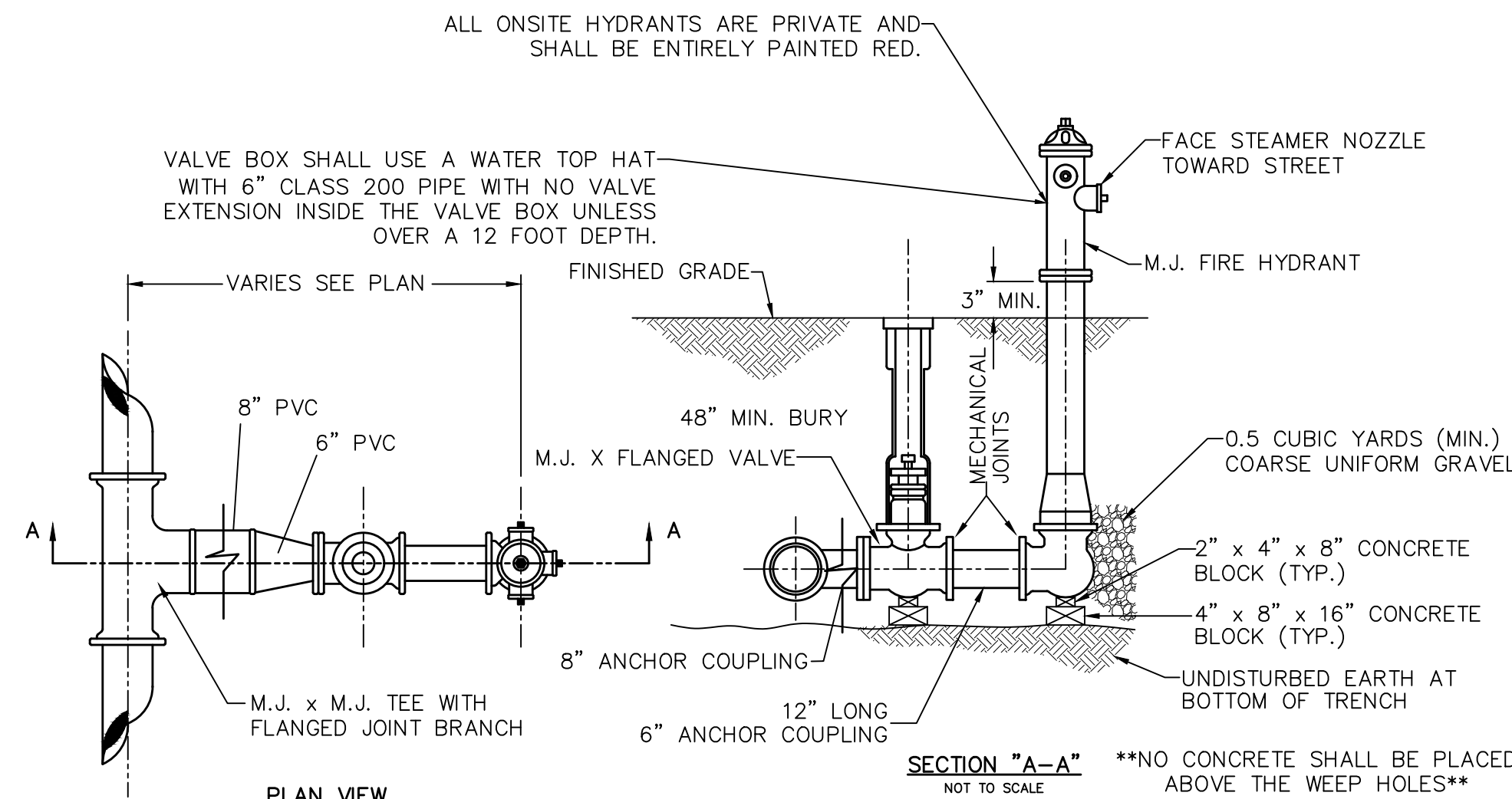


WATER NOTES

- ALL WATER MAINS SHALL BE PRIVATE.
- A MINIMUM OF 42" OF COVER SHALL BE ATTAINED FROM THE TOP OF THE PIPING TO THE PROPOSED FINISH SURFACE/GRADE.
- ALL PRIVATE WATER MAINS SHALL BE 8" C-900 PVC PIPE WITH A MINIMUM PRESSURE RATING OF 200 PSI
- ALL 6" PIPING TO FIRE HYDRANTS IS TO BE DUCTILE IRON PIPING AND BE RESTRAINED PER FIRE CODES WITH A MINIMUM PRESSURE RATING OF 350 PSI.
- WATER FITTINGS, TEES, ETC. SHALL HAVE CONCRETE BLOCKING. ALL 90° ELBOWS SHALL HAVE MEGA LUGS AND CONCRETE BLOCKING.
- WATER BENDS ARE TO BE MADE WITH MECHANICAL JOINT FITTINGS USING MEGA LUGS.
- WHEN CONCRETE BLOCKING IS REQUIRED, THE FITTINGS MUST BE WRAPPED WITH PLASTIC TO PREVENT CONCRETE FROM GETTING ON THE NUTS AND BOLTS.
- ALL FITTINGS AND BENDS ARE TO BE BLOCKED FROM THE GROUND WITH CONCRETE CINDER BLOCKS (NO WOOD IS TO BE USED).
- ALL WATER MAINS INSTALLED MUST HAVE A COATED SOLID CORE, 12-GAGE INSULATED TRACER WIRE, TAPED TO THE TOP OF THE MAIN. ALL WIRE MUST BE RUN UP THE OUTSIDE OF THE VALVE BOX AND COME UP INSIDE THE VALVE BOX UNDER THE WATER LID.
- USE 3M WATER-PROOF SPLICE KITS FOR ALL SPLICING OF TRACER WIRE.
- THRUST BLOCKS SHALL CONSIST OF POURED IN PLACE CONCRETE AND SHALL BE PLACED AT ALL CHANGES IN DIRECTION, TEES AND ENDS OF WATER LINES OVER 3 INCHES IN DIAMETER, EXCEPT FOR RODDED HYDRANT LINES.
- ALL WATER LINES SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY SANITARY SEWER OR MANHOLE. WHENEVER WATER LINES MUST CROSS SANITARY SEWERS, LATERALS OR STORM SEWERS, DRAINS, THE WATER LINES SHALL BE LAID AT SUCH AN ELEVATION THAT A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE OUTSIDE OF THE WATER LINE AND THE OUTSIDE OF THE SEWER WHERE THE WATER LINE CROSSES THE SEWER LINE. THIS SHALL OCCUR WHETHER THE WATER LINE IS ABOVE OR BELOW THE SEWER LINE. A FULL LENGTH OF WATER PIPE SHALL BE CENTERED OVER THE SEWER LINE TO BE CROSSED SO THAT THE JOINTS WILL BE EQUALLY DISTANT FROM THE SEWER CROSSING. THIS VERTICAL SEPARATION SHALL BE MAINTAINED FOR THAT PORTION OF THE WATER LINE LOCATED WITHIN 10 FEET, HORIZONTALLY, OF ANY SEWER OR DRAIN IT CROSSES.
- ALL WATER LINES TO BE TESTED AND DISINFECTED IN ACCORDANCE WITH THE CURRENT MISSOURI STATE DIVISION OF HEALTH AND MISSOURI DEPARTMENT OF NATURAL RESOURCES AND ANY CITY CODES THAT REQUIRE SUCH.
