

GENERAL CONSTRUCTION NOTES

1. Water lines shall be C900 or C909, DR 18 PVC. DR 14 shall be used in developments within the City of Kyle.
2. All water distribution and transmission main fittings must be ductile iron.
3. All valves shall be gate valves.
4. Valves and fittings shall be installed with Mechanical Joints (Meg-A-Lug) Restraints.
5. Gate valves shall be EJ or Mueller and hydrants shall be EJ or Mueller.
6. Service saddles shall be Smith-Blair 317 or approved equal.
7. Corporation stops shall be Ford or Mueller with quick joint connection (ie. Ford 1100-#-Q-NL).
8. All Ductile Iron pipe, fittings, and valves shall be wrapped in 8-mil polywrap.
9. All bolts on Mechanical Joint fittings and/or restraints must be wrapped in plastic prior to concrete being poured.
10. All ductile iron fittings, valves, etc. must have a stable foundation on concrete blocking.
11. Typically, no ductile iron fittings shall be installed under a public roadway.
12. Typically, no valves may be installed under driveways or public roadways.
13. Fire hydrants shall be installed at high points in place of air release valves.
14. The valve on a hot tap must be anchored to the hot tap saddle.
15. All road bores must have spacers on pipe in the casing and end seals on water lines 6" and above.
16. Water lines shall be installed above storm sewer and wastewater lines unless restricted by design limits.
17. Pipe segments between vertical fittings shall be ductile iron and fully restrained.
18. If 24" clearance is not maintained between the water line and wastewater line, the wastewater line shall be placed in a 20' casing centered on the water line.
19. Service taps shall be placed where accessible. Not beneath pavement, sidewalks or driveways.
20. Services beneath roadways shall run lot line to lot line where the service tap and water meter are both at the lot lines. Driveways shall not be constructed on top of a service tap.
21. A service tap shall have a 3' minimum spacing from other service taps.
22. Water service for new meters will be installed by the Contractor from the tap up to the angle stop. The Contractor will also install the meter box. County Line SUD will furnish the angle stop and meter box to the Contractor. The Contractor will be responsible for the remaining material.
23. All fittings for service lines or other tubing must be C110 Compression.
24. Prior to construction, the Contractor shall coordinate a Pre-Construction Conference with County Line SUD and Construction Inspector.
25. The Contractor shall provide Submittals and Shop Drawings of Material and Equipment to County Line SUD's Engineer.
26. The Construction Inspector is to inspect all construction material prior to installation. The Contractor should coordinate with inspector on construction material shipments.
27. County Line SUD Construction Inspector has full responsibility of reviewing Contractor's work, materials, etc. Failure to comply with County Line SUD specifications will result in rejection of the work & delay of service until compliance is met.
28. County Line SUD will provide water for pressure testing and disinfection testing at currently established rates. Water for other construction purpose, may or may not be available. The Contractor shall coordinate with the Construction Inspector to make all arrangements for water.
29. Any contractor taking County Line SUD water for construction, prior to the water mains being disinfected, must have an air gap at the entry point on the truck or backflow preventer at the bottom of tanker.
30. The Construction Inspector must be present prior to and during disinfection and pressure testing.
31. Adequate chlorine residuals must be recorded 24 hours before bacteriological samples may be taken.
32. All required water samples must be taken by the Construction Inspector.
33. Upon final acceptance by County Line SUD, the water system improvements will become sole property of County Line SUD.
34. After final acceptance, County Line SUD will be provided a two-year warranty by the Contractor.
35. The Contractor shall provide accurate Record Drawings to County Line SUD.

GENERAL CONSTRUCTION NOTES

SCALE : NONE

REV. DATE : 2/24

DWG. W-1

COUNTY LINE SUD
HAYS & CALDWELL COUNTIES,
TEXAS

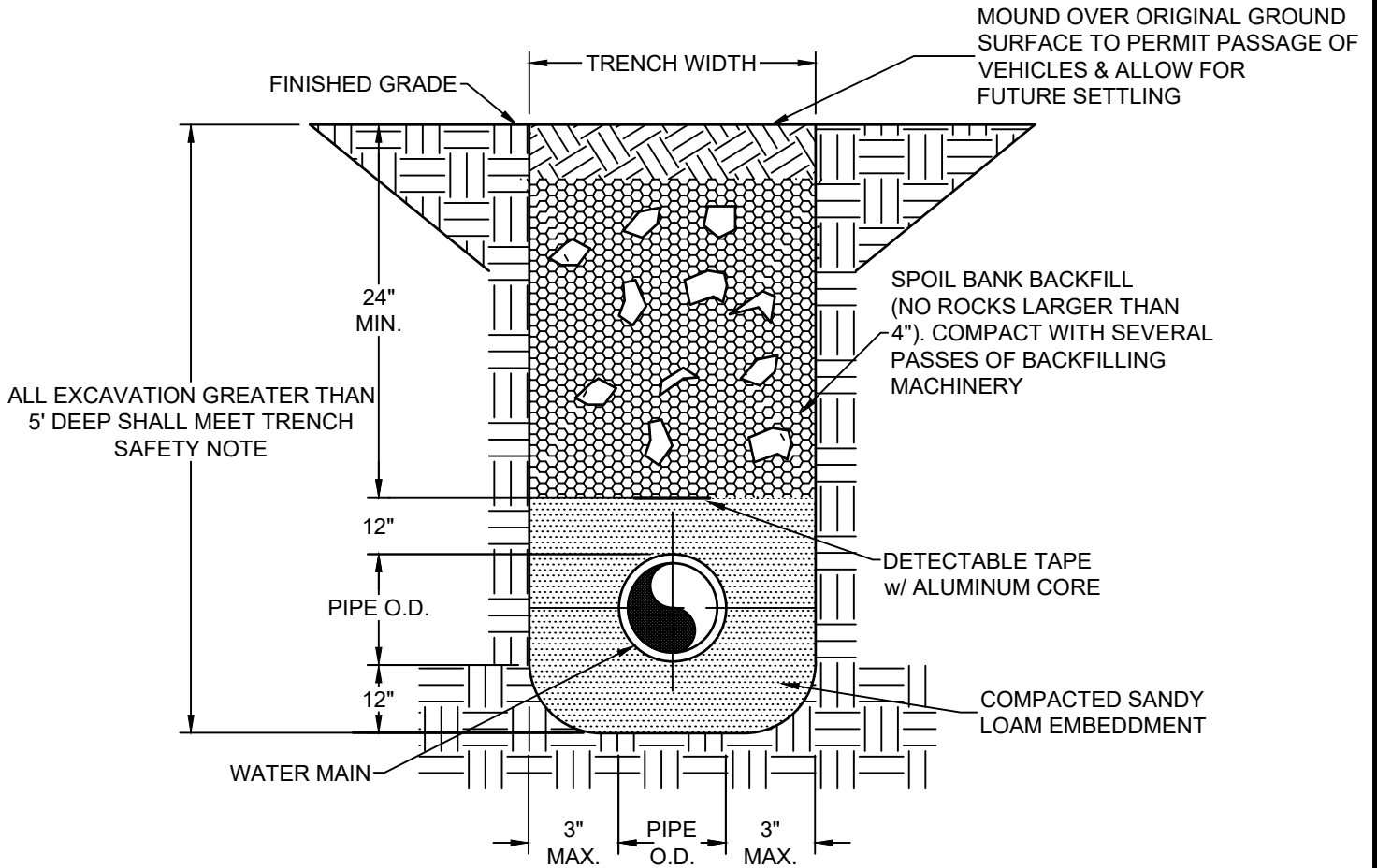
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TRENCHING NOTES:

1. ADEQUATE BARRICADES & WARNING SIGNS SHALL BE ERECTED BEFORE ANY WORK IS STARTED IN PUBLIC RIGHT-OF-WAY.
2. THE ROADWAY SHALL BE CUT ONLY WHERE REQUIRED BY THE ENGINEER.
3. NO MORE THAN HALF OF THE WIDTH OF THE ROAD SHALL BE CUT & OPENED AT ONE TIME.
4. REFER TO SPECIFICATIONS FOR ANY SPECIAL REQUIREMENTS OR CONDITIONS.
5. BACKFILL SHALL BE COMPLETED IMMEDIATELY AFTER PIPELINE LAYING WITHIN PUBLIC RIGHT-OF-WAYS OR CROSSING PUBLIC RIGHT-OF-WAYS & PRIVATE DRIVEWAYS.

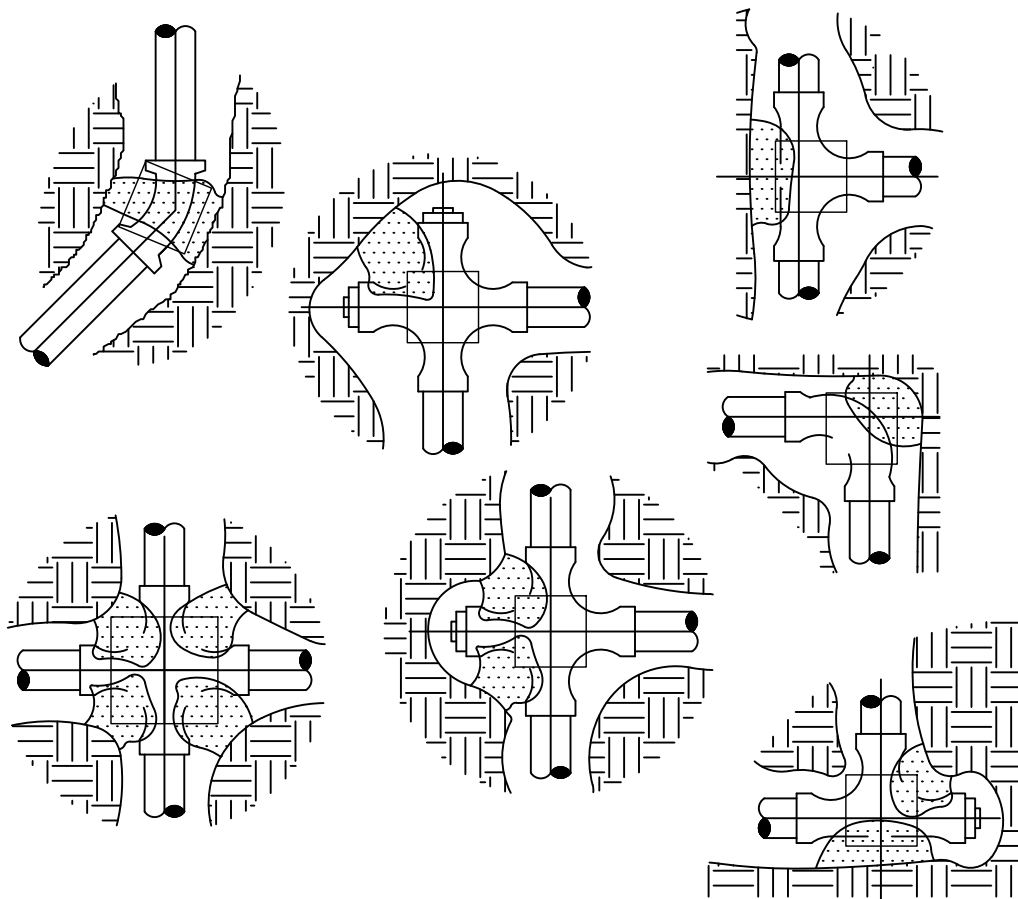
TRENCH SAFETY NOTES:

1. TRENCH SAFETY SYSTEM, SHORING OR SIDE SLOPE TO BE IN ACCORDANCE WITH OSHA STANDARDS.
2. TRENCH SAFETY SYSTEM PLAN TO BE PROVIDED BY CONTRACTOR PRIOR TO CONSTRUCTION.



TYPICAL TRENCH BACKFILL

TRENCH INSTALLATION DETAIL	
SCALE : NONE	REV. DATE : 2/24
DWG. W-2	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	
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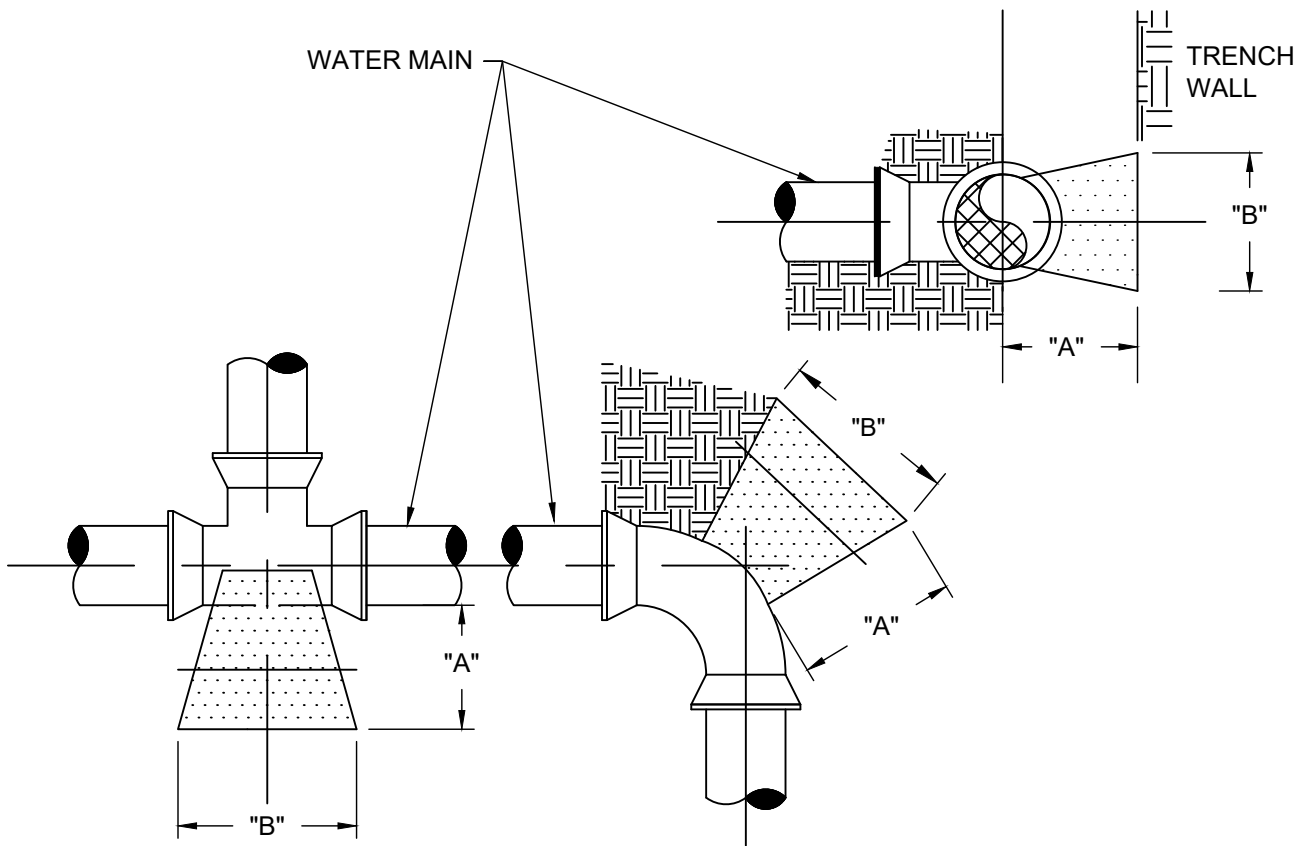
NOTES

1. THE EARTH BEARING SURFACE SHALL BE THE UNDISTURBED TRENCH WALL.
2. ALL PIPE JOINTS SHALL BE KEPT FREE FROM CONCRETE.
3. ALL THRUST BLOCKS SHALL CONTAIN A MINIMUM OF 1 1/2 CUBIC YARDS OF CONCRETE.
4. CONCRETE SHALL BE 2000 p.s.i. AT 28 DAYS MINIMUM.
5. ALL FITTINGS AND FITTING JOINTS MUST BE WRAPPED w/ THREE LAYERS OF 8-MIL POLYETHYLENE IN ACCORDANCE WITH AWWA C105.
6. ALL MECHANICAL JOINT FITTINGS SHALL HAVE MECHANICAL JOINT RESTRAINT GLANDS (MEGALUG OR APPROVED EQUAL).

