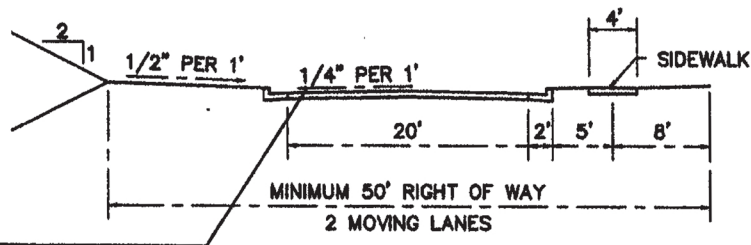
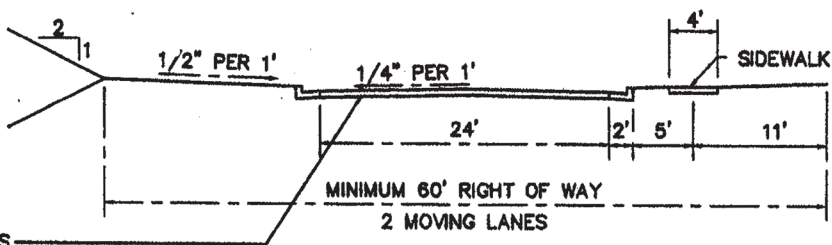


RESIDENTIAL STREETS



PAVEMENT REQUIRED FOR RESIDENTIAL 1 STREETS IS 8" COMPACTED GRADED AGGREGATE, PRIME COAT, 2" BINDER COURSE, TACK COAT AND 1-1/2" ASPHALT TYPE "E" OR "F" MIX.

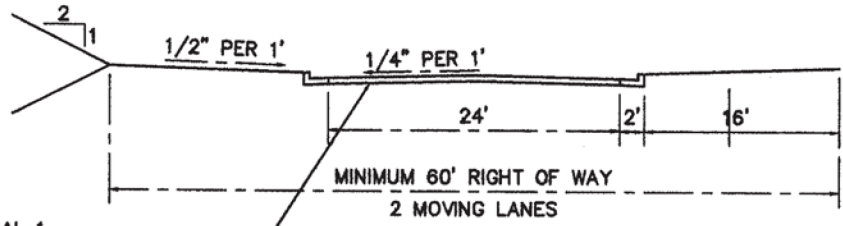
RESIDENTIAL 1 STREET



PAVEMENT DESIGN FOR RESIDENTIAL 2 STREETS SHALL BE BASED ON AASHTO AND GA DOT STANDARDS, AND APPROVED BY THE CITY ENGINEER.

RESIDENTIAL 2 STREET

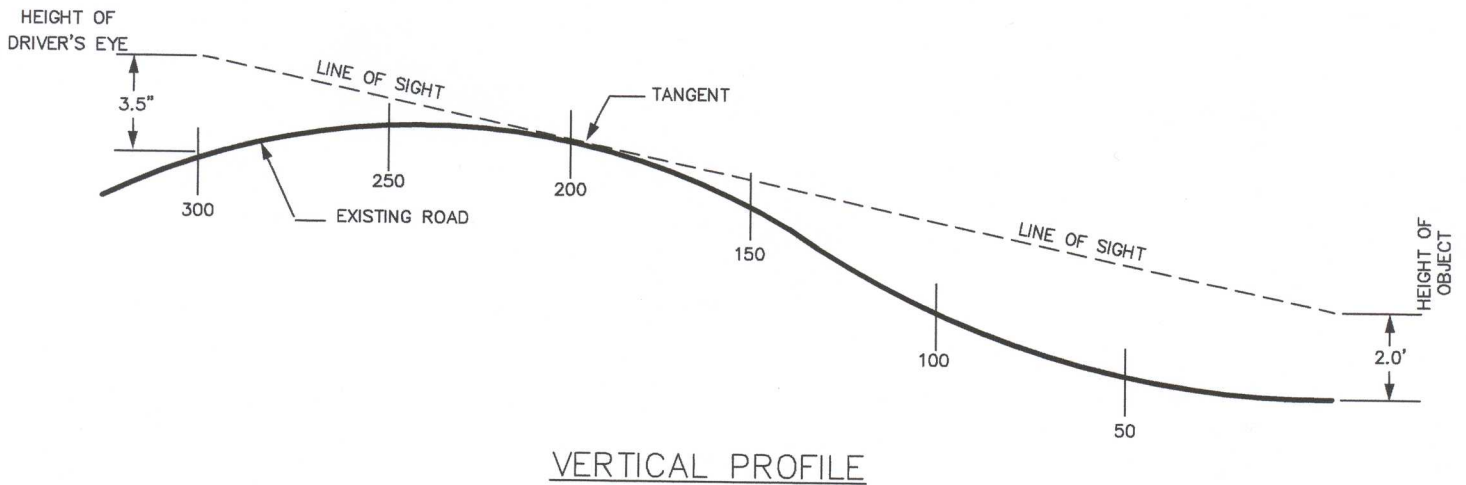
NON-RESIDENTIAL STREETS



PAVEMENT REQUIRED FOR URBAN NON-RESIDENTIAL STREETS* IS 8" COMPACTED GRADED AGGREGATE, PRIME COAT, 2" BINDER COURSE, TACK COAT AND 1-1/2" ASPHALT TYPE "E" MIX.

*FOR SUBDIVISIONS IN COMMERCIAL AND INDUSTRIAL ZONES, PAVEMENT DESIGN SHALL BE BASED ON PROJECTED TRAFFIC LOADS.

MINIMUM STOPPING SIGHT DISTANCE

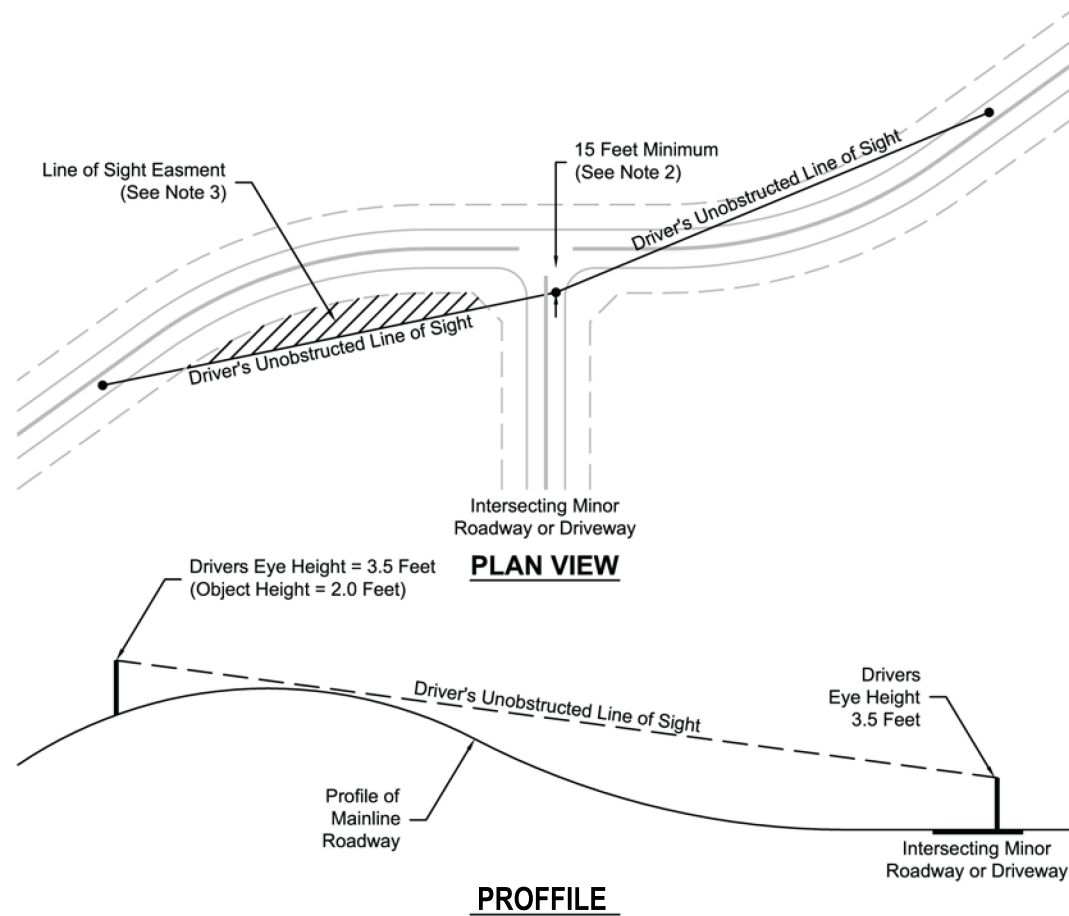


VERTICAL ALIGNMENT

THE SITE DISTANCE AT CREST VERTICAL CURVES IS DETERMINED BY THE LINE OF SIGHT AVAILABLE FROM THE DRIVER'S EYE 3.5 FEET ABOVE THE PAVEMENT TO AN OBJECT 2.0 FEET HIGH AT ANY POINT ALONG THE CENTERLINE OF THE ROADWAY. THE SIGHT DISTANCE IS MEASURED ALONG THE ROADWAY.

<u>SPEED LIMIT (MPH)</u>	<u>MINIMUM STOPPING SIGHT SIGHT DISTANCE (FT.)</u>
25	155
30	200
35	250
40	305
45	360
50	425
55	495

INTERSECTION SIGHT DISTANCE REQUIREMENTS FOR DRIVEWAYS AND SIDE STREETS



Notes:

1. Drivers eye height and object heights shall both be 3.5 feet for intersecting streets commercial entrances and 2.0 feet for residential driveways in determining proper sight distance.
2. The intersection sight distances provided are based on turning onto a two-lane highway and grades of 3 percent or less. For mainline roadways wider than two lanes or Stop Bars located further back than the minimum, provide calculations for the additional lanes, medians, or length.
3. For intersections where the entire unobstructed line of sight is not contained within the right-of-way, provide a "Line of Sight Easment" so that the line of sight will remain unobstructed.
4. The object height of 3.5 feet must be visible for the entire distance from the specified intersection sight distance to the intersection.

