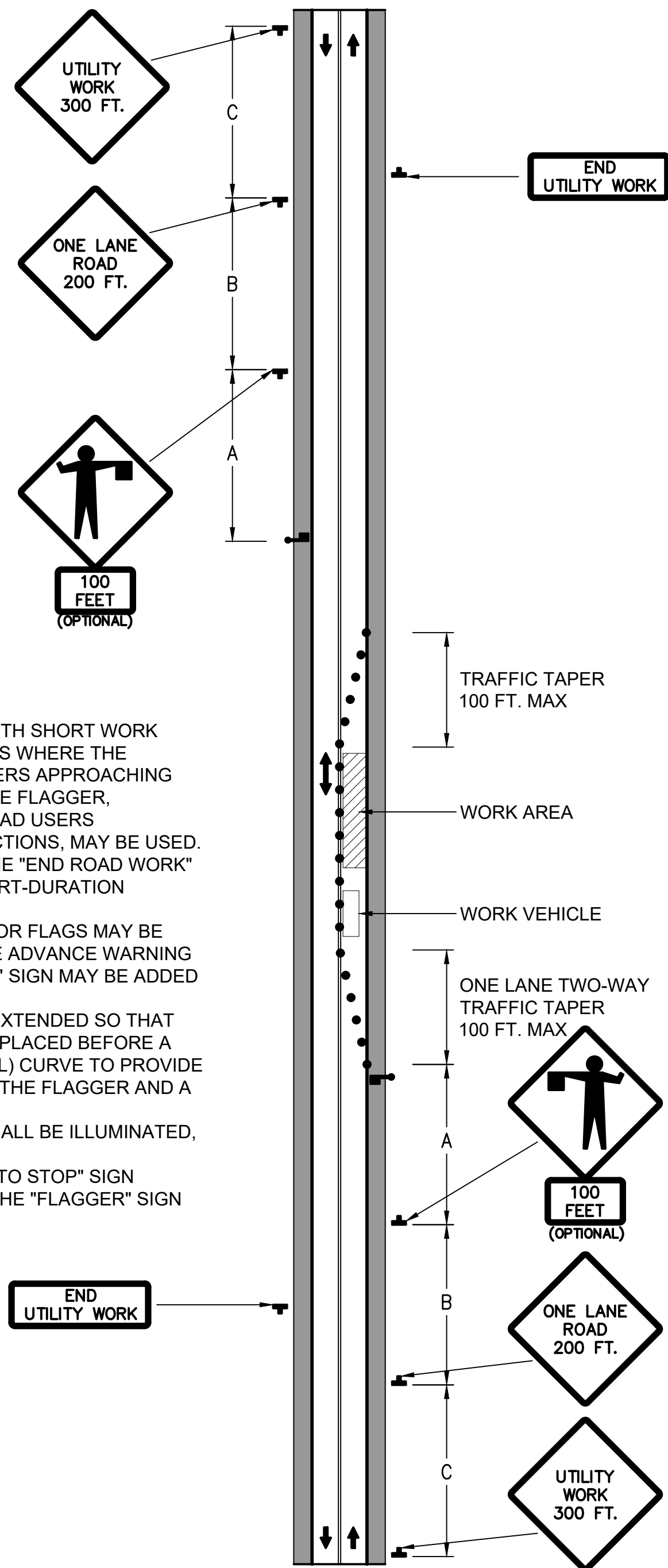


**NOTES:**

- FOR LOW-VOLUME SITUATIONS WITH SHORT WORK ZONES ON STRAIGHT ROADWAYS WHERE THE FLAGGER IS VISIBLE TO ROAD USERS APPROACHING FROM BOTH DIRECTIONS, A SINGLE FLAGGER, POSITIONED TO BE VISIBLE TO ROAD USERS APPROACHING FROM BOTH DIRECTIONS, MAY BE USED.
- THE "ROAD WORK AHEAD" AND THE "END ROAD WORK" SIGNS MAY BE OMITTED FOR SHORT-DURATION OPERATIONS.
- FLASHING WARNING LIGHTS AND/OR FLAGS MAY BE USED TO CALL ATTENTION TO THE ADVANCE WARNING SIGNS. A "BE PREPARED TO STOP" SIGN MAY BE ADDED TO THE SIGN SERIES.
- THE BUFFER SPACE SHOULD BE EXTENDED SO THAT THE TWO-WAY TRAFFIC TAPER IS PLACED BEFORE A HORIZONTAL (OR CREST VERTICAL) CURVE TO PROVIDE ADEQUATE SIGHT DISTANCE FOR THE FLAGGER AND A QUEUE OF STOPPED VEHICLES.
- AT NIGHT, FLAGGER STATIONS SHALL BE ILLUMINATED, EXCEPT IN EMERGENCIES.
- WHEN USED, THE "BE PREPARED TO STOP" SIGN SHOULD BE LOCATED BETWEEN THE "FLAGGER" SIGN AND THE "ONE LANE ROAD" SIGN.