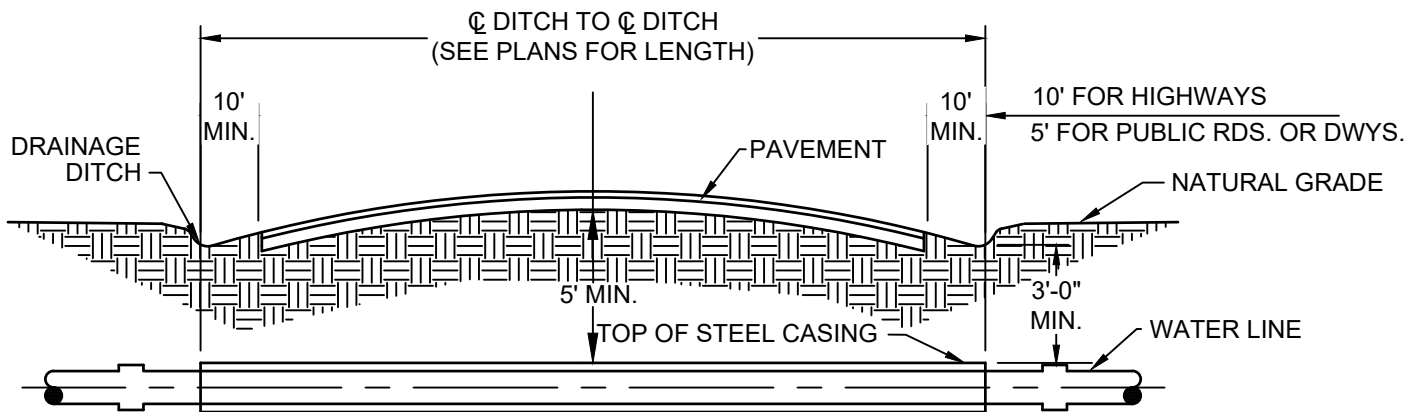
THRUST BLOCK ANCHORING DETAIL	
SCALE : NONE	REV. DATE : 1/17
DWG. W-3	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	
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PIPE SIZE	DIMENSION "B" (SQUARE)				
	PLUGS & TEES	90° BENDS	45° BENDS	22 1/2° BENDS	VALVES
4"&6"	1'-3"	1'-6"	1'-0"	9"	1'-3"
8"	1'-9"	2'-0"	1'-6"	1'-0"	1'-6"
10"	2'-0"	2'-0"	1'-9"	1'-3"	2'-0"
12"	2'-6"	3'-0"	2'-3"	1'-6"	2'-3"
16"	3'-3"	4'-0"	2'-9"	2'-0"	2'-9"

DIMENSION "A" SHALL BE A MINIMUM OF 1'-0" BUT IS TO BE INCREASED WHERE NECESSARY TO PROVIDE BEARING AGAINST UNDISTURBED TRENCH WALL.

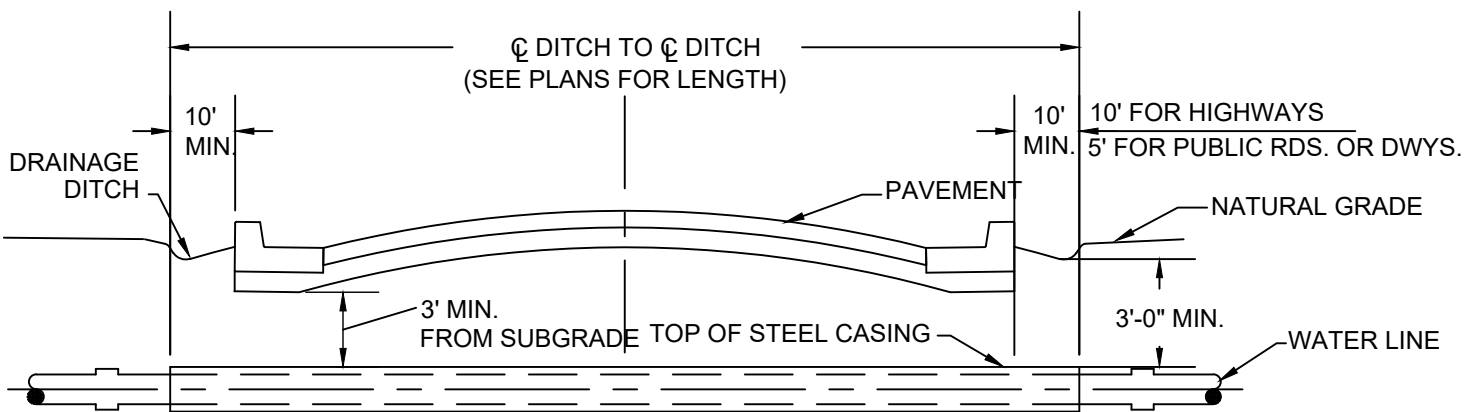


THRUST BLOCK DIMENSIONING DETAIL	
SCALE : NONE	REV. DATE : 1/17
DWG. W-4	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	
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NOTE: CASING SPACERS ARE REQUIRED FOR ALL LINES 6" AND LARGER

ROAD (W/O CURB & GUTTER) CROSSING



NOTE: CASING SPACERS ARE REQUIRED FOR ALL LINES 6" AND LARGER

ROAD (W/CURB & GUTTER) CROSSING

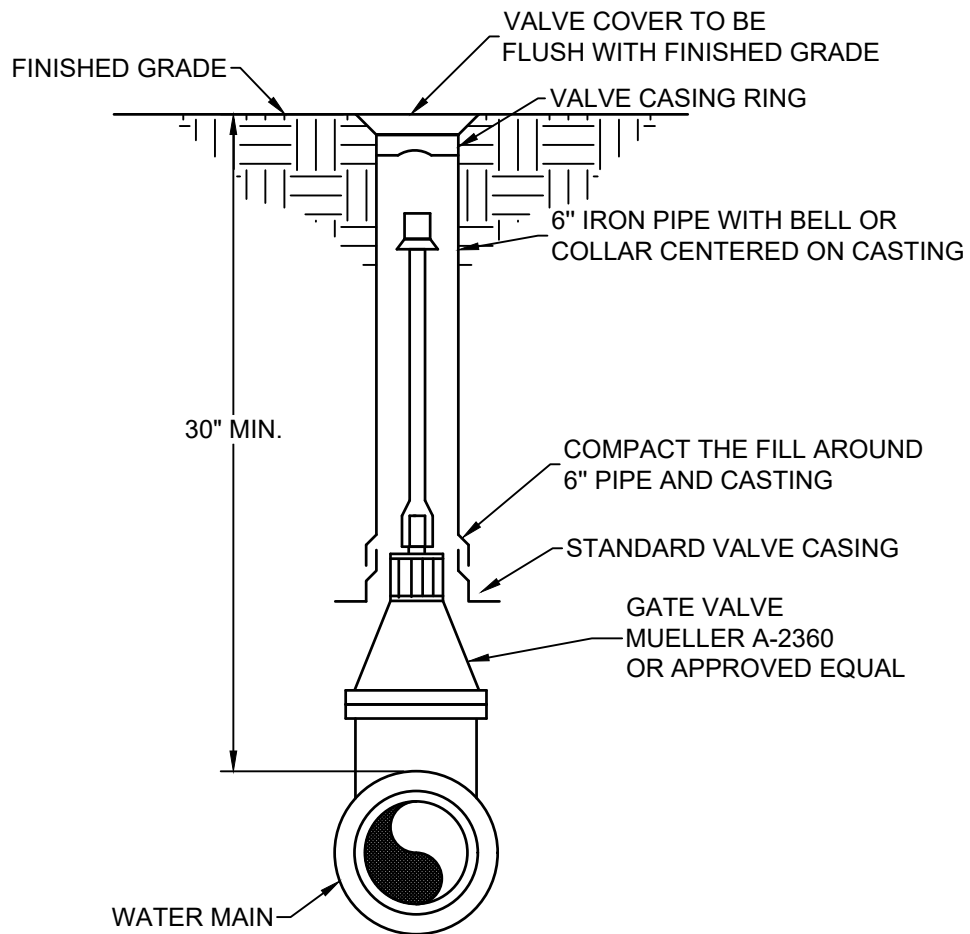
NOTE:

1. CONTRACTOR SHALL USE PIPE SUPPORTS IN CASING.
2. DIMENSIONS MAY VARY DEPENDING ON TXDOT OR COUNTY PERMITTING.
3. STEEL CASING SHALL BE STANDARD WEIGHT OR HEAVIER PIPE CONFORMING TO ASTM A 53 OR OTHER ACCEPTABLE STANDARD SPECIFICATION. STEEL CASING SHALL BE NEW OR USED IN GOOD CONDITION ACCEPTABLE TO COUNTY LINE WATER SUPPLY CORPORATION AND TO THE ROADWAY AUTHORITY.

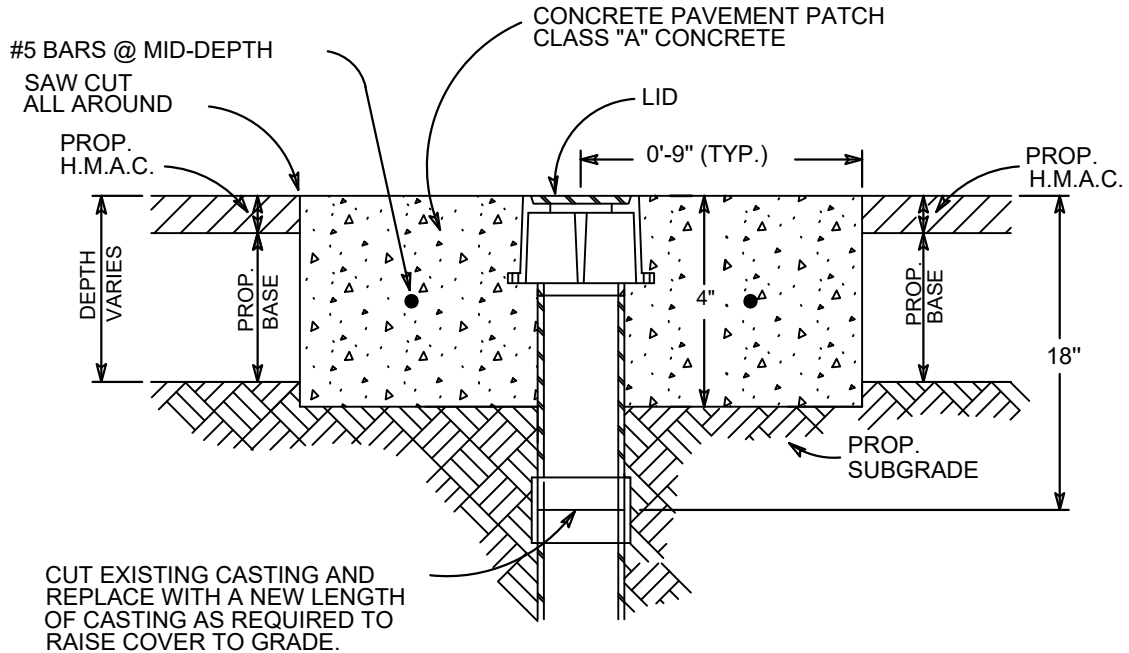
BORING & ENCASEMENT DETAILS	
SCALE : NONE	REV. DATE : 1/17
DWG. W-6	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	
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NOTES:

1. WELD SOCKET $2\frac{5}{8}$ " x $1\frac{1}{4}$ " DEEP TO $1\frac{1}{8}$ " SOLID ROUND STEM EXTENSION, FITTED ON OPERATING NUT.
2. GATE VALVE, MUELLER A-2360
3. NUT AT TOP OF VALVE EXTENSION ROD SHALL BE SQUARE $1\frac{1}{2}$ " LONG WELDED TO TOP OF ROD.
4. USE ADJUSTABLE VALVE BOX.



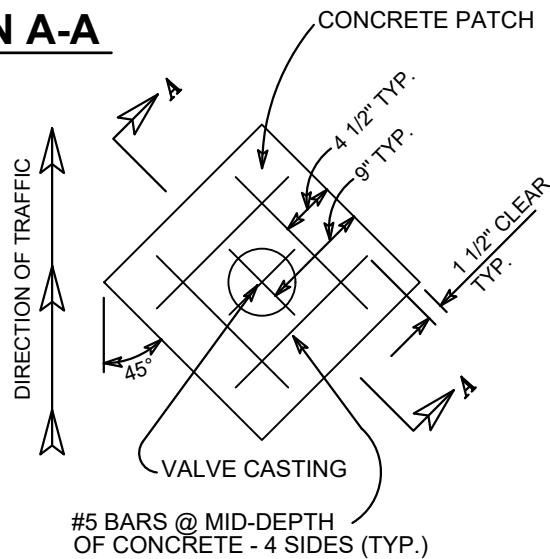
TYPICAL GATE VALVE	
SCALE : NONE	REV. DATE : 2/24
DWG. W-7	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	
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SECTION A-A

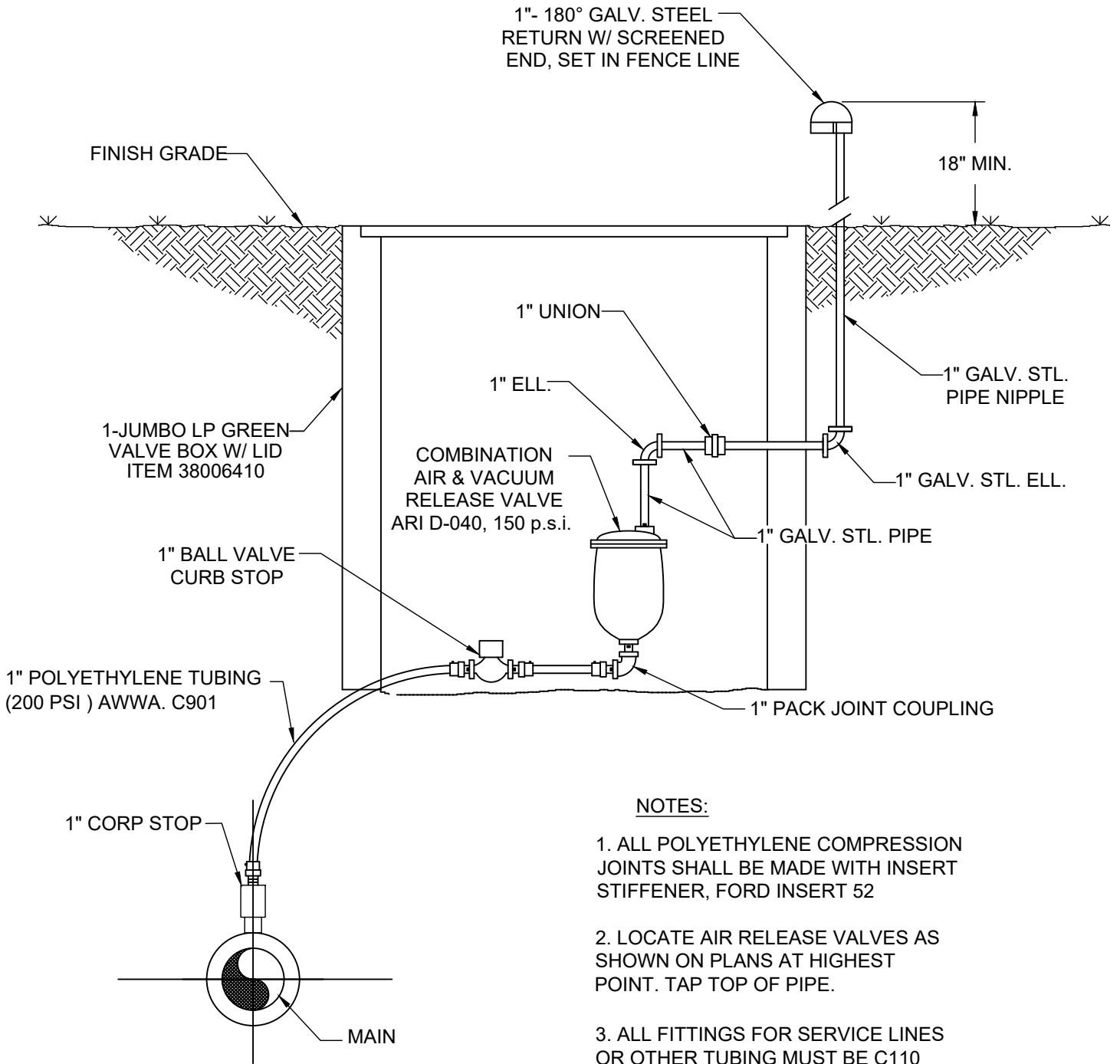
NOTES:

- 1 VALVE CASTINGS SHALL BE ADJUSTED TO GRADE AFTER FINAL LIFT OF OVERLAY IS IN PLACE.
- 2 CLEAN CASTINGS OF ALL DEBRIS DOWN TO THE BASE OF THE VALVE.
- 3 REMOVE EXISTING CASTING DOWN 18" AND REPLACE TO THE NEW ELEVATION USING NEW PIPE AND CASTING.
- 4 WHERE CAST IRON CASTINGS TO BE REMOVED REQUIRE EXCAVATION GREATER THAN 20 INCHES DEEP, CONTRACTOR MAY ELECT TO FILL EXCAVATION WITH CONTROLLED LOW STRENGTH MATERIAL TO THE UNDERSIDE OF THE CONCRETE PAVEMENT PATCH IN LIEU OF COMPACTED BACKFILL.



