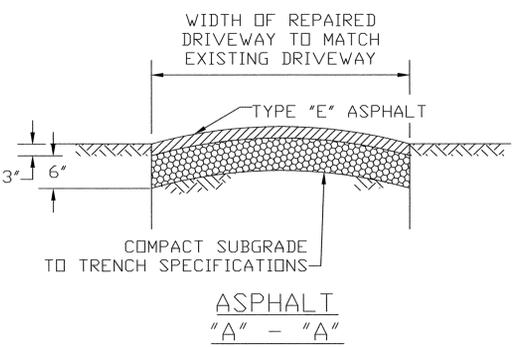
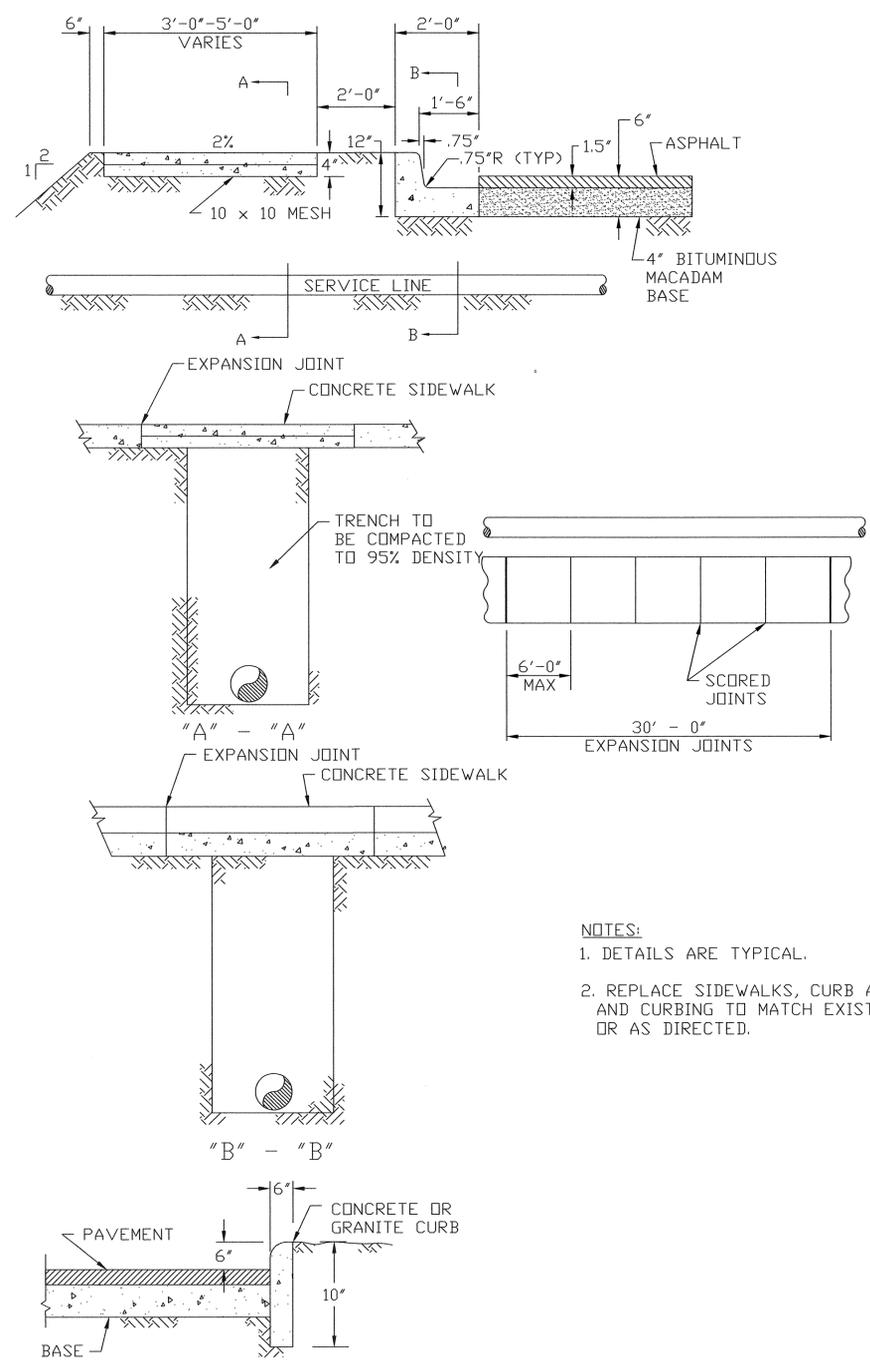


-- FINISH SURFACE OF REPAIRED AREA TO MATCH EXISTING SURFACE. EDGES OF CUT TO BE SAWN VERTICAL. EXPANSION MATERIAL TO BE USED AS DIRECTED.



DRIVEWAY CUT REPAIRS CONCRETE, GRAVEL & ASPHALT
SOURCE: FULTON COUNTY STANDARD DETAIL No. 131

NOTE:
1. FINISHED GRADE TO BE FLUSH WITH THE EDGE OF THE DRIVEWAY - TYPICAL ALL DRIVEWAYS.



NOTES:
1. DETAILS ARE TYPICAL.
2. REPLACE SIDEWALKS, CURB AND GUTTER AND CURBING TO MATCH EXISTING MATERIALS OR AS DIRECTED.

SIDEWALK, CURB AND GUTTER REPAIRS
SOURCE: FULTON COUNTY STANDARD DETAIL NO. 134

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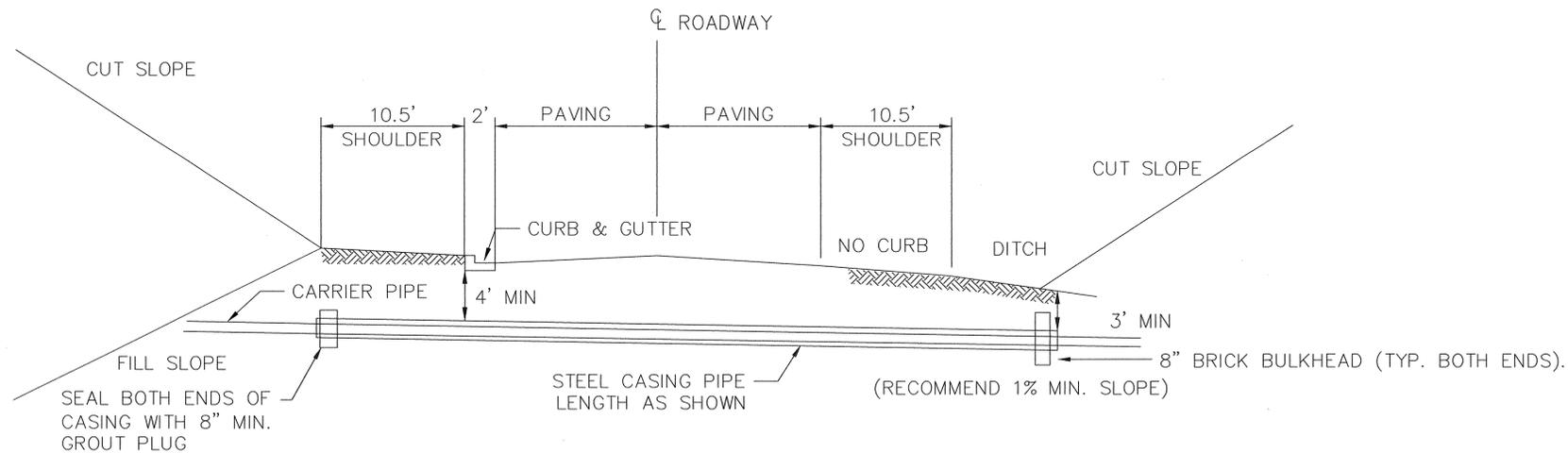
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W039 - ALPHARETTA WATER MAIN REPLACEMENT		
DRIVEWAY AND SIDEWALK REPAIRS		
DRAWN: MJW	CHECKED: TM	DATE: OCTOBER 2007
DESIGNED: PJP	PROJ. NO.: W039	

CD-12
SHEET 38 OF 54



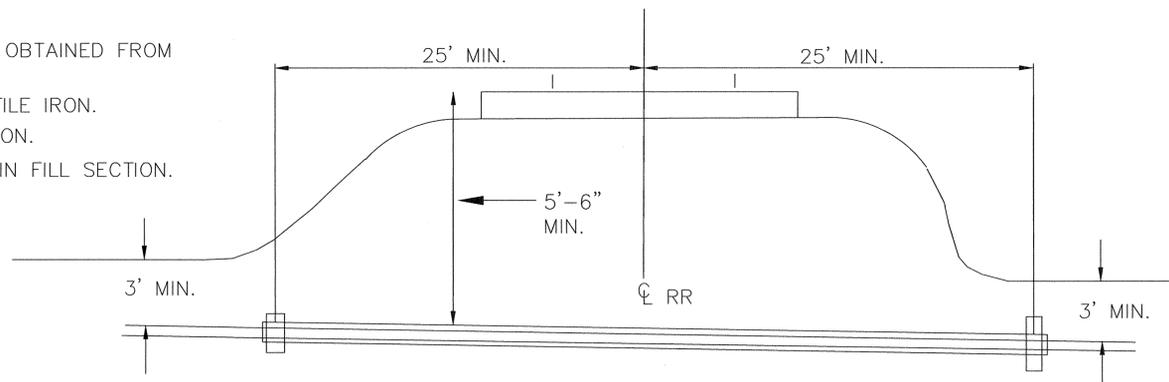
BORING NOTES:

- CASING TO BE STEEL PIPE (ROUND) WITH 45° BEVELED EDGES.
- ALL CUTS TO BE SQUARED TO END.
- JOIN ALL PIPE WITH DOUBLE BEAD BUTT WELDS.
- AUGER HEAD DIAMETER CANNOT EXCEED DIAMETER OF CASING BY MORE THAN 2".
- BORING AND CASING SHALL BE INSTALLED SIMULTANEOUSLY.
- CASING PIPE SHALL HAVE A PROTECTIVE COATING CONSISTING OF A COAL-TAR PRIMER COAT AND AN APPLICATION OF HOT COAL-TAR ENAMEL $\frac{3}{32}$ ($\pm \frac{1}{32}$) THICK PLUS A BONDED 15 LB. ASBESTOS WRAP.
- PIT TO BE NO CLOSER THAN 4' BEHIND CURB OR EDGE OF PAVEMENT.
- TYPICAL PIT IS 32' LONG BY 10' WIDE.
- CASING SHALL BE MANUFACTURED FROM STEEL CONFORMING TO ASTM: A 139, GRADE B.
- 2 STAINLESS STEEL CASING SPACERS REQUIRED PER JOINT.
- ALL BORING MUST BE APPROVED AND A PERMIT OBTAINED FROM PUBLIC WORKS (404) 730-7400.
- CARRIER PIPE SHALL BE RESTRAINED JOINT DUCTILE IRON.
- END CASING AT 3' BACK OF DITCH IN CUT SECTION.
- END CASING AT 10.5' FROM EDGE OF PAVING IF IN FILL SECTION.

UNDER HIGHWAYS

PIPE DIAMETER INCHES (I.D.)	CASING DIAMETER INCHES (I.D.) MIN.	WALL THICKNESS INCHES
6	12	0.250
8	16	0.250
10	18	0.250
12	20	0.375
16	24	0.375
18	30	0.375
20	30	0.375
24	36	0.375
30	42	0.375

RR SECTION



UNDER RAILROADS

PIPE DIAMETER INCHES (I.D.)	CASING DIAMETER INCHES (I.D.) MIN.	WALL THICKNESS INCHES
6	14	0.250
8	18	0.375
10	20	0.375
12	22	0.375
14	24	0.375
16	30	0.406
18	30	0.406
20	32	0.469
24	36	0.469
30	42	0.500

SOURCE: FULTON COUNTY STANDARD DETAIL NO. 107



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W039 - ALPHARETTA WATER MAIN REPLACEMENT