- FIRE HYDRANTS AND VALVE MUST BE MUELLER, AFC, OR KENNEDY.
- FIRE HYDRANTS SHALL HAVE A 4 FOOT BURY WITH NO CONCRETE ABOVE THE WEEP HOLES.
- ALL WATER METERS TO BE PLACED IN GRASS AREAS ONLY.

O'FALLON FIRE NOTES

- THE MINIMUM REQUIRED FIRE FLOW FROM THE FIRE HYDRANTS SHALL BE IN ACCORDANCE WITH TABLES B105.2 AND B105.1(2) OF THE 2015 INTERNATIONAL BUILDING CODE. FIRE HYDRANTS SHALL COMPLY WITH NFPA 24 CHAPTER 7 (2013 EDITION).
- EACH FIRE HYDRANT SHALL HAVE NOT LESS THAN TWO 2-1/2" OUTLETS AND ONE 4-1/2" OUTLET, A 5-1/4" VALVE, A 6" BARREL AND SHALL BE OF THE BREAKAWAY DESIGN, FROST FREE WITH CHAIN, LEFT HAND OPEN DESIGN AND HAVE NATIONAL STANDARD THREADS.
- IN SETTING HYDRANTS, DUE REGARD SHALL BE GIVEN TO FINAL GRADE LINE. THE CENTER OF A HOSE NOZZLE OUTLET SHALL NOT BE LESS THAN EIGHTEEN (18) INCHES ABOVE GRADE AND THE OUTLETS MUST FACE THE STREET OR ACCESS DRIVE.
- PRIVATE HYDRANTS SHALL BE PAINTED ENTIRELY RED (PPG 7-801 BRILLIANT RED, OR EQUAL), IN ACCORDANCE WITH IFC SECTION 507.3.3.
- A PERMIT WILL BE REQUIRED THROUGH THE FIRE DEPARTMENT FOR THE INSTALLATION OF THE PRIVATE FIRE SERVICE MAINS.
- UNDERGROUND PIPING FOR PRIVATE FIRE SERVICE MAINS SHALL COMPLY WITH AWWA STANDARDS.
- ALL TEES, PLUGS, CAPS, BENDS, REDUCERS, VALVES, AND HYDRANT BRANCHES SHALL BE RESTRAINED AGAINST MOVEMENT BY USING THRUST BLOCKS IN ACCORDANCE WITH SECTION 10.8.2 OF RESTRAINED JOINT SYSTEMS IN ACCORDANCE WITH SECTION 10.8.3 OF NFPA 24 2013 EDITION.
- THE FLUSHING AND TESTING OF THE UNDERGROUND PIPING, ETC. FOR PRIVATE FIRE SERVICE MAINS SHALL COMPLY WITH SECTION 10.10.2 OF NFPA 24 2013 EDITION AND SHALL BE WITNESSED BY A REPRESENTATIVE FROM THE FIRE DEPARTMENT.
- WHERE A NON-INDICATING VALVE, SUCH AS AN UNDERGROUND GATE VALVE WITH AN APPROVED ROADWAY BOX IS USED TO CONTROL THE WATER SUPPLY FROM THE PRIVATE FIRE MAIN TO THE BUILDING, A T-WRENCH WILL BE PROVIDED, AND THE VALVE LOCATION WILL BE CLEARLY RECOGNIZABLE.
- EACH FIRE HYDRANT SHALL BE PROVIDED WITH A CONTROL VALVE SUCH THAT THE HYDRANT CAN BE REMOVED FROM SERVICE WITHOUT SHUTTING OFF WATER SUPPLY TO OTHER HYDRANTS OR DOMESTIC USERS. CONTROL VALVES SHALL BE LOCATED WHERE ACCESSIBLE, AND FREE OF OBSTRUCTIONS (NFPA 24, SECTION 6.2.10).
- THERE SHALL BE NO OBSTRUCTIONS, I.E., PLANTINGS, BUSHES, TREES, SIGNS, LIGHT POLES, MAILBOXES, ETC. WITHIN SIX (6) FEET OF ANY FIRE HYDRANT.

