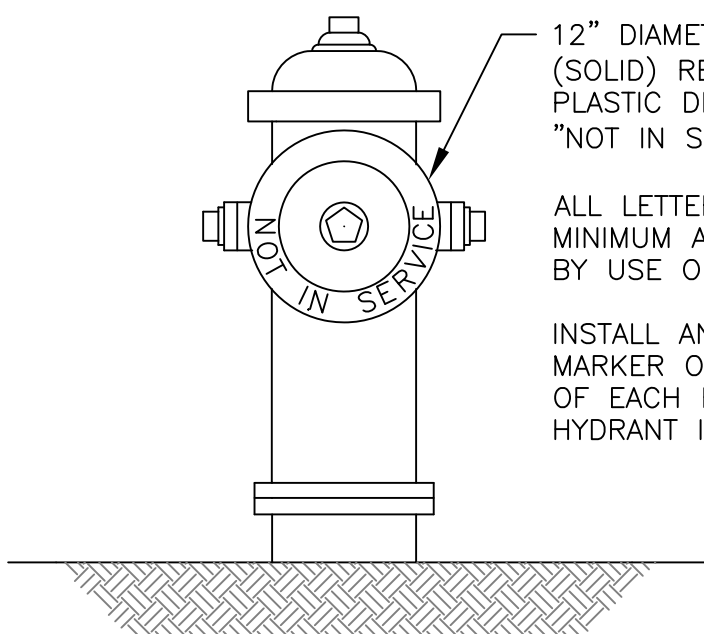
BEND PLAN

- NOTES:
- 1. THRUST BLOCKS SHALL BE CENTERED HORIZONTALLY ON BENDS.
 - 2. VOLUMES SHOWN IN CHART ARE MINIMUMS.

VERTICAL DOWN THRUST BLOCKS

NOT TO SCALE

R:\DETAILS\DME\2024 DME DETAILS\DME 8--HYD MARKER.DWG



12" DIAMETER x 1/8" THICK
(SOLID) RED OR ORANGE
PLASTIC DISK TO READ:
"NOT IN SERVICE"

ALL LETTERING SHALL BE 2"
MINIMUM AND PAINTED BLACK
BY USE OF A STENCIL.

INSTALL AND MAINTAIN HYDRANT
MARKER ON STEAMER NOZZLE
OF EACH HYDRANT UNTIL
HYDRANT IS PLACED IN SERVICE.