ROADWAY CROSSING BORE AND CASE DETAILS

CD-13

DRAWN: MJW
DESIGNED: PJP
CHECKED: TM
PROJ. NO.: W039
DATE: OCTOBER 2007

SHEET 39 OF 54

MAXIMUM PERMISSIBLE DEFLECTIONS

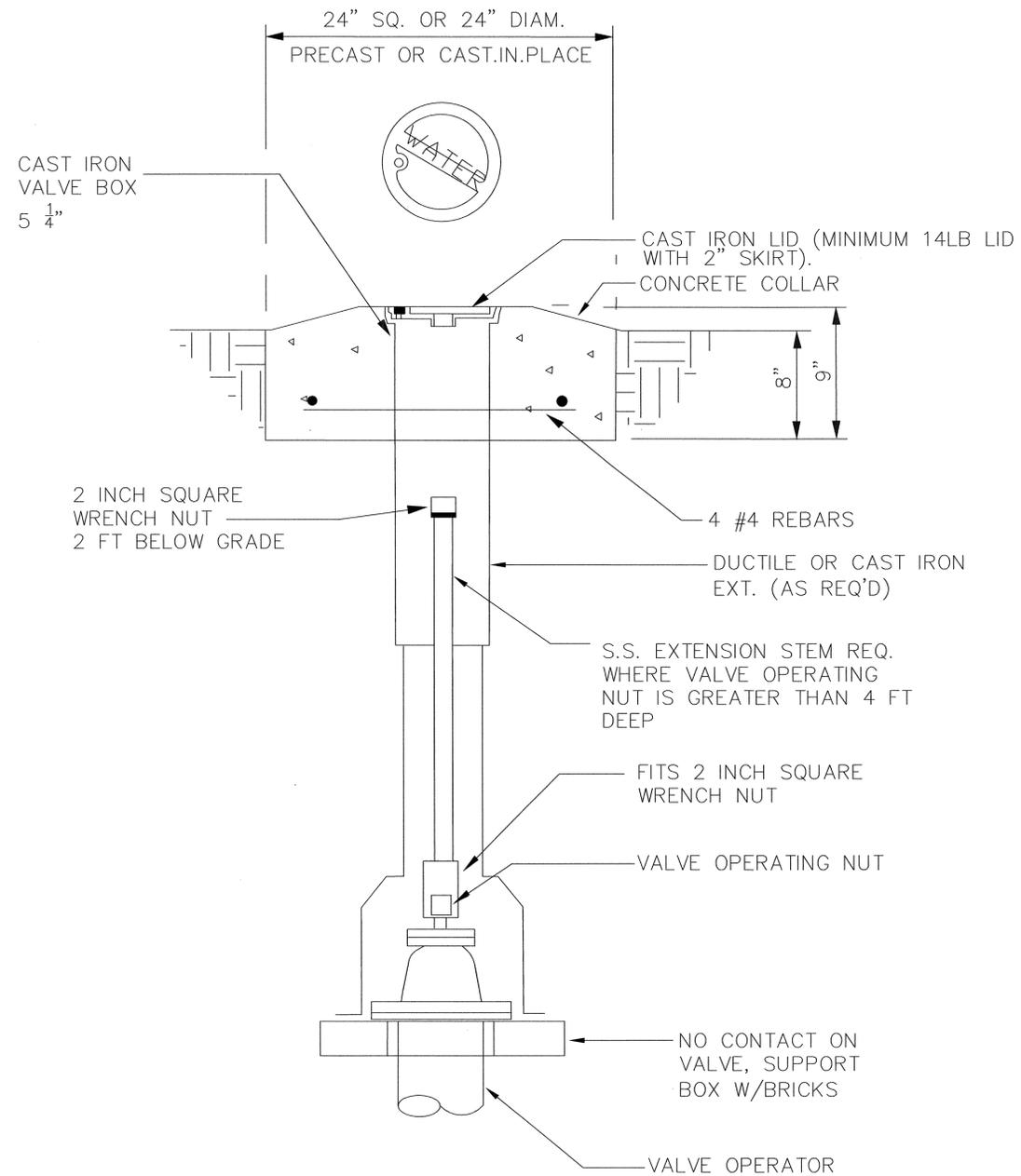
SIZE (NOM)	PUSH-ON JOINT (18 FT. JOINTS)		MECHANICAL JOINT (18 FT. JOINTS)	
	DEGREE	MAX. OFFSET	DEGREE	MAX. OFFSET
3"	4.0	15"	4.5	17"
4"	4.0	15"	4.5	17"
6"	4.0	15"	4.5	17"
8"	4.0	15"	4.5	17"
10"	4.0	15"	4.5	17"
12"	4.0	15"	4.5	17"
14"	2.5	9.4"	3.0	11"
16"	2.0	7.5"	3.0	11"
20"	2.0	7.5"	2.0	7.5"
24"	2.0	7.5"	2.0	7.5"
30"	1.5	5.5"	2.0	7.5"
36"	1.5	5.5"	2.0	7.5"
42"	1.5	5.5"	1.5	5.5"
48"	1.5	5.5"	1.5	5.5"

NOTES:

1. WHEN A PIPE IS DEFLECTED, THE PIPE SHALL FIRST BE ASSEMBLED IN A STRAIGHT LINE, BOTH HORIZONTALLY AND VERTICALLY BEFORE THE DEFLECTION IS MADE.
2. FOR MECHANICAL JOINT PIPE, THE BOLTS SHALL BE PARTIALLY TIGHTENED BEFORE THE LENGTH OF PIPE IS DEFLECTED. ANY SUPPORTED PIPE, SHALL BE SO SUPPORTED THAT THERE IS ZERO DEFLECTION EXCEPT WHERE EITHER A HORIZONTAL OR VERTICAL CURVE ON A BRIDGE OR OTHER STRUCTURE IS INVOLVED.
3. THRUST RESTRAINTS MAY BE REQUIRED ON THE DEFLECTED JOINTS.

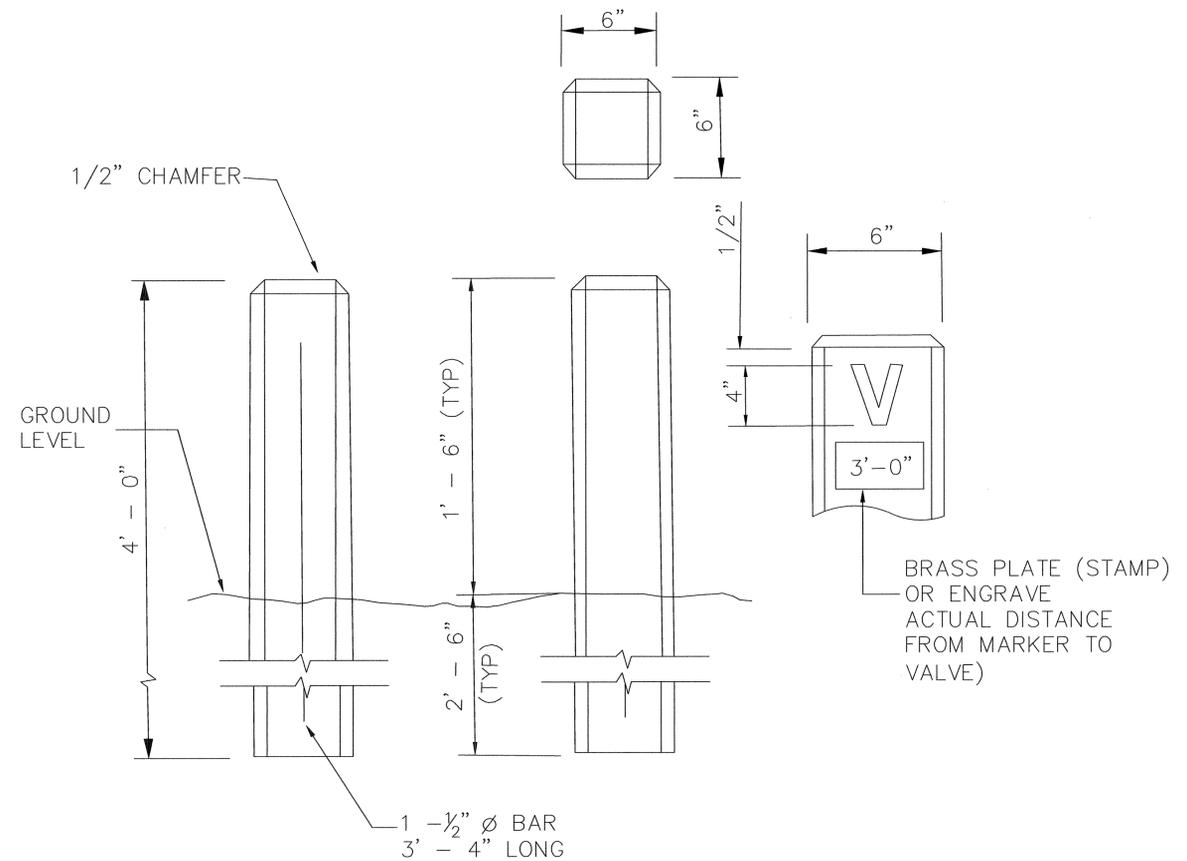
SOURCE: FULTON COUNTY STANDARD DETAIL No. 120

				 <p>FULTON COUNTY DEPARTMENT OF PUBLIC WORKS 141 PRYOR STREET, S.W. ~ SUITE 6001 ~ ATLANTA, GA 30303 404.730.7400</p>	 <p>N.T.S.</p>	W039 - ALPHARETTA WATER MAIN REPLACEMENT MAXIMUM PERMISSIBLE JOINT DEFLECTIONS		CD-14
0 09/28/07 CCS INITIAL ISSUE NUMBER DATE MADE BY DESCRIPTIONS REVISIONS	 FULTON CONSTRUCTION MANAGEMENT PARTNERS 141 PRYOR STREET, S.W. SUITE 6001 ATLANTA, GEORGIA 30303 404.612.0880			DRAWN: M.J.W. CHECKED: T.M. DATE: OCTOBER 2007 DESIGNED: P.J.P. PROJ. NO.: W039		SHEET 40 OF 54		



UNDERGROUND VALVE BOX

SOURCE: FULTON COUNTY STANDARD DETAIL No. 819



WATER VALVE MARKER

SOURCE: FULTON COUNTY STANDARD DETAIL No. 821

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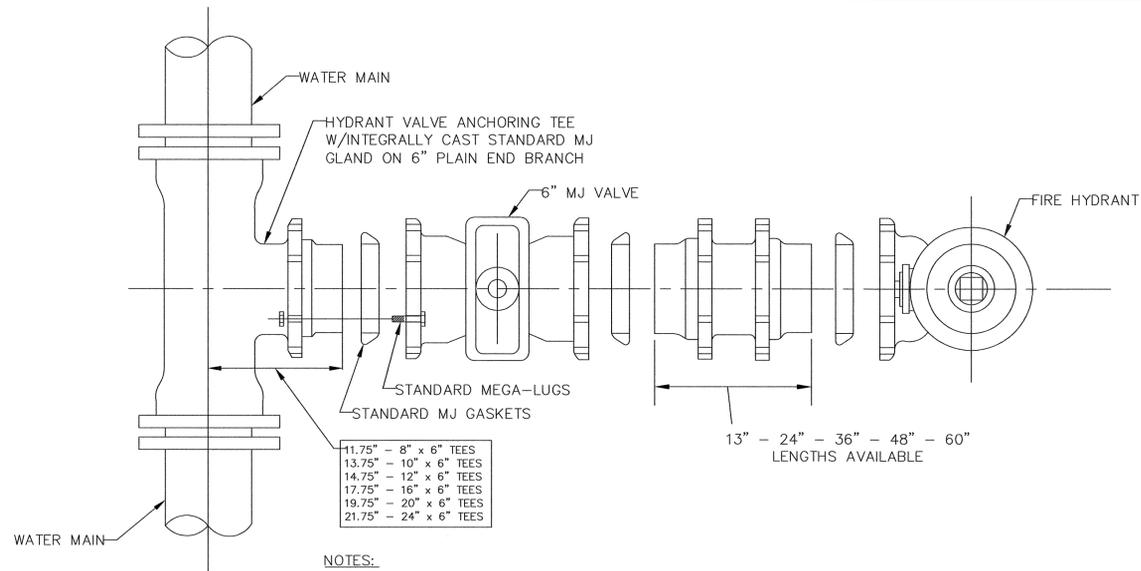
W039 - ALPHARETTA WATER MAIN REPLACEMENT

VALVE BOX AND VALVE MARKER

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CD-15

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NOTES:

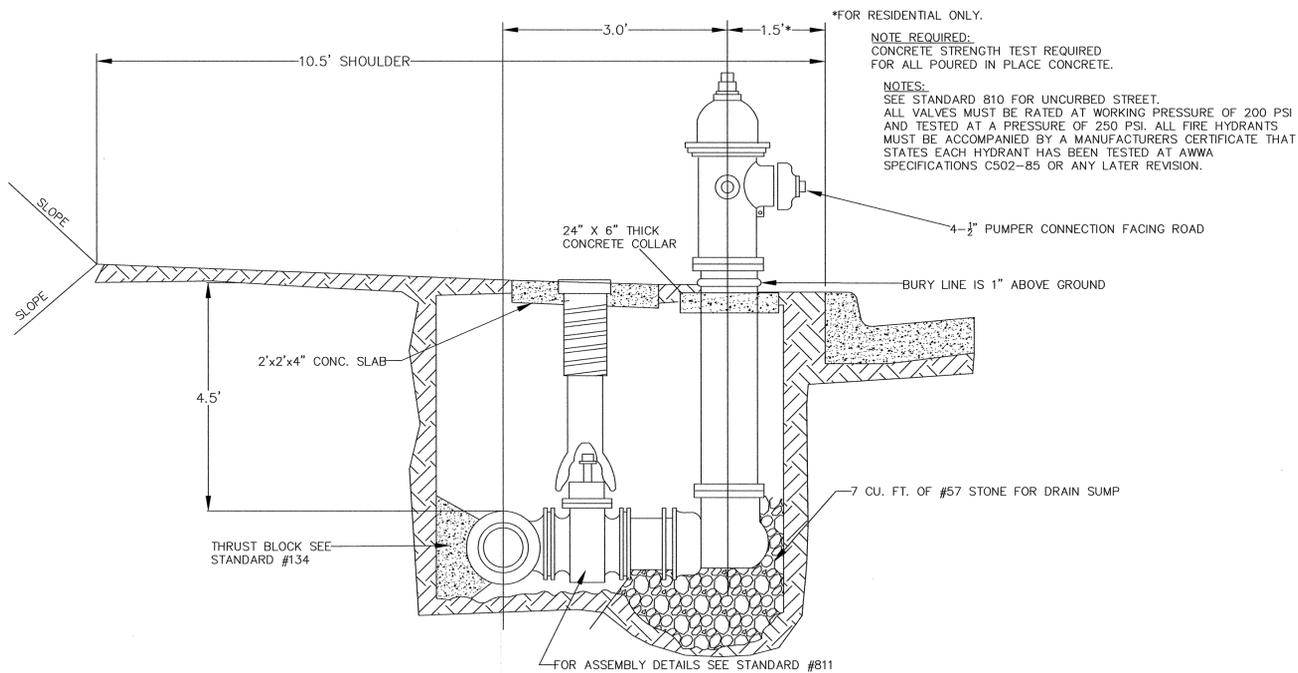
1. SEE ANCHOR RODDING DETAIL #813.
2. GRADE-LOCS CAN BE USED TO ADJUST HYDRANTS TO PROPER BURY DEPTH.