Design Intersection Sight Distance

- Case B1 - Left Turn From Stop
- Case B2 - Right Turn From Stop
- Case B3 - Crossing Maneuver

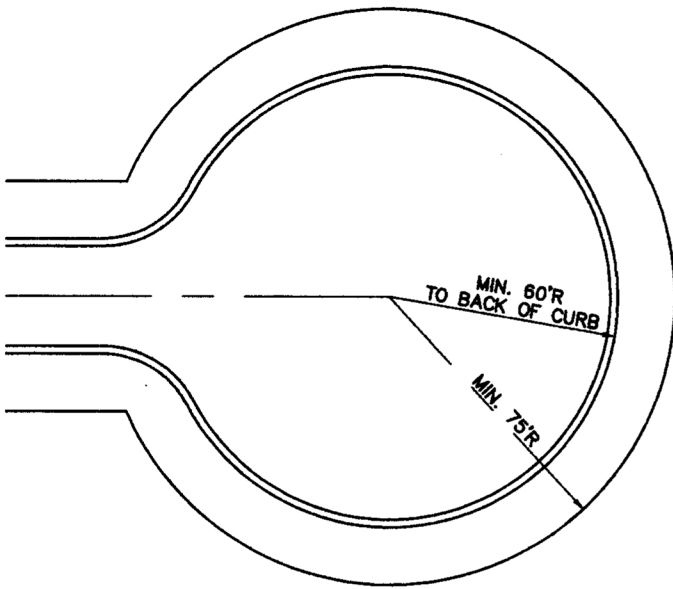
Design Speed (MPH)	Stopping Sight Distance (FEET)	Streets & Commercial Entrances		
		Case 1 (FEET)	Case 2 (FEET)	Case 3 (FEET)
15	80	170	145	145
20	115	225	195	195
25	155	280	240	240
30	200	335	290	290
35	250	390	335	335
40	305	445	385	385
45	360	500	430	430
50	425	555	480	480
55	495	610	530	530

Note: Intersection Sight Distance shown is for a stopped passenger vehicle to perform a maneuver onto a two-lane highway with no median and grades 3 percent or less. For other conditions, the time gap must be adjusted and required sight distance recalculated.

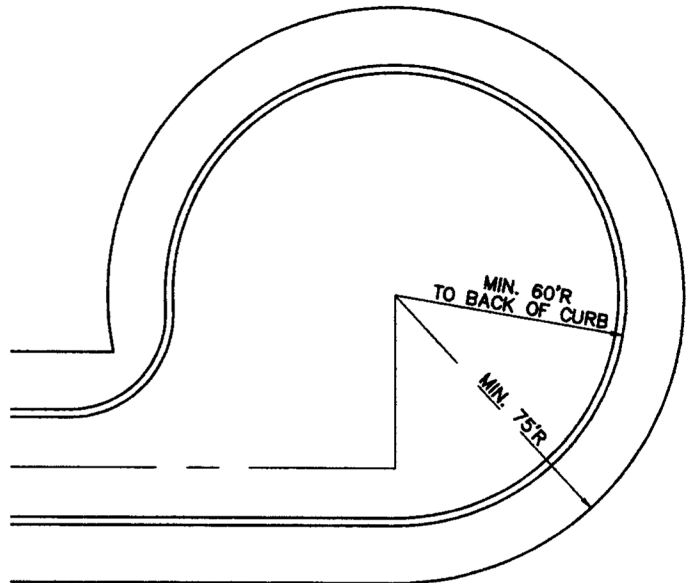
Adjustment Factors for Sight Distance Based on Approach Grade

Approach Grade (%)	Design Speed (MPH)								
	15	20	25	30	35	40	45	50	55
-6	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2
-5	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1
-4	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1
-3 to +3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
+4	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9
+5	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9
+6	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9

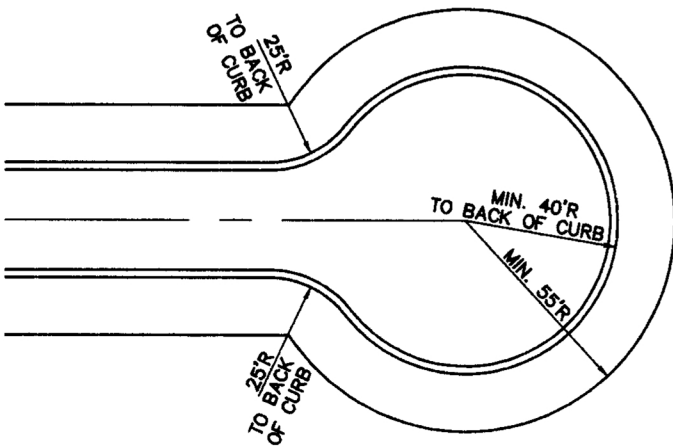
CUL-DE-SAC DETAILS



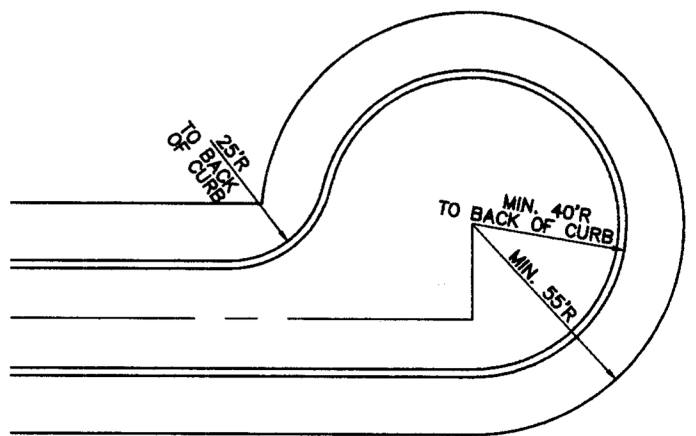
NON-RESIDENTIAL CUL-DE-SAC



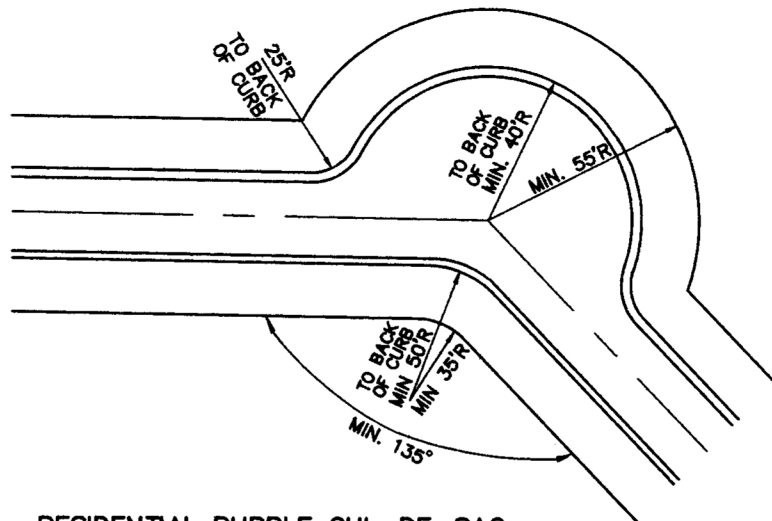
NON-RESIDENTIAL OFFSET CUL-DE-SAC



RESIDENTIAL CUL-DE-SAC



RESIDENTIAL OFFSET CUL-DE-SAC



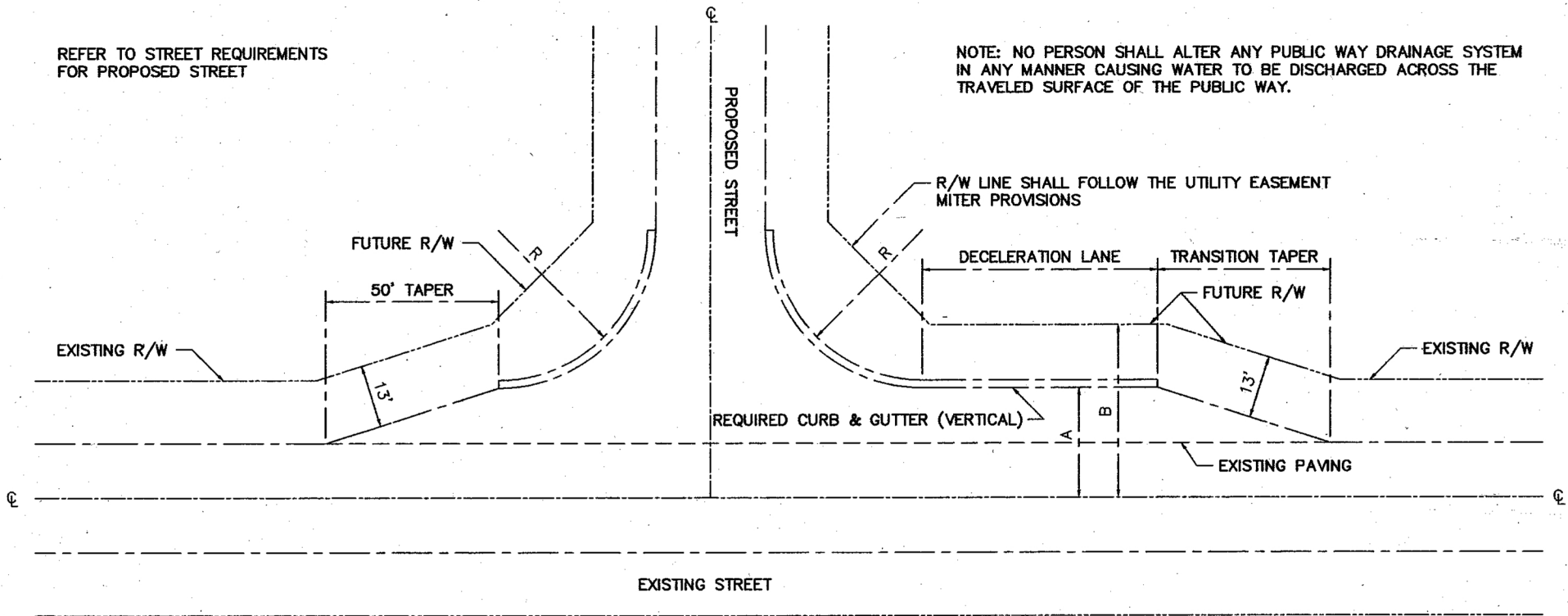
RESIDENTIAL BUBBLE CUL-DE-SAC

NOTE: ALTERNATIVE CUL-DE-SAC CONFIGURATION CAN BE USED IF APPROVED BY THE CITY ENGINEER.

SUBDIVISION ENTRANCE INTERSECTION

REFER TO STREET REQUIREMENTS
FOR PROPOSED STREET

NOTE: NO PERSON SHALL ALTER ANY PUBLIC WAY DRAINAGE SYSTEM
IN ANY MANNER CAUSING WATER TO BE DISCHARGED ACROSS THE
TRAVELED SURFACE OF THE PUBLIC WAY.



