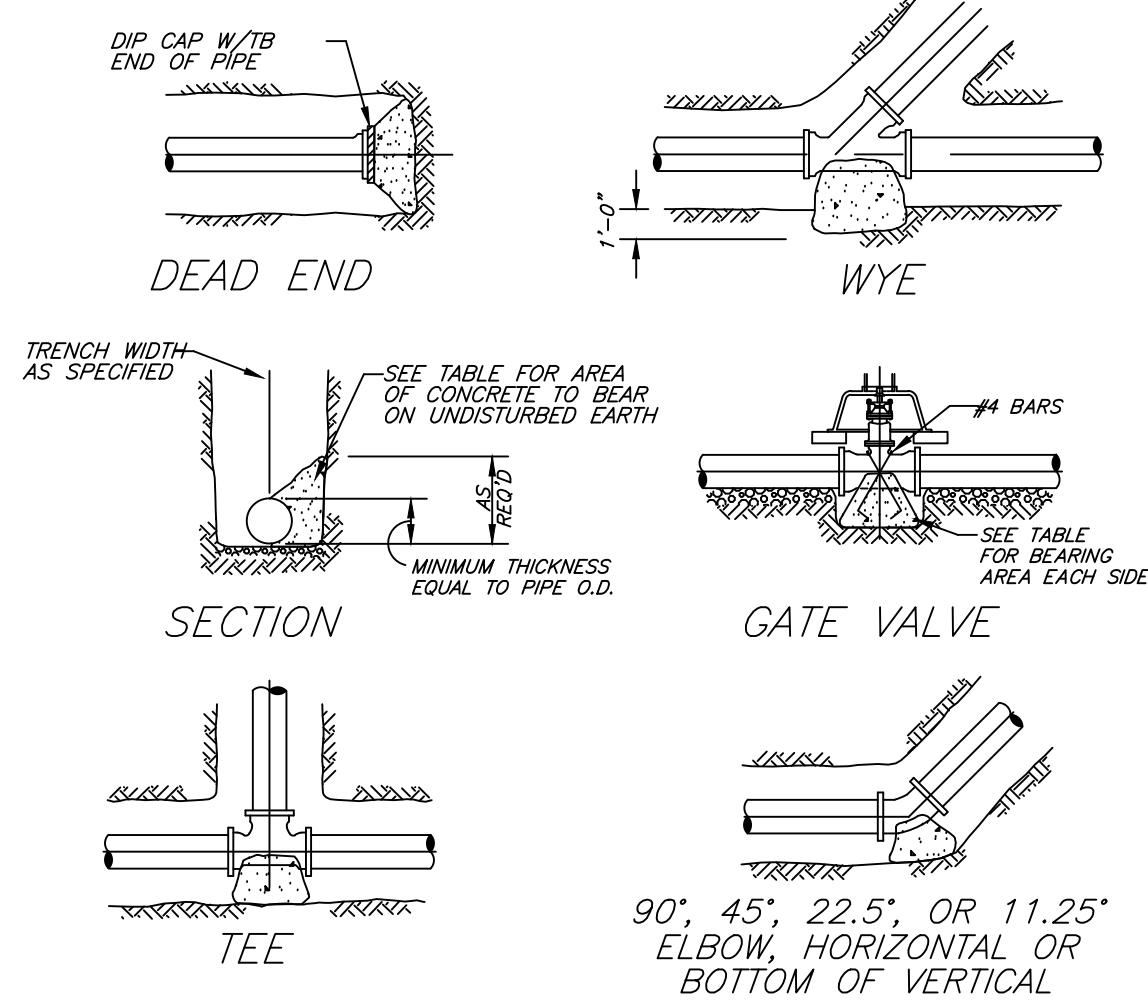


GENERAL NOTES:

- ALL DETAILS ARE SUBJECT TO CHANGE BASED UPON CURRENT CONSTRUCTION TECHNIQUES, FIELD CONDITIONS, AND SOIL CONDITIONS.
- CITY OF ASPEN RESERVES THE RIGHT TO CHANGE OR MODIFY THESE DETAILS AT ANY TIME.



Pipe Diameter	STATIC PRESSURE = 150 PSI			STATIC PRESSURE = 200 PSI		
	BENDS	TEE OR DEAD END	BENDS	TEE OR DEAD END	BENDS	TEE OR DEAD END
11-1/4"	22-1/2° 45° 90°		11-1/4"	22-1/2° 45° 90°		
6"	1.00 1.25 2.50	4.50	3.25	1.00 1.50 3.00	5.50	4.00
8"	1.00 2.25 4.25	8.00	5.50	1.25 2.75 5.00	9.50	6.75
10"	1.75 3.25 6.50	8.50	2.00	4.00 7.75	14.25	10.00
12"	2.25 4.75 9.00	16.75	12.00	2.75 5.50	11.00 20.00	14.00
14"	2.75 5.25 10.00	19.00	16.00	3.25 6.50	12.75 23.50	19.00
16"	3.50 7.00 13.50	24.75	20.50	4.25 8.50	16.50 30.50	24.75
18"	4.50 8.50 17.00	31.00	26.00	5.25 10.50	20.75 38.00	31.00

(IN SQUARE FEET)