PLAN VIEW

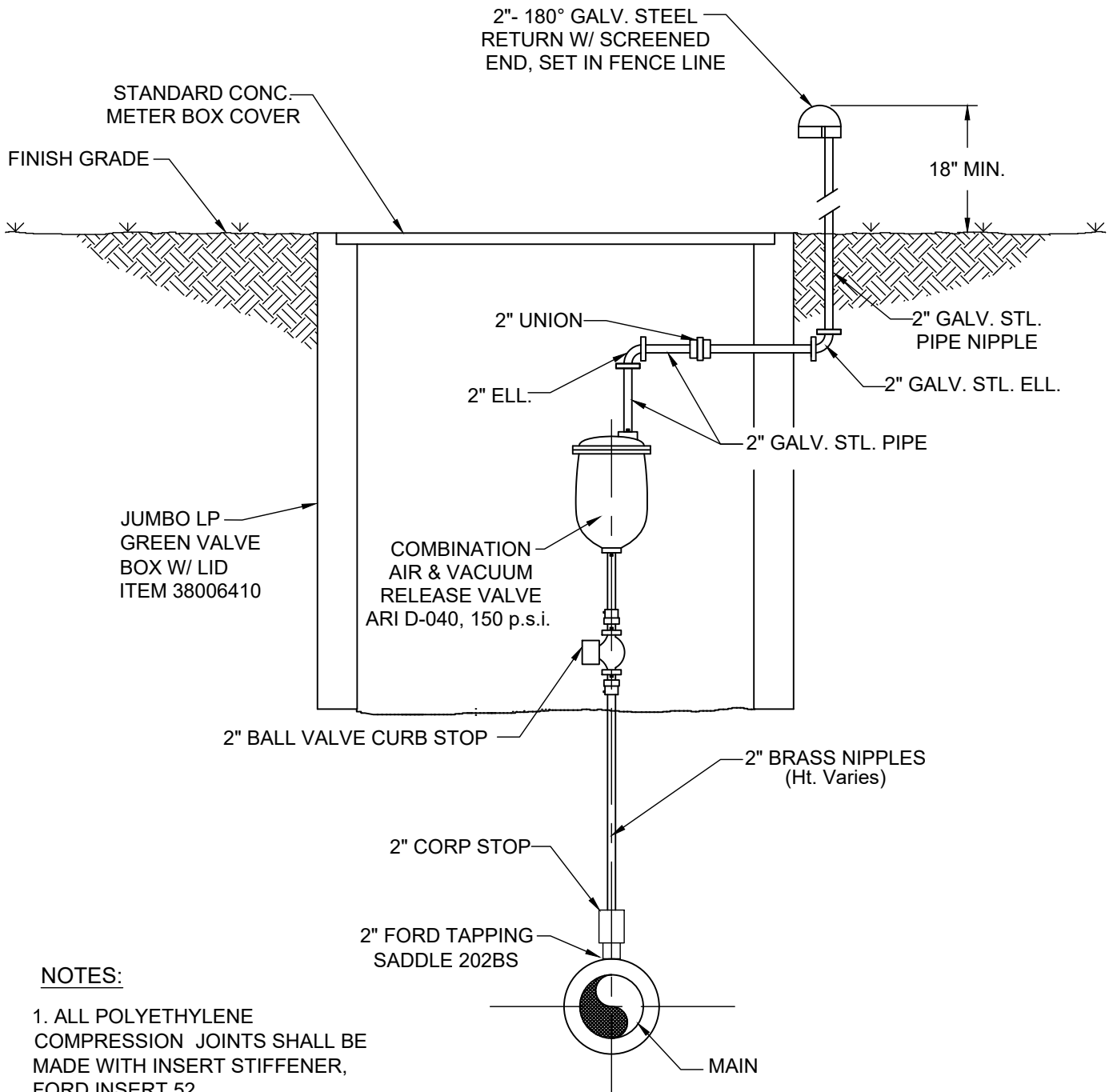
WATER VALVE BOX ADJUSTMENT & CONCRETE PAD DETAIL	
SCALE : NONE	REV. DATE : 1/17
DWG. W-8	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	
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NOTES:

1. ALL POLYETHYLENE COMPRESSION JOINTS SHALL BE MADE WITH INSERT STIFFENER, FORD INSERT 52
2. LOCATE AIR RELEASE VALVES AS SHOWN ON PLANS AT HIGHEST POINT. TAP TOP OF PIPE.
3. ALL FITTINGS FOR SERVICE LINES OR OTHER TUBING MUST BE C110 COMPRESSION.

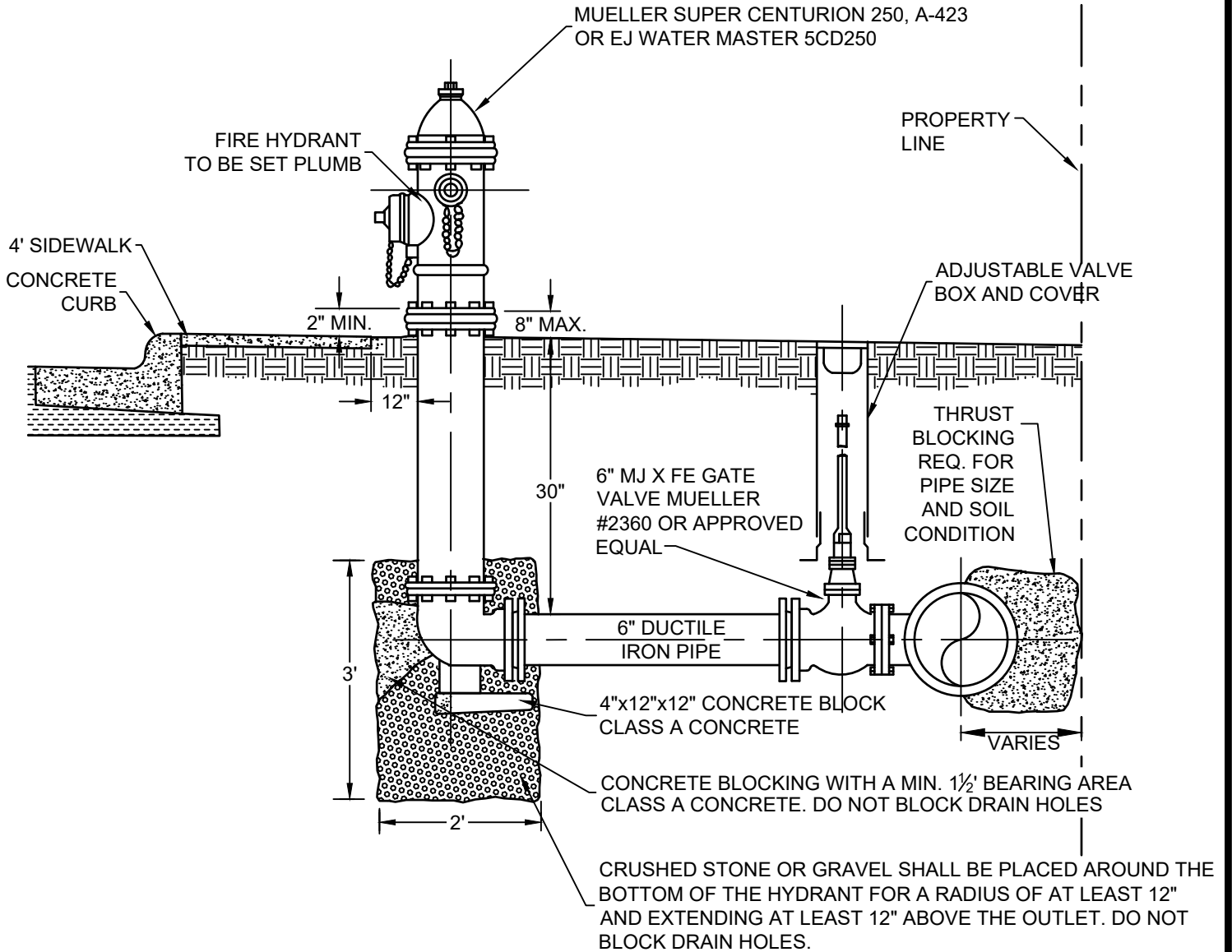
1" AIR RELEASE VALVE DETAIL	
SCALE : NONE	REV. DATE : 1/17
DWG. W-9	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	
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NOTES:

1. ALL POLYETHYLENE COMPRESSION JOINTS SHALL BE MADE WITH INSERT STIFFENER, FORD INSERT 52
2. LOCATE AIR RELEASE VALVES AS SHOWN ON PLANS AT HIGHEST POINT. TAP TOP OF PIPE.
3. ALL FITTINGS FOR SERVICE LINES OR OTHER TUBING MUST BE C110 COMPRESSION.

2" AIR RELEASE VALVE DETAIL	
SCALE : NONE	REV. DATE : 2/24
DWG. W-10	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	
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NOTES:

1. ALL MECHANICAL JOINT FITTINGS SHALL HAVE MJ RESTRAINT GLANDS.
2. ALL PIPING SHALL BE FULLY RESTRAINED.
3. ALL BURIED METAL PIPE & FITTINGS SHALL HAVE THREE LAYERS OF 8 MIL POLYETHYLENE WRAP, AWWA C105

FIRE HYDRANT INSTALLATION DETAIL	
SCALE : NONE	REV. DATE : 8/21
DWG. W-11	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	
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MUELLER SUPER CENTURION 250, A-423
OR EJ WATER MASTER 5CD250

FIRE HYDRANT
TO BE SET PLUMB

ADJUSTABLE VALVE
BOX AND COVER

ROADWAY

2" MIN.

8" MAX.

PROPERTY
LINE

30"
6" MJxFE
GATE VALVE
MUELLER #2360
OR APPROVED
EQUAL

THRUST
BLOCKING
REQ. FOR
PIPE SIZE
AND SOIL
CONDITION

6" DUCTILE
IRON PIPE

4"x12"x12" CONCRETE BLOCK
CLASS A CONCRETE

VARIES

CONCRETE BLOCKING WITH A MIN. 1½' BEARING AREA
CLASS A CONCRETE. DO NOT BLOCK DRAIN HOLES

3'

2'

CRUSHED STONE OR GRAVEL SHALL BE PLACED AROUND THE
BOTTOM OF THE HYDRANT FOR A RADIUS OF AT LEAST 12"
AND EXTENDING AT LEAST 12" ABOVE THE OUTLET. DO NOT
BLOCK DRAIN HOLES.

NOTES:

1. ALL MECHANICAL JOINT FITTINGS SHALL HAVE MJ RESTRAINT GLANDS.
2. ALL PIPING SHALL BE FULLY RESTRAINED.
3. ALL BURIED METAL PIPE & FITTINGS SHALL HAVE THREE LAYERS OF 8 MIL POLYETHYLENE WRAP, AWWA C105

FIRE HYDRANT INSTALLATION DETAIL

SCALE : NONE

REV. DATE : 8/21

DWG. W-11A

COUNTY LINE SUD

HAYS & CALDWELL COUNTIES,
TEXAS

2 1/2" BRASS NSFT DISCHARGE
W/ CAP & CHAIN

2" GALV. ELL.

NATURAL GRADE

6" C.I. VALVE
BOX COVER

36"

2" PVC
SCH 80 PIPE

6" D.I.P.

30" MIN. COVER

2" GALV. ELL.

2" GALV. PIPE

WATER MAIN

2" GATE VALVE
MUELLER A-2360
OR APPROVED
EQUAL

2" BRASS NIPPLE

TAPPED PLUG

NOTES:

1. ALL BURIED METAL PIPE & FITTINGS SHALL HAVE THREE LAYERS OF 8-MIL POLYETHYLENE WRAP, AWWA C105
2. FLUSH VALVE RISER SHALL BE INSTALLED 1'-0" TYPICALLY FROM RIGHT-OF-WAY LINE WITH DISCHARGE NOZZLE FACING ROADWAY.

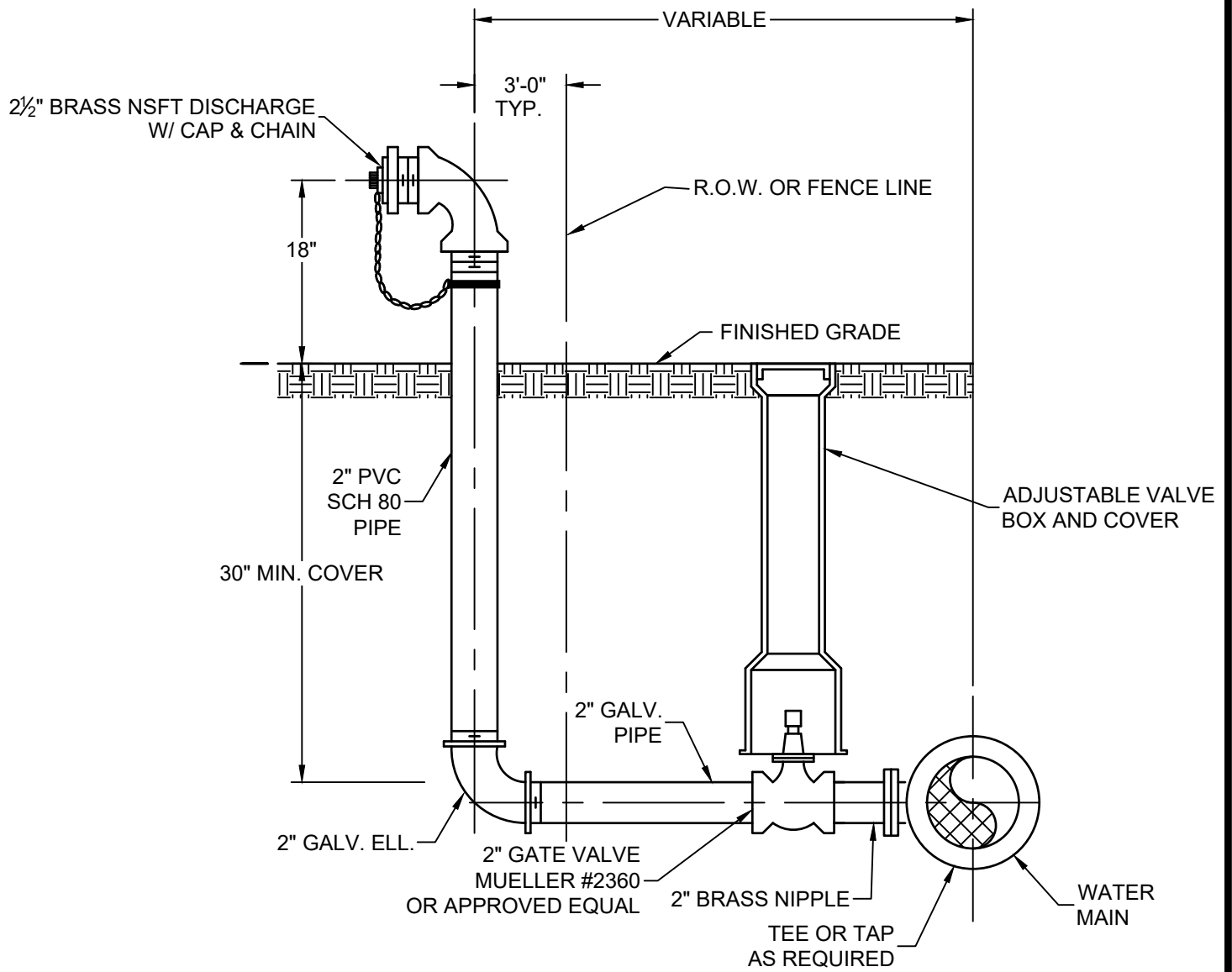
FLUSH VALVE DETAIL
(ON 6" & LARGER MAIN)

SCALE : NONE

REV. DATE : 1/17

DWG. W-12

COUNTY LINE SUD
HAYS & CALDWELL COUNTIES,
TEXAS



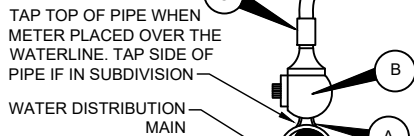
NOTE:

ALL FITTINGS SHALL HAVE MJ RESTRAINT AND BLOCKING IF NECESSARY.