FIRE HYDRANT INSTALLATION

SOURCE: FULTON COUNTY STANDARD DETAIL No. 816

NOTES:

1. INSTALL FIRE HYDRANT ASSEMBLY (FHA) TO ENSURE STEAMER (PUMPER) NOZZLE SHALL FACE STREET.
2. CONCRETE GATE VALVE PAD TO BE 24" x 24" x 6" THICK WITH ONE #4 REBAR AROUND INSIDE PERIMETER.
3. CONCRETE STRENGTH TEST REQUIRED FOR ALL POURED IN PLACE CONCRETE.
4. INSTALL FHA AS TO NOT BLOCK OR RESTRICT WEEP HOLE IN BASE OF HYDRANT.
5. WHEN DISTANCE FROM VALVE ACTUATOR NUT TO GRADE EXCEEDS 24" AN EXTENSION STEM SHALL BE USED.
6. RESTRAINED JOINTS OR 4-3/4" THREADED RODS SHALL BE USED.
7. PROVIDE M.J. HYDRANT TEE FOR WATER MAIN UP TO 16" DIAMETER AND OUTLET OR TEE FOR WATER MAIN 20" DIAMETER AND LARGER.
8. PROVIDE POURED IN PLACE CONCRETE (3000 PSI) THRUST BLOCK.
9. ALL VALVES MUST BE RATED AT WORKING PRESSURE OF 200 PSI AND SHALL BE TESTED AT A PRESSURE OF 250 PSI.
10. ALL FIRE HYDRANTS MUST BE ACCOMPANIED BY A MANUFACTURER'S CERTIFICATE THAT STATES EACH HYDRANT HAS BEEN TESTED AS PER AWWA SPECIFICATIONS C502-85 OR LATEST REVISION.
11. HYDRANT CONNECTOR AND PIPE MUST BE USED WHEN THE SPACE BETWEEN HYDRANT AND GATE VALVE EXCEEDS 30 INCHES.
12. HYDRANT SHALL BE LOCATED:
 - 18 INCHES BEHIND SIDEWALK, OR
 - IF NO SIDEWALK, 6 FEET BEHIND CURB, OR
 - IF NO SIDEWALK OR CURB, 1 FT. INSIDE R/W, OR
 - AS DIRECTED BY ENGINEER OR FIELD INSPECTOR
13. HYDRANT DEPTH OF BURY SHALL MATCH MFR'S REQ'D BURY LINE.
14. HYDRANT ASSEMBLY SHALL INCLUDE:
 - 3 WAY FIRE HYDRANT
 - 6" CONNECTING PIECE
 - 6" MJ GATE VALVE W/VALVE BOX
 - ANCHOR COUPLING AND HYDRANT TEE
 - THRUST BLOCKS
15. HYDRANTS SHALL BE PLACED TO PROVIDE A MINIMUM OF 5 FT CLEARANCE FROM DRIVEWAYS, POLES, AND OTHER OBSTRUCTIONS.
16. LOCATE FIRE HYDRANT AT 1.5 FEET BEHIND CURB OR EDGE OF PAVEMENT - FOR THIS PROJECT.



FIRE HYDRANT LOCATION

SOURCE: FULTON COUNTY STANDARD DETAIL No. 814

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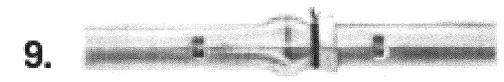
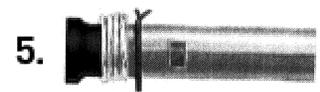
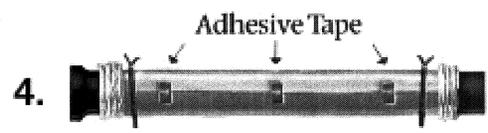
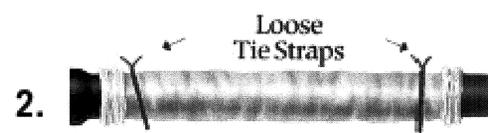
W039 - ALPHARETTA WATER MAIN REPLACEMENT

5 1/4" - FIRE HYDRANT

CD-16

DRAWN: MC	CHECKED: TM	DATE: OCTOBER 2007
DESIGNED: PJP	PROJ. NO.: W039	

SHEET 42 OF 54



NOTES

1. REMOVE ALL LUMPS OF CLAY, MUD, CINDERS, ETC. WHICH MAY HAVE ACCUMULATED ON THE SURFACE OF THE PIPE. A POLYETHYLENE TUPE SHOULD BE CUT SO THAT IT IS APPROXIMATELY TWO FEET LONGER THAN THE PIPE SECTION. SLIP THE TUBE ONTO THE PIPE. ALLOW APPROXIMATELY ONE FOOT OF THE TUBE TO OVERHANG EACH END OF THE PIPE.
2. PUSH BACK THE OVERHANG TUBE ENDS UNTIL THEY CLEAR THE PIPE ENDS
3. TAKE UP THE SLACK IN THE TUBE TO MAKE A SNUG BUT NOT TIGHT FIT. FOLD EXCESS BACK OVER THE TOP OF PIPE
4. SECURE THE FOLD WITH POLYETHYLENE COMPATIBLE ADHESIVE TAPE AT SEVERAL LOCATIONS ALONG THE PIPE BARREL
5. DIG A SHALLOW BELL-HOLE IN THE TRENCH BOTTOM AT THE JOINT LOCATION
6. PLACE PIPE INTO THE TRENCH
7. ASSEMBLE THE JOINT
8. PULL THE POLYETHYLENE TUBE END OF THE PREVIOUSLY INSTALLED PIPE OVER THE NEW PIPE AND SECURE WITH THE TIE STRAP FROM THE PRECEDING PIPE BELL
9. OVERLAP THE SECURED TUBE END OF THE NEW PIPE SECTION. SECURE THE NEW TUBE END IN PLACE WITH THE SPIGOT END TIE STRAP
10. REPAIR ALL RIPS, TEARS, OR OTHER TUBE DAMAGE WITH SUITABLE ADHESIVE TAPE. PIN POINT PUNCTURES NEED NOT BE REPAIRED

SOURCE: FULTON COUNTY STANDARD DETAIL No. 611

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GEORGIA REGISTERED PROFESSIONAL ENGINEER
 CHAMPAK C. SHAH

N.T.S.

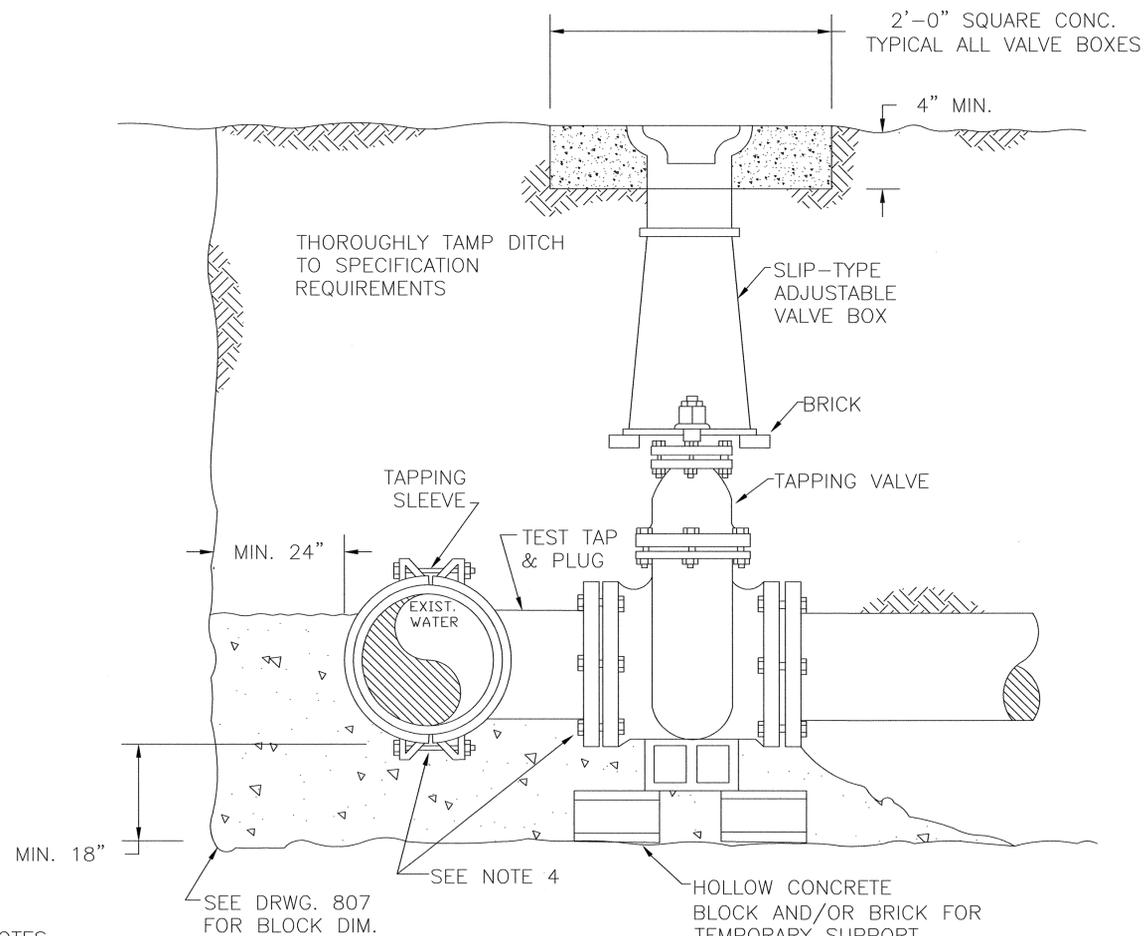
W039 - ALPHARETTA WATER MAIN REPLACEMENT

POLYETHYLENE ENCASEMENT INSTALLATION

DRAWN: M.J.W. CHECKED: TM DATE: OCTOBER 2007
 DESIGNED: P.J.P. PROJ. NO.: W039

CD-17

SHEET 43 OF 54



NOTES:

1. TEMPORARILY SUPPORT TAPPING SADDLE AND VALVE AND APPLY STANDARD HYDROSTATIC TEST.
2. IF NO LEAKS, POUR INDICATED PERMANENT CONCRETE BLOCK AND SUPPORT PAD.
3. MAKE TAP, LINE EXTENSION AND BACKFILL.
4. COVER GLANDS AND BOLTS WITH HEAVY POLYETHYLENE SHEETING TO KEEP CONCRETE FROM BONDING. TYPICAL WHENEVER BOLTS OR GLANDS MAY BE "WRAPPED-UP" IN CONCRETE.
5. COAT TAPPING SLEEVE AND BOLTS WITH AN APPROVED BITUMASTIC COATING BEFORE POURING CONCRETE. TYPICAL FOR ALL STEEL INCLUDING RODS, COUPLINGS, STRAPS, AND OTHER BURIED STEEL. SEE NOTE 3, DRWG. CD-21 FOR COATING.
6. M.J. TAPPING SADDLE SHALL BE CAST-IN-PLACE AND NOT PREFABRICATED.

TAPPING SLEEVE AND VALVE INSTALLATION DETAILS

SOURCE: FULTON COUNTY STANDARD DETAIL No. 122

MAXIMUM TAPPING SLEEVE LENGTH

MAIN & TAP (IN. NOMINAL)	LENGTH (ALONG RUN)
6x6, 6x3, 6x4, 6x2	18"
8x2, 8x3, 8x4, 8x6	19"
8x8	21"
10x2, 10x3, 10x4, 10x6	19"
10x8, 10x10	23"
12x2, 12x3, 12x5, 12x6	19"
12x8	21"
12x10, 12x12	25"

NOTES:

1. ALL TAPPING SLEEVES AND VALVES SHALL BE HYDROSTATICALLY TESTED BEFORE TAP IS MADE.
2. WORKMEN INSTALLING TAPPING SLEEVE AND VALVE SHALL FOLLOW MANUFACTURER'S INSTALLATION PROCEDURES AND THE REQUIREMENTS OF FULTON COUNTY ENGINEER'S OFFICE.

