

1. All wastewater construction shall be in accordance with Texas Commission on Environmental Quality (TCEQ) regulations, 30 TAC Chapter 217.
2. Contractor shall field-locate all existing utilities in the area prior to commencing construction and notify engineer immediately of any discrepancies. Contractor shall be responsible for any and all damage to existing utilities and other infrastructure (pavement, curbs, sidewalks, fences, etc.) and shall promptly make any necessary repairs.
3. Pipe material for all gravity wastewater mains and service laterals shall be SDR 26 PVC (ASTM D3034). Pipe material for all force mains shall be PVC C-900, DR-18 or Ductile Iron, Class 350 (ANSI/AWWA C151/A21.5) or HPDE (AWWA C906) for special conditions.
4. Minimum depth of cover for all pipes is 30" below street subgrade or 36" below the natural ground surface, unless otherwise specified.
5. All wastewater pipe and manholes shall maintain adequate separation from potable water lines in accordance with TCEQ Regulations §217.53(d).
6. All manholes located within a 100-year floodplain must have a gasketed ring and cover with machined surfaces that is bolted down to prevent inflow.
7. All force main fittings shall be ductile iron and have an interior lining of Protecto 401 with a minimum thickness of 40 mils.
8. Water and wastewater services must maintain a minimum of 24" vertical separation. Water shall cross above wastewater.
9. Prior to construction, contractor shall coordinate a Pre-Construction Conference with County Line SUD.
10. Contractor shall provide submittals and shop drawings for materials and equipment to County Line SUD prior to construction.
11. Contractor shall notify County Line SUD at least 48 hours in advance of any connection to existing County Line SUD wastewater infrastructure.
12. All trench excavations greater than 5' deep shall have trench safety protection in accordance with OSHA standards.
13. Contractor is responsible for any necessary traffic control measures during construction to ensure the safety of their employees and the public.
14. All trenches below existing or proposed pavement shall be backfilled and compacted to at least 95% of the maximum proctor density at 98% to 103% optimum moisture content. Contractor shall be responsible for contracting with an independent, third-party company to perform the necessary compaction testing and providing results to County Line SUD.
15. All gravity wastewater pipe and manholes shall be tested in accordance with TCEQ Regulations §217.57 and §217.58, respectively. All force main pipe shall be pressure tested in accordance with TCEQ Regulations §217.68. Contractor shall provide all necessary testing equipment and be responsible for all testing-related costs. County Line SUD shall be notified of testing at least 48 hours in advance, and all testing shall be observed by a representative of County Line SUD. Contractor shall be responsible for any costs incurred by County Line SUD as a result of failed tests and/or re-testing of infrastructure. Contractor shall also perform TV inspections of all gravity pipes and provide digital files to County Line SUD prior to acceptance.
16. County Line SUD will provide water for pressure testing of force mains at currently established rates. Water for other construction purposes may or may not be available. Contractor shall coordinate with County Line SUD to make all arrangements for water.
17. After final acceptance of wastewater infrastructure, Contractor shall provide County Line SUD with record drawings containing accurate locations and descriptions/specifications of all wastewater improvements, as well as a two-year warranty and maintenance bond.

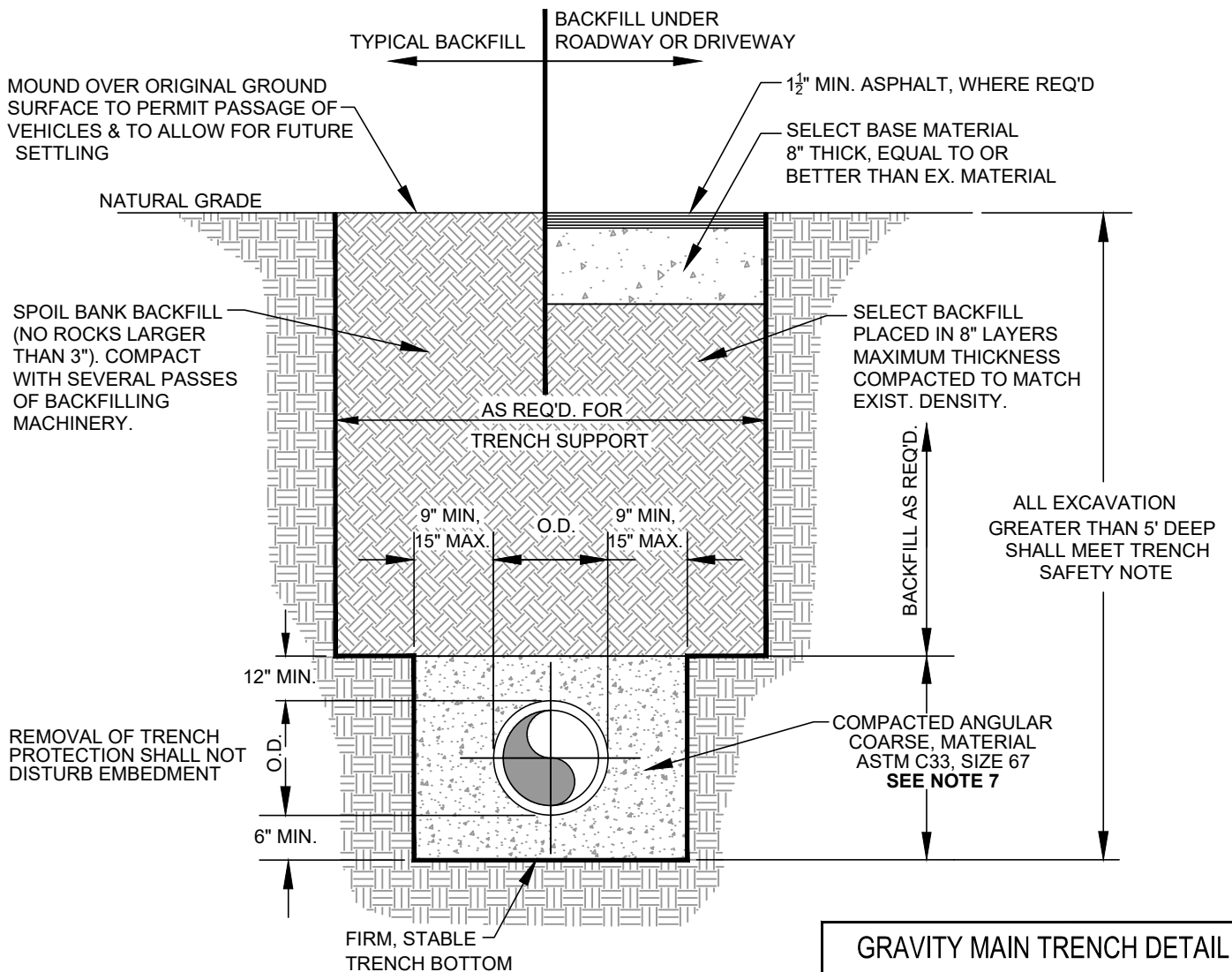
WASTEWATER GENERAL CONSTRUCTION NOTES	
SCALE : NONE	REV. DATE : 5/21
DWG. WW-1	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	

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.
6. BEDDING AND BACKFILL MATERIALS SHOULD MEET MINIMUM REQUIREMENTS SPECIFIED IN GEOTECHNICAL REPORT.
7. **TRENCH DAM - AT 300 FOOT INTERVALS ALONG THE GRAVITY WASTEWATER OMIT THE COARSE EMBEDMENT MATERIAL & BACKFILL 10 FEET OF TRENCH WITH COMPACTED CLAY MATERIAL.**

TRENCH SAFETY NOTE

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.