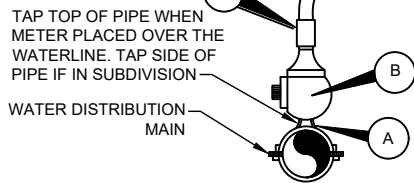
FLUSH VALVE DETAIL (ON 4" & SMALLER MAIN)	
SCALE : NONE	REV. DATE : 1/17
DWG. W-13	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	
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NOTE

1. ALL COMMERCIAL AND IRRIGATION SERVICES WILL HAVE A TESTABLE BACKFLOW DEVICE INSTALLED ON THE CUSTOMER'S SIDE OF THE METER AND SHALL BE TESTED ANNUALLY.
2. PIPING AND TUBING ON STREET RIGHT-OF-WAY SHALL HAVE COMPACTED SANDY LOAM BEDDING.
3. BOX MUST BE PLACED BEHIND CURB AND/OR SIDEWALK AND OUT OF VEHICULAR TRAFFIC AREAS.
4. 4" PVC SCH. 40 CASING SHALL BE INSTALLED ON ALL OPPOSITE SIDE WATER SERVICES, 2' PAST SIDEWALK.
5. ALL FITTINGS FOR SERVICE LINES OR OTHER TUBING MUST BE C110 COMPRESSION.



SINGLE METER SERVICE DETAIL



DOUBLE METER SERVICE DETAIL

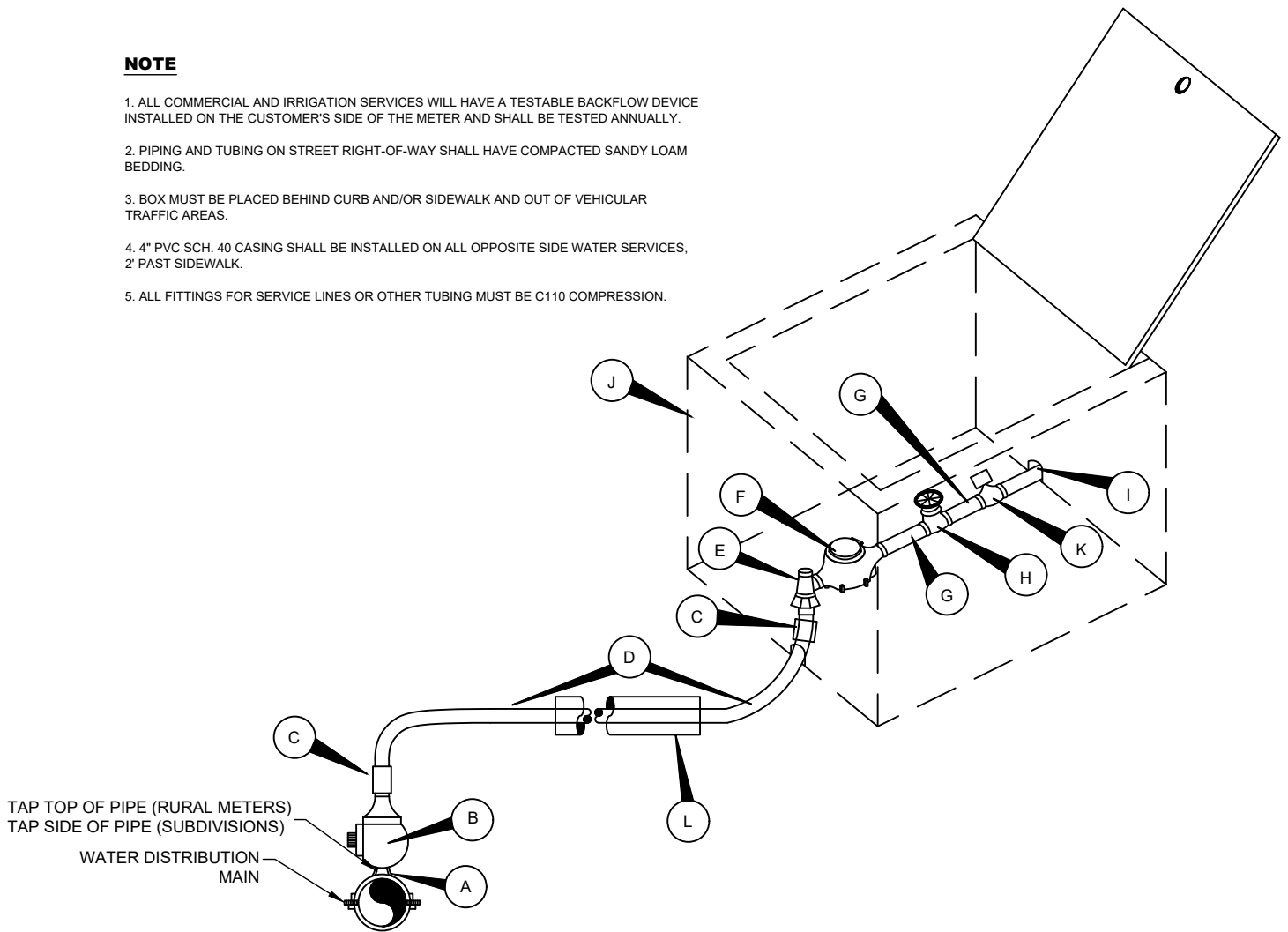
MATERIAL LIST

- | | |
|---|---|
| <p>A. 3/4" DOUBLE BAND SERVICE SADDLE (SINGLE) --SMITH BLAIR 317, OR EQUAL
1" DOUBLE BAND SERVICE SADDLE (DOUBLE) --SMITH BLAIR 317, OR EQUAL</p> <p>B. 3/4" CORP. STOP (SINGLE) w/ QUICK JOINT - MUELLER OR FORD
1" CORP. STOP (DOUBLE) w/ QUICK JOINT - MUELLER, OR FORD</p> <p>C. 3/4" STAINLESS STEEL INSERT (SINGLE) --FORD--
1" STAINLESS STEEL INSERT (DOUBLE) --FORD 52 F/CTS--</p> <p>D. 3/4" POLYETHYLENE TUBING, AWWA C901, 200 psi (SINGLE)
1" POLYETHYLENE TUBING, AWWA C901, 200 psi (DOUBLE)</p> <p>E. 5/8" x 3/4" x 3/4" ANGLE STOP --JONES, FORD, OR MUELLER--
(FURNISHED BY CLSUD)</p> <p>F. 5/8" x 3/4" METER --MASTER METER DIALOG 3G-- (BY CLSUD)</p> <p>G. 1" BRANCH FOR DOUBLE --JONES, FORD, OR MUELLER--(BY CLSUD)</p> | <p>H. DUAL CHECK VALVE W/ SWIVEL COUPLING NUT --JONES J 5930-- (BY CLSUD)</p> <p>I. 3/4" BRONZE GATE VALVE, NON-RISING STEM, FEMALE I.P.T. (BY CLSUD)</p> <p>J. 3/4" BRASS NIPPLE (BY CLSUD)</p> <p>K. 3/4" PIPE MEETING PLUMBING CODE REQUIREMENTS (BY CUSTOMER)</p> <p>L. PLASTIC METER BOX --LANDSCAPE PRODUCTS, INC. JUMBO BOX PLT-56--
(FURNISHED BY CLSUD)</p> <p>M. 4" PVC SCH. 40 CASING FOR SERVICES UNDER ROADWAY</p> |
|---|---|

STANDARD INSTALLATION FOR 5/8" METER	
SCALE : NONE	REV. DATE : 2/24
DWG. W-14	
<p>COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS</p>	
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NOTE

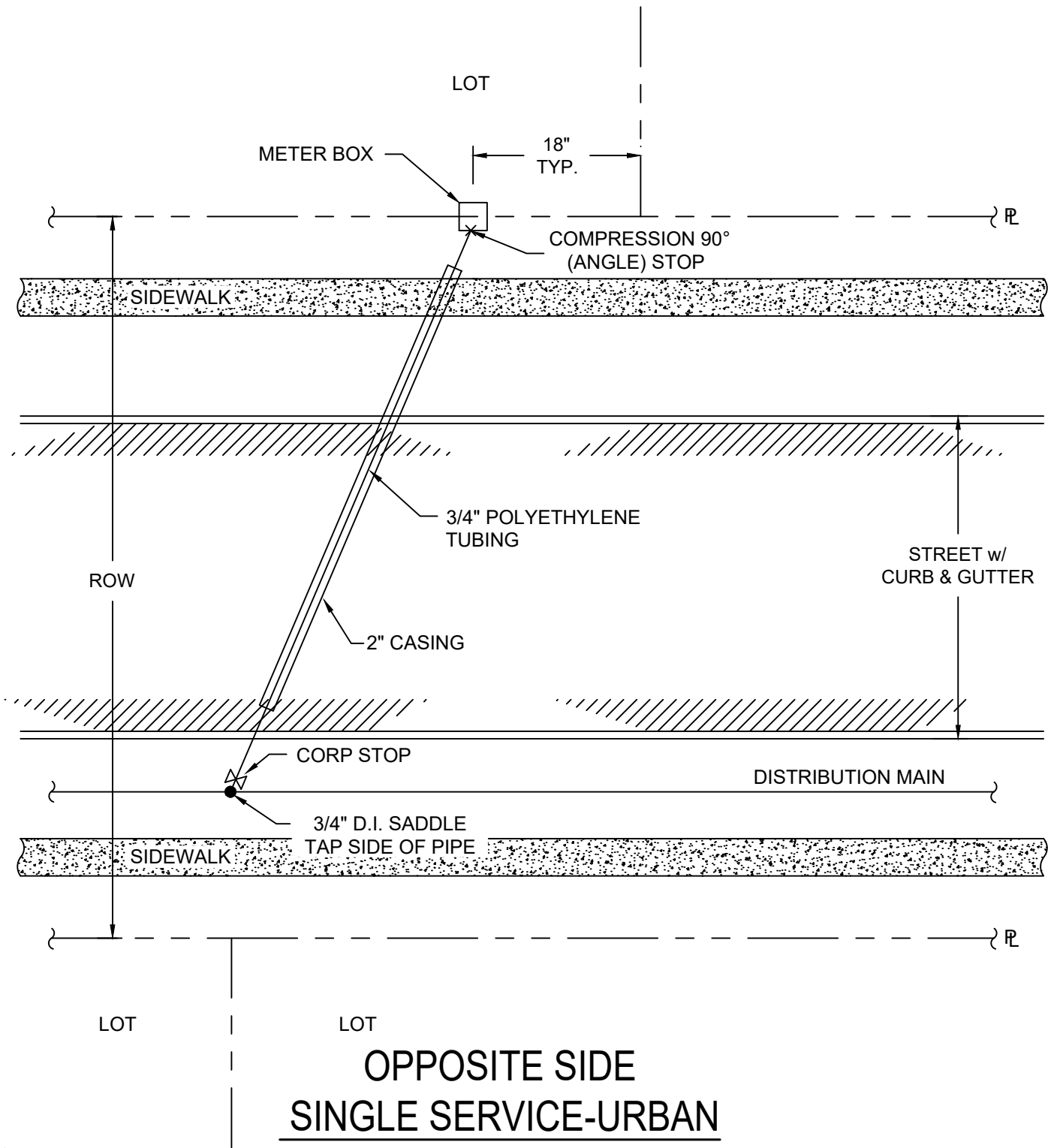
1. ALL COMMERCIAL AND IRRIGATION SERVICES WILL HAVE A TESTABLE BACKFLOW DEVICE INSTALLED ON THE CUSTOMER'S SIDE OF THE METER AND SHALL BE TESTED ANNUALLY.
2. PIPING AND TUBING ON STREET RIGHT-OF-WAY SHALL HAVE COMPACTED SANDY LOAM BEDDING.
3. BOX MUST BE PLACED BEHIND CURB AND/OR SIDEWALK AND OUT OF VEHICULAR TRAFFIC AREAS.
4. 4" PVC SCH. 40 CASING SHALL BE INSTALLED ON ALL OPPOSITE SIDE WATER SERVICES, 2' PAST SIDEWALK.
5. ALL FITTINGS FOR SERVICE LINES OR OTHER TUBING MUST BE C110 COMPRESSION.



