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NOTE:
ALL SPEC ITEM NUMBER REFERENCES SHALL REFERENCE THE 5TH EDITION OF THE NCTCOG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

BETHESDA WATER SUPPLY CORPORATION
STANDARD DETAILS

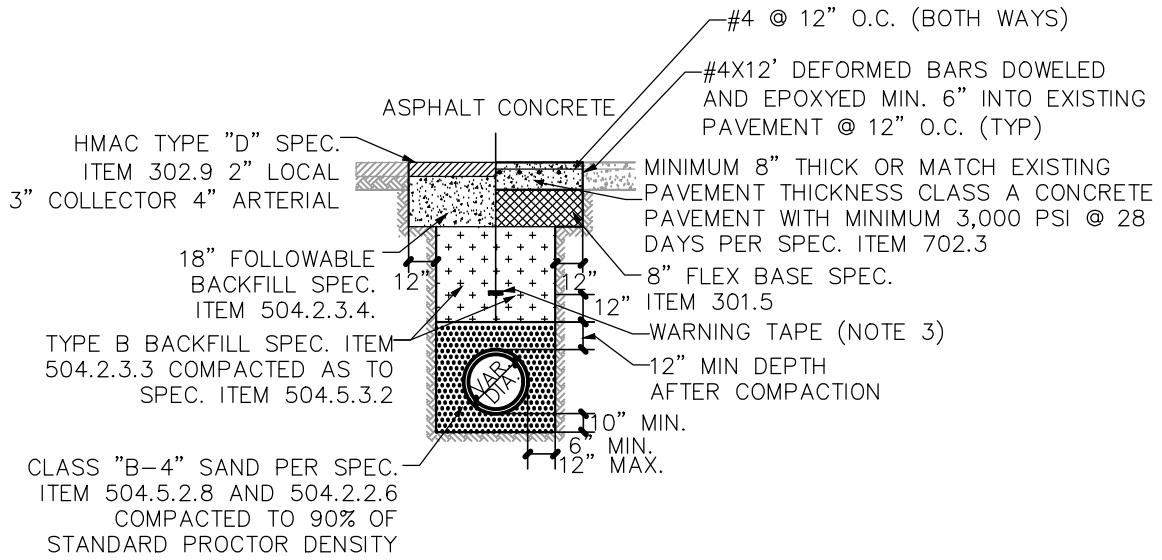
WATER LINE TRENCH REPAIR, EMBEDMENT, AND BACKFILL

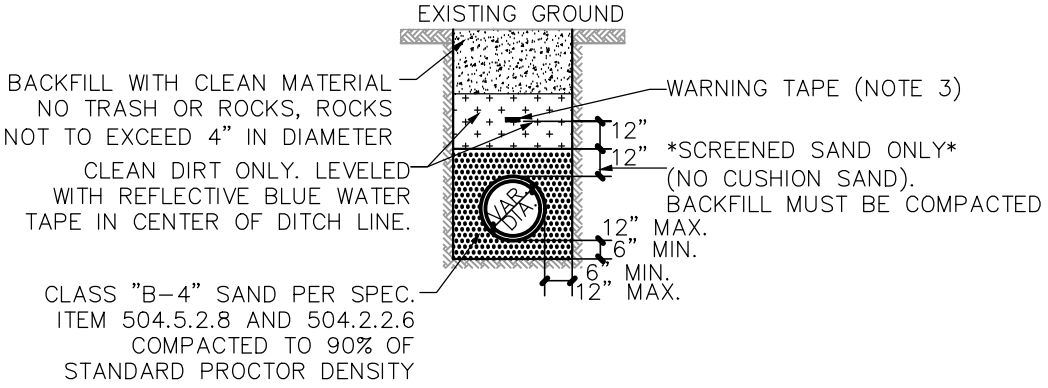
FIG-1

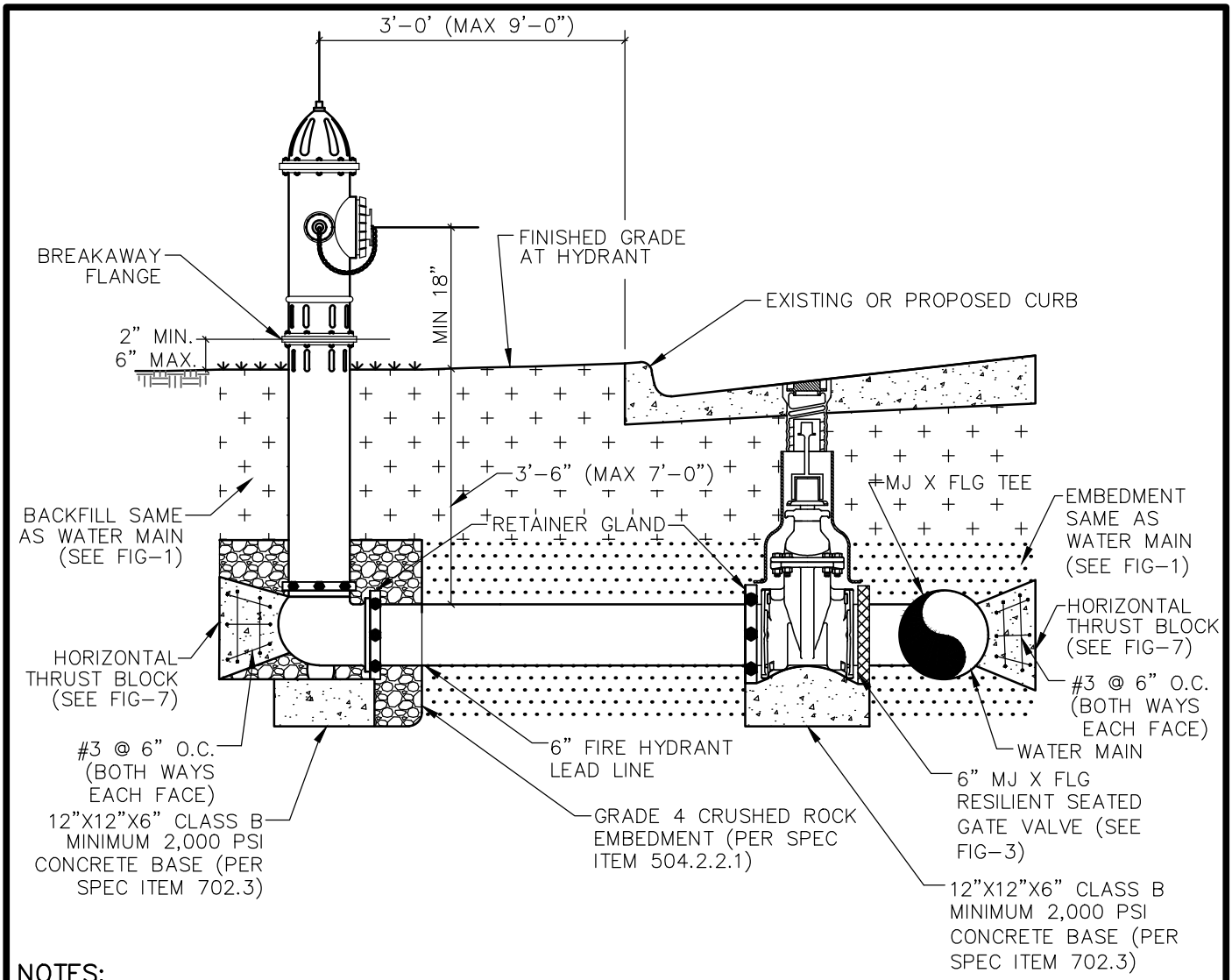
REVISED OCT 2025

NOTES:

1. ALL BACKFILL SHALL BE PER SPEC. ITEM 504.2.3.3 AND SHALL BE COMPACTED PER SPEC. ITEM. 504.5.3.2. ROCKS GREATER THAN 4" IN DIA. SHALL BE REMOVED FROM ANY NATIVE MATERIAL USED AS BACKFILL.
2. ALL PAVEMENT SHALL BE REMOVED ALONG NEAT SAW CUT LINES PER SPEC. ITEM 402.3.
3. BLUE UNDERGROUND WATER LINE WARNING TAPE OF MINIMUM 2" WIDTH SHALL BE INSTALLED 12" ABOVE THE LEVELED EMBEDMENT MATERIAL.
4. A MAXIMUM OF 200 FT. OF OPEN TRENCH WILL BE ALLOWED AT ANY TIME, UNLESS APPROVED BY THE BETHESDA WATER SUPPLY CORPORATION.
5. ALL TESTING SHALL BE DONE IN ACCORDANCE WITH THE 5TH EDITION OF THE NCTCOG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
6. IF GROUNDWATER IS ENCOUNTERED, EMBEDMENT SHALL BE PER GRADE 4 CRUSHED ROCK EMBEDMENT PER SPEC ITEM 504.2.2.1.
7. ALL CONCRETE STREETS, DRIVEWAYS, PARKING LOTS, ETC.. MUST HAVE STEEL CASING AND MUST EXTEND FROM BAR DITCH TO BAR DITCH.
8. IF STREET HAS CURB STEEL CASING MUST EXCEED MINIMUM 1' BEHIND CURB.







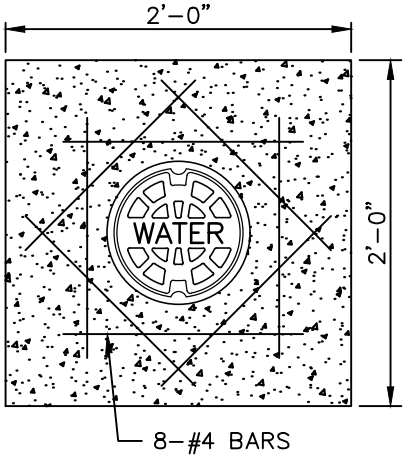
NOTES:

1. HYDRANTS TO BE MANUFACTURED BY M&H OR CLOW AND SHALL CONFORM TO AWWA C502. FIRE HYDRANTS SHALL HAVE A 5 1/4" MIN VALVE OPENING AND AN INSIDE BARREL DIAMETER OF APPROXIMATELY 7". ALL HYDRANTS SHALL BE EQUIPPED WITH A BREAKAWAY FLANGE. NO WATEROUS PACER HYDRANTS.
2. ALL BELOW GROUND IRON ASSEMBLES SHALL BE WRAPPED IN POLYETHYLENE ACCORDING TO AWWA C105.
3. RESILIENT SEATED GATE VALVE SHALL CONFORM TO AWWA C509.
4. FIRE HYDRANT LEADS GREATER THAN A SINGLE PIPE JOINT REQUIRE JOINT THRUST RETAINERS.
5. FIRE HYDRANT NO CLOSER THAN 18" TO EXISTING OR PROPOSED SIDEWALKS.
6. ALL FIRE HYDRANTS SHALL BE AT LEAST 42 INCHES FROM ANY ABOVE GROUND OBSTRUCTIONS, SUCH AS GUARDRAILS, RETAINING WALLS, BOLLARDS, ETC.
7. A BLUE REFLECTORIZED PAVEMENT MARKER ON THE CENTERLINE OF THE STREET IS REQUIRED TO MARK THE LOCATION OF THE FIRE HYDRANT.
8. FIRE HYDRANT SHALL BE ORDERED WITH A RED BODY AND WITH RED BONNET AND RED CAPS OR PAINTED SAFETY RED BY BRUSH USING AN OIL BASED PAINT.
9. FIRE HYDRANT SHALL BE OPEN LEFT, COUNTER-CLOCKWISE.
10. ALL FLANGE BOLTS SHALL BE STAINLESS STEEL AND ALL STAINLESS BOLTS TO HAVE ANTI-SEIZE COMPOUND.
11. FIRE HYDRANT EXTENSIONS NOT TO EXCEED 18". IF NEEDED TO RAISE FIRE HYDRANT GREATER THAN 18" MUST USE RESTRAINED 45° BENDS, NO 90°.
12. NO PIPE LESS THAN 18" BETWEEN MJ FITTINGS SHALL BE ALLOWED, NO EXCEPTIONS.
13. ALL MJ FITTINGS SHALL HAVE A FULL 20' LENGTH PIPE ATTACHED.
14. BOLLARDS MUST BE AT LEAST 4" DIAMETER FILLED WITH CONCRETE, 3' DEEP IN CONCRETE. SEE FIG-24 FOR ADDITIONAL DETAILS.
15. NEW FIRE HYDRANT INSTALLATIONS MUST CONNECT TO A 8" OR LARGER WATER MAIN.

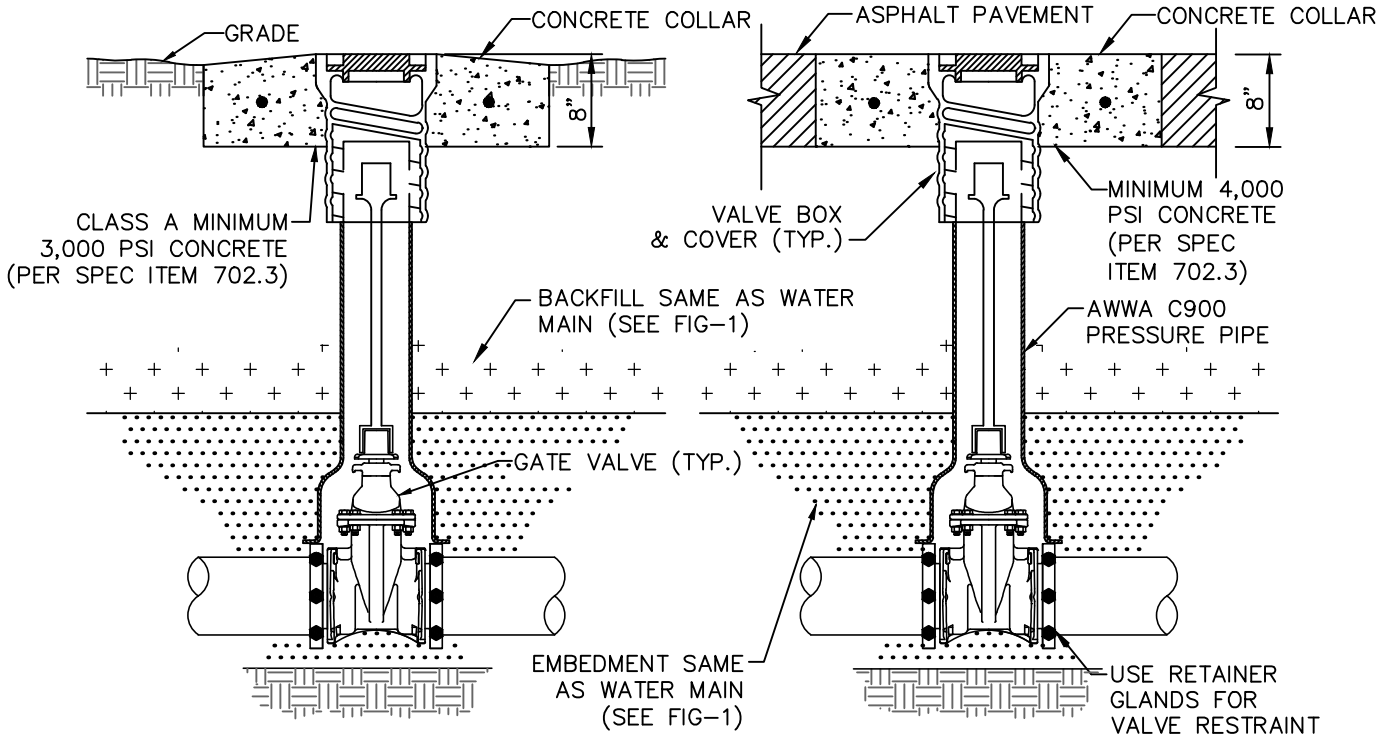
BETHESDA WATER SUPPLY CORPORATION STANDARD DETAILS	FIRE HYDRANT INSTALLATION	REVISED OCT 2025 FIG-2

NOTES:

1. GATE VALVE SHALL BE RESILIENT SEAT TYPE WITH A NON RISING STEM, A 2–INCH SQUARE OPERATOR, AND A FULLY ENCAPSULATED WEDGE. RESILIENT SEAT GATE VALVE SHALL CONFORM TO AWWA C509.
2. THE VALVE AND JOINT ASSEMBLIES SHALL BE WRAPPED IN POLYETHYLENE ACCORDING TO AWWA C105.
3. THE JOINT TYPE SHALL BE MECHANICAL JOINT UNLESS OTHERWISE SPECIFIED IN THE PLANS.
4. STEM EXTENSIONS ARE REQUIRED WHEN THE DEPTH TO THE TOP OF THE OPERATING NUT EQUALS OR EXCEEDS 3 FEET.
5. BOX TOP INSETS ARE REQUIRED IN ALL BOX INSTALLATIONS.
6. 16" AND LARGER GATE VALVES REQUIRE CONCRETE BLOCK UNDER THE VALVE BODY.
7. MARK LINE SIZE AND DIRECTION IN BASE BLOCK WITH LETTERS A MINIMUM OF 1–INCH IN HEIGHT.
8. GATE VALVE SHALL BE OPEN LEFT, COUNTER–CLOCKWISE.
9. CONCRETE COLLARS ARE NOT REQUIRED IN CONCRETE PAVEMENT.
10. ALL VALVES MUST HAVE A UTILITY MARKER, (SEE FIG–14).
11. ALL FORMS SHALL BE 2"X6". NO 2"x4" FORMS ALLOWED.