GRAVITY MAIN TRENCH DETAIL	
SCALE : NONE	REV. DATE : 5/20
DWG. WW-2	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	

32" STANDARD RING & COVER BEARING
 THE WORDS "SANITARY SEWER":
 EAST JORDON IRON WORK, INC.
 PRODUCT #41432003 OR PRODUCT
 #42432070 (WATER TIGHT), OR EQUAL.

MATCH FINISHED PAVEMENT ELEVATION
 OR 6" ABOVE N.G. IN UNPAVED AREAS

GRADE RINGS
 AS REQUIRED
 (3 MAX.)

30" MIN.
 CLEAR

CONCENTRIC OR
 ECCENTRIC CONE

GASKET JOINT
 PER ASTM C-443

PRECAST SECTIONS
 PER ASTM C-478

4'-0"

NOTE:
 ABRASION BLAST CLEAN
 INTERIOR MANHOLE WALLS
 AND CEILING AND COAT
 WITH 1/2" LINING OF
 KERNEOS SEWPERCOAT.
 FILL ALL HOLES AND
 CREVICES. TROWEL TO A
 SMOOTH SURFACE.

THE STRUCTURE SHALL BE
 PLACED ON A COMPACTED
 GRANULAR BASE

PRECAST CONCRETE MANHOLE

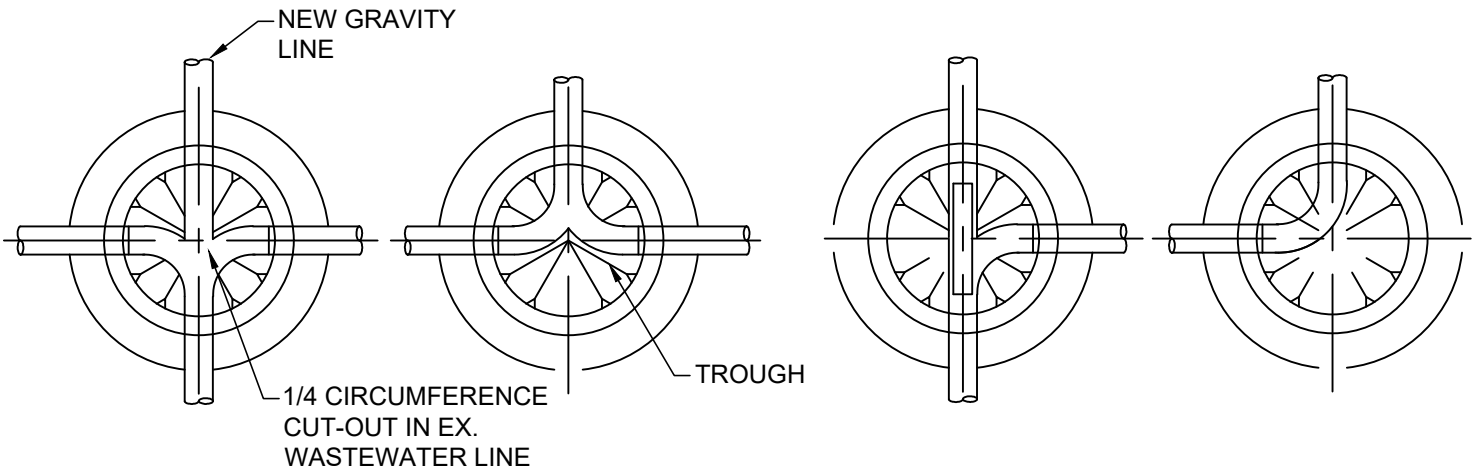
