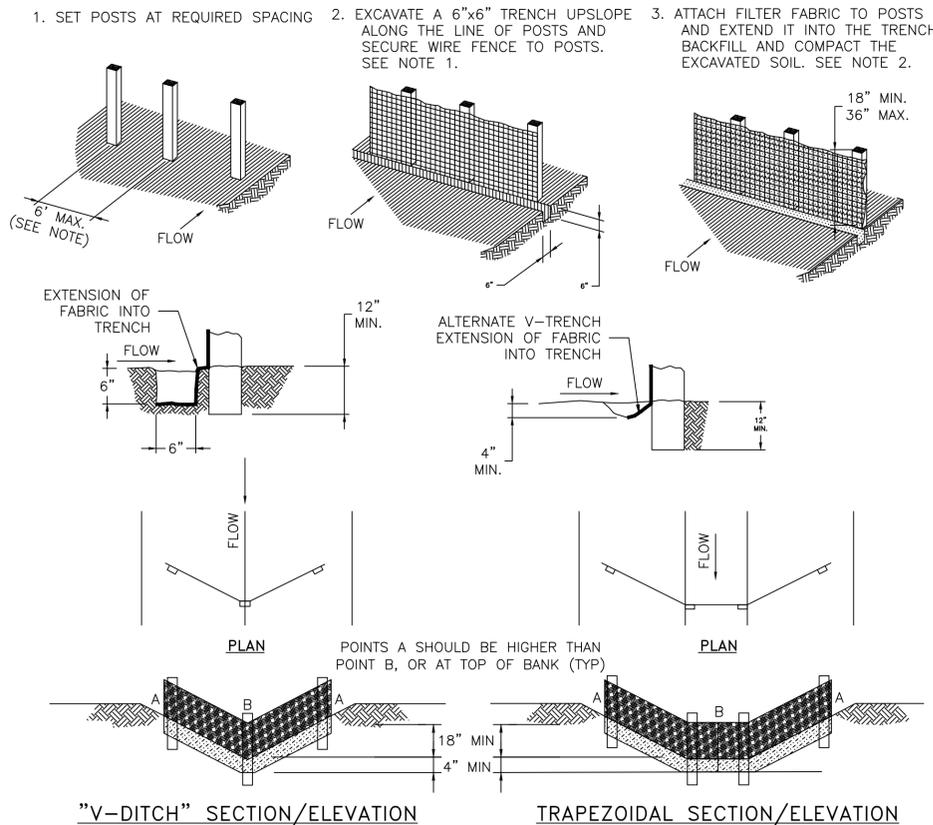
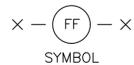


CONSTRUCTION NOTES:

- 2-INCH THICK BY 2 INCH WOODEN STAKES TO BE SET AT MAX SPACING OF 3 FEET AND EMBEDDED A MIN OF 8 INCHES. IF PREASSEMBLED BARRIER WITH SUPPORT NETTING IS USED. SPACING OF POST MAY BE INCREASED TO 8 FEET MAX.
- ATTACH FILTER FABRIC TO WOODEN STAKES.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHOULD BE OVERLAPPED 6 INCHES AT THE POSTS, AND FOLDED.
- REMOVE SEDIMENT DEPOSIT WHEN SILT REACHES ONE-THIRD OF THE HEIGHT OF THE FENCE IN DEPTH.

FILTER FABRIC BARRIER



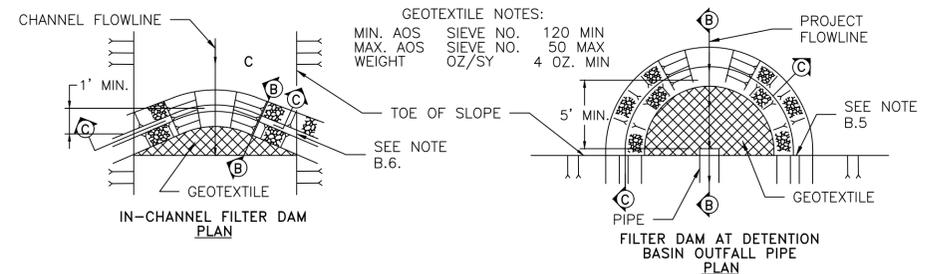
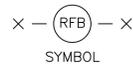
"V-DITCH" SECTION/ELEVATION

TRAPEZOIDAL SECTION/ELEVATION

GENERAL NOTES:

- SECURELY FASTEN MESH FENCING TO POSTS WITH STAPLES OR TIE WIRES.
- SECURELY FASTEN FILTER FABRIC TO MESH FENCING, WITH TIES SPACED EVERY 24 INCHES AT TOP AND MIDSECTION.
- WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER, OVERLAP 6 INCHES AT A POST, FOLD TOGETHER, AND ATTACH TO A POST.
- REMOVE SEDIMENT DEPOSITS WHEN SILT REACHES ONE-THIRD OF THE HEIGHT OF THE FENCE IN DEPTH.

REINFORCED FILTER FABRIC BARRIER



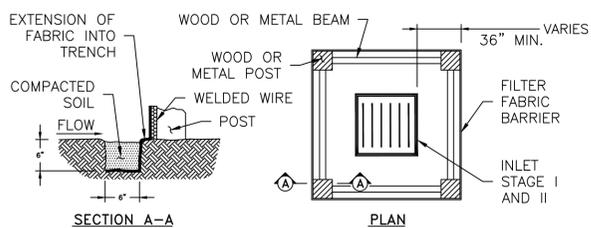
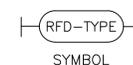
A. TYPES OF FILTER DAMS

- TYPE 1 (NON-REINFORCED)
 - HEIGHT - 18-24 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
 - TOP WIDTH - 2 FEET (MINIMUM)
 - SLOPES - 2:1 (MAXIMUM).
- TYPE 2 (REINFORCED)
 - HEIGHT - 18-36 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
 - TOP WIDTH - 2 FEET (MINIMUM).
 - SLOPES - 2:1 (MAXIMUM).
- TYPE 3 (REINFORCED)
 - HEIGHT - 36-48 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
 - TOP WIDTH - 2 FEET (MINIMUM).
 - SLOPES - 3:1 (MAXIMUM).
- TYPE 4 (GABION)
 - HEIGHT - 30 INCHES (MINIMUM). MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
 - TOP WIDTH - 2 FEET (MINIMUM).
- TYPE 5. AS SHOWN ON THE PLANS.

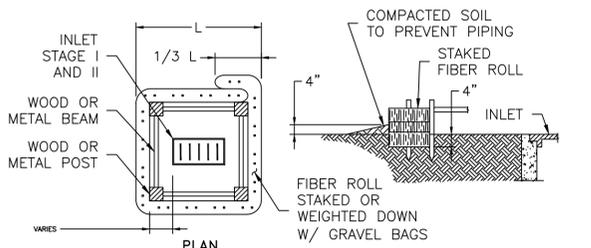
B. CONSTRUCT FILTER DAMS ACCORDING TO THE FOLLOWING CRITERIA UNLESS SHOWN OTHERWISE ON THE PLANS.

- TYPE 2 AND 3 FILTER DAMS: SECURE WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1 INCH DIAMETER HEXAGONAL OPENINGS.
- PLACE GRANULAR FILL ON THE WIRE MESH TO HEIGHT AND SLOPES SHOWN ON PLANS OR AS SPECIFIED BY THE ENGINEER.
 - 3-5 INCHES FOR ROCK FILTER DAM TYPES 1, 2 AND 4.
 - 4-8 INCHES FOR ROCK FILTER DAM TYPE REFER TO GRANULAR FILL IN SPECIFICATION SECTION No. 02378 RIPRAP AND GRANULAR FILL.
- FOLD WIRE MESH AT UPSTREAM SIDE OVER GRANULAR FILL AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS.
- IN STREAMS: SECURE OR STAKE MESH TO STREAM BED PRIOR TO AGGREGATE PLACEMENT.
- EMBED ONE FOOT MINIMUM INTO SLOPE AND RAISE ONE FOOT HIGHER THAN CENTER OF DEPRESSED AREA AT SLOPE.

FILTER DAM



INLET PROTECTION BARRIER WITH REINFORCED FILTER FABRIC

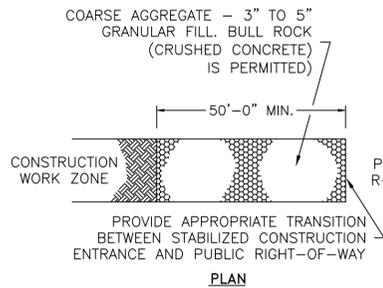
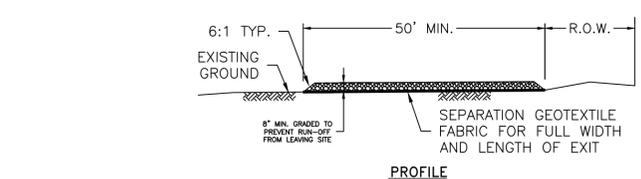


INLET PROTECTION BARRIER WITH FILTER ROLLS

GENERAL NOTES:

- FIBER ROLLS WILL BE UTILIZED ONLY WHEN SITE CONDITIONS DO NOT PERMIT THE USE OF FILTER FABRIC BARRIER, AND AS APPROVED BY THE ENGINEER.

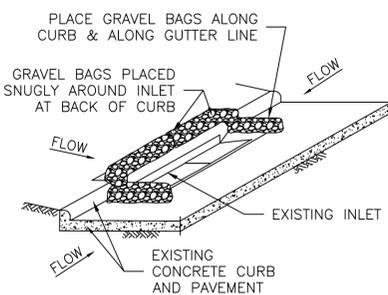
INLET PROTECTION BARRIERS FOR STAGE I INLETS



GENERAL NOTES:

- MINIMUM LENGTH IS AS SHOWN ON CONSTRUCTION DRAWINGS OR 50 FEET, WHICHEVER IS MORE.
- CONSTRUCT AND MAINTAIN CONSTRUCTION EXIT WITH CONSTANT WIDTH ACROSS ITS LENGTH, INCLUDING ALL POINTS OF INGRESS OR EGRESS.
- UNLESS SHOWN ON THE CONSTRUCTION DRAWINGS, STABILIZATION FOR OTHER AREAS WILL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION EXIT.
- WHEN SHOWN ON THE CONSTRUCTION DRAWINGS, WIDEN OR LENGTHEN STABILIZED AREA TO ACCOMMODATE A TRUCK WASHING AREA. PROVIDE OUTLET SEDIMENT TRAP FOR THE TRUCK WASHING AREA.
- PROVIDE PERIODIC TOP DRESSING WITH ADDITIONAL COARSE AGGREGATE TO MAINTAIN THE REQUIRED DEPTH OR WHEN SURFACE BECOMES PACKED WITH MUD.
- PERIODICALLY TURN AGGREGATE TO EXPOSE A CLEAN DRIVING SURFACE.
- MINIMUM 14' WIDTH FOR ONE WAY TRAFFIC AND 20' WIDTH FOR TWO WAY TRAFFIC.

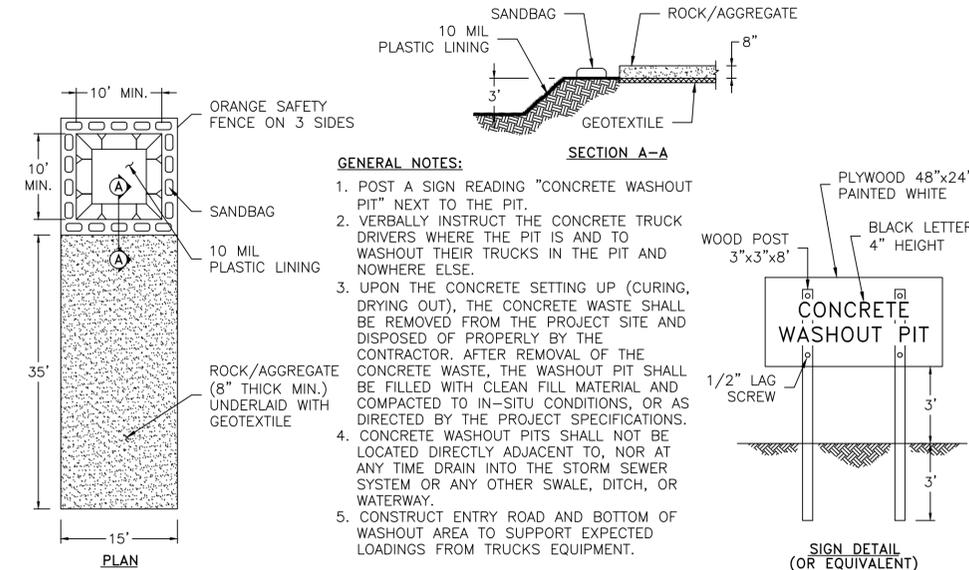
STABILIZED CONSTRUCTION ACCESS



GENERAL NOTES:

- REMOVE SEDIMENT DEPOSIT WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-THIRD THE HEIGHT OF THE BARRIER.
- GRAVEL BAGS SHALL NOT BLOCK THROAT OF INLET UNLESS DIRECTED BY ENGINEER.