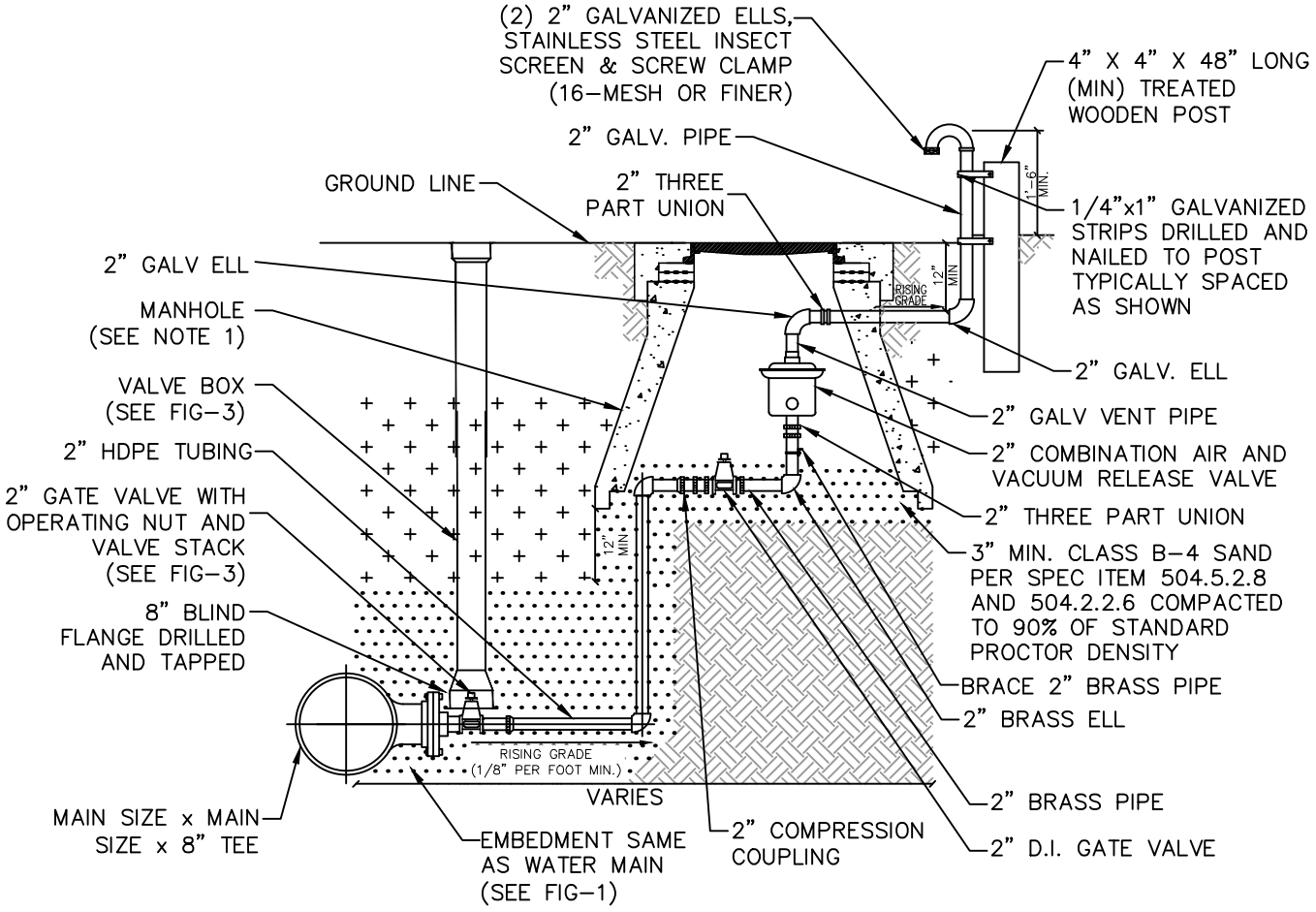
CONCRETE COLLAR

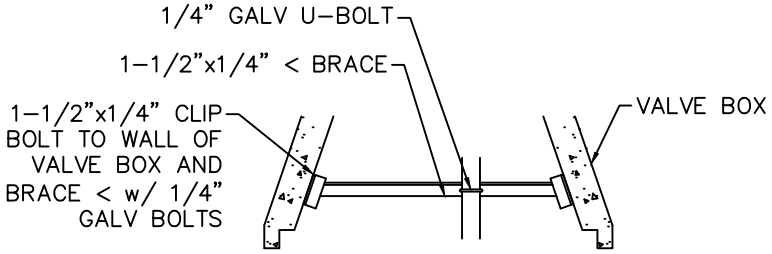


VALVES IN YARDS OR OTHER AREAS NOT SUBJECT TO TRAFFIC

VALVES WITHIN ROADWAYS OR OTHER PAVED OR SURFACED AREAS

BETHESDA WATER SUPPLY CORPORATION STANDARD DETAILS	GATE VALVE AND BOX	REVISED OCT 2025 FIG-3



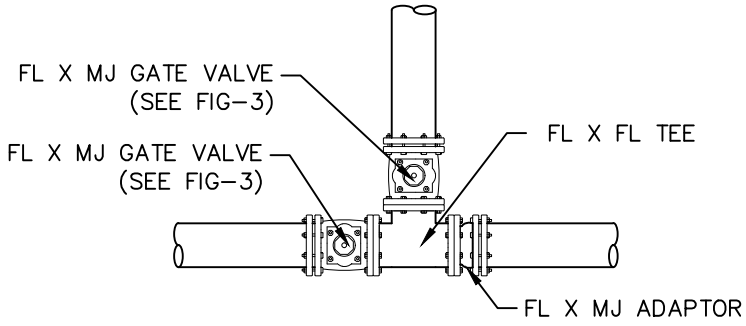


BRACE DETAIL

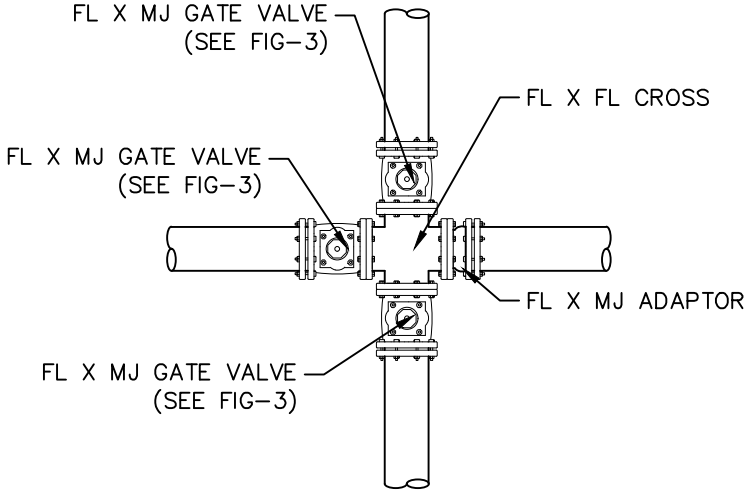
NOTES:

1. MANHOLE SHALL BE 48" ASTM-C478 CONCENTRIC MANHOLE CONE WITH RING AND COVER.
2. VALVE TO BE MARKED.

BETHESDA WATER SUPPLY CORPORATION STANDARD DETAILS	AIR RELEASE VALVE	REVISED OCT 2025
		FIG-4



TYPICAL VALVE PACKAGE TEE

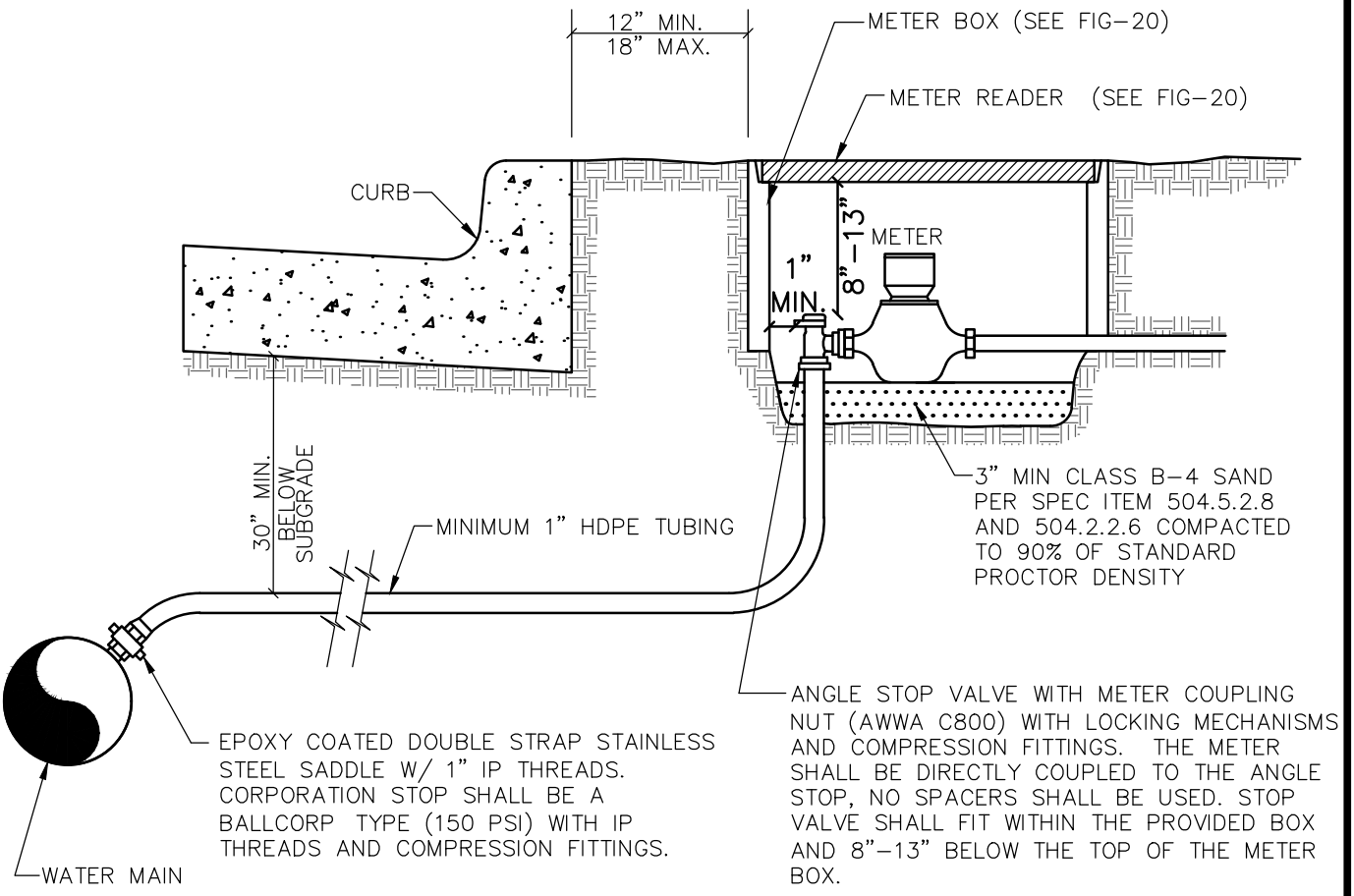


TYPICAL VALVE PACKAGE CROSS

NOTE:

1. ALL MJ FITTINGS SHALL HAVE A FULL 20' LENGTH PIPE ATTACHED.

BETHESDA WATER SUPPLY CORPORATION STANDARD DETAILS	TYPICAL VALVE PACKAGE INSTALLATION	REVISED OCT 2025
		FIG-5

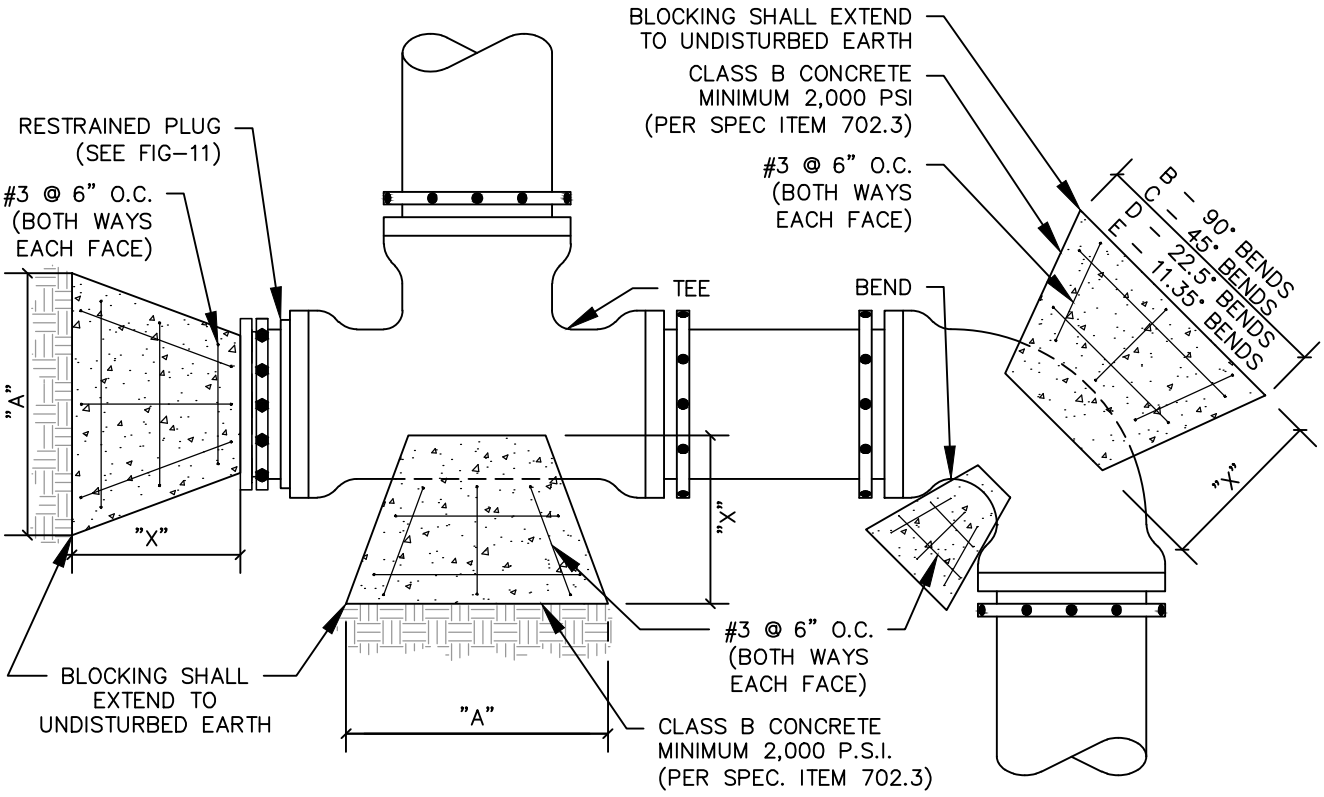


SINGLE METER SERVICE LAYOUT

NOTES:

1. NO FLARED FITTINGS ALLOWED.
2. DO NOT USE PIPE DOPE OR GLUE.
3. INDICATE LOCATION OF WATER SERVICE WITH A 3" TALL "W" INSCRIBED IN THE FACE OF THE CURB.
4. METER BOX SHALL NOT BE LOCATED IN DRIVEWAY OR ROADWAY.
5. ALL LONG SERVICES MUST BE IN 2" SCH. 80 PVC SLEEVE.
6. ALL WATER SERVICES MUST BE SINGLE, NO BULLHEAD SERVICES WILL BE ALLOWED.
7. ALL SERVICES IN AREAS WITHOUT A CURB AND GUTTER SHALL BE 5' FROM THE EDGE OF THE PROPERTY AND 2' FROM PROPERTY FRONTAGE.
8. 1" ANGLE STOPS TO USE 1"X$\frac{3}{4}$" METER ADAPTORS, NO 1"X$\frac{3}{4}$" ANGLE STOPS SHALL BE USED UNLESS APPROVED BY BETHESDA.