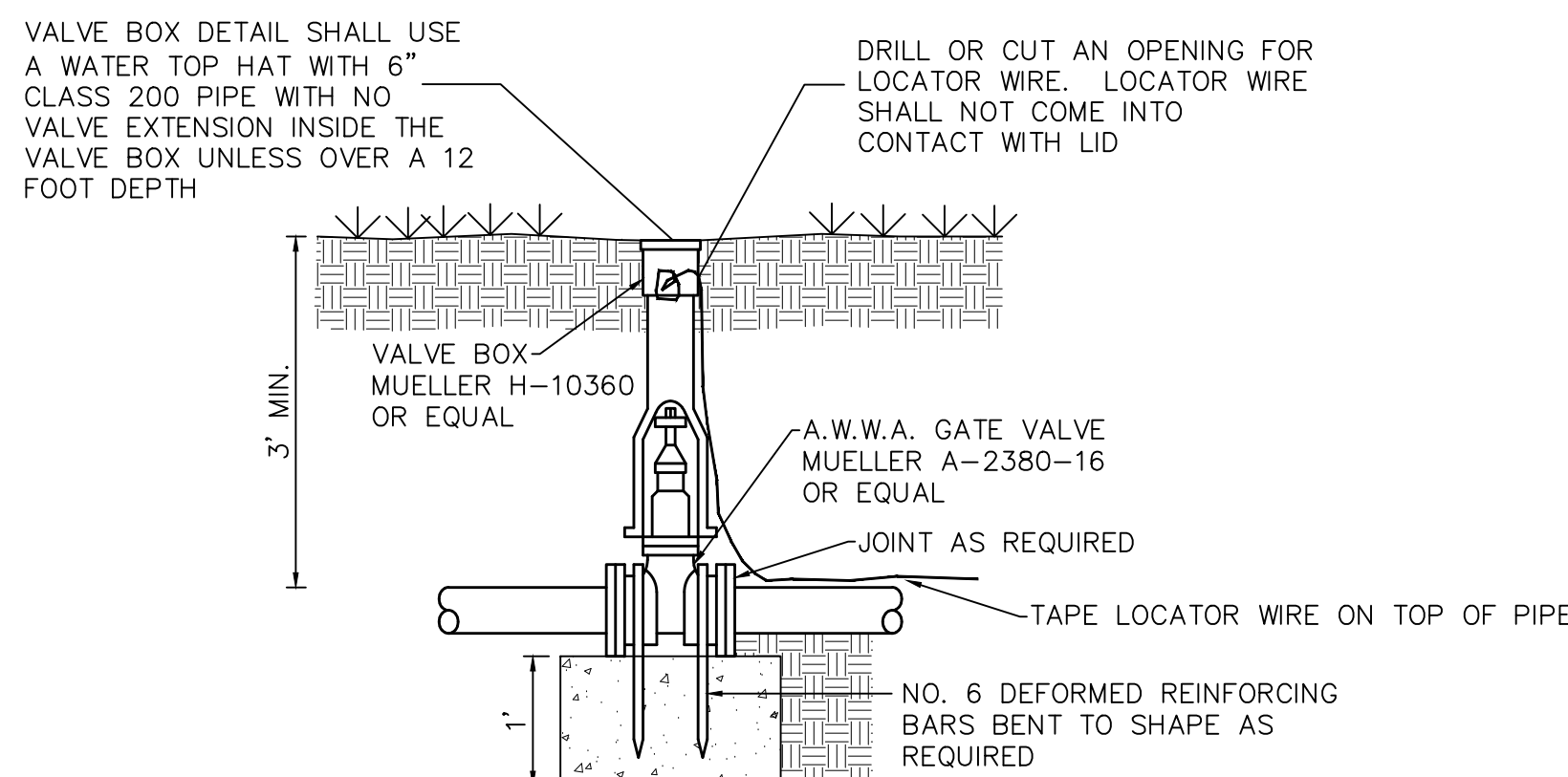