INLET PROTECTION BARRIERS FOR STAGE II INLETS



GENERAL NOTES:

- POST A SIGN READING "CONCRETE WASHOUT PIT" NEXT TO THE PIT.
- VERBALLY INSTRUCT THE CONCRETE TRUCK DRIVERS WHERE THE PIT IS AND TO WASHOUT THEIR TRUCKS IN THE PIT AND NOWHERE ELSE.
- UPON THE CONCRETE SETTING UP (CURING, DRYING OUT), THE CONCRETE WASTE SHALL BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF PROPERLY BY THE CONTRACTOR. AFTER REMOVAL OF THE CONCRETE WASTE, THE WASHOUT PIT SHALL BE FILLED WITH CLEAN FILL MATERIAL AND COMPACTED TO IN-SITU CONDITIONS, OR AS DIRECTED BY THE PROJECT SPECIFICATIONS.
- CONCRETE WASHOUT PITS SHALL NOT BE LOCATED DIRECTLY ADJACENT TO, NOR AT ANY TIME DRAIN INTO THE STORM SEWER SYSTEM OR ANY OTHER SWALE, DITCH, OR WATERWAY.
- CONSTRUCT ENTRY ROAD AND BOTTOM OF WASHOUT AREA TO SUPPORT EXPECTED LOADINGS FROM TRUCKS EQUIPMENT.

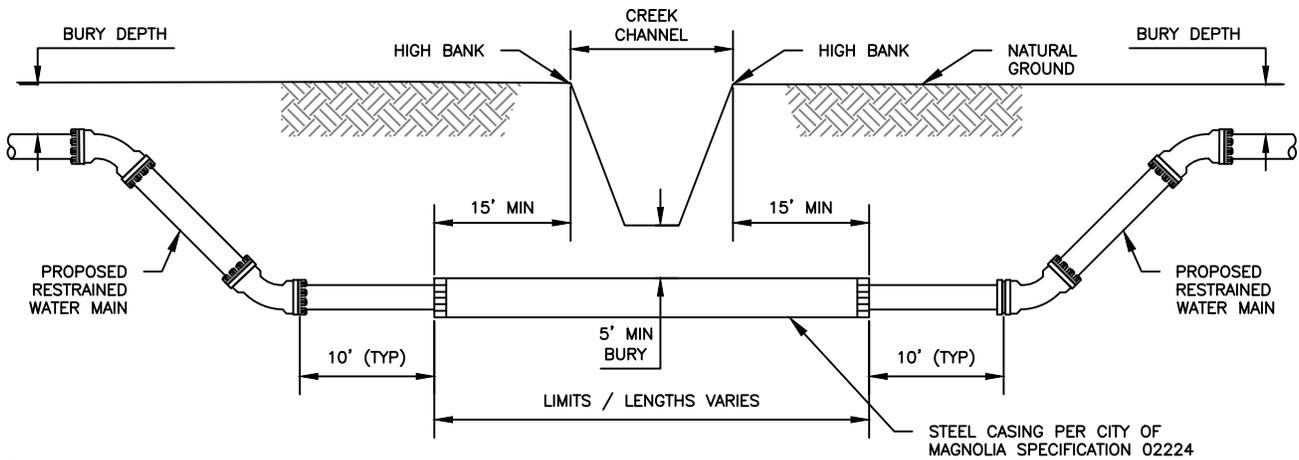
CONCRETE TRUCK WASHOUT AREA



NO.	REVISIONS	DATE	NAME



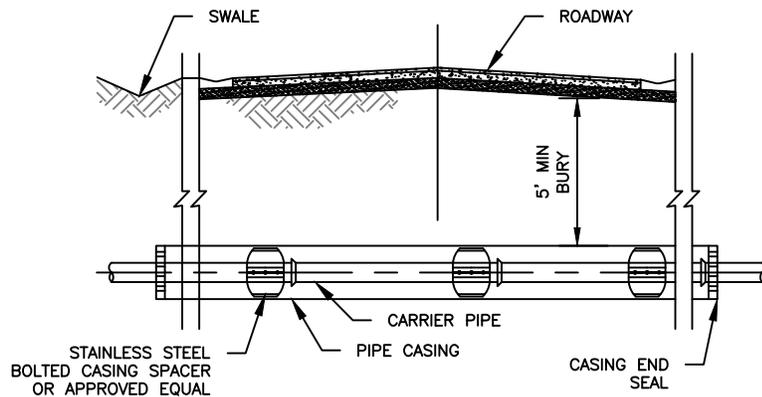
PROJECT TITLE:	
SHEET DESCRIPTION:	STORM WATER POLLUTION PREVENTION DETAILS
DRAWN BY:	JLS
CHECKED BY:	REG
EFFECTIVE DATE:	8/3/2022
NO. SCALE:	
SHEET XX OF XX	



NOTES:

1. ALL FITTINGS ARE TO BE MECHANICAL JOINT DUCTILE IRON WITH MEGALUGS OR APPROVED EQUAL JOINT RESTRAINT.
2. ALL FITTINGS SHALL MEET ANSI/AWWA STANDARDS.

CREEK CROSSING DETAIL



BORED CROSSING DETAIL

NOTES:

1. UNDERGROUND CROSSINGS REQUIRE A MINIMUM VERTICAL CLEARANCE OF 5' BELOW PAVEMENT SUBGRADE FOR CITY STREETS, HIGHWAYS AND SUBAQUEOUS CROSSINGS AND WHEN BELOW UNPAVED GROUND INCLUDING DITCH GRADE FOLLOW TXDOT REQUIREMENTS.
2. SPACING TO BE PER MANUFACTURER RECOMMENDATION.
3. ALL CASINGS SHALL BE ROLLED STEEL WITH A 0.375 WALL THICKNESS, NO SPIRAL STEEL WILL BE ACCEPTED.
4. CARRIER PIPE SHALL BE RESTRAINED JOINT PIPE AND CENTERED WITHIN CASING BY USE OF STAINLESS STEEL CASING SPACERS.



CITY OF MAGNOLIA
18111 BUDDY RILEY BOULEVARD
MAGNOLIA, TEXAS 77354

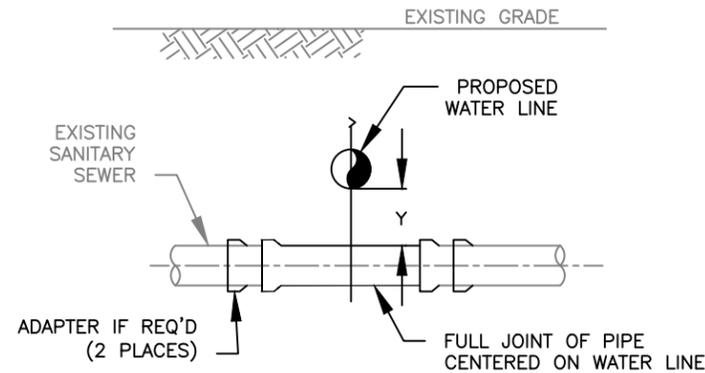
**CREEK AND ROADWAY
CROSSING DETAILS**

CITY OF MAGNOLIA STANDARD DETAIL

DETAIL NO.

WTR-11

EFFECTIVE DATE: 8/3/2022

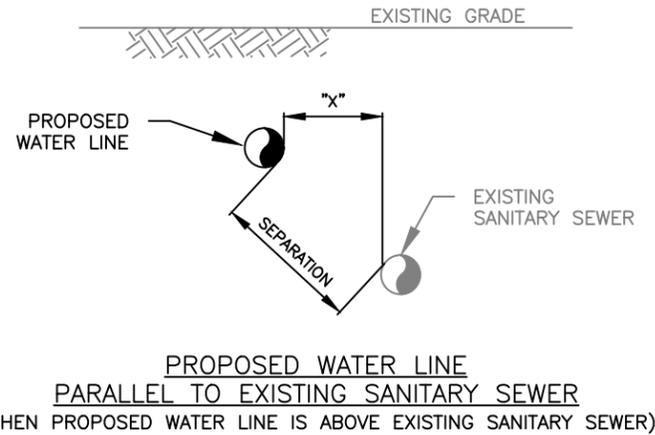


**PROPOSED WATER LINE
CROSSING EXISTING SANITARY SEWER**
(WHEN PROPOSED WATER LINE IS ABOVE EXISTING SANITARY SEWER)

NOTES:

1. WHERE A PROPOSED WATER LINE CROSSES ABOVE A WASTEWATER MAIN OR LATERAL, THE PROPOSED WATER LINE PIPE SHALL BE CENTERED OVER AND MUST BE PERPENDICULAR TO THE WASTEWATER MAIN OR LATERAL SUCH THAT THE JOINTS OF THE WATER LINE PIPE ARE EQUIDISTANT AND AT LEAST NINE FEET HORIZONTALLY FROM THE CENTERLINE OF THE WASTEWATER MAIN OR LATERAL. WHEN CROSSING AN EXISTING WASTEWATER MAIN OR LATERAL AND IT IS DISTURBED OR SHOWS SIGNS OF LEAKING, THE WASTEWATER MAIN OR LATERAL SHALL BE REPLACED FOR AT LEAST NINE FEET IN BOTH DIRECTIONS (18 FEET TOTAL) WITH AT LEAST 150 PSI PRESSURE-RATED PIPE EMBEDDED IN CEMENT STABILIZED SAND FOR THE TOTAL LENGTH OF ONE PIPE SEGMENT PLUS 12 INCHES BEYOND THE JOINT ON EACH END. THE PROPOSED WATER LINE SHALL BE AT LEAST TWO FEET ABOVE AN EXISTING NON-PRESSURE-RATED WASTEWATER MAIN OR LATERAL. THE PROPOSED POTABLE WATER LINE SHALL BE AT LEAST SIX INCHES ABOVE AN EXISTING, PRESSURE-RATED WASTEWATER MAIN OR LATERAL.
2. WHERE A PROPOSED WATER LINE CROSSES A NEW, NON-PRESSURE-RATED WASTEWATER MAIN OR LATERAL, THE WATER LINE PIPE SHALL BE CENTERED OVER AND SHALL BE PERPENDICULAR TO THE WASTEWATER MAIN OR LATERAL SUCH THAT THE JOINTS OF THE WATER LINE PIPE ARE EQUIDISTANT AND AT LEAST NINE FEET HORIZONTALLY FROM THE CENTERLINE OF THE WASTEWATER MAIN OR LATERAL. THE WATER LINE SHALL BE AT LEAST TWO FEET ABOVE THE WASTEWATER MAIN OR LATERAL. WHENEVER POSSIBLE THE CROSSING SHALL BE CENTERED BETWEEN THE JOINTS OF THE WASTEWATER MAIN OR LATERAL. THE WASTEWATER PIPE SHALL HAVE A MINIMUM PIPE STIFFNESS OF 115 PSI AT 5.0% DEFLECTION. THE WASTEWATER MAIN OR LATERAL SHALL BE EMBEDDED IN CEMENT STABILIZED SAND FOR THE TOTAL LENGTH OF ONE PIPE SEGMENT PLUS 12 INCHES BEYOND THE JOINT ON EACH END. CEMENT STABILIZED SAND SHALL HAVE A MINIMUM OF 10% CEMENT PER CUBIC YARD OF CEMENT STABILIZED SAND MIXTURE, BASED ON LOOSE DRY WEIGHT VOLUME (AT LEAST 2.5 BAGS OF CEMENT PER CUBIC YARD OF MIXTURE). THE CEMENT STABILIZED SAND BEDDING SHALL BE A MINIMUM OF SIX INCHES ABOVE AND FOUR INCHES BELOW THE WASTEWATER MAIN OR LATERAL. THE USE OF BROWN COLORING IN CEMENT STABILIZED SAND FOR WASTEWATER MAIN OR LATERAL BEDDING IS RECOMMENDED FOR THE IDENTIFICATION OF PRESSURE-RATED WASTEWATER MAINS DURING FUTURE CONSTRUCTION. THE MATERIALS AND METHOD OF INSTALLATION SHALL CONFORM TO:

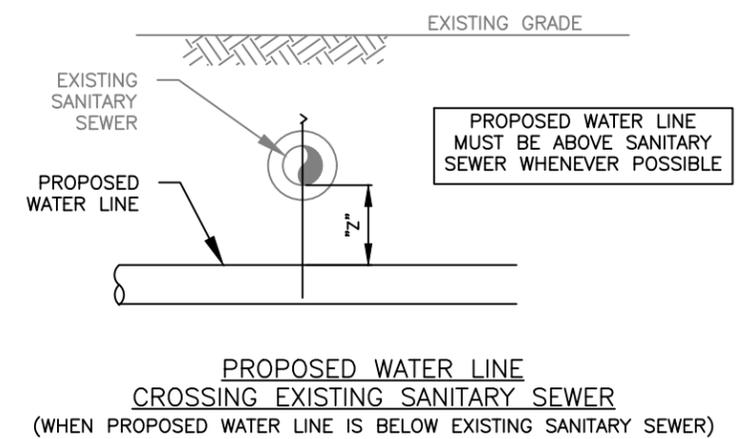
- * THE WASTEWATER PIPE AND JOINTS SHALL BE CONSTRUCTED WITH PIPE MATERIAL HAVING A MINIMUM PRESSURE RATING OF AT LEAST 150 PSI WITHIN NINE FEET HORIZONTALLY ON EITHER SIDE OF THE WATER LINE. AN ABSOLUTE MINIMUM VERTICAL SEPARATION DISTANCE OF TWO FEET SHALL BE PROVIDED. THE WASTEWATER MAIN OR LATERAL SHALL BE LOCATED BELOW THE WATER LINE.
- * ALL SECTIONS OF WASTEWATER MAIN OR LATERAL WITHIN NINE FEET HORIZONTALLY OF THE WATER LINE SHALL BE ENCASED IN AN 18-FOOT (OR LONGER) SECTION OF PIPE. FLEXIBLE ENCASED PIPE SHALL HAVE A MINIMUM PIPE STIFFNESS OF 115 PSI AT 5.0% DEFLECTION. THE ENCASED PIPE SHALL BE CENTERED ON THE WATER LINE AND SHALL BE AT LEAST TWO NOMINAL PIPE DIAMETERS LARGER THAN THE WASTEWATER MAIN OR LATERAL. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE-FOOT (OR LESS) INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED SAND. EACH END OF THE CASING SHALL BE SEALED WITH WATERTIGHT NON-SHRINK CEMENT GROUT OR A MANUFACTURED WATERTIGHT SEAL. AN ABSOLUTE MINIMUM SEPARATION DISTANCE OF SIX INCHES BETWEEN THE ENCASEMENT PIPE AND THE WATER LINE SHALL BE PROVIDED. THE WASTEWATER LINE SHALL BE LOCATED BELOW THE WATER LINE.