EXISTING STREET CLASSIFICATION	RADII R	STREET WIDTH TO E.O.P. (A)	RIGHT OF WAY WIDTH FROM C (B)	EXISTING STREET POSTED SPEED LIMIT	DECELERATION LANE LENGTH	TRANSITION TAPER LENGTH
ARTERIAL	50'	24'+	50'+	55 MPH	200'	50'
COLLECTOR	40'	24'	50'	50 MPH	150'	40'
OTHER	30'	24'	40'	45 MPH	110'	35'
				40 MPH	90'	30'
				35 MPH	50'	25'

NOTES:

1. THIS STANDARD DOES NOT APPLY TO INTERSECTIONS WITHIN SUBDIVISIONS.
3. THE MINIMUM PAVEMENT DESIGN FOR SUBDIVISION ENTRANCES THROUGH THE POINT OF TANGENCY ON THE PROPOSED STREET SHALL BE 6", 2", 1-1/2".
4. CURB & GUTTER REQUIRED FOR ALL SUBDIVISION ENTRANCES AS SHOWN.

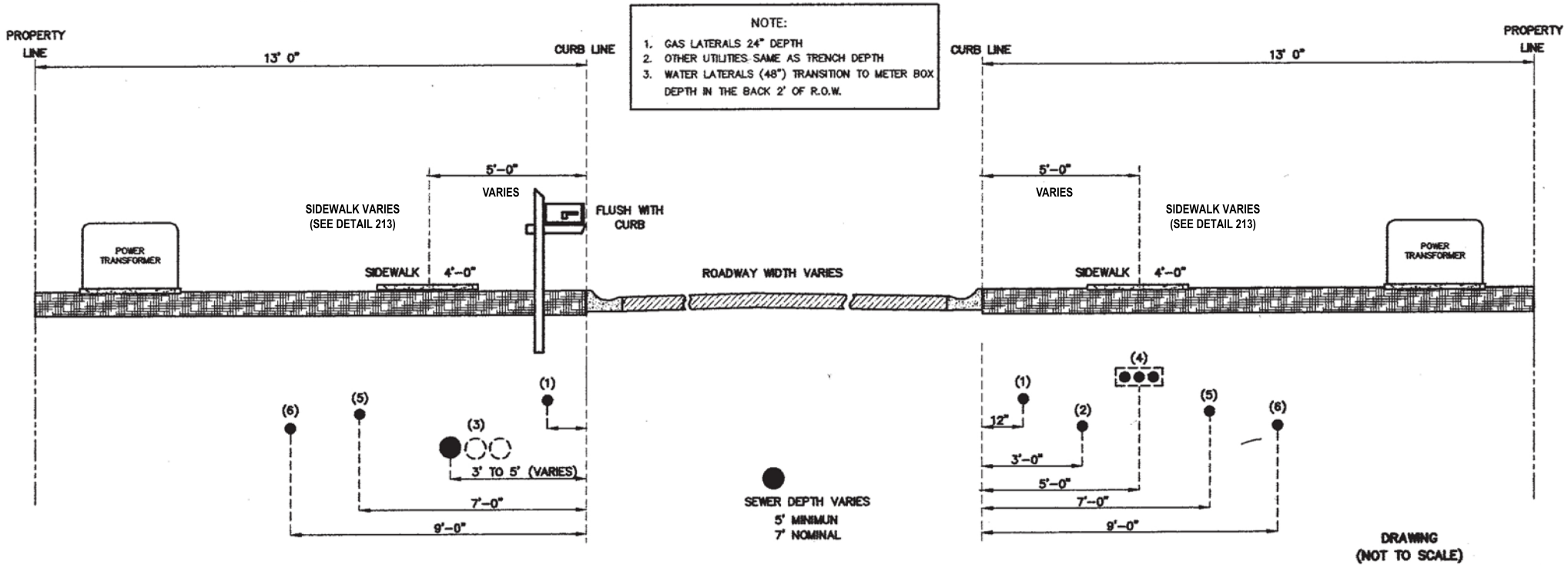
CITY OF CANTON

UTILITY PLACEMENT DETAIL 208

RURAL STREET SECTION



CALL BEFORE YOU DIG
811 OR 1-800-282-7411



(1)
CATV
CURB DIST. - 1'
DEPTH - 24"
BOTH SIDES ROADWAY

(2)
GAS
CURB DIST. - 3'
DEPTH - 36"
EAST OR NORTH SIDE
OF STREET AS DETERMINED
AT SUBD. ENTRANCE

(3)
WATER
CURB DIST. - 3' TO 5'
DEPTH - 48"
WEST OR SOUTH SIDE
OF STREET AS DETERMINED
AT SUBD. ENTRANCE

(4)
MULTI-DUCT CONDUIT
CURB DIST. - 5'
DEPTH - 18"
REQUIRES SPECIAL PERMIT

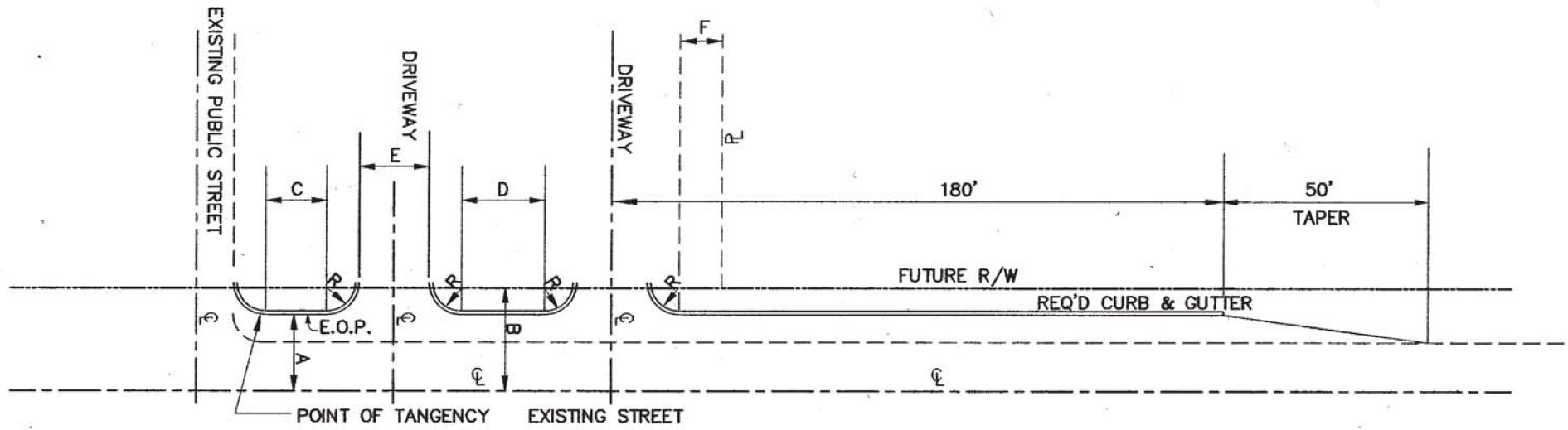
UTILITIES PROTECTION CENTER
811 OR 1-800-282-7411

(5)
TELEPHONE
CURB DIST. - 7'
DEPTH - 30"
BOTH SIDES OF ROAD
JOINT TRENCH
LOCATION FOR:
TELEPHONE, CATV

(6)
POWER
CURB DIST. - 9'
DEPTH - 36"
BOTH SIDES OF ROAD
JOINT TRENCH
LOCATION FOR:
PWR, TELE, CATV

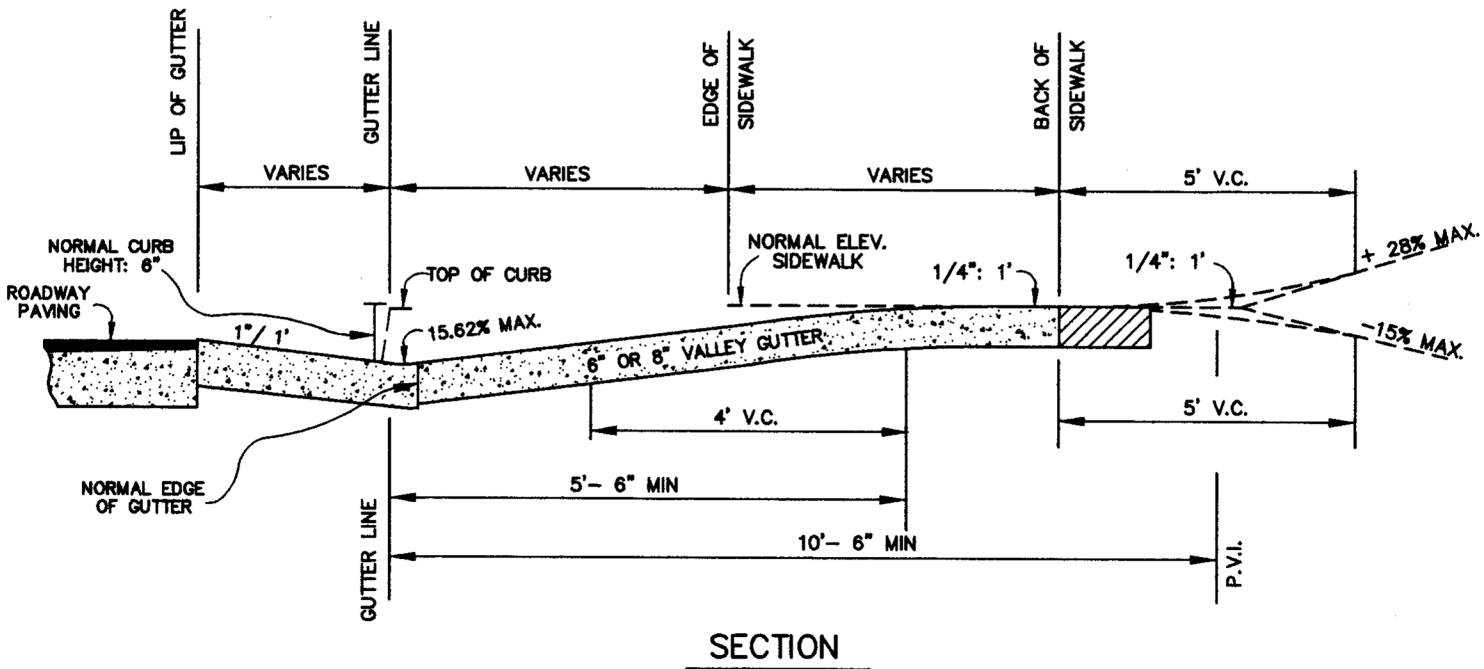
NOTE:
THE BACK (4) FEET OF
THE R.O.W. IS RESERVED
FOR THE PLACEMENT OF
POLES, PEDESTALS, PULL
BOXES, METERS, AND
OTHER UTILITY DEVICES.