TAPPING SLEEVE LENGTH

SOURCE: FULTON COUNTY STANDARD DETAIL No. 123

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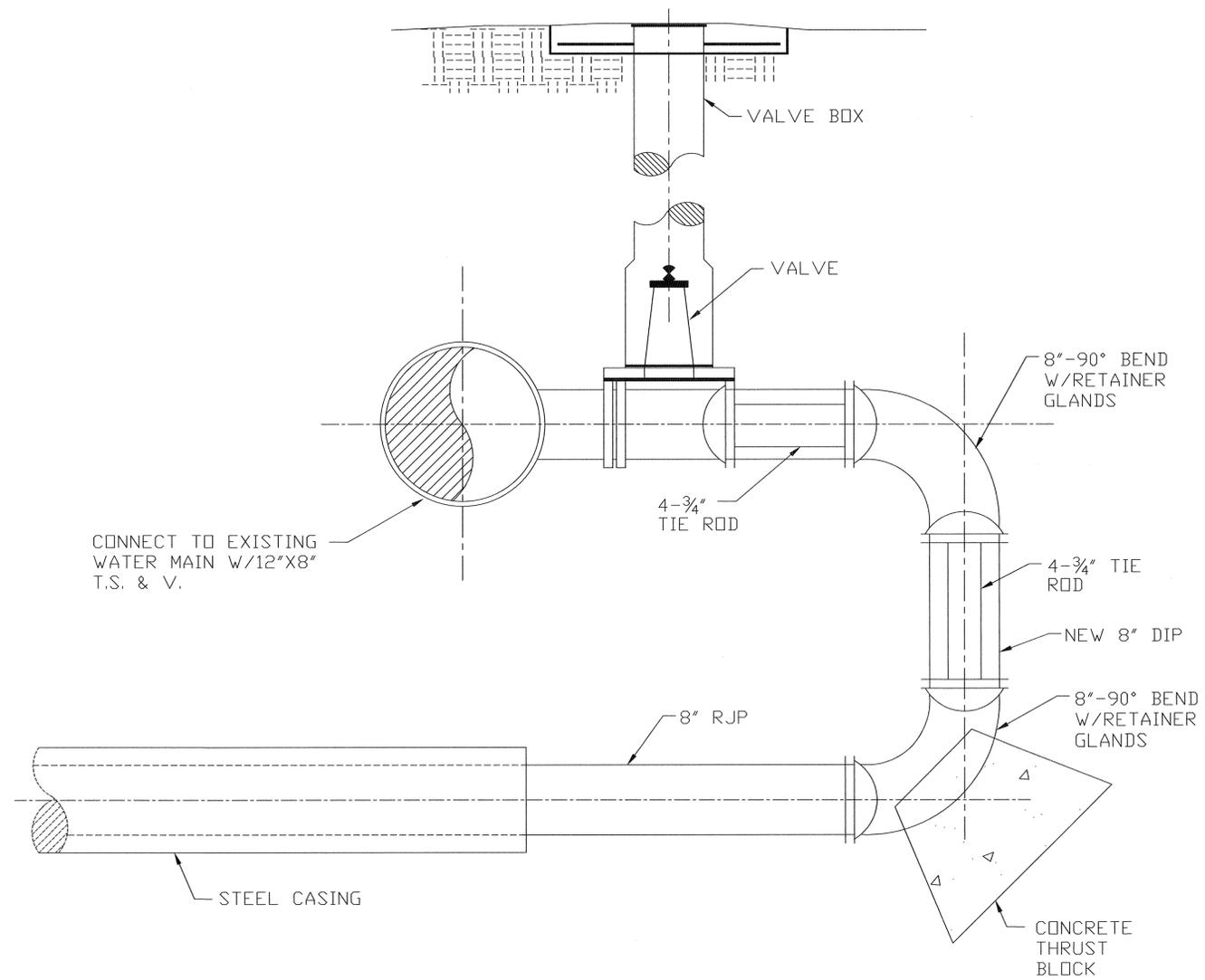
W039 - ALPHARETTA WATER MAIN REPLACEMENT

TAPPING SLEEVE

DRAWN: M.J.W. CHECKED: TM DATE: OCTOBER 2007
DESIGNED: P.J.P. PROJ. NO.: W039

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BACK TAP CONNECTION

SOURCE: FULTON COUNTY STANDARD DETAIL No. 615

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W039 - ALPHARETTA WATER MAIN REPLACEMENT

BACK TAP CONNECTION

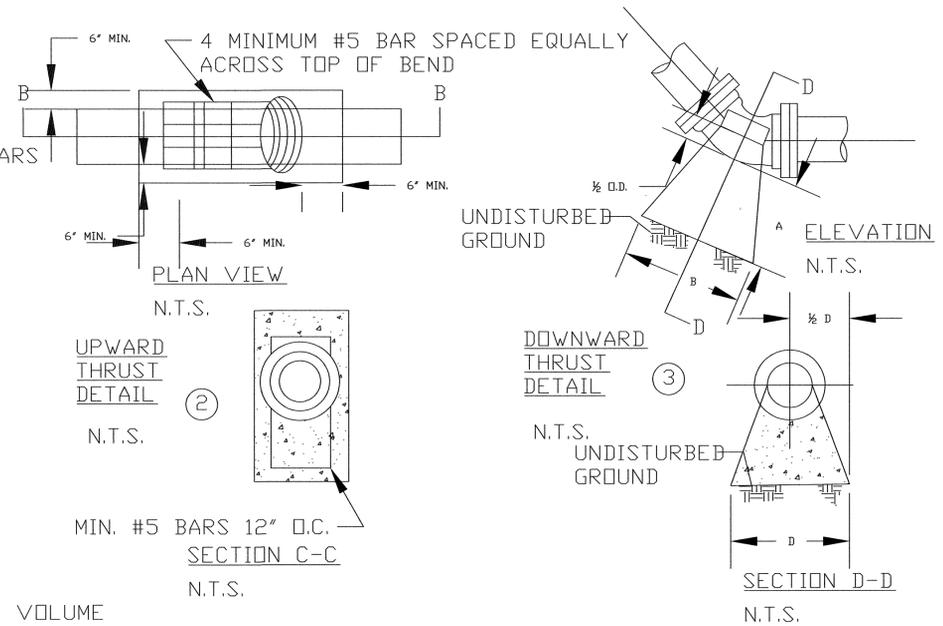
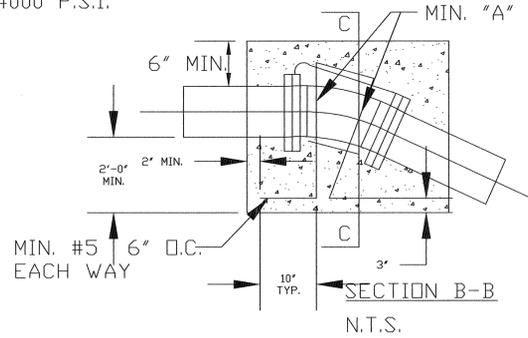
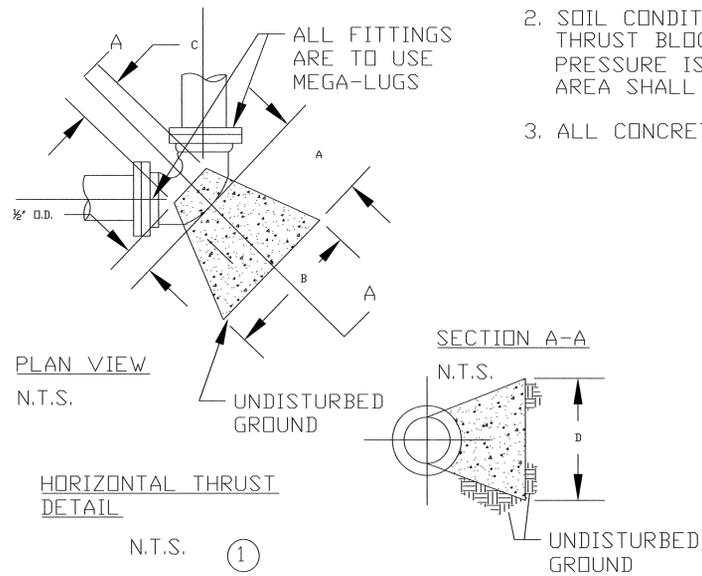
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DESIGNED: P.J.P.	PROJ. NO.: W039	

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GENERAL NOTES:

1. THRUST BLOCK DIMENSIONS ARE BASED ON 2000 LB. PER SQ. FT. SOIL BEARING PRESSURE AND 250 LBS. PER SQ. IN. TEST PRESSURE. ACTUAL INSIDE DIAMETER OF DUCTILE IRON PIPE CLASS 52 USED AS STANDARD.
2. SOIL CONDITIONS SHALL BE VERIFIED BY ENGINEER BEFORE THRUST BLOCK IS CONSTRUCTED WHERE SOIL BEARING PRESSURE IS LESS THAN 2000 LB/FT. THRUST BLOCK BEARING AREA SHALL BE INCREASED APPROPRIATELY.
3. ALL CONCRETE SHALL BE CLASS A, 4000 P.S.I.



DIMENSIONS FOR CONCRETE BLOCKING HORIZONTAL THRUST

BEND	SIZE	A (FT)	B (FT)	C (IN)	D (FT)	VOLUME (CU.YD.)
11 1/4°	6"	1.0	2.0	7"	1.0	0.04
	8"	1.0	2.0	7"	1.0	0.05
	12"	1.0	2.0	11"	2.0	0.1
	16"	2.0	3.0	15"	2.0	0.3
22 1/2°	6"	1.0	2.0	7"	1.0	0.05
	8"	1.0	2.0	7"	2.0	0.1
	12"	2.0	3.0	11"	2.0	0.3
	16"	2.0	4.0	15"	3.0	0.6
45°	6"	1.5	2.0	7"	1.5	0.11
	8"	2.0	3.0	7"	2.0	0.3
	12"	2.0	4.0	11"	3.0	0.7
	16"	3.0	5.0	15"	4.0	1.4
90°	6"	1.75	2.5	7"	2.0	0.2
	8"	2.0	3.0	7"	3.0	0.4
	12"	4.0	6.0	11"	4.0	2.1
	16"	4.0	7.0	15"	5.0	3.1
TEE BRANCHES PLUGS & CAPS (FOR ALL CIRCUMSTANCES)	6"	1.5	2.0	7"	1.75	0.13
	8"	2.0	3.0	7"	2.0	0.3
	12"	2.0	4.0	11"	4.0	0.8
	16"	3.0	5.0	15"	5.0	1.5
	20"	4.0	7.0	19"	6.0	3.9

CONCRETE REQUIRED TO RESIST UPWARD THRUST

BEND	SIZE	VOLUME (CU. YD.)	"A" NO. OF VERT. BARS REQ'D.
11 1/4°	6"	0.3	2
	8"	0.5	2
	12"	1.4	2
	16"	2.4	3
22 1/2°	6"	0.7	2
	8"	1.2	2
	12"	2.7	2
	16"	4.8	3
45°	6"	1.2	2
	8"	2.2	2
	12"	4.9	2
	16"	8.8	3
90°	6"	1.8	2
	8"	3.1	2
	12"	7.0	3
	16"	12.4	3
	20"	19.4	4

NOTE: ALL FITTINGS SHALL HAVE MEGALUG RETAINER GLANDS IN ADDITION TO THRUST BLOCKS.

SOURCE: FULTON COUNTY STANDARD DETAIL No. 132



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W039 - ALPHARETTA WATER MAIN REPLACEMENT

STANDARD THRUST BLOCKS FOR WATER MAIN

CD-20

DRAWN: MJW CHECKED: TM DATE: OCTOBER 2007
DESIGNED: PJP PROJ. NO.: W039

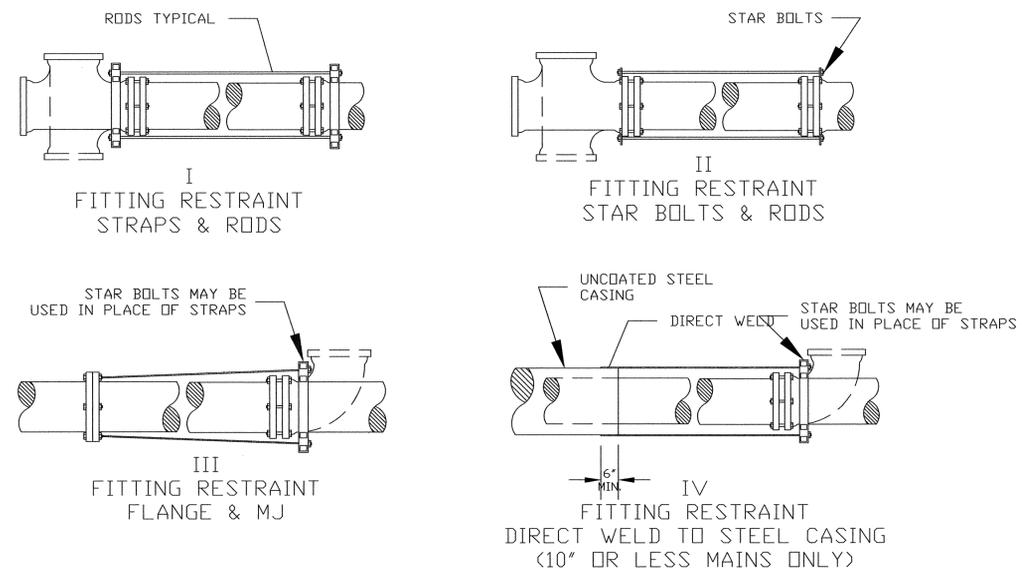
SHEET 46 OF 54

	PIPE SIZE	ROD DIA.	NO. RODS	TOTAL THRUST (Lbs)
TEES, PLUGS & VALVES	6"	3/4"	2/3	5,655
	8"	3/4"	2/3	10,055
	10"	3/4"	3	15,710
	12"	3/4"	4	22,620
	14"	3/4"	6	30,800
	16"	3/4"	4	40,215
	20"	3/4"	6	62,835
	24"	3/4"	8	90,480
	30"	1"	6	141,375
	36"	1"	6	203,595
11 1/4" B	6"	3/4"	2	1,110
	8"	3/4"	2	1,970
	10"	3/4"	2	3,080
	12"	3/4"	2	4,435
	14"	3/4"	2	6,035
	16"	3/4"	2	7,885
	20"	3/4"	2	12,320
	24"	3/4"	2	17,740
	30"	1"	2	27,720
	36"	1"	2	39,910
22 1/2" B	6"	3/4"	2	2,210
	8"	3/4"	2	3,925
	10"	3/4"	2	6,130
	12"	3/4"	2	8,825
	14"	3/4"	2	12,015
	16"	3/4"	2	15,690
	20"	3/4"	2	24,515
	24"	3/4"	2	35,305
	30"	1"	2	55,160
	36"	1"	2	79,435
45" B	6"	3/4"	2/3	4,430
	8"	3/4"	2/3	7,700
	10"	3/4"	2	12,025
	12"	3/4"	4	17,312
	14"	3/4"	4	23,565
	16"	3/4"	4	30,780
	20"	3/4"	4	48,090
	24"	3/4"	6	69,250
	30"	1"	4	108,205
	36"	1"	6	155,810
90" B	6"	3/4"	2/3	8,000
	8"	3/4"	3	14,220
	10"	3/4"	4	22,214
	12"	3/4"	6	32,000
	14"	3/4"	6	43,540
	16"	3/4"	4	56,870
	20"	3/4"	6	88,860
	24"	3/4"	8	127,960
	30"	1"	6	199,930
	36"	1"	6	287,900

