

PROJECT REFERENCE NO. B-5716 DESIGNED BY: BGL F: 910.637.00 DRAWN BY: CHECKED BY: BGL APPROVED BY: -

REVISED:

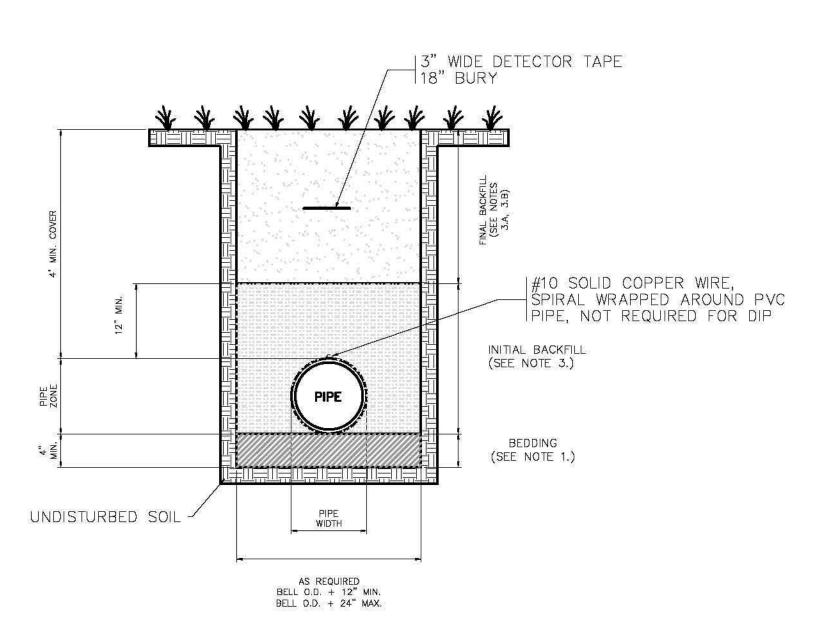
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690

SHEET NO.

UC-3A

FAX: (919) 250-4151 UTILITY CONSTRUCTION **DOCUMENT NOT CONSIDERED FINAL** 

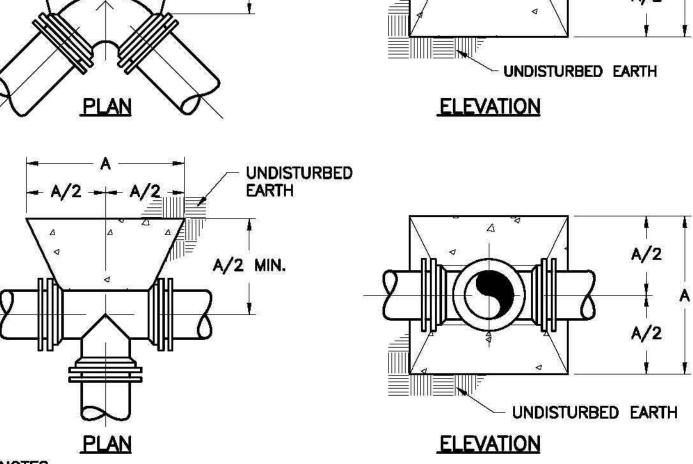
**UNLESS ALL SIGNATURES COMPLETED** 



## FORCE MAIN TRENCH DETAILS TYPE 3 LAYING CONDITIONS N.T.S.

## NOTES:

- 1. LAYING CONDITIONS AS PER AWWA C600 AND C605 STANDARDS.
- 2. BEDDING MATERIAL SHALL BE 4" MINIMUM THICKNESS, LOOSE SOIL (DEFINED AS NATIVE SOIL EXCAVATED FROM THE TRENCH), FREE FROM ROCKS AND SHALL PROVIDE UNIFORM SUPPORT FOR THE FULL LENGTH OF PIPE. COMPACT TO 95% MAXIMUM DENSITY.
- 3. INITIAL BACKFILL SHALL BE LIGHTLY CONSOLIDATED IN MAXIMUM 6" LOOSE LIFTS, COMPACTED TO 95% OF MAXIMUM DENSITY.
- 3. UNDER AREAS TO BE SEEDED OR SODDED, COMPACT SUCCEEDING LAYERS OF FINAL BACKFILL IN 12" LOOSE LIFTS TO 85% MAXIMUM DENSITY.
- 3. UNDER STRUCTURES, PAVEMENTS AND ROAD SHOULDERS, COMPACT SUCCEEDING LAYERS OF FINAL BACKFILL IN 6" LOOSE LIFTS TO 95% MAXIMUM DENSITY EXCEPT COMPACT TOP 12" OF SUBGRADE TO 98% MAXIMUM DENSITY
- 4. PROVIDE #10 SOLID COPPER WIRE IN SUFFICIENT LENGTH TO BE CONTINUOUS OVER EACH SEPARATE RUN OF ALL BURIED PVC PIPING. AT VALVE BOXES, BRING WIRE TO WITHIN 6 IN. OF TOP OF BOX AND INSERT INTO BOX THROUGH DRILLED HOLE. NOT REQUIRED FOR DUCTILE IRON PIPE.
- 5. INSTALL 3' WIDE DETECTOR TAPE AT 18" DEPTH. TAPE SHALL HAVE MIDDLE FOIL LAYER.