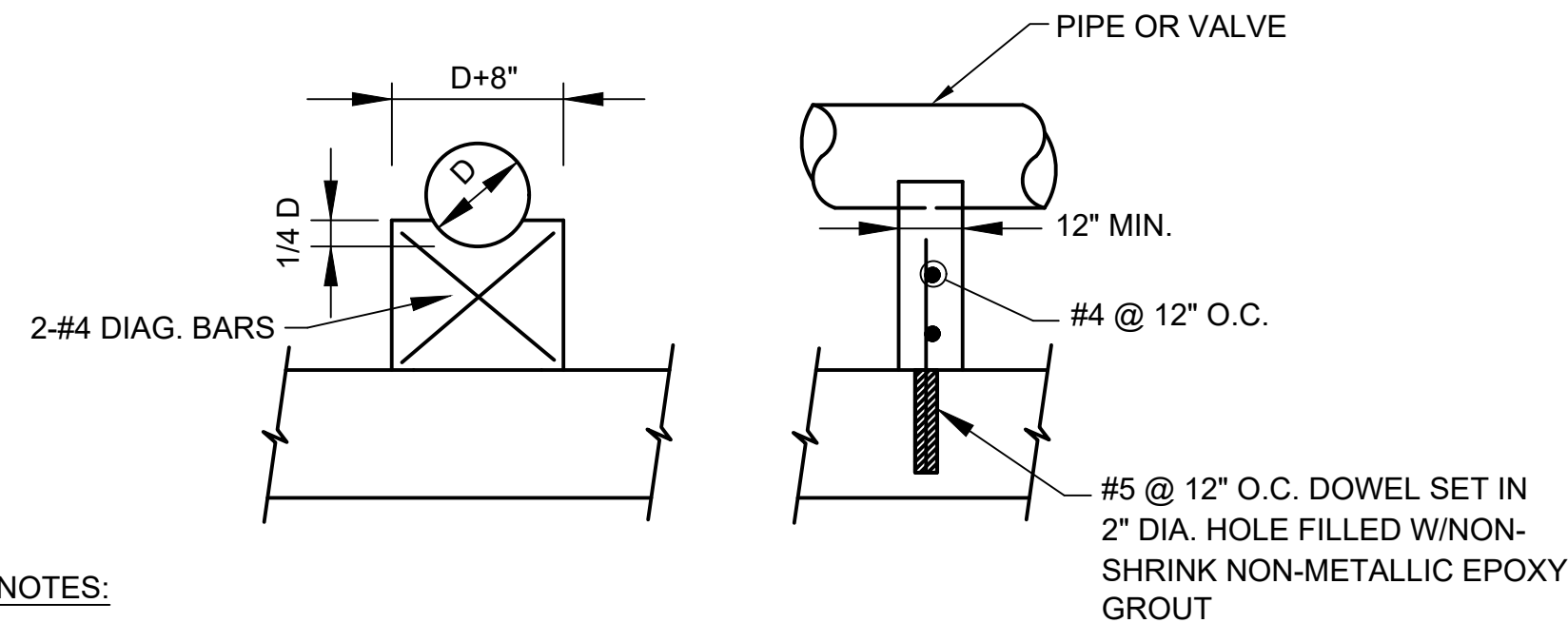
FOR LOW SPEED URBAN CONDITIONS

A=100 FT.
B=100 FT.
C=100 FT.