**PROPOSED WATER LINE
PARALLEL TO EXISTING SANITARY SEWER**
(WHEN PROPOSED WATER LINE IS ABOVE EXISTING SANITARY SEWER)

NOTES:

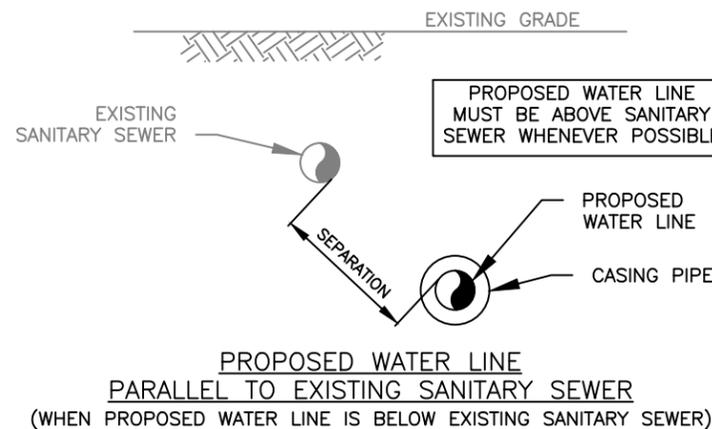
1. WHERE A NEW POTABLE WATER LINE PARALLELS AN EXISTING, NON-PRESSURE OR PRESSURE-RATED WASTEWATER MAIN OR LATERAL AND THE LICENSED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF TEXAS IS ABLE TO DETERMINE THAT THE EXISTING WASTEWATER MAIN OR LATERAL IS NOT LEAKING, THE POTABLE WATER LINE SHALL BE LOCATED AT LEAST TWO FEET ABOVE THE EXISTING WASTEWATER MAIN OR LATERAL, MEASURED VERTICALLY, AND AT LEAST FOUR FEET AWAY, MEASURED HORIZONTALLY, FROM THE EXISTING WASTEWATER MAIN OR LATERAL. EVERY EFFORT SHALL BE EXERTED NOT TO DISTURB THE BEDDING AND BACKFILL OR THE EXISTING WASTEWATER MAIN OR LATERAL.
2. WHERE A NEW POTABLE WATER LINE PARALLELS AN EXISTING PRESSURE-RATED WASTEWATER MAIN OR LATERAL AND IT CANNOT BE DETERMINED BY THE LICENSED PROFESSIONAL ENGINEER IF THE EXISTING LINE IS LEAKING, THE EXISTING WASTEWATER MAIN OR LATERAL SHALL BE REPLACED WITH AT LEAST 150 PSI PRESSURE-RATED PIPE. THE NEW POTABLE WATER LINE SHALL BE LOCATED AT LEAST TWO FEET ABOVE THE NEW WASTEWATER LINE, MEASURED VERTICALLY, AND AT LEAST FOUR FEET AWAY, MEASURED HORIZONTALLY, FROM THE REPLACED WASTEWATER MAIN OR LATERAL.
3. WHERE A NEW POTABLE WATERLINE PARALLELS A NEW WASTEWATER MAIN, THE WASTEWATER MAIN OR LATERAL SHALL BE CONSTRUCTED OF AT LEAST 150 PSI PRESSURE-RATED PIPE. THE NEW POTABLE WATER LINE SHALL BE LOCATED AT LEAST TWO FEET ABOVE THE WASTEWATER MAIN OR LATERAL, MEASURED VERTICALLY, AND AT LEAST FOUR FEET AWAY, MEASURED HORIZONTALLY, FROM THE WASTEWATER MAIN OR LATERAL.



**PROPOSED WATER LINE
CROSSING EXISTING SANITARY SEWER**
(WHEN PROPOSED WATER LINE IS BELOW EXISTING SANITARY SEWER)

NOTES:

1. EACH PORTION OF THE WATER LINE MUST BE ENCASED IN A CASING PIPE IN AN 18-FOOT (OR LONGER) SECTION OF PIPE.
2. FLEXIBLE ENCASED PIPE SHALL HAVE A MINIMUM PIPE STIFFNESS OF 115 PSI AT 5.0% DEFLECTION. THE ENCASED PIPE SHALL BE CENTERED ON THE WATER LINE AND SHALL BE AT LEAST TWO NOMINAL PIPE DIAMETERS LARGER THAN THE WASTEWATER MAIN OR LATERAL. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT FIVE-FOOT (OR LESS) INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED SAND. EACH END OF THE CASING SHALL BE SEALED WITH MANUFACTURED WATERTIGHT SEAL.
3. IN LIEU OF FLEXIBLE ENCASED PIPE, THE CASING PIPE CAN BE CONSTRUCTED OF DUCTILE IRON OR STEEL PIPE WITH MECHANICAL OR WELDED JOINTS AS APPROPRIATE. THE DUCTILE IRON OR STEEL CASING PIPE MUST BE CONSTRUCTED OF AT LEAST 150 PSI PRESSURE CLASS, IS SEALED AT BOTH ENDS WITH A MANUFACTURED SEAL, AND BE AT LEAST TWO NOMINAL SIZES LARGER THAN THE SANITARY SEWER PIPE. THE CARRIER PIPE SHALL BE SUPPORTED BY SPACERS AT A MAXIMUM OF FIVE-FOOT INTERVALS.
4. AN ABSOLUTE MINIMUM SEPARATION DISTANCE OF ONE FOOT BETWEEN THE WATER LINE AND THE WASTEWATER MAIN OR LATERAL SHALL BE PROVIDED.



**PROPOSED WATER LINE
PARALLEL TO EXISTING SANITARY SEWER**
(WHEN PROPOSED WATER LINE IS BELOW EXISTING SANITARY SEWER)

NOTES:

1. EACH PORTION OF THE SANITARY SEWER PIPE WITHIN NINE FEET OF THE WATER LINE MUST BE ENCASED.
2. THE CASING PIPE MUST BE CONSTRUCTED OF AT LEAST 150 PSI PRESSURE CLASS AND IS SEALED AT BOTH ENDS WITH CEMENT GROUT OR A MANUFACTURED SEAL.
3. THE CASING PIPE SHALL BE AT LEAST TWO NOMINAL SIZES LARGER THAN THE SANITARY SEWER PIPE. THE CARRIER PIPE SHALL BE SUPPORTED BY SPACERS AT A MAXIMUM OF FIVE-FOOT INTERVALS.



CITY OF MAGNOLIA
18111 BUDDY RILEY BOULEVARD
MAGNOLIA, TEXAS 77354

**WATER LINE AND
SANITARY SEWER CROSSING
SPECIFICATIONS**

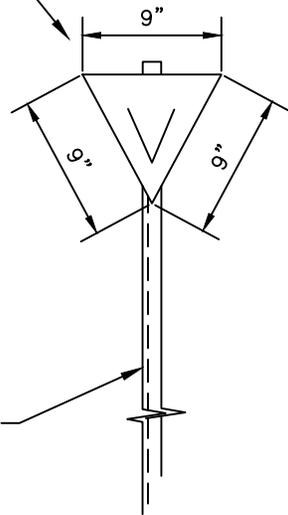
CITY OF MAGNOLIA STANDARD DETAIL

DETAIL NO.

WTR-10

EFFECTIVE DATE: 8/3/2022

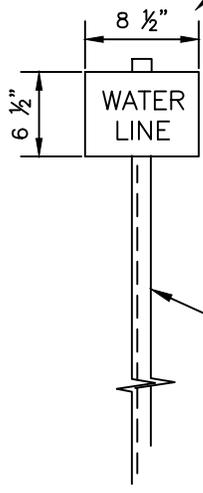
16" GAGE STEEL, BLACK "V"
ON ORANGE BACKGROUND,
BAKED ENAMEL FINISH



1' X 1" X 1/8" X 4'
STANDARD GALVANIZED
ANGLE IRON

VALVE MARKER
NTS

16" GAGE STEEL, BLACK
LETTERS ON WHITE
BACKGROUND, BAKED
ENAMEL FINISH @ PROPERTY
FENCE CROSSINGS



1' X 1" X 1/8" X 4'
STANDARD GALVANIZED
ANGLE IRON

WATER LINE MARKER
NTS

NOTE:

1. VALVE AND WATER LINE MARKERS ARE TO BE INSTALLED AT LOCATIONS AS SHOWN ON PLANS AND AS SET FORTH HEREIN. WATER LINE MARKER IS TO BE INSTALLED NEAR THE ROW LINE AT ROAD AND RAILROAD CROSSINGS, IN NON-DEVELOPED AREAS. VALVE MARKERS SHALL BE INSTALLED AT ALL VALVE LOCATIONS.



CITY OF MAGNOLIA
18111 BUDDY RILEY BOULEVARD
MAGNOLIA, TEXAS 77354

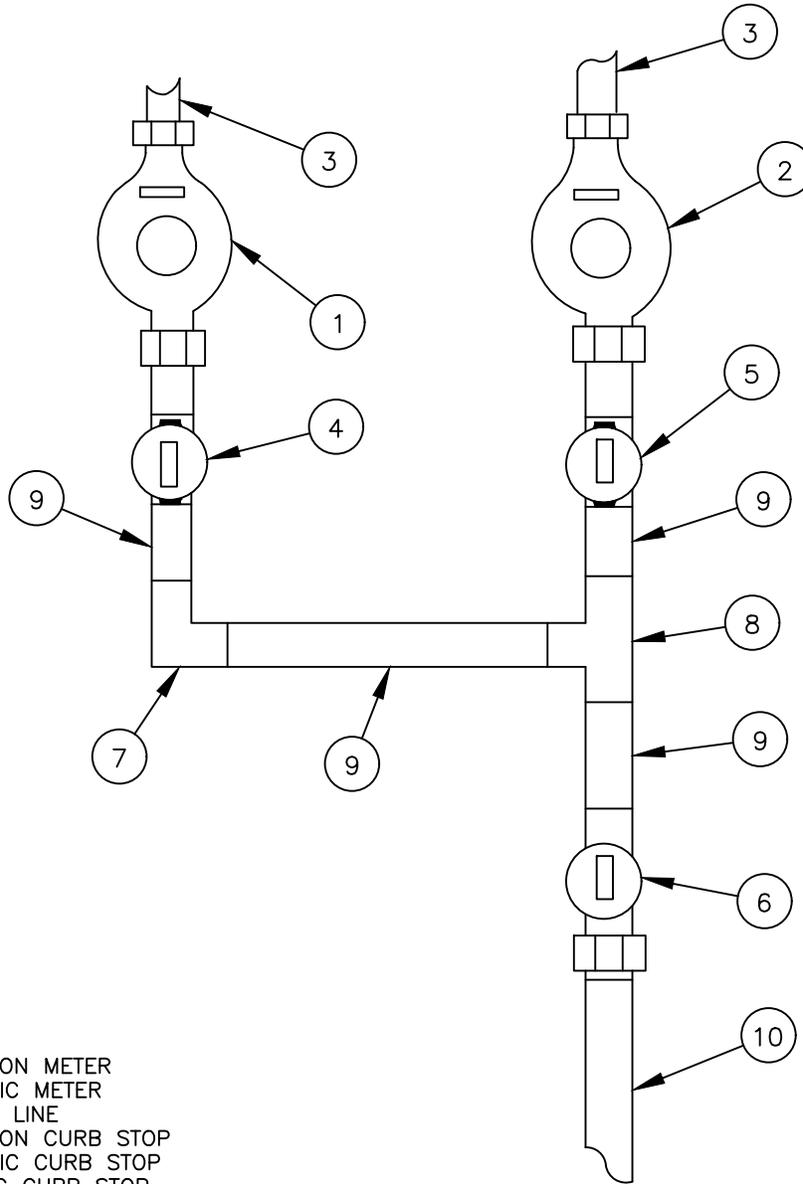
**VALVE MARKER AND
WATER LINE MARKER DETAILS**

CITY OF MAGNOLIA STANDARD DETAIL

DETAIL NO.