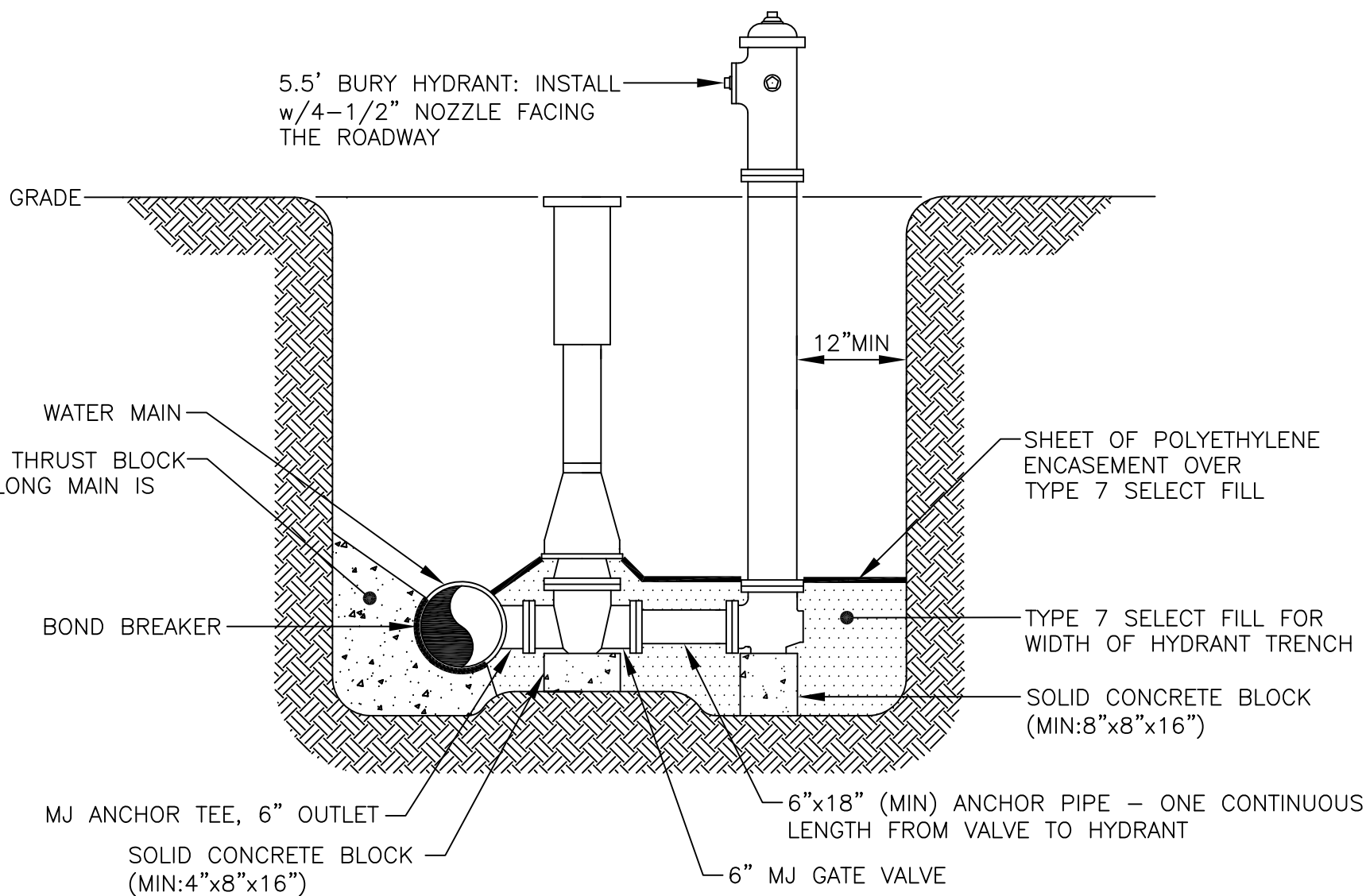
HYDRANT MARKER

NOT TO SCALE



MONROE COUNTY
WATER AUTHORITY
ROCHESTER, NEW YORK

JAN 2025
DATE
DME 8



PERPENDICULAR HYDRANT ASSEMBLY

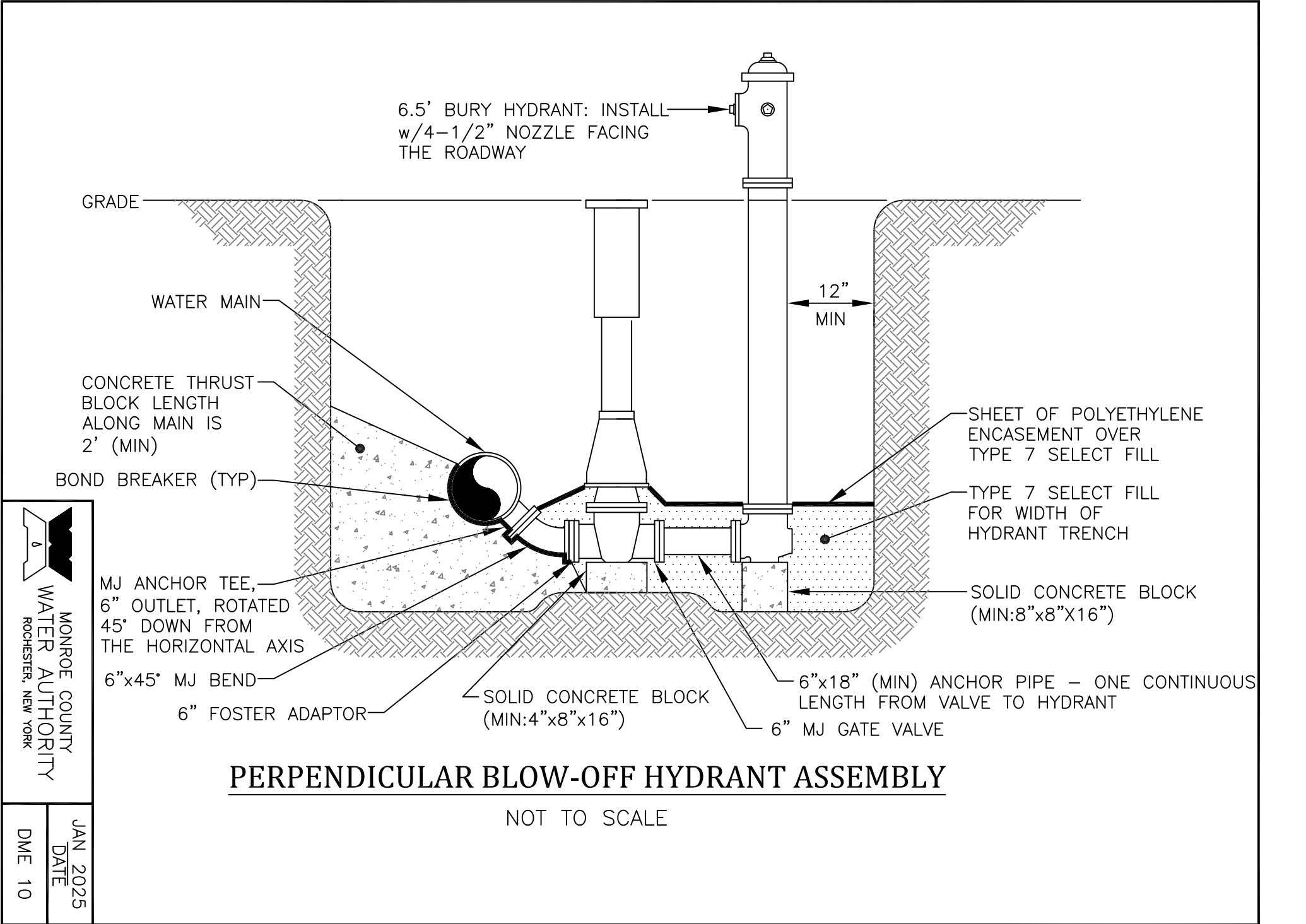
NOT TO SCALE



MONROE COUNTY
WATER AUTHORITY
ROCHESTER, NEW YORK

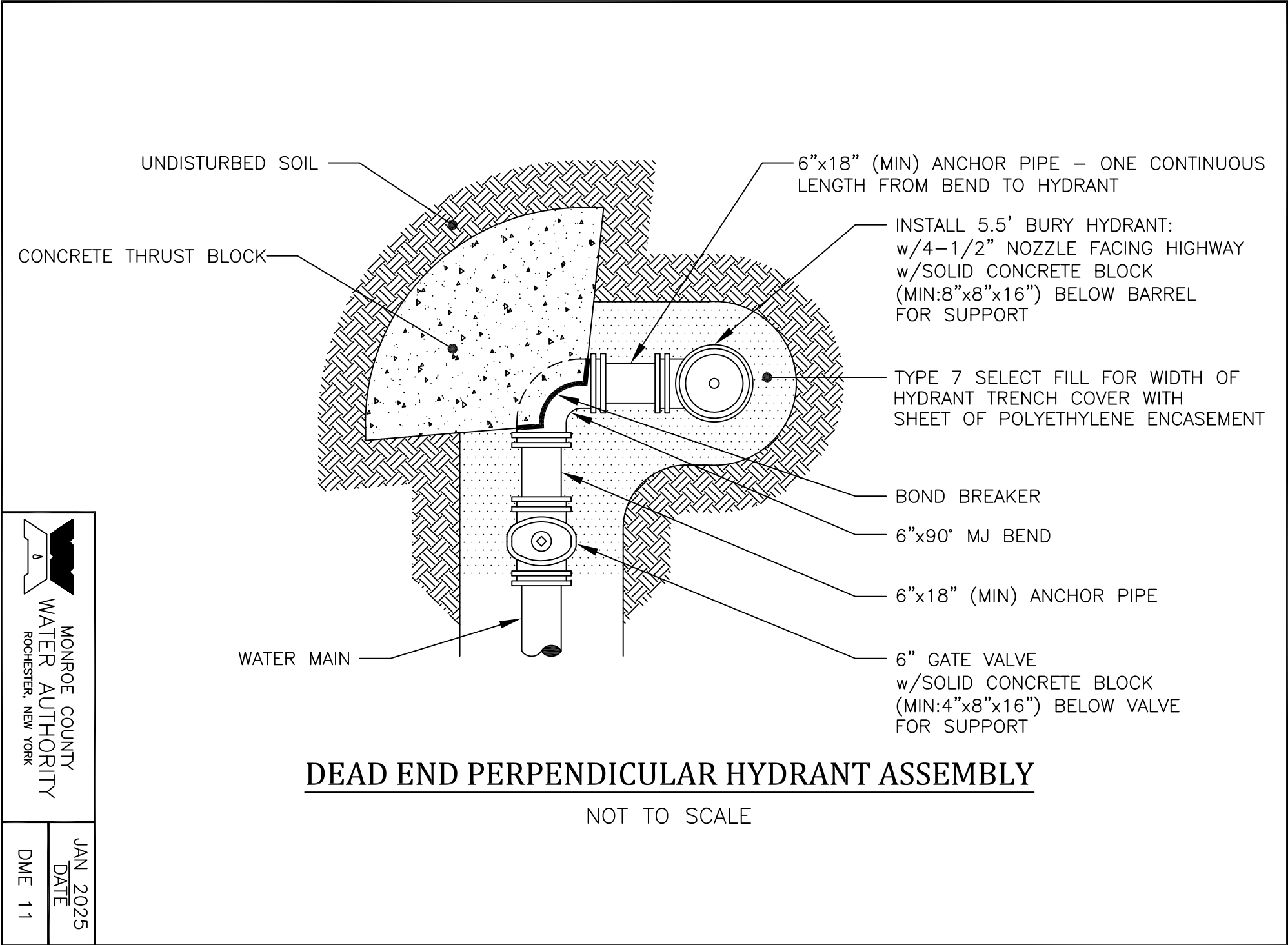
JAN 2025
DATE

DME 9



MONROE COUNTY
WATER AUTHORITY
ROCHESTER, NEW YORK

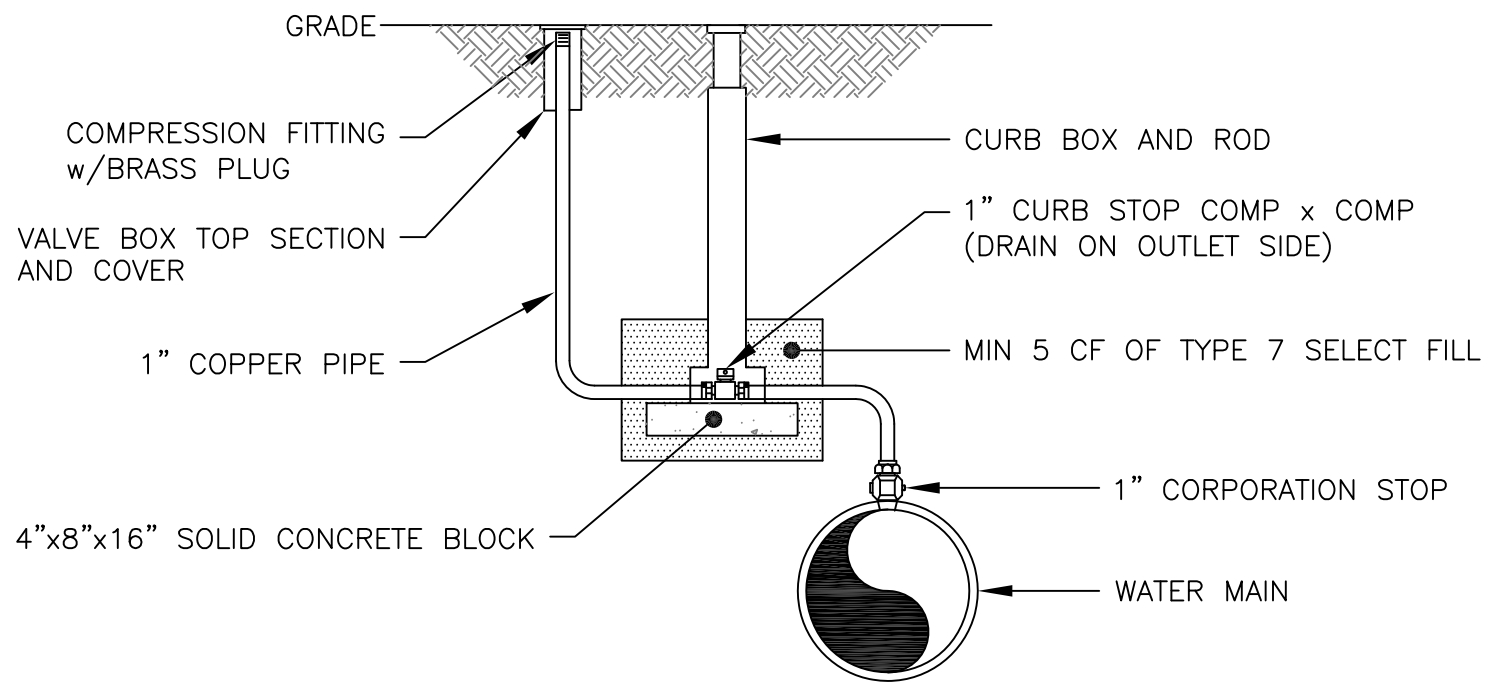
JAN 2025
DATE
DME 10



MONROE COUNTY
WATER AUTHORITY
ROCHESTER, NEW YORK

DME 11

JAN 2025
DATE



1" PERMANENT MANUAL AIR RELEASE

NOT TO SCALE

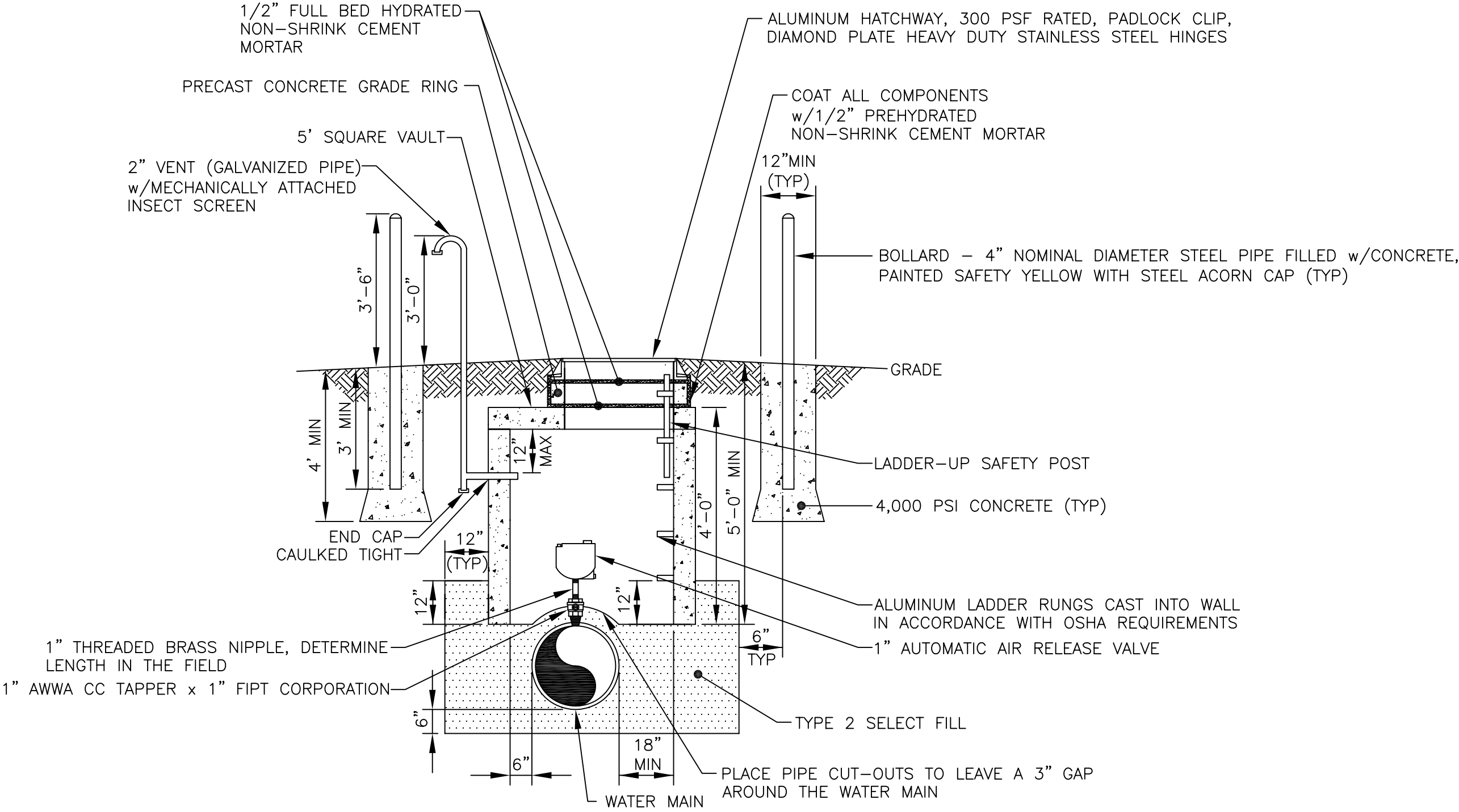