MATERIAL LIST

- | | |
|---|---|
| <p>A. SERVICE SADDLE - SMITH BLAIR 317</p> <p>B. CORP. STOP w/ QUICK JOINT
 1" - FORD OR MUELLER
 1-1/2" - FORD OR MUELLER
 2" - FORD OR MUELLER</p> <p>C. STAINLESS STEEL INSERT
 1" - FORD 52 F/CTS
 1-1/2" - NONE REQUIRED
 2" - NONE REQUIRED</p> <p>D. SERVICE LINE
 1" - POLYETHYLENE TUBING AWWA, C901 (200 psi)
 1-1/2" - POLYETHYLENE TUBING AWWA, C901 (200 psi)
 2" - POLYETHYLENE TUBING AWWA, C901 (200 psi)</p> <p>E. COMPRESSION 90 (ANGLE) STOP
 1" - JONES, FORD, OR MUELLER
 1-1/2" - JONES, FORD, OR MUELLER
 2" - JONES, FORD, OR MUELLER (FURNISHED BY CLSUD)</p> | <p>F. WATER METER
 (Existing or by CLSUD)</p> <p>G. BRASS NIPPLE
 (Existing or by CLSUD)</p> <p>H. BALL VALVE CURB, NON-RISING STEM, MALE I.P.T. BY FEMALE I.P.T.
 1" - FORD B81-444
 1-1/2" - FORD B81-666
 2" - FORD B81-777 (Existing or by CLSUD)</p> <p>I. CUSTOMER SERVICE LINE MEETING PLUMBING CODE REQUIREMENTS (BY CUSTOMER)</p> <p>J. COMMERCIAL PLASTIC METER BOX WITH LID
 (Existing or FURNISHED BY CLSUD)</p> <p>K. TESTABLE BACKFLOW DEVICE
 (Existing or BY CLSUD)</p> <p>L. 4" PVC SCH. 40 CASING FOR SERVICES UNDER ROADWAY</p> |
|---|---|

1"-2" COMMERCIAL METER SERVICE DETAIL	
SCALE : NONE	REV. DATE : 2/24
DWG. W-15	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	
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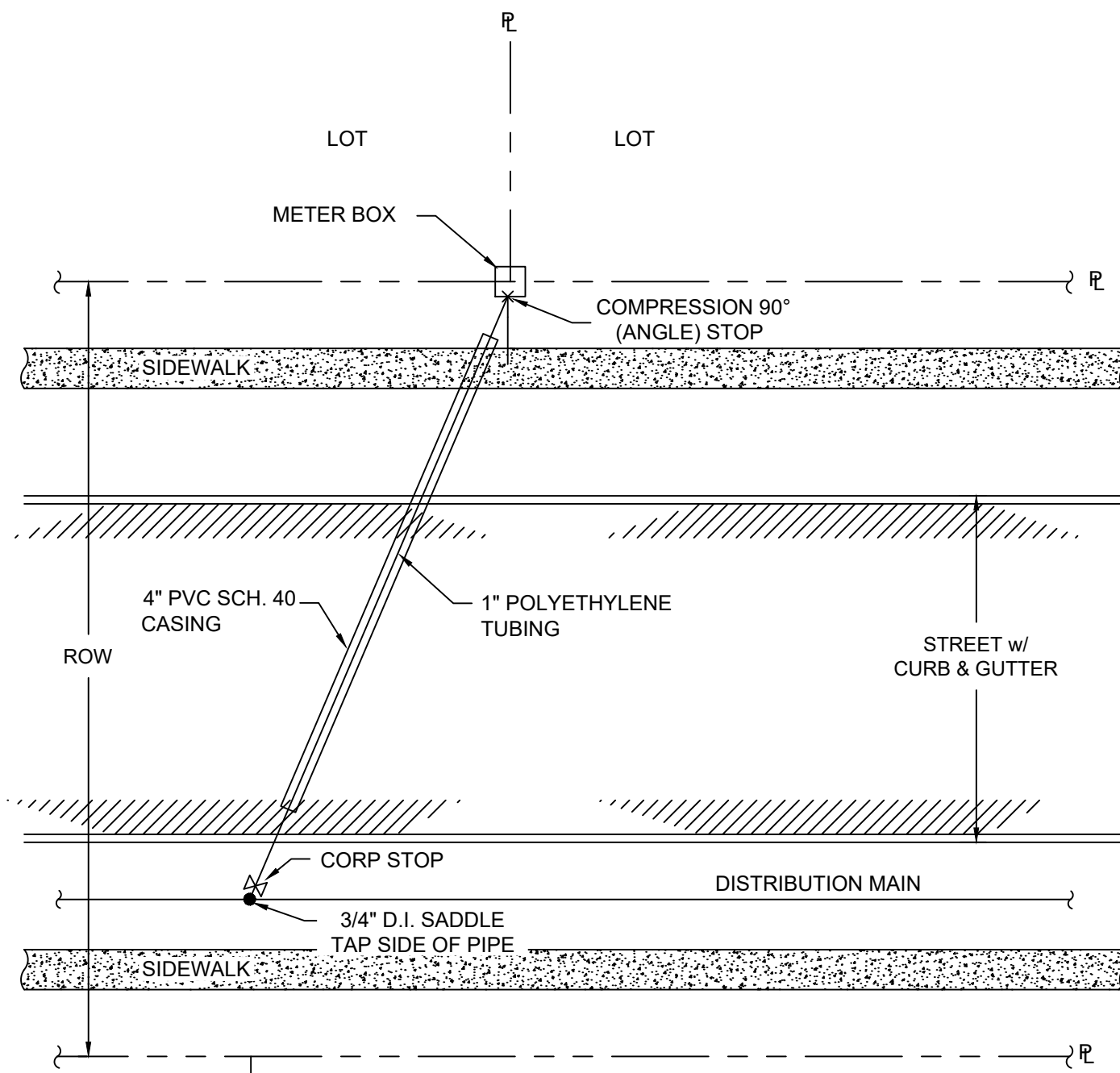


NOTE:

1. UNLESS OTHERWISE REQUIRED BY THE ROADWAY AUTHORITY, CASING PIPE SHALL BE ASTM D 2241, SDR21, OR ASTM D 1785, SCH. 40

2. LONG SERVICES SHALL RUN LOT LINE TO LOT LINE WHERE THE SERVICE TAP AND WATER METER ARE NEAR A LOT LINE. SERVICE TAPS SHALL NOT BE PLACED WHERE A DRIVEWAY MAY BE CONSTRUCTED.

METER SERVICE DETAIL	
SCALE : NONE	REV. DATE : 2/24
DWG. W-16	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	
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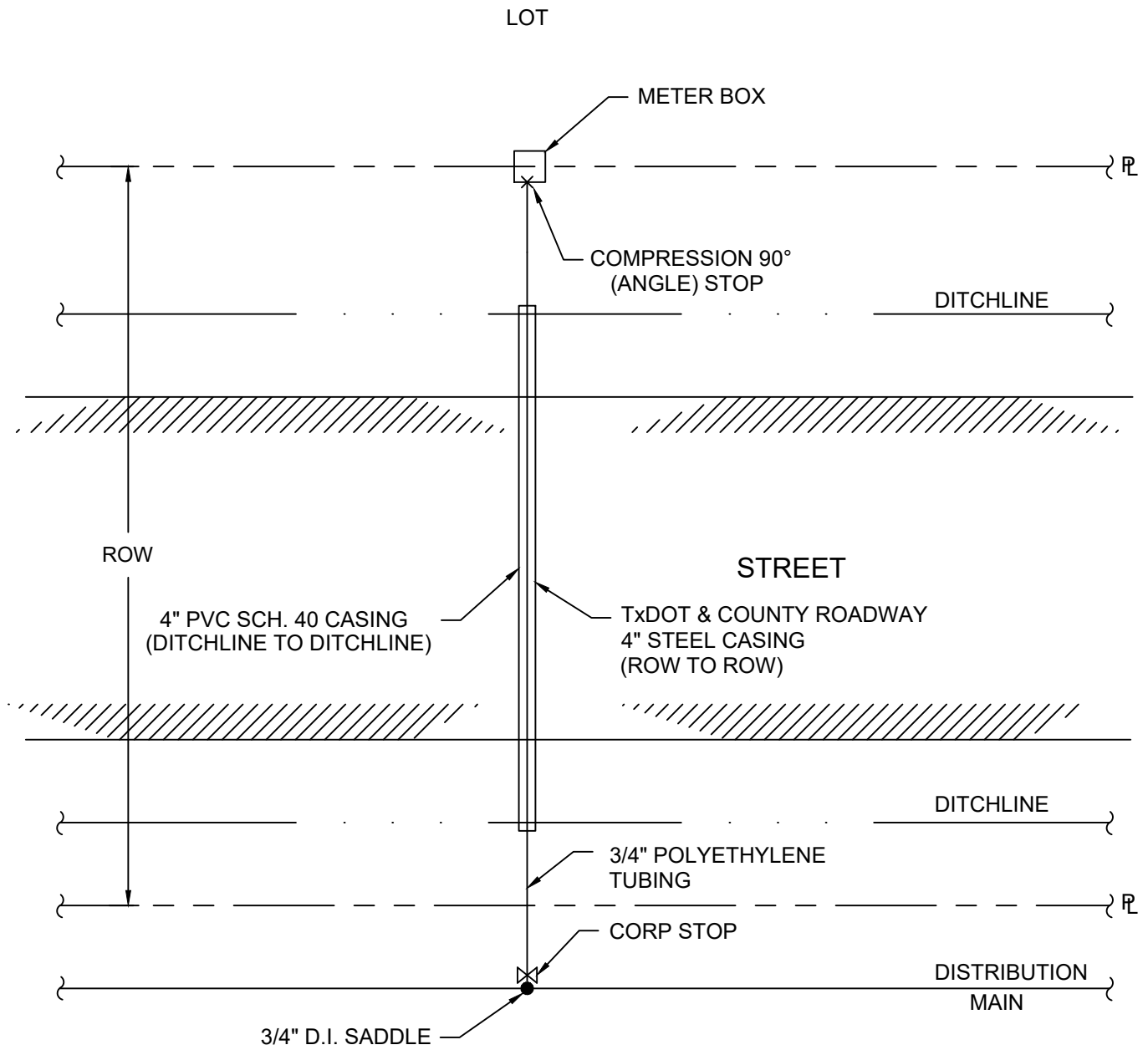
**OPPOSITE SIDE
DUAL SERVICE-URBAN**

NOTE:

1. UNLESS OTHERWISE REQUIRED BY THE ROADWAY AUTHORITY, CASING PIPE SHALL BE ASTM D 2241, SDR21, OR ASTM D 1785, SCH. 40

2. LONG SERVICES SHALL RUN LOT LINE TO LOT LINE WHERE THE SERVICE TAP AND WATER METER ARE NEAR A LOT LINE. SERVICE TAPS SHALL NOT BE PLACED WHERE A DRIVEWAY MAY BE CONSTRUCTED.

METER SERVICE DETAIL	
SCALE : NONE	REV. DATE : 2/24
DWG. W-17	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	
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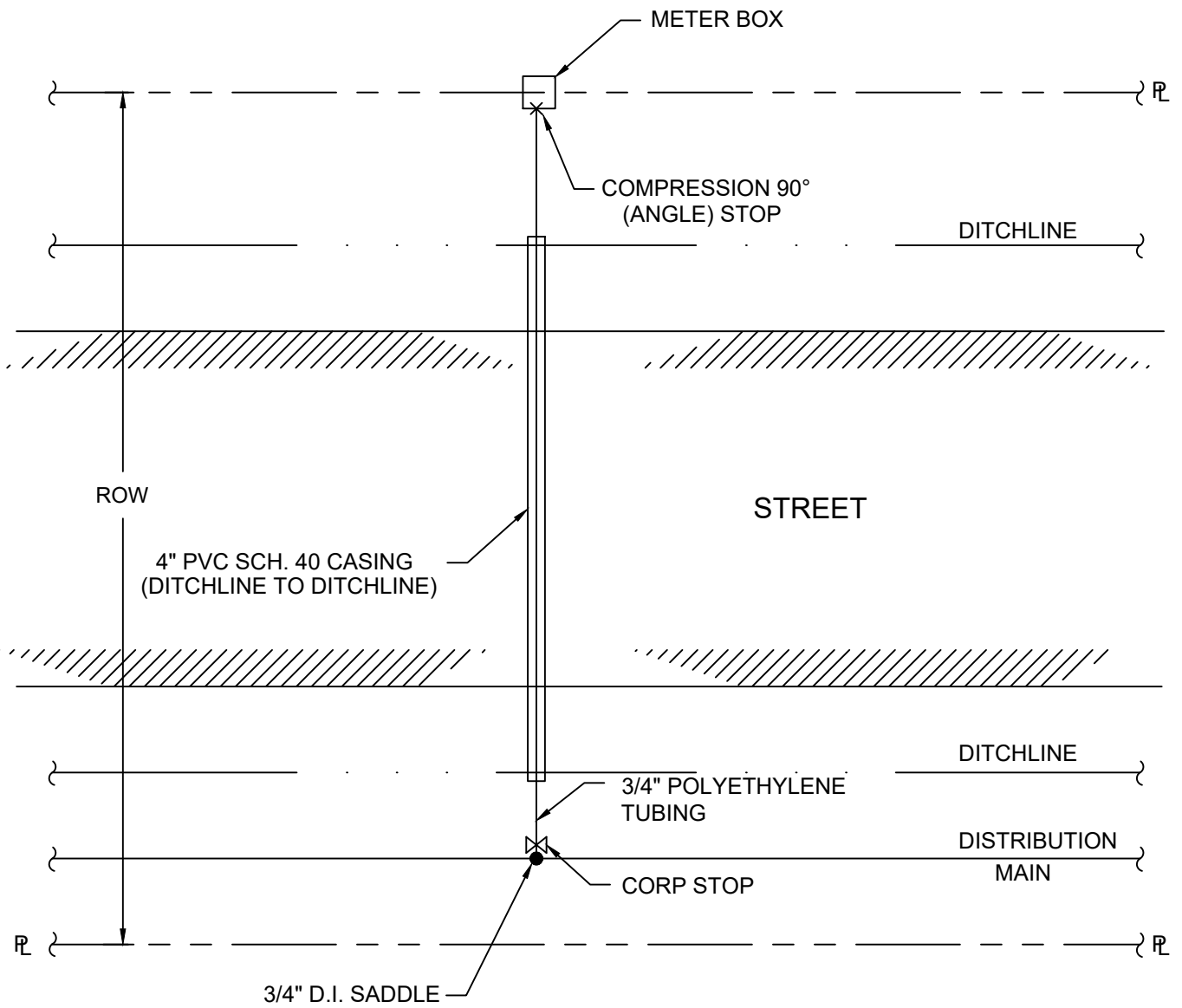


**OPPOSITE SIDE
SINGLE SERVICE-RURAL**

LOT

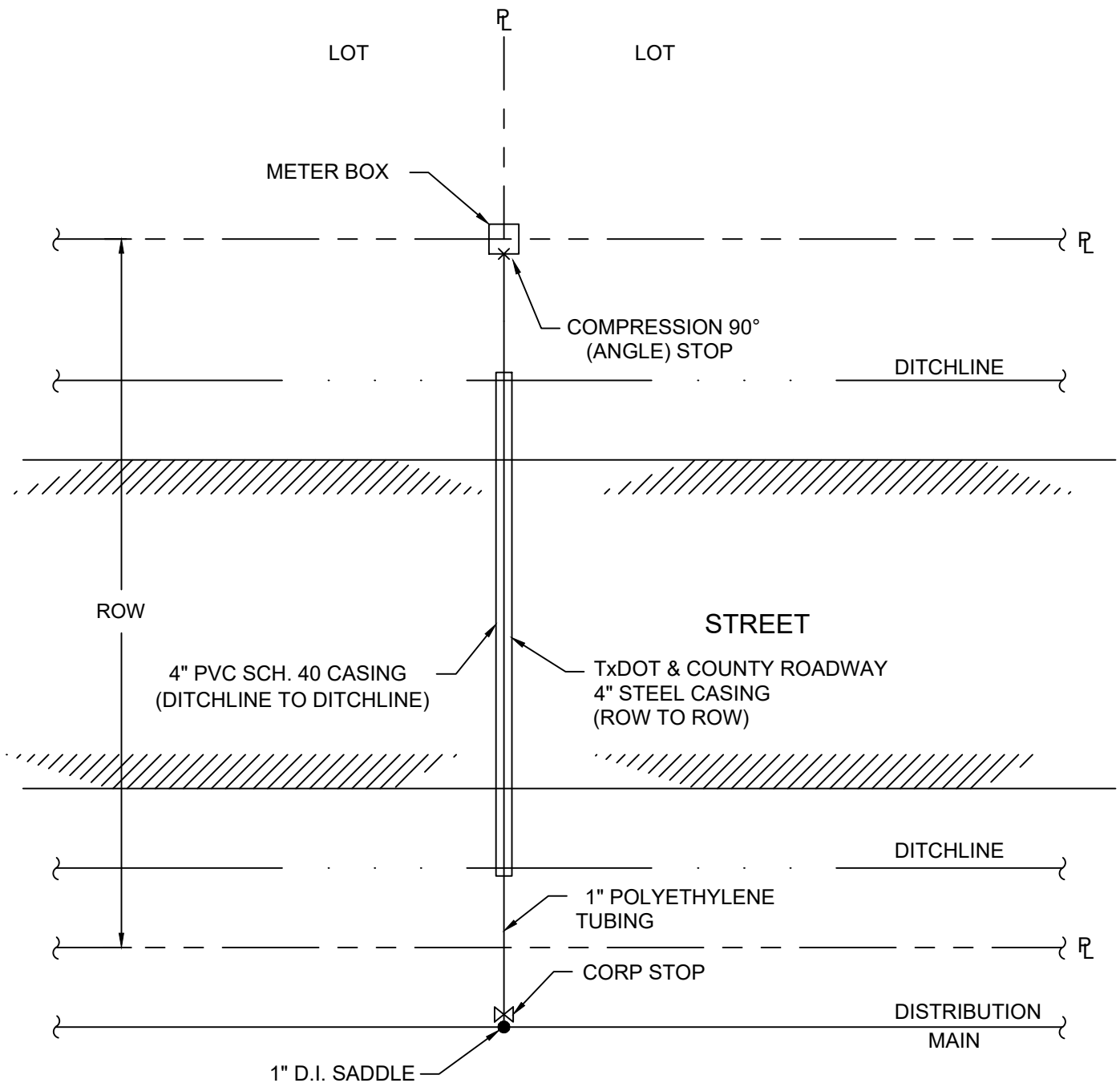
METER SERVICE DETAIL	
SCALE : NONE	REV. DATE : 2/24
DWG. W-18	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	
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LOT