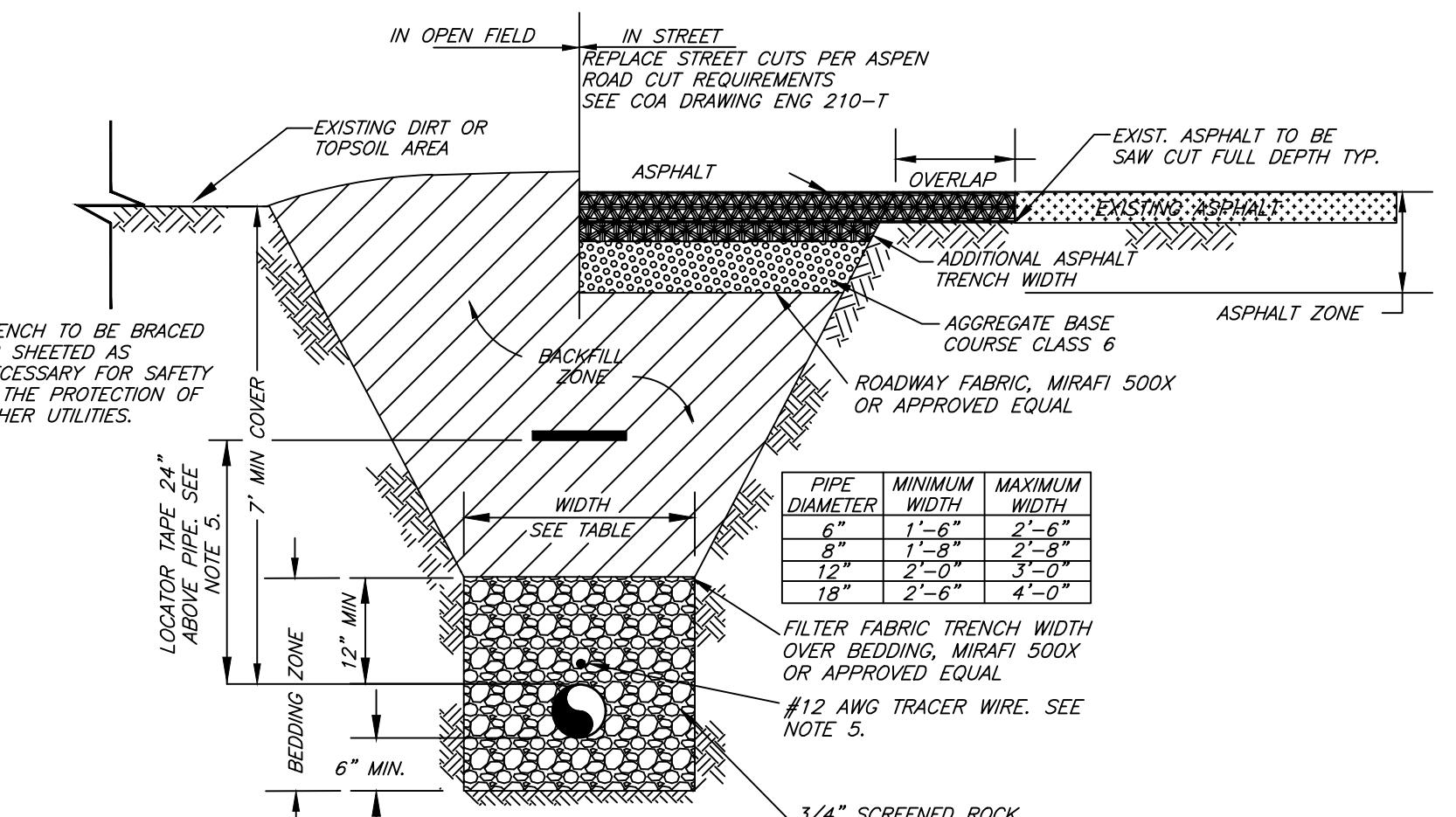
NOTES:

- ALL BENDS AND FITTINGS SHALL HAVE MEGA LUGS IN ADDITION TO CONCRETE THRUST BLOCKS, OR TIE RODS.
- ALL DOUBLE BENDS SHALL HAVE MEGA LUGS BETWEEN EACH BEND AND THE CONNECTING SPOOL AND ON AN 18 FOOT LENGTH OF PIPE EACH WAY FROM THE DOUBLE BEND.
- PROVIDE POLY-WRAP "BOND-BREAKER" BETWEEN DIP AND CONCRETE.
- ALL BENDS, FITTINGS, AND RESTRAINT SYSTEMS SHALL MEET AWWA STANDARDS.

Pipe Diameter	STATIC PRESSURE = 250 PSI			STATIC PRESSURE = 300 PSI		
	BENDS	TEE OR DEAD END	BENDS	TEE OR DEAD END	BENDS	TEE OR DEAD END
11-1/4"	22-1/2° 45° 90°		11-1/4"	22-1/2° 45° 90°		
6"	1.00 1.75 3.50	6.50	4.50	1.50 2.00 4.00	7.25	5.00
8"	1.50 3.00 6.00	11.00	7.75	1.75 3.50	6.75	12.50
10"	2.25 4.50 9.00	16.50	11.75	2.75 5.25	10.25	18.75
12"	3.25 6.50 12.50	23.25	16.50	3.75 7.50	14.50	26.50
14"	4.00 7.75 15.00	28.00	22.00	4.50 9.00	17.50	32.25
16"	5.00 10.00 19.50	36.00	28.50	5.75 11.50	22.50	41.50
18"	6.25 12.50 24.50	45.25	36.00	7.25 14.50	28.25	52.25

(IN SQUARE FEET)

**A. CONCRETE THRUST RESTRAINT DETAILS**  
SCALE: NOT TO SCALE



- ASPHALT ZONE SHALL BE INSTALLED PER CITY OF ASPEN CONSTRUCTION AND EXCAVATION STANDARDS AND RIGHT OF WAY PERMIT.
- BACKFILL ZONE SHALL BE INSTALLED PER CITY OF ASPEN CONSTRUCTION AND EXCAVATION STANDARDS AND RIGHT OF WAY PERMITS.
- BEDDING ZONE SHALL BE:  $\frac{3}{4}$ " CRUSHED ANGULAR SCREENED ROCK FREE OF FINES.
- COMPACTION REQUIREMENTS SHALL FOLLOW THE CITY OF ASPEN ENGINEERING STANDARDS.
- REFER TO WATER DISTRIBUTION STANDARDS FOR FURTHER DETAILS ON TRACER WIRE AND LOCATOR TAPE.