MONROE COUNTY
WATER AUTHORITY
ROCHESTER, NEW YORK

DME 12

JAN 2025
DATE

R:\DETAILS\DME\2024 DME DETAILS\DME 13-AUTO AIR RELEASE VALVE.DWG



AUTOMATIC AIR RELEASE VALVE

NOT TO SCALE

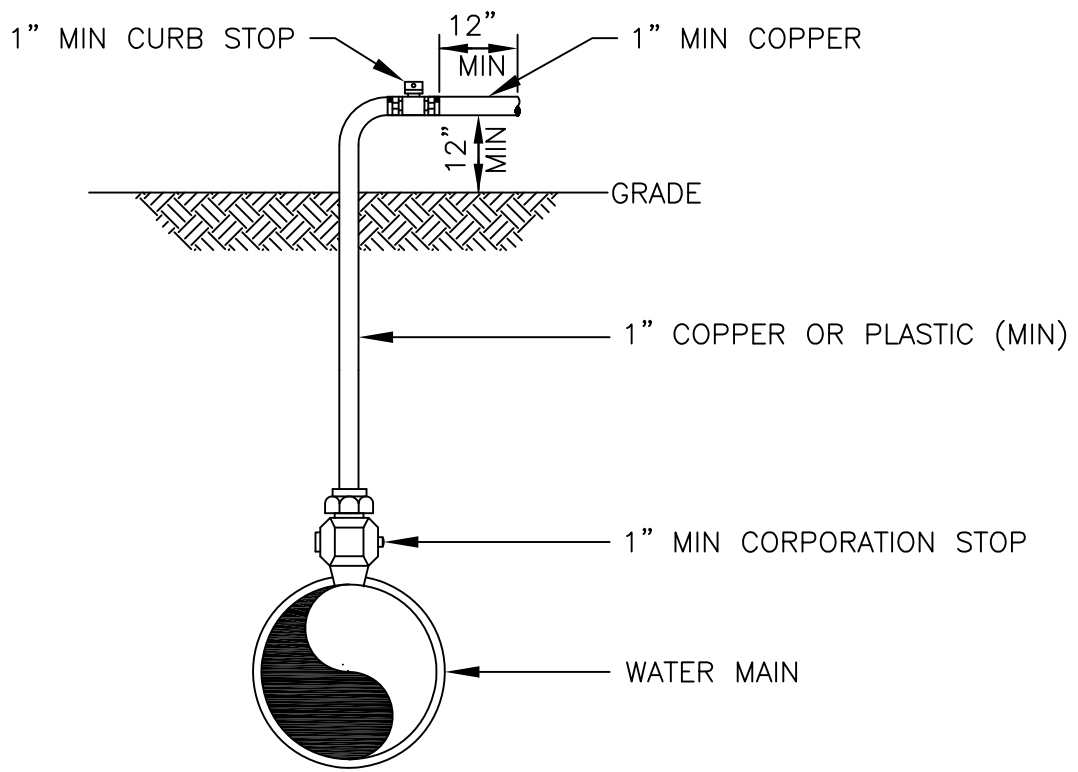


MONROE COUNTY
WATER AUTHORITY
ROCHESTER, NEW YORK

JAN 2025
DATE

DME 13

R:\DETAILS\DME\2024 DME DETAILS\DME 14-DISINFECTION-BLOWOFF-SAMPLING TAP.DWG



NOTE: IN THE PRESENCE OF A WATER AUTHORITY REPRESENTATIVE REMOVE ALL CORPORATIONS ASSOCIATED WITH TEMPORARY DISINFECTION/SAMPLE TAPS AND REPLACE WITH THREADED BRASS PLUGS.

DISINFECTION/BLOW-OFF/SAMPLING TAP (TEMPORARY)