	BETHESDA WATER SUPPLY CORPORATION STANDARD DETAILS	WATER SERVICE CONNECTION	REVISED OCT 2025
			FIG-6



HORIZONTAL BLOCKING TABLE

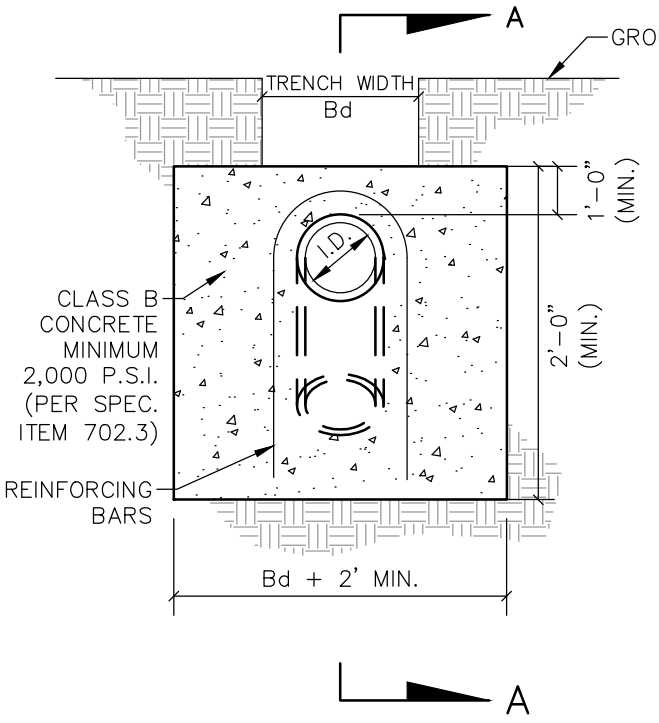
PIPE SIZE	"X" DIM.	PLUGS & TEES		90° BENDS		45° BENDS		22.50° BENDS		11.25° BENDS	
		"A"	MIN. AREA (sf)	"B"	MIN. AREA (sf)	"C"	MIN. AREA (sf)	"D"	MIN. AREA (sf)	"E"	MIN. AREA (sf)
6"	1'-6"	1'-9"	3.18	2'-1"	4.50	1'-7"	2.43	1'-1"	1.24	1'-0"	1.00
8"	1'-6"	2'-5"	5.65	2'-10"	8.00	2'-1"	4.33	1'-6"	2.21	1'-1"	1.11
10"	1'-6"	3'-0"	8.84	3'-6"	12.50	2'-7"	6.76	1'-10"	3.45	1'-4"	1.73
12"	1'-6"	3'-7"	12.72	4'-3"	17.99	3'-1"	9.74	2'-3"	4.96	1'-7"	2.49

DIMENSION "X" TO BE A MINIMUM OF 1'-6", BUT IS TO BE INCREASED WHERE NECESSARY TO PROVIDE BEARING AGAINST UNDISTURBED TRENCH WALL.

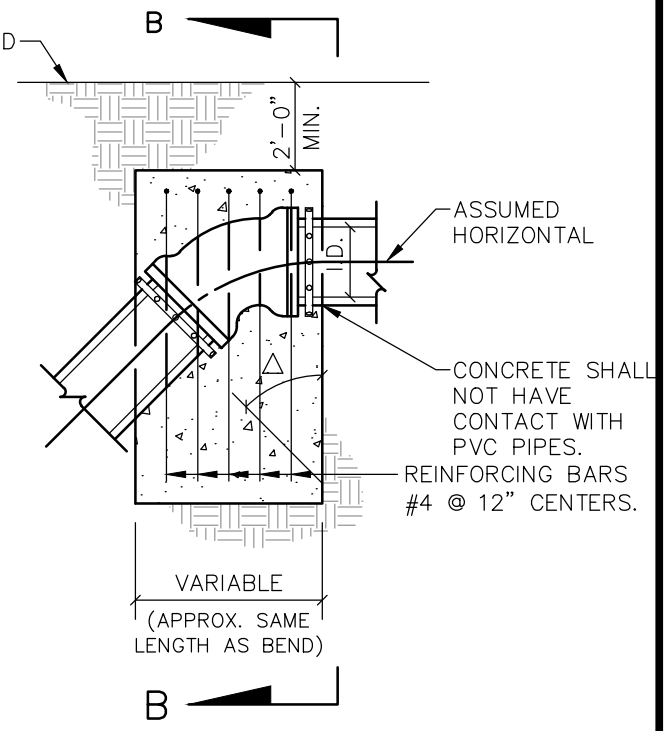
NOTES:

1. BEARING AREAS SHOWN ARE BASED ON 225 PSI TEST PRESSURE, 3,000 PSF ALLOWABLE SOIL BEARING PRESSURE, AND 1.5 SAFETY FACTOR.
2. THE ENGINEER SHALL PROVIDE A SEPARATE BLOCKING TABLE WHEN THE CONDITIONS DO NOT MEET THE ABOVE ASSUMPTIONS.
3. WRAP ALL BELOW GROUND IRON ASSEMBLIES IN POLYETHYLENE ACCORDING TO AWWA C105.
4. ALL TEES, BENDS, PLUGS, ETC. SHALL BE MECHANICALLY RESTRAINED.
5. BLOCKING FOR LINES LARGER THAN 12" SHALL BE DESIGNED FOR THE SPECIFIC LOCATION AND SHOWN ON THE DRAWINGS.
6. THRUST BLOCKING SHALL NOT EXCEED THE SIZE OF FITTINGS.
7. CONCRETE SHALL NOT HAVE CONTACT WITH PVC PIPES.
8. ALL CONCRETE BLOCKING SHALL HAVE #3 REBAR.
9. ALL CONCRETE BLOCKING SHALL BE FORMED.

BETHESDA WATER SUPPLY CORPORATION STANDARD DETAILS	HORIZONTAL BLOCKING	REVISED OCT 2025 FIG-7



ELEVATION "B–B"



SECTION "A–A"

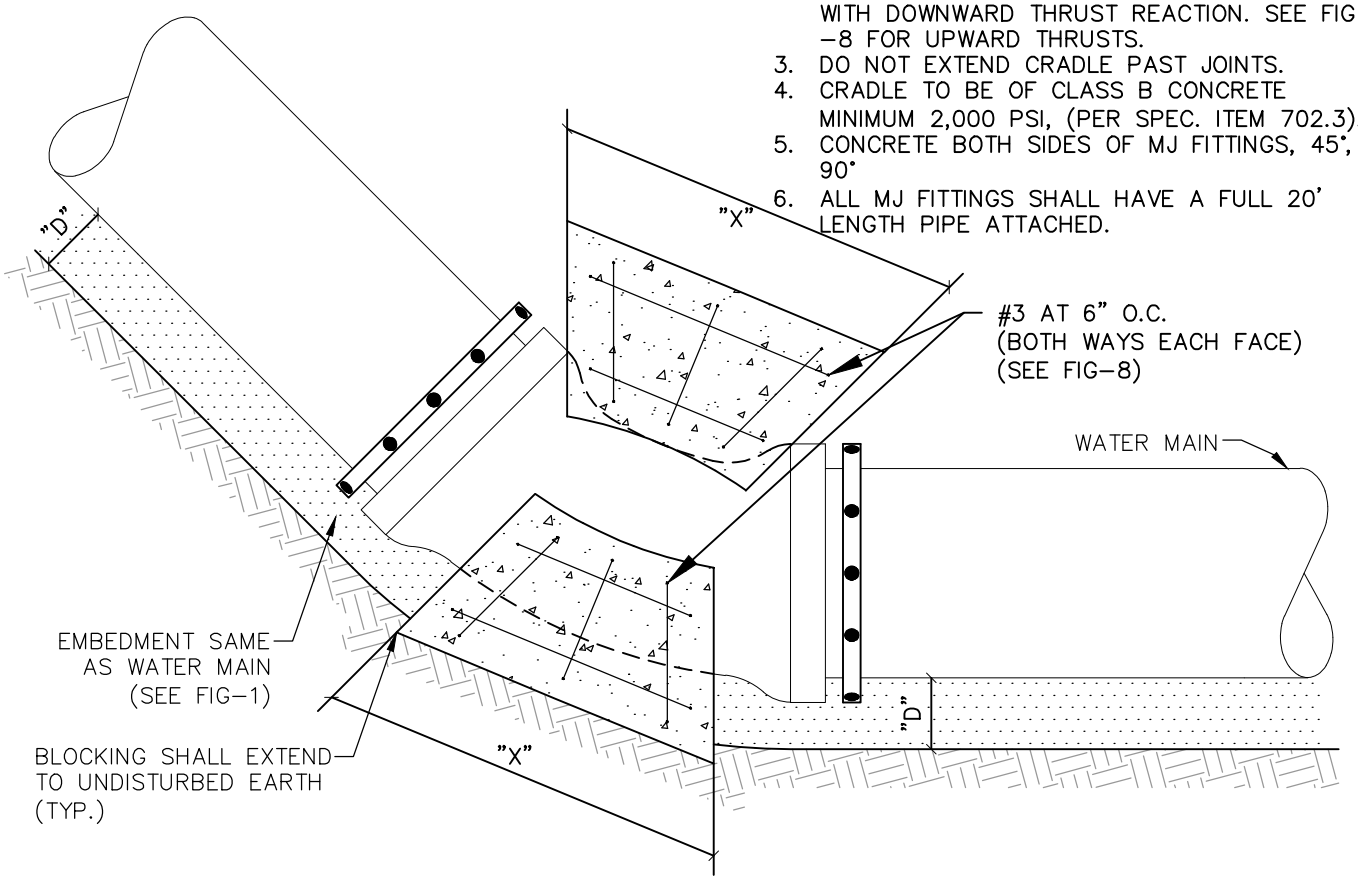
VERTICAL THRUST BLOCK TABLE

△→	11.25°		22.50°		45.00°		90.00°	
I.D. (IN.)	MIN #4 BARS	VOL. (C.Y.)	MIN #4 BARS	VOL. (C.Y.)	MIN #4 BARS	VOL. (C.Y.)	MIN #4 BARS	VOL. (C.Y.)
6	1	0.5	1	1.0	1	1.8	2	2.5
8	1	0.5	1	1.0	2	1.8	3	2.5
10	1	1.1	2	2.2	3	4.0	5	5.7
12	1	1.1	2	2.2	4	4.0	7	5.7

NOTES:

1. CONCRETE VOLUMES SHOWN ARE BASED ON 225 PSI TEST PRESSURE, 3,000 PSF ALLOWABLE SOIL BEARING PRESSURE, AND 1.5 SAFETY FACTOR.
2. BAR QUANTITIES ARE BASED ON 30 KSI #4 STEEL REINFORCEMENT BAR AND A SAFETY FACTOR OF 1.5.
3. THE ENGINEER SHALL PROVIDE A SEPARATE BLOCKING TABLE WHEN THE CONDITIONS DO NOT MEET THE ABOVE ASSUMPTIONS.
4. WRAP ALL BELOW GROUND IRON ASSEMBLIES IN POLYETHYLENE ACCORDING TO AWWA C105.
5. ALL TEES, BENDS, PLUGS, ETC. SHALL BE MECHANICALLY RESTRAINED.
6. BLOCKING FOR LINES LARGER THAN 12" SHALL BE DESIGNED FOR THE SPECIFIC LOCATION AND SHOWN ON THE DRAWINGS.
7. CONCRETE SHALL NOT HAVE CONTACT WITH PVC PIPES.
8. ALL CONCRETE BLOCKING SHALL BE FORMED.

NOTES:
1. CRADLE TO EXTEND FULL WIDTH OF TRENCH.
2. THIS DETAIL APPLIES TO VERTICAL BENDS WITH DOWNWARD THRUST REACTION. SEE FIG –8 FOR UPWARD THRUSTS.
3. DO NOT EXTEND CRADLE PAST JOINTS.
4. CRADLE TO BE OF CLASS B CONCRETE MINIMUM 2,000 PSI, (PER SPEC. ITEM 702.3).
5. CONCRETE BOTH SIDES OF MJ FITTINGS, 45°, 90°
6. ALL MJ FITTINGS SHALL HAVE A FULL 20' LENGTH PIPE ATTACHED.