SCALE : NONE

REV. DATE : 5/20

DWG. WW-3

COUNTY LINE SUD

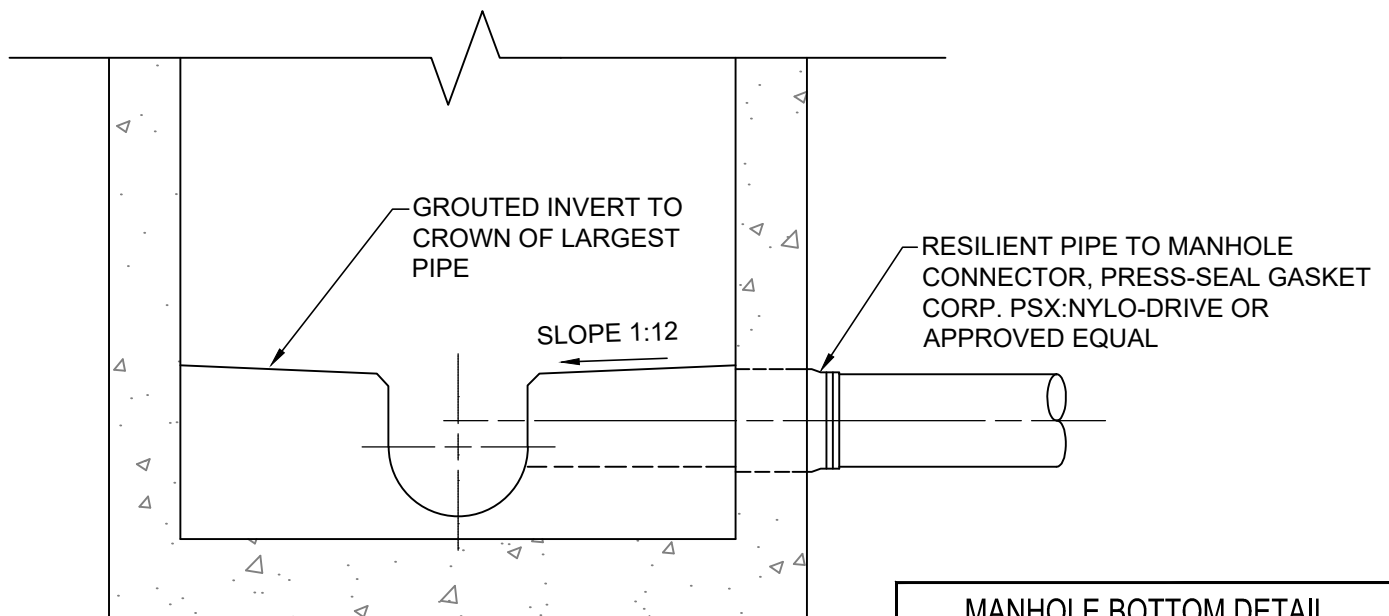
HAYS & CALDWELL COUNTIES,
 TEXAS



PLAN

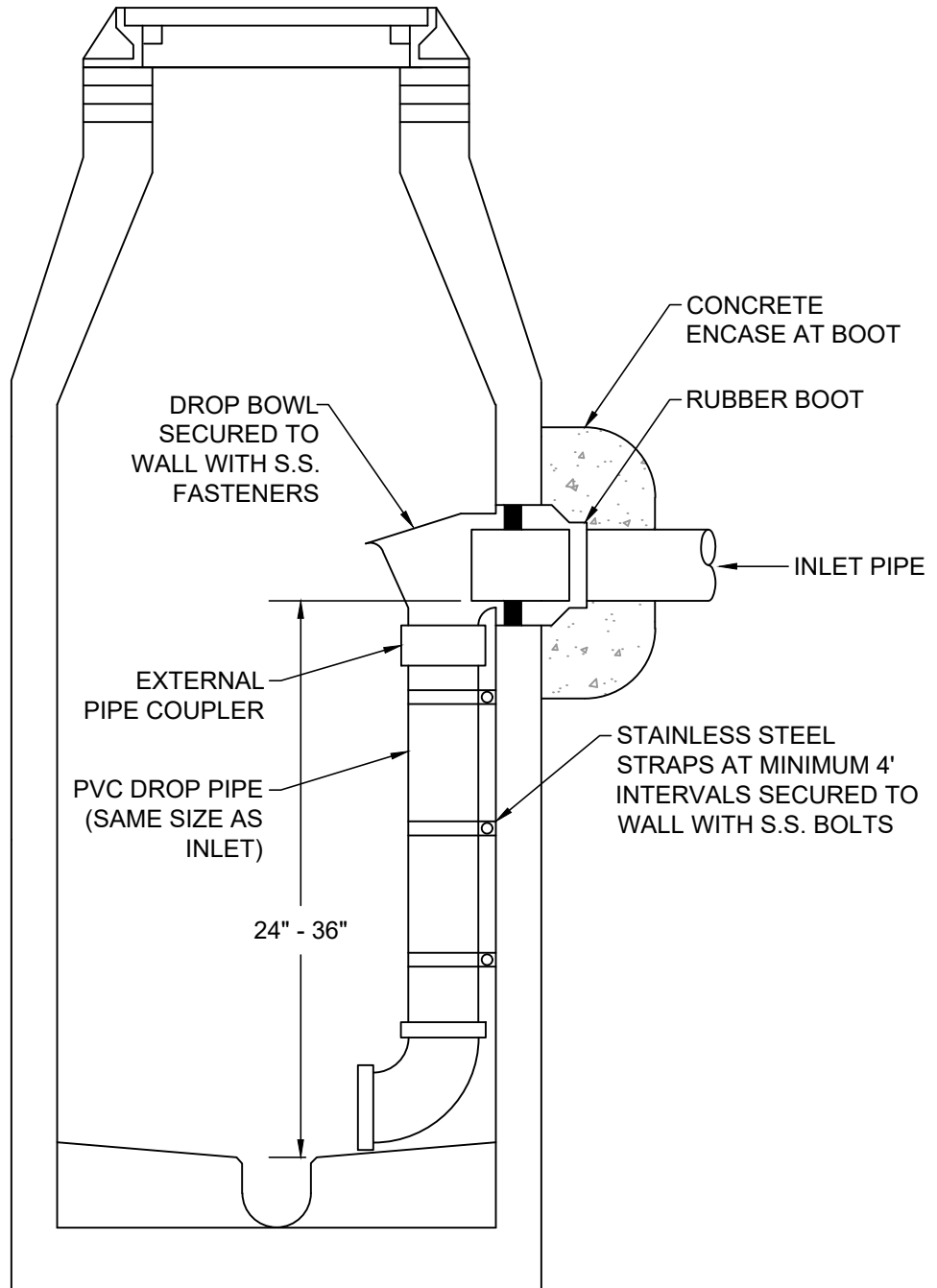
NOTES:

1. INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS.
2. SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS PROVIDING FOR SMOOTH FLOW.
3. INTERIOR DROP MUST BE PROVIDED FOR DROP OF GREATER THAN 24 INCHES. USE "INTERIOR DROP PIPE DETAIL" FOR CONSTRUCTION.
4. CHANNELS FOR FUTURE CONSTRUCTIONS (STUBS) SHALL BE CONSTRUCTED, FILLED WITH SAND, AND COVERED 1" MORTAR.
5. CORING EXISTING MANHOLE MUST MATCH EXISTING TROUGHS.



MANHOLE BOTTOM DETAIL	
SCALE : NONE	REV. DATE : 5/20
DWG. WW-4	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	

NOTE:
REFERENCE PRECAST CONCRETE
MANHOLE DETAIL FOR ADDITIONAL
REQUIREMENTS.