NOTES:

- ON PIPE SIZES 6"-14" ROD AND NUT WILL HAVE MIN. YIELD STRENGTH OF 50,000 PSI. ON PIPE SIZES 16"-24" ROD AND NUT WILL HAVE MIN. YIELD STRENGTH OF 100,000 PSI.
- RODS HAVE 6" OF THREAD ON EACH END.
- ALL METAL TO BE CLEANED AND COATED WITH AN APPROVED PROTECTIVE COATING FOLLOWING INSTALLATION AND PRIOR TO BACKFILLING.

SOURCE: FULTON COUNTY STANDARD DETAIL No. 126

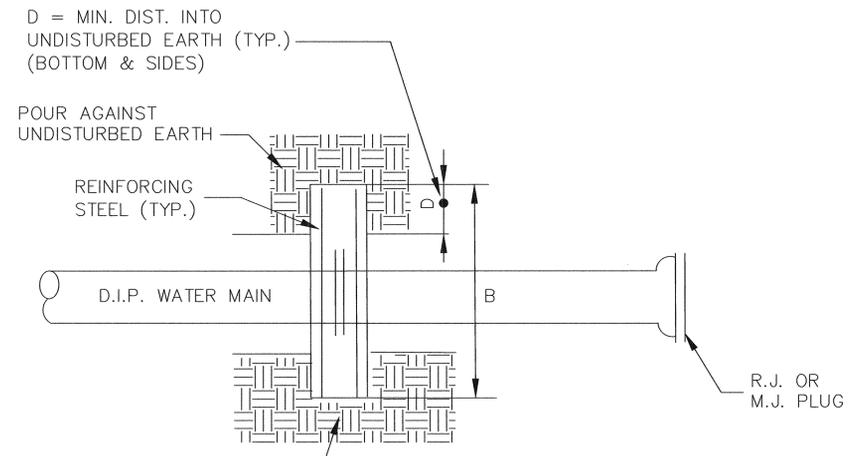


NOTES:

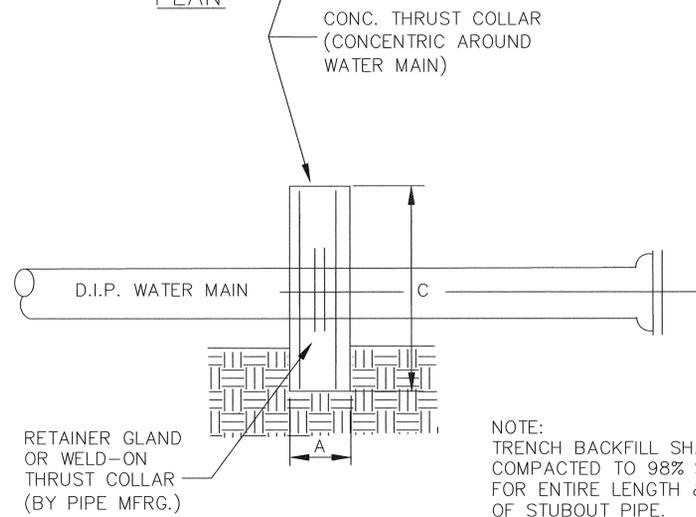
- SEE CHART FOR NUMBER AND DIAMETER OF RODS REQUIRED.
- NO FLANGES ARE TO BE BURIED.
- AFTER INSTALLATION, TIE-RODS AND CLAMP ASSEMBLIES SHALL BE CLEANED AND THOROUGHLY COATED WITH ROYSTON LABORATORIES, INC. ROSKOTE PLASTIC NO. A 939 OR KOPPERS CO., INC. BITUMASTIC SUPERSERVICE BLACK OR APPROVED EQUIVALENT.
- WHEN RESTRAINING FITTINGS TO STEEL CASING PIPE, THE TIE-RODS MUST BE DIRECT WELDED TO THE CASING - USE OF STAR BOLTS PROHIBITED. CASING MUST BE FULLY WELDED THROUGHOUT ITS LENGTH AND BE A MINIMUM OF 30' IN LENGTH. AREA TO BE WELDED MUST BE COMPLETELY BARE AND FREE OF ANY COATING MATERIAL.

SOURCE: FULTON COUNTY STANDARD DETAIL No. 127

				 FULTON CONSTRUCTION MANAGEMENT PARTNERS 141 PRYOR STREET, S.W. SUITE 6001 ATLANTA, GEORGIA 30303 404.612.0880		 FULTON COUNTY DEPARTMENT OF PUBLIC WORKS 141 PRYOR STREET, S.W. ~ SUITE 6001 ~ ATLANTA, GA 30303 404.730.7400				W039 - ALPHARETTA WATER MAIN REPLACEMENT THRUST RESTRAINTS: TIE ROD CHART AND INSTALLATION		CD-21	
0	09/28/07	CCS	INITIAL ISSUE					DRAWN: MJW DESIGNED: PJP		CHECKED: TM PROJ. NO.: W039			DATE: OCTOBER 2007



PLAN



SECTION

MAIN DIA	CONCRETE COLLAR DIM.				REINFORCING STEEL
	A	B	C	D	
10" OR 12"	1'-2"	5'-3"	5'-3"	1'-4"	#7 @ 12" O.C. E.W.E.F.
6" OR 8"	1'-0"	4'-0"	4'-0"	1'-0"	#6 @ 12" O.C. E.W.E.F.

TEST PRESSURE: 250 P.S.I.
SOIL BEARING PRESSURE: 2500 P.S.F.

SOURCE: FULTON COUNTY STANDARD DETAIL No. 820



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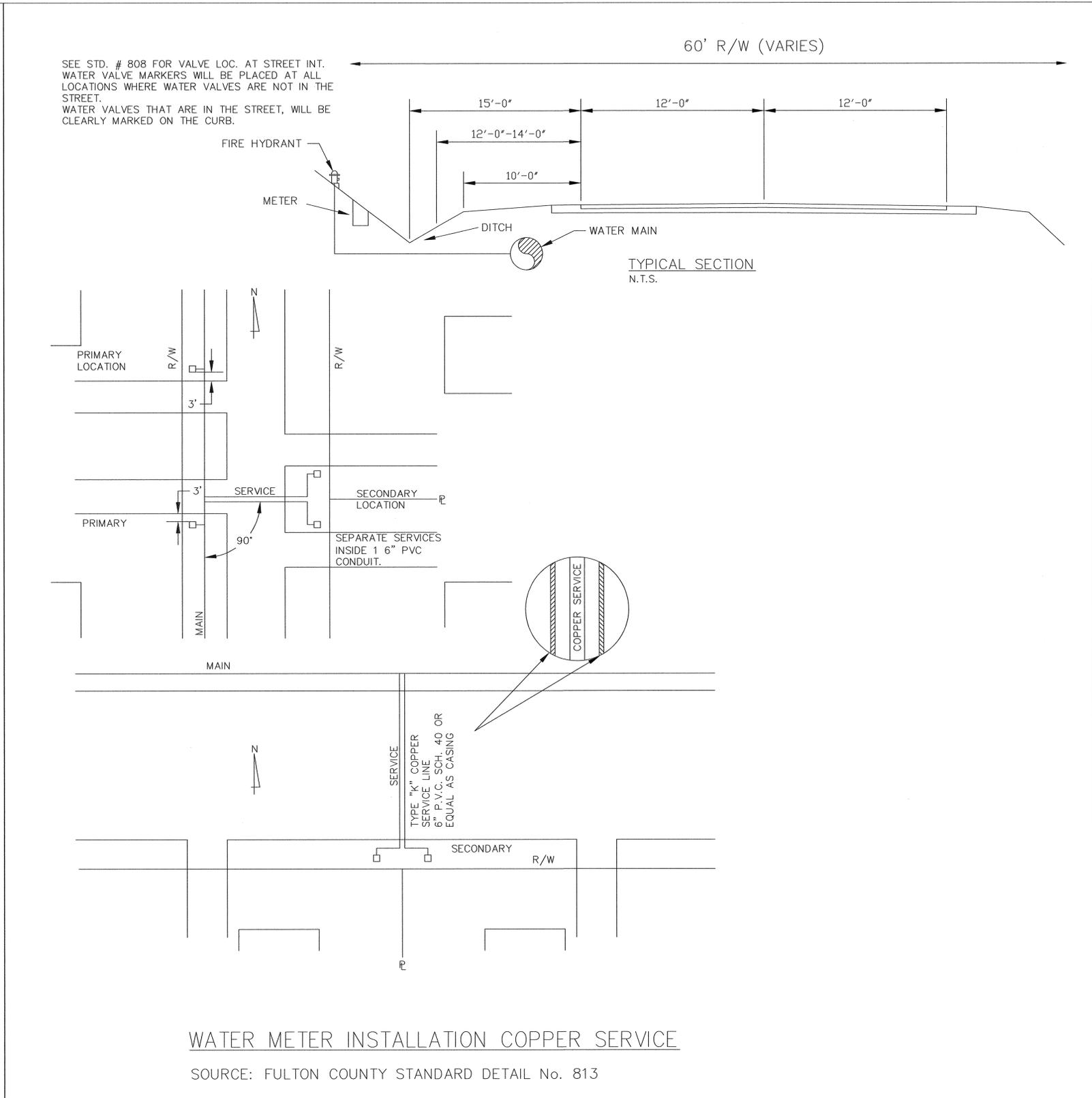
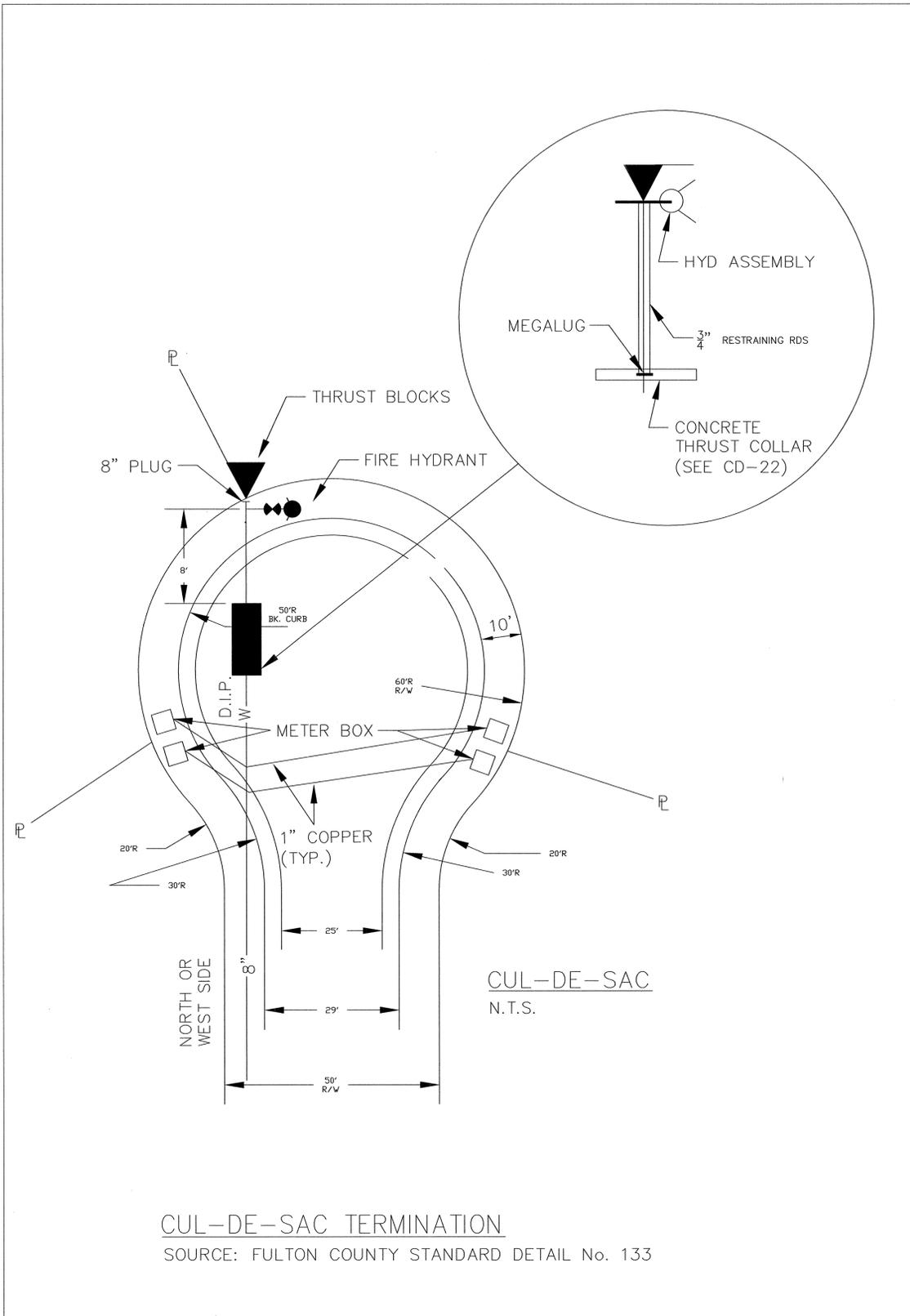
W039 - ALPHARETTA WATER MAIN REPLACEMENT