NOT TO SCALE

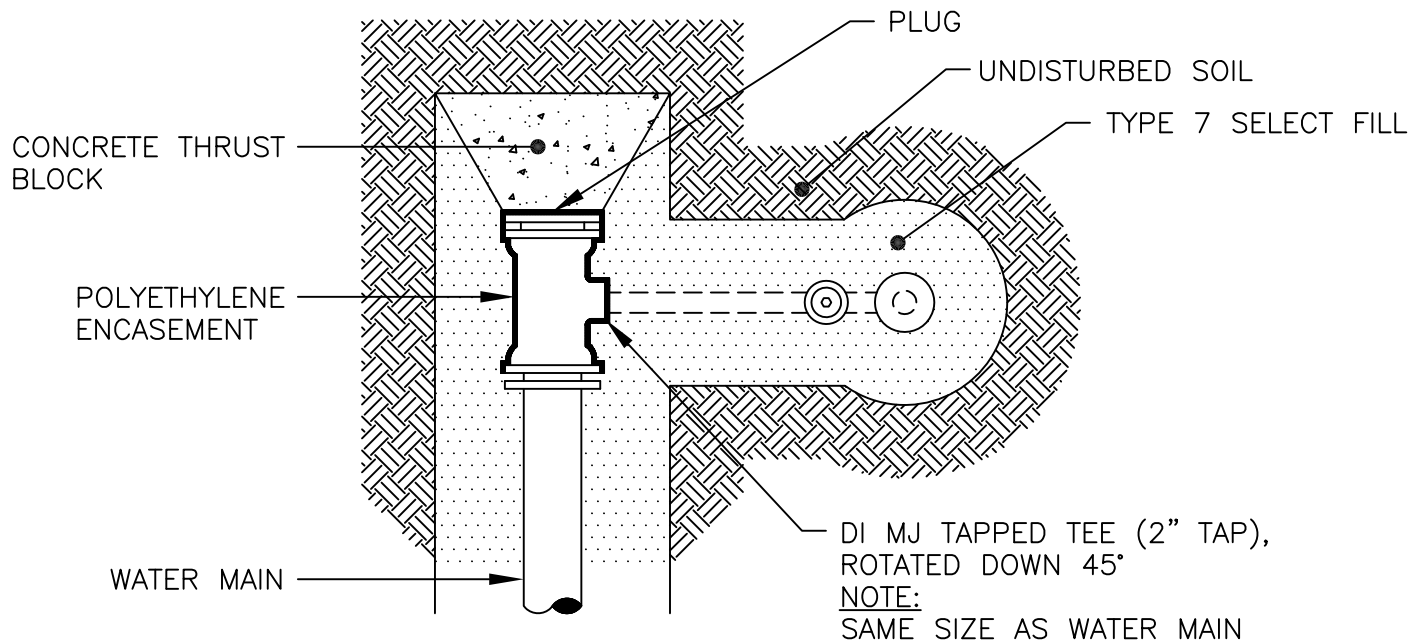


MONROE COUNTY
WATER AUTHORITY
ROCHESTER, NEW YORK

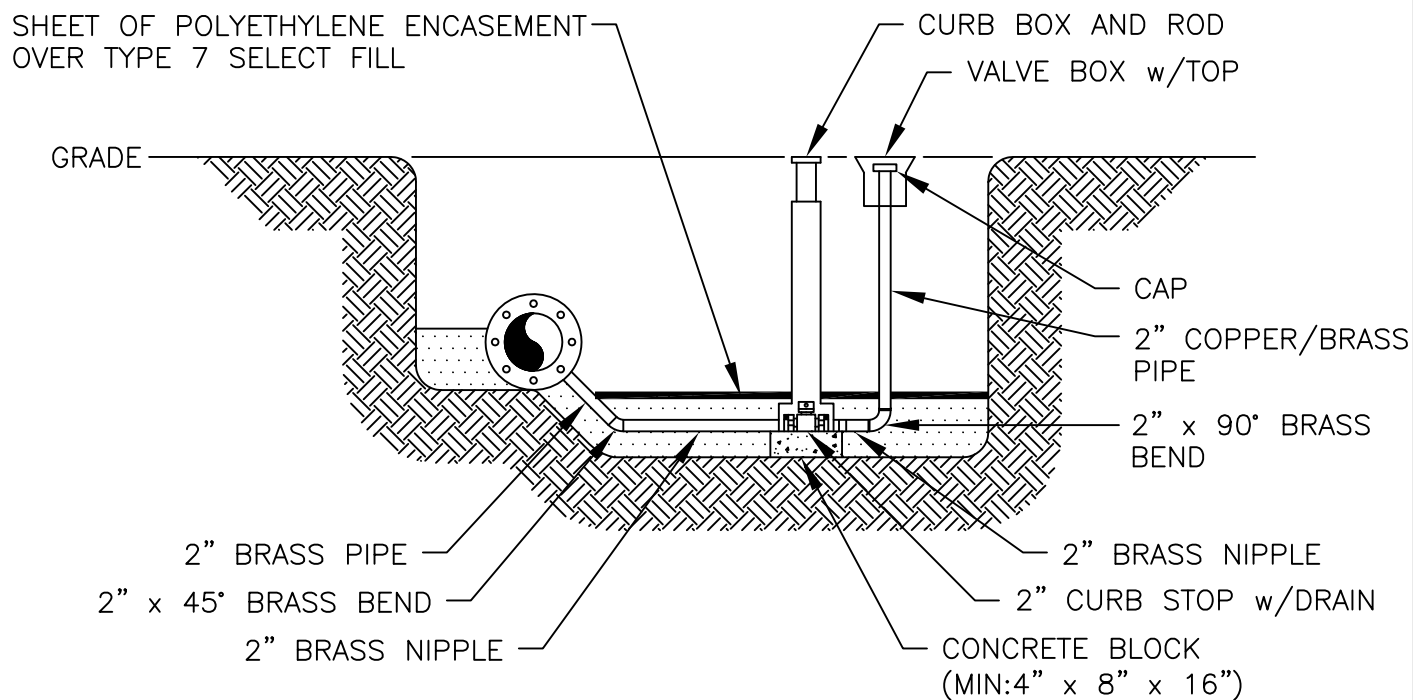
JAN 2025
DATE

DME 14

R:\DETAILS\DME\2024 DME DETAILS\DME 15-TEE WITH 2 INCH BLOW OFF.DWG



PLAN



ELEVATION

TEE w/2" BLOW-OFF

NOT TO SCALE

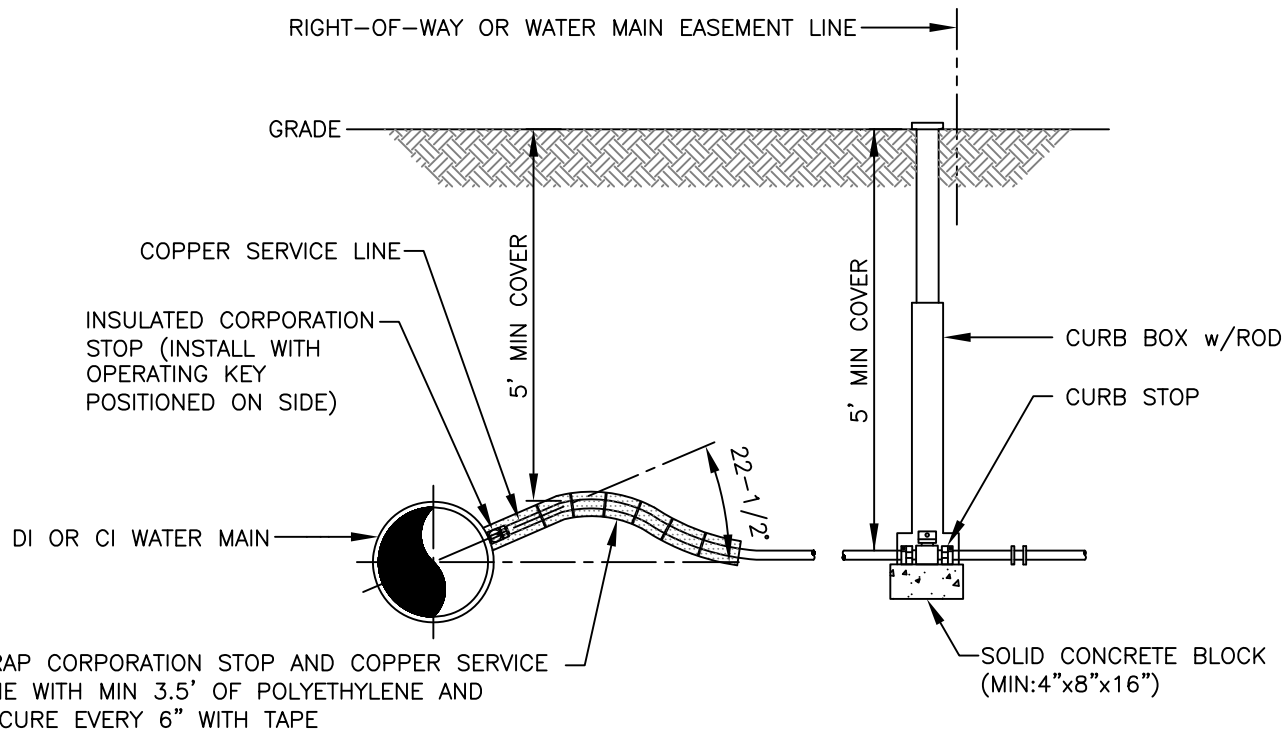


MONROE COUNTY
WATER AUTHORITY
ROCHESTER, NEW YORK

JAN 2025
DATE

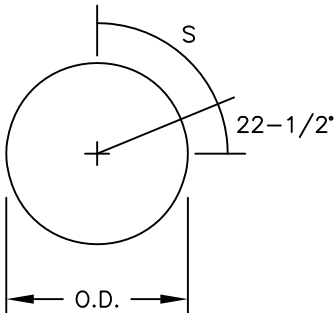
DME 15

R:\DETAILS\DME\2024 DME DETAILS\DME 16-COPPER SERVICE INSTALLATION ON DI OR CI PIPE.DWG



- NOTE:** 1. USE COPPER SERVICE UNLESS OTHERWISE APPROVED BY THE ENGINEER.
2. PRIOR TO TAPPING A POLY-WRAPPED MAIN, TIGHTLY WRAP THE MAIN/POLYWRAP WITH TWO LAYERS OF 8 MIL POLYETHYLENE ADHESIVE TAPE FOR A LENGTH OF 24", CENTERED AROUND TAP LOCATION. TAP MAIN THROUGH TAPE.

PIPE SIZE	D.I. PIPE OD (IN)	S (IN)
4"	4.8	2.83
6"	6.9	4.06
8"	9.05	5.33
10"	11.1	6.54
12"	13.2	7.78



COPPER SERVICE INSTALLATION ON DI OR CI PIPE

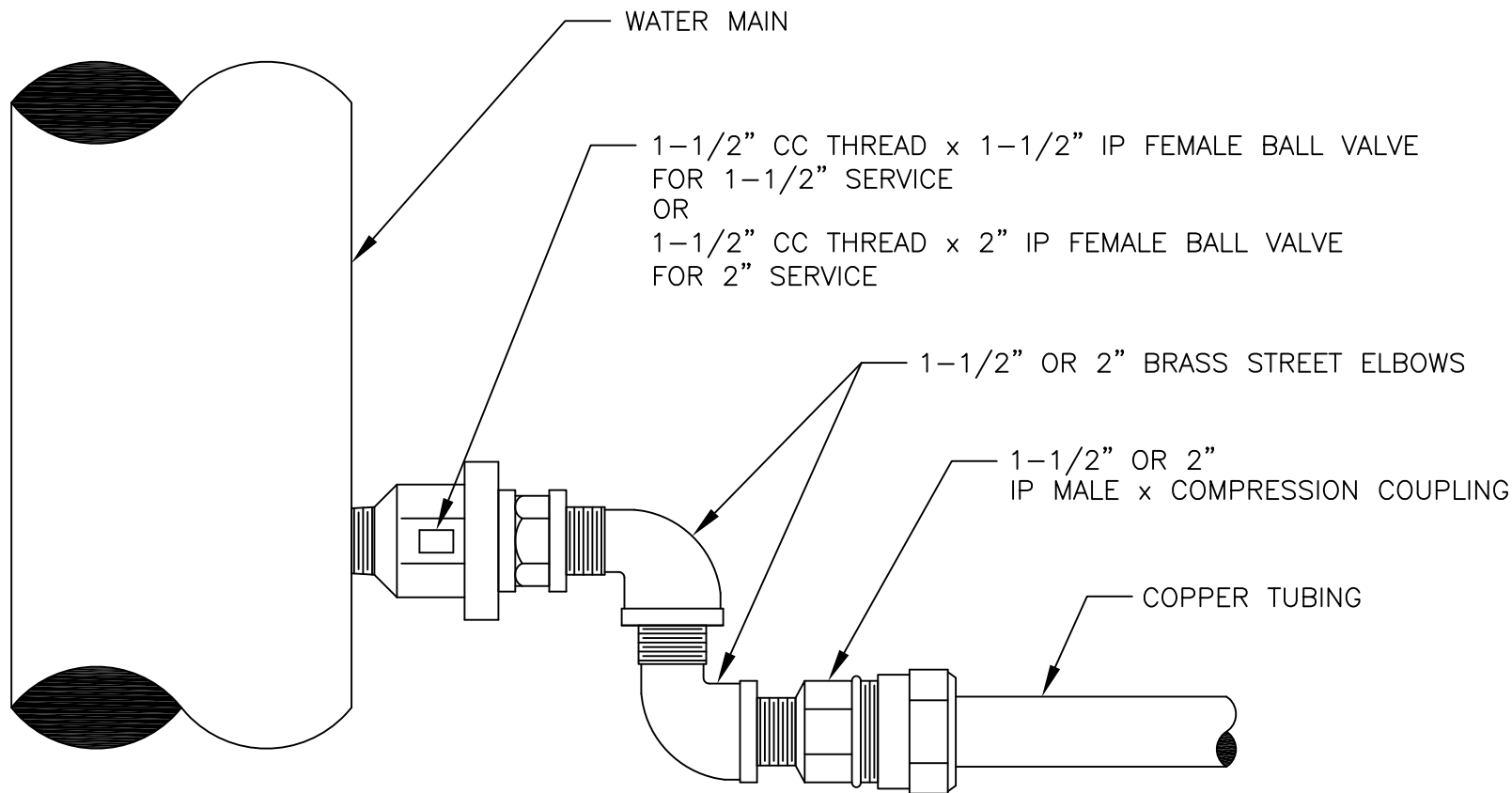
NOT TO SCALE



MONROE COUNTY
WATER AUTHORITY
ROCHESTER, NEW YORK

JAN 2025
DATE

DME 16



NOTE: USE SERVICE SADDLE FOR ALL 1 1/2-INCH AND 2-INCH TAPS ON 12-INCH, OR SMALLER, DUCTILE AND CAST IRON PIPE.