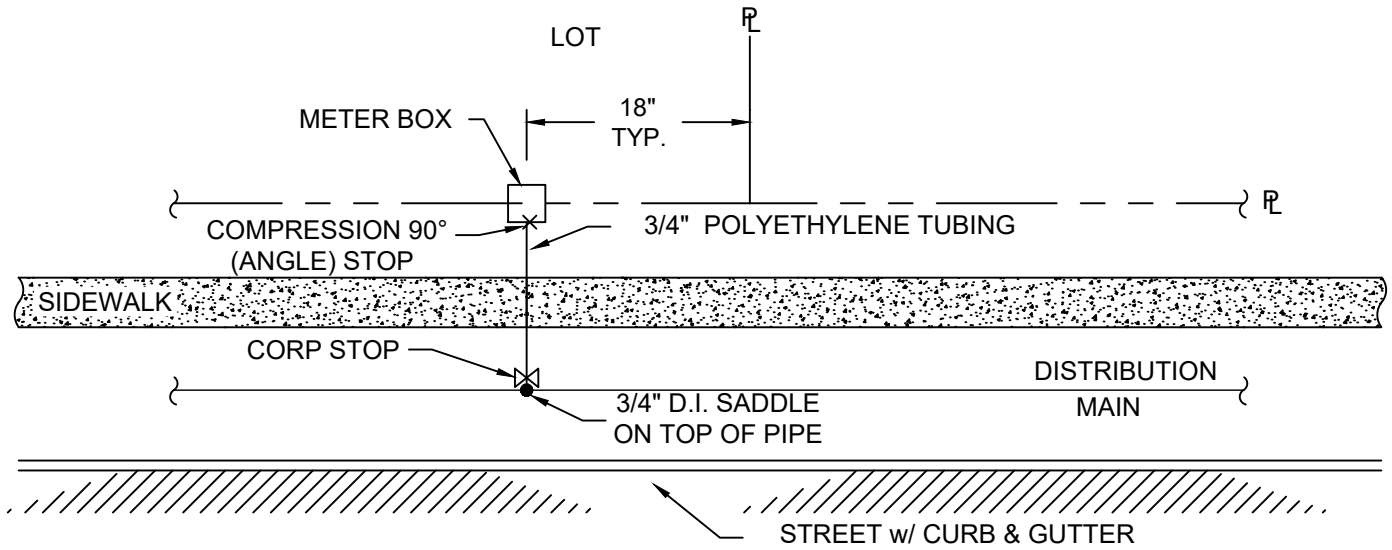
OPPOSITE SIDE SINGLE SERVICE-RURAL

METER SERVICE DETAIL	
SCALE : NONE	REV. DATE : 2/24
DWG. W-18A	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	
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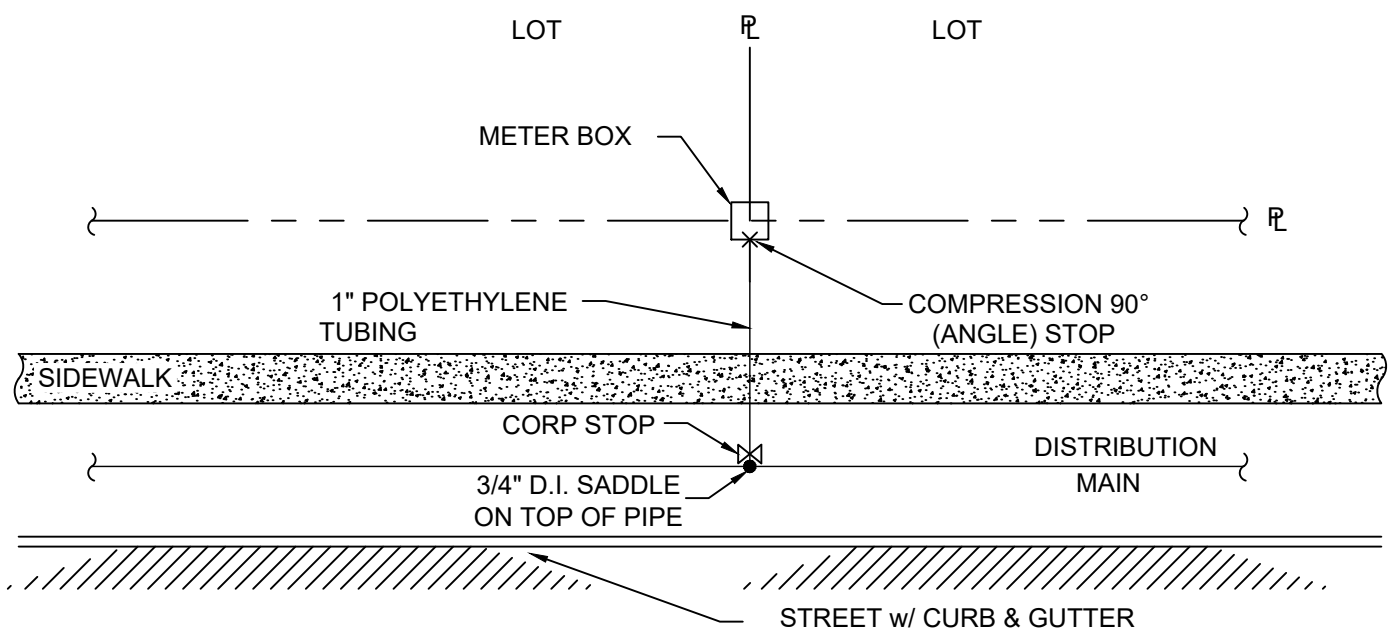


**OPPOSITE SIDE
DUAL SERVICE-RURAL**

METER SERVICE DETAIL	
SCALE : NONE	REV. DATE :2/24
DWG. W-19	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	
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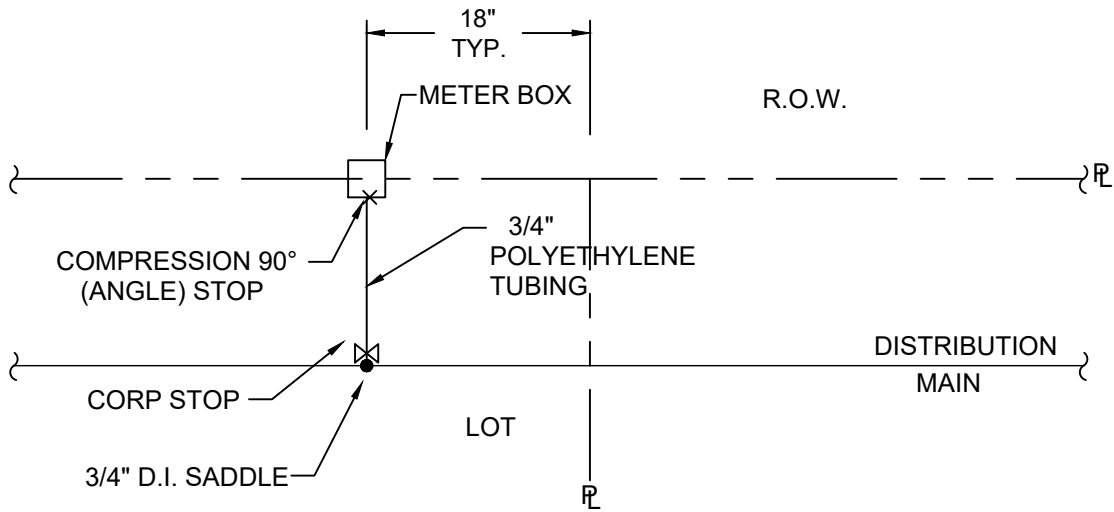


**SAME SIDE
SINGLE SERVICE-URBAN**

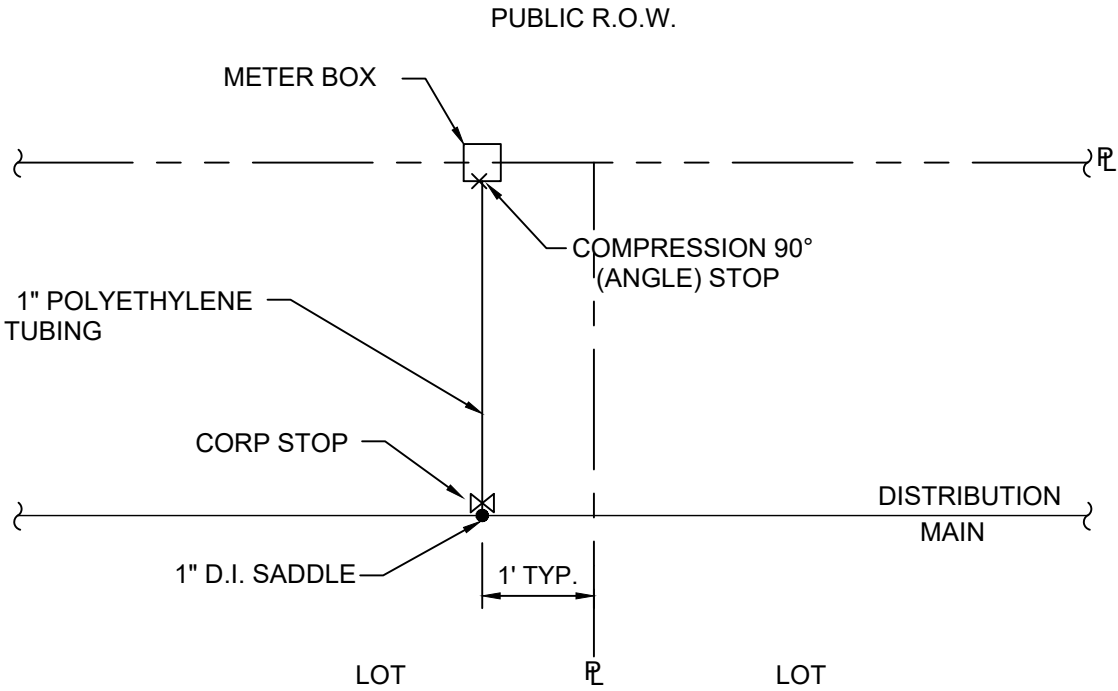


**SAME SIDE
DUAL SERVICE-URBAN**

METER SERVICE DETAIL	
SCALE : NONE	REV. DATE : 2/24
DWG. W-20	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	
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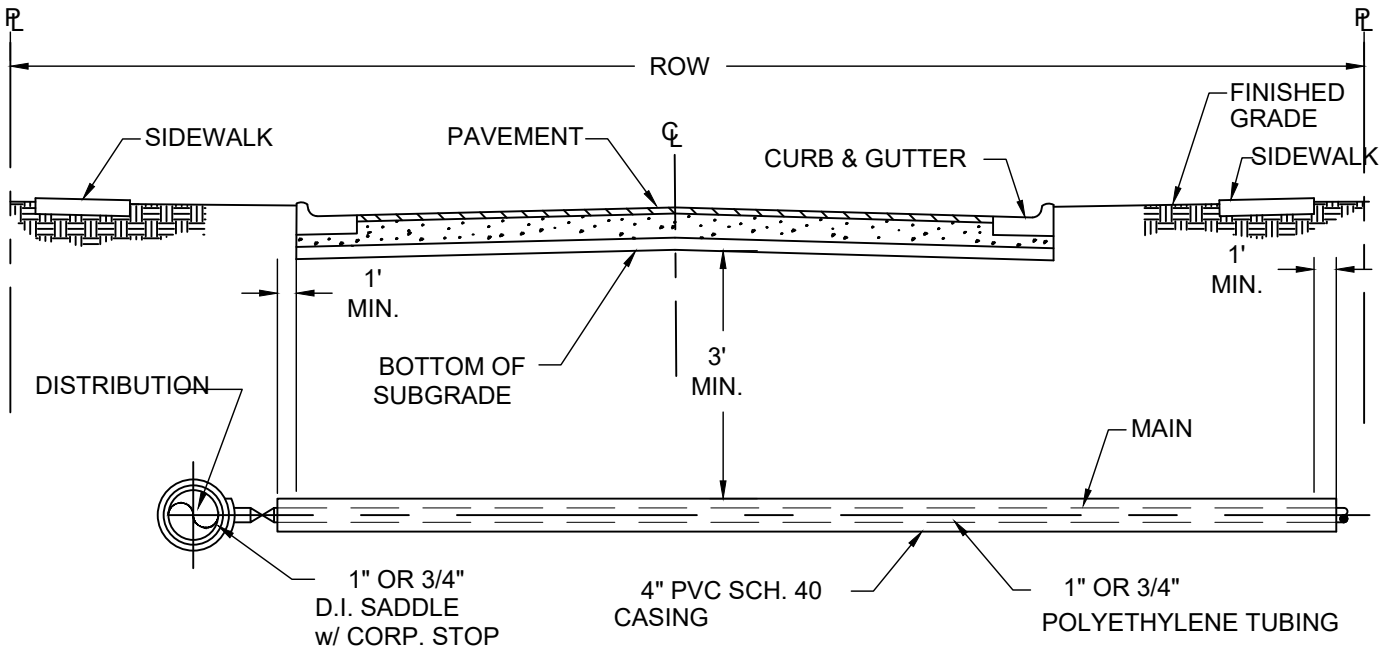