DETAIL - TRAFFIC CONTROL PLAN

NOT TO SCALE

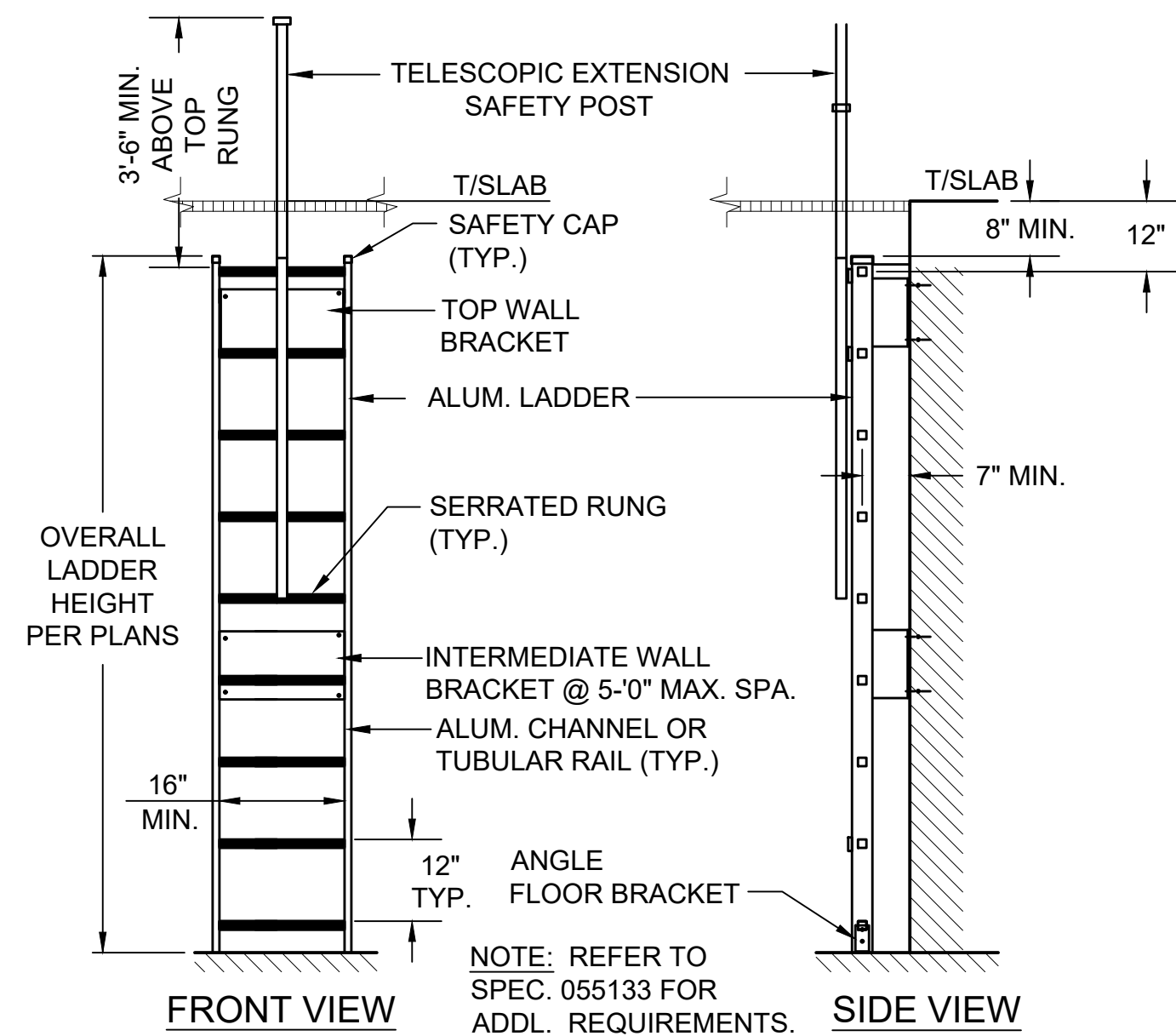
NOTE: TRAFFIC CONTROL PLANS ARE GUIDELINES ONLY. ALL TRAFFIC CONTROL PLANS AND LANE CLOSURES MUST BE APPROVED BY THE OWNER AND ENGINEER AND THE APPROPRIATE LOCAL OR STATE AGENCY.