INTERNAL DROP MANHOLE DETAIL

SCALE : NONE

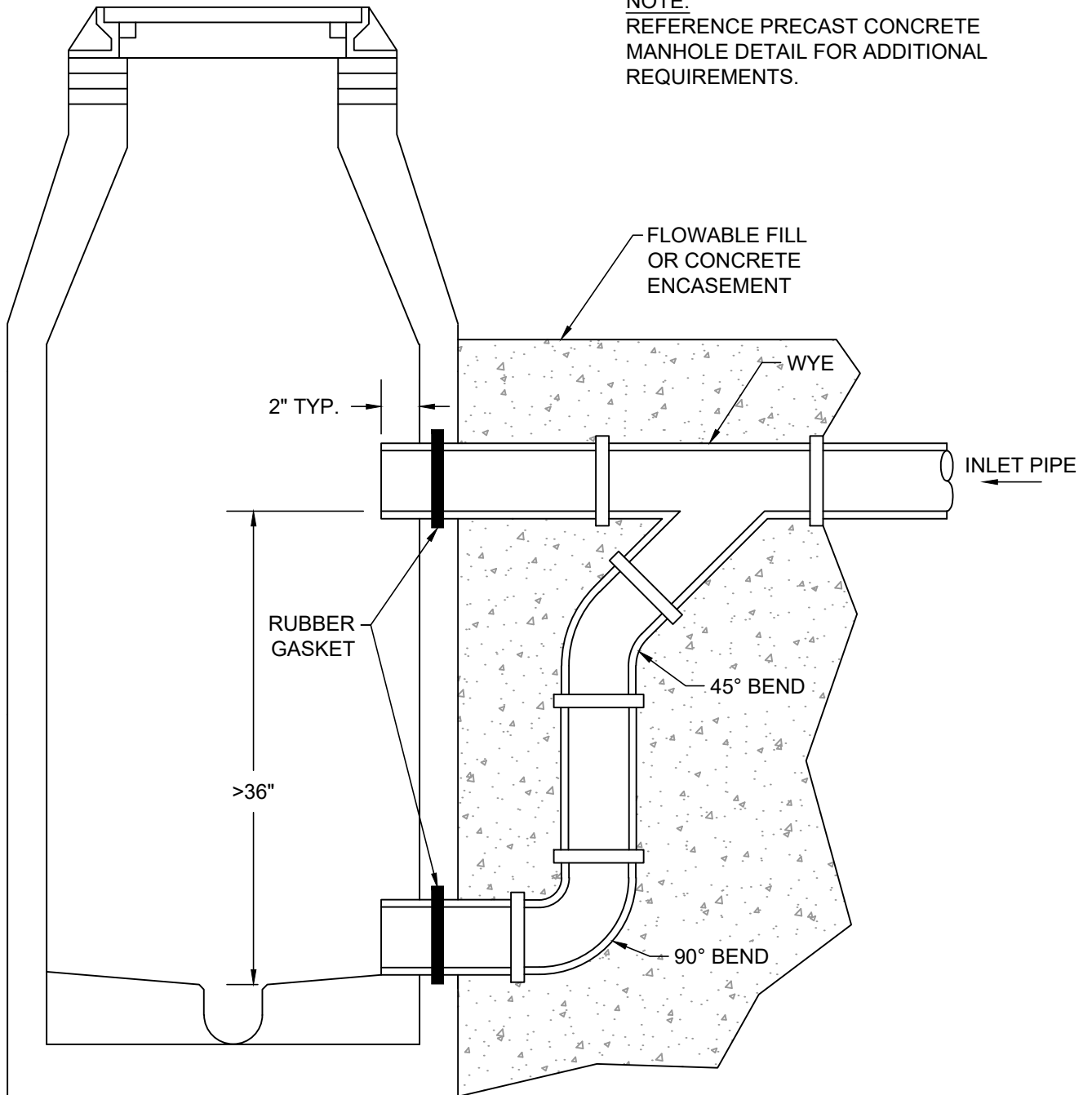
REV. DATE : 5/20

DWG. WW-5

COUNTY LINE SUD

HAYS & CALDWELL COUNTIES,
TEXAS

NOTE:
 REFERENCE PRECAST CONCRETE
 MANHOLE DETAIL FOR ADDITIONAL
 REQUIREMENTS.



EXTERNAL DROP MANHOLE DETAIL

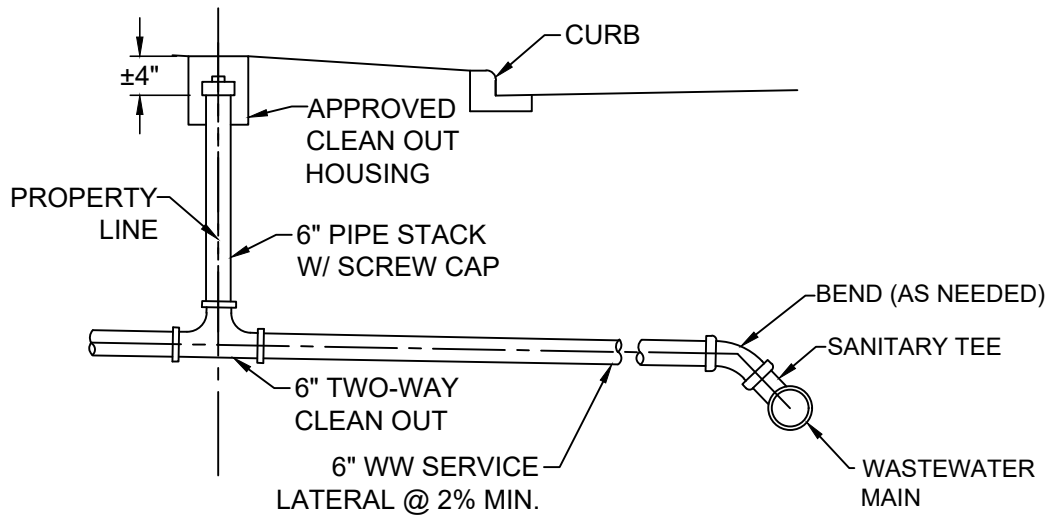
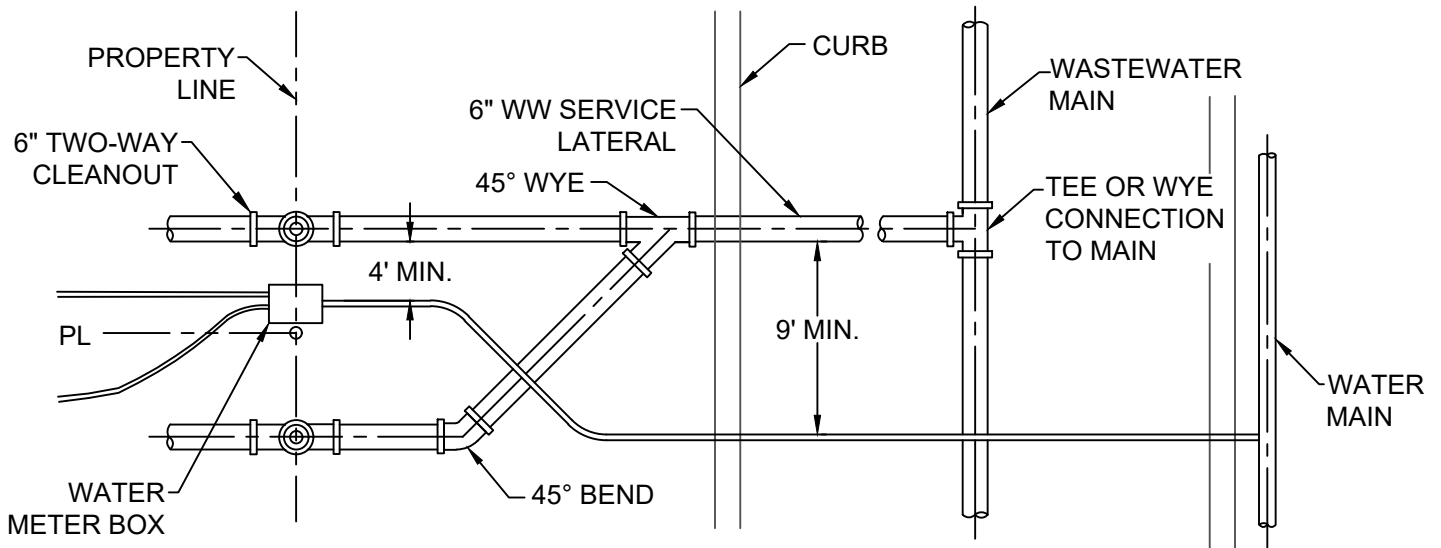
SCALE : NONE