WATER MAIN TERMINATION

CD-22

DRAWN: M.J.W.	CHECKED: TM	DATE: OCTOBER 2007
DESIGNED: P.J.P.	PROJ. NO.: W039	

SHEET 48 OF 54



NUMBER	DATE	MADE BY	INITIAL ISSUE	DESCRIPTIONS	REVISIONS
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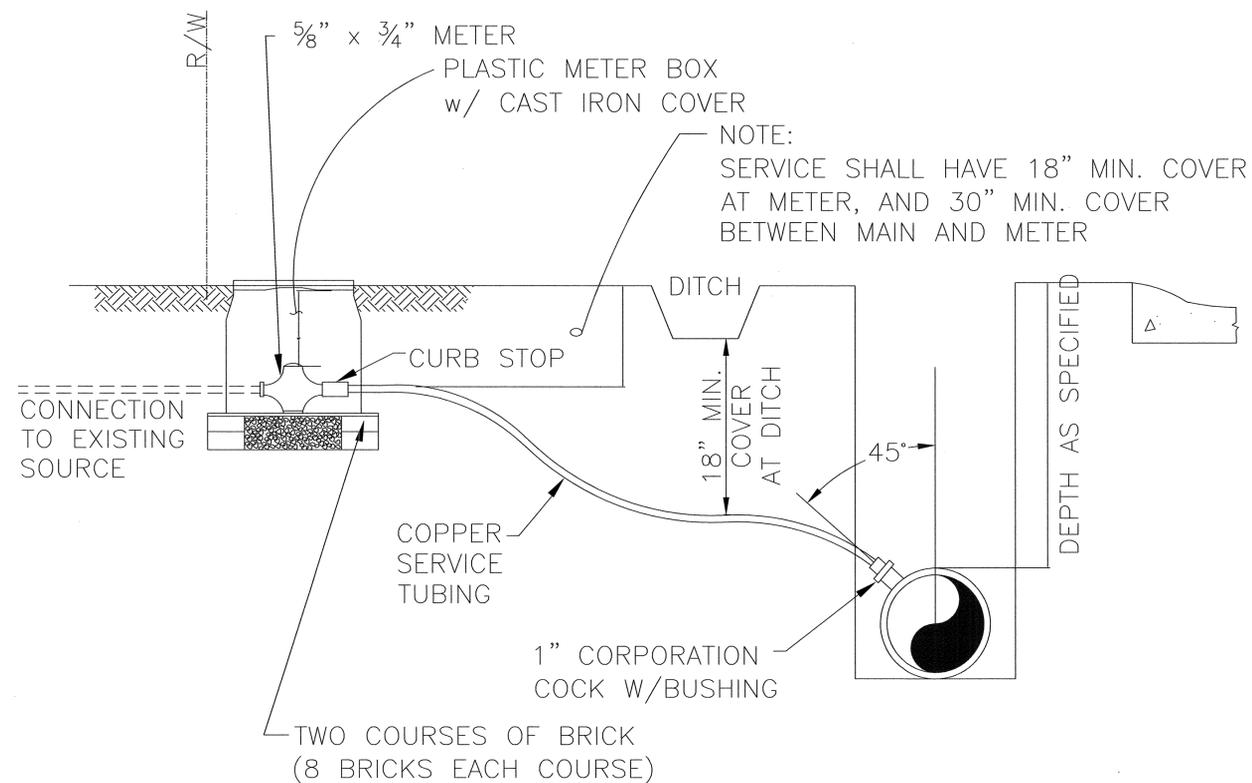
FCMP
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GEORGIA REGISTERED PROFESSIONAL ENGINEER
CHAMPAK C. SHAH
N.T.S.

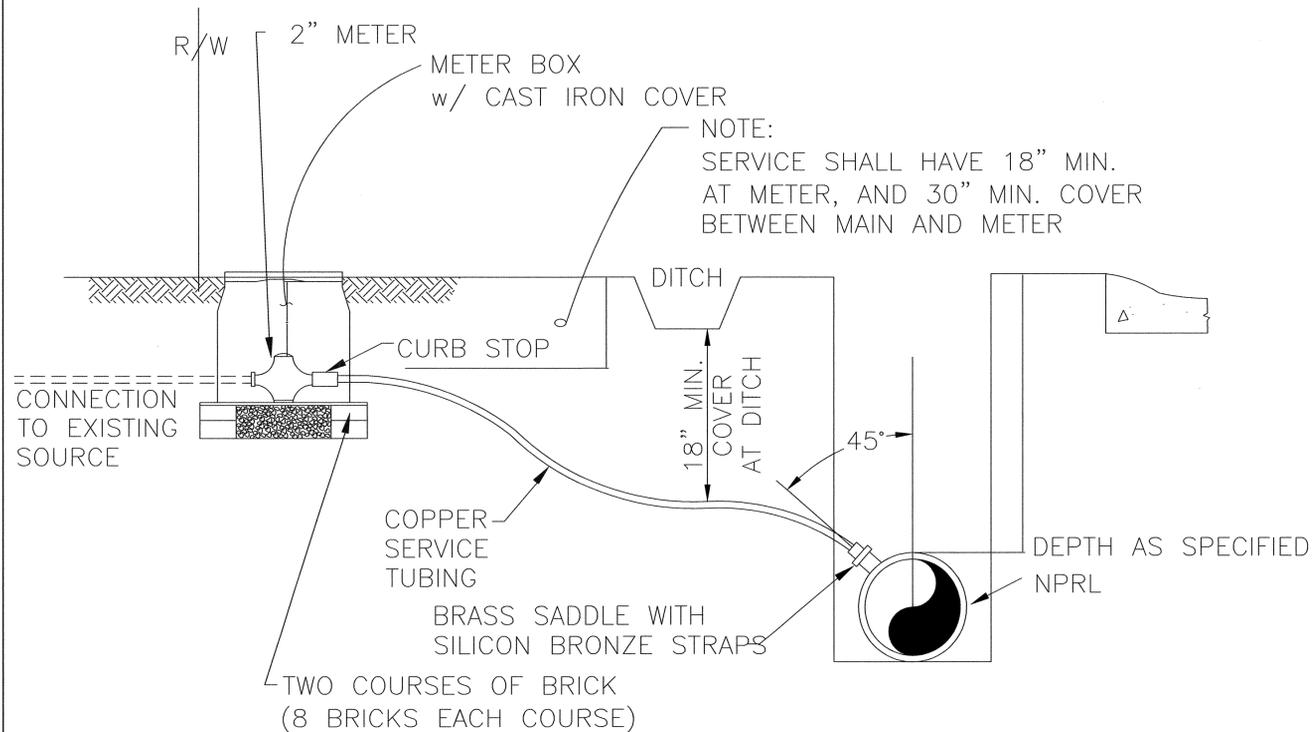
W039 - ALPHARETTA WATER MAIN REPLACEMENT
**WATER METER INSTALLATION
COPPER SERVICE
CUL-DE-SAC TERMINATION**
DRAWN: M/JW CHECKED: TM DATE: OCTOBER 2007
DESIGNED: PJP PROJ. NO.: W039

CD-23
SHEET 49 OF 54



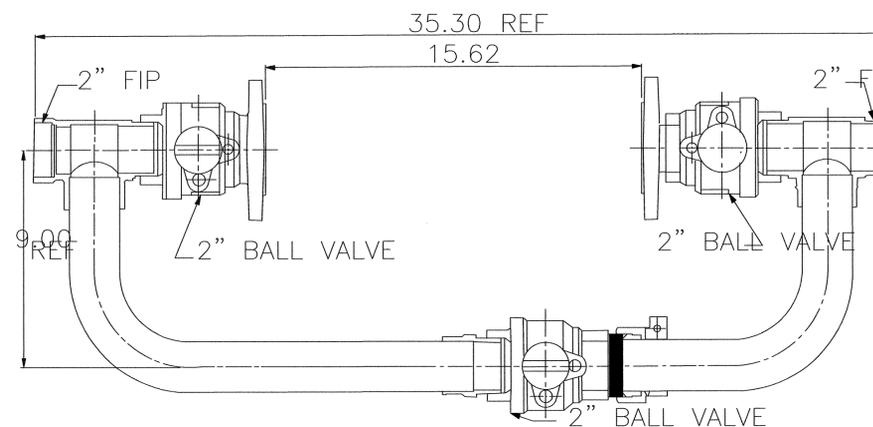
NOTES:

1. SERVICE LINE SHALL BE 1" DIAMETER FROM MAIN TO METER
2. USE ALL FLARE JOINTS
3. INSTALLATION SHALL ALLOW ADEQUATE ROOM TO REMOVE AND/OR REPAIR METER.



NOTES:

1. SERVICE LINE SHALL BE 2" DIAMETER FROM THE MAIN TO THE METER
2. USE ALL COMPRESSION GRIP JOINTS.
3. INSTALLATION SHALL ALLOW ADEQUATE ROOM TO REMOVE AND/OR REPAIR METER.
4. METER BOX SHALL BE APPROXIMATELY 24" x 36".



SOURCE: FULTON COUNTY STANDARD. DETAIL No. 601

SOURCE: FULTON COUNTY STANDARD DETAIL No. 604

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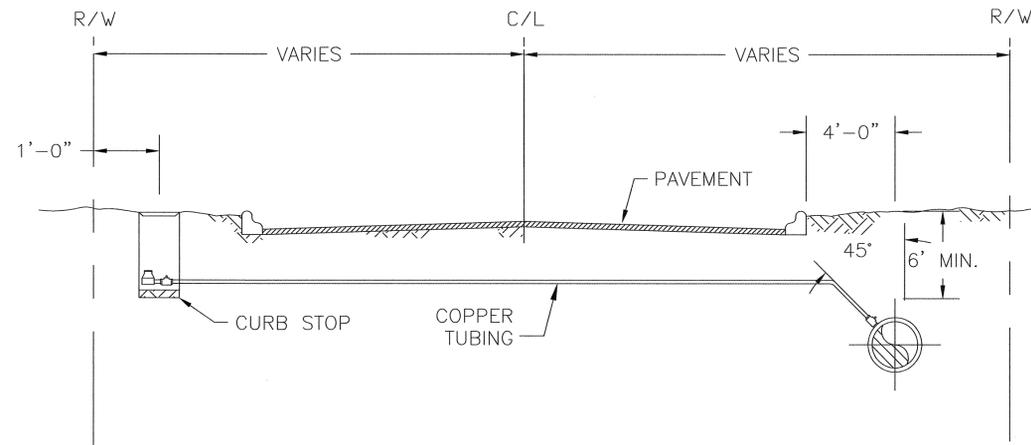
W039 - ALPHARETTA WATER MAIN REPLACEMENT

METER INSTALLATION DETAILS

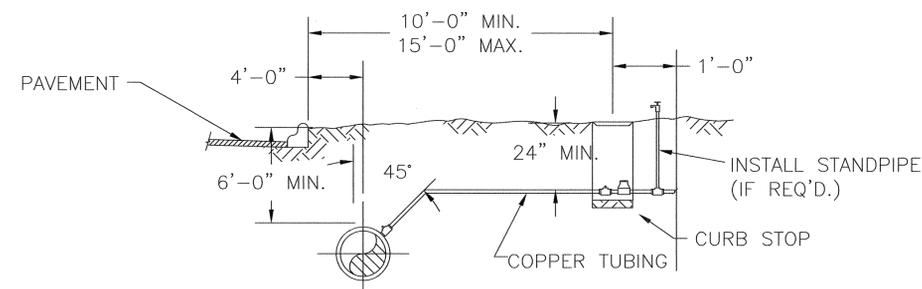
DRAWN: MJW
 DESIGNED: PJP
 CHECKED: TM
 PROJ. NO.: W039
 DATE: OCTOBER 2007

CD-24

SHEET 50 OF 54



TYPICAL LONG SIDE SERVICE



TYPICAL SHORT SIDE SERVICE

NOTES

1. IN THE EVENT CASING IS NOT PRESENT ON LONG SIDE LOT, BORING SHALL BE PERMITTED. WHEN CASING DOES EXIST - 1" PIPE SHALL BE INSERTED THROUGH CASING TO COMPLETE THE INSTALLATION FROM THE MAIN TO THE METER.
2. APPROVAL MUST BE OBTAINED BY FULTON COUNTY DEPARTMENT OF PUBLIC WORKS TRANSPORTATION DIVISION. PRIOR TO ROAD CUT, THE PUBLIC WORKS WATER SERVICES DIVISION DOES NOT HAVE THE AUTHORITY TO APPROVE ROAD CUTS, NO ROAD CUT SHALL BE PERMITTED UNTIL 3 ATTEMPTS HAVE BEEN MADE AT BORING OR LOCATING CASING.
3. 24" COVER (MIN.) FROM SURFACE TO TOP OF SERVICE PIPE APPLIES TO COUNTY MAINTAINED ROADS FOR STATE ROADS SAID MINIMUM CLEARANCE SHALL BE 48".
4. ALL CUTS IN PAVEMENT SHALL BE REPAIRED IN ACCORDANCE WITH EITHER GA. D.O.T. OR FULTON CO. STANDARDS. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER DITCH COMPACTION, CUT BACK OF DITCH SIDES AND PAVING OF THE REQUIRED CONCRETE SUB-BASE AND PLATING THE DITCH TO ALLOW TRAFFIC FLOW WHILE CONCRETE IS SETTING UP. STEEL TRAFFIC PLATES WILL COVER POURED CONCRETE FOR A MINIMUM OF 24 HOURS.
5. METERS ARE TO BE SET DIRECTLY OPPOSITE TAP ON MAIN. THE METER SHALL NOT BE OFFSET Laterally FROM TAP ON WATER MAIN.
6. SADDLE IS NOT ALLOWED.