SAME SIDE SINGLE SERVICE-RURAL

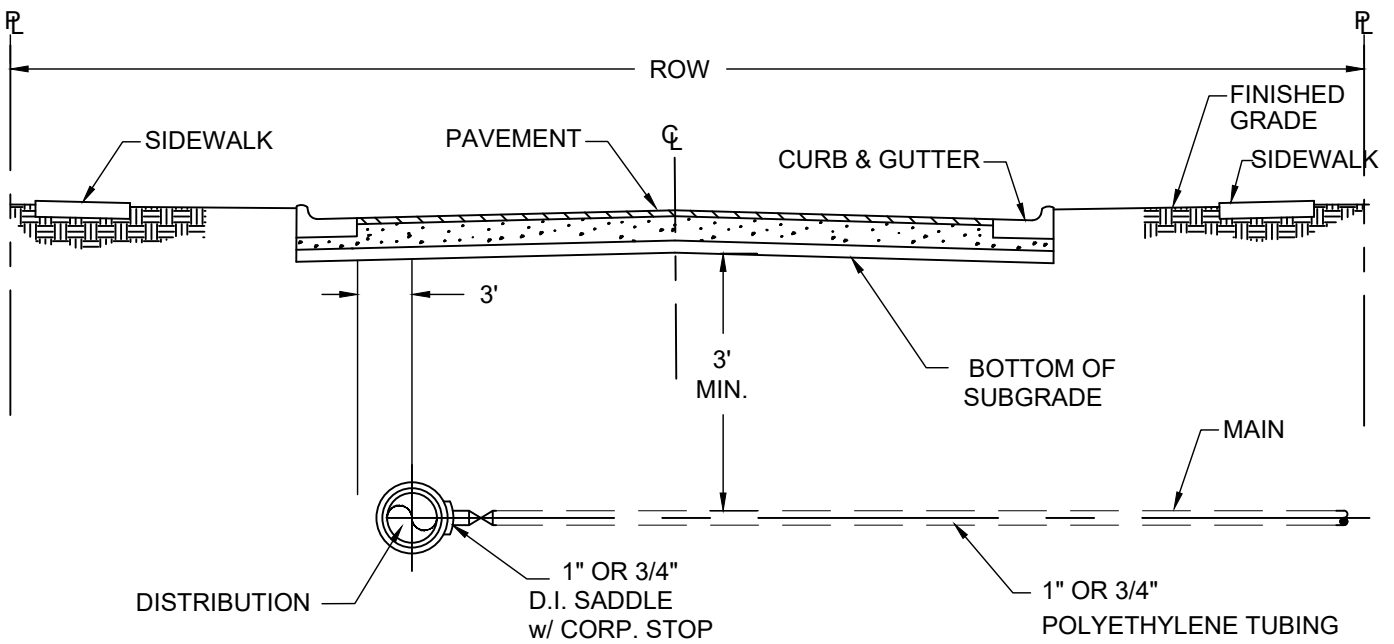


SAME SIDE DUAL SERVICE-RURAL

METER SERVICE DETAIL	
SCALE : NONE	REV. DATE : 2/24
DWG. W-21	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	
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(OUTSIDE OF PAVEMENT)



(UNDER PAVEMENT)

SERVICE LINE

BORING & ENCASEMENT DETAILS-URBAN

NOTE:
UNLESS OTHERWISE REQUIRED BY THE
ROADWAY AUTHORITY, CASING PIPE
SHALL BE ASTM D 2241, SDR21, OR ASTM
D 1785, SCH. 40

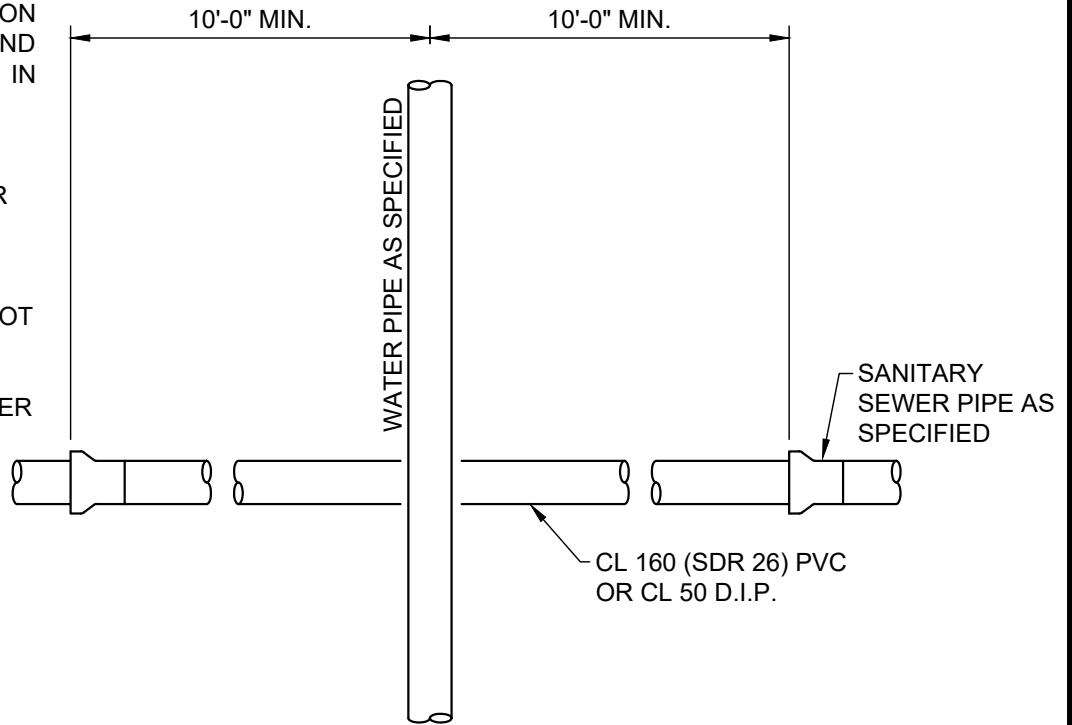
METER SERVICE DETAIL	
SCALE : NONE	REV. DATE : 2/24
DWG. W-22	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	
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NOTES:

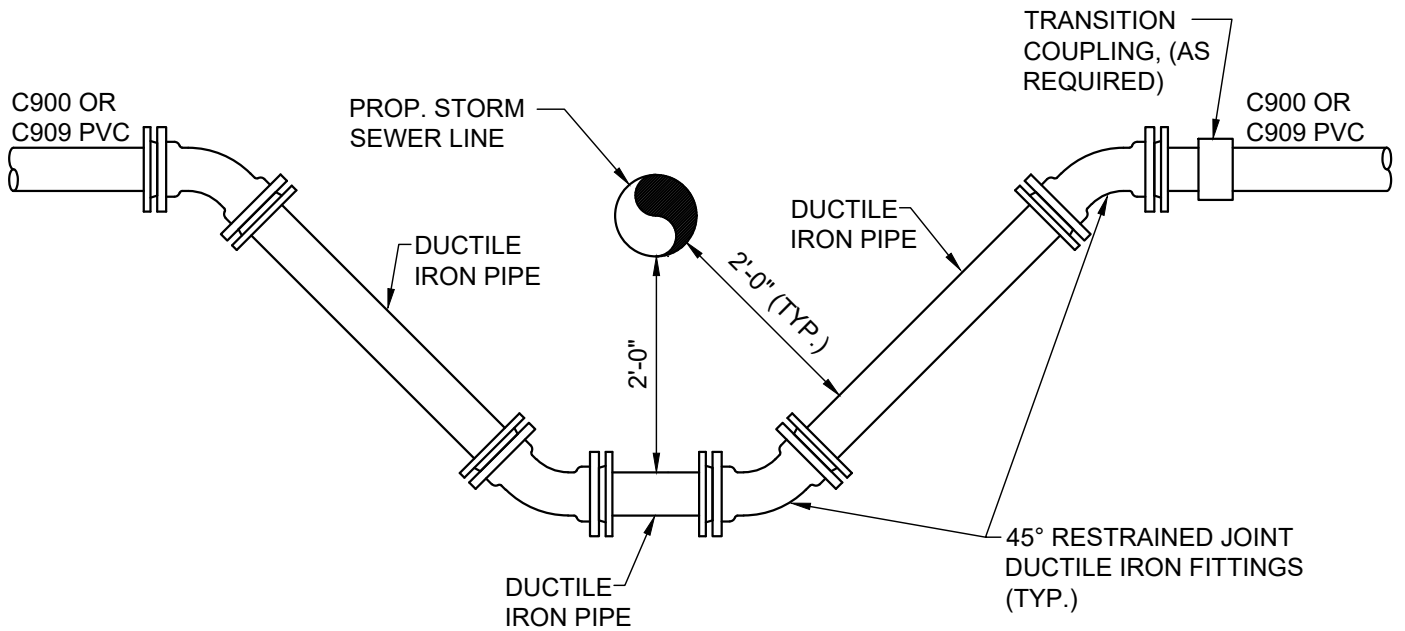
1. THE SANITARY SEPARATION BETWEEN WATER LINE AND WASTEWATER LINE SHALL BE IN ACCORDANCE WITH TCEQ.

2. WATER LINES SHALL BE INSTALLED ABOVE WASTEWATER WITH A MINIMUM OF 24" CLEARANCE.

3. WHEN 24" OF CLEARANCE IS NOT PROVIDED, THE WASTEWATER LINE IS TO BE PLACED IN A 20' CASING CENTERED ON THE WATER LINE.



SANITARY SEWER - WATER LINE CROSSING DETAIL



STORM SEWER - WATER LINE CROSSING DETAIL

NOTES:

1. WATER LINES SHALL BE INSTALLED ABOVE STORM SEWER. THE WATER LINE SHALL BE INSTALLED AT LEAST 30" BELOW ROAD SUBGRADE WITH A MINIMUM OF 6" CLEARANCE FROM THE STORM SEWER.

2. THE CROSSING SHALL BE INSTALLED AS SHOWN IN THE DETAIL WHEN DESIGN LIMITS PREVENT THE WATER LINE FROM BEING INSTALLED ABOVE STORM SEWER.

3. ALL D.I.P., FITTINGS, & VALVES SHALL BE WRAPPED IN PLASTIC.

SANITARY SEWER & STORM WATER CROSSING DETAIL

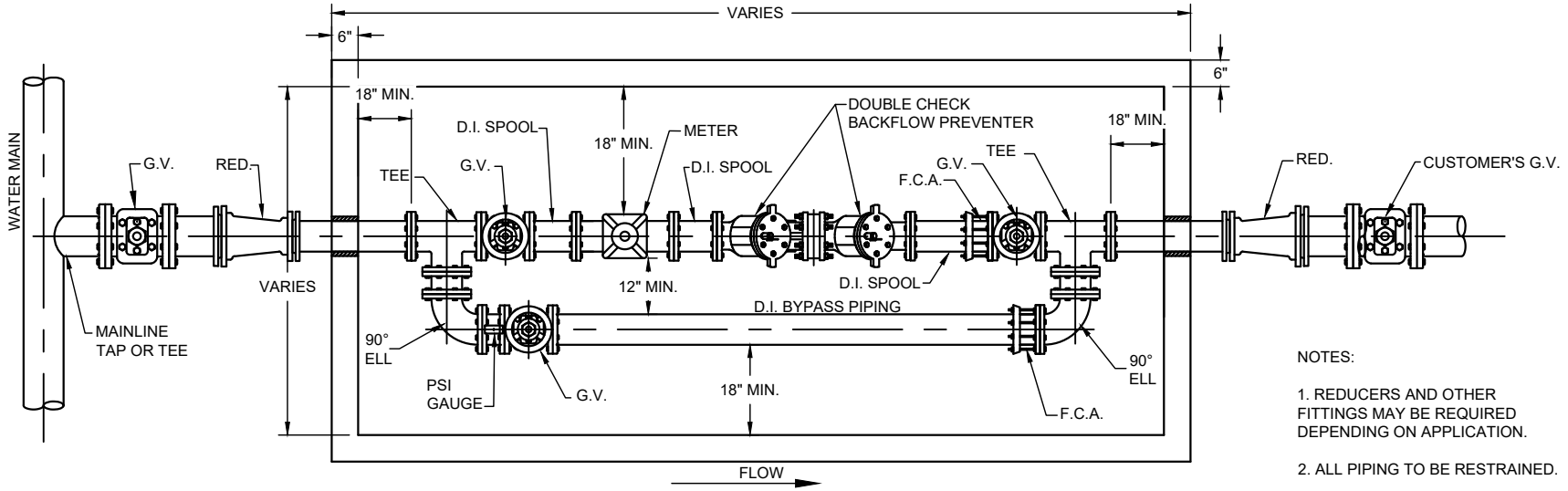
SCALE : NONE

REV. DATE : 9/19

DWG. W-25

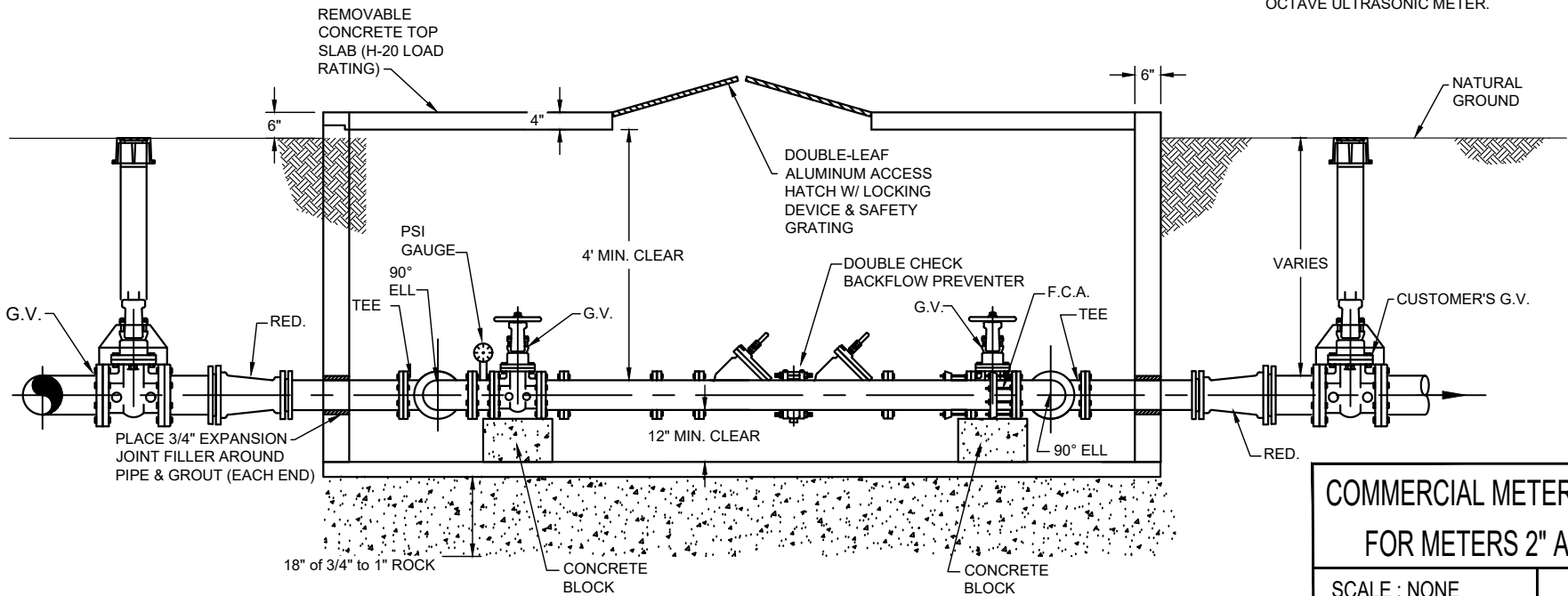
COUNTY LINE SUD

HAYS & CALDWELL COUNTIES,
TEXAS



NOTES:

1. REDUCERS AND OTHER FITTINGS MAY BE REQUIRED DEPENDING ON APPLICATION.
2. ALL PIPING TO BE RESTRAINED.
3. METER TO BE MASTER METER OCTAVE ULTRASONIC METER.