REV. DATE : 5/20

DWG. WW-6

COUNTY LINE SUD

HAYS & CALDWELL COUNTIES,
 TEXAS

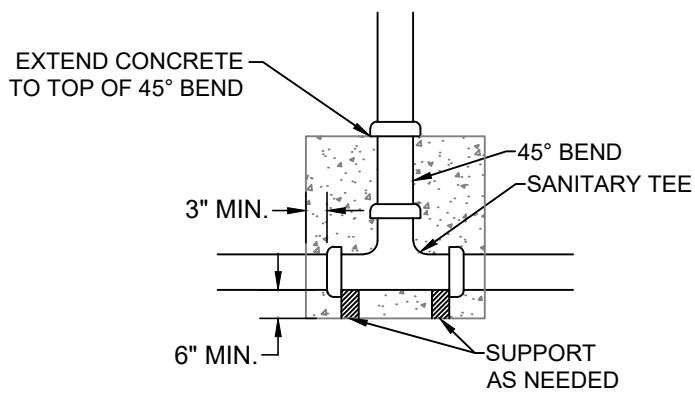
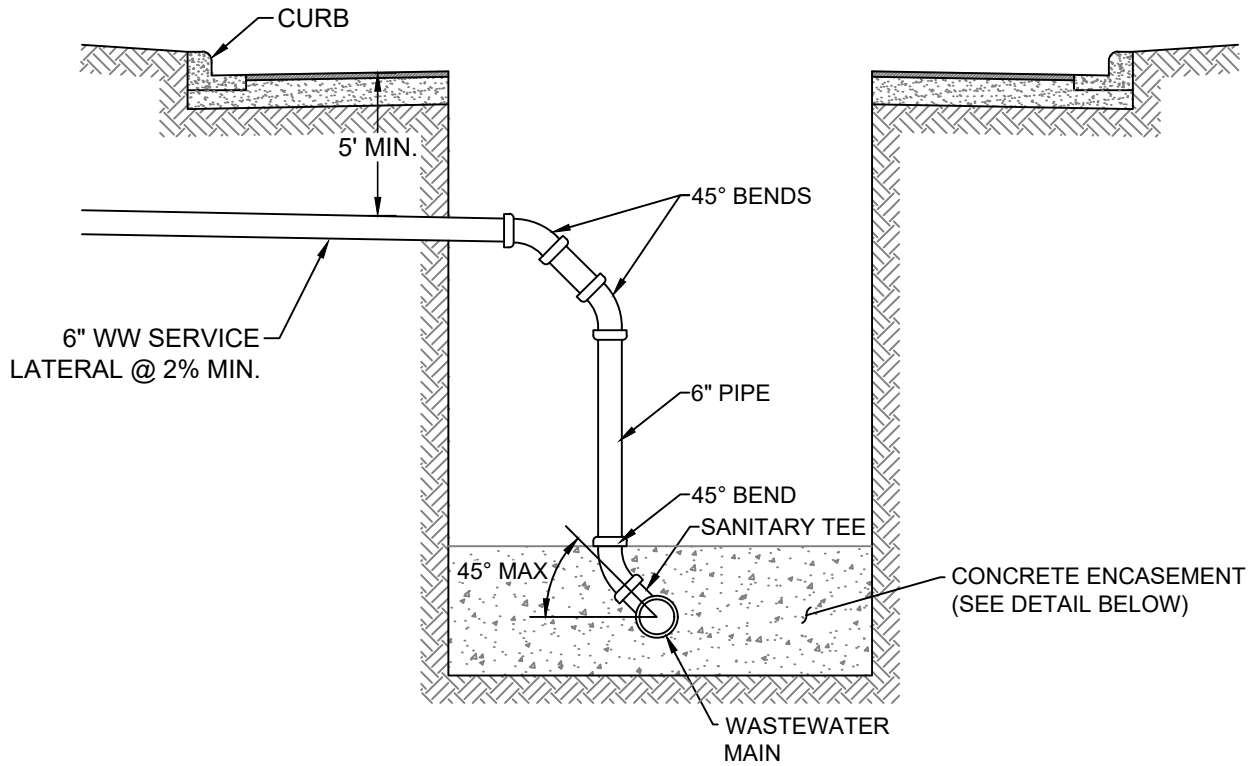


NOTES:

1. PIPE MATERIAL FOR ALL WASTEWATER SERVICE LATERALS SHALL BE PVC SDR-26, ASTM D3034. IN AREAS WHERE WASTEWATER LATERAL IS LOCATED WITHIN 9' OF A WATER SERVICE OR MAIN, THEN PVC SDR-26, ASTM D2241 (PRESSURE-RATED) PIPE SHALL BE USED INSTEAD.
2. ALL LATERALS AND SERVICE CONNECTIONS SHALL BE INSPECTED BY COUNTY LINE SUD DURING CONSTRUCTION.
3. ALL WATER AND WASTEWATER SERVICES SHALL MAINTAIN A MINIMUM OF 24" VERTICAL SEPARATION, AND WATER SHALL CROSS ABOVE WASTEWATER.
4. WASTEWATER SERVICE SHALL HAVE A MINIMUM OF 4' AND A MAXIMUM OF 6' OF COVER.
5. WASTEWATER SERVICES FOR LOTS CONTAINING DUPLEXES MAY BE LOCATED AT THE CENTER OF THE LOT AS LONG AS THIS DOES NOT RESULT IN THE CLEAN OUT BEING LOCATED WITHIN A DRIVEWAY OR ANY OTHER CONCRETE.

SERVICE CONNECTION DETAIL	
SCALE : NONE	REV. DATE : 4/23
DWG. WW-7	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	

NOTE
 DEEP SERVICE CONNECTION
 SHALL BE REQUIRED WHERE
 THE TOP OF THE WASTEWATER
 MAIN IS 8' DEEP OR GREATER,
 MEASURED FROM THE
 FINISHED GRADE ELEVATION