SOURCE: FULTON COUNTY STANDARD DETAIL No. 806

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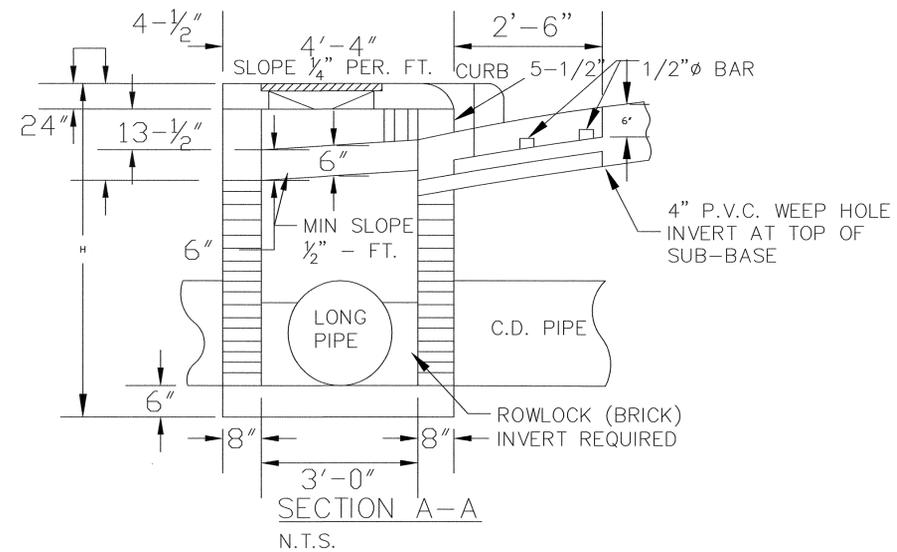
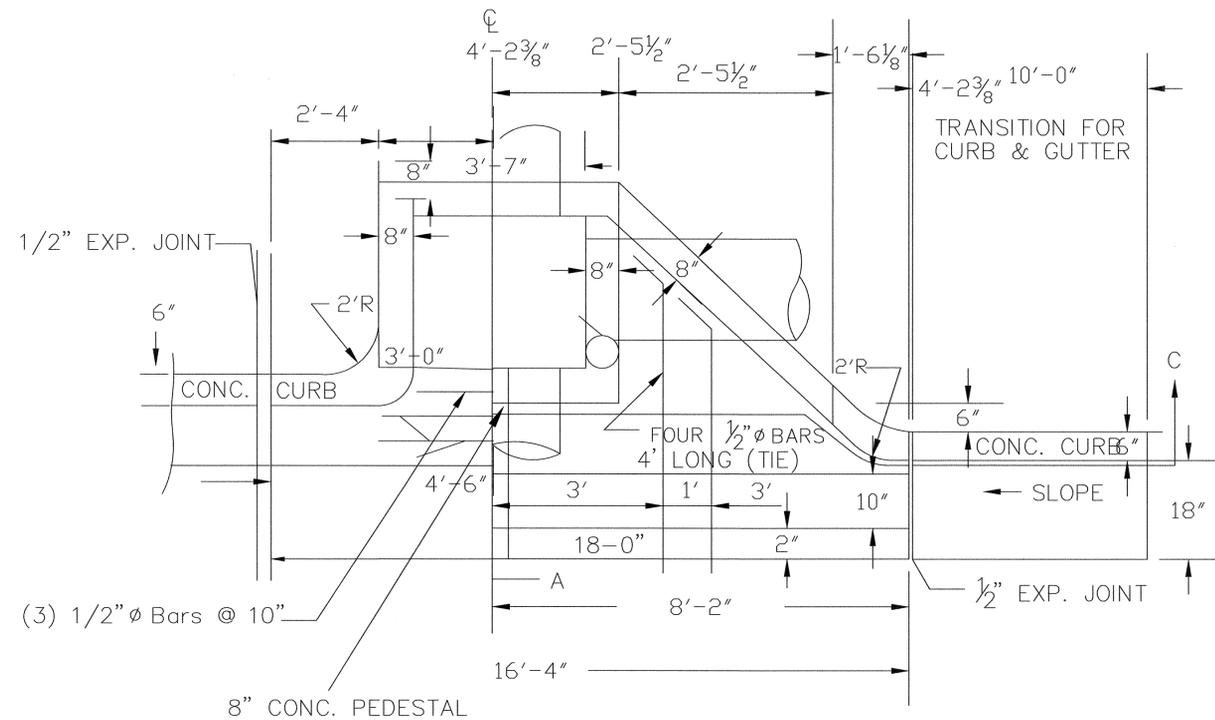
W039 - ALPHARETTA WATER MAIN REPLACEMENT

**1" METER SETTING
SHORT AND LONG SIDES**

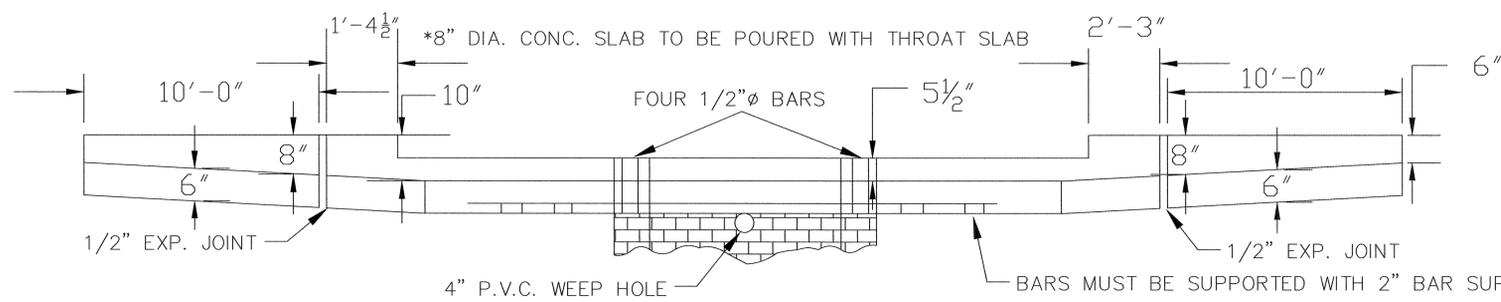
DRAWN: M.J.W. CHECKED: TM DATE: OCTOBER 2007
DESIGNED: P.J.P. PROJ. NO.: W039

CD-25

SHEET 51 OF 54



NOTE:
ALL POURED-IN-PLACE CONC. TO BE CLASS "A" 3000 P.S.I.

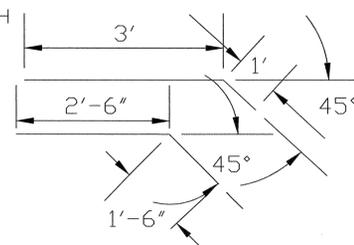


NOTE REQUIRED:
CONCRETE STRENGTH TEST REQUIRED
FOR ALL POURED IN PLACE CONCRETE.

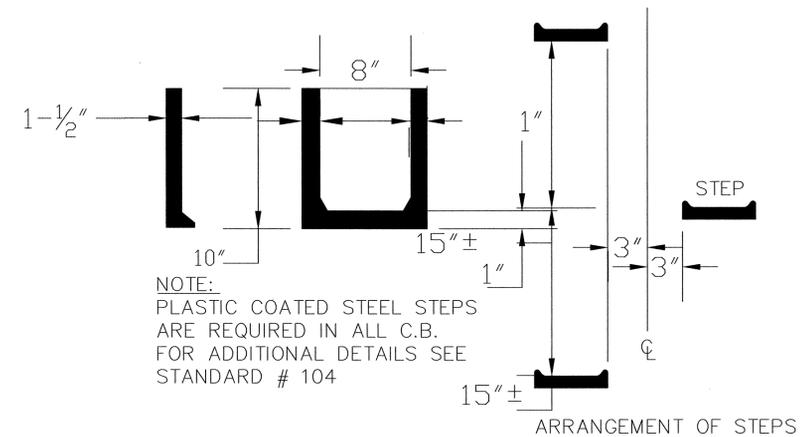
NOTE:
FOR ALL CATCH BASINS, 1/2" EXPANSION JOINT
MATERIAL SHALL BE PLACED AROUND THE CATCH
BASIN WHERE SIDEWALK OR MEDIAN PAVEMENT
IS PLACED ADJACENT TO THE CATCH BASIN

SECTION C-C
(CAST IN PLACE)
N.T.S.

IN ANY SUBDIVISION THE OPTION IS TO USE EITHER
ALL ONLINE CATCH BASINS
OR ALL ONE FOOT OFFSET CATCH BASINS.
ONE FOOT OFFSET REQUIRED IN ALL CUL-DE-SACS.



INSIDE DIAMETER OF PIPE IN INCHES	MINIMUM H
12-18	4'-10"
24	5'-6"
30	6'-2"



SOURCE: FULTON COUNTY STANDARD DETAIL No. 501



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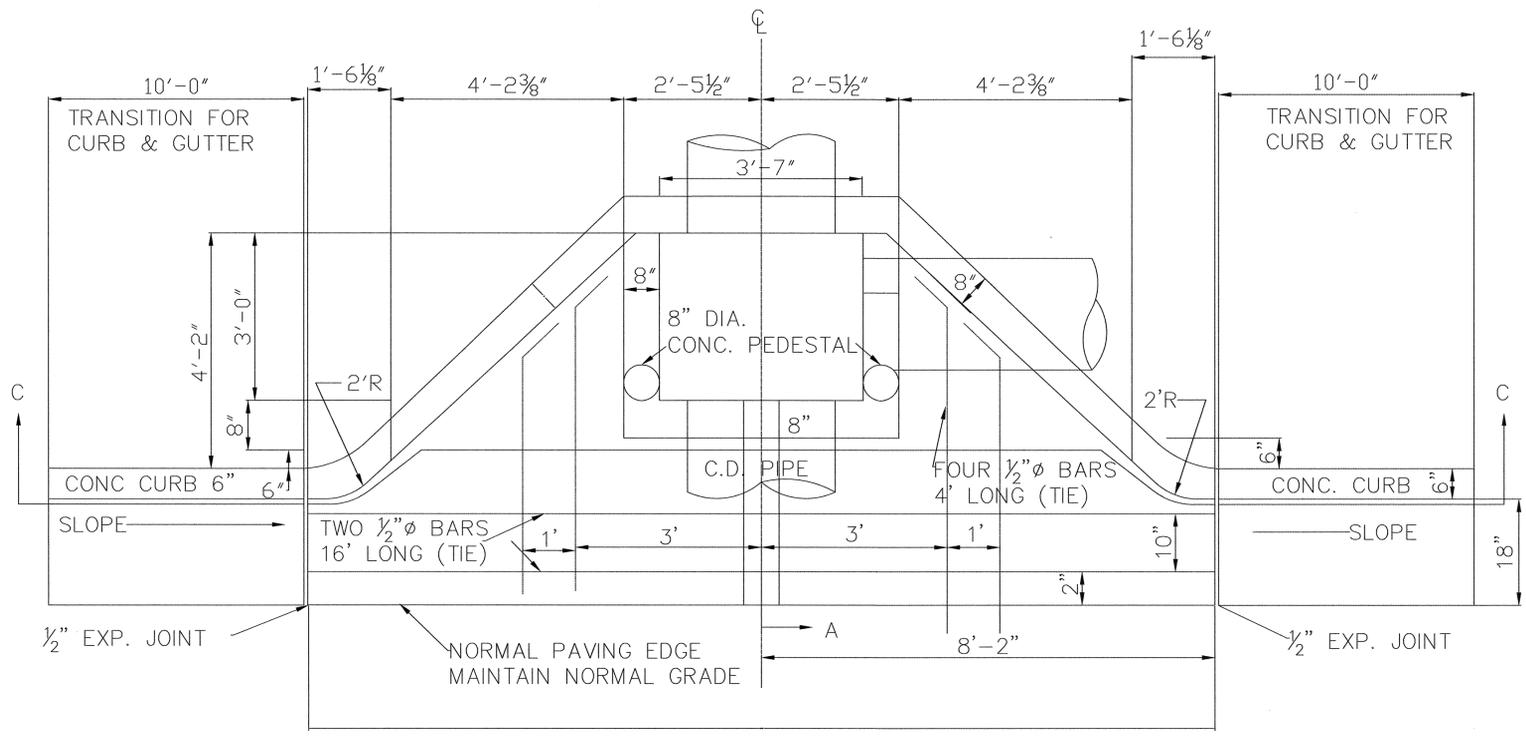
W039 - ALPHARETTA WATER MAIN REPLACEMENT