**NOTES:**

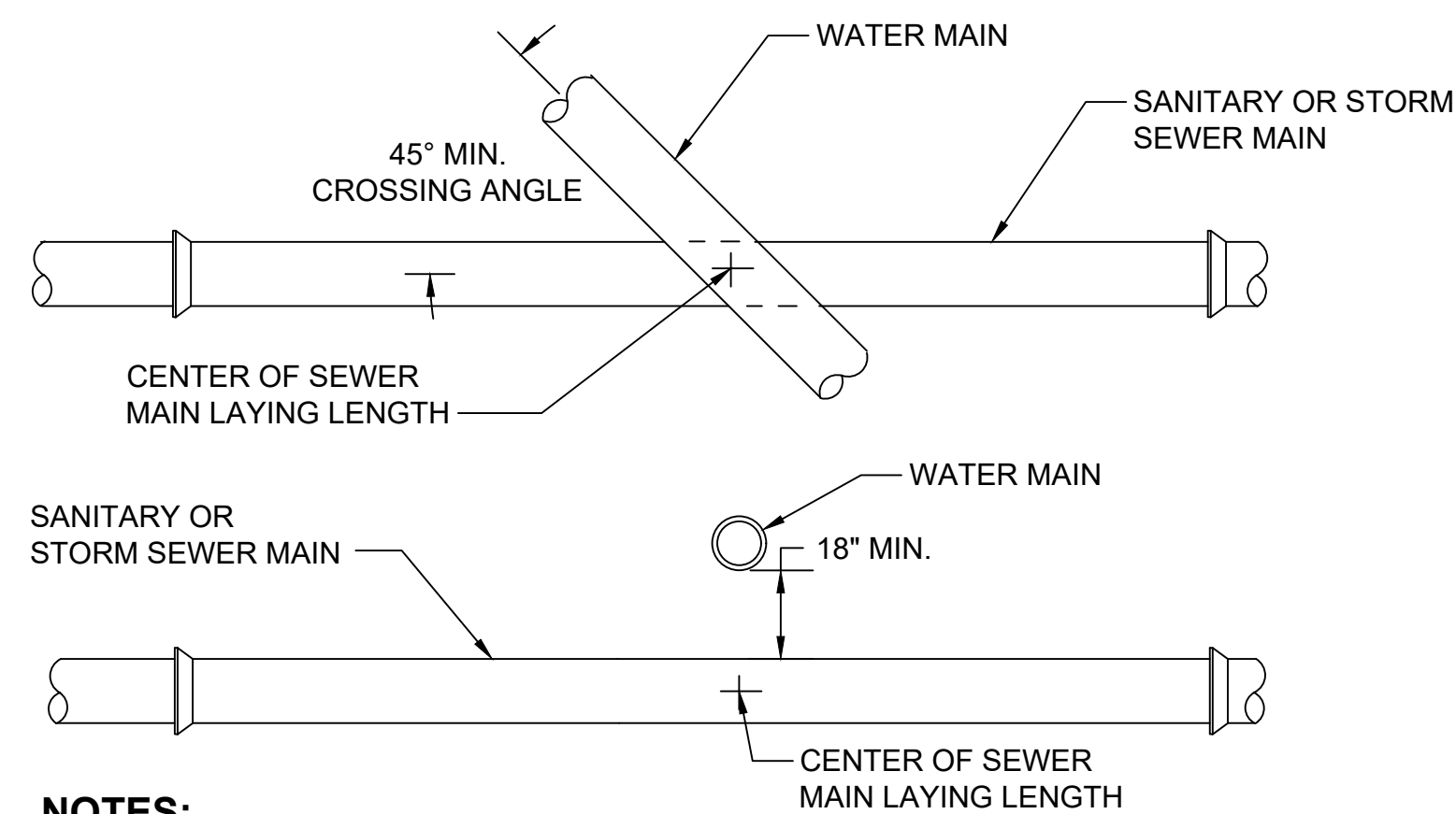
- FOR VALVES AND FITTINGS, SUPPORT WIDTH BASED ON SIZE OF ITEM BEING SUPPORTED AS APPROVED BY THE ENGINEER. FOR WIDTHS GREATER THAN 12" PROVIDE TWO ROWS OF REINFORCING STEEL.
- COAT PIPE/VALVE WITH BOND BREAKER WHERE IT COMES IN CONTACT WITH CONCRETE