1-1/2" AND 2" TAP FOR INSULATED CORPORATION WITH COPPER SERVICE

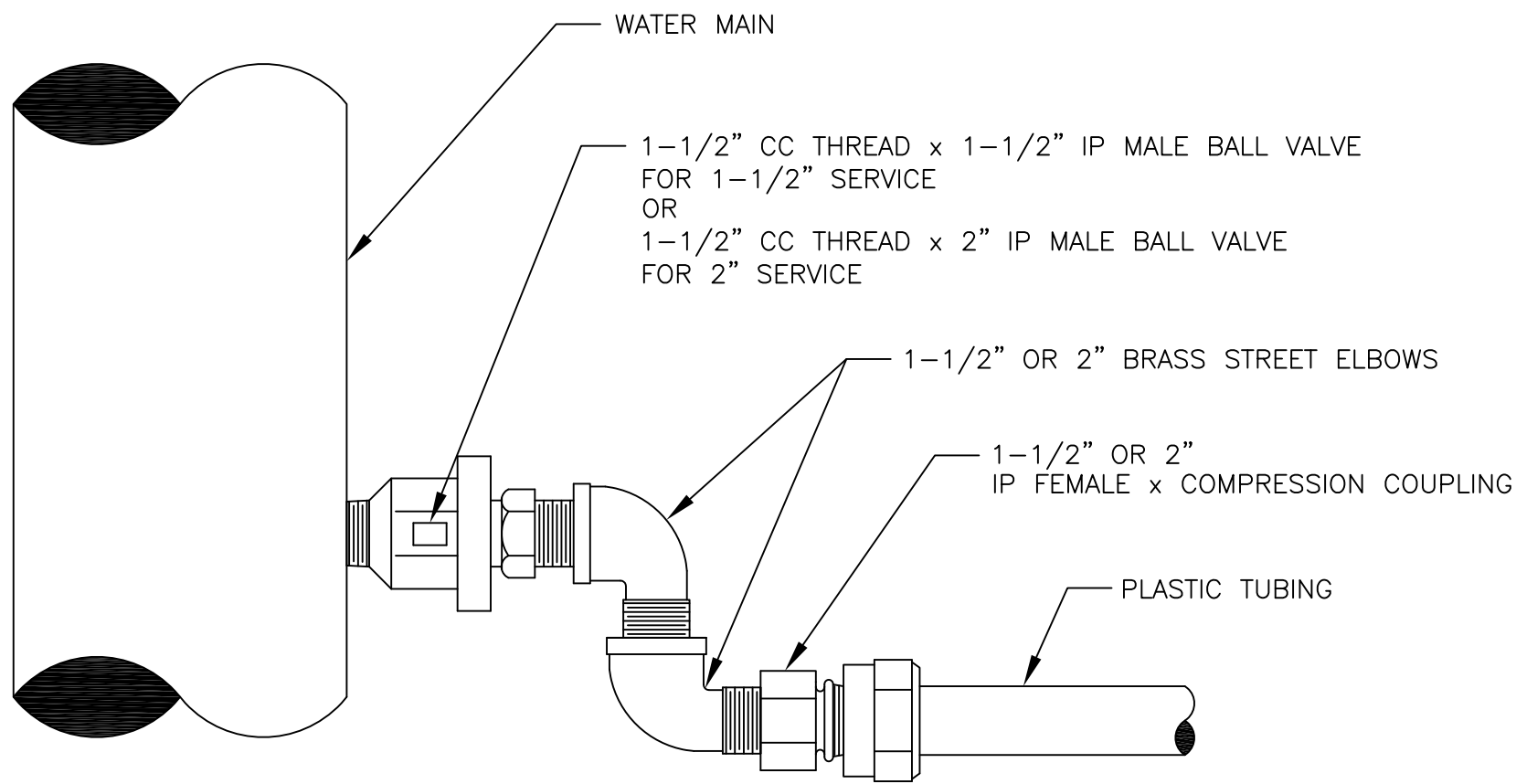
NOT TO SCALE



MONROE COUNTY
WATER AUTHORITY
ROCHESTER, NEW YORK

DME 17

JAN 2025
DATE

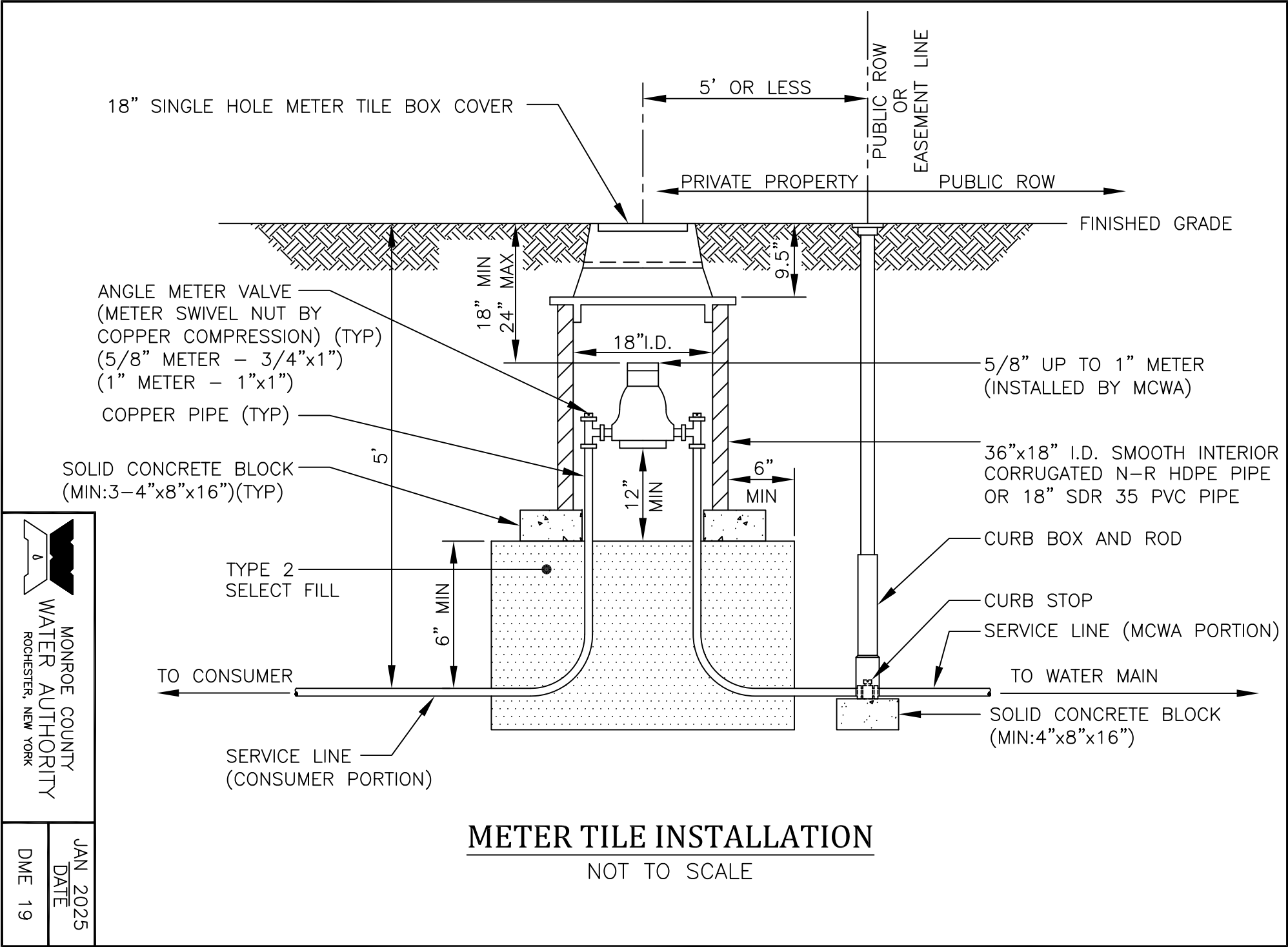


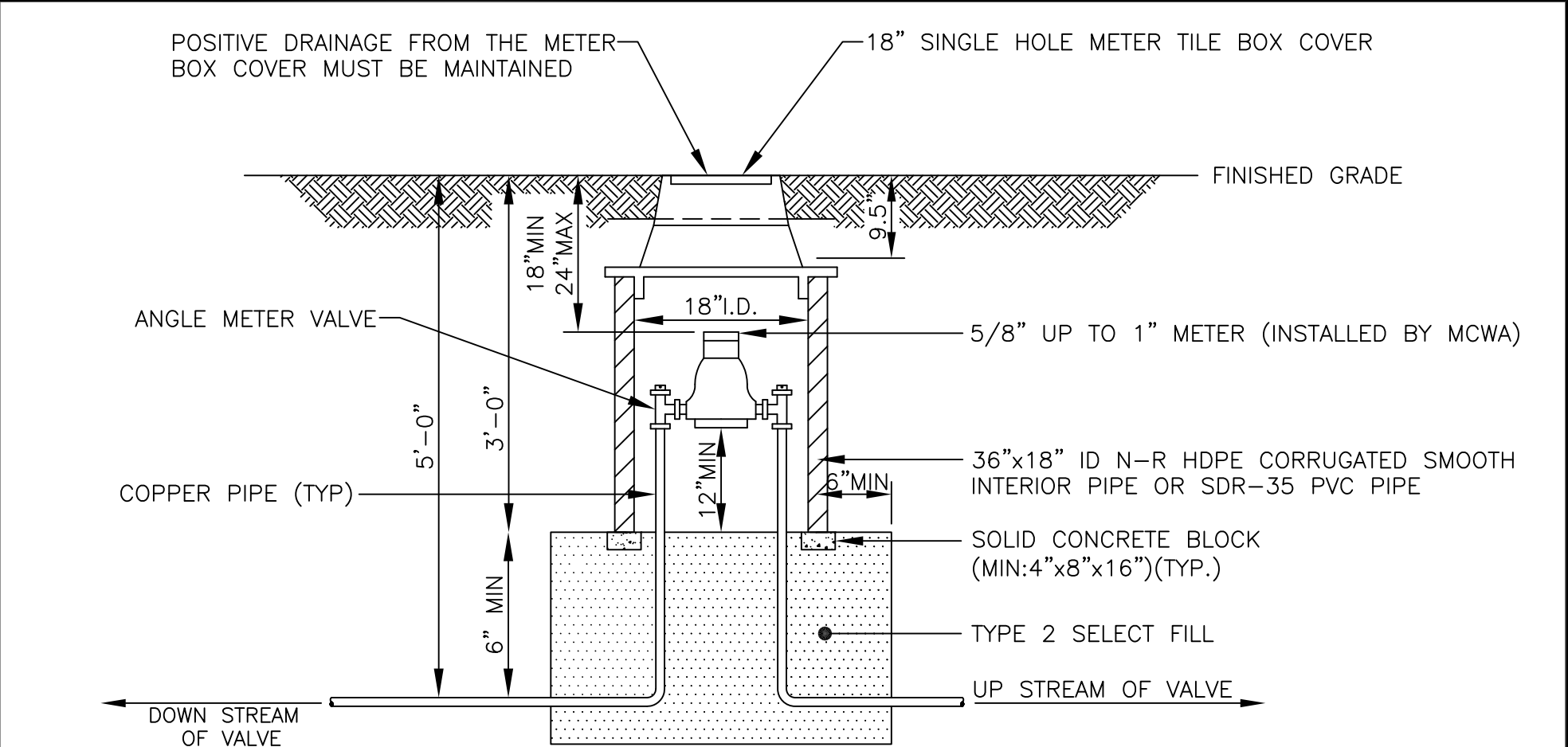
NOTE: USE SERVICE SADDLE FOR ALL 1 1/2-INCH AND 2-INCH TAPS ON 12-INCH, OR SMALLER, DUCTILE AND CAST IRON PIPE.