**CATCH BASIN
ONE FOOT OFFSET, SINGLEWING
(FACE OF CURB)**

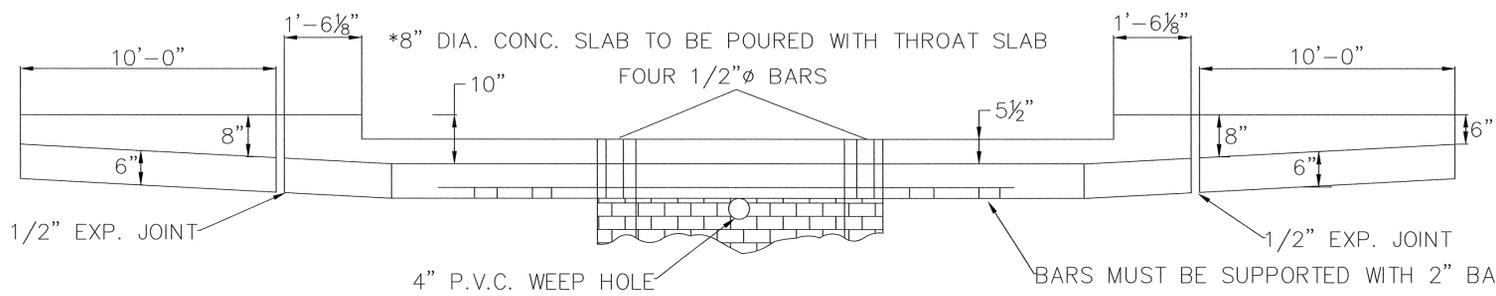
CD-26

DRAWN: M.J.W. CHECKED: TM DATE: OCTOBER 2007
DESIGNED: P.J.P. PROJ. NO.: W039

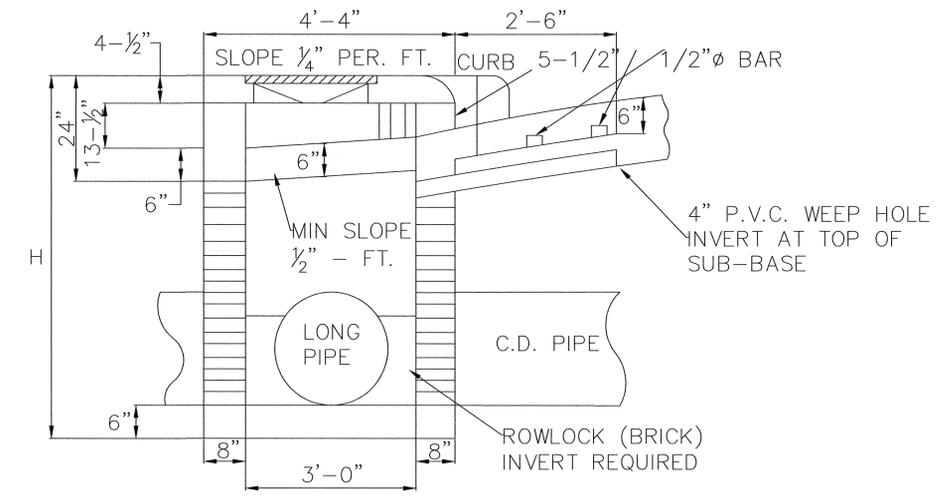
SHEET 52 OF 54



TOP OMITTED FOR CLARITY

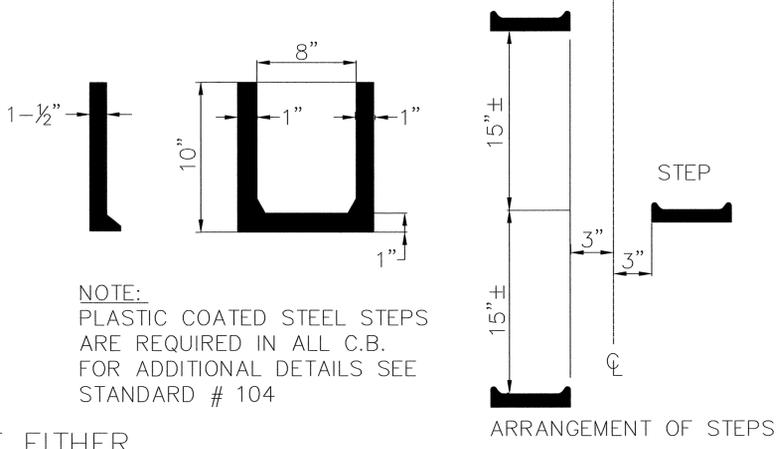


SECTION C-C
(CAST IN PLACE)
N.T.S.



SECTION A-A
N.T.S.

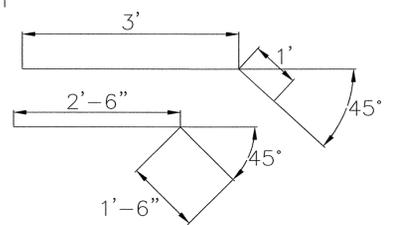
NOTE:
ALL POURED-IN-PLACE CONC. TO BE CLASS "A" 3000 P.S.I.



NOTE:
PLASTIC COATED STEEL STEPS
ARE REQUIRED IN ALL C.B.
FOR ADDITIONAL DETAILS SEE
STANDARD # 104

NOTE REQUIRED:
CONCRETE STRENGTH TEST REQUIRED
FOR ALL POURED IN PLACE CONCRETE.
NOTE:
FOR ALL CATCH BASINS, 1/2" EXPANSION JOINT
MATERIAL SHALL BE PLACED AROUND THE CATCH
BASIN WHERE SIDEWALK OR MEDIAN PAVEMENT
IS PLACED ADJACENT TO THE CATCH BASIN

IN ANY SUBDIVISION THE OPTION IS TO USE EITHER
ALL ONLINE CATCH BASINS
OR ALL ONE FOOT OFFSET CATCH BASINS.
ONE FOOT OFFSET REQUIRED IN ALL CUL-DE-SACS.



INSIDE DIAMETER OF PIPE IN INCHES	MINIMUM H
12-18	4'-10"
24	5'-6"
30	6'-2"

SOURCE: FULTON COUNTY STANDARD DETAIL No. 502

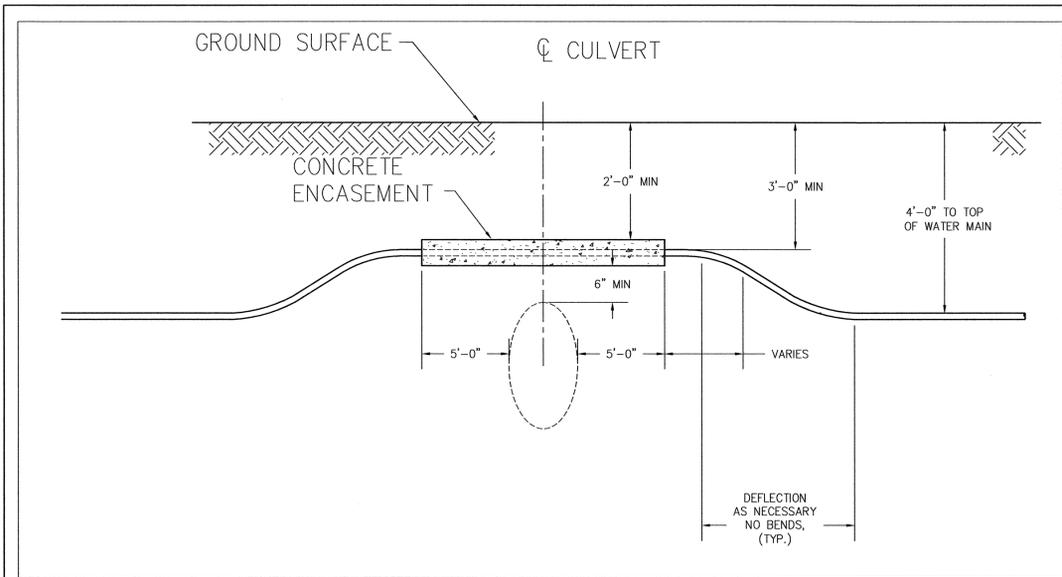
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W039 - ALPHARETTA WATER MAIN REPLACEMENT
CATCH BASIN ONE FOOT OFFSET, DOUBLING (FACE OF CURB)
DRAWN: M.J.W. CHECKED: T.M. DATE: OCTOBER 2007
DESIGNED: P.J.P. PROJ. NO.: W039

CD-27

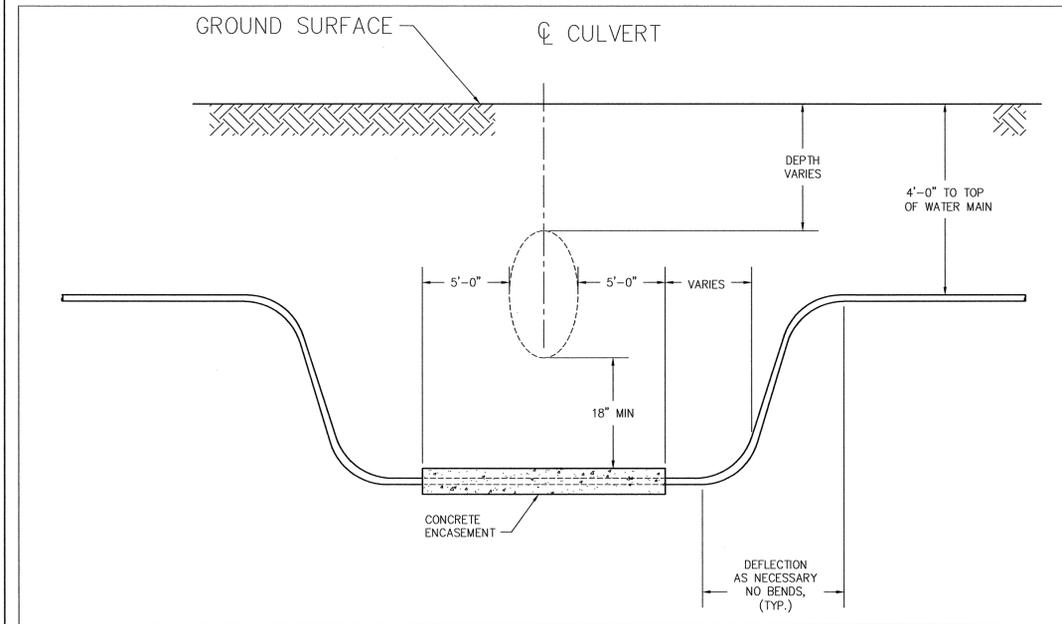


TYPICAL PROFILE

N.T.S.

CONCRETE ENCASEMENT (TYPICAL)

NOTE: CENTER NEW WATER MAIN OVER EXIST PIPE WITH NO JOINTS

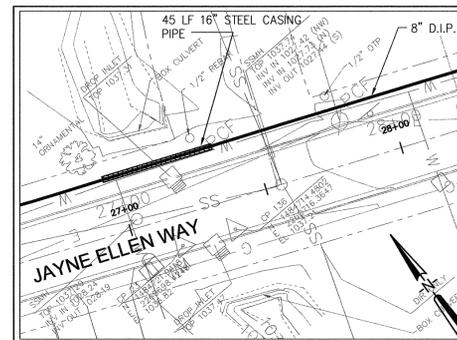


TYPICAL PROFILE

N.T.S.

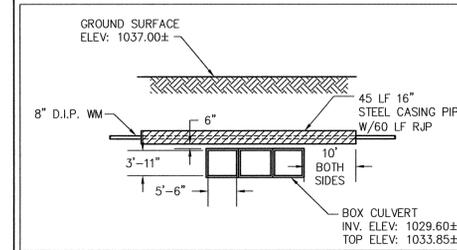
CONCRETE ENCASEMENT (TYPICAL)

NOTE: CENTER NEW WATER MAIN UNDER EXIST PIPE WITH NO JOINTS



PLAN

SCALE: 1"=30'



PROFILE N.T.S.

JAYNE ELLEN WAY STATION 27+25.40

01
C13

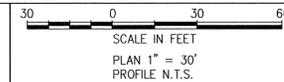
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W039 - ALPHARETTA WATER MAIN REPLACEMENT

UTILITY CROSSINGS PLANS AND PROFILES

DRAWN: MC	CHECKED: TM	DATE: OCTOBER 2007
DESIGNED: PJP	PROJ. NO.: W039	

CD-28