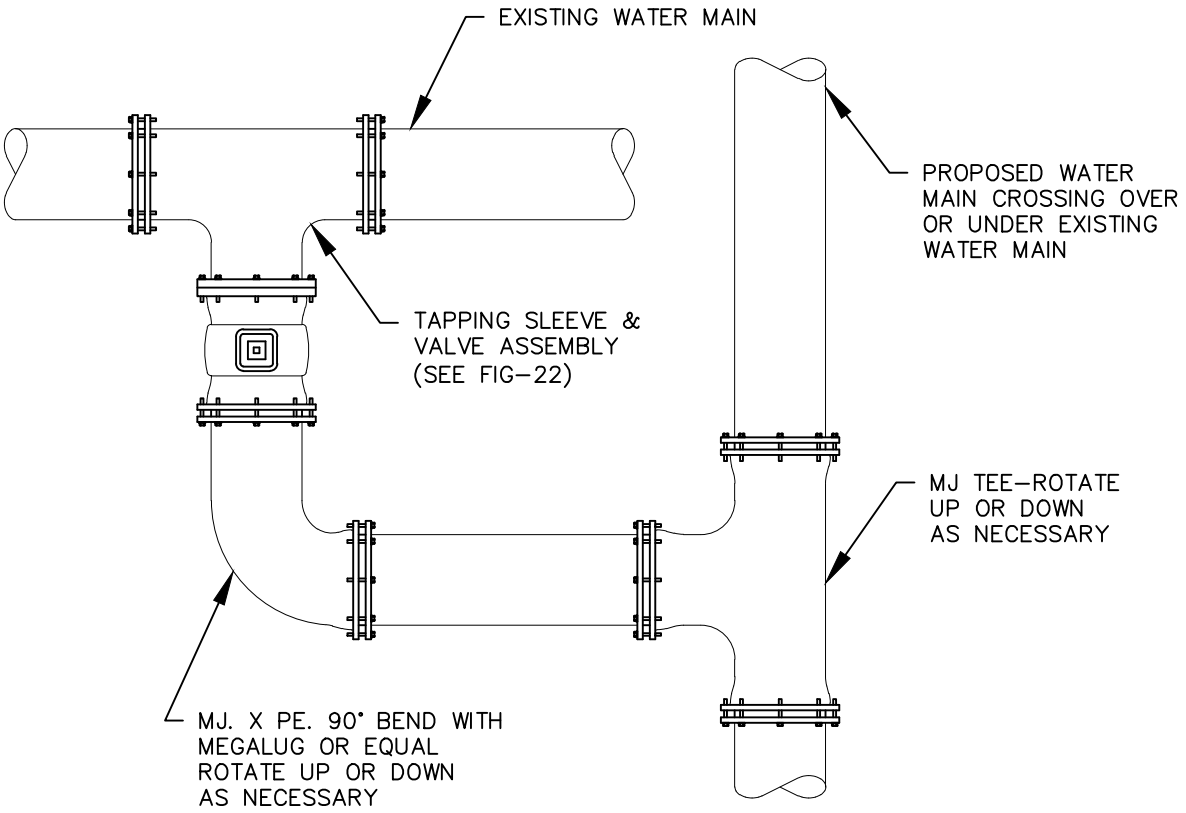
"D" = 6" MINIMUM OR TO UNDISTURBED SOIL

CONCRETE CRADLE TABLE

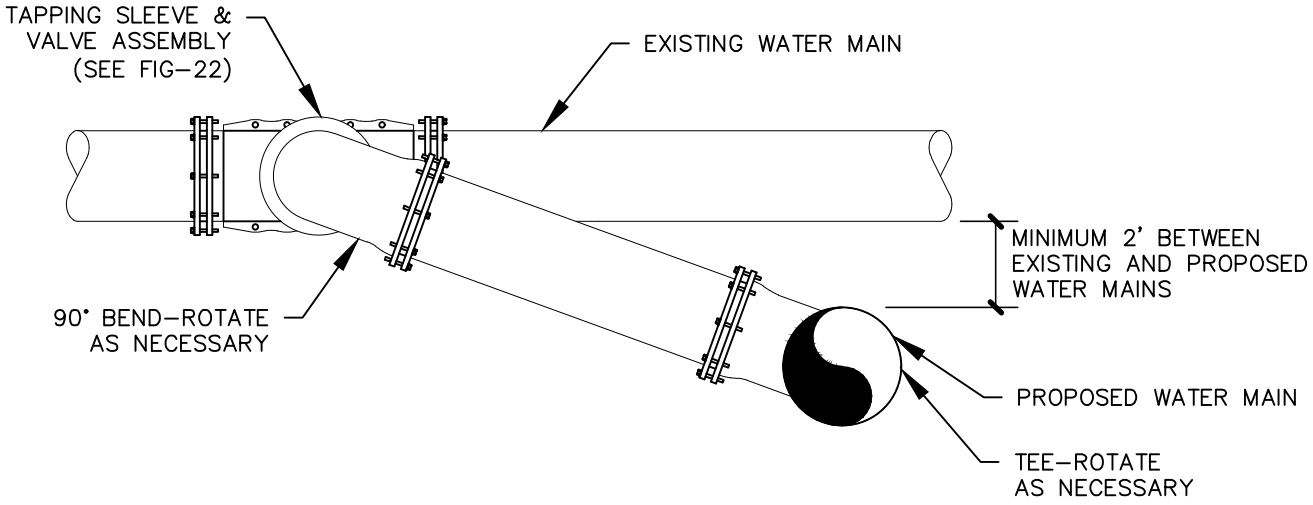
PIPE SIZE	90° BENDS		45° BENDS		22.50° BENDS		11.25° BENDS	
	"X"	MIN. AREA (sf)	"X"	MIN. AREA (sf)	"X"	MIN. AREA (sf)	"X"	MIN. AREA (sf)
6"	2–1"	4.50	1'–7"	2.43	1'–1"	1.24	1'–0"	1.00
8"	2–10	8.00	2'–1"	4.33	1'–6"	2.21	1'–1"	1.11
10"	3'–6"	12.50	2'–7"	6.76	1'–10"	3.45	1'–4"	1.73
12"	4'–3"	17.99	3'–1"	9.74	2'–3"	4.96	1'–7"	2.49

NOTES:
1. BEARING AREAS SHOWN ARE BASED ON 225 PSI TEST PRESSURE, 3,000 PSF ALLOWABLE SOIL BEARING PRESSURE, AND 1.5 SAFETY FACTOR.
2. THE ENGINEER SHALL PROVIDE A SEPARATE BLOCKING TABLE WHEN THE CONDITIONS DO NOT MEET THE ABOVE ASSUMPTIONS.
3. WRAP ALL BELOW GROUND IRON ASSEMBLIES IN POLYETHYLENE ACCORDING TO AWWA C105.
4. ALL TEES, BENDS, PLUGS, ETC. SHALL BE MECHANICALLY RESTRAINED BY MEGALUG OR APPROVED EQUAL.
5. BLOCKING FOR LINES LARGER THAN 12" SHALL BE DESIGNED FOR THE SPECIFIC LOCATION AND SHOWN ON THE DRAWINGS.
6. ALL CONCRETE BLOCKING SHALL BE FORMED.

	BETHESDA WATER SUPPLY CORPORATION STANDARD DETAILS	CONCRETE CRADLE AT VERTICAL BENDS	REVISED OCT 2025
			FIG-9



PLAN

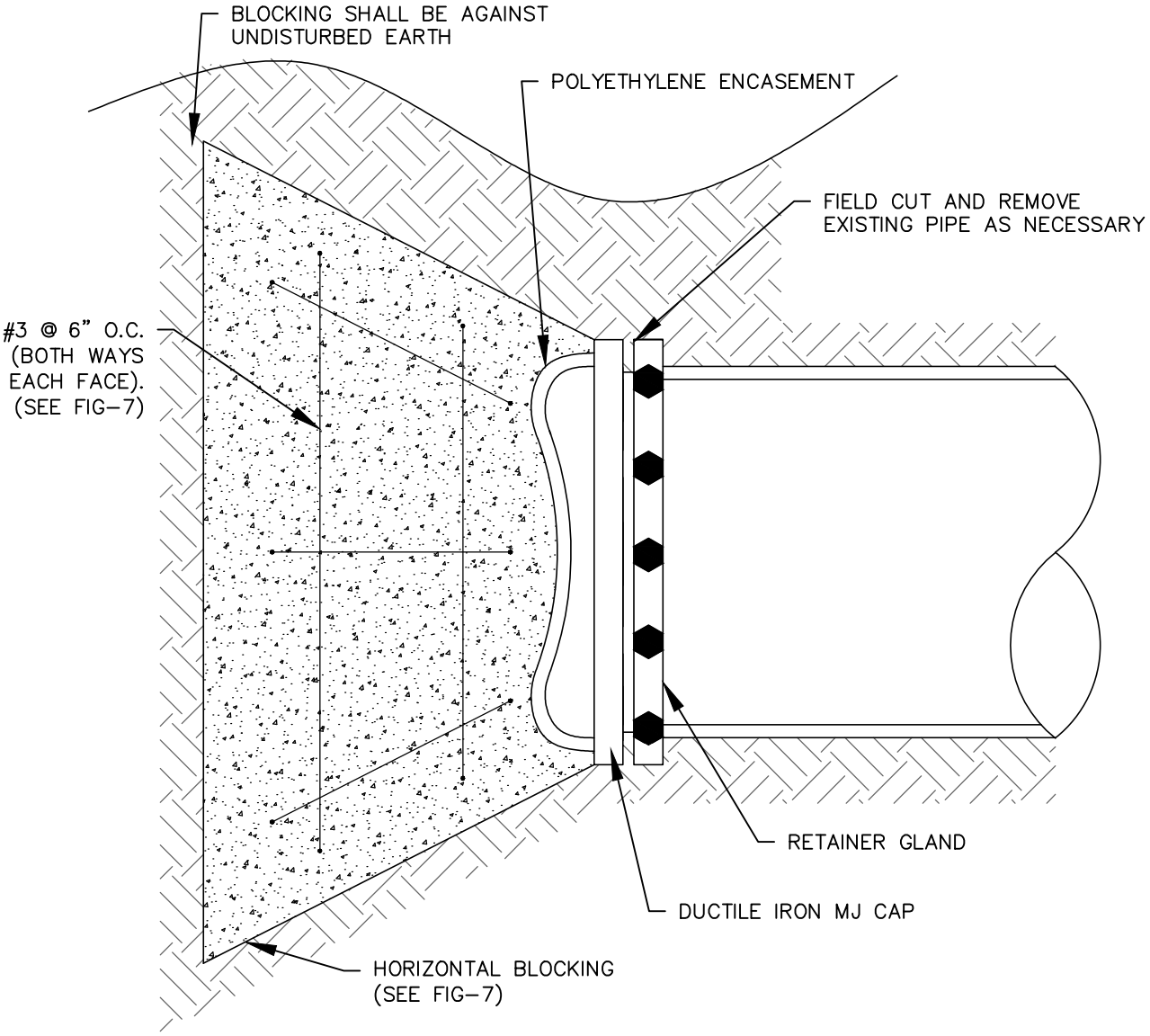


SECTION

NOTES:

1. WRAP ALL BELOW GROUND ASSEMBLIES IN POLYETHYLENE ACCORDING TO AWWA C105.
2. THE DIAMETER OF THE CONNECTING PIPE BETWEEN THE PROPOSED AND EXISTING WATER MAINS SHALL HAVE A DIAMETER EQUAL TO THE SMALLER OF THE TWO MAINS TO BE CONNECTED THROUGH THE PROPOSED RING CONNECTION.

BETHESDA WATER SUPPLY CORPORATION STANDARD DETAILS	TYPICAL RING CONNECTION	REVISED OCT 2025 FIG-10

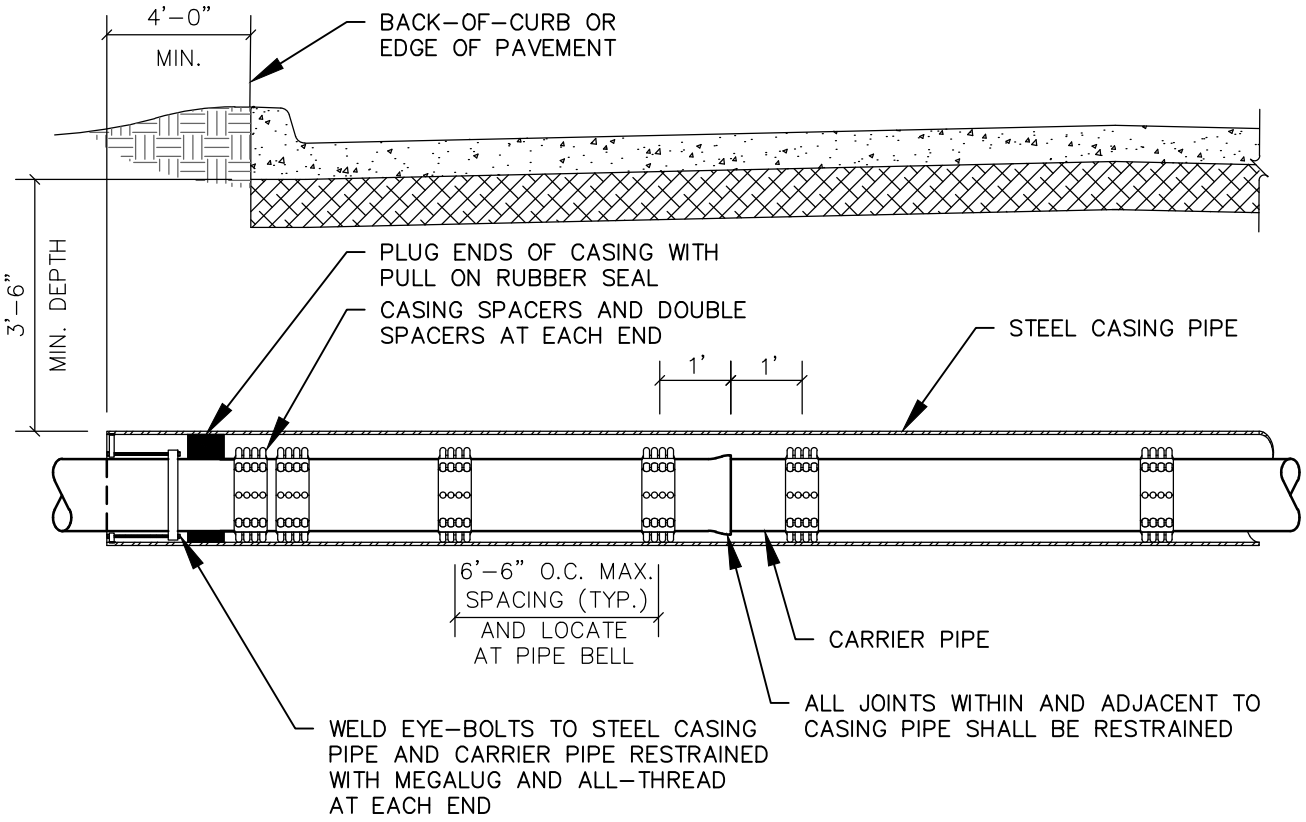


PVC AND DUCTILE IRON PLAIN END PRESSURE PLUG

NOTE:

1. INSTALL POLYETHYLENE ENCASEMENT AROUND DUCTILE IRON MJ CAP PRIOR TO INSTALLATION OF HORIZONTAL BLOCKING.
2. ALL CONCRETE BLOCKING SHALL BE FORMED.
3. ALL MJ FITTINGS SHALL HAVE A FULL 20' LENGTH PIPE ATTACHED.

BETHESDA WATER SUPPLY CORPORATION STANDARD DETAILS	PRESSURE PLUG	REVISED OCT 2025
		FIG-11

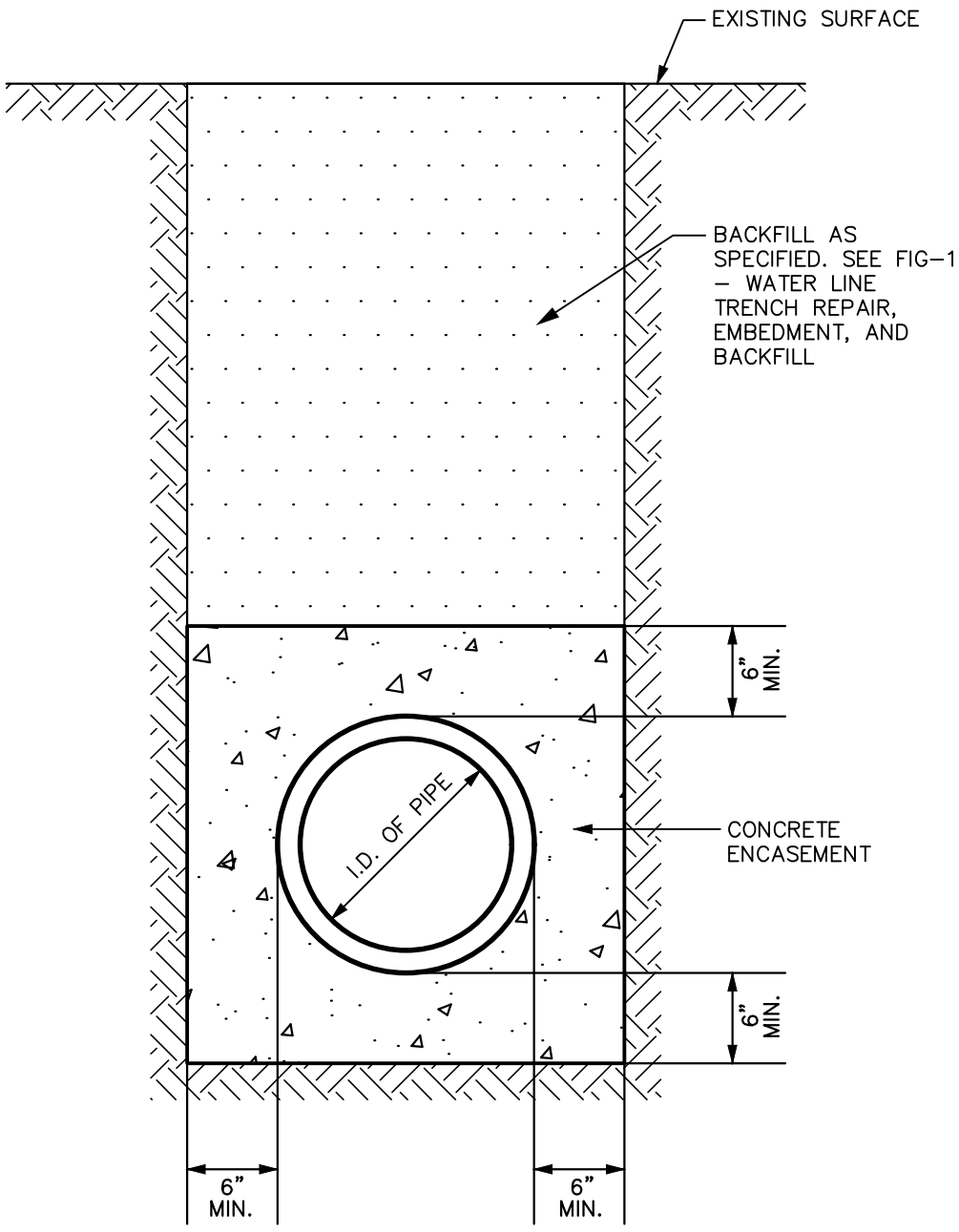


CASING DIAMETER	MIN. WALL THICKNESS
LESS THAN 12"	0.25"
14" – 18"	0.3125
20" – 24"	0.375"
26" – 32"	0.50"
34" – 42"	0.625"
GREATER THAN 42"	DESIGN BY ENGINEER

NOTES:

1. WHERE A BORE PIT EXCEEDS 5 FEET DEPTH, THE CONTRACTOR SHALL INSTALL SHORING OF THE PIT WALLS AS REQUIRED BY OSHA.
2. WHERE A BORE IS TO BE PARTIALLY OR COMPLETELY ABANDONED, SAID BORE SHALL BE COMPLETELY FILLED WITH HYDRAULICALLY PLACED CEMENT GROUT.
3. CASING SHALL BE EXTENDED TO THE RIGHT-OF-WAY LINE FOR STATE HIGHWAY AND RAILROAD CROSSINGS.
4. THE EDGE OF BORE PIT SHALL BE A MINIMUM OF 4' BEHIND THE BACK OF CURB OR EDGE OF PAVEMENT.
5. STEEL CASING PIPE SHALL BE MINIMUM 35 KSI ASTM A139, GRADE B CARBON STEEL, AND SHALL HAVE AN EXPOXY COATING IN ACCORDANCE WITH AWWA C210.
6. CASING PIPE SHALL BE PLACED AT THE SAME SLOPE AS THE CARRIER PIPE, TO ENSURE THAT THE CARRIER PIPE IS PLACED ALONG THE SPECIFIED GRADE. IF THE PROPER SLOPE CANNOT BE MAINTAINED, THE CASING SPACERS SHALL BE ADJUSTED SO THAT THE CARRIER PIPE IS PLACED AT THE SPECIFIED GRADE.
7. ALL ROAD CROSSINGS SHALL BE ENCASED WITH STEEL CASING UNLESS APPROVED THRU BETHESDA.