1-1/2" AND 2" TAP FOR NON-INSULATED CORPORATION WITH PLASTIC SERVICE

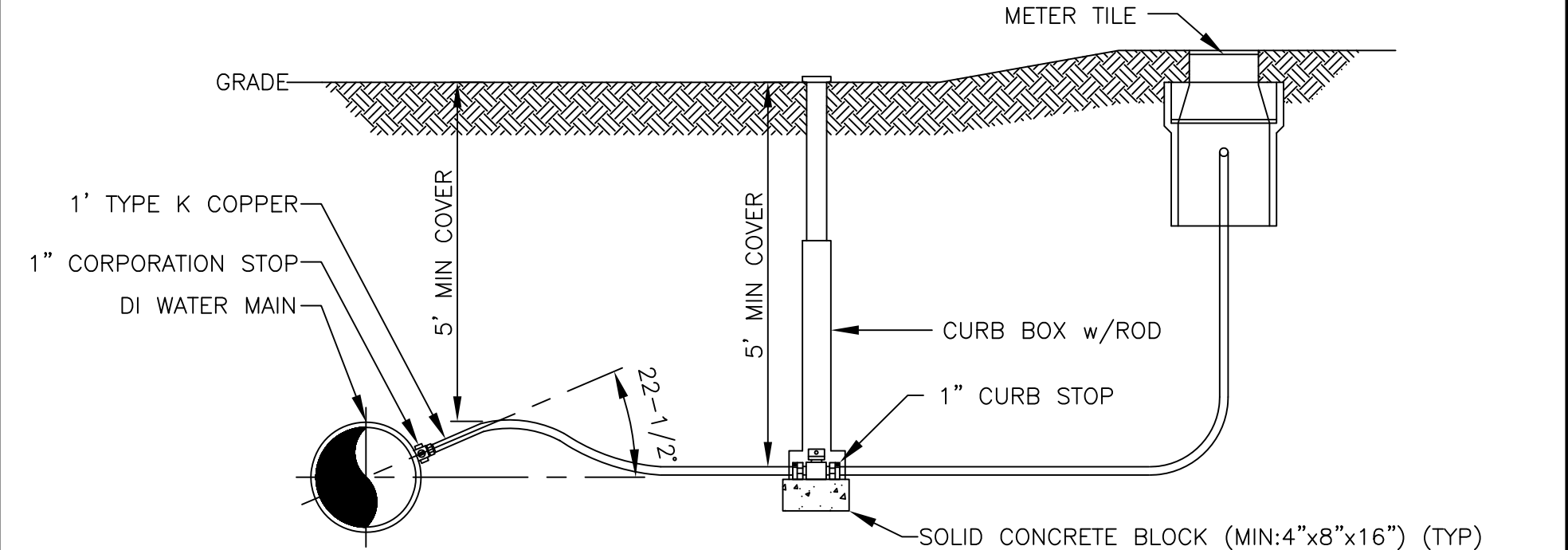
NOT TO SCALE

 MONROE COUNTY WATER AUTHORITY ROCHESTER, NEW YORK	JAN 2025 DATE
	DME 18

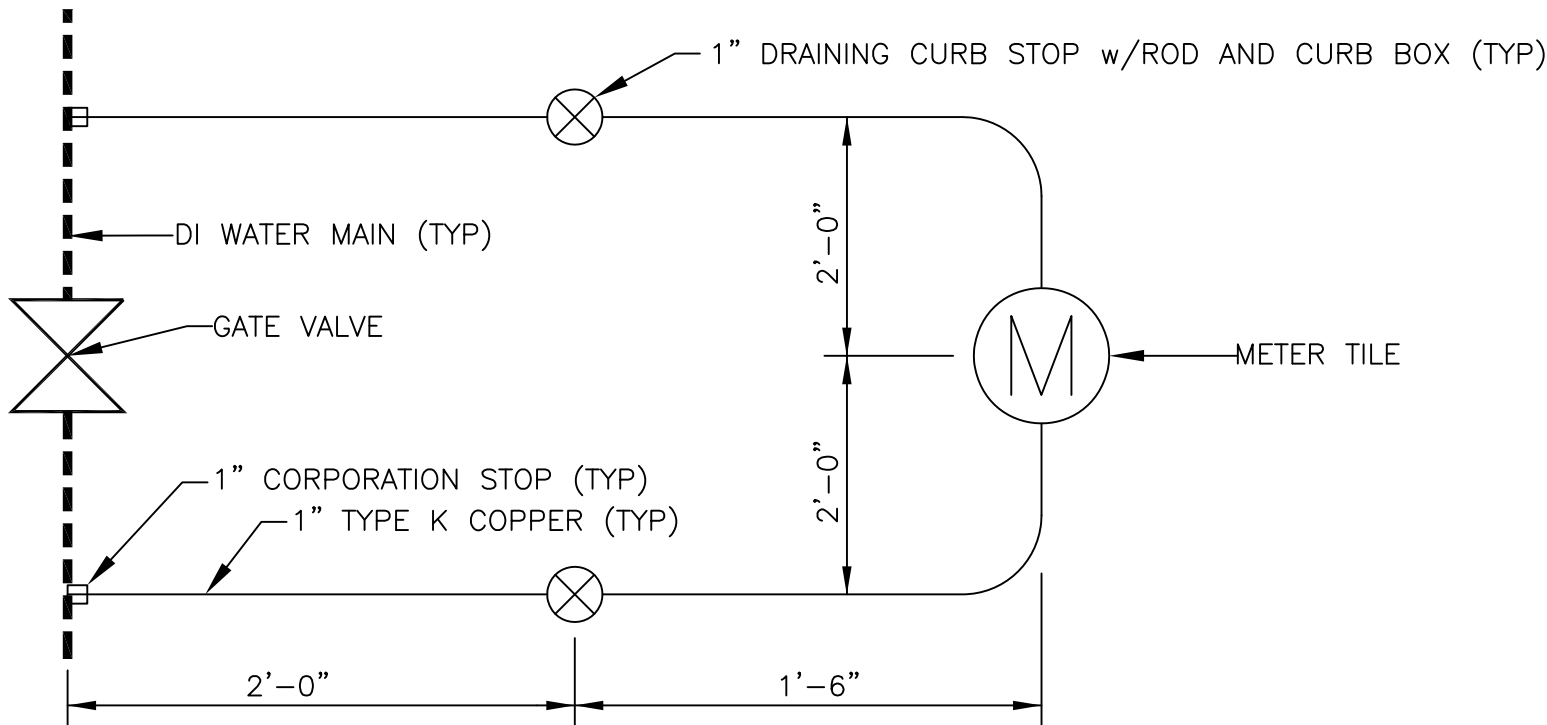




PROFILE



SIDE VIEW



PLAN VIEW

CREEK CROSSING TEST METER

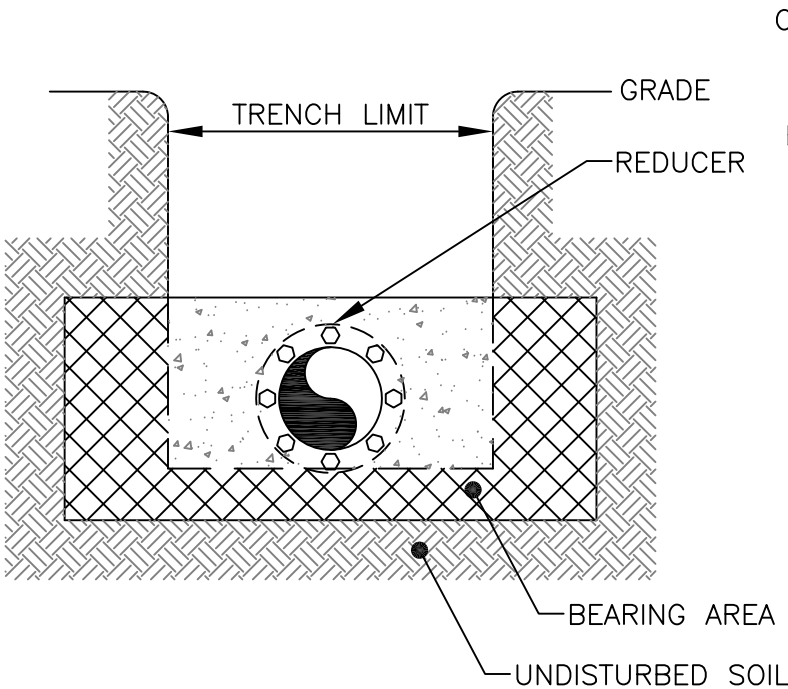
NOT TO SCALE



MONROE COUNTY
WATER AUTHORITY
ROCHESTER, NEW YORK

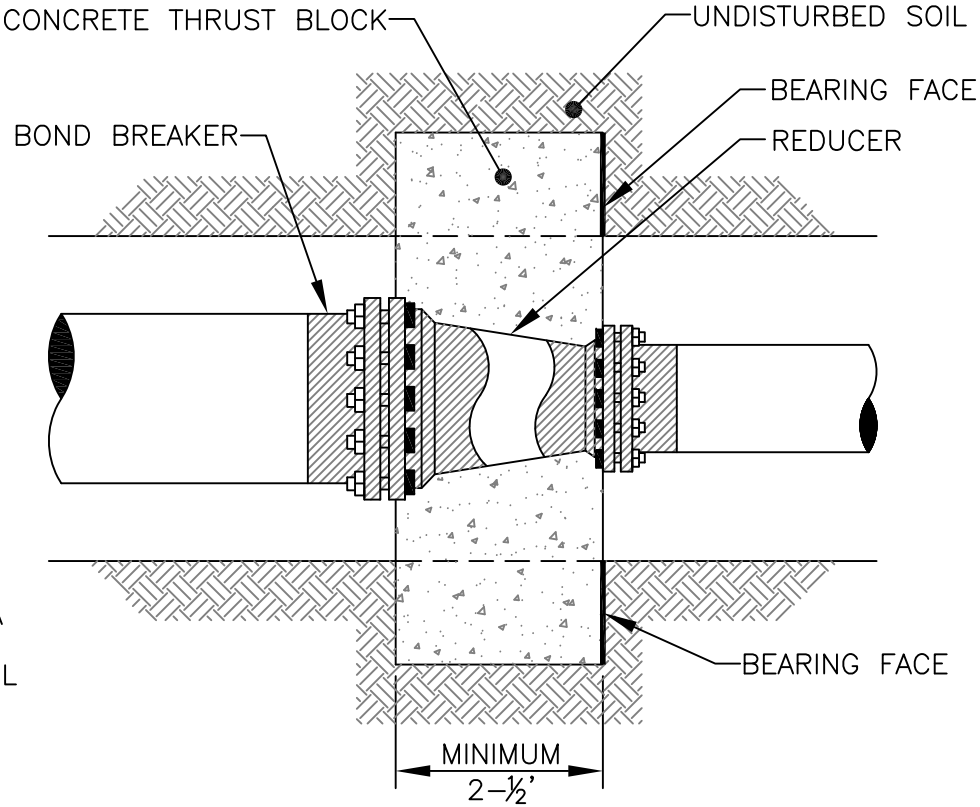
JAN 2025
DATE

DME 20



SECTION

REDUCER	MINIMUM REQUIRED BEARING AREA (SQ FT)