CONCRETE ENCASEMENT
DETAIL

DEEP SERVICE CONNECTION DETAIL

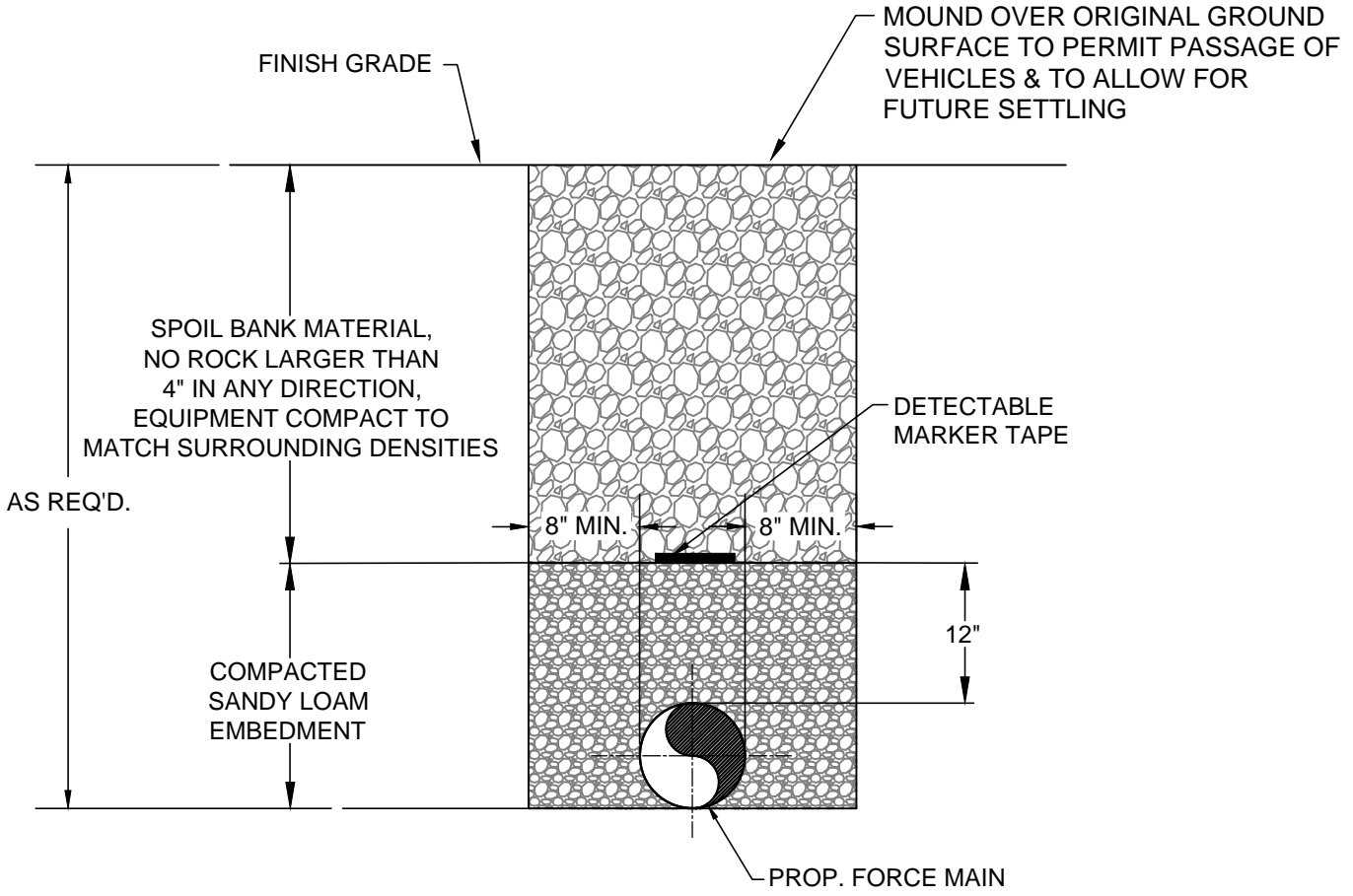
SCALE : NONE

REV. DATE : 5/20

DWG. WW-8

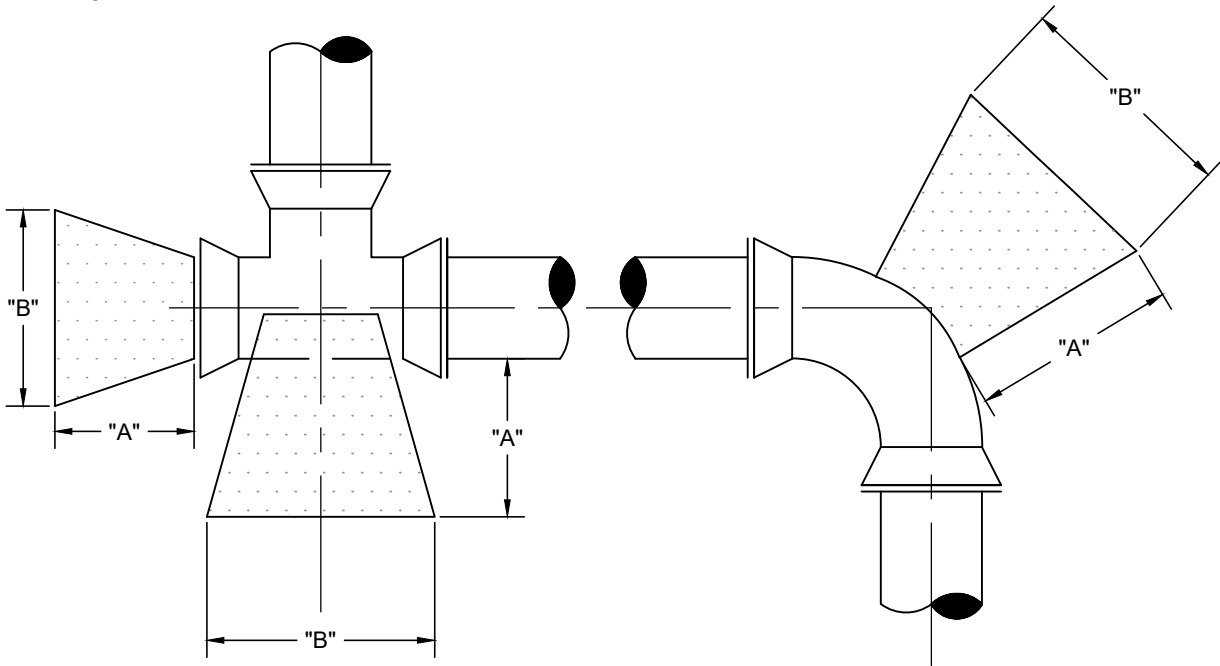
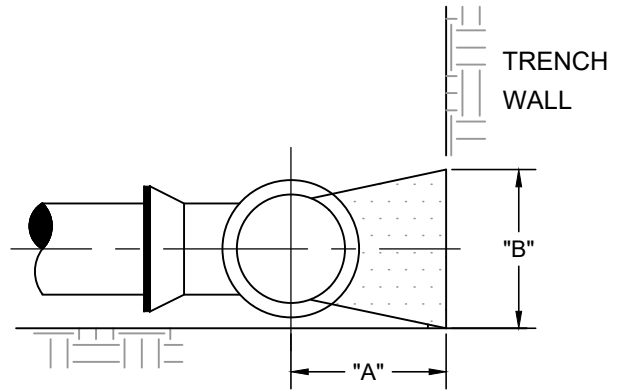
COUNTY LINE SUD