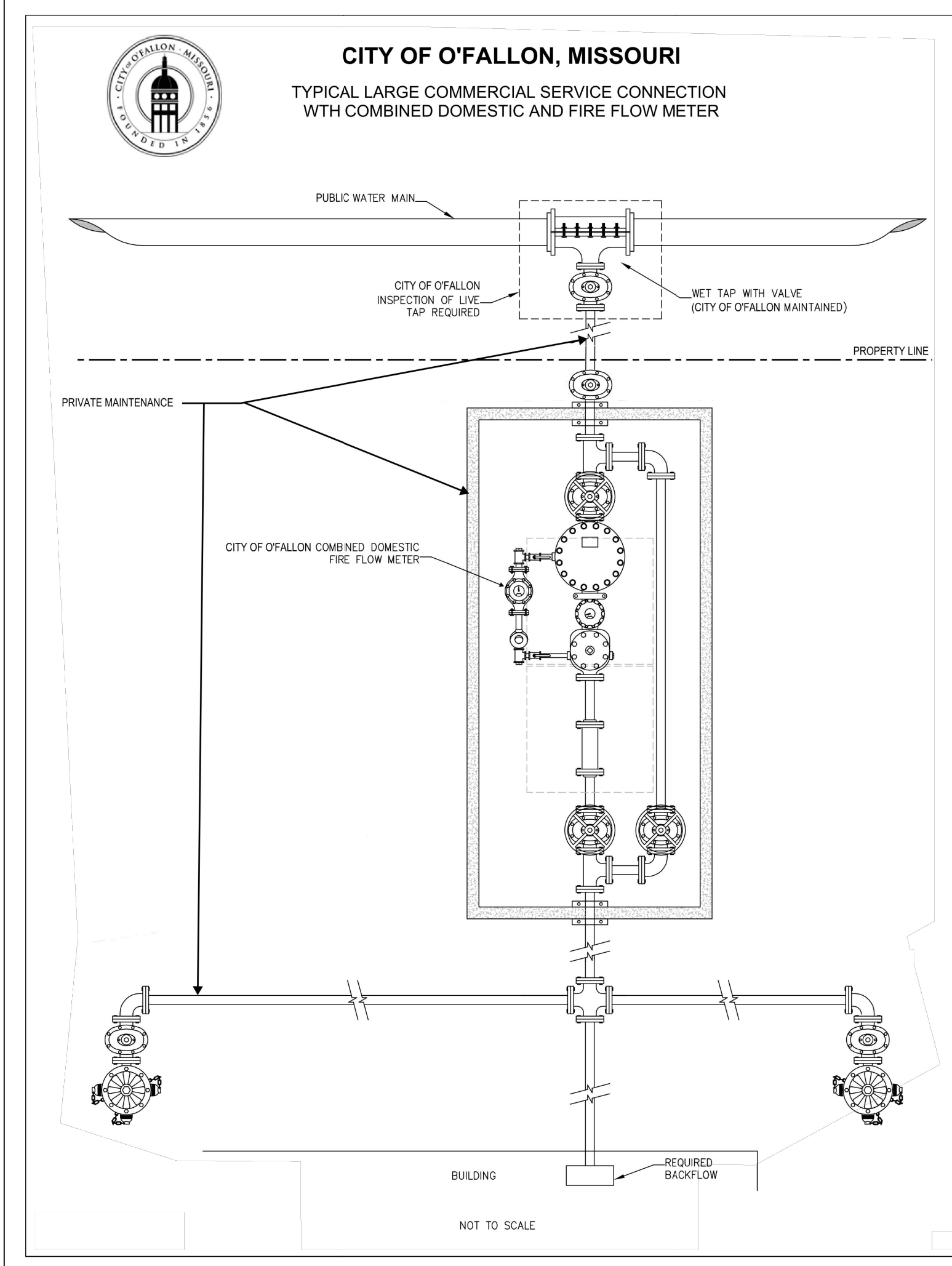