**COMMERCIAL METER VAULT DETAIL
FOR METERS 2" AND LARGER**

SCALE : NONE

REV. DATE : 9/19

DWG. W-26

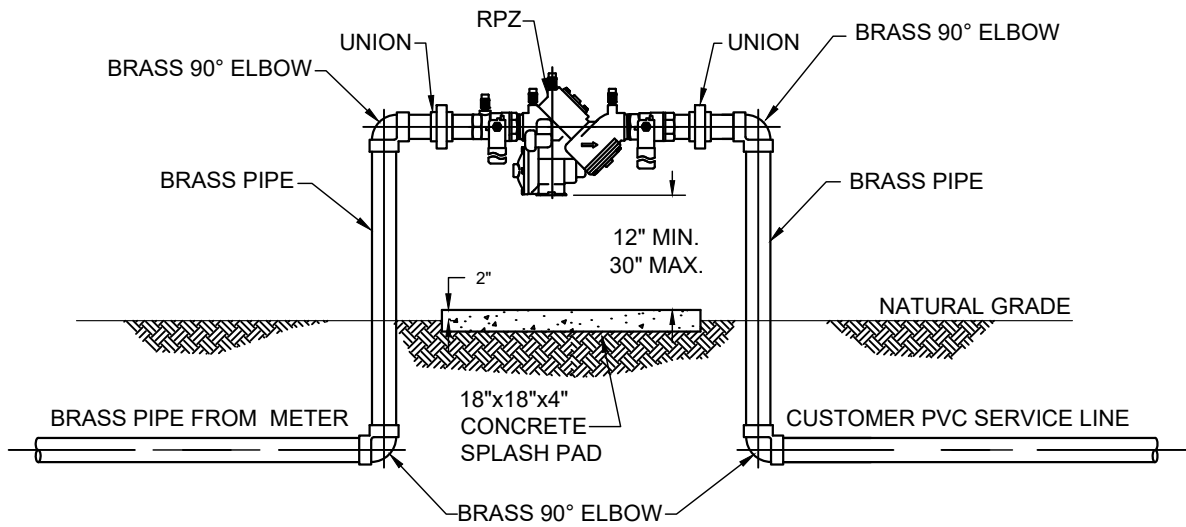
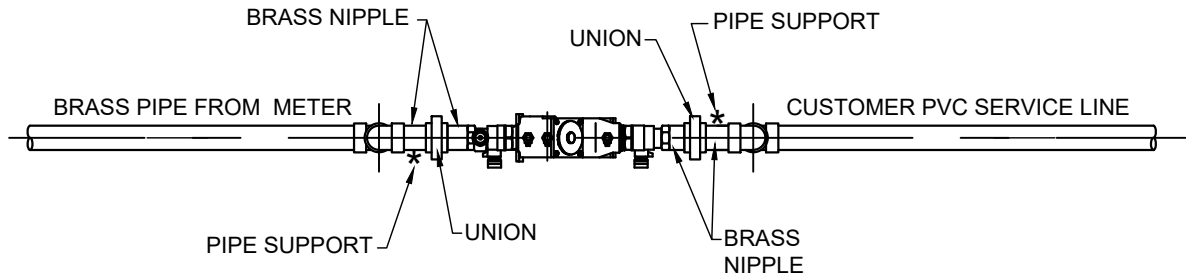
COUNTY LINE SUD
HAYS & CALDWELL COUNTIES,
TEXAS

NOTES FOR COMMERCIAL METERS 3" & LARGER

1. All piping from mainline tap or tee through mainline backflow preventer, including bypass piping, shall be ductile iron. (If bypass piping is less than 3", copper or brass shall be used.)
2. Vault, pipe and meter size shall be determined by Owner, approval by County Line SUD.
3. Meter vault must be behind curb and/or sidewalk and out of vehicular traffic.
4. Mainline and bypass valves shall be resilient wedge type. All valves within vault shall have handwheels.
5. A mechanical joint gate valve upstream of the vault (County Line's valve) and downstream of the vault (Owner's valve) is required. (A gate valve downstream of the backflow preventer is recommended, but not required.)
6. County Line's maintenance/ownership ends at the downstream end of the meter.
7. The meter is provided and installed by County Line SUD.
8. All fittings inside the vault shall be flanged.
9. All bypass piping shall be located inside the vault.
10. The vault shall include a double-leaf aluminum access hatch with locking device and equipped with safety grating for fall protection. Typical hatch opening shall be 36"x48" for smaller meter applications and 48"x72" for larger meter applications. A ladder shall be provided and is to remain in the vault for access.
11. All notches where piping goes through vault shall be filled with mortar.
12. The top of the meter vault shall be at an elevation such that the surrounding ground slopes away from the vault.
13. The vault shall have a concrete floor with drain holes. There shall be a minimum of 18" of $\frac{3}{4}$ " to 1" rock (ASTM C33, size 57) beneath the vault.
14. There shall be 12" minimum clearance between piping and vault floor.

NOTES FOR COMMERCIAL METERS 3" & LARGER	
SCALE : NONE	REV. DATE : 9/19
DWG. W-27	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	
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* INSERT PIPE SUPPORTS
(POSTS OR TEE POSTS)



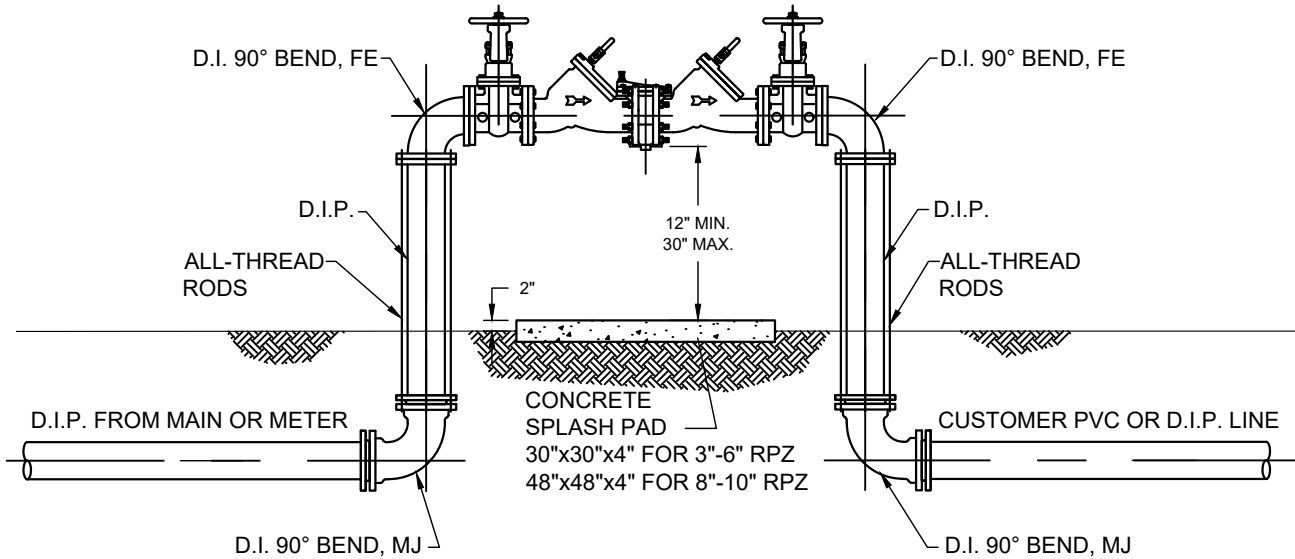
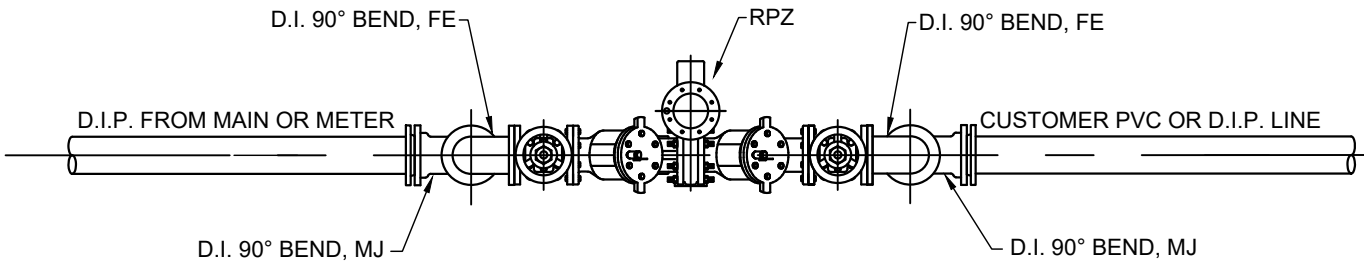
REDUCED PRESSURE ZONE (RPZ)
ASSEMBLY
BACKFLOW PREVENTER FOR 3/4"-2 1/2"
ASSEMBLIES
(WATTS SERIES 909 OR APPROVED
EQUAL)

SCALE : NONE

REV. DATE : 9/19

DWG. W-28

COUNTY LINE SUD
HAYS & CALDWELL COUNTIES,
TEXAS



NOTES:

- MEGA-LUGS TO BE USED ON ALL FITTINGS
- INSERT PIPE SUPPORTS IF NECESSARY

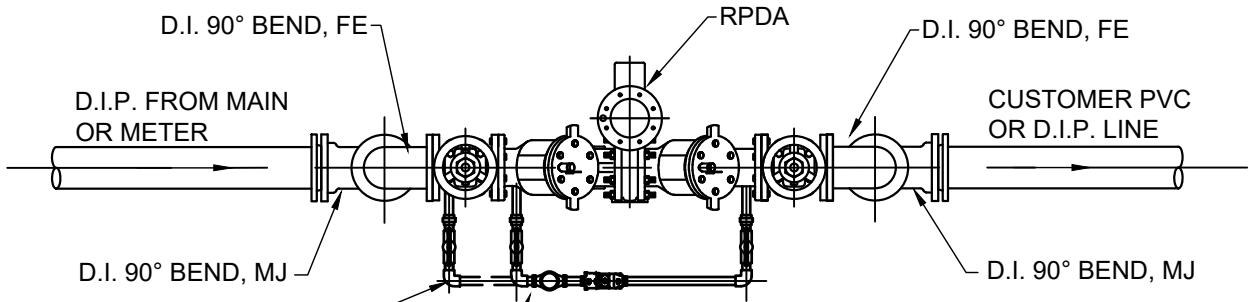
**REDUCED PRESSURE ZONE (RPZ)
 ASSEMBLY**
**BACKFLOW PREVENTER FOR
 3" & LARGER ASSEMBLIES
 (WATTS SERIES 909 OR APPROVED
 EQUAL)**

SCALE : NONE

REV. DATE : 9/19

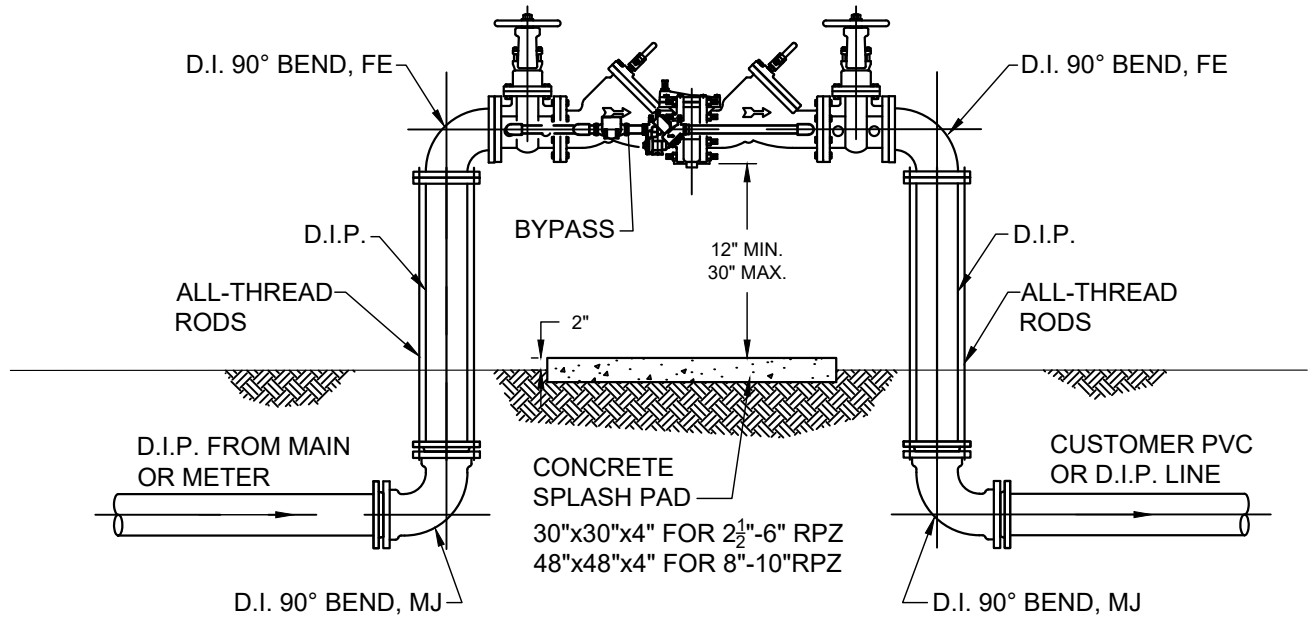
DWG. W-29

COUNTY LINE SUD
 HAYS & CALDWELL COUNTIES,
 TEXAS



NOTE: PIPING FOR 3" WILL START FROM #1 GV AND CONNECT @ #2 CV

BYPASS



- NOTES:
- MEGA-LUGS TO BE USED ON ALL FITTINGS
 - INSERT PIPE SUPPORTS IF NECESSARY
 - FOR FIRE LINE OR ANY OTHER NON-METERED APPLICATIONS

REDUCED PRESSURE ZONE (RPZ)
ASSEMBLY
BACKFLOW PREVENTER FOR
2 1/2" & LARGER ASSEMBLIES
(WATTS SERIES 909 RPDA
OR APPROVED EQUAL)

SCALE : NONE REV. DATE : 9/19

DWG. W-30

COUNTY LINE SUD
HAYS & CALDWELL COUNTIES,
TEXAS

Paint Exposed 6" Steel Pipe &
Concrete Cap w/One Coat of
Rust-Inhibitive Primer & One
Outside Coat of Yellow Paint.

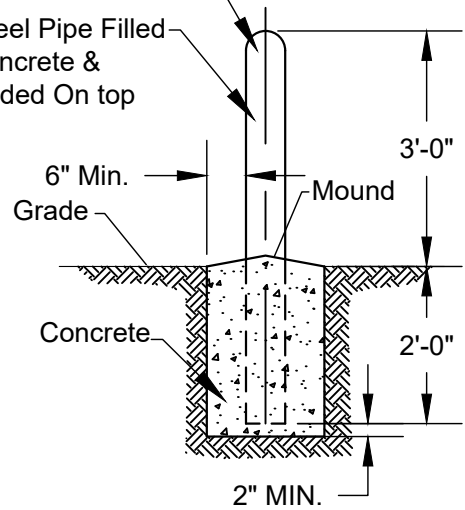
6" Steel Pipe Filled
w/Concrete &
Rounded On top

6" Min.
Grade

Mound

Concrete

2" MIN.

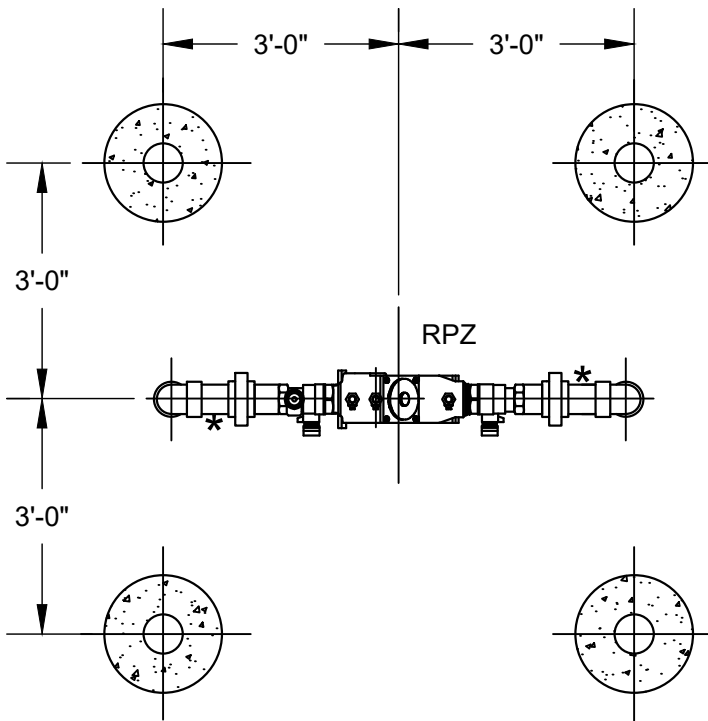


TYP. ELEVATION

Note:

Install Guard Post as Required to Protect
RPZ from Vehicular Traffic.

For Highway Installation See TxDOT
Specifications.



TOP VIEW
RPZ GUARD POST

GUARD POST DETAIL	
SCALE : NONE	REV. DATE : 9/19
DWG. W-31	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	
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