HAYS & CALDWELL COUNTIES,
 TEXAS



FORCE MAIN TRENCH DETAIL	
SCALE : NONE	REV. DATE : 10/21
DWG. WW-9	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	

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



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"
20"	3'-9"	4'-6"	3'-3"	2'-3"	3'-3"

FORCE MAIN
THRUST BLOCK DIMENSION DETAIL

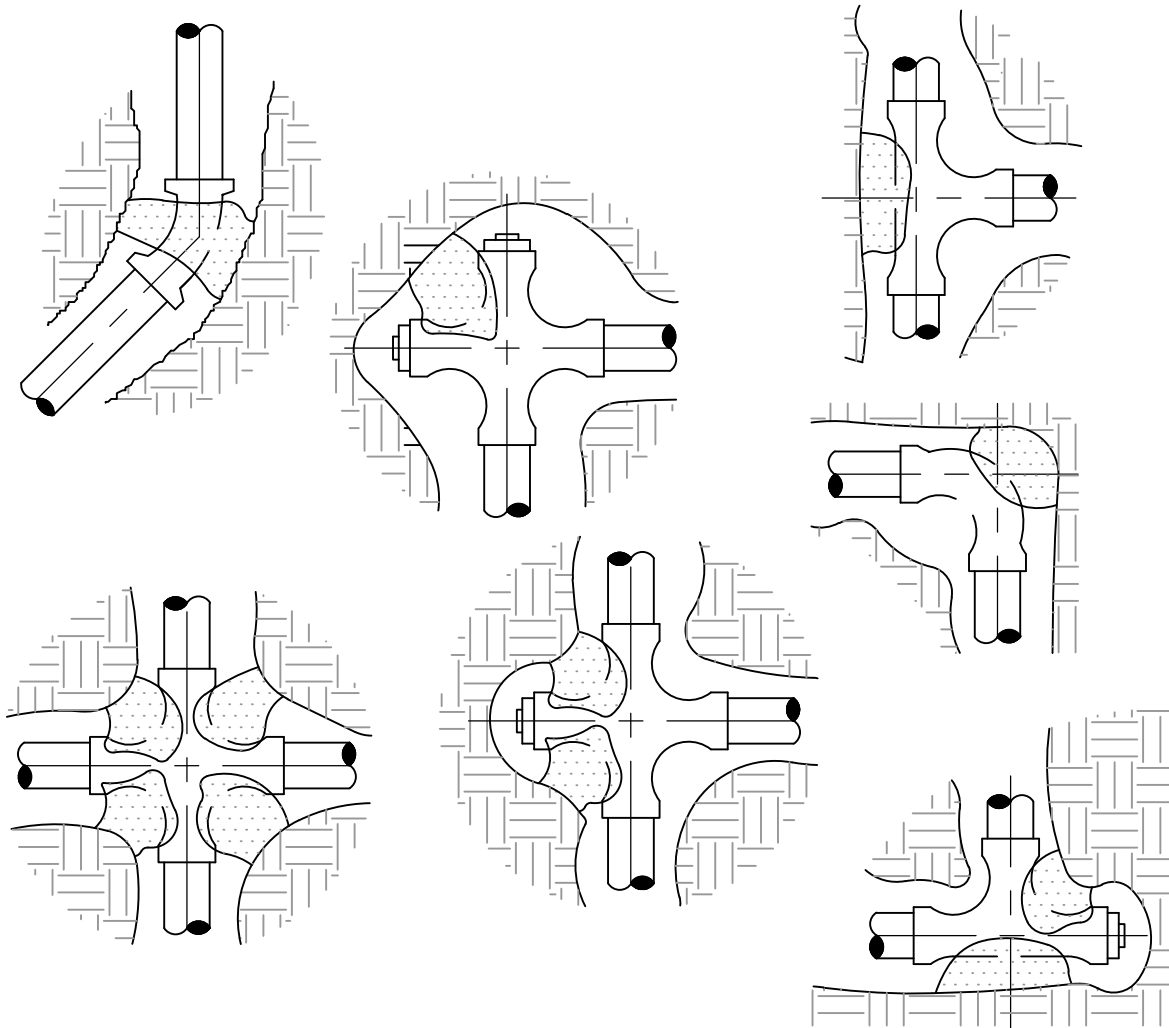
SCALE : NONE

REV. DATE : 5/20

DWG. WW-10

COUNTY LINE SUD

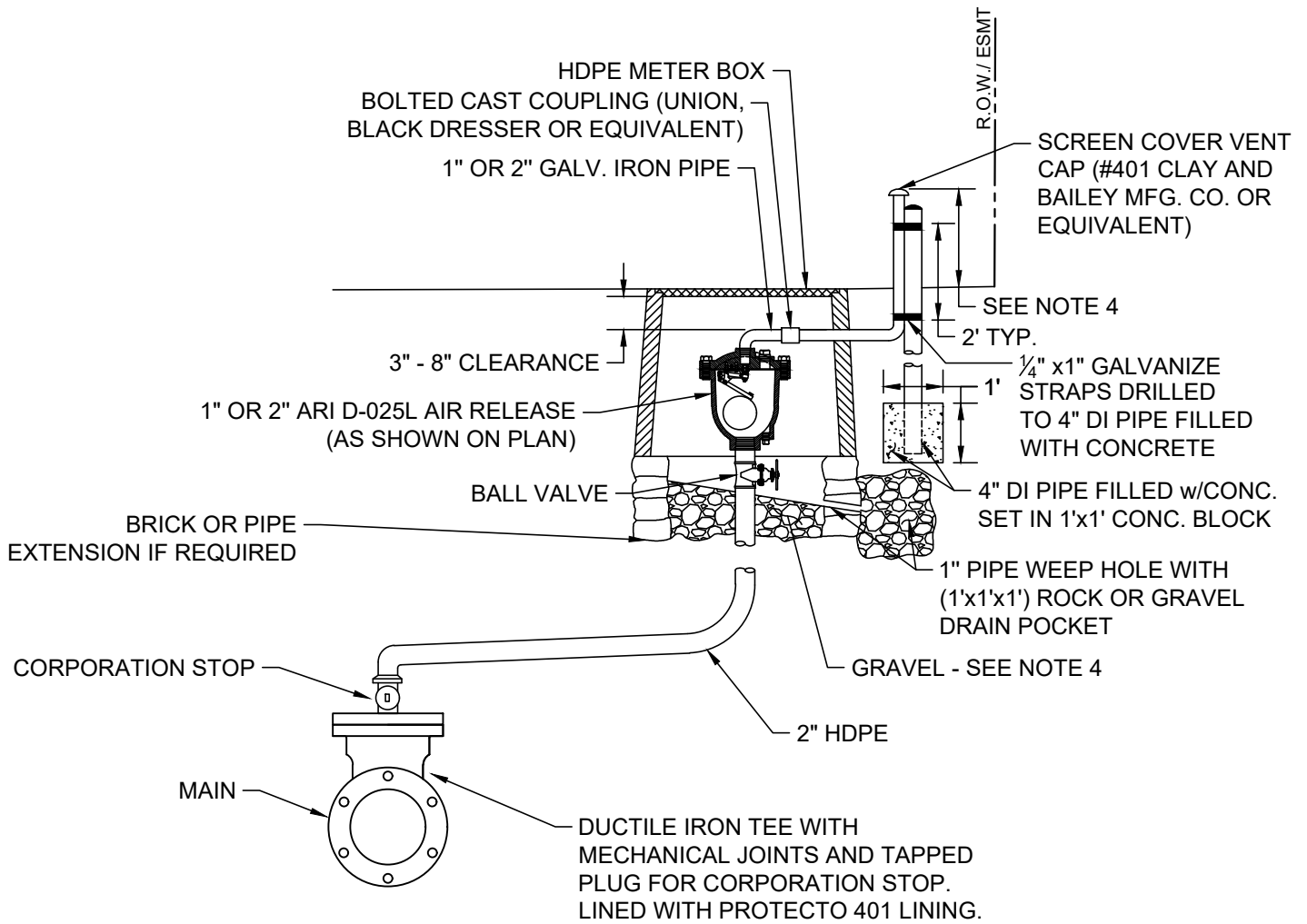
HAYS & CALDWELL COUNTIES,
TEXAS



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 ½ CUBIC FEET OF CONCRETE.
4. CONCRETE SHALL BE 3000 p.s.i. AT 28 DAYS MINIMUM.

FORCE MAIN THRUST BLOCK ANCHORING DETAIL	
SCALE : NONE	REV. DATE : 5/20
DWG. WW-11	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	



NOTES:

1. EXTERIOR SURFACES OF EXPOSED AIR VENT PIPE AND DI SUPPORT PIPE SHALL BE PAINTED.
2. AIR VENT PIPE INSTALLATION SHALL BE AS NEAR AS PRACTICAL TO RIGHT-OF-WAY OR EASEMENT LINE WITH MINIMUM CLEARANCE OF 18" FROM ANY OBSTACLE.
3. HDPE METER BOX PENETRATION SHALL BE CORE BIT DRILLED. VOID SHALL BE FILLED WITH LINKSEAL LS 300 OR APPROVED EQUAL.
4. COMPACTED COARSE GRAVEL OR BROKEN STONE MIXED WITH SAND SLOPED TO DRAIN.