DETAIL - VALVE & PIPE SUPPORT

NOT TO SCALE

**DETAIL - ACCESS LADDER**

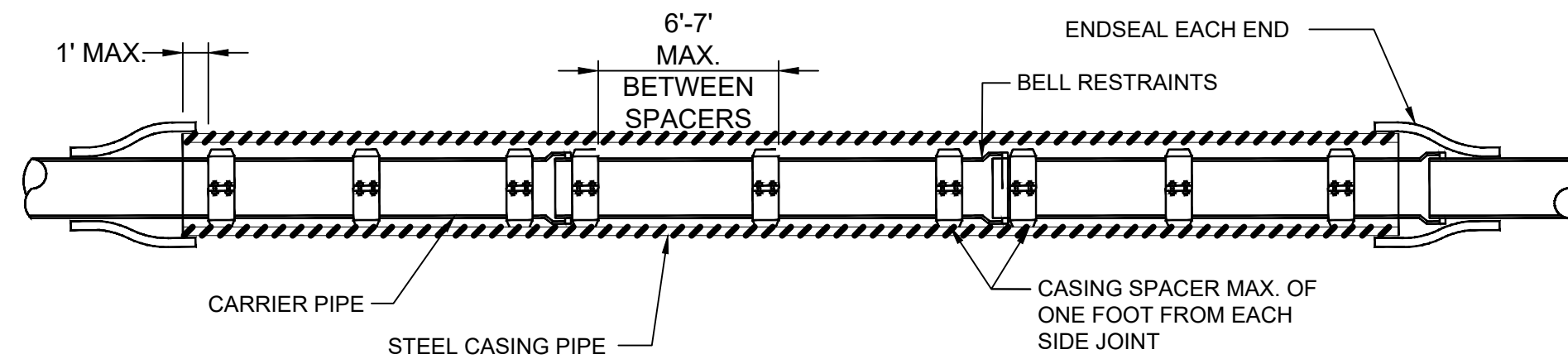
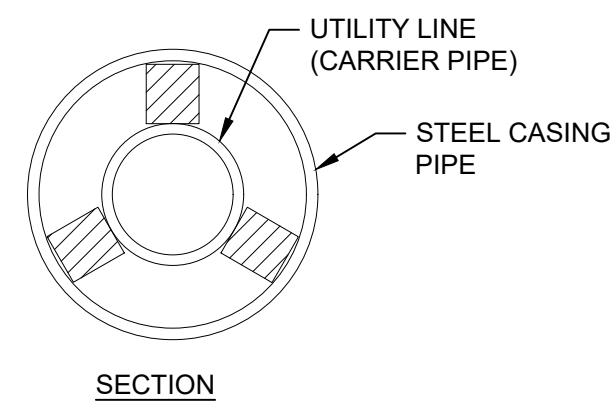
NOT TO SCALE

**NOTES:**

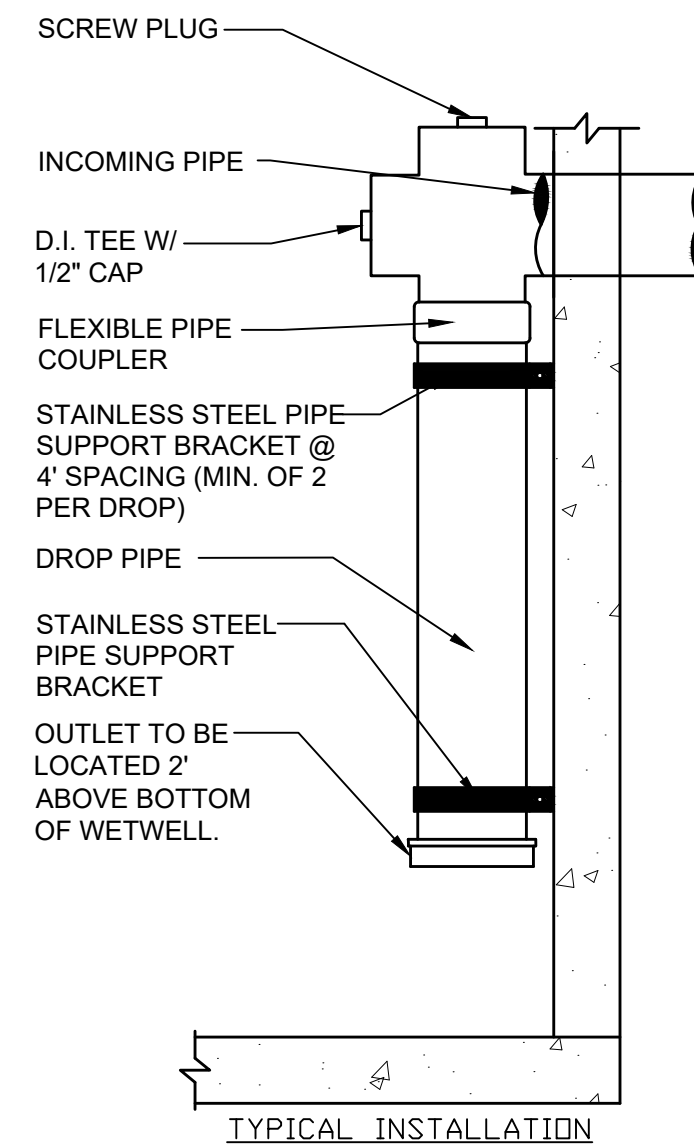
- WATER MAIN AND SEWER MINIMUM SEPARATION: 18" VERTICAL SEPARATION 10'-0" HORIZONTAL SEPARATION
- WATER MAIN QUALITY PIPE TO BE USED FOR SANITARY OR STORM SEWER IF REQUIRED SEPARATION CANNOT BE MET