NON-RESIDENTIAL DRIVEWAY

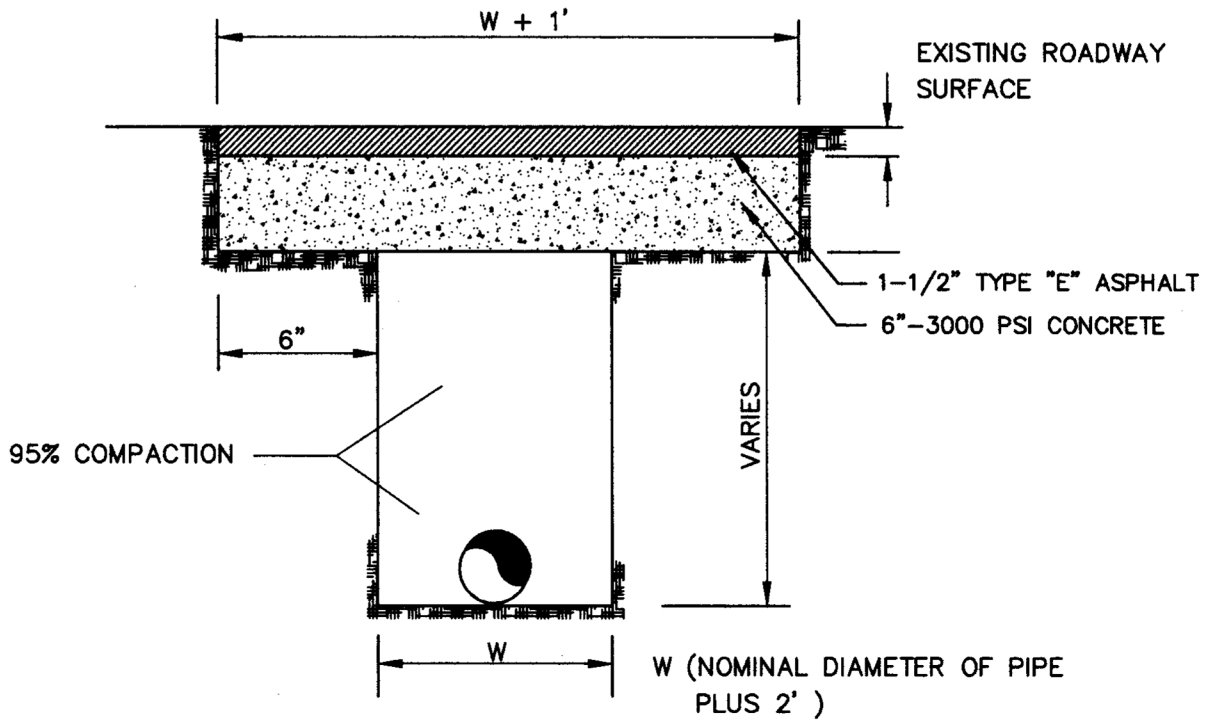


EXISTING STREET CLASSIFICATION	RADII "R"	"A"	"B"	"C"	"D"	1-LANE "E"	2-LANE "E"	"F"
ARTERIAL	50'	24'+	50'+	100'	40'+	14'-18'	24'-30'	20'+
MAJOR COLLECTOR	50'	24'	50'	100'	40'	↓	↓	20'
MINOR COLLECTOR	50'	24'	40'	100'	40'	↓	↓	20'
UNCLASSIFIED	30'	24'	40'	100'	20'	↓	↓	15'

NON-RESIDENTIAL DRIVEWAY ON EXISTING STREET LANDING REQUIREMENTS



CITY ROADS TYPICAL STREET CUT REPAIR



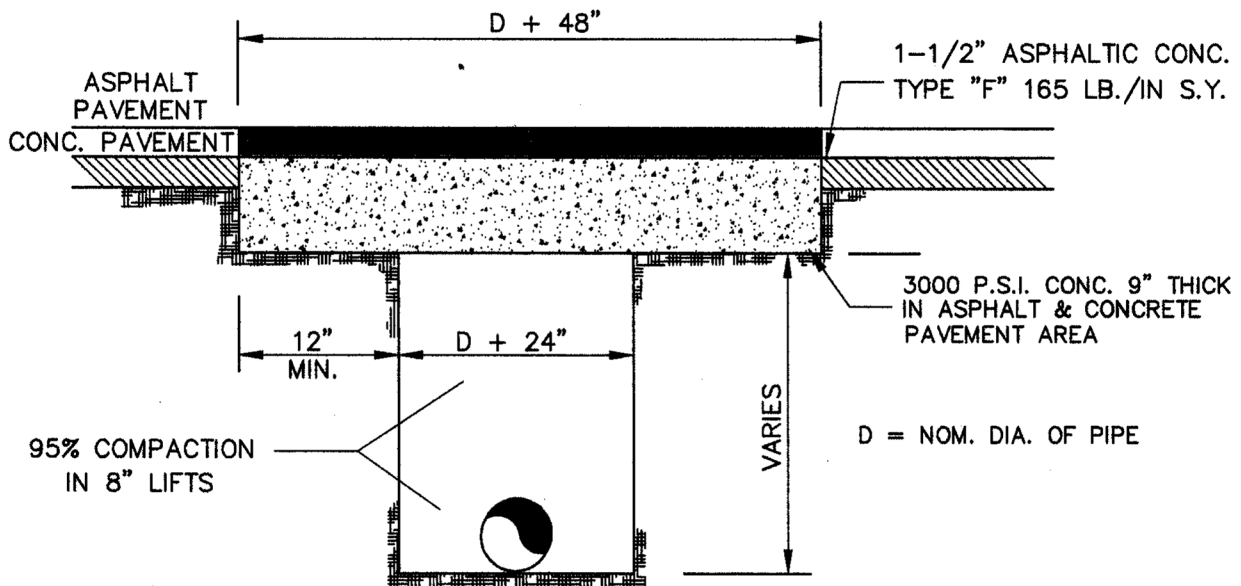
NOTE:

SPECIAL PERMISSION MUST BE OBTAINED TO OPEN CUT EXISTING CITY ROADS.