5. IN UNDEVELOPED AREAS, THE AIR VENT PIPE SHALL BE 4' MIN. IN HEIGHT SUPPORTED BY A 4" DIA. DI PIPE WHICH HAS BEEN FILLED WITH CONCRETE (SUPPORT PIPE SHALL BE 6' LONG, BURIED IN CLASS A CONCRETE OR CLSM 3' BELOW FINAL GRADE AND EXTENDING 3' ABOVE FINAL GRADE). INSTALL ONE DELINEATOR STAKE WITHIN 3' OF THE VAULT ON THE VEHICULAR ACCESS SIDE OF VAULT OR AS DIRECTED BY AUSTIN WATER. DELINEATOR SHALL BE BLUE FOR POTABLE WATER AND SHALL EXTEND AT LEAST 60" ABOVE GROUND. DELINEATORS SHALL HAVE 2" WIDE, WHITE IN COLOR, TYPE I REFLECTIVE TAPE MOUNTED DIAGONALLY AT 12" SPACING ON BOTH SIDES. IN DEVELOPED AREAS, THE AIR VENT PIPE SHALL BE 8" - 12" IN HEIGHT AND LOCATED NOT TO CONFLICT WITH SIDEWALK, DRIVEWAY, OR OTHER PEDESTRIAN TRAFFIC.
6. THE AIR VALVE AND ASSOCIATED PIPING SHALL BE INSTALLED ABOVE THE HIGHEST ELEVATION OF THE MAIN. AIR VALVE PIPING, FROM THE MAIN TO THE AIR VALVE, SHALL MAINTAIN A CONSTANT RISE, WITH NO DIPS, TO THE TOP OF THE GROUND.

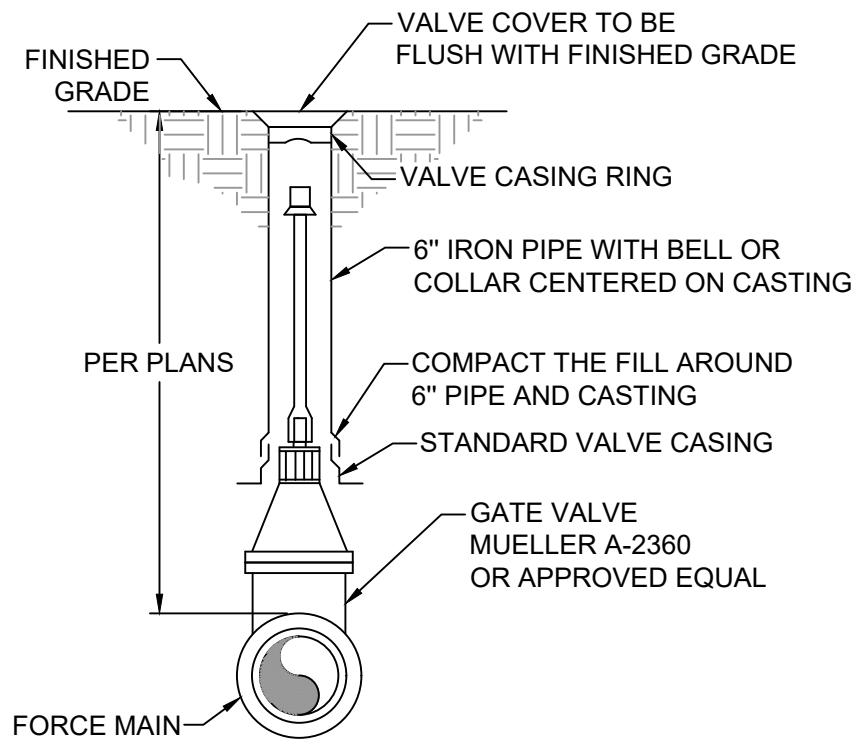
FORCE MAIN AIR RELEASE VALVE DETAIL	
SCALE : NONE	REV. DATE : 5/20
DWG. WW-12	
COUNTY LINE SUD HAYS & CALDWELL COUNTIES, TEXAS	

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. NUT AT TOP OF VALVE EXTENSION ROD SHALL BE SQUARE $1\frac{1}{2}$ " LONG WELDED TO TOP OF ROD.

3. USE ADJUSTABLE VALVE BOX.



FORCE MAIN GATE VALVE DETAIL

SCALE : NONE

REV. DATE : 5/20

DWG. WW-13

COUNTY LINE SUD

HAYS & CALDWELL COUNTIES,
TEXAS