PLAN

 = BEARING AREA OF THRUST BLOCK
OUTSIDE TRENCH LIMITS IN
UNDISTURBED SOIL

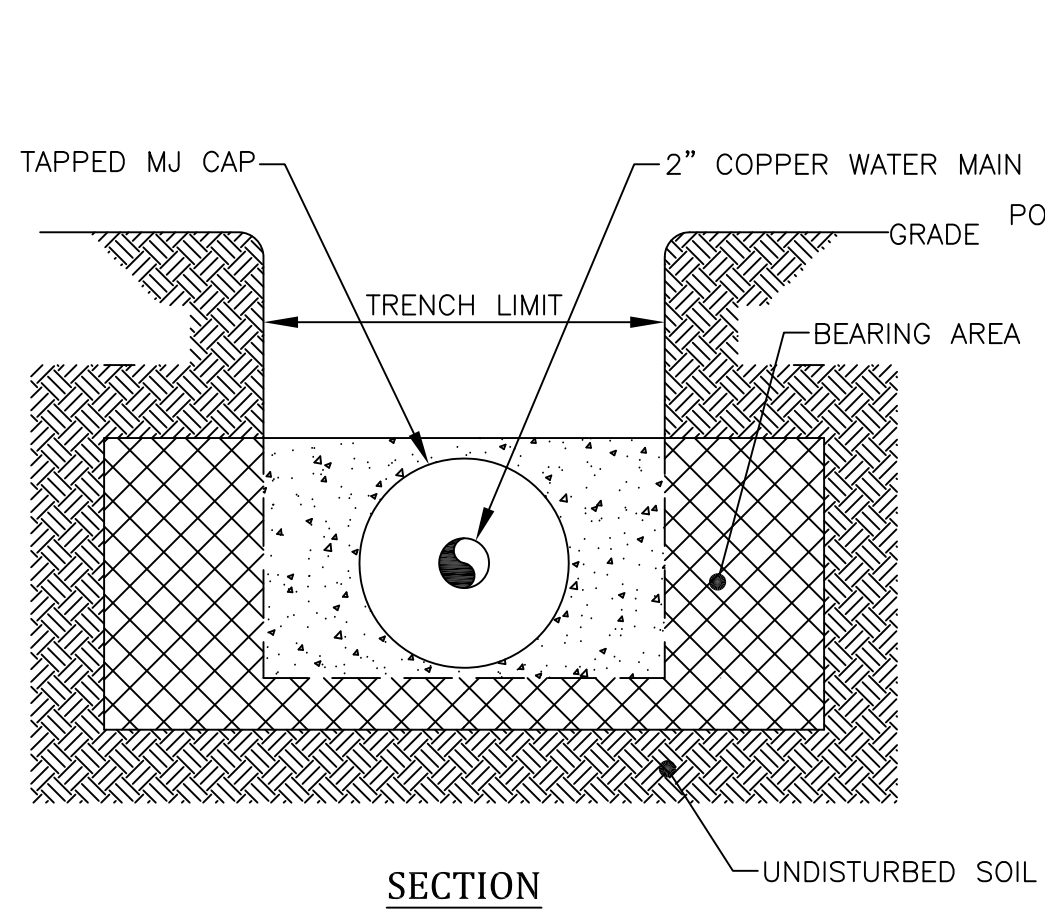
REDUCER
NOT TO SCALE



MONROE COUNTY
WATER AUTHORITY
ROCHESTER, NEW YORK

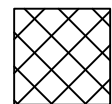
JAN 2025
DATE
DME 21

R:\DETAILS\DME\2024 DME DETAILS\DME 22-REDUCER 4 TO 2.DWG

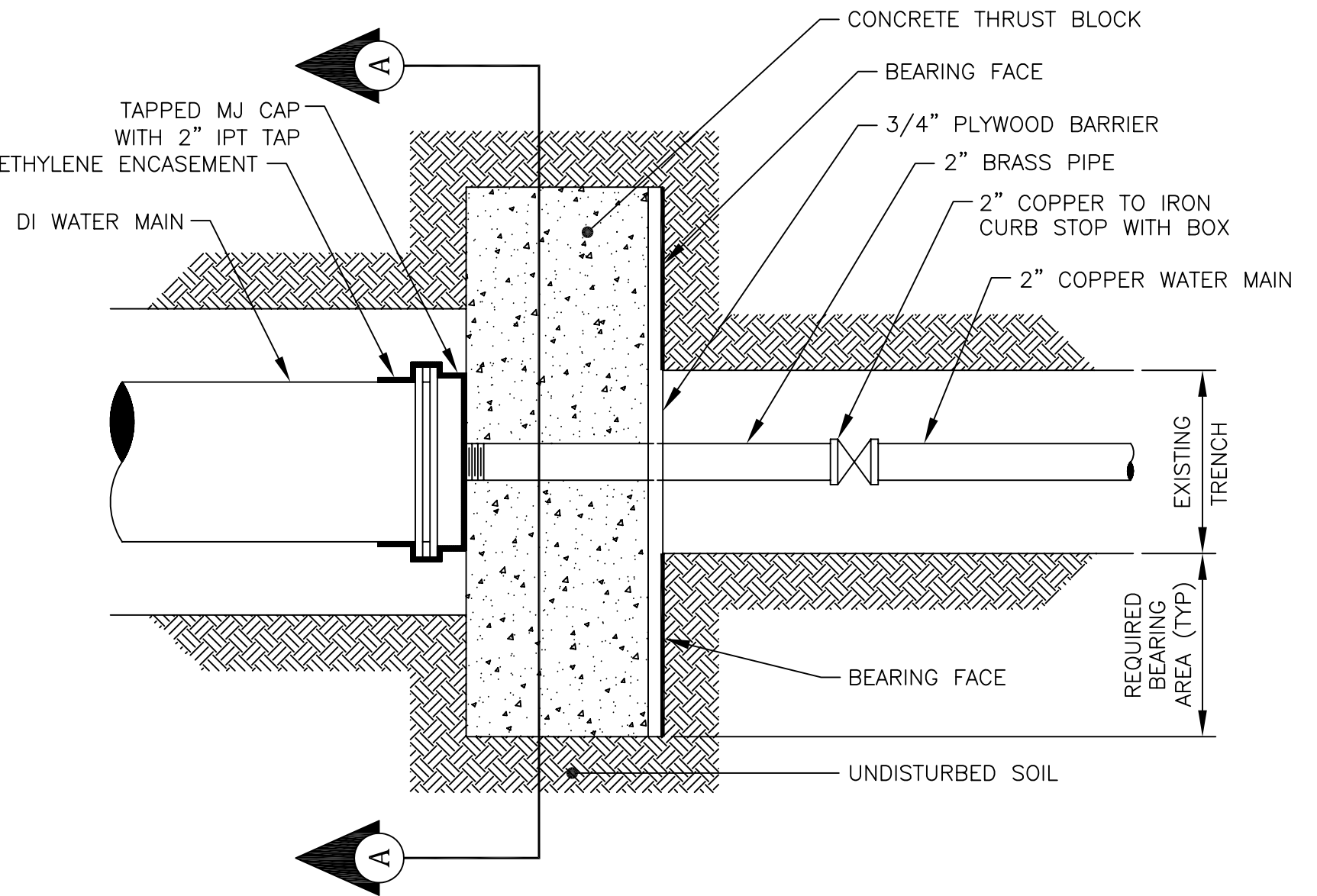


SECTION

REDUCER	MINIMUM REQUIRED BEARING AREA (SQ FT)

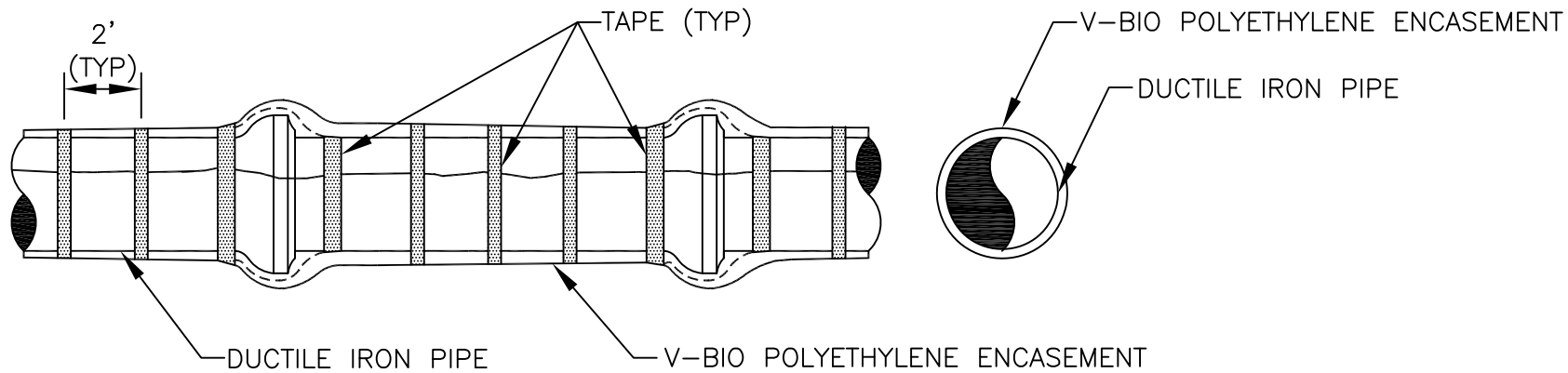


= BEARING AREA OF THRUST BLOCK
OUTSIDE TRENCH LIMITS IN UNDISTURBED SOIL



PLAN

REDUCER FROM $\geq 4"$ TO 2"
NOT TO SCALE



POLYETHYLENE ENCASEMENT

NOT TO SCALE

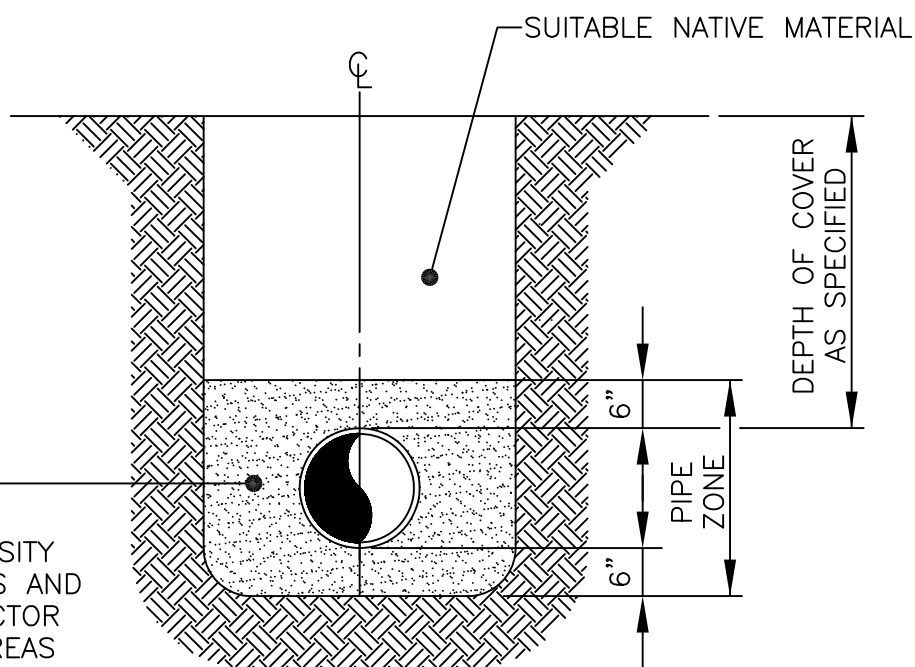


MONROE COUNTY
WATER AUTHORITY
ROCHESTER, NEW YORK

DME 23

JAN 2025
DATE

TYPE 4 SELECT FILL,
COMPACT TO 85% MAX
STANDARD PROCTOR DENSITY
IN NON-PAVEMENT AREAS AND
95% MAX MODIFIED PROCTOR
DENSITY IN PAVEMENT AREAS