**B. WATER MAIN TRENCH CROSS SECTION**  
SCALE: NOT TO SCALE

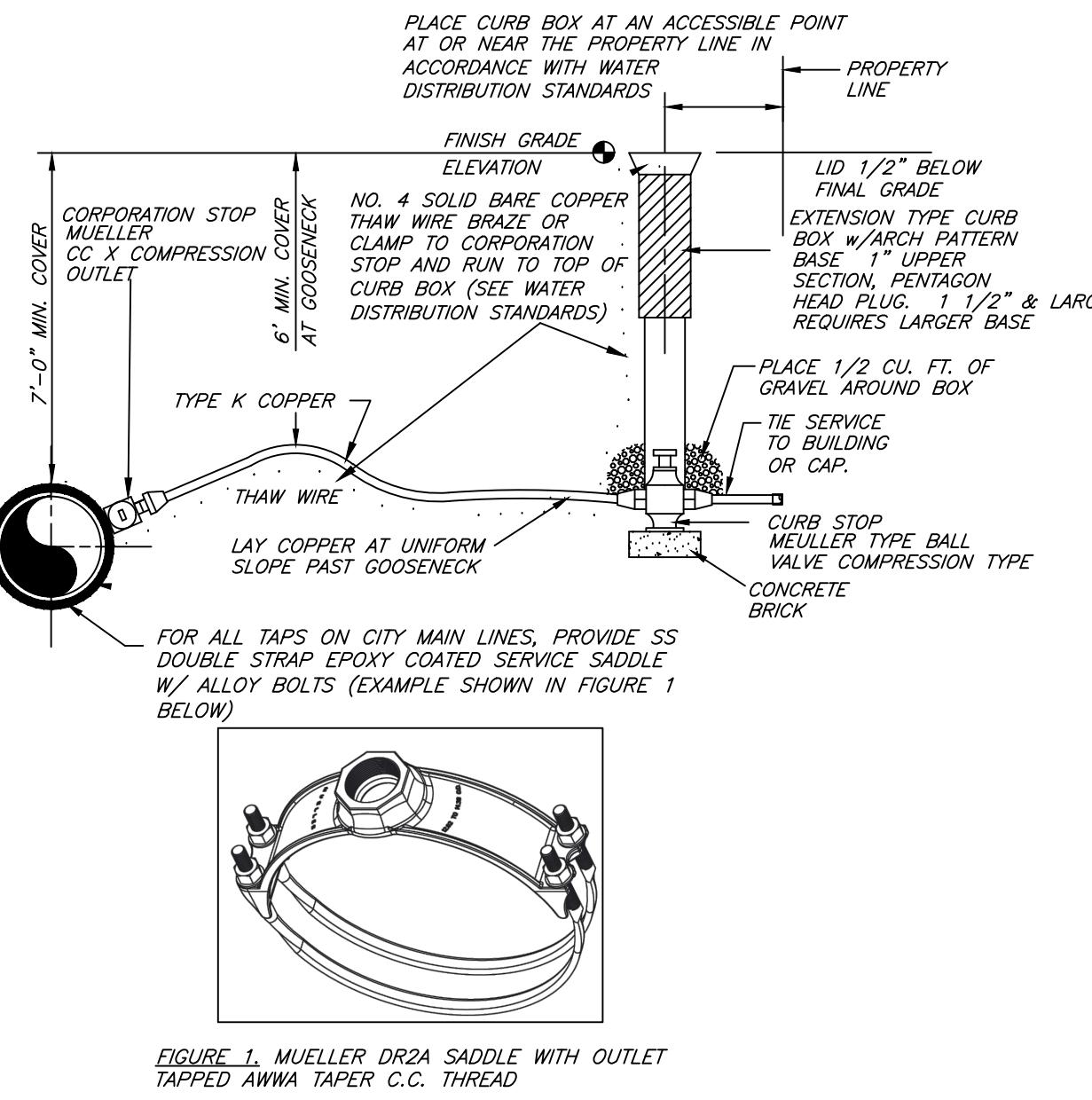
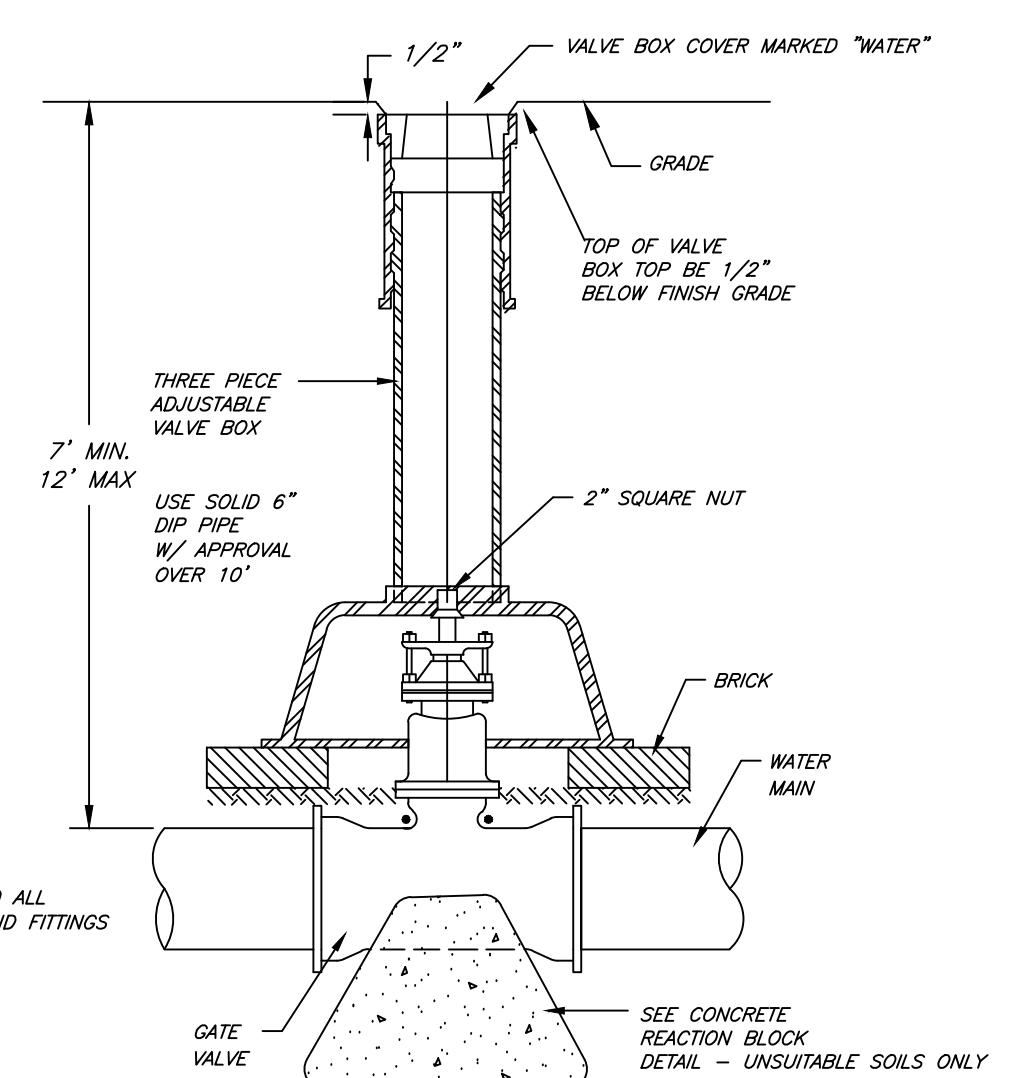