MINIMUM CROSSING & SEPARATION REQUIREMENTS FOR SANITARY SEWER PIPE

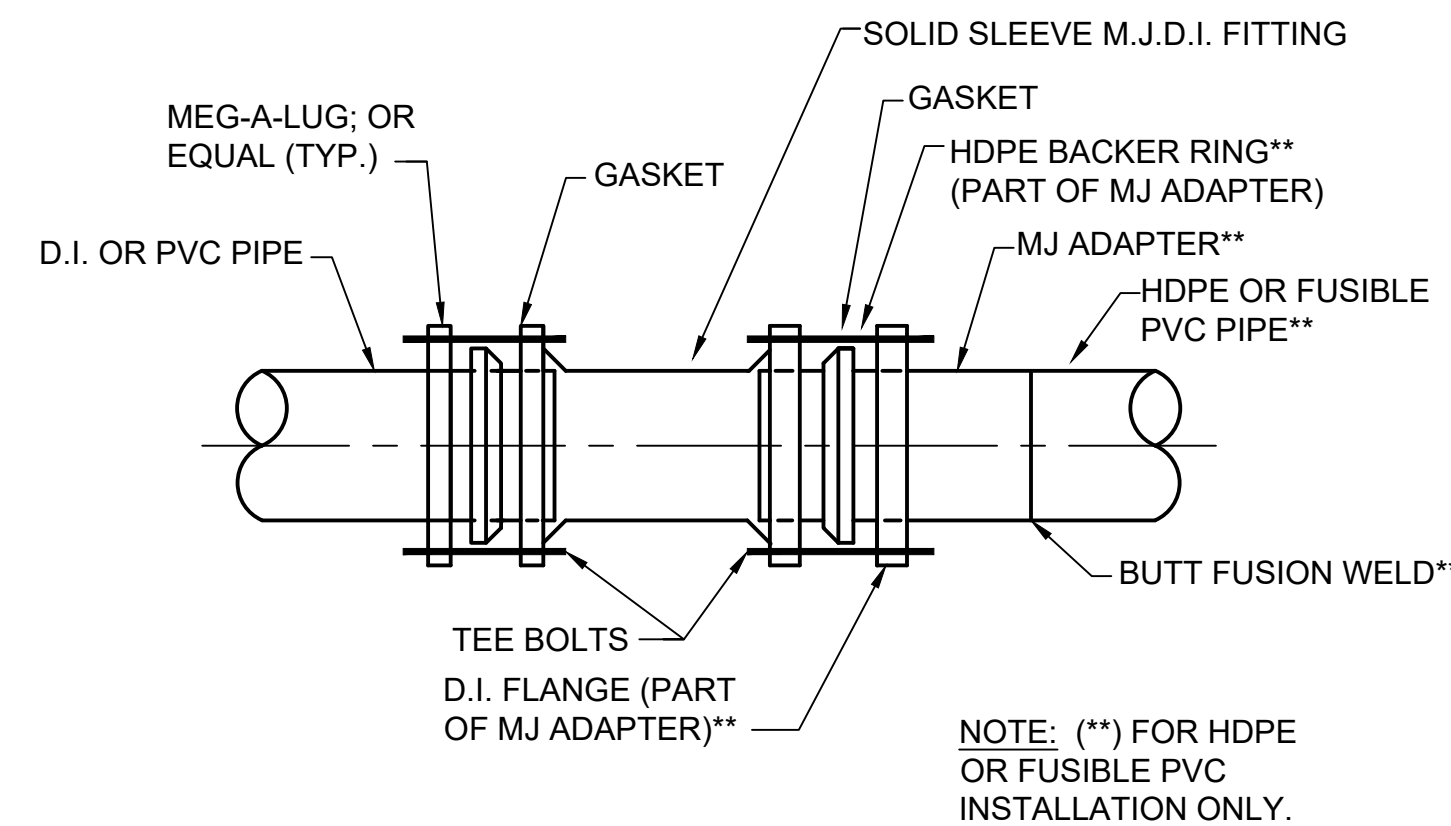
NOT TO SCALE

**TYPICAL BORE AND JACK DETAIL**

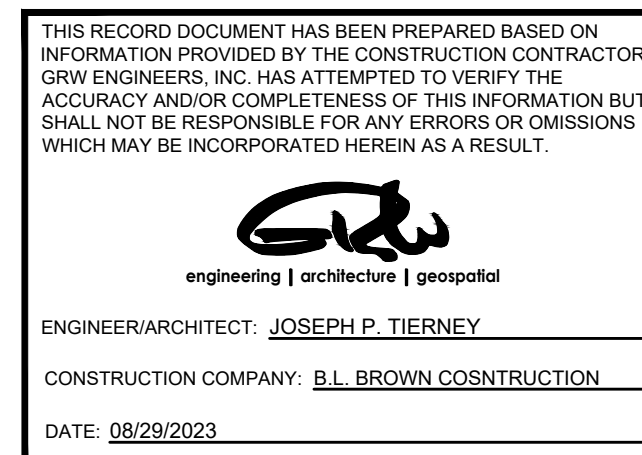
NOT TO SCALE

**INSIDE DROP DETAIL AT WETWELL**

NOT TO SCALE

**DETAIL - RESTRAINED PIPE TRANSITION COUPLING**

NOT TO SCALE



LENGTH IN FT. TO BE RESTRAINED ON EACH SIDE OF FITTING FOR 8" PVC PIPE					
TYPE OF BEND	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	DEADENDS
HORIZ. BEND	15	7	3	2	45
VERT. BEND	---	19 UPPER 7 LOWER	9 UPPER 3 LOWER	5 UPPER 2 LOWER	

RESTRAINED JOINT NOTES

- CONTRACTOR SHALL INSTALL RJDI FITTINGS FOR ALL VERTICAL AND HORIZONTAL BENDS.