STANDARD FIRE HYDRANT INSTALLATION DETAIL

NOTE: THRUST BLOCKING WILL BE REQUIRED AT ALL FIRE HYDRANTS THRUST BLOCKING TO BE A MINIMUM OF 2 SQUARE FEET (2' x 1') OF BEARING AGAINST UNDISTURBED EARTH.

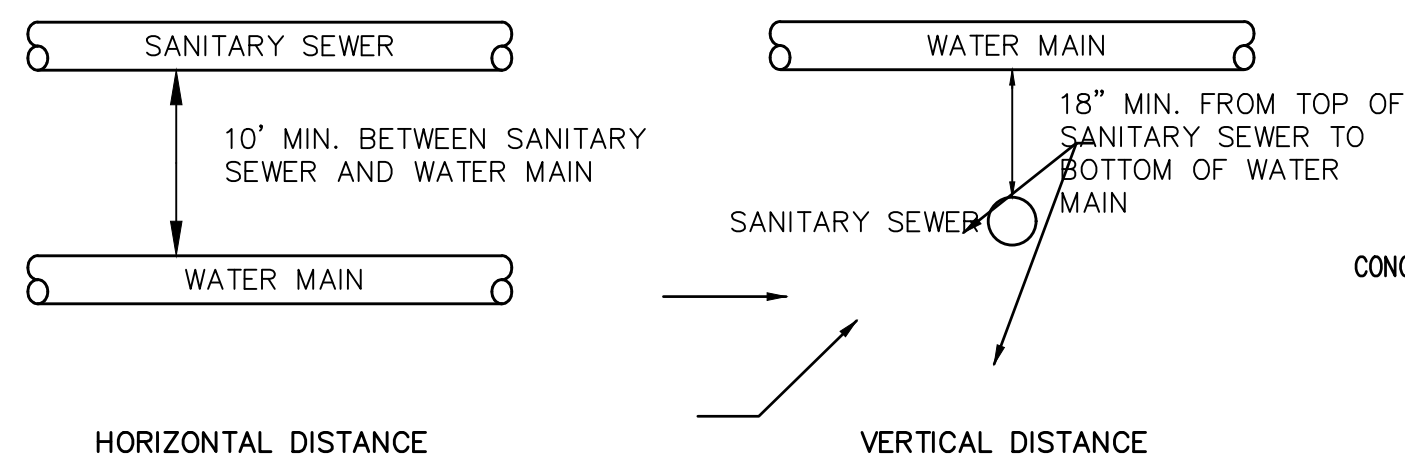
8" AND 6" PIPES BETWEEN VALVE AND FIRE HYDRANT SHALL BE D.I. "ANCHOR LOKS" OR DUCTILE IRON PIPE WITH "MEGALUG" RESTRAINER FOLLOWER GLANDS ON ALL M.J. JOINTS FOR ALL HYDRANT RUNS.

ALL HYDRANT RUNS SHALL HAVE AN 8" PVC PIPE TO A SECTION OF PIPE THAT WILL TRANSITION DOWN TO A 6" PVC PIPE PRIOR TO THE VALVE CONNECTION. FROM THE VALVE TO THE HYDRANT CAN BE 6" PVC. THIS IS IN AN EFFORT TO MEET FIRE FLOWS TO EACH HYDRANT ON-SITE BASED UPON THE WATER FLOW TEST IN THE AREA OF THIS DEVELOPMENT.