FIGURE 1. MUELLER DR2A SADDLE WITH OUTLET TAPPED AWWA TAPER C.C. THREAD

NOTES:

- TRACER WIRE NOT SHOWN. HOWEVER, ALL WATER SERVICE LINES SHALL INCLUDE TRACER WIRE IN ACCORDANCE WITH THE WATER DISTRIBUTION STANDARDS.

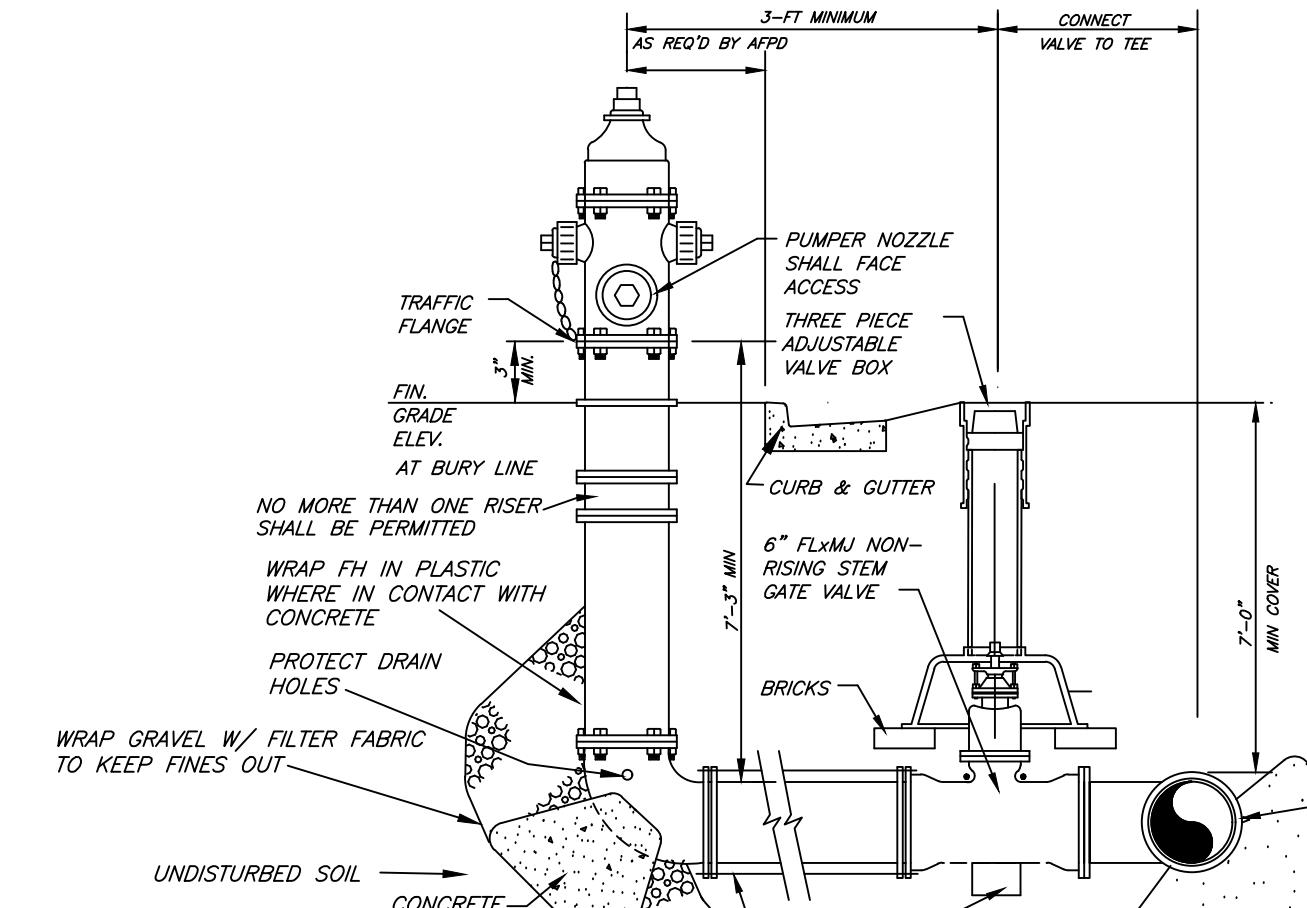
**C. TYP. WATER SERVICE DETAIL (2" AND SMALLER)**  
SCALE: NOT TO SCALE



NOTES:

- ALL VALVES TO BE MJ x MJ MUELLER VALVES OR PRE-APPROVED EQUIVALENT WITH MEGA LUGS.
- CONFLICT WITH CONCRETE AREAS SHALL BE RELOCATED AT THE CONTRACTOR'S EXPENSE.
- ALL JOINTS AND FITTINGS TO BE CAD WELDED. REFER TO WATER DISTRIBUTION STANDARDS FOR FURTHER INFORMATION.
- TRACER WIRE NOT SHOWN. HOWEVER, ALL NEW GATE VALVE INSTALLATIONS SHALL INCLUDE TRACER WIRE IN ACCORDANCE WITH THE WATER DISTRIBUTION STANDARDS.

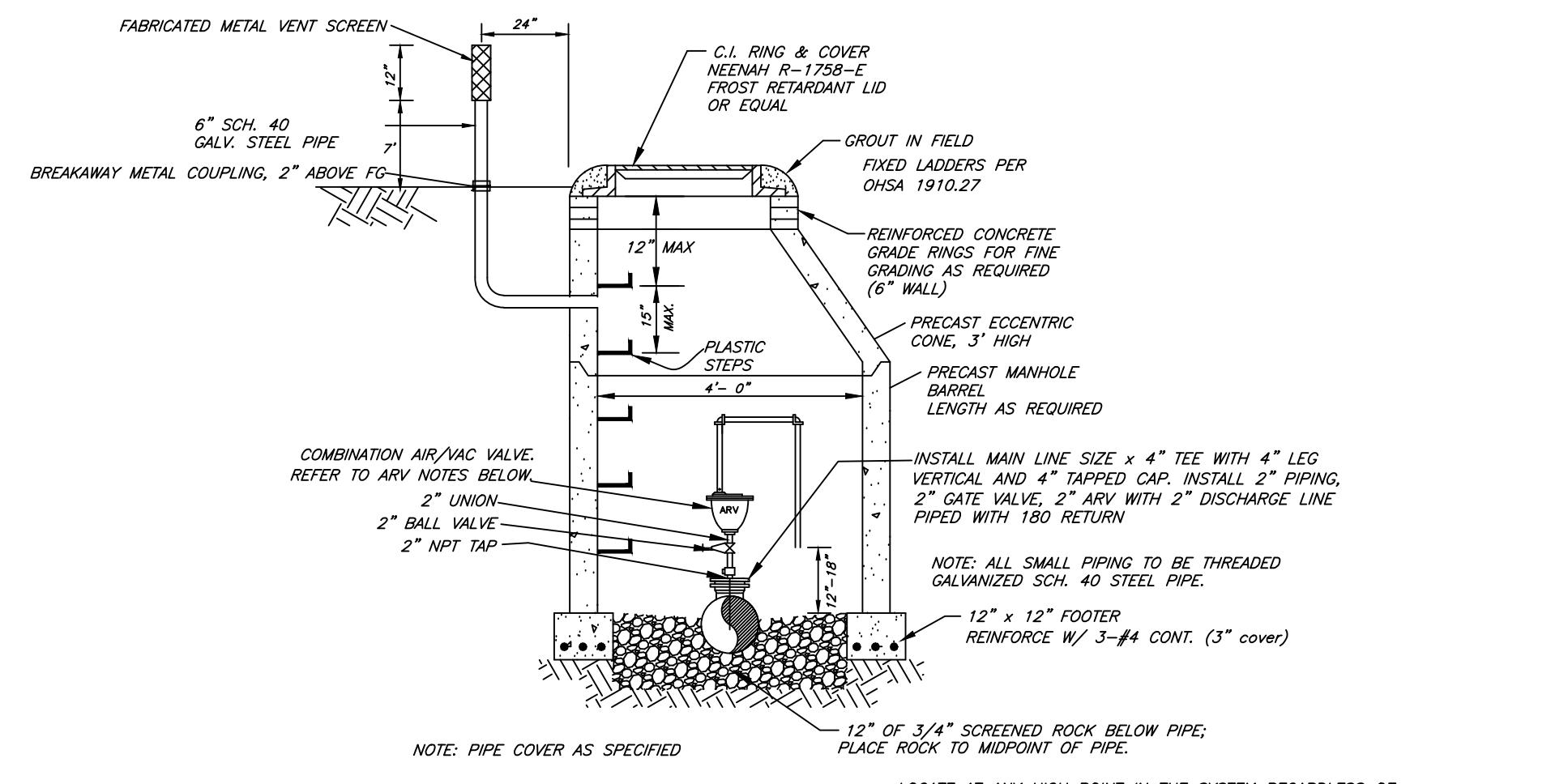
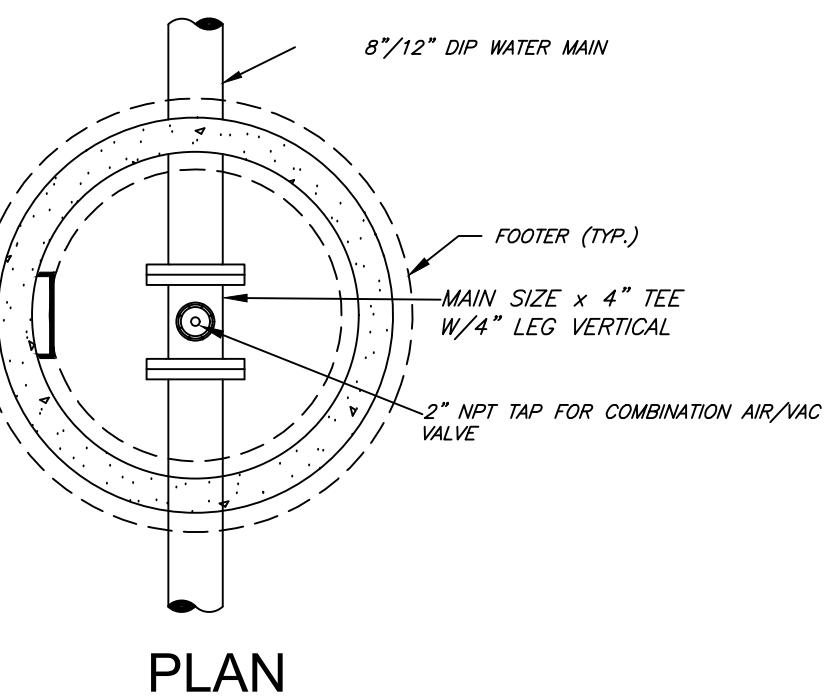
**D. TYP. GATE VALVE DETAIL**  
SCALE: NOT TO SCALE