HDPE TRENCH

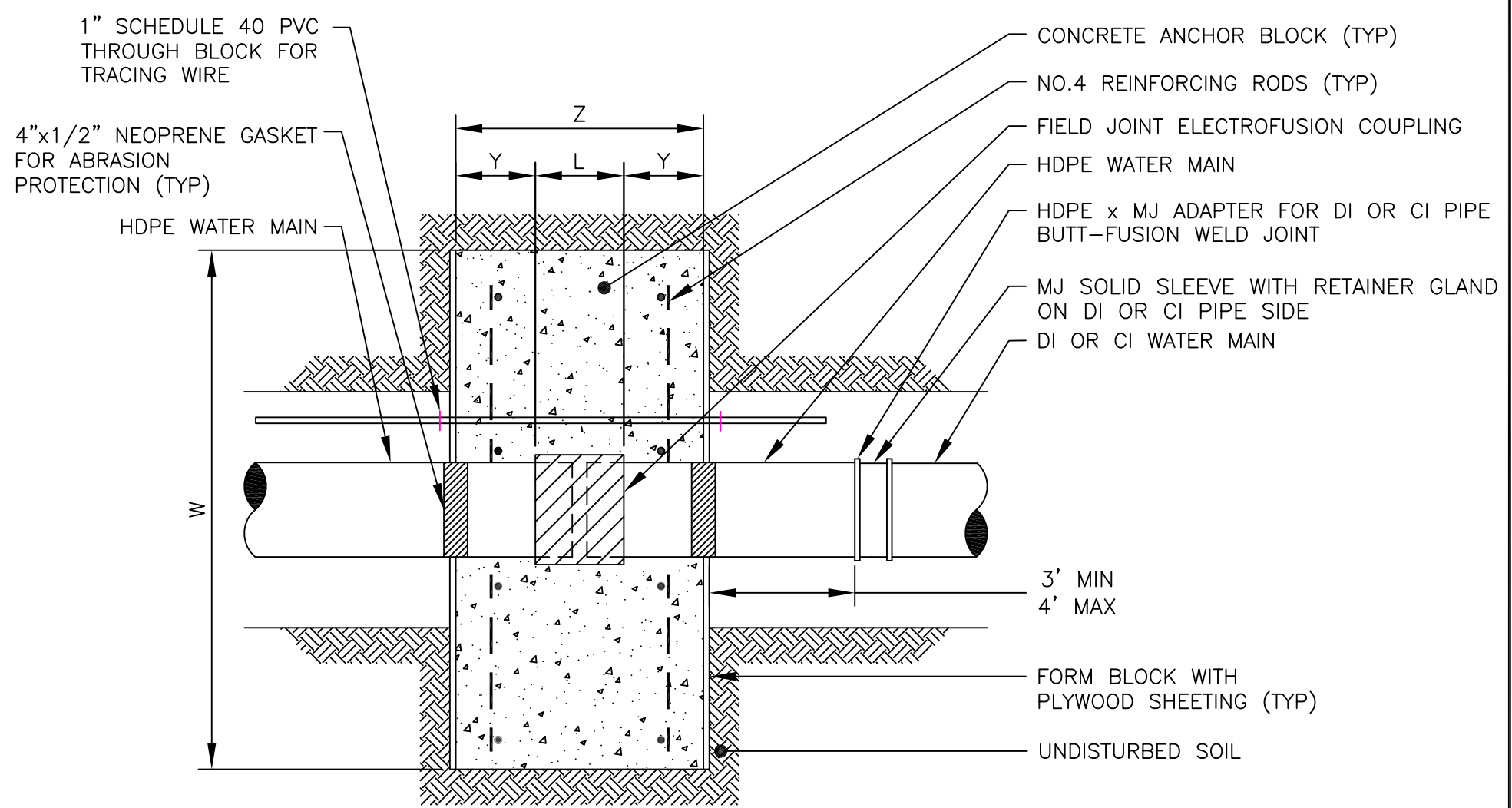
NOT TO SCALE



MONROE COUNTY
WATER AUTHORITY
ROCHESTER, NEW YORK

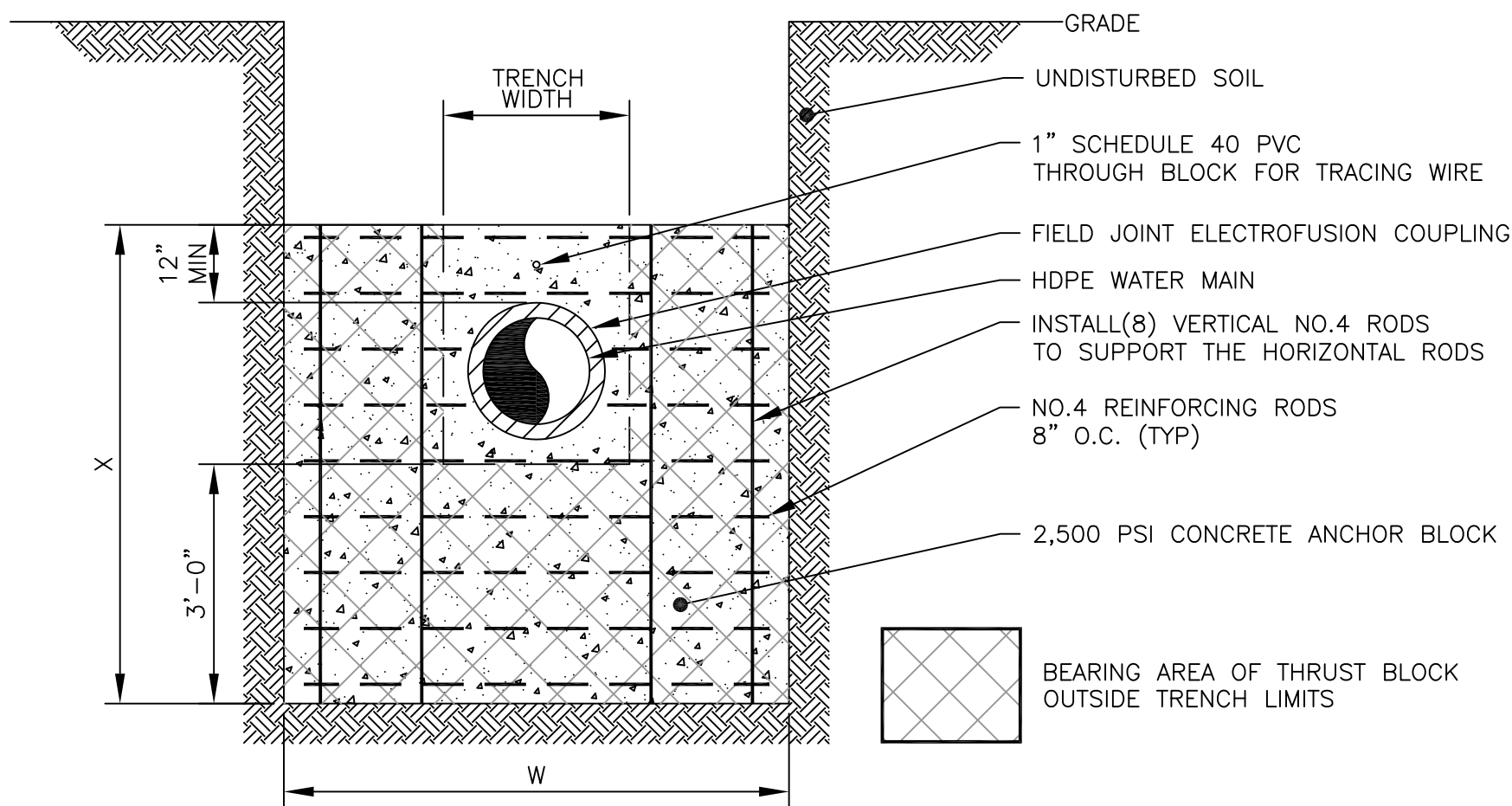
JAN 2025
DATE

DME 24



PLAN

LOCATION	W	X	Y	Z	REQUIRED MINIMUM BEARING AREA
VALVE BLOCK					FT ²
END BLOCK					FT ²



SECTION

HDPE TO DIP OR CIP CONNECTION

NOT TO SCALE

4" AND LARGER WATER SERVICE LINE NOTES

1. All materials, installation and testing procedures shall be in compliance with current AWWA standards and in accordance with the regulations and specifications of the Authority. Should a conflict exist the Authority's specifications shall govern.
2. Water service lines shall have a minimum of five feet of cover from finished grade in non-pavement areas and six feet of cover from finished grade in paved areas.
3. Water service lines shall be separated at least ten feet, measured from the outside of the pipes, from sewer mains or septic systems.
4. Water service lines shall be identified as:

DESCRIPTION	SIZE	MATERIAL ^(a)	TYPE ^(b)
MCWA Portion: from the water main to and including the control valve on the ROW/property/easement line		D.I.P.*	
Private Portion: from the control valve to the meter		D.I.P.*	

^(a)Acceptable material is *Class 52 cement mortar lined zinc-coated Ductile Iron Pipe.

^(b)Service Types include: Domestic = DS, Fire = FS, or Combined = CMB

5. The Water Authority's portion of the water service line shall be installed prior to the private portion of the service line.
6. Water meter(s) to be located on the interior of exterior walls(s) immediately upon service entrance into the building footprint or heated enclosure. A bypass assembly is not required around 5/8-inch through 1-inch meters. 1 ½-inch and 2-inch meters may require a bypass assembly depending upon the application. 3-inch and larger meters require a bypass assembly.
7. Water service lines sized 4-inches or greater shall be:
 - Pressure tested in accordance with the latest specifications of the Monroe County Water Authority. **A Water Authority representative must witness this test.**
 - Disinfected by using the continuous feed method according to AWWA Standard Specifications. After flushing and disinfecting the service line, water samples shall be collected in accordance with the Department of Health that has jurisdiction of the areas requirements. Approval and notification by the Health Department of passing health sample test(s) must be received before the service will be activated by the Water Authority.



MONROE COUNTY
WATER AUTHORITY
ROCHESTER, NEW YORK

JAN 2025
DATE

DME 26

R:\DETAILS\DME\2024 DME DETAILS\DME 27-1 TO 2 INCH WATER SERVICE.DWG

1", 1-1/2" AND 2" WATER SERVICE LINE NOTES

- 1. All materials, installation and testing procedures shall be in compliance with current AWWA standards and in accordance with the regulations and specifications of the Authority. Should a conflict exist the Authority's specifications shall govern.
- 2. Water service lines shall have a minimum of five feet of cover from finished grade in non-pavement areas and six feet of cover from finished grade in paved areas.
- 3. Water service lines shall be separated at least ten feet, measured from the outside of the pipes, from sewer mains or septic systems.
- 4. Water service lines shall be identified as:

DESCRIPTION	SIZE ^(a)	MATERIAL ^(b)	TYPE ^(c)
MCWA Portion = from the water main to and including the control valve on the ROW/property/easement line		Type "K" Copper	
Private Portion = from the control valve to the meter			

- ^(a) Minimum size is 1-inch.
- ^(b) Acceptable material for private portion is either Type "K" Copper or Polyethylene plastic (PE) #4710, SDR 9, AWWA C901, NSF-PW, 250 psi (CTS OD)
- ^(c) Service Types include: Domestic = DS, Fire = FS, or Combined = CMB

- 5. The Water Authority's portion of the service line shall be installed after the private portion of service is installed.
- 6. Water meter(s) to be located on the interior of exterior wall(s) immediately upon service entrance into the building footprint or heated enclosure. A bypass assembly is not required around 5/8-inch through 1-inch meters. 1 1/2-inch and 2-inch meters may require a bypass assembly depending upon the application. 3-inch and larger meters require a bypass assembly.



MONROE COUNTY
WATER AUTHORITY
ROCHESTER, NEW YORK

JAN 2025
DATE

DME 27

PUBLIC WATER SYSTEM NOTES

All materials, installation and testing procedures shall be in compliance with current AWWA standards and in accordance with the regulations and specifications of the Authority. Should a conflict exist the Authority's specifications shall govern.

Material:

- Water main(s) shall be ____-inch class 52, cement mortar lined, zinc-coated, ductile iron pipe.
- Water service(s) shall be ____-inch Type K Copper from the water main to the curb box and ____-inch (Type K soft Copper or PE #4710) from the curb box to the meter.
- Water meter(s) to be located on the interior of exterior walls(s) immediately upon service entrance into the building footprint, heated enclosure, or in a meter tile when conditions warrant. A bypass assembly is not required around 5/8-inch through 1-inch meters. 1 ½-inch and 2-inch meters may require a bypass assembly depending upon the application. 3-inch and larger meters require a bypass assembly.
- All gate valves shall have stainless steel body and bonnet bolts.

Tests:

- **Soil Test.** The contractor shall provide a soil test evaluation to determine the need for V-BIO polyethylene encasement per ANSI/AWWA C105/AZ1.5-82 prior to water main installation. Soil testing shall be conducted by an approved soil testing laboratory in accordance with Water Authority standards.
- **Pressure Test.** Water mains to be pressure tested in accordance with the latest Water Authority specifications. **A Water Authority representative must witness this test.**
- **Health Sample.** The water main shall be disinfected equal to AWWA Standard Specifications, designation C-651, by using the continuous feed method. After flushing and disinfecting the water main, water samples shall be collected from the main by the Health Department with jurisdiction of the area. Fire hydrants are not acceptable sampling points. Approval and notification by the Health Department must be received before the main is placed in service.

Installation:

- Water mains and all water service lines shall have a minimum of five feet of cover from finished grade in non-pavement areas and a minimum of six feet of cover from finished grade in paved areas.
- Minimum **vertical** separation between water main and sewer mains shall be 18" measured from the outside of the pipes at the point of crossing. Minimum **horizontal** separation between water mains and sewer mains shall be ten feet measured from the outside of the pipes. One full length of water main shall be centered under or over the sewer so that both joints will be as far from the sewer as possible. Where a water main crosses under a sewer, adequate structural support (compacted selected fill) shall be provided for the sewers to prevent excessive deflection of joints and settling on and breaking the water mains.
- Fire hydrant weep holes (drains) shall be plugged when ground water is encountered within seven feet of the finished grade.
- All mechanical joint fittings (tees, bends, plugs, etc.) shall be backed with 2500 psi concrete thrust blocks of appropriate size to provide thrust restraint.



MONROE COUNTY
WATER AUTHORITY
ROCHESTER, NEW YORK

JAN 2025
DATE

DME 28