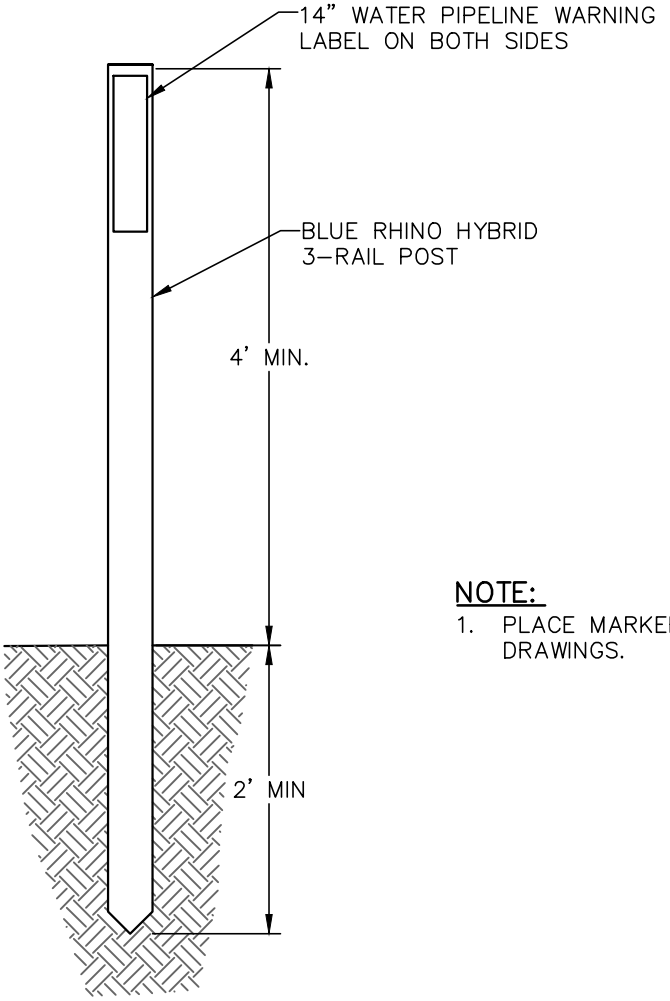
BETHESDA WATER SUPPLY CORPORATION STANDARD DETAILS	BORE AND CASING	REVISED OCT 2025 FIG-12

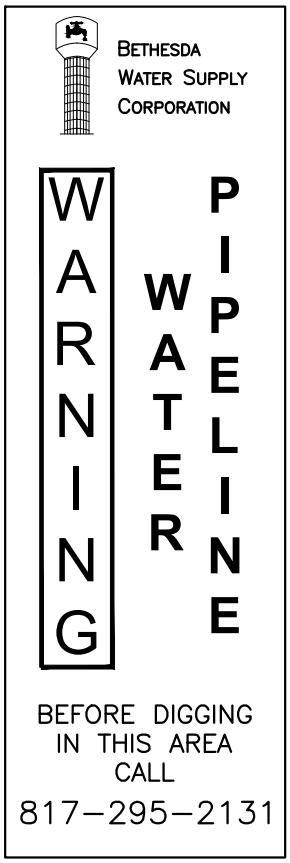


NOTES:

1. CONCRETE SHALL BE CLASS B, 2000 PSI AT 28 DAYS.

BETHESDA WATER SUPPLY CORPORATION STANDARD DETAILS	CONCRETE ENCASEMENT	REVISED OCT 2025
		FIG-13

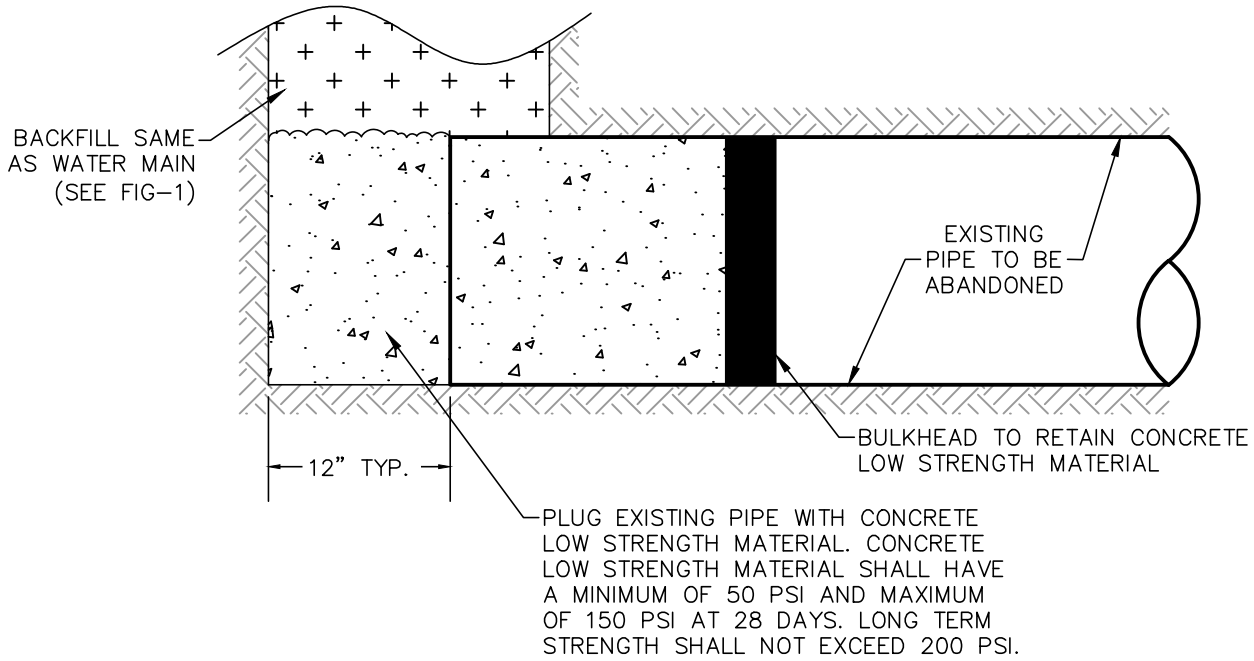




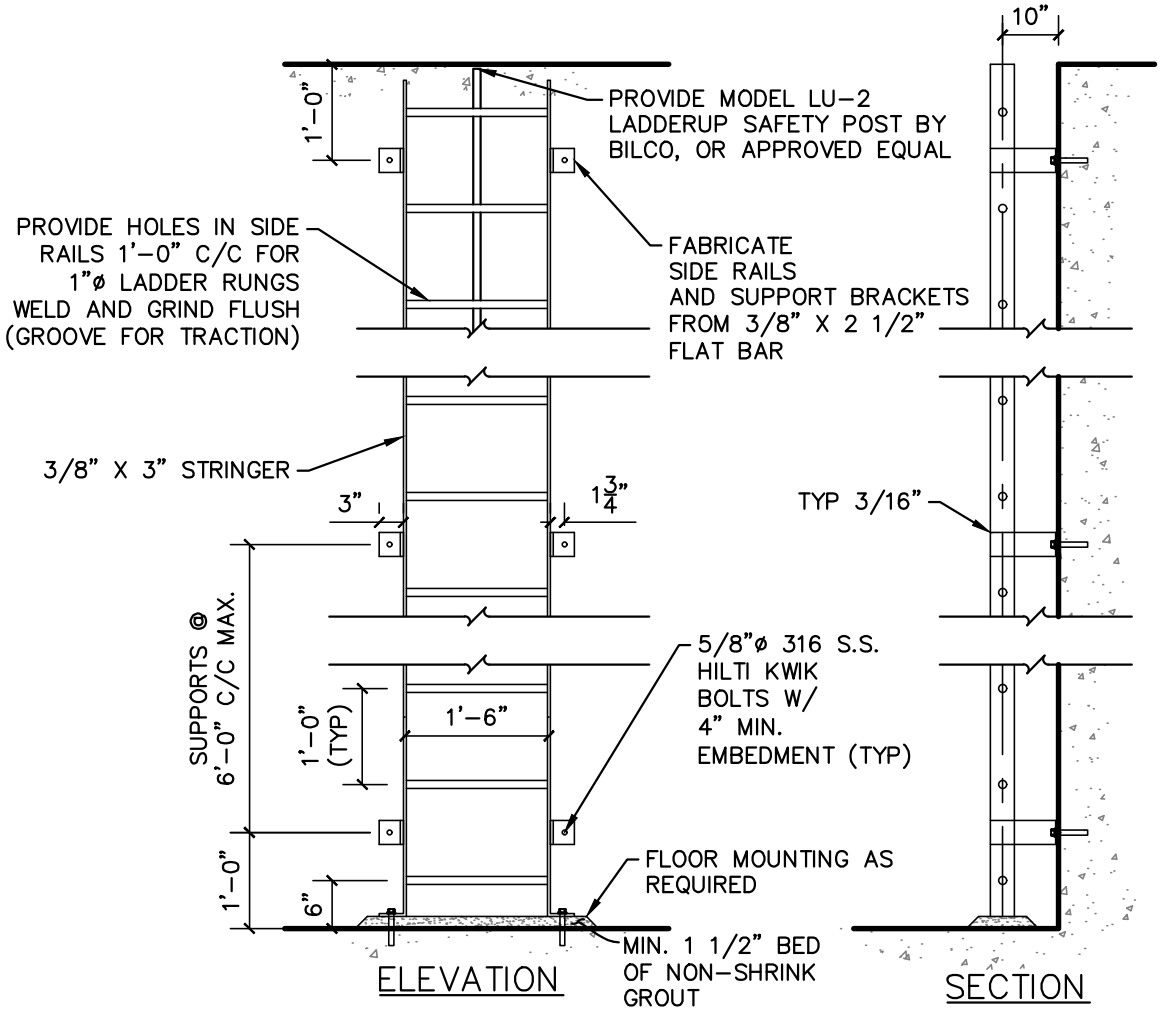
NOTE:

1. PLACE MARKERS AS INDICATED IN THE DRAWINGS.

BETHESDA WATER SUPPLY CORPORATION STANDARD DETAILS	UTILITY MARKER POLE	REVISED OCT 2025
		FIG-14

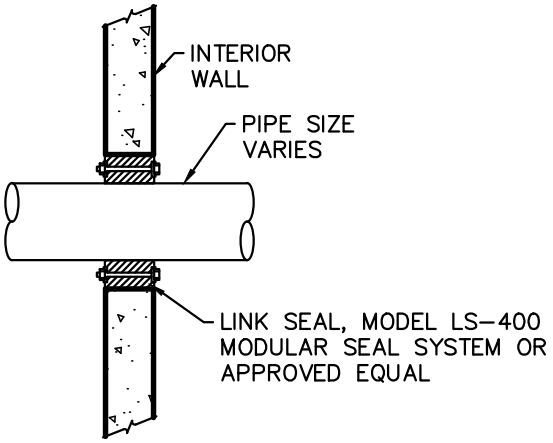


BETHESDA WATER SUPPLY CORPORATION STANDARD DETAILS	PIPE ABANDONMENT	REVISED OCT 2025
		FIG-15



A 16 LADDER DETAIL

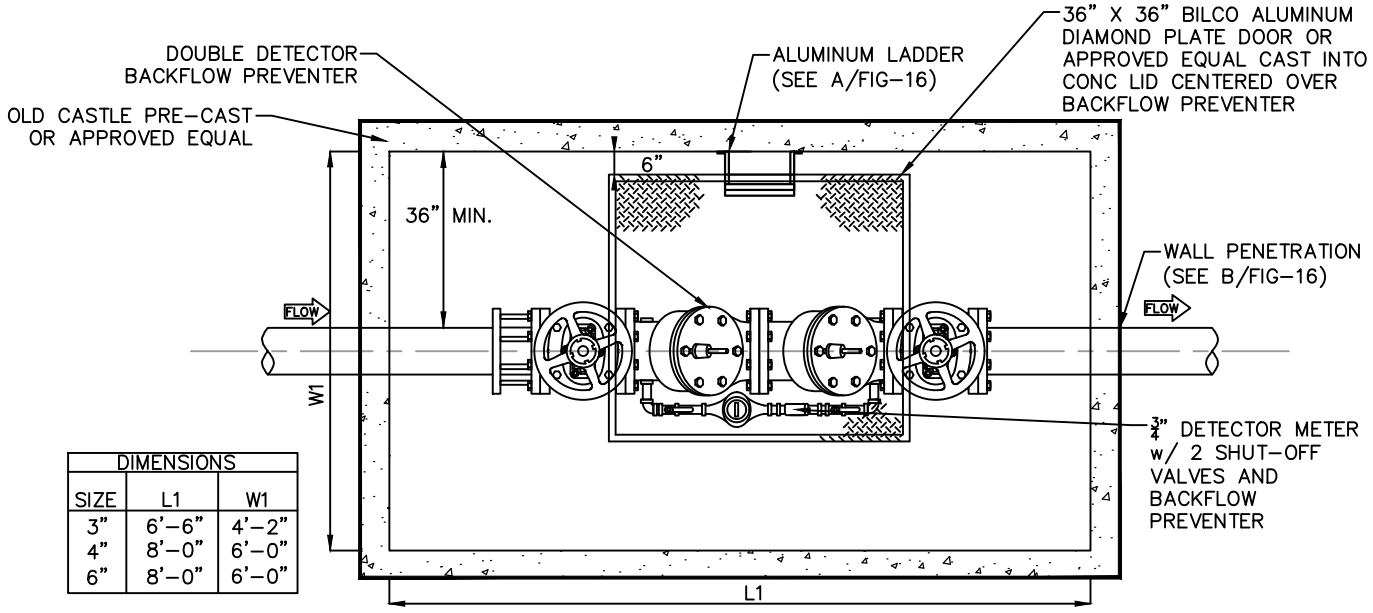
SCALE: NOT TO SCALE



B 16 WALL PENETRATION SECTION DETAIL

SCALE: NOT TO SCALE

BETHESDA WATER SUPPLY CORPORATION STANDARD DETAILS	VAULT DETAILS	REVISED OCT 2025
		FIG-16

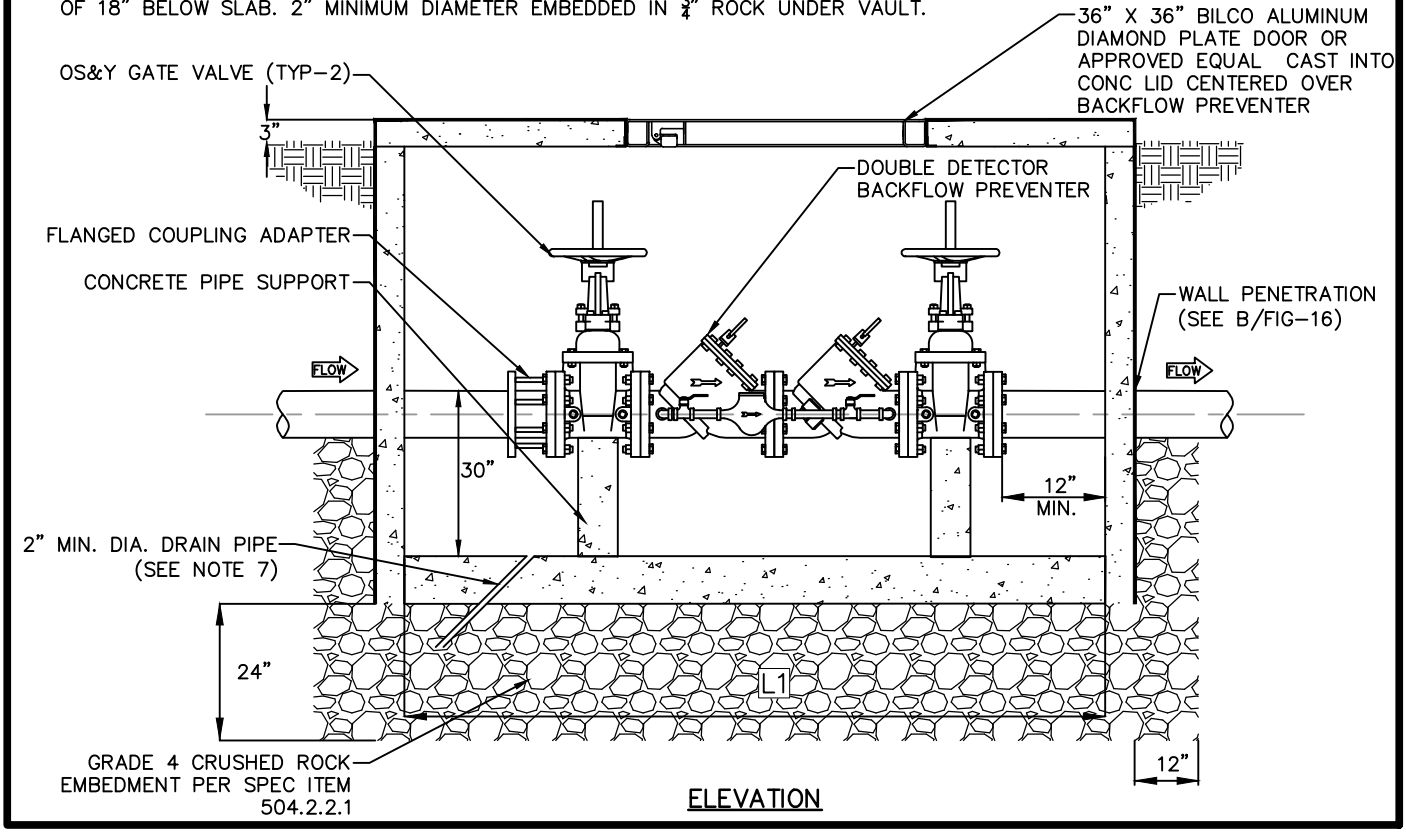


DIMENSIONS		
SIZE	L1	W1
3"	6'-6"	4'-2"
4"	8'-0"	6'-0"
6"	8'-0"	6'-0"

PLAN VIEW

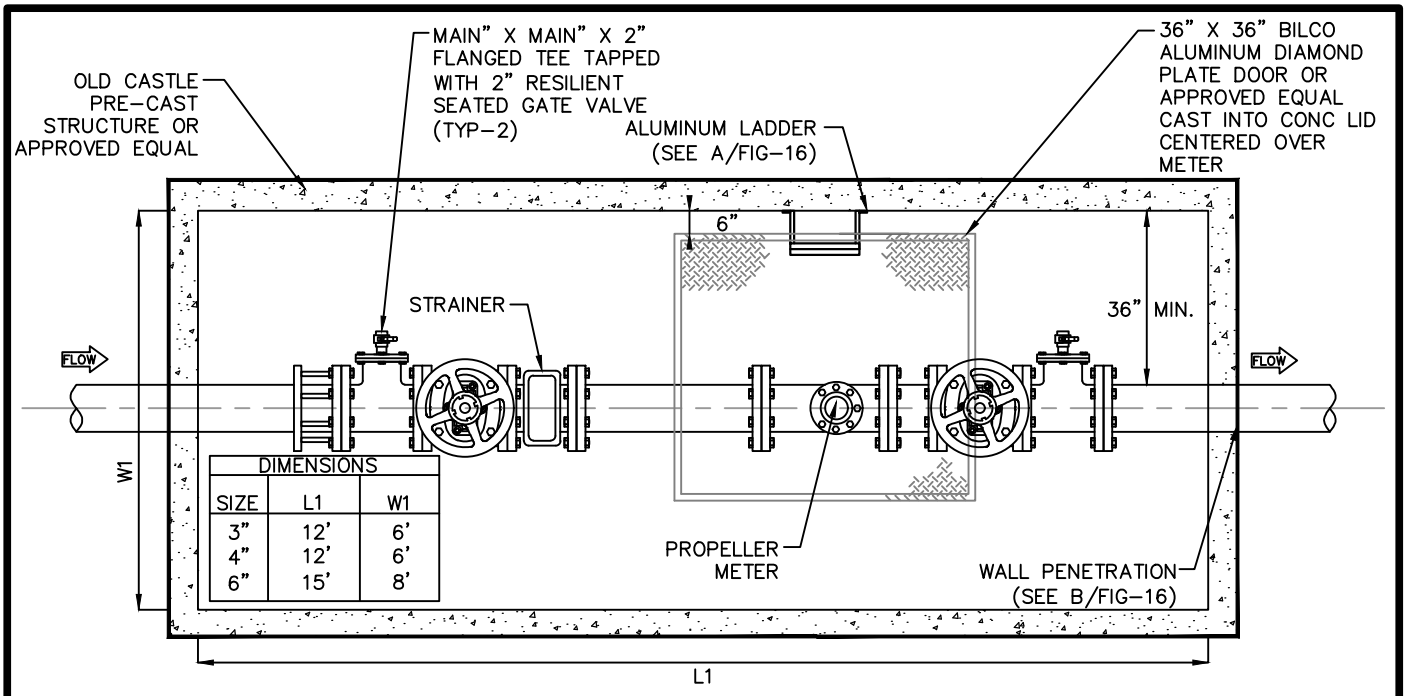
NOTES:

1. VAULT AND ACCESS DOOR SHALL BE H-20 RATED IF TO BE USED IN A TRAFFIC AREA.
2. ALL PIPING SHALL BE DUCTILE IRON. ALL PIPING AND EQUIPMENT IN VAULT SHALL BE COATED PER MANFACTURER FOR THE INTENDED USE.
3. ALL BOLTS, NUTS, AND HARDWARE WITHIN VAULT SHALL BE 316 S.S.
4. VAULT EMBEDMENT ARE SHOWN AS MINIMUMS. RECOMMENDATION TO BE PROVIDED BY GEOTECHNICAL ENGINEER APPROPRIATE FOR VAULT WEIGHT AND SOIL CONDITIONS.
5. ALL TEST VALVES TO BE SEALED WITH THREADED PLUG.
6. FLANGED COUPLING ADAPTER TO BE SMITH-BLAIR 912 WITH ANCHOR BOLTS OR APPROVED EQUAL.
7. ALL VAULTS TO HAVE DRAIN PIPE IN BOTTOM OF SLAB TO DRAIN WATER AND EXTEND A MINIMUM OF 18" BELOW SLAB. 2" MINIMUM DIAMETER EMBEDDED IN ¾" ROCK UNDER VAULT.



ELEVATION

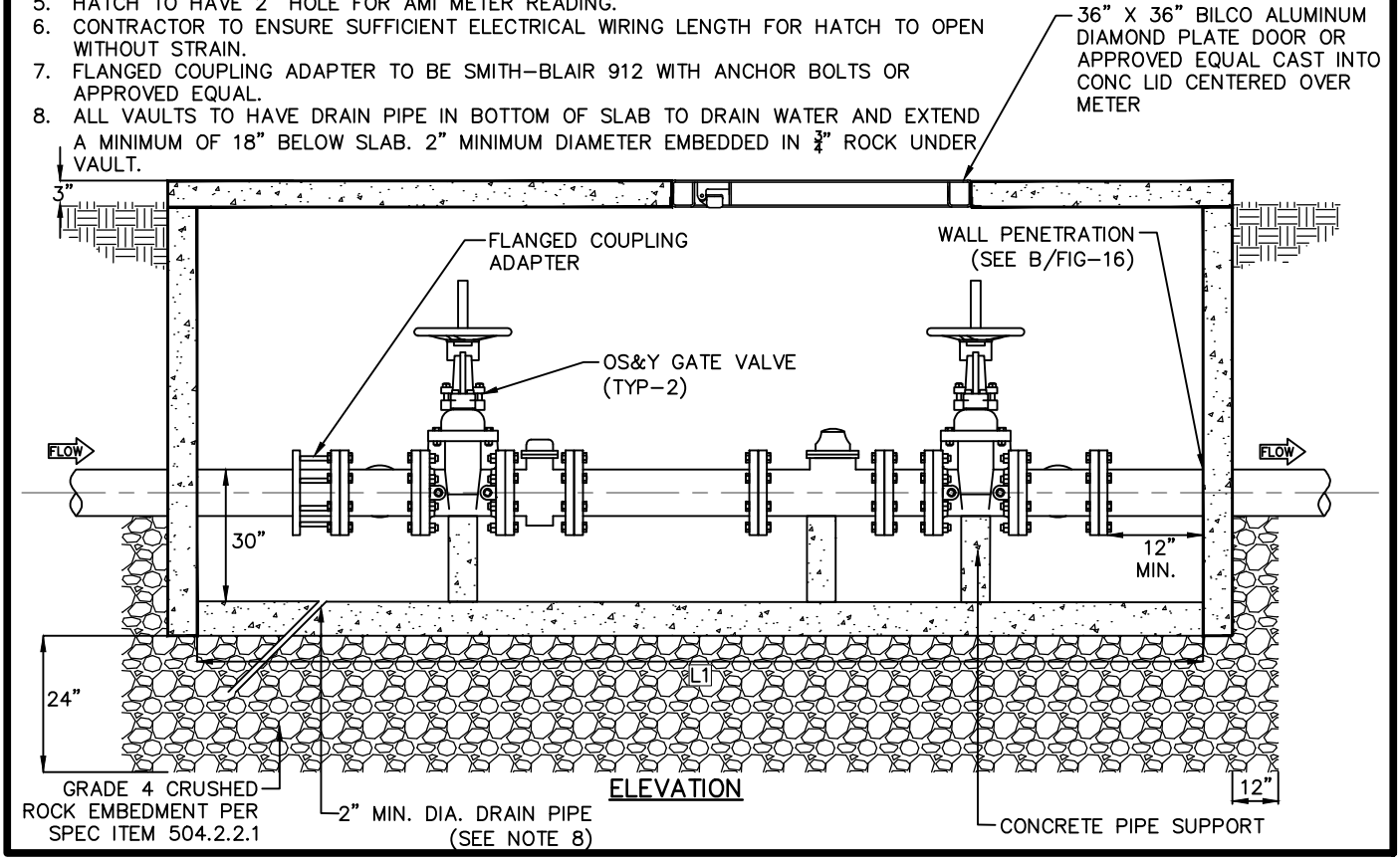
BETHESDA WATER SUPPLY CORPORATION STANDARD DETAILS	DOUBLE DETECTOR BACKFLOW PREVENTER FOR FIRE SERVICE	REVISED OCT 2025
		FIG-17



PLAN VIEW

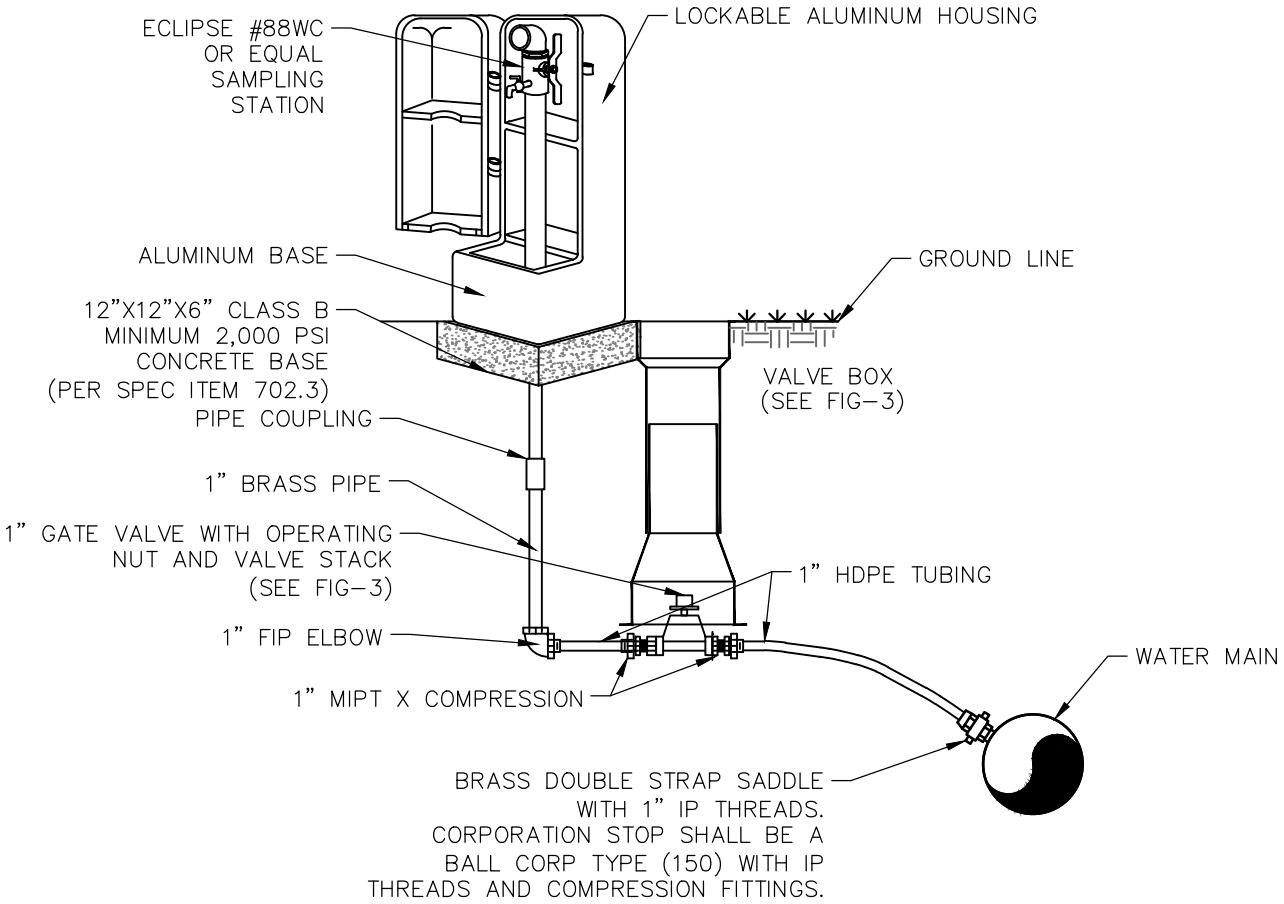
NOTES:

1. VAULT AND ACCESS DOOR SHALL BE H-20 RATED IF TO BE USED IN A TRAFFIC AREA.
2. ALL PIPING SHALL BE DUCTILE IRON. ALL PIPING AND EQUIPMENT IN VAULT SHALL BE COATED PER MANUFACTURER FOR THE INTENDED USE.
3. ALL BOLTS AND BRACKETS WITHIN VAULT SHALL BE 316 S.S.
4. METERS LARGER THAN 6" SHALL BE DESIGNED BY ENGINEER.
5. HATCH TO HAVE 2" HOLE FOR AMI METER READING.
6. CONTRACTOR TO ENSURE SUFFICIENT ELECTRICAL WIRING LENGTH FOR HATCH TO OPEN WITHOUT STRAIN.
7. FLANGED COUPLING ADAPTER TO BE SMITH-BLAIR 912 WITH ANCHOR BOLTS OR APPROVED EQUAL.
8. ALL VAULTS TO HAVE DRAIN PIPE IN BOTTOM OF SLAB TO DRAIN WATER AND EXTEND A MINIMUM OF 18" BELOW SLAB. 2" MINIMUM DIAMETER EMBEDDED IN $\frac{3}{4}$" ROCK UNDER VAULT.