WTR-09

EFFECTIVE DATE: 8/3/2022



LEGEND

- 1. IRRIGATION METER
- 2. DOMESTIC METER
- 3. PRIVATE LINE
- 4. IRRIGATION CURB STOP
- 5. DOMESTIC CURB STOP
- 6. EXISTING CURB STOP
- 7. BRASS 90° ELBOW
- 8. BRASS TEE
- 9. BRASS PIPE
- 10. SERVICE LINE



CITY OF MAGNOLIA
 18111 BUDDY RILEY BOULEVARD
 MAGNOLIA, TEXAS 77354

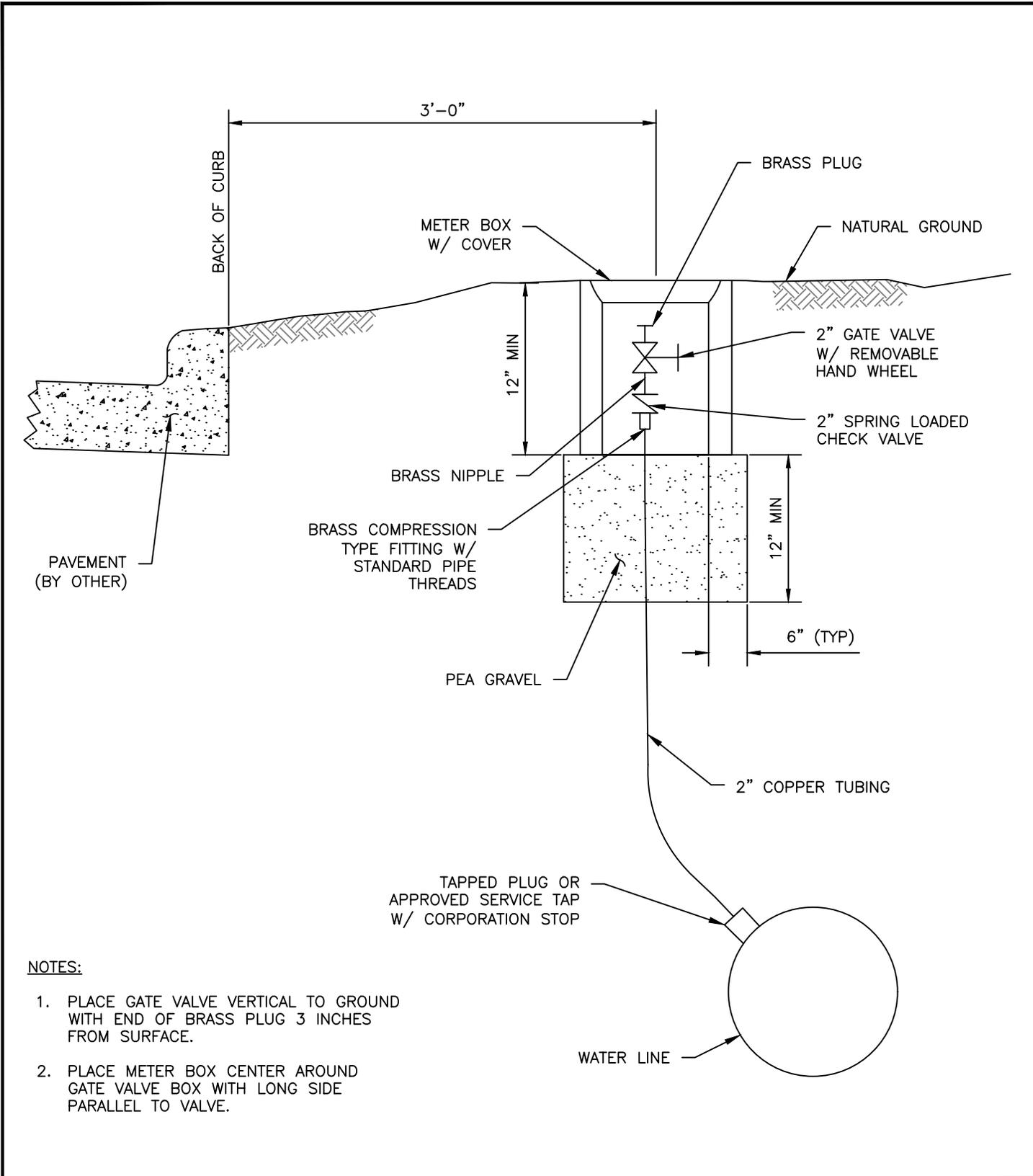
**SCHEMATIC IRRIGATION TEE
 OFF DOMESTIC 3/4" THRU 2"**

CITY OF MAGNOLIA STANDARD DETAIL

DETAIL NO.

WTR-08

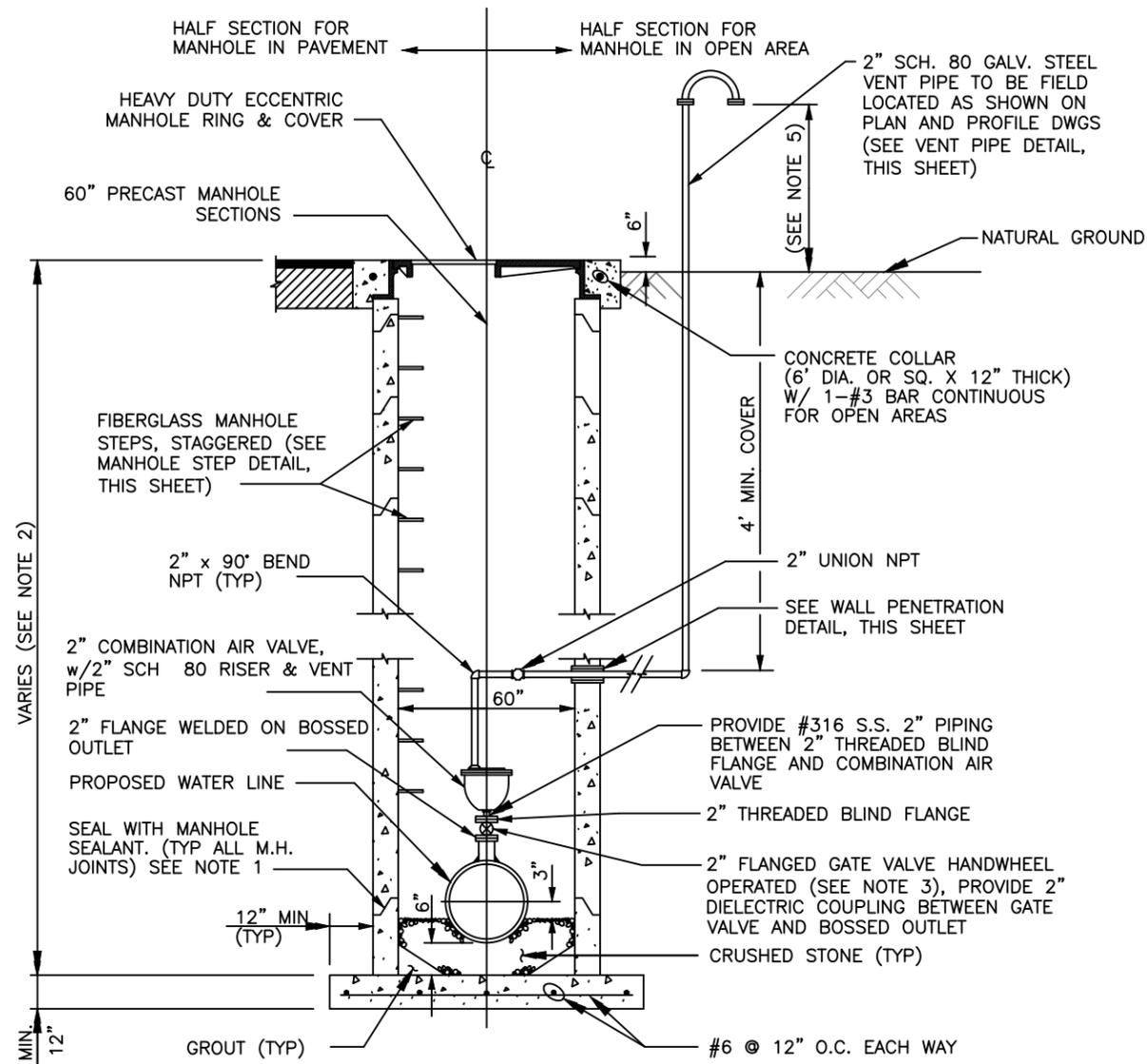
EFFECTIVE DATE: 8/3/2022



NOTES:

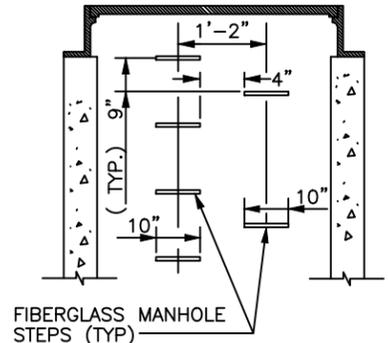
1. PLACE GATE VALVE VERTICAL TO GROUND WITH END OF BRASS PLUG 3 INCHES FROM SURFACE.
2. PLACE METER BOX CENTER AROUND GATE VALVE BOX WITH LONG SIDE PARALLEL TO VALVE.

 CITY OF MAGNOLIA 18111 BUDDY RILEY BOULEVARD MAGNOLIA, TEXAS 77354	PERMANENT BLOW-OFF DETAIL	DETAIL NO. WTR-07
	CITY OF MAGNOLIA STANDARD DETAIL	EFFECTIVE DATE: 8/3/2022



COMBINATION AIR VALVE ASSEMBLY
(FOR WATER LINES SMALLER THAN 30-INCHES IN DIAMETER)

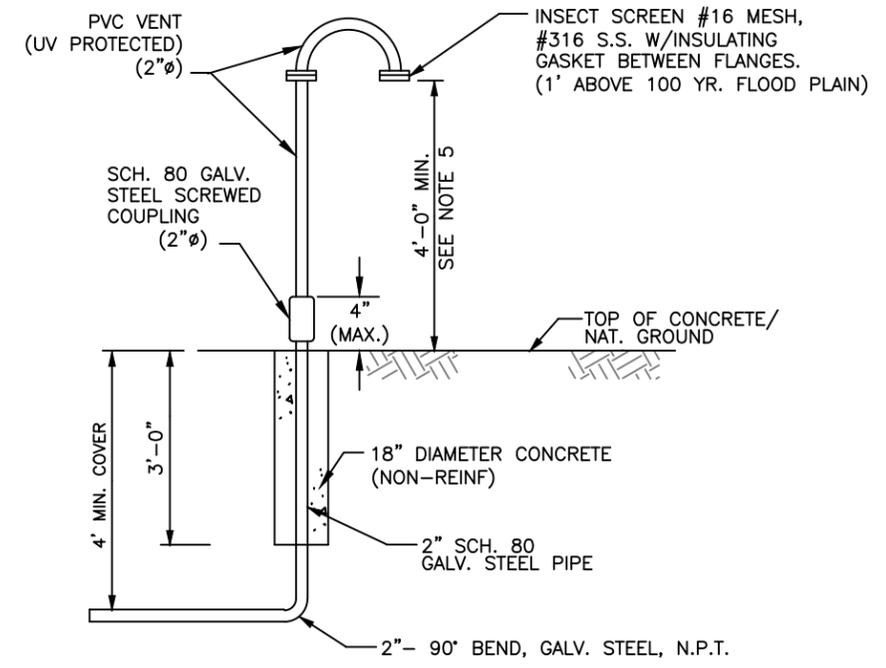
- NOTES:**
1. PROVIDE RAM-NEK OR APPROVED EQUAL BETWEEN PRECAST SEGMENTS OF THE MANHOLE.
 2. FOR MANHOLES DEEPER THAN 20 FEET, INCREASE SIZE OF ACCESS MANHOLES TO 72-INCH OR 84-INCH DIAMETER & PROVIDE SAFETY CLIMBING RAIL (SAF-T-CLIMB) OR APPROVED EQUAL).
 3. PROVIDE AN APPROVED PETROLEUM BASED TAPE ENCAPSULATING ALL BOLTS IN ACCESS MANHOLES & VALVE VAULTS, INCLUDING PRESSURE-REDUCING STATIONS.
 4. VERIFY THAT LOCATION OF SCREEN IS 1 FOOT ABOVE 100-YEAR FLOOD PLAIN ELEVATION OR 4 FEET ABOVE NATURAL GROUND WHICHEVER IS HIGHER.
 5. REFER TO PLAN AND PROFILE SHEETS FOR TYPES AND LOCATIONS OF COMBINATION AIR VALVES.
 6. PAINT ALL VENT PIPING USING SHERWIN WILLIAMS ISLE OF PINES 646 OR APPROVED EQUIVALENT COLOR. PREPARE SURFACE BY SANDING AND WIPING WITH ACETONE. APPLY COATING PER MANUFACTURER'S RECOMMENDATION.