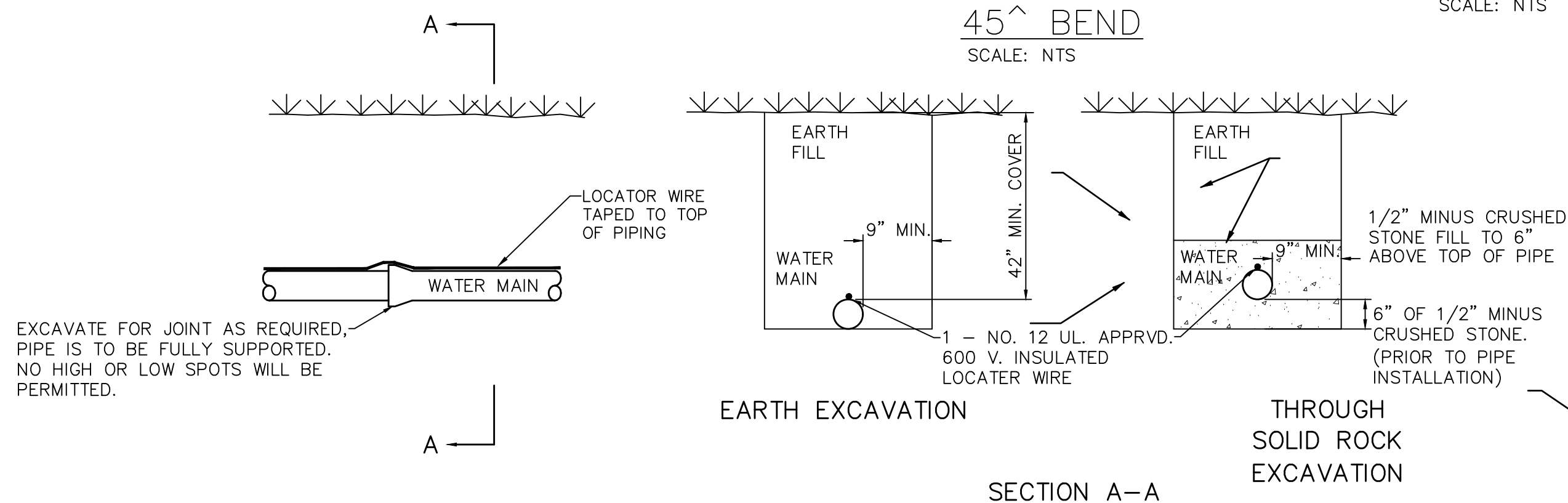
GATE VALVE W/THRUST BLOCK

NOT TO SCALE



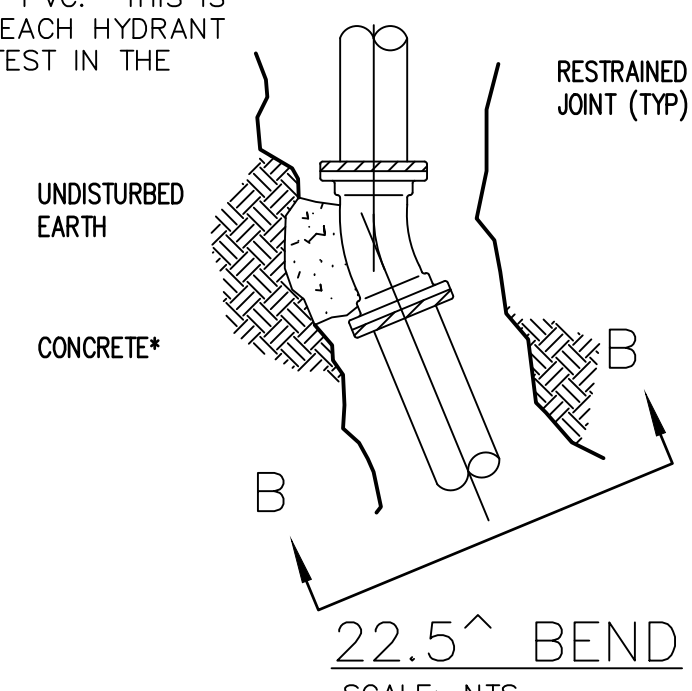
TYPICAL WATER AND SEWER SEPARATION

NOT TO SCALE

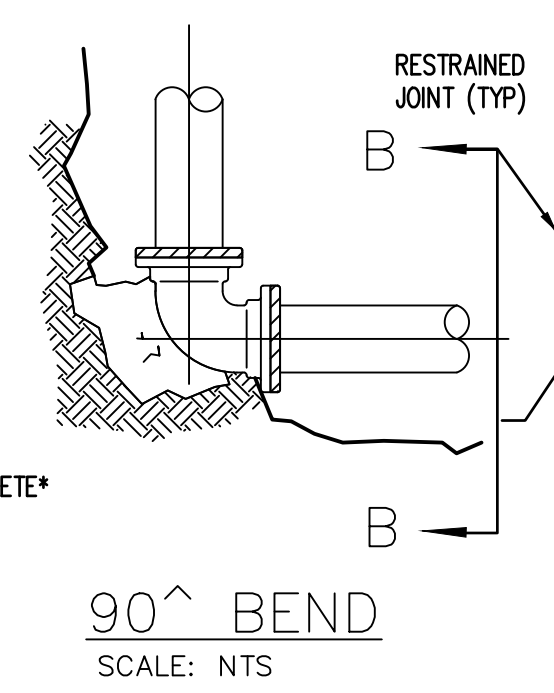


TYPICAL WATER MAIN INSTALLATION DETAILS

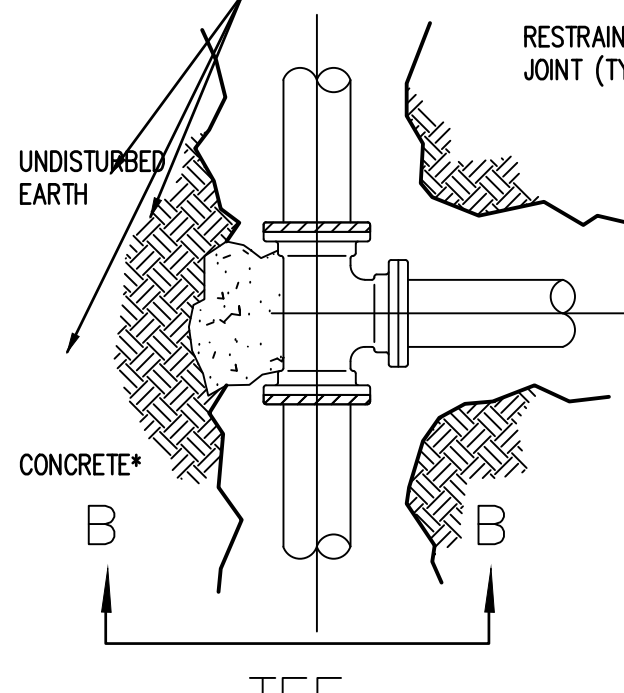
SEE SPECIFICATIONS AND DETAILS FOR BEDDING AND BACKFILL REQUIREMENTS FOR WATER MAINS. NOT TO SCALE