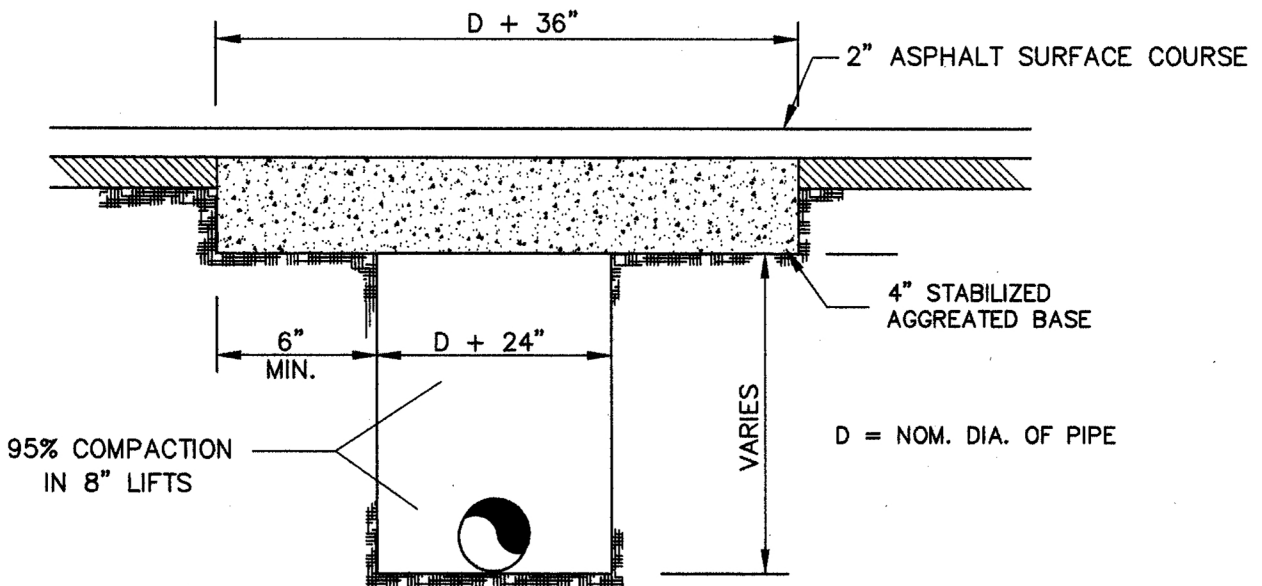
ROADWAYS WILL GENERALLY BE BORED OR TUNNELED FROM DITCH LINE TO DITCH LINE

AN 8 INCH LIFT THICKNESS IS REQUIRED WHEN REPAIRING

STATE OR STATE AID ROADS/DRIVEWAYS TYPICAL STREET CUT REPAIR

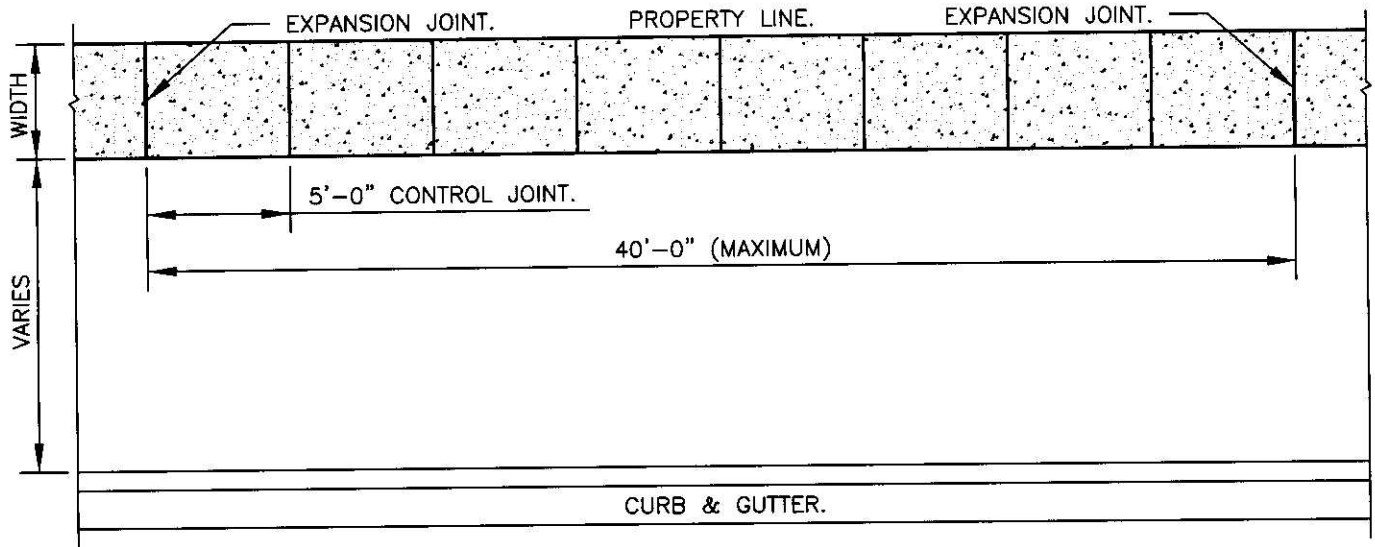


STATE OR STATE-AID ROADS

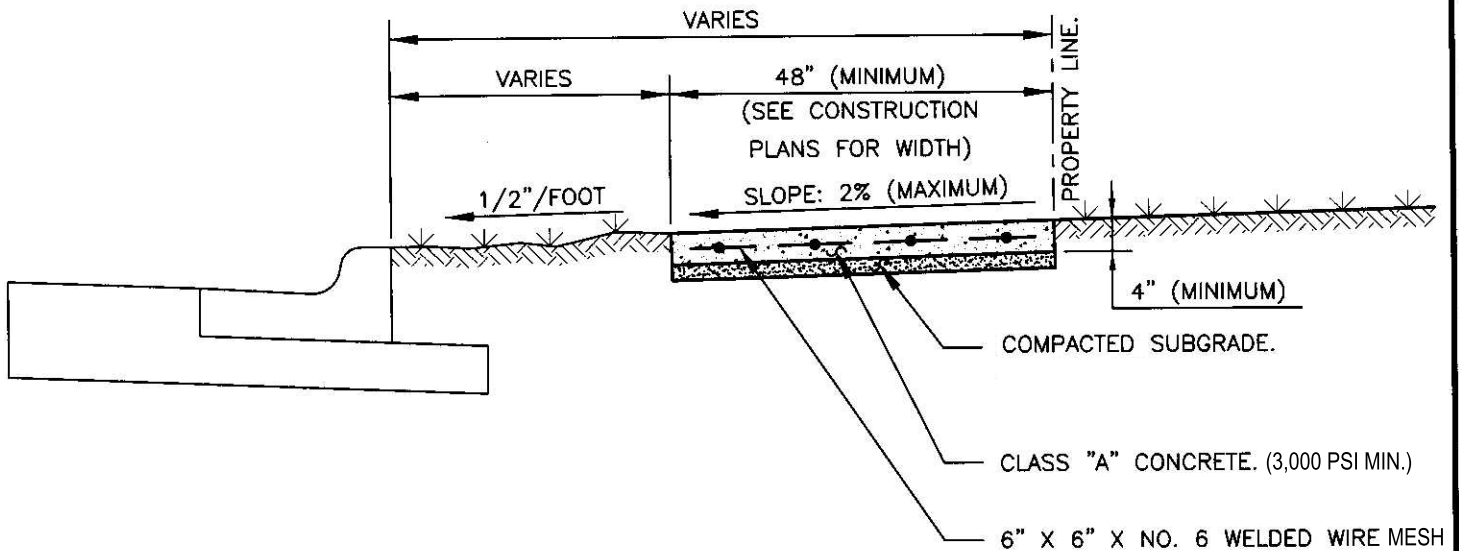


DRIVEWAYS

STANDARD SIDEWALK DETAIL



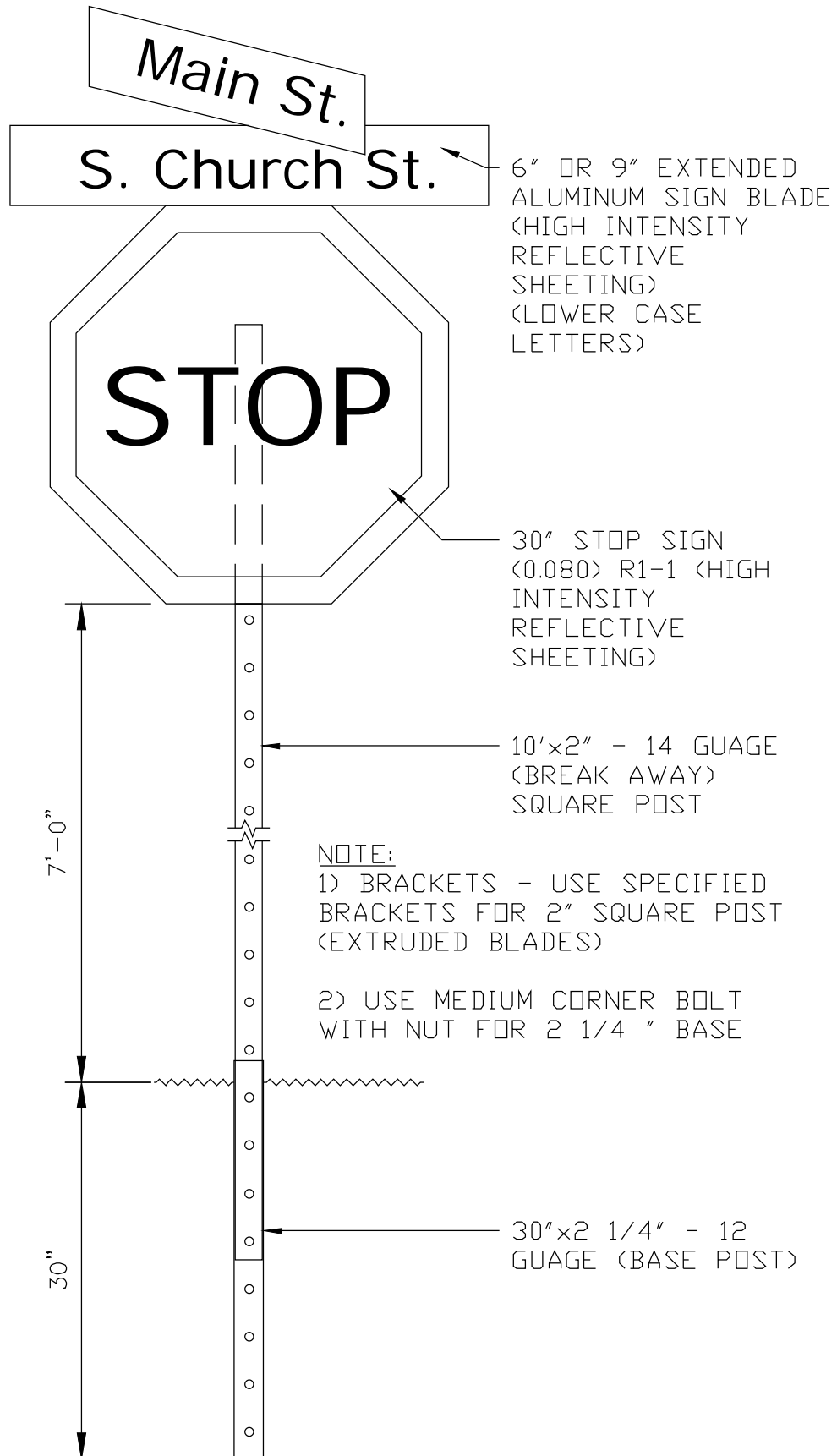
PLAN



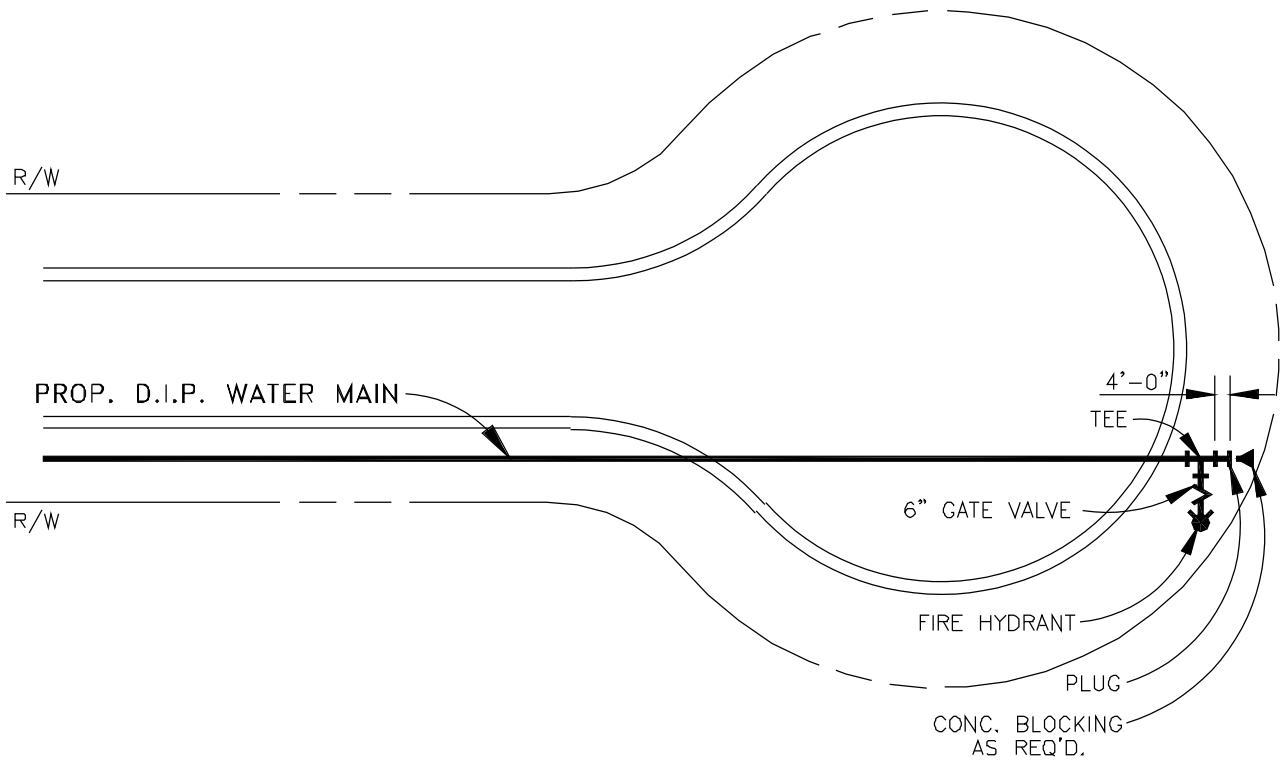
NOTE: REFER TO THE CITY OF CANTON UNIFIED DEVELOPMENT CODE SECTION 9.03.11.E FOR SIDEWALK LOCATION AND WIDTH REQUIREMENTS.