- RESTRAINED LENGTHS WERE CALCULATED ASSUMING A 1.5 FACTOR OF SAFETY, TYPE 5 TRENCH CONDITIONS, "SM" SOIL CLASSIFICATION, 5 FT. MIN. DEPTH OF BURY, AND 150 PSI HYDROSTATIC TEST PRESSURE (SOURCE: EBAA IRON RESTRAINT DESIGN CALCULATION SOFTWARE v.6.0).
- ALL FORCEMAIN APPURTENANCES WITHIN RJDI LIMITS MUST BE RESTRAINED AT EACH JOINT.

RESTRAINED JOINT CALCULATIONS

NOT TO SCALE

This document, originally issued, sealed, and signed by Joseph P. Tierney, Indiana Professional Engineer, No. 19300407, on July 2022, shall not be used in lieu of a certified document.

GRW PROJECT NO. 4923

CLIENT PROJECT NO. --

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**STANDARD DETAILS II**

NEW LIFT STATION AND FORCEMAIN
TOWN OF PENDLETON, INDIANA

DESIGNED: JPT
DRAWN: AMR
REVIEWED: JPT
APPROVED: JPT

NO.	REVISIONS	DATE	BY
1	ADDENDUM #1	9/9/23	LAD

DATE: JULY 2022
SCALE: N.T.S.
SHEET NO.

C-13