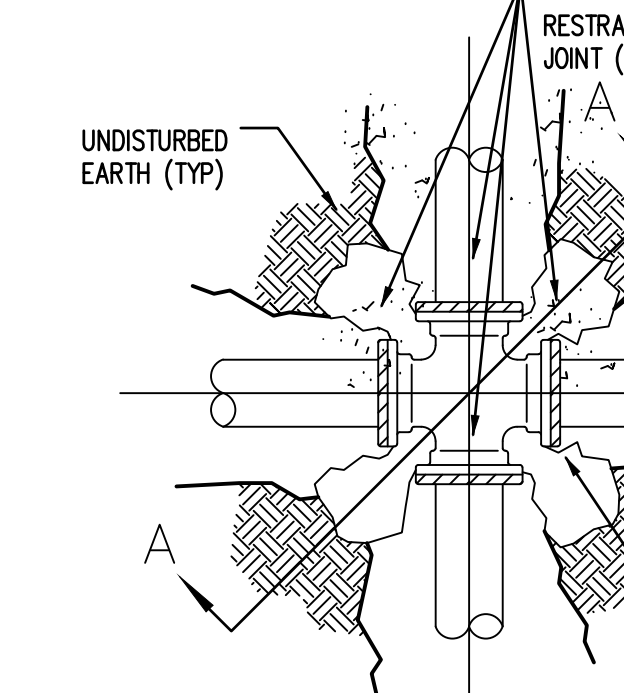
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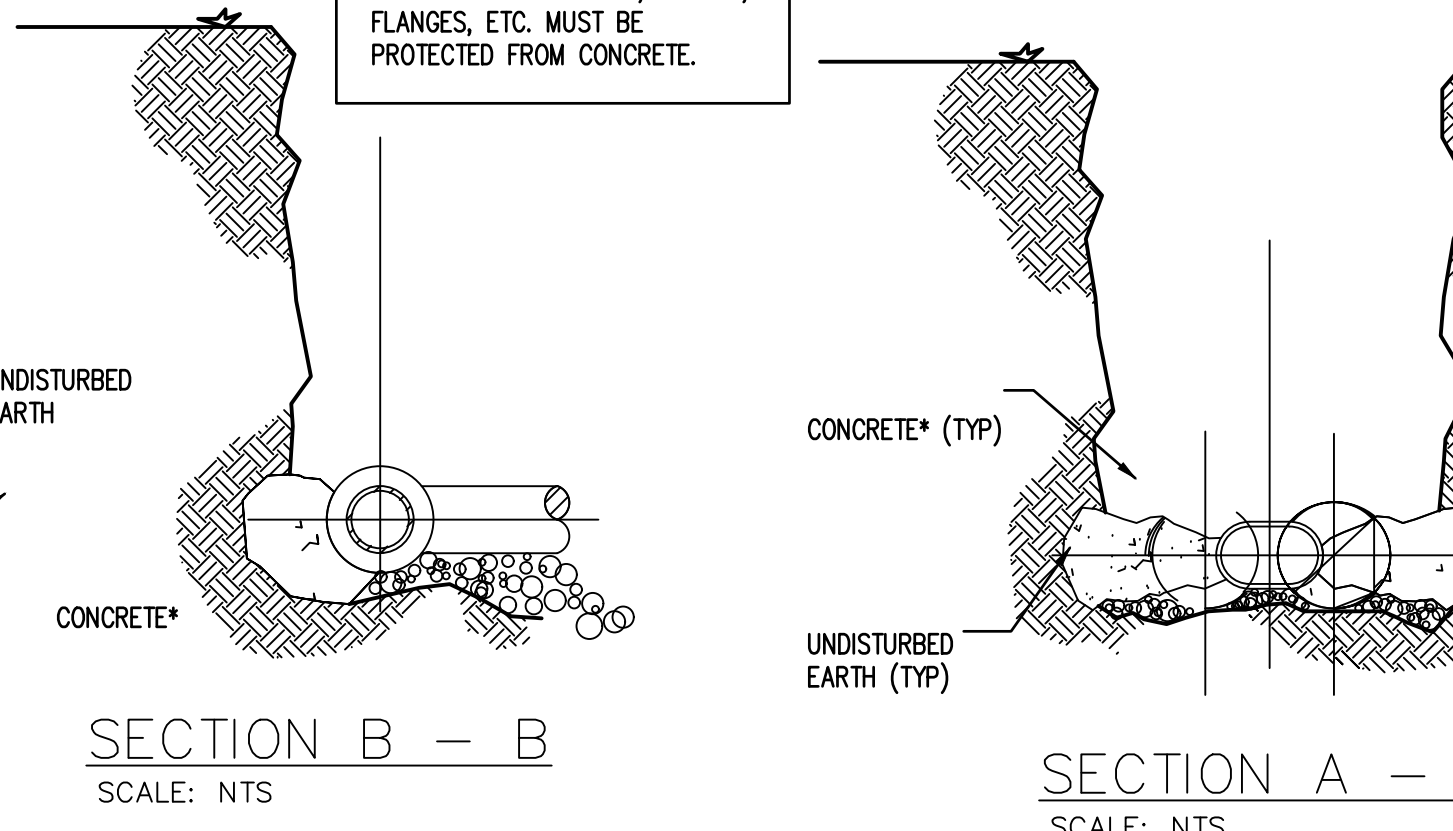