ELEVATION

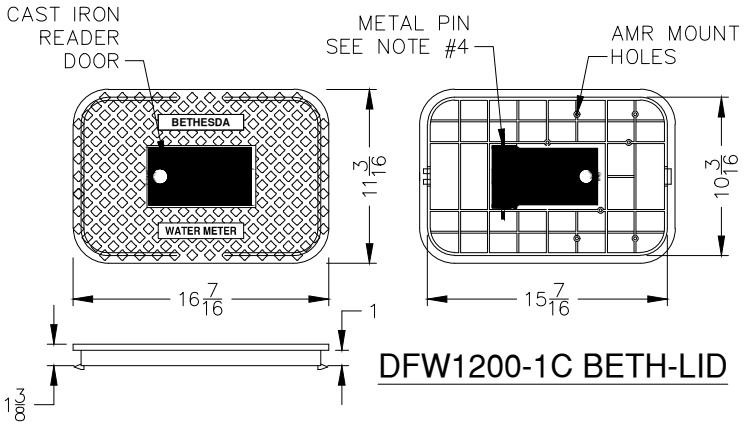
BETHESDA WATER SUPPLY CORPORATION STANDARD DETAILS	METER VAULT INSTALLATION	REVISED OCT 2025
		FIG-18



NOTES:

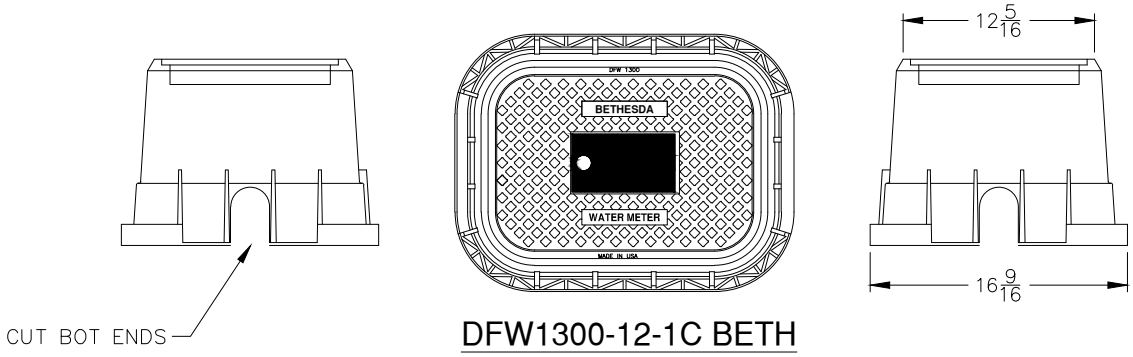
1. A 1/8" SAMPING BIBB SHALL BE LOCATED BEFORE THE DISCHARGE PIPE.
2. ALL STATIONS SHALL BE ENCLOSED IN A LOCKABLE, NONREMOVABLE, ALUMINUM-CAST HOUSING.
3. ALL WORKING PARTS WILL BE OF BRASS AND SERVICEABLE FROM ABOVE GROUND WITH NO DIGGING.
4. CONFIRM BOLLARD REQUIREMENTS WITH BETHESDA WATER SUPPLY. SEE FIG-24 FOR ADDITIONAL DETAILS.

	BETHESDA WATER SUPPLY CORPORATION STANDARD DETAILS	SAMPLING STATION	REVISED OCT 2025
			FIG-19

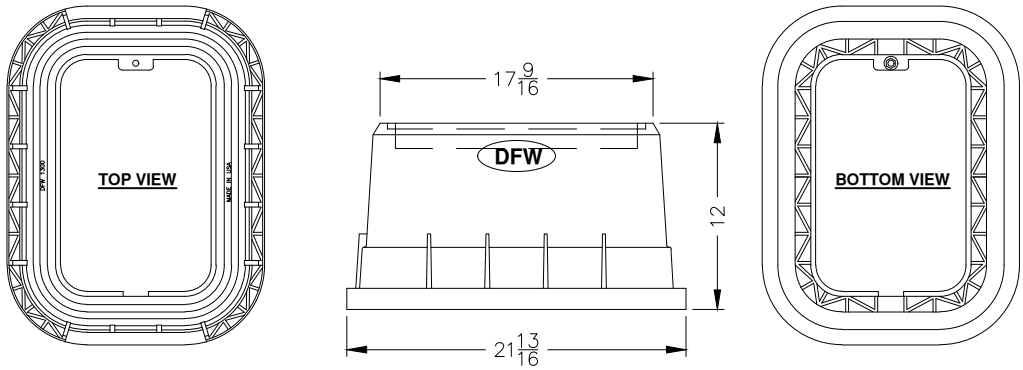


LID KEY	
1	BLACK COLOR
C	CAST IRON READER DOOR
BETH	BETHESDA WATER SUPPLY

DFW1200-1C BETH-LID



DFW1300-12-1C BETH

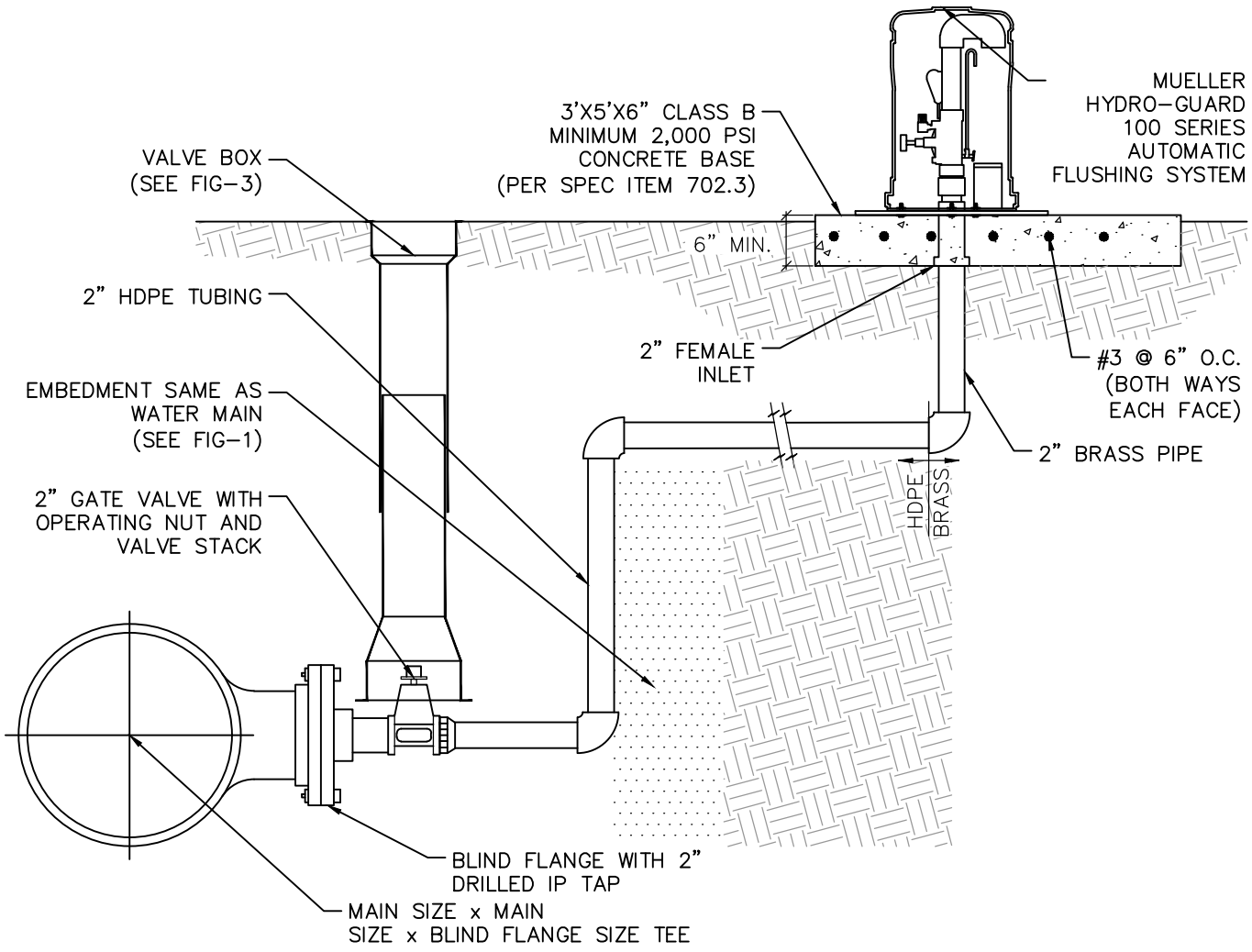


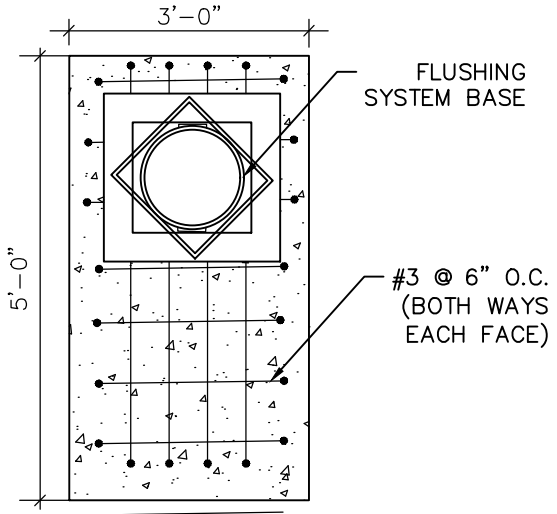
DFW1300.12.BODY

NOTES:

1. THIS METER BOX SHALL BE USED IN NON–PAVED AREAS ONLY.
2. DIMENSIONS ± 1/8" U.N.O.
3. WALL THICKNESS: 3/8"
4. SNAP LOCK POCKET WILL RECEIVE AMR/AMI DEVICE ENDPOINT. SNAP LOCK SLOT IS 1–7/8" ± .015" TO ALLOW FOR A FINGER FORCE INSTALL. POCKET HEIGHT IS 3/8" FOR MIN 1/8" AIR GAP.
5. ø3/16" x 6" LONG ECO TECH STEEL PIN IMPREGNATED WITH ZINC & ALUMINUM FOR CORROSION RESISTANCE. CHROMIUM FREE.
6. MUST CUT BOTH ENDS OF METER BOX BAR OPENINGS AT BOTTOM OF METER BOX.
7. ANGLE STOP TO BE ADJUSTED 1" FROM INSIDE OF METER BOX AND BE 8"–13" BELOW TOP OF METER BOX

BETHESDA WATER SUPPLY CORPORATION STANDARD DETAILS	SINGLE SERVICE WATER METER BOX DETAILS	REVISED OCT 2025
		FIG-20





CONCRETE BASE

NOTES:

1. PIPING FROM FLUSH VALVE SHALL BE BRASS AND COPPER ONLY, NO PVC.
2. SERVICE LINE FROM UNIT SHALL BE 2" HDPE WITH 2" SQUARE NUT VALVE AND DOUBLE TEFLON SADDLE X IP THREAD ONLY.
3. UNIT SHALL BE HYDRO-GUARD 100 SERIES BY MULLER ONLY. UNIT SHALL BE ALL BRASS AND COPPER.
4. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
5. UNIT SHALL BE INSTALLED AT ALL DEAD END WATER MAINS 4" AND LARGER.
6. UNIT SHALL BE POWERED VIA SOLAR PANEL.
7. CONCRETE BASE SHALL USE FORMS OF 2"X6" AND HAVE A 3'X5' INSIDE DIAMETER. NO 2"X4" FORMS WILL BE ALLOWED.
8. CONFIRM BOLLARDS REQUIREMENTS WITH BETHESDA WATER SUPPLY. SEE FIG-24 FOR ADDITIONAL DETAILS.

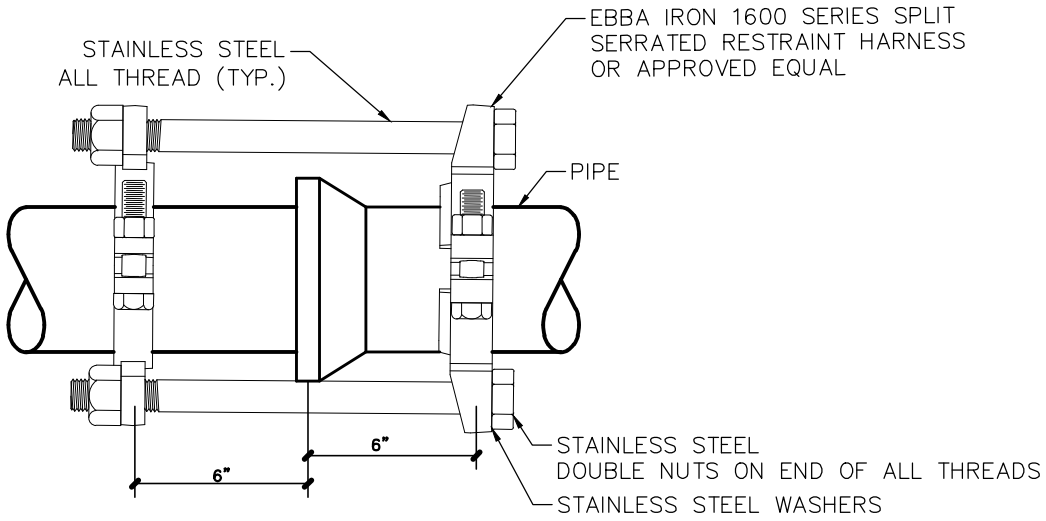
BETHESDA WATER SUPPLY CORPORATION STANDARD DETAILS	DEAD END AUTO FLUSH	REVISED OCT 2025
		FIG-21