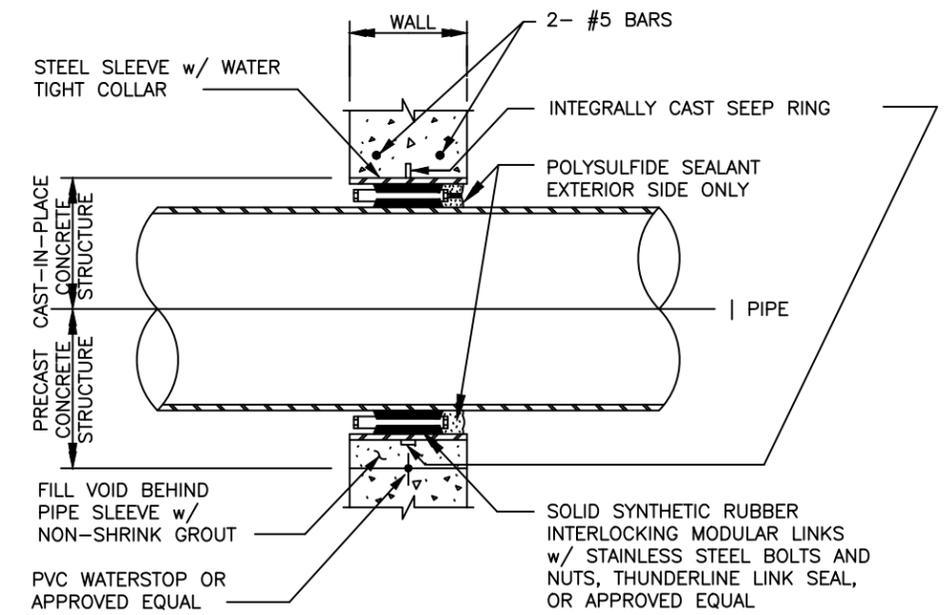
MANHOLE STEP DETAIL

- NOTES:**
1. PROVIDE STEPS.
 2. BOTTOM MANHOLE STEP SHALL BE NO HIGHER THAN 12" ABOVE MANHOLE INVERT.

Water Main Diameter	MH Size
<30"	60"
30"-36"	60"
>36"	72"



BREAKAWAY VENT PIPE DETAIL
(VENT PIPES WITHIN ROW)



TYPICAL WALL PENETRATION DETAIL

CITY OF MAGNOLIA
18111 BUDDY RILEY BOULEVARD
MAGNOLIA, TEXAS 77354

COMBINATION AIR VALVE ASSEMBLY

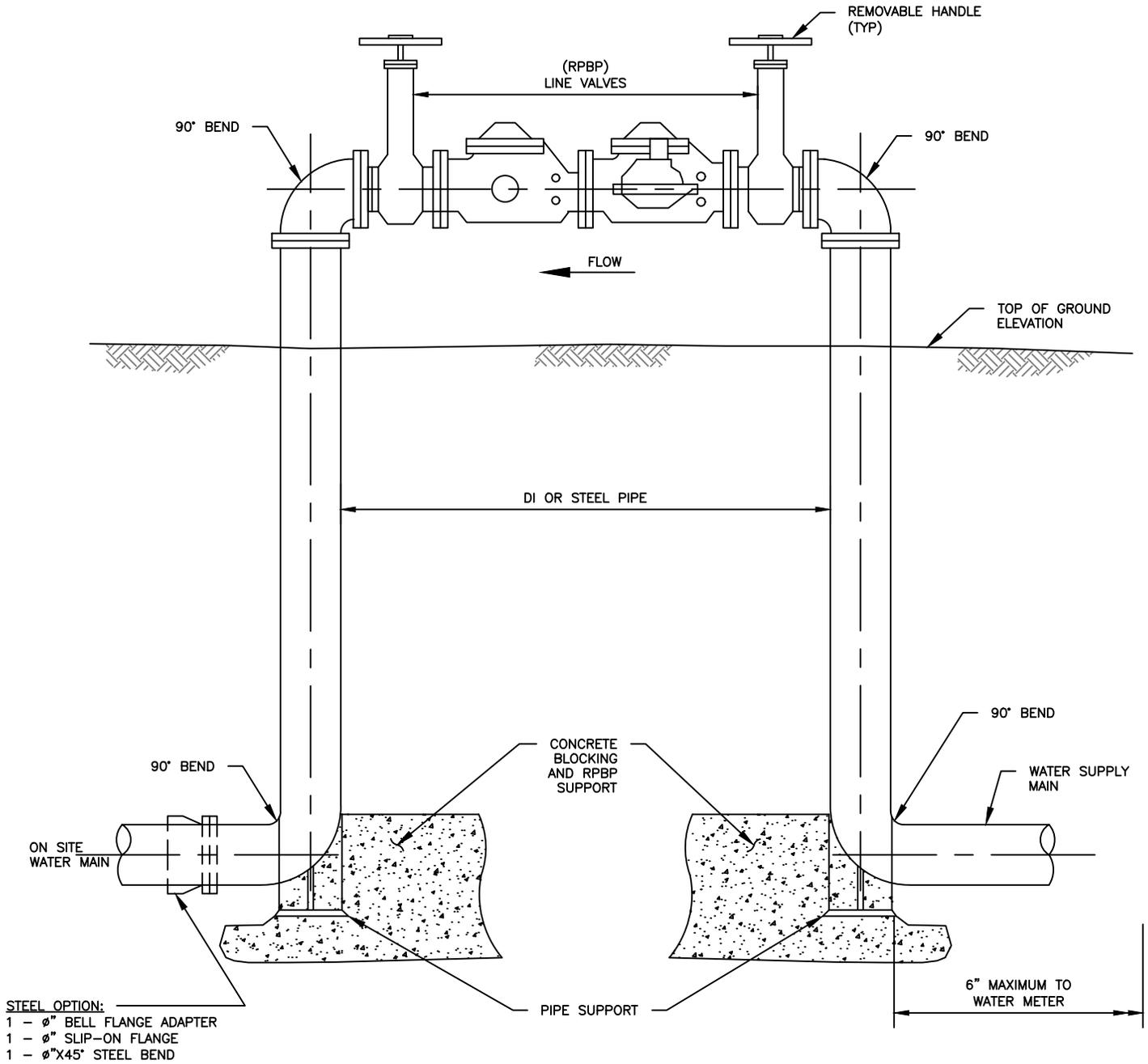
CITY OF MAGNOLIA STANDARD DETAIL

DETAIL NO.
WTR-06

EFFECTIVE DATE: 8/3/2022

GENERAL NOTES:

1. INSULATE REDUCED PRESSURE BACKFLOW PREVENTER TO AVOID FREEZING.
2. REDUCED PRESSURE BACKFLOW PREVENTER'S DISCHARGE OPENING IS TO BE A MINIMUM OF 12 INCHES ABOVE GROUND ELEVATION OR 100 YEAR FLOOD ELEVATION, WHICHEVER IS GREATER.



- STEEL OPTION:**
- 1 - ϕ " BELL FLANGE ADAPTER
 - 1 - ϕ " SLIP-ON FLANGE
 - 1 - ϕ "X45° STEEL BEND



CITY OF MAGNOLIA
18111 BUDDY RILEY BOULEVARD
MAGNOLIA, TEXAS 77354

**REDUCED PRESSURE
BACKFLOW PREVENTER (RPBP)**

CITY OF MAGNOLIA STANDARD DETAIL

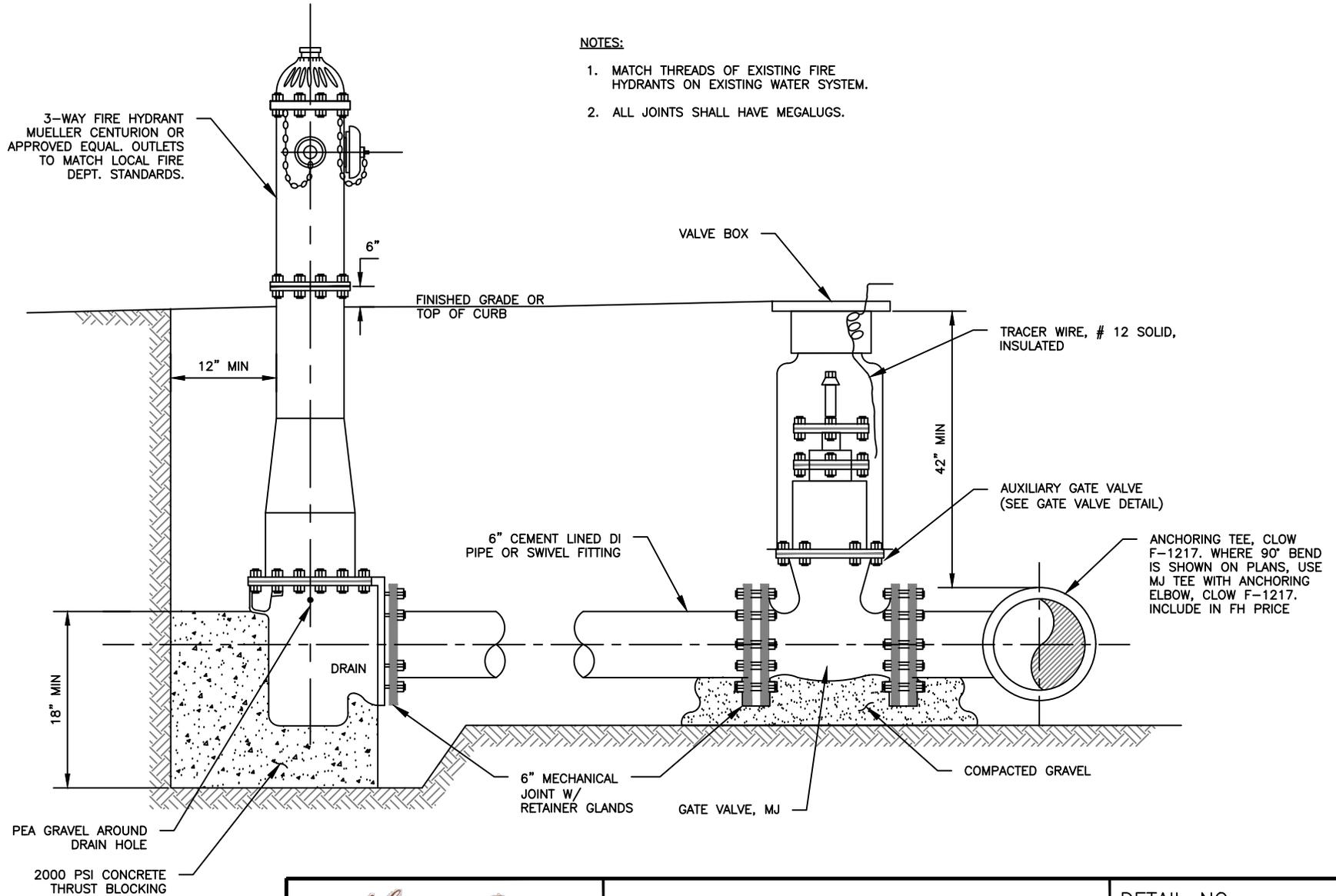
DETAIL NO.

WTR-05

EFFECTIVE DATE: 8/3/2022

NOTES:

1. MATCH THREADS OF EXISTING FIRE HYDRANTS ON EXISTING WATER SYSTEM.
2. ALL JOINTS SHALL HAVE MEGALUGS.




CITY OF MAGNOLIA
18111 BUDDY RILEY BOULEVARD
MAGNOLIA, TEXAS 77354

FIRE HYDRANT UNIT ASSEMBLY

CITY OF MAGNOLIA STANDARD DETAIL

DETAIL NO.

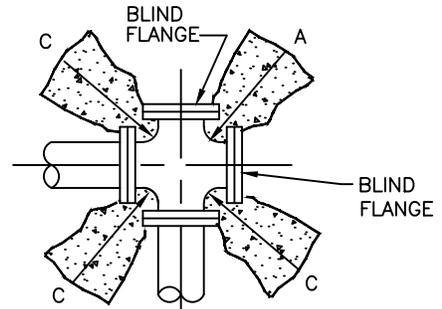
WTR-04

EFFECTIVE DATE: 8/3/2022

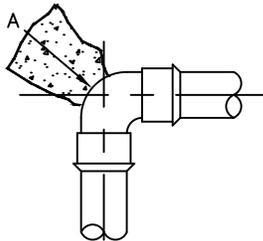
PIPE SIZE (INJ.)	MINIMUM BEARING AREA AGAINST UNDISTURBED SOIL (SQ.FT.)					
	A	B	C	D	E	F
4	2	2	1	1	1	2
6	4	3	3	1	1	3
8	8	5	4	2	1	5
10	12	8	6	3	2	8
12	16	12	9	5	2	12
14	22	15	12	6	3	15
16	29	20	16	8	4	20
18	36	25	20	10	5	25
20	44	32	24	12	6	32
24	64	45	35	18	9	45
30	100	71	54	28	14	71

NOTES:

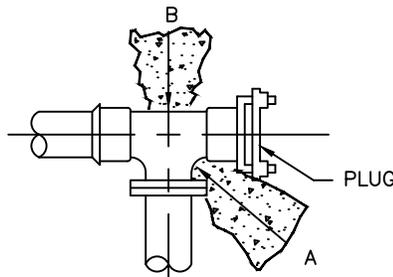
1. THRUST IS BASED ON A WORKING PRESSURE OF 150 PSI.
2. BEARING AREA IS BASED ON A SAFE SOIL BEARING LOAD OF 1500 PSF.
3. BLOCKING SHALL BEAR AGAINST FITTINGS ONLY AND SHALL BE CLEAR OF THE JOINT.