SECTION

STREET / STOP SIGN INSTALLATION



STANDARD DETAIL 214



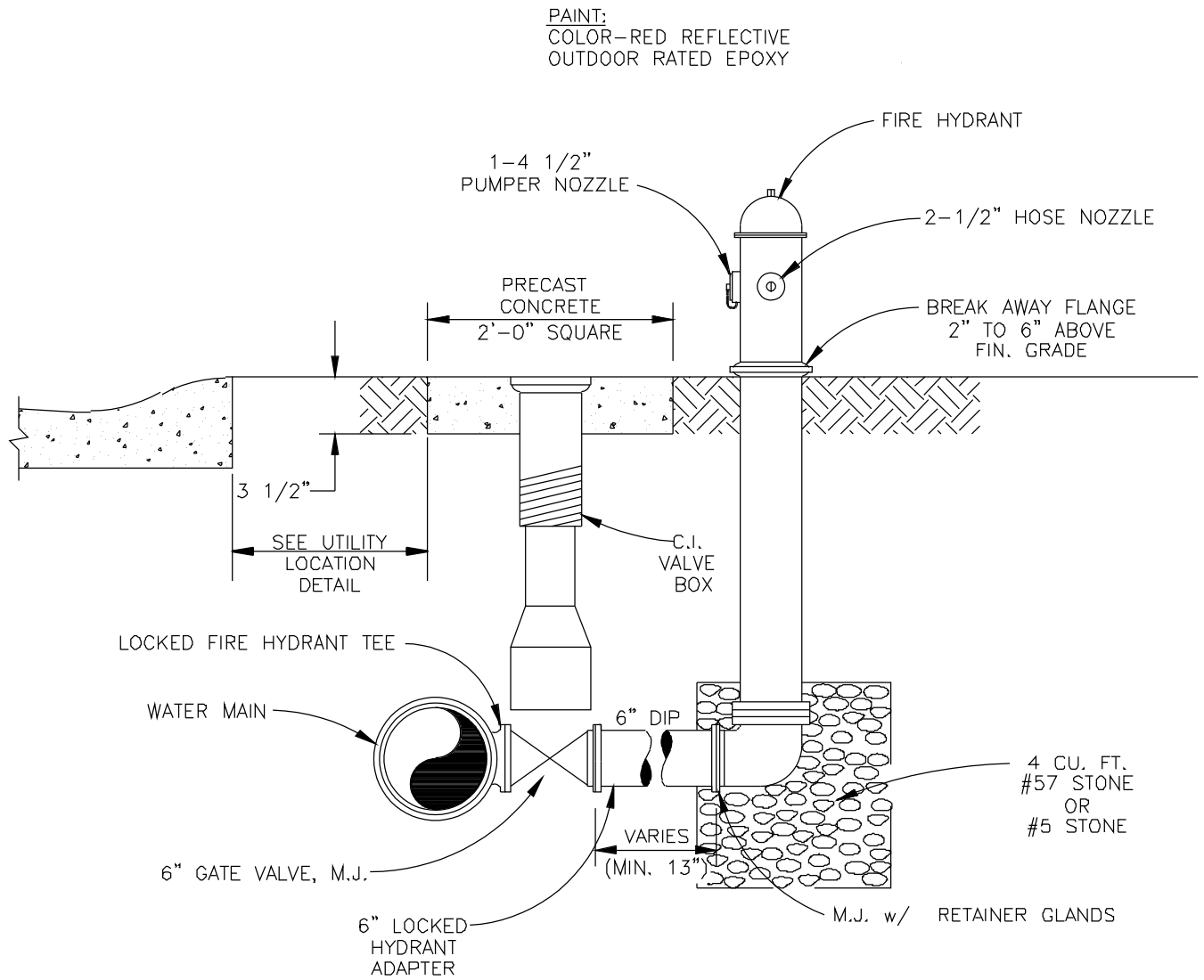
TYPICAL WATER MAIN
AT CUL-DE-SAC

CITY OF
CANTON, GEORGIA

TYPICAL
WATER MAIN
AT CUL-DE-SAC
CONSTRUCTION STANDARD

DATE:	SEPT. '13
APPROVED:	

STANDARD
NO.
W701



NOTES:

1. 4 1/2" PUMPER NOZZLE TO FACE STREET
2. HYDRANT NOT TO BE SET ON STREET SIDE OF WATER MAIN
3. VALVE BOX TO BE ADJUSTED TO GRADE
4. CONCRETE COLLAR AROUND VALVE BOX IF NOT IN PAVED AREA
5. GRAVEL TO BE PLACED AROUND HYDRANT DRAIN, MINIMUM DIMENSIONS 20" x 20" x 20"

TYPICAL FIRE HYDRANT INSTALLATION

CITY OF
CANTON, GEORGIA

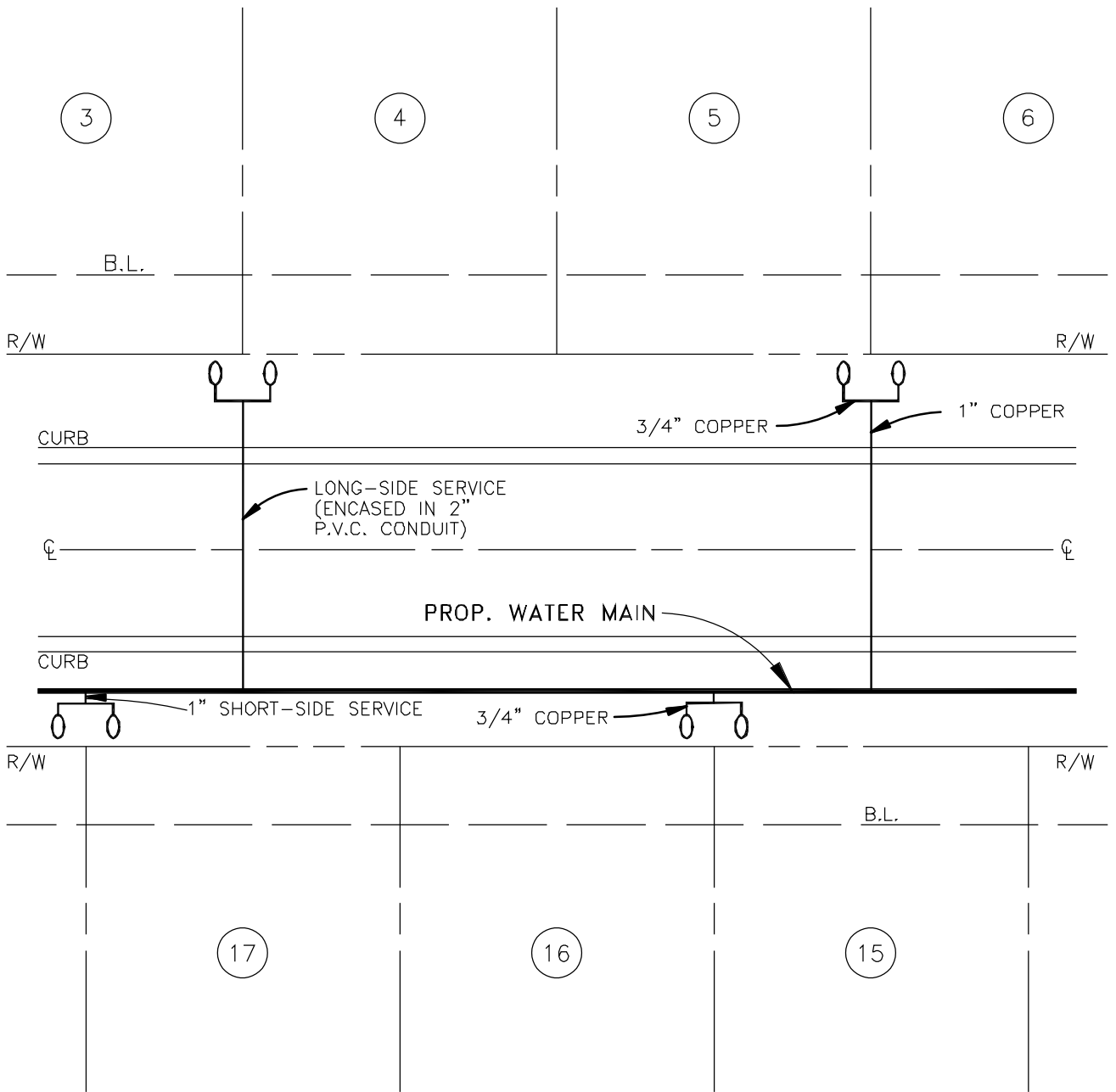
TYPICAL
FIRE HYDRANT
INSTALLATION
CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

STANDARD
NO.

W702



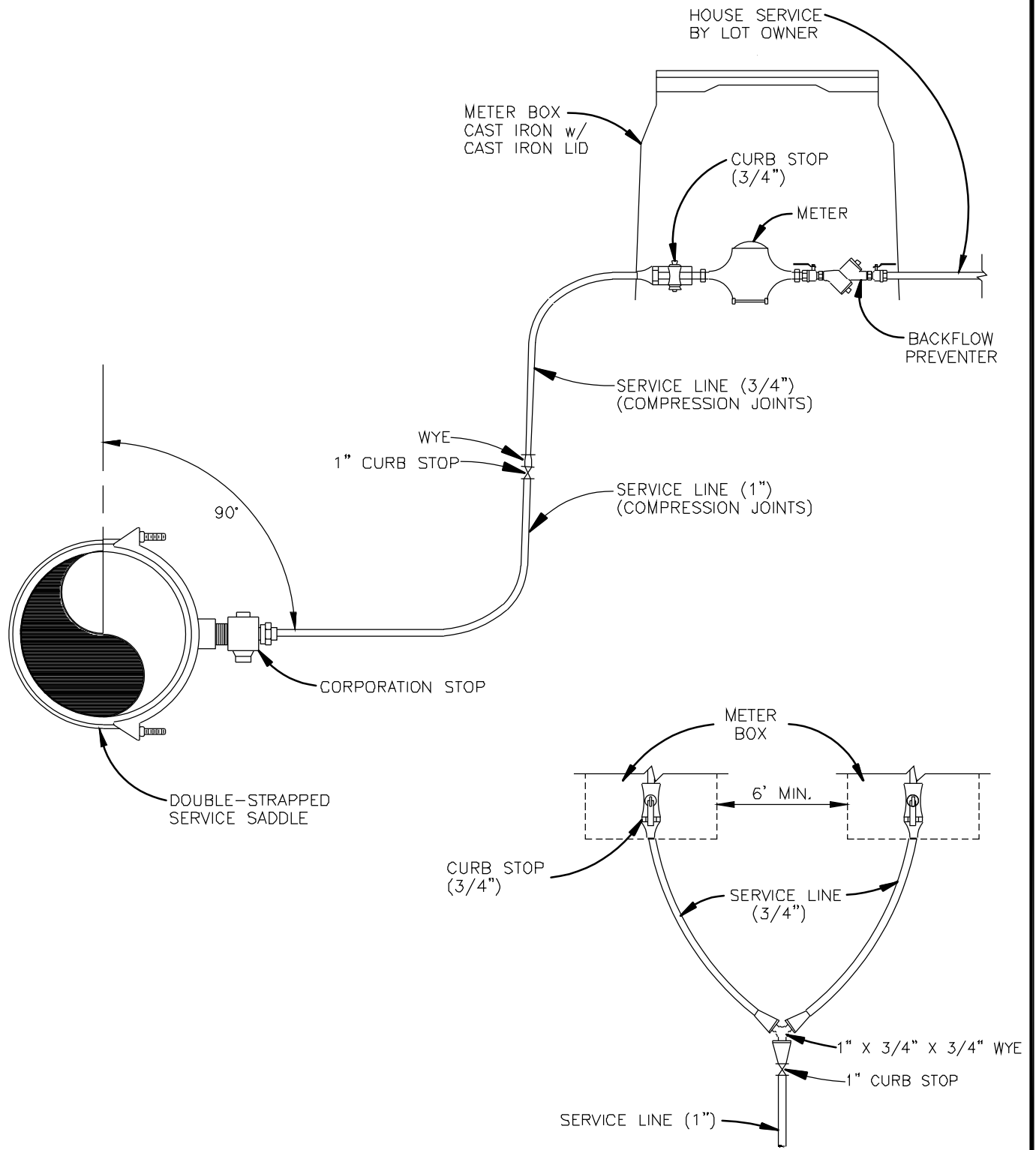
3/4" WATER METER LOCATION
(FOR SUBDIVISION)