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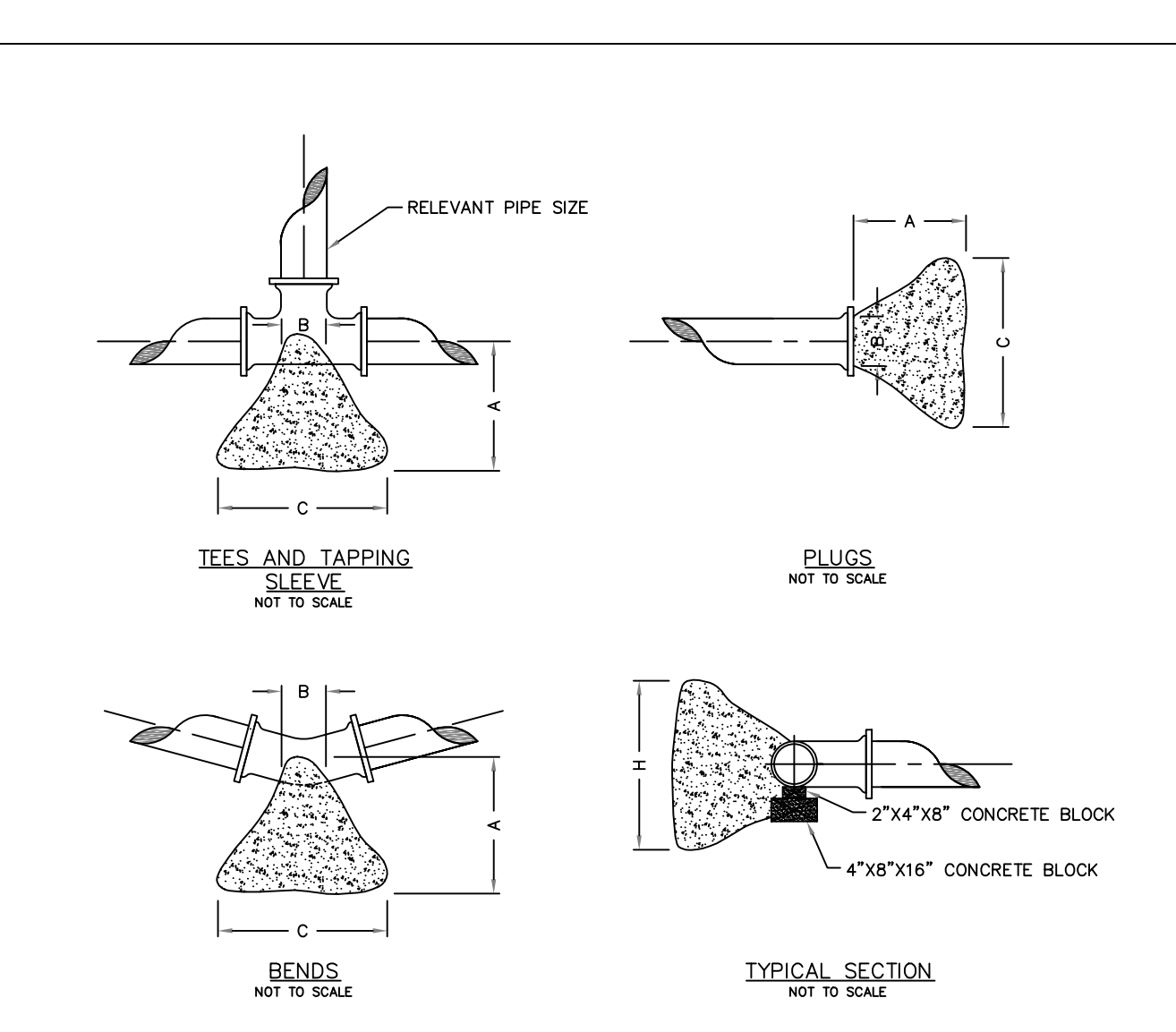
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NOTE: ALL CONNECTION BOLTS, GLANDS, FLANGES, ETC. MUST BE PROTECTED FROM CONCRETE.



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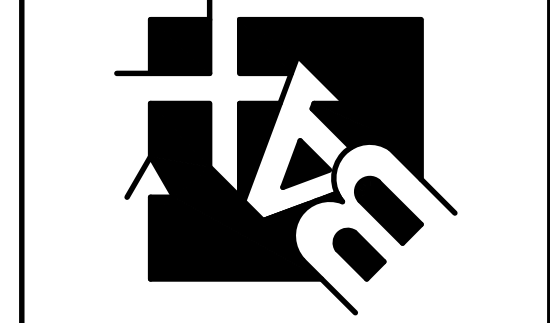
PIPE DIA.	THRUST BLOCK DIMENSIONS - INCHES								
	ALL FTGS.		TEE PLUG TAPPING		90 DEGREE BEND	45 DEGREE BEND	22-1/2 BEND	11-1/4 BEND	
	A	B	C	H	C	H	C	H	
4	14	4	24	12	26	15	19	12	12
6	16	6	36	18	36	24	30	18	12
8	20	8	36	30	42	36	36	24	18
10	20	10	48	36	66	36	36	28	24
12	24	12	68	36	82	42	52	36	40

NOTE: FOR FITTINGS LARGER THAN 12". SPECIAL RESTRAINT DESIGNS ARE REQUIRED.

HORIZONTAL THRUST BLOCKING

PROJECT TITLE:
THORNWOOD APARTMENTS
THORNBUARY CROSSING DRIVE
O'FALLON, MO 63366

ENGINEERING
PLANNING
SURVEYING
 221 Point West Blvd.
 St. Charles, MO 63301
 636-928-5592
 636-928-1718



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REFERENCE DETAIL SHEET ONLY

REVISIONS

NO.	DATE	DESCRIPTION

Box Engineering Company, Inc.
 Missouri State Certificate of Authority
 Engineering #000655
 Missouri State Certificate of Authority
 Surveying #000144

Developer / Owner:
MRS TROMBONE LLC
100 WOODCHASE LANE
CHESTERFIELD, MO 6307
314-469-0029

P+Z No. 23-010426
Approval Date: 1-4-24
City No. #

Page No.
26 of 34

WATER DETAILS

Box Project # 23-18014 Issue Date: 5-10-24

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