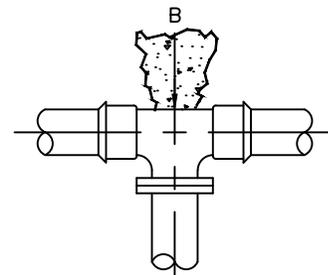
CAPPED CROSS



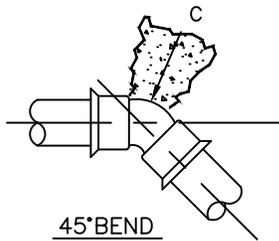
90° BEND



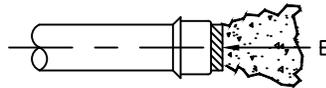
TEE



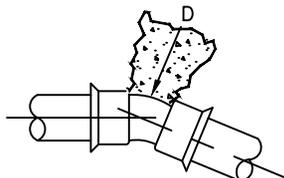
TEE



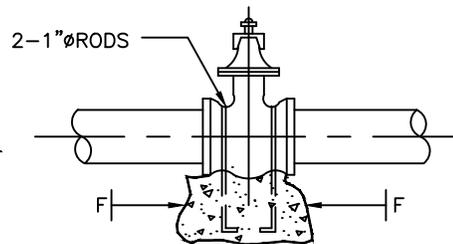
45° BEND



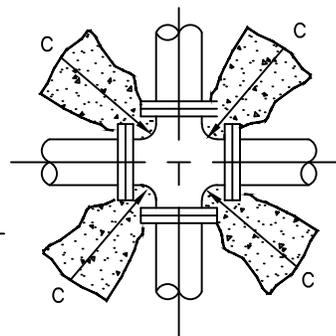
PLUG



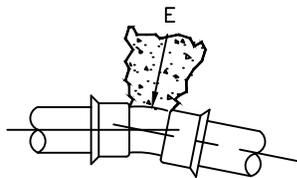
22 1/2° BEND



GATE VALVE
8" OR LARGER



CROSS



11 1/4° BEND



CITY OF MAGNOLIA
18111 BUDDY RILEY BOULEVARD
MAGNOLIA, TEXAS 77354

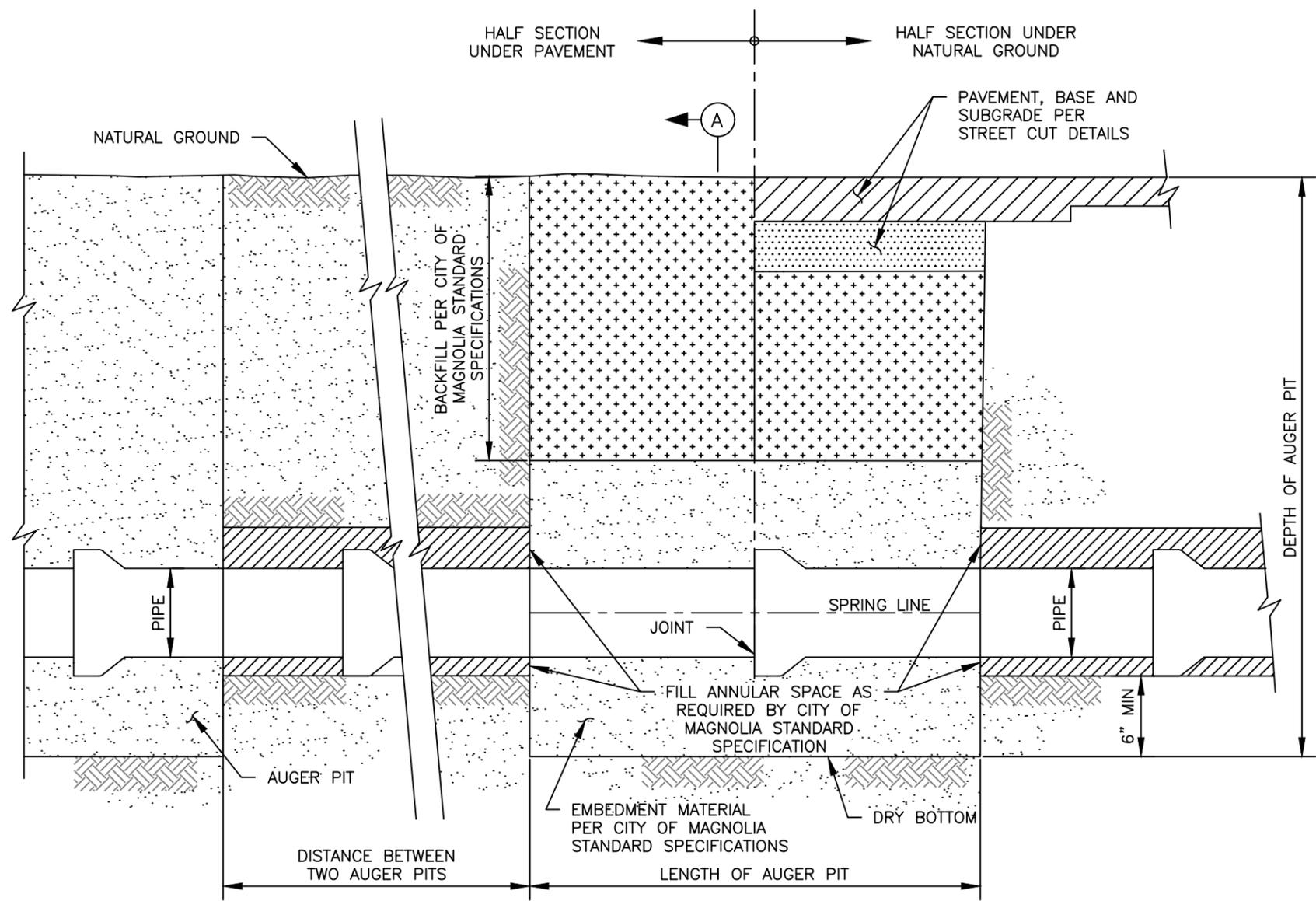
HORIZONTAL THRUST BLOCKING

CITY OF MAGNOLIA STANDARD DETAIL

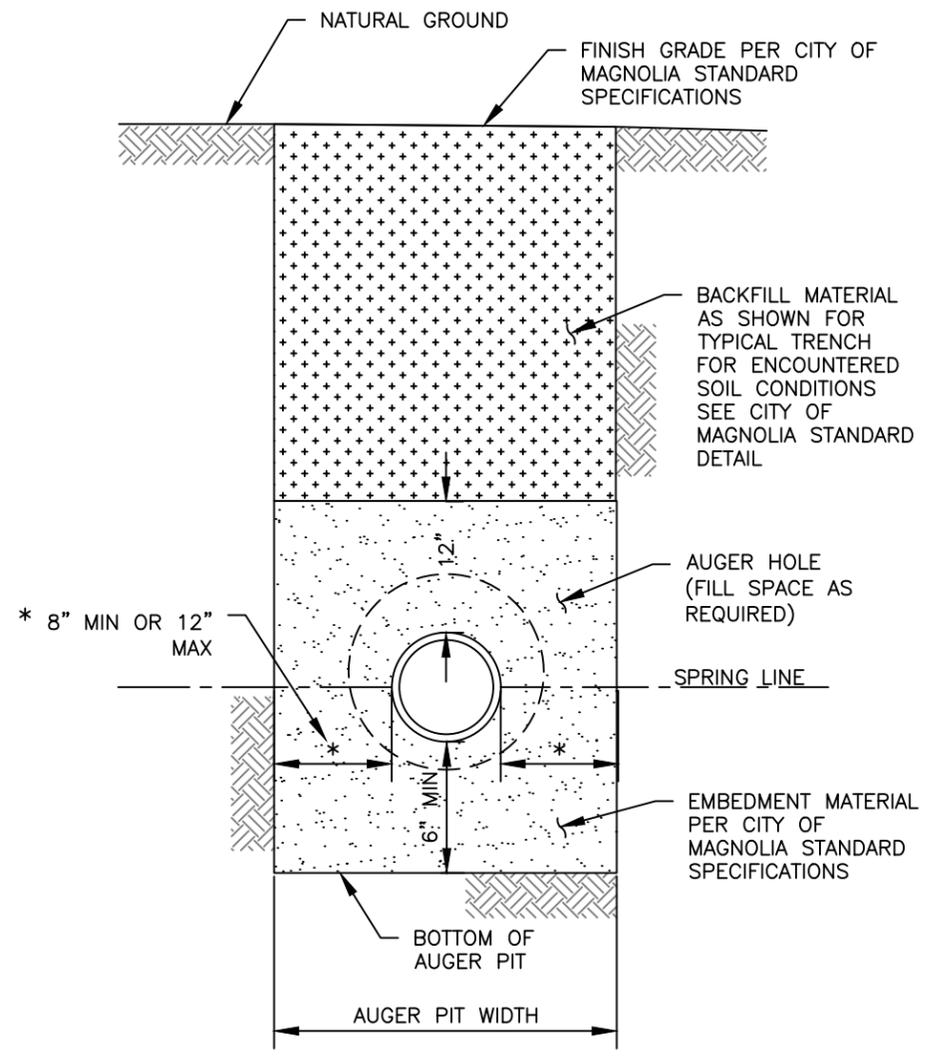
DETAIL NO.

WTR-03

EFFECTIVE DATE: 8/3/2022



ELEVATION



SECTION A

NOTE:

1. SELECT BACKFILL FOR RIGID PAVEMENT; FLEXIBLE BASE MATERIAL FOR ASPHALT PAVEMENT.

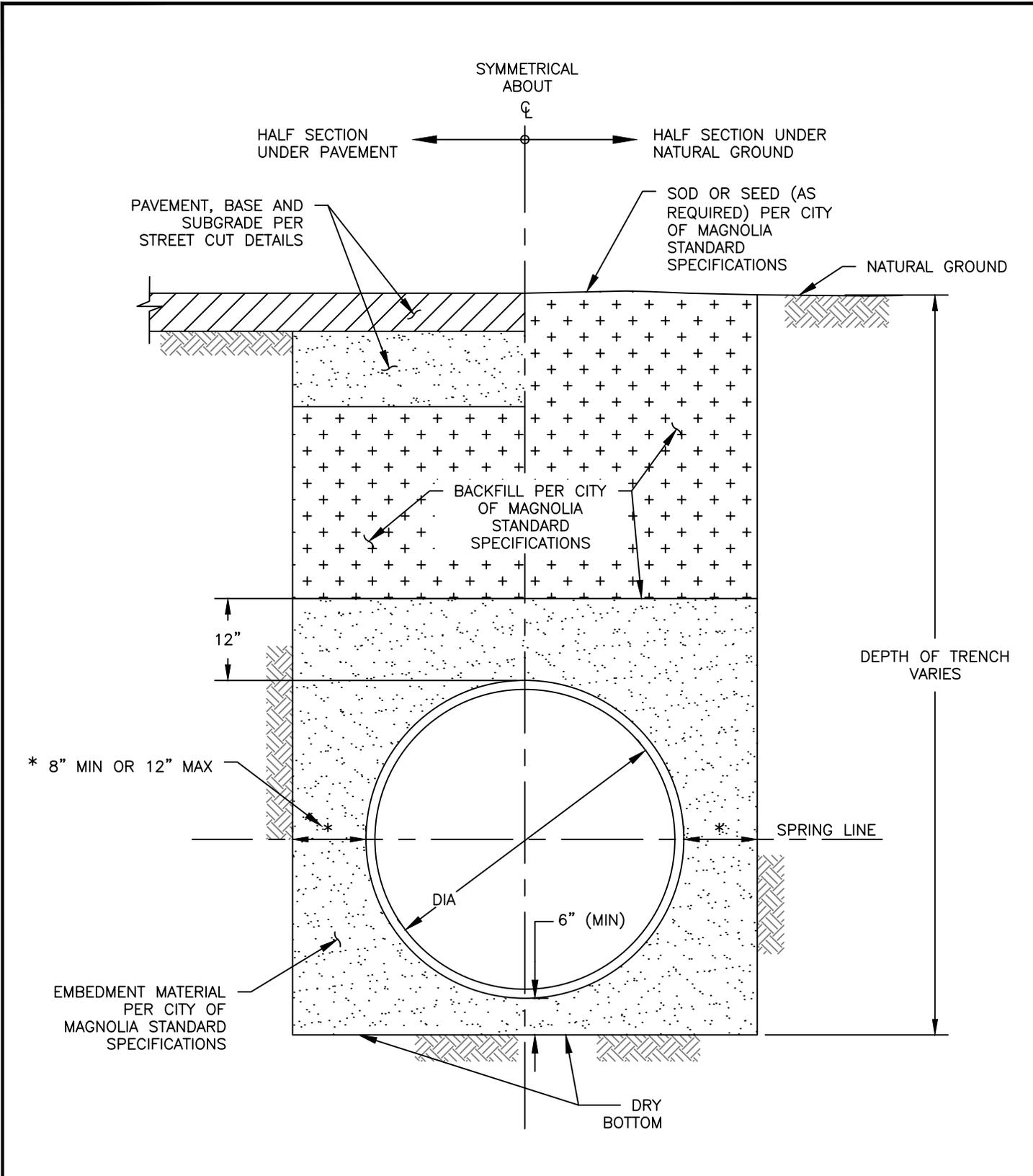


**BEDDING AND BACKFILL
AUGER PIT AND AUGER HOLE**

CITY OF MAGNOLIA STANDARD DETAIL

DETAIL NO.
WTR-02

EFFECTIVE DATE: 8/3/2022

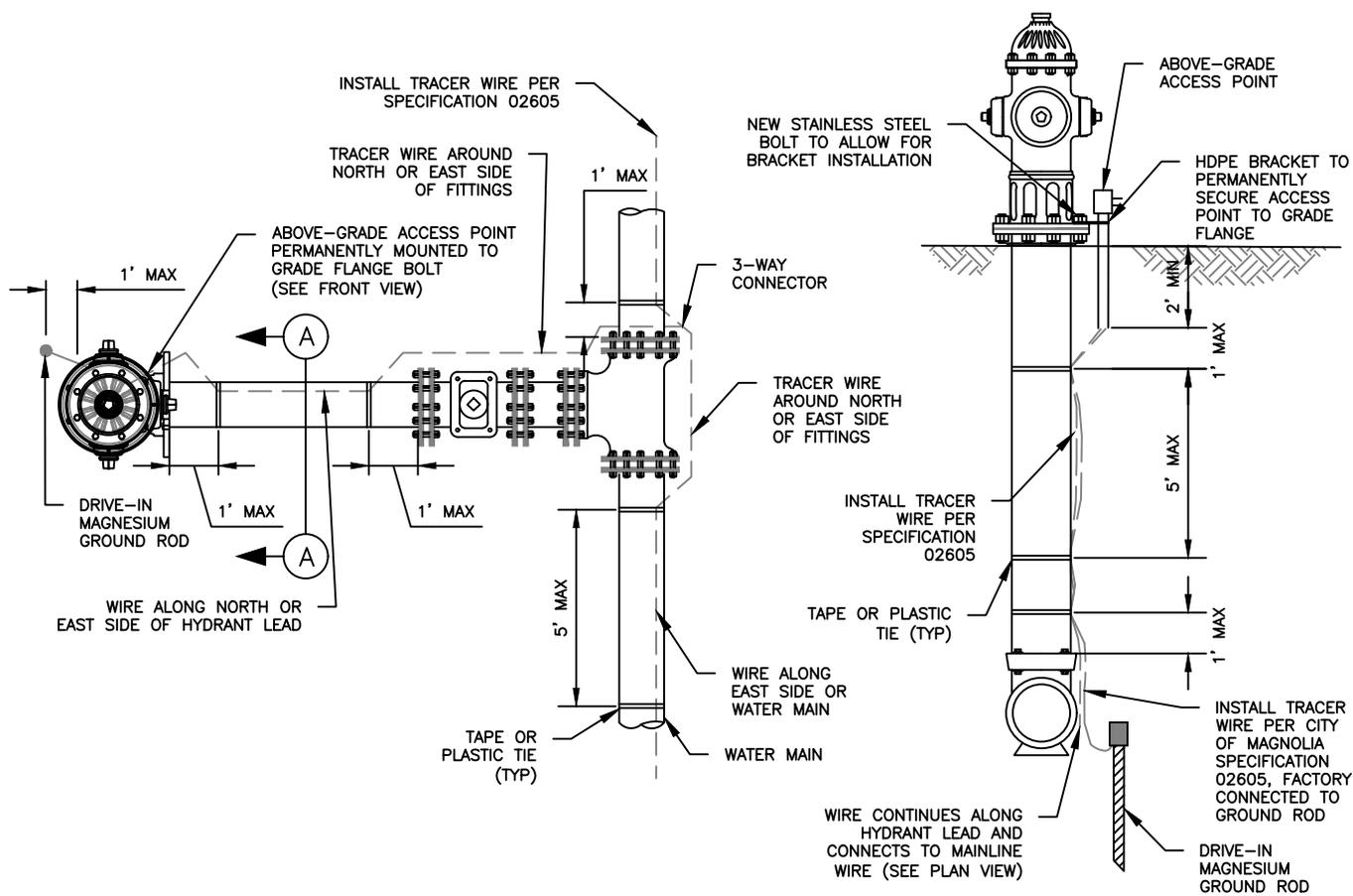


**WATER DISTRIBUTION MAIN
BEDDING AND BACKFILL
FOR OPEN CUT TRENCHES**

CITY OF MAGNOLIA STANDARD DETAIL

DETAIL NO.
WTR-01

EFFECTIVE DATE: 8/3/2022



HYDRANT — PLAN VIEW
NTS

HYDRANT — SECTION "A-A"
NTS



CITY OF MAGNOLIA
18111 BUDDY RILEY BOULEVARD
MAGNOLIA, TEXAS 77354

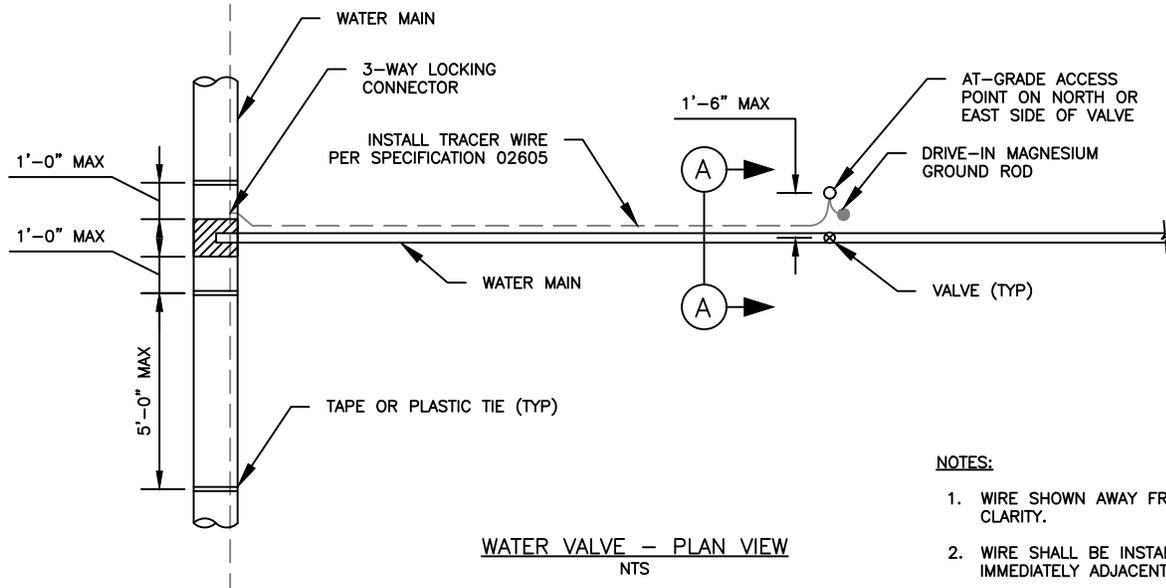
**COMPLETE UTILITY LOCATING
SYSTEM HYDRANT DETAIL**

CITY OF MAGNOLIA STANDARD DETAIL

DETAIL NO.

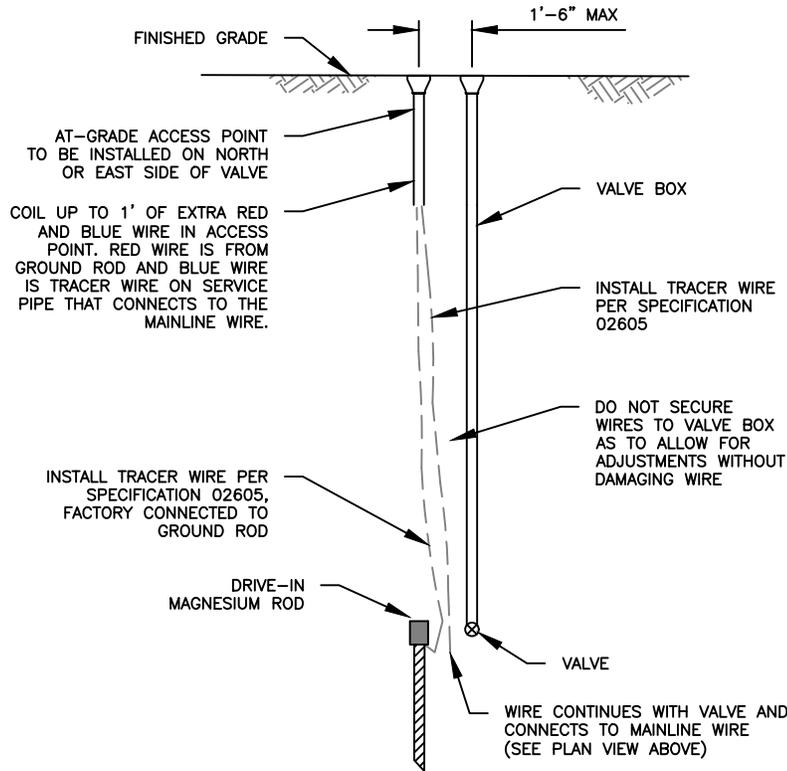
WTR-17

EFFECTIVE DATE: 8/3/2022



NOTES:

1. WIRE SHOWN AWAY FROM PIPE FOR CLARITY.
2. WIRE SHALL BE INSTALLED IMMEDIATELY ADJACENT TO THE VALVE.
3. THE WIRE SHALL BE FASTENED TO THE PIPE WITH TAPE OR PLASTIC TIES AT 5' INTERVALS.



CITY OF MAGNOLIA
18111 BUDDY RILEY BOULEVARD
MAGNOLIA, TEXAS 77354

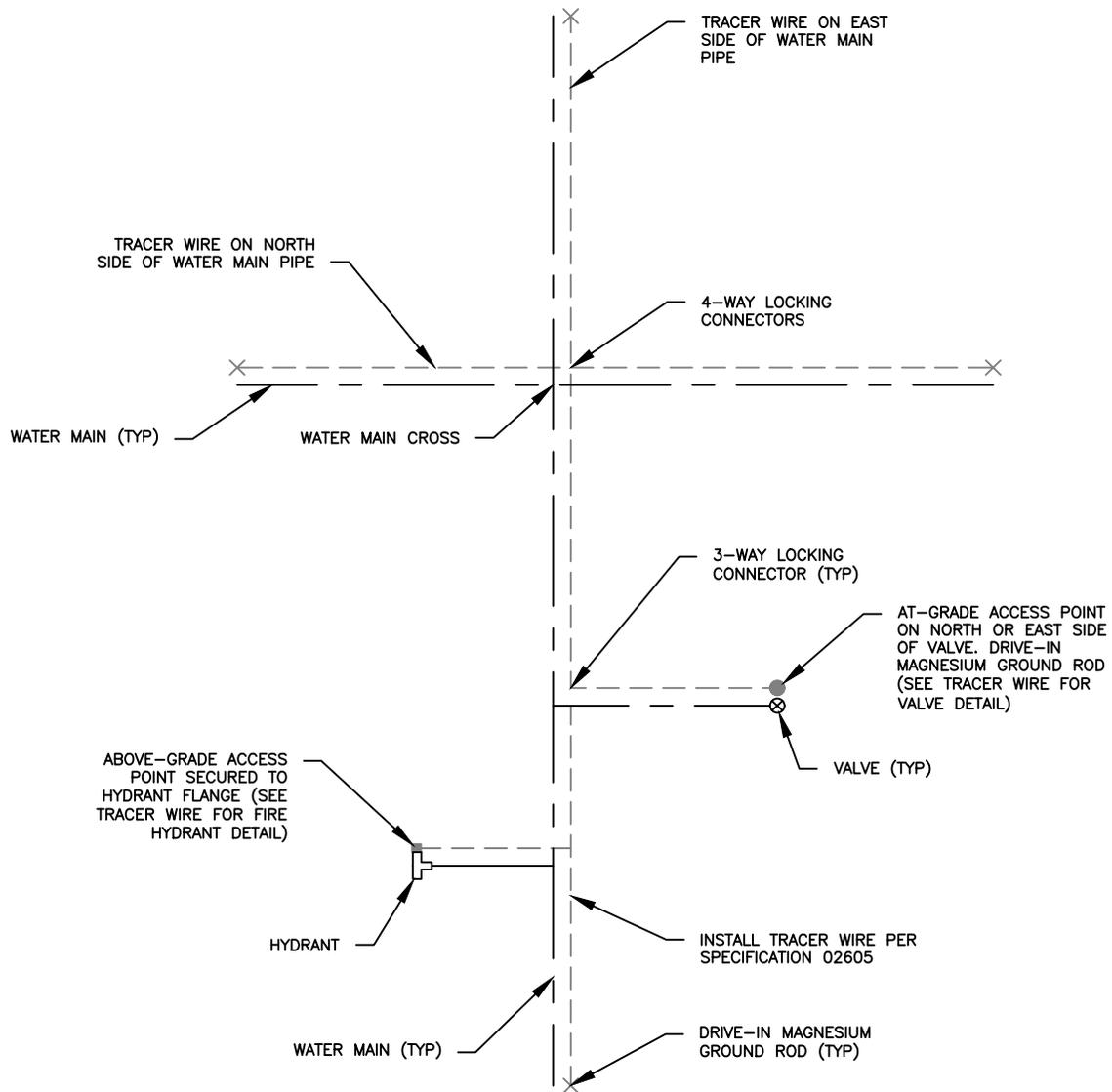
**COMPLETE UTILITY LOCATING
SYSTEM WATER SERVICE DETAIL**

CITY OF MAGNOLIA STANDARD DETAIL

DETAIL NO.