CITY OF
CANTON, GEORGIA

3/4" WATER
METER LOCATION
(FOR SUBDIVISIONS)
CONSTRUCTION STANDARD

DATE:	SEPT. '13
APPROVED:	

STANDARD
NO.
W703



PLAN FOR WYE

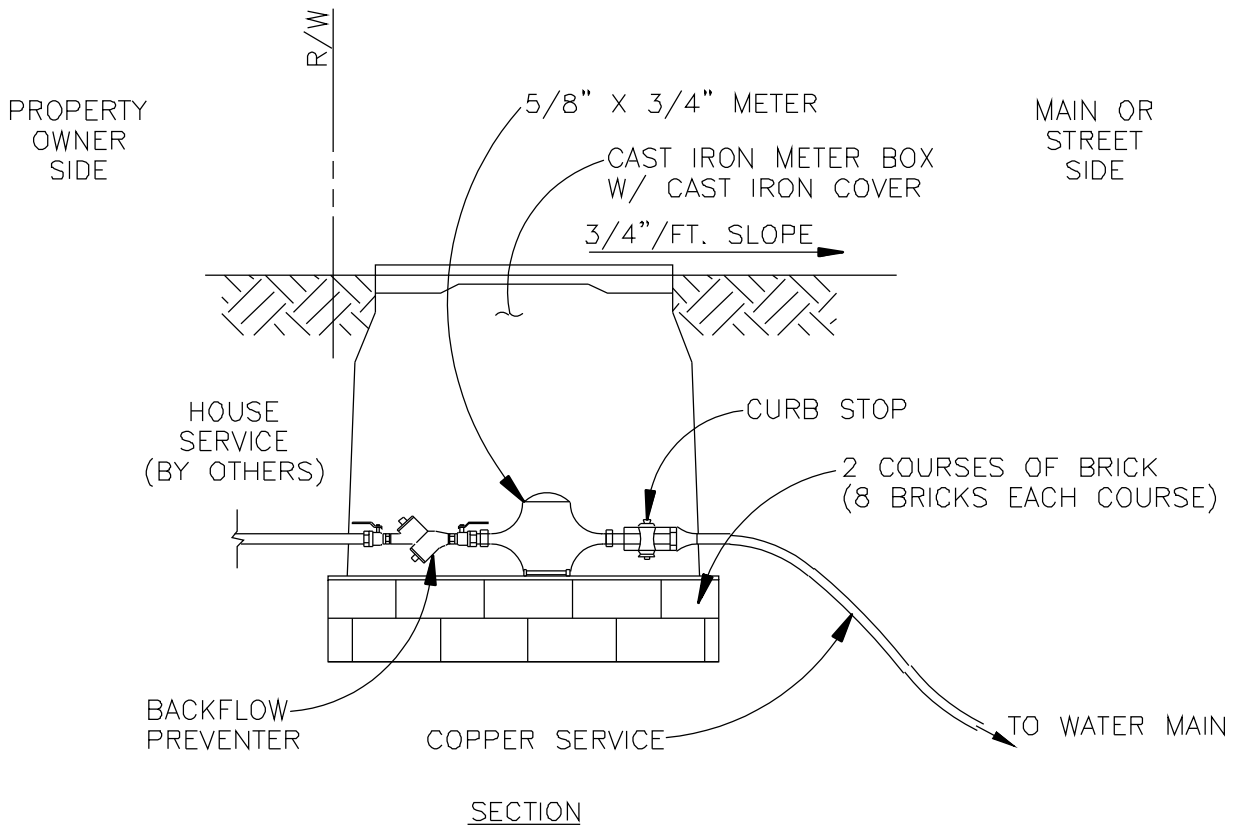
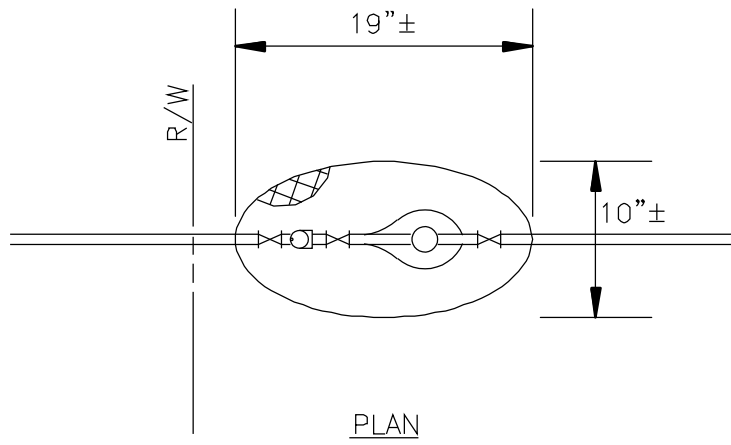
CITY OF
CANTON, GEORGIA

RESIDENTIAL
WATER METER
INSTALLATION
CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

STANDARD
NO.
W704



CITY OF
CANTON, GEORGIA

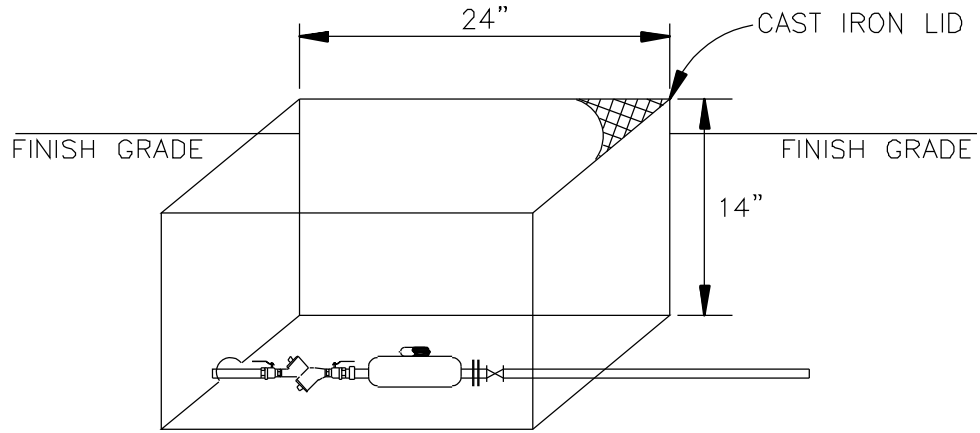
METER BOX FOR
5/8" OR 1"
METER

CONSTRUCTION STANDARD

DATE: SEPT. '13

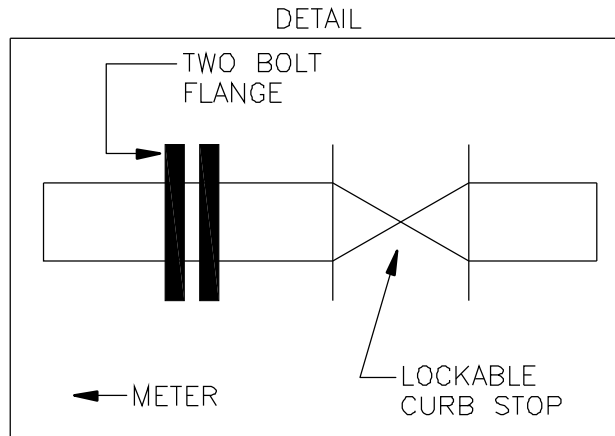
APPROVED:

STANDARD
NO.
W705



NOTES:

1. JUMBO BOXES ARE TO BE USED WITH METERS LARGER THAN 1" AND SMALLER THAN 3". (1.5" AND 2" METER)
2. A TWO BOLT FLANGE IS REQUIRED FOR THE CONNECTION OF THESE SIZE METERS.