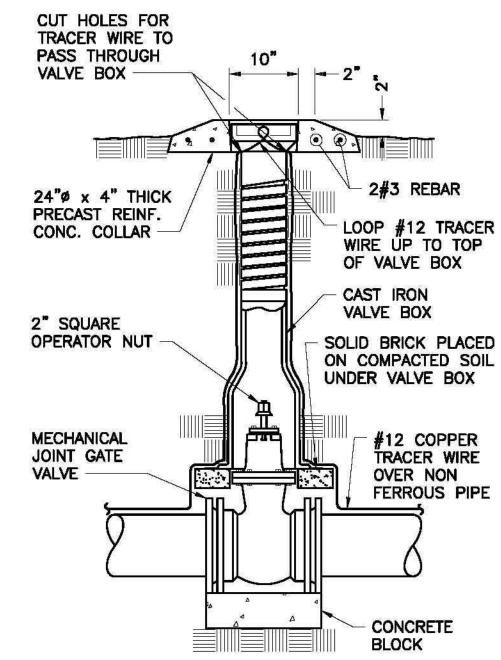
**UNDISTURBED** 

EARTH

1. THRUST BLOCKS SHALL BE CONSTRUCTED OF 2500 P.S.I. CONCRETE. 2. INSTALL TAR PAPER AROUND BEND OR FITTING TO PREVENT CONCRETE BONDING.

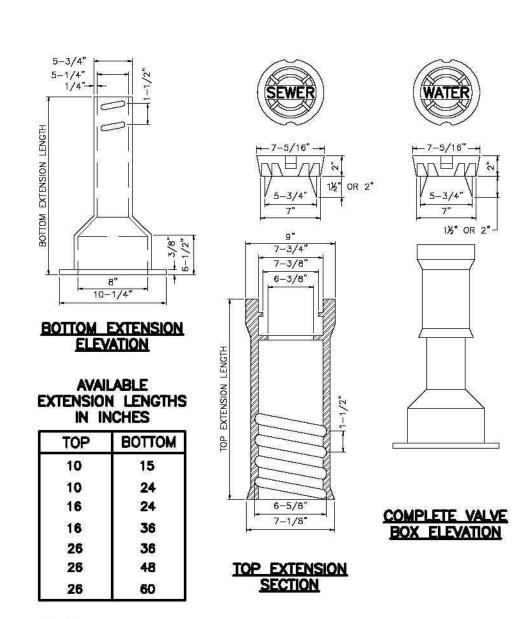
DIMENSION A (FEET)									
BEND / FITING	PIPE SIZE (NOM. DIA. IN INCHES)								
	4	6	8	10	12	16	18	20	24
90" BEND	1.4	2.0	2.7	3.4	4.0	5.4	6.0	6.7	8.0
45° BEND	1.0	1.5	2.0	2.5	3.0	4.0	4.5	5.0	5.9
22.5" BEND	8.0	1.1	1.5	1.8	2.2	2.9	3.2	3.6	4.3
11.25" BEND	0.5	0.8	1,0	1.3	1.5	2.0	2.3	2.5	3.0
TEE BRANCH/DEAD END	1.2	1.7	2.3	2.9	3.4	4.5	5.1	5.7	6.8

CONCRETE THRUST BLOCK DETAIL FOR WATER MAIN HORIZONTAL BENDS AND TEES



SEPARATION FROM ADJACENT FITTINGS SHOWN ON PLANS AND PROFILES IS FOR CLARITY. ACTUAL SEPARATION MAY BE ADJUSTED TO FIT LAYING CONDITIONS.

GATE VALVE ASSEMBLY



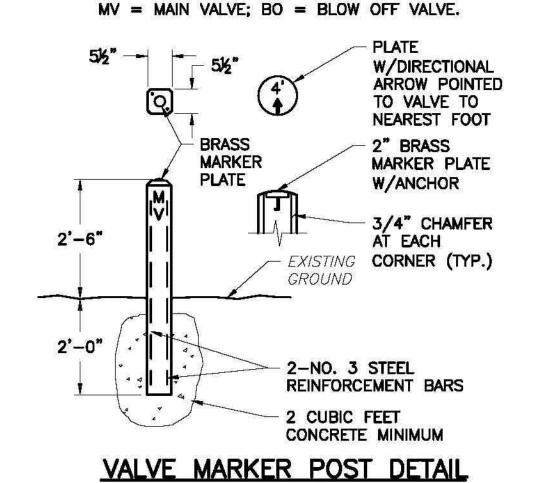
- 1. VALVE BOX SHALL HAVE THE RAISED LETTERS "SEWER" OR "WATER" CAST INTO COVER MATCHING THE SYSTEM TYPE.
- 2. VALVE BOX ACCOMMODATES 4" THRU 12" VALVES.

3. SCREW TYPE VALVE BOXES ARE REQUIRED. SLIP TYPE IS NOT ALLOWED.

4. DIMENSIONS SHOWN MAY VARY DEPENDING UPON THE MANUFACTURER.

1. INSTALL MARKER POSTS ON EDGE OF THE DOT R/W LINE.

2. PROVIDE MARKER POSTS AT ALL LINE VALVES. 3. ABBREVIATIONS STAMPED ON POST AS FOLLOWS:



SCREW TYPE VALVE BOX DETAIL