WTR-16

EFFECTIVE DATE: 8/3/2022



NOTES:

1. WIRE SHOWN AWAY FROM PIPE FOR CLARITY.
2. TRACER WIRE SHALL BE SECURED TO THE PIPE USING PLASTIC TAPE OR TIES AT 5 FEET INTERVALS IN THE 3 O'CLOCK POSITION.
3. PROVIDE ACCESS POINT COVER CAPS IDENTIFIED AS "WATER" AND COLOR CODE AS PER APWA UNIFORM COLOR CODE STANDARD.
4. FOR OPEN CUT INSTALLATION, PROVIDE HIGH STRENGTH COPPER-CLAD STEEL (HS-CCS), FULLY ANNEALED HIGH CARBON 1055 GRADE STEEL TRACER WIRE. COPPER SHALL BE 12-AWG WITH MINIMUM 450 LB TENSILE BREAK LOAD, AND MINIMUM 30 MIL HDPE INSULATION THICKNESS.
5. FOR TRENCHLESS INSTALLATION, PROVIDE EXTRA-HIGH STRENGTH COPPER-CLAD STEEL (EHS-CCS), HARD-DRAWN, HIGH CARBON 1055 GRADE STEEL TRACER WIRE. COPPER SHALL BE 12-AWG WITH MINIMUM 1,150 TENSILE BREAK LOAD, AND MINIMUM 45 MIL HDPE INSULATION THICKNESS.
6. THERMOPLASTIC WIRE, NYLON JACKETS OR COATINGS SHALL NOT BE USED.
7. TRACE WIRE SHALL BE GROUNDED USING A 15-LB, DRIVE-IN MAGNESIUM GROUND ROD WITH MINIMUM 20-FEET RED #12 AWG COPPER-CLAD STEEL (CCS) WIRE WITH 30 MIL HDPE INSULATED JACKET CONNECTED TO THE ANODE SPECIFICALLY MANUFACTURED FOR GROUNDING PURPOSE AND BURIED AT THE SAME ELEVATION AS THE UTILITY. BRASS, STEEL, OR COPPER GROUND RODS SHALL NOT BE USED.



CITY OF MAGNOLIA
18111 BUDDY RILEY BOULEVARD
MAGNOLIA, TEXAS 77354

**COMPLETE UTILITY LOCATING
SYSTEM SAMPLE PLAN**

CITY OF MAGNOLIA STANDARD DETAIL

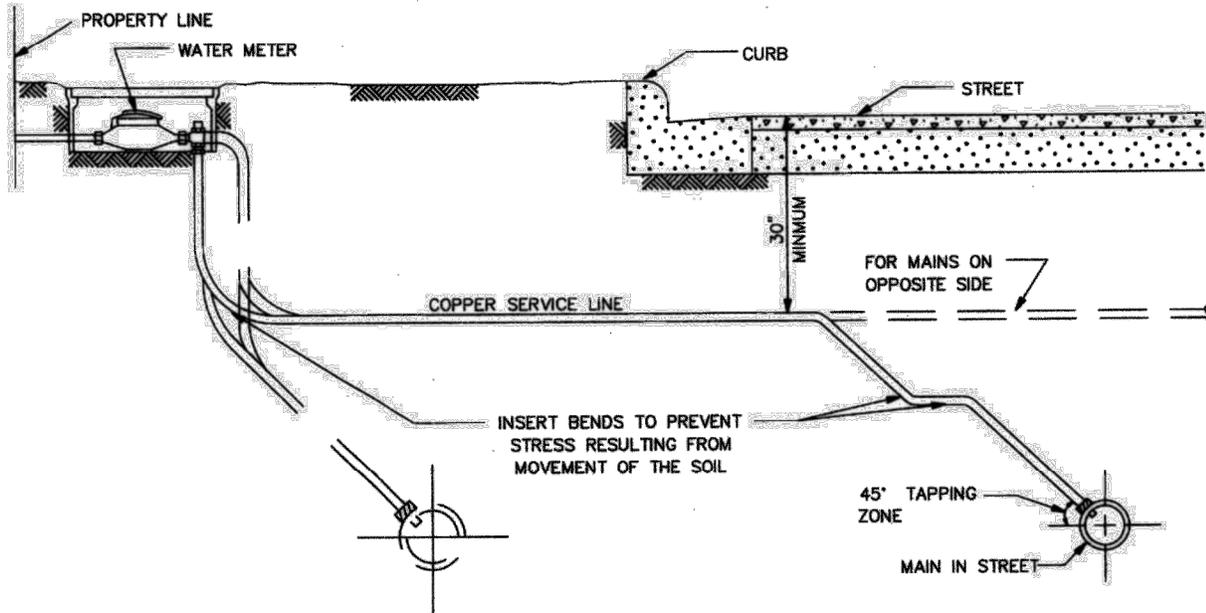
DETAIL NO.

WTR-15

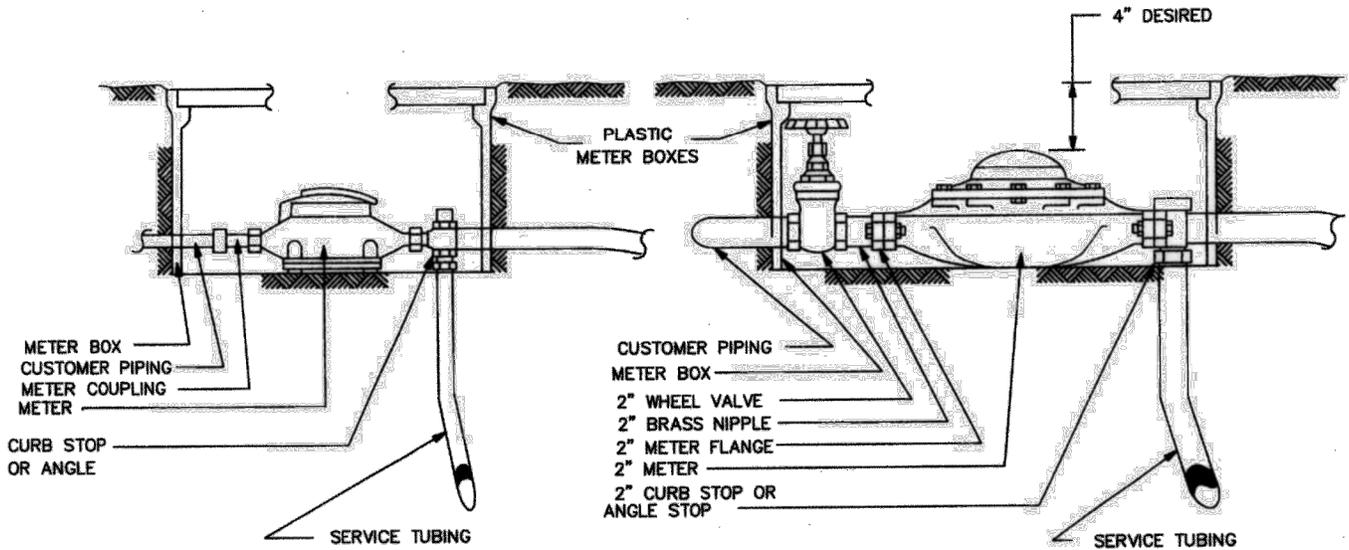
EFFECTIVE DATE: 8/3/2022

NOTES:

1 1/2" METER SET IS SAME AS 2" EXCEPT WHEEL VALVE IS NOT REQUIRED.



TYPICAL SECTION SERVICE LINE



5/8", 3/4" AND 1" METER SET

2" METER SET



CITY OF MAGNOLIA
18111 BUDDY RILEY BOULEVARD
MAGNOLIA, TEXAS 77354

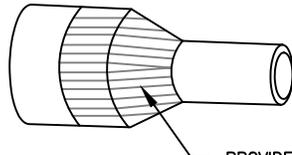
TYPICAL METER SETTINGS

CITY OF MAGNOLIA STANDARD DETAIL

DETAIL NO.

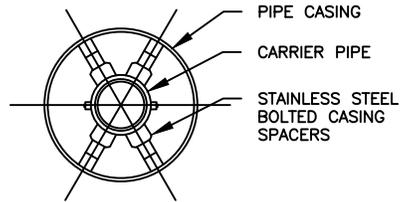
WTR-13

EFFECTIVE DATE: 8/3/2022



PROVIDE END SEAL USING 1/8" THICK NEOPRENE RUBBER WITH 1/2" WIDE 304 STAINLESS STEEL BAND

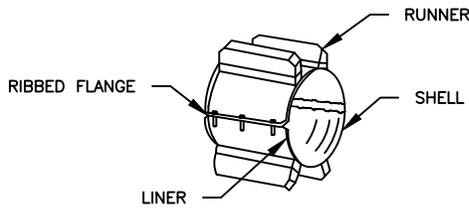
CASING END SEAL



PIPE CASING
CARRIER PIPE

STAINLESS STEEL BOLTED CASING SPACERS

SECTION



SPACER

SPACERS:

1. SPACERS SHALL BE BOLT-ON STYLE WITH A TWO PIECE SOLID SHELL MADE FROM T-304 STAINLESS STEEL, MINIMUM 14 GAUGE THICKNESS. THE SHELL SHALL BE LINED WITH A RIBBED PVC SHEET OF A 0.090" THICKNESS THAT OVERLAPS THE EDGES. RUNNERS MADE FROM UHMW POLYMER SHALL BE ATTACHED TO RISERS AT APPROPRIATE POSITIONS TO PROPERLY LOCATE THE CARRIER WITHIN THE CASING AND TO EASE INSTALLATION. RISERS SHALL BE MADE FROM T-304 STAINLESS STEEL OF A MINIMUM 14 GAUGE THICKNESS AND SHALL BE ATTACHED TO THE SHELL BY MIG WELDING. ALL WELDS SHALL BE FULLY PASSIVATED. ALL FASTENERS SHALL BE MADE FROM T-304 STAINLESS STEEL.

STANDARD No	
RUNNERS REQUIRED FOR CARRIER PIPES	
SIZE	NEEDED
4" < 14"	-4 REQUIRED
14" < 36"	-4 REQUIRED
36" < 48"	-7 REQUIRED

PLACEMENT OF SPACERS ON CARRIER PIPE:

1. GENERAL - ONE SPACER SHALL BE PLACED NOT MORE THAN TWO FEET FROM EACH END OF CASING. SUBSEQUENT SPACERS SHALL BE PLACED AT 7' INTERVALS WITHIN THE CASING, OR IN ACCORDANCE WITH PIPE MANUFACTURER'S RECOMMENDATIONS.
2. PVC CARRIER - ONE SPACER SHALL BE PLACED ON THE SPIGOT END OF EACH SEGMENT AT THE LINE MARKING THE LIMIT OF INSERTION INTO THE BELL. WHEN THE JOINT IS COMPLETE, THE SPACER SHALL BE IN CONTACT WITH THE BELL OF THE JOINT SO THAT THE SPACER PUSHES THE JOINT AND RELIEVES COMPRESSION WITHIN THE JOINT. SUBSEQUENT SPACERS SHALL BE PLACED AT 7' INTERVALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. RAILROAD OR TxDOT MAY HAVE STRICTER REQUIREMENTS AND SHALL BE ENFORCED.

CARRIER SIZE	MIN ENCASEMENT STEEL PIPE SIZE
4"	10"
6"	12"
8"	16"
10"	18"
12"	20"
14"	24"
16"	26"
18"	30"
20"	36"
24"	42"



CITY OF MAGNOLIA
18111 BUDDY RILEY BOULEVARD
MAGNOLIA, TEXAS 77354

**END SEAL AND
SPACER FOR CASING**

CITY OF MAGNOLIA STANDARD DETAIL

DETAIL NO.

WTR-12

EFFECTIVE DATE: 8/3/2022