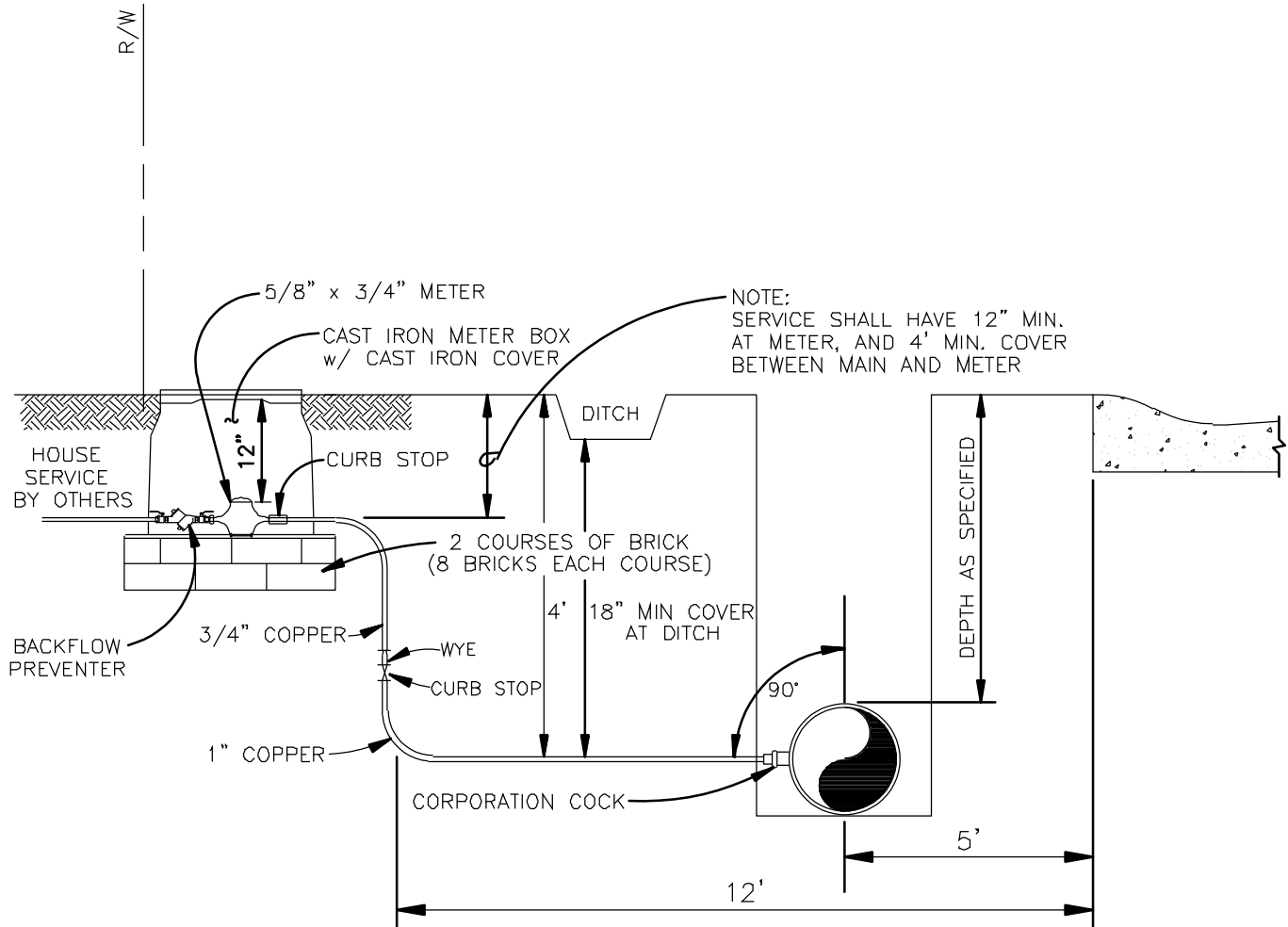


CITY OF
CANTON, GEORGIA

STANDARD
JUMBO CAST IRON
METER BOX
CONSTRUCTION STANDARD

DATE:	SEPT. '13
APPROVED:	

STANDARD
NO.
W706



NOTE:
SERVICE SHALL HAVE 12" MIN.
AT METER, AND 4' MIN. COVER
BETWEEN MAIN AND METER

NOTES:

1. SERVICE LINE SHALL BE 3/4" FROM MAIN WHEN ONLY ONE 3/4" SERVICE IS REQUIRED.
2. USE ALL COMPRESSION JOINTS.
3. INSTALLATION SHALL ALLOW ADEQUATE ROOM TO REMOVE AND/OR REPAIR METER.

HOUSE SERVICE INSTALLATION

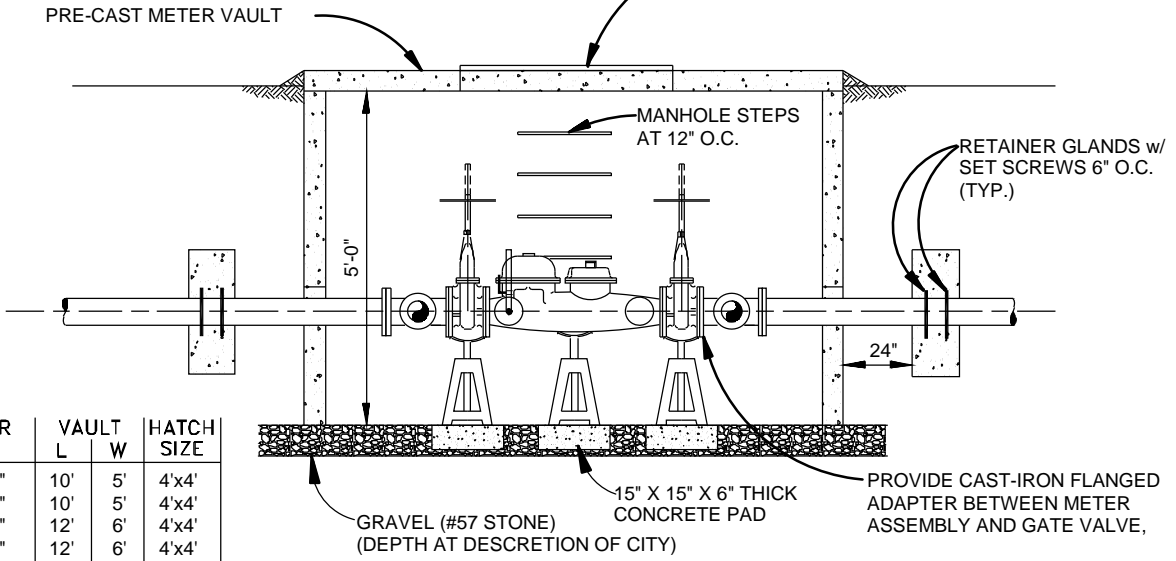
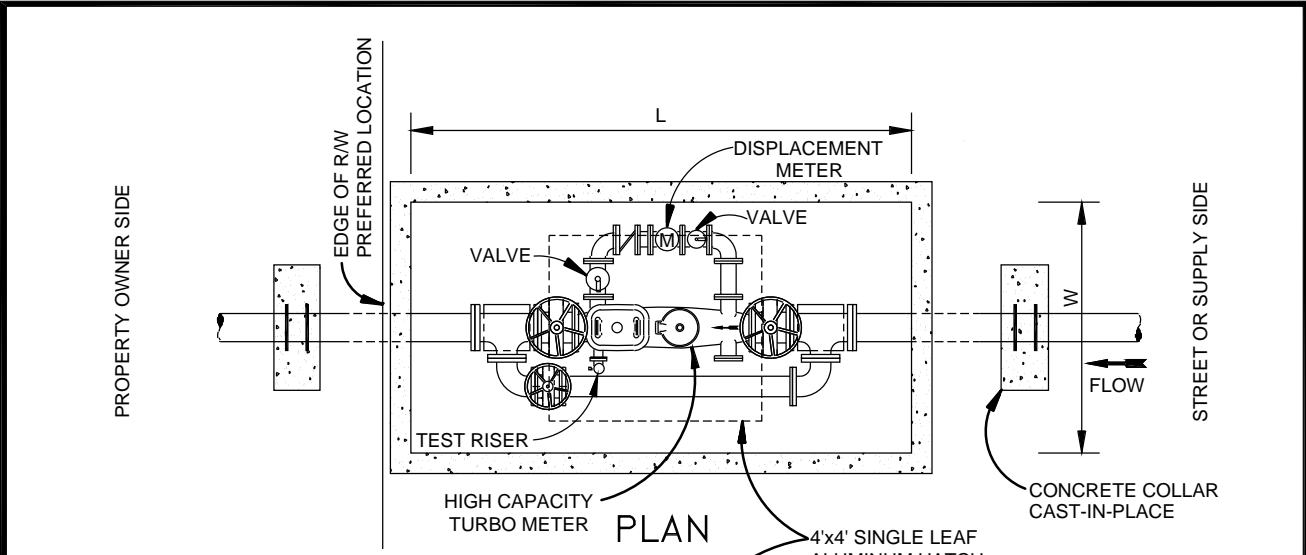
CITY OF
CANTON, GEORGIA

HOUSE SERVICE
INSTALLATION

CONSTRUCTION STANDARD

DATE:	SEPT, '13
APPROVED:	

STANDARD
NO.
W707

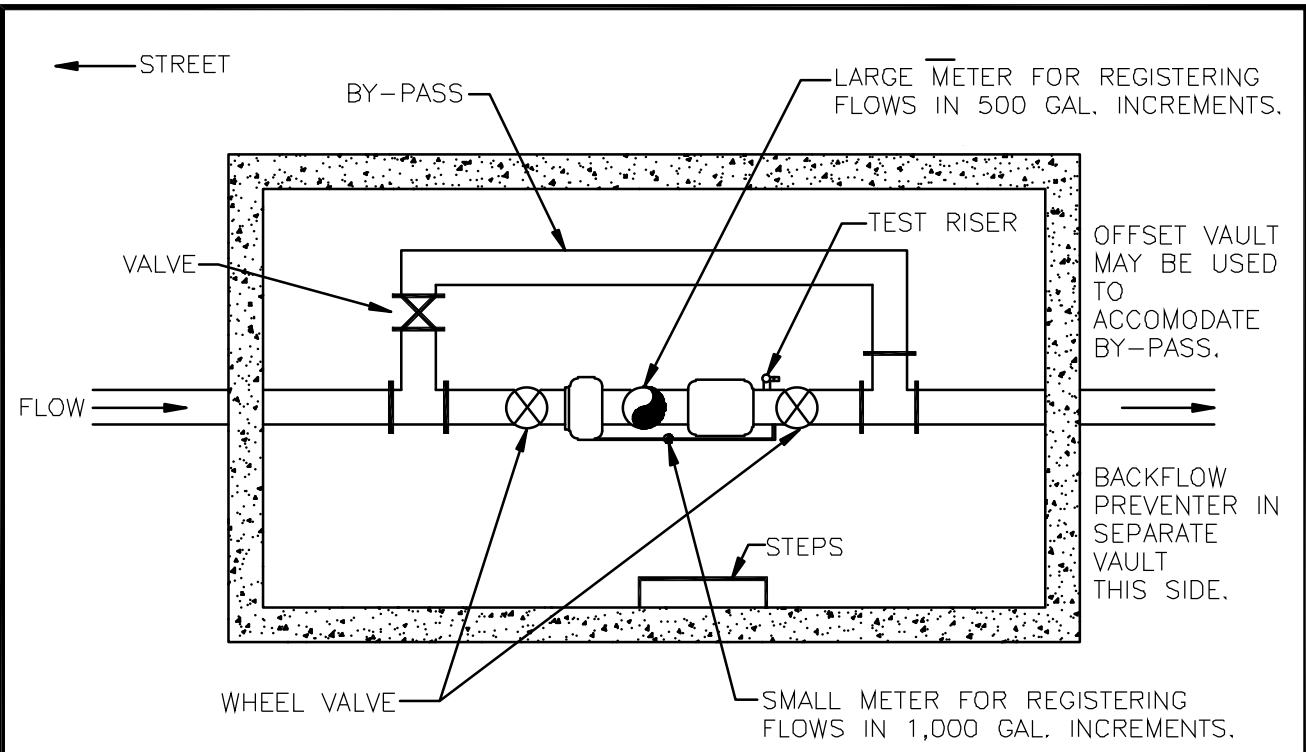


METER SIZE	VAULT L	VAULT W	