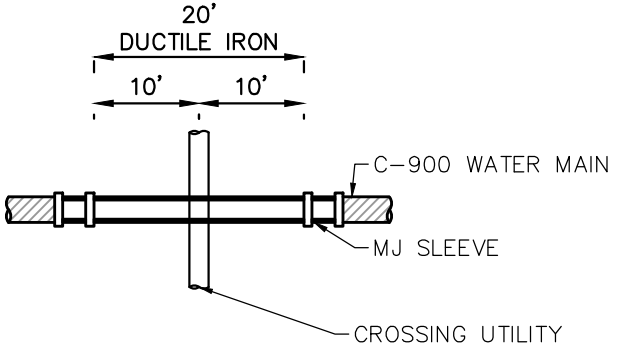
BETHESDA WATER
SUPPLY CORPORATION
STANDARD DETAILS

EXISTING UTILITY CROSSINGS

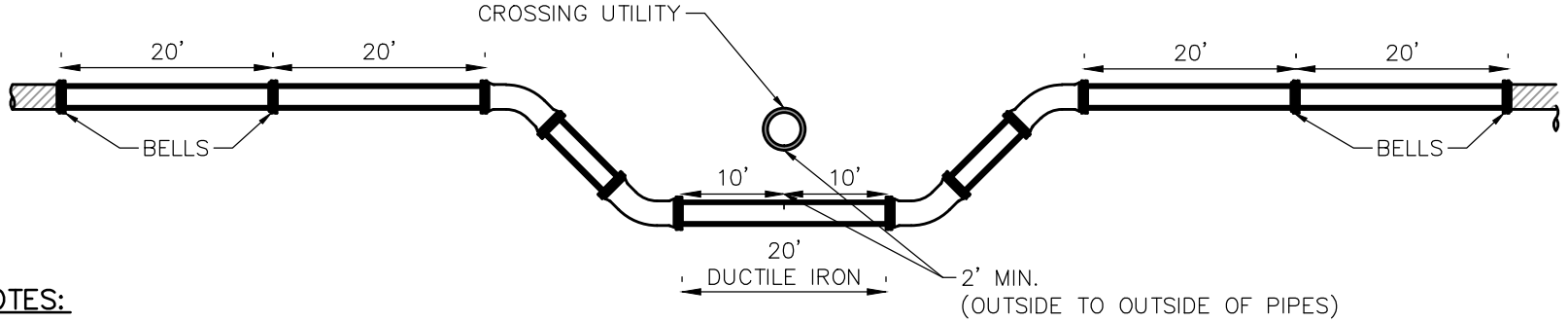
FIG-22

REVISED
OCT 2025



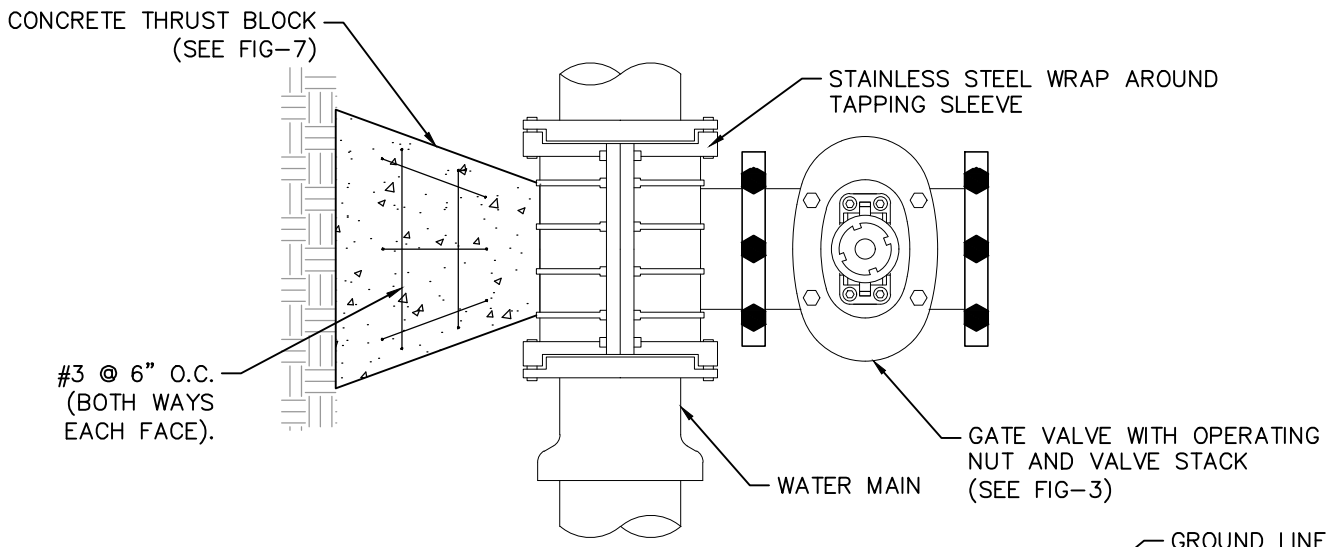


PLAN VIEW



NOTES:

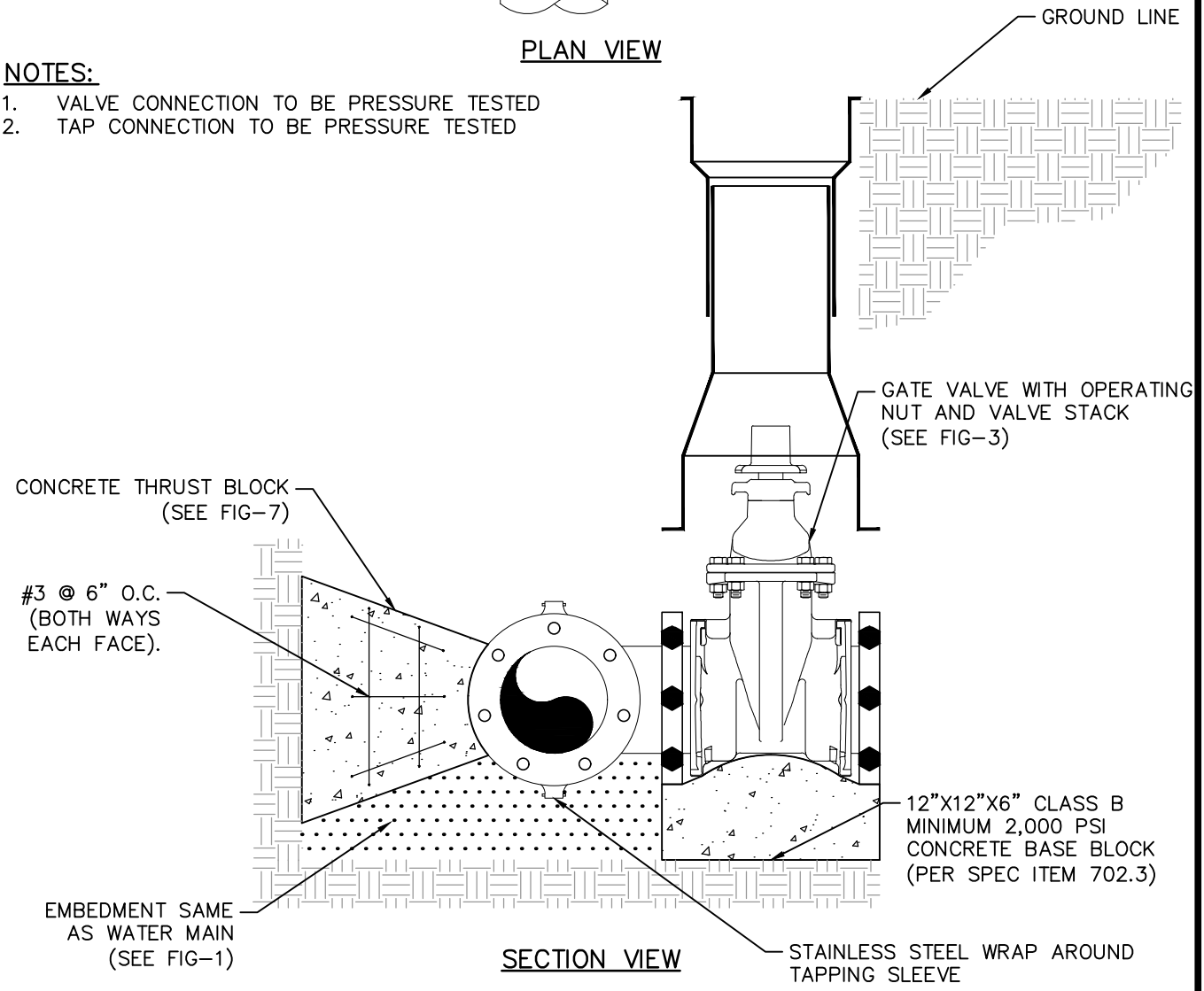
1. ALL MJ FITTINGS TO HAVE EBBA IRON MEGA LUGS FOR PVC PIPE.
2. ALL MJ FITTINGS TO HAVE EBBA IRON MEGA LUGS FOR DUCTILE PIPE. DUCTILE PIPE AND MJ FITTING TO HAVE POLYETHYLENE 30 ML WRAPPED.
3. ALL MJ FITTINGS SHALL HAVE A FULL 20' LENGTH PIPE ATTACHED.
4. MUST RESTRAIN FIRST 40' OF GASKETED BELLS WITH EYE BOLTS AND MUST USE EBBA IRON MEGA-LUGS ON EACH SIDE OF GASKETED BELLS NO CLOSER THAN 6" FROM SMOOTH END OF PIPE AND FROM BEVEL OF BELL END, NUTS, WASHERS, ALL ALLTHREAD, WASHERS, NUTS TO BE STAINLESS STEEL AND MUST USE ANTI-SEIZE ON THREADS (NO GREASE OR ANYTHING OTHER THAN ANTI-SEIZE COMPOUND).
5. NO MJ 90° BENDS, UNLESS APPROVED BY BETHESDA.
6. IF THE GROUND HAS BEEN BROUGHT TO GRADE WITH FILL DIRT CONTRACTOR MUST RESTRAIN ALL MJ FITTINGS FOR THE FIRST 40' WITH ALL THREAD AND EBBA IRON MEGA-LUGS ON MJ SLEEVES (FIRST 2 BELLS OF PIPE OUT OF BOTH SIDES OF FITTINGS).
7. MUST MAINTAIN 2' SEPARATION ON ALL UTILITIES OR STRUCTURES.
8. ALL FLANGE BOLTS ON FLANGE FITTINGS TO BE STAINLESS STEEL AND THREADS TO HAVE ANTI-SEIZE COMPOUND PRIOR TO TIGHTENING BOLTS.



PLAN VIEW

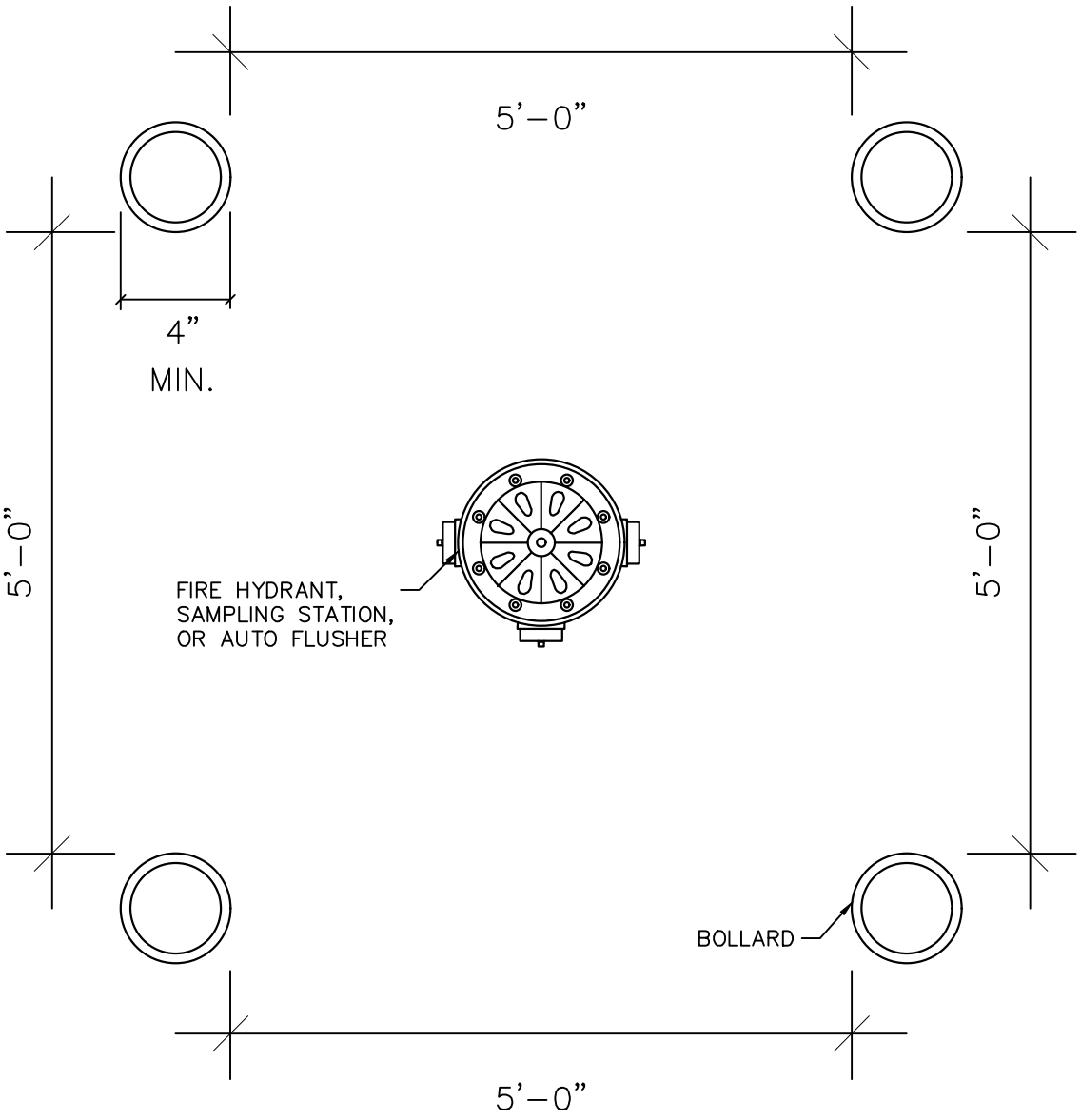
NOTES:

1. VALVE CONNECTION TO BE PRESSURE TESTED
2. TAP CONNECTION TO BE PRESSURE TESTED



SECTION VIEW

BETHESDA WATER SUPPLY CORPORATION STANDARD DETAILS	TAPPING SLEEVE AND VALVE	REVISED OCT 2025
		FIG-23



NOTES:

1. BOLLARDS SHALL BE MINIMUM 4" IN DIAMETER AND BE BETWEEN 38" AND 42" TALL FROM FINISH GRADE ELEVATION.
2. BOLLARDS SHALL BE MINIMUM 36" DEEP IN CONCRETE WITH A DIAMETER OF 16" TO 18" CONCRETE AROUND THE BOLLARDS.
3. BOLLARDS MUST BE PAINTED WITH TWO COATS OF SAFETY YELLOW OIL BASED PAINT WITH A PAINT BRUSH.
4. MAJORITY OF BOLLARDS TO HAVE 1" TO 2" DIAMETER ROUND STEEL POLE WELDED ALL THE WAY AROUND BOLLARD DEPENDING ON BETHESDA WATER SUPPLY'S DISCREPANCY AND LOCATION OF FIRE HYDRANT.

BETHESDA WATER SUPPLY CORPORATION STANDARD DETAILS	BOLLARD DETAIL	REVISED OCT 2025
		FIG-24

BETHESDA WATER SUPPLY CORPORATION
STANDARD DETAILS

STANDARD MATERIAL LIST

Classification	Manufacturer	Model No.	National Standard	Size
PVC Pressure Pipe		C900	AWWA C900	4" - 12"
PVC Restrained Pressure Pipe	-	-	AWWA C900 / ASTM D1784	4" - 12"
Mechanical Joint Ductile Iron Fittings	Tyler Union	C153	AWWA C153 / AWWA C111 / AWWA C104	4" - 12"
Mechanical Joint Retainer Glands	Romac	Romagrip PVC / Romagrip DI	AWWA C153 / AWWA C111	4" - 12"
Resilient Wedge Gate Valve	M&H	515	AWWA C509	4" - 12"
Valve Box and Cover	Tyler Union	Series 6850	ASTM A48, Class 35	-
Dry Barrel Fire Hydrant	M&H	129	AWWA C502	-
Combination Air Release Valve	GA Industries, Inc., APCO	-	ASTM A126 Class B	1" & 2"
Steel Casing Pipe	-	35 KSI, Grade B, Carbon Steel	AWWA C208	-
Casing Spacers	Raci	-	-	-
Utility Markers	Rhino	Hybrid 3-Rail Post, 72", Blue	-	-
Polyethylene Encasment	-	-	AWWA C105	8 mil
Tapping Sleeve	Romac	304 SS	AWWA C223	4" - 12"
Water Meter	Badger	M120 DISC 1-1/2", M170 DISC 2”	AWWA C700	1-1/2", 2"
Water Meter Encoder	Badger	HR-E LCD	-	-
Single Plastic Meter Box with Composite Lid	DFW Plastics Inc.	DFW1200.12.1C BETH	-	-
Bullhead Plastic Meter Box with Composite Lid	DFW Plastics Inc.	DFW16AMR.12.1	-	-
Service Tubing	Endot	Endopure Poly SDR 9 CTS	AWWA C901	1", 2"
Double Strap Saddle	Ford	202BS	-	-
Corporation Stop	Ford	F1100-x-G-NL	AWWA C800	3/4", 1"
Ballcorp Corporation Stop	Ford	FB1100-x-G-NL	AWWA C800	3/4", 1", 1-1/2", 2"
Angle Stop Valve	Ford	KV43-xxxW-G-NL	AWWA C800	3/4", 1"
Angle Stop Valve	Ford	FV43-xxxW-G-NL	AWWA C800	1-1/2", 2"

REVISED
OCT 2025

FIG-25