NOTES:

- ALL FITTINGS FROM MAIN TO HYDRANT SHALL USE MEGA LUGS (TIE-RODS AT ENGINEER'S REQUEST WITH CITY APPROVAL), AND THRUST BLOCKS. TEE TO BE MJ x MJ. GATE VALVE TO BE FL x MJ.
- HYDRANT, VALVE, AND FITTINGS TO BE 250 PSI RATED.
- ALL HYDRANT LEAD PIPING TO BE 6" DIAMETER.
- HYDRANT LOCATION TO BE PER ASPEN FIRE PROTECTION DISTRICT REQUIREMENTS FOR DISTANCE FROM BACK OF CURB OR EDGE OF SHOULDER TO HYDRANT.
- CAD WELD ALL JOINTS AND FITTINGS.
- SWIVEL TEE MAY BE USED.
- TRACER WIRE NOT SHOWN. HOWEVER, TRACER WIRE SHALL BE INSTALLED ON NEW FIRE HYDRANT ASSEMBLIES IN ACCORDANCE WITH WATER DISTRIBUTION STANDARDS.

**E. FIRE HYDRANT ASSEMBLY INSTALLATION DETAIL**  
SCALE: NOT TO SCALE



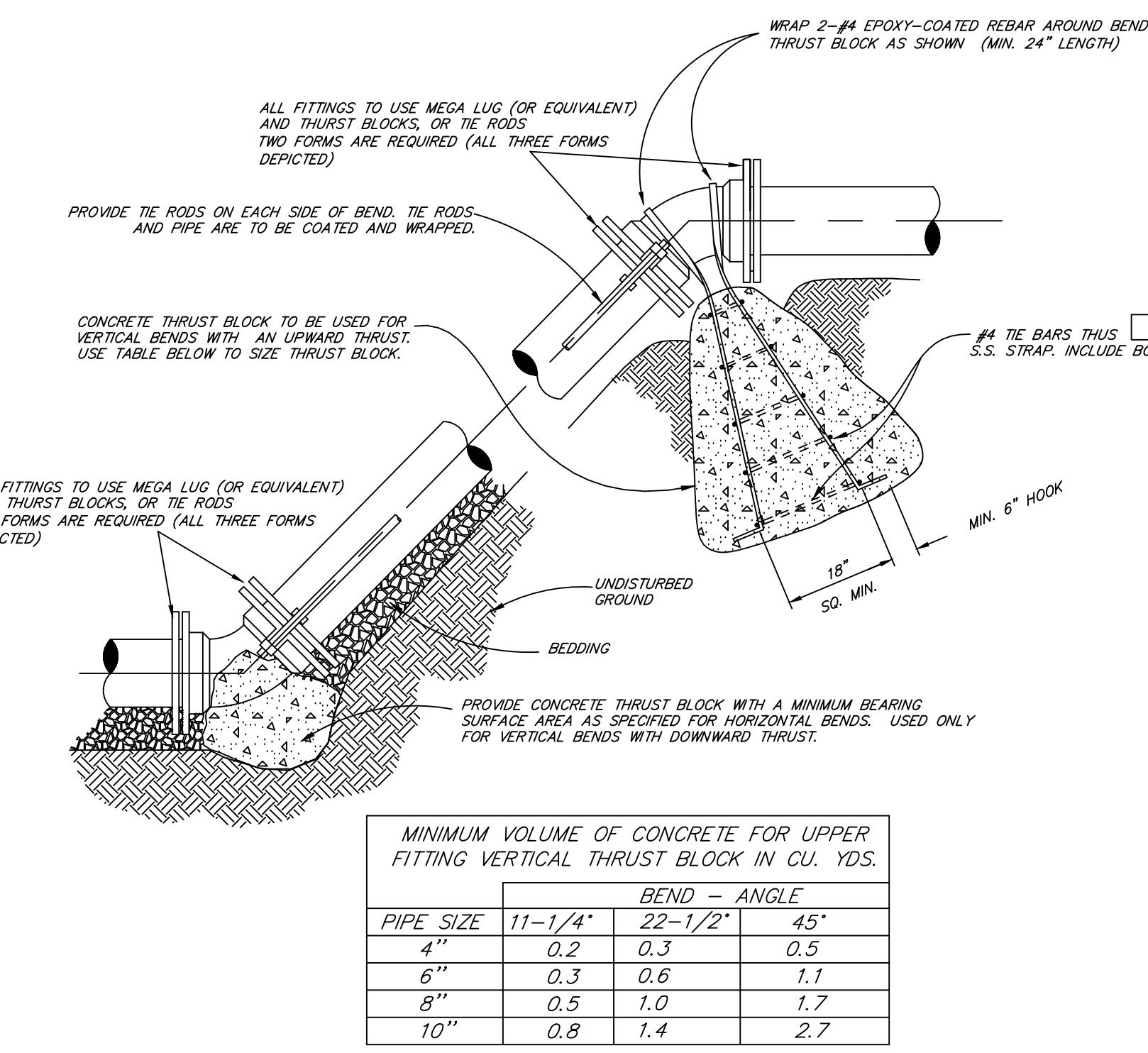
NOTES:

- USE RUB-R-NEK PREFORMED GASKET (2 LAYERS) OR GROUT IN PLACE BETWEEN ALL BOTTOM SECTION, BARREL SECTIONS, CONCRETE GRADE RINGS, AND TOP CASTINGS.
- BACKFILL WITHIN 24" OF MANHOLE: CLASS 2 AGGREGATE OR NATIVE MATERIALS WITH LESS THAN 3" SIZE.
- PRECAST RINGS OR METAL RISER RING COURSE SHALL BE UTILIZED WHERE REQUIRED WITH 2 COURSES MINIMUM AND 12 COURSES MAXIMUM (2 MINIMUM, 12" MAXIMUM HEIGHT).
- GRADE ADJUSTMENT AS FOLLOWS: GREATER THAN, OR EQUAL TO, 1 FOOT, CONCRETE BARREL SECTIONS; LESS THAN 1 FOOT, CONCRETE OR METAL GRADE RINGS.
- FINISH GRADE AS FOLLOWS: WITH ASPHALT OR CONCRETE PAVEMENTS FLUSH; WITH BASE COURSE SURFACE OR DIRT/TOPSOIL -3" BELOW GRADE.

ARV NOTES:

- AIR/VAC VALVE TAP, BALL VALVE AND FITTINGS SHALL BE SIZED ACCORDING TO THE SPECIFIC APPLICATION REQUIREMENTS.

**F. COMBINATION AIR VALVE MANHOLE DETAIL**  
SCALE: NOT TO SCALE



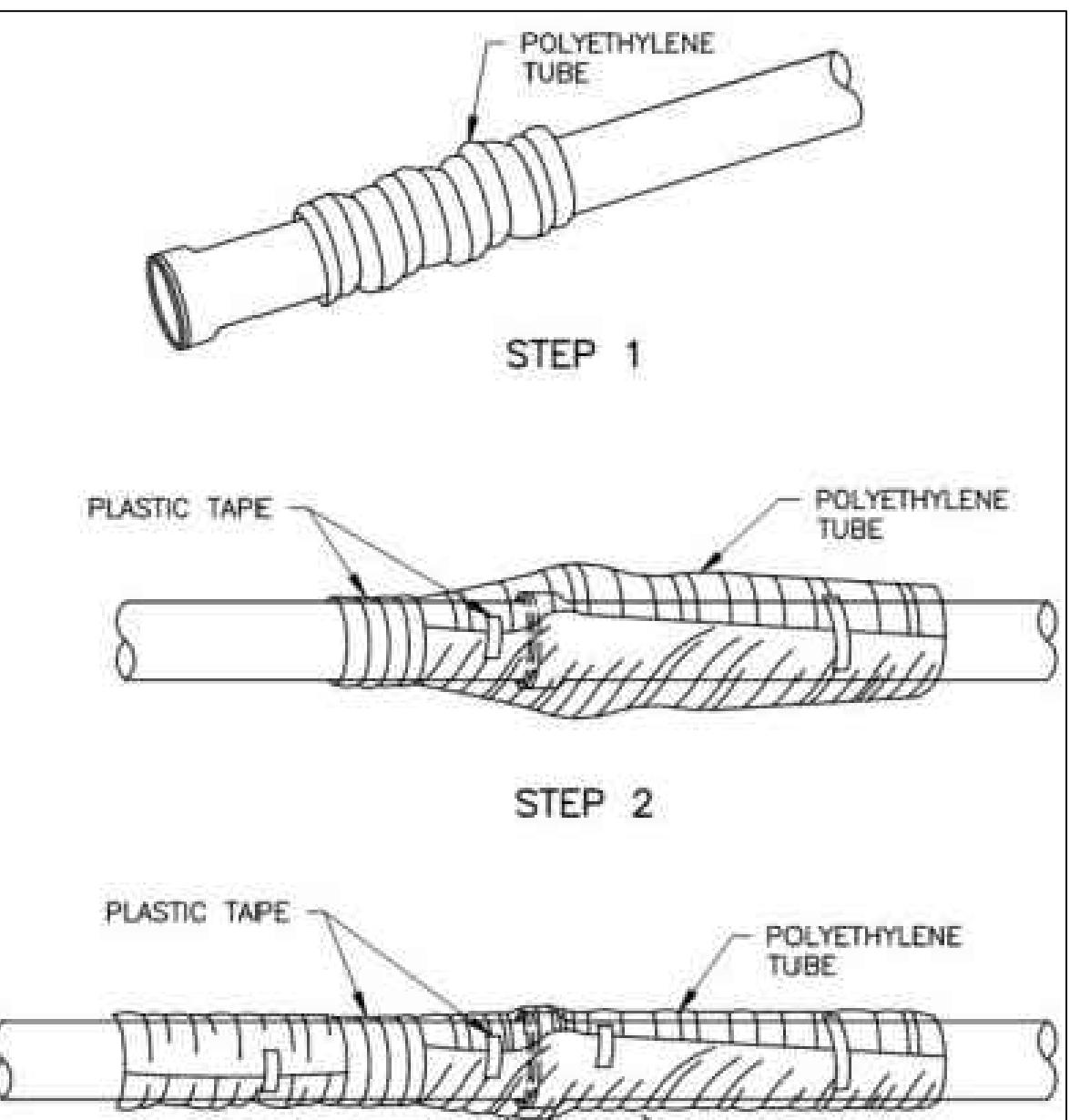
# G. VERTICAL THRUST BLOCK DETAIL

## SCALE: NOT TO SCALE

## FIELD INSTALLATION NOTES FOR POLYWRAP

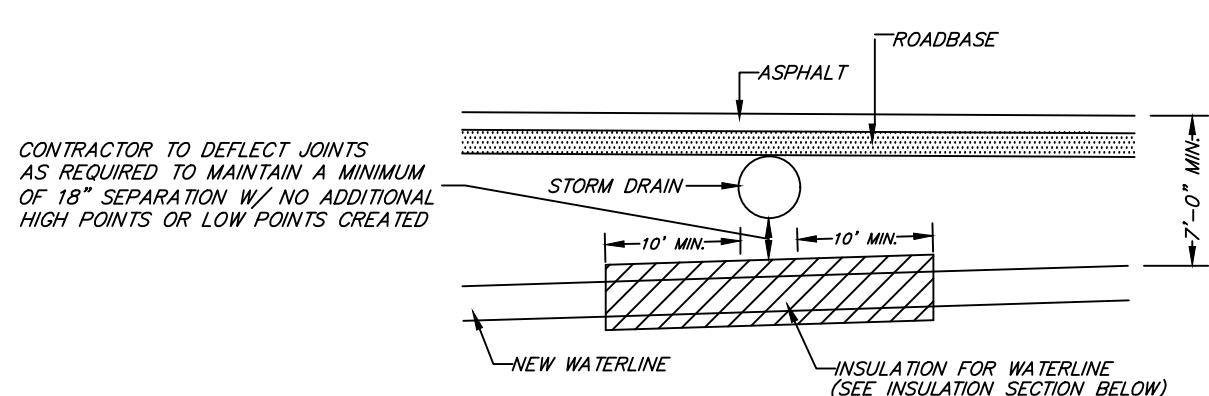
WHERE SPECIFICALLY REQUIRED FOR SOIL APPLICATIONS:

1. PLACE TUBE OF POLYETHYLENE MATERIAL ON PIPE PRIOR TO LOWERING IT INTO PLACE.
2. PULL THE TUBE OVER THE LENGTH OF THE PIPE. TAPE TUBE TO PIPE AT JOINT. FOLD MATERIAL AROUND THE ADJACENT SPIGOT END AND WRAP WITH TAPE TO HOLD THE PLASTIC TUBE IN PLACE.
3. OVERLAP FIRST TUBE WITH ADJACENT TUBE AND SECURE WITH PLASTIC ADHESIVE TAPE. THE POLYETHYLENE TUBE MATERIAL COVERING THE PIPE SHALL BE LOOSE. EXCELL MATERIAL SHALL BE NEATLY DRAWN UP AROUND THE PIPE BARREL, FOLDED ON TOP OF PIPE AND TAPE IN PLACE.

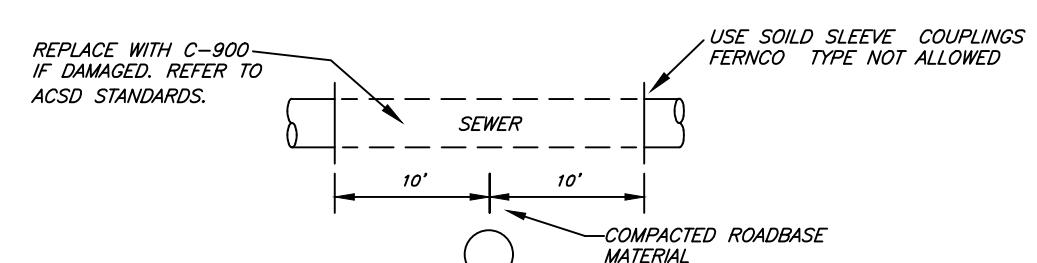


# I. POLYETHYLENE WRAP DETAIL

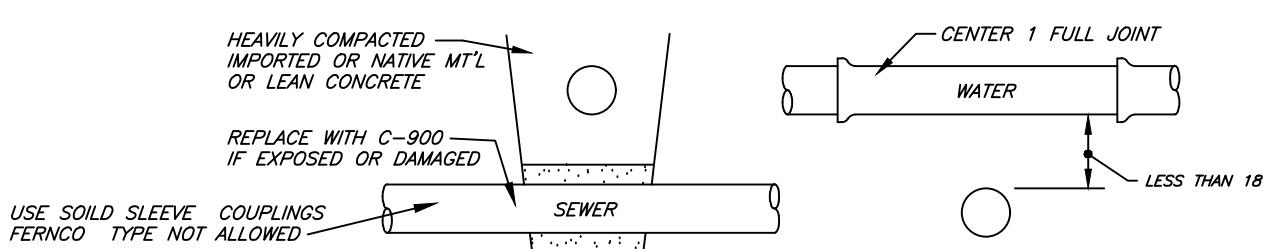
## SCALE: NOT TO SCALE



## SECTION: WATERLINE/CULVERT CROSSING



## CONDITION #1: NEW WATER MAIN BELOW EX. SEWER MAIN



NOTES:

1. SEWER LINE TO BE CENTERED ONE FULL JOINT ON WATER/SEWER CROSSING FOR PERPENDICULAR CROSSINGS.
2. FOR SKEW CROSSINGS, PROVIDE FULL JOINTS UNTIL HORIZONTAL SEPARATION EXCEEDS 10-FT. REFER TO ACSD SPECIFICATIONS FOR ADDITIONAL INFORMATION ON WATER AND SEWER CROSSINGS.

## CONDITION #2: NEW WATER LESS THAN 18" ABOVE EX. SEWER MAIN

# H. WATER/SEWER CROSSING DETAIL

## SCALE: NOT TO SCALE

Q.	DATE	REVISIONS					
		BY	Water	Distr.	Standard	Details	ECL
1	03.08.23	Water	Distr.	Standard	Details	ELM	
2	05.07.24	Water	Distr.	Standard	Details		

DATE: Mar 2023  
SCALE: 1" = 20'

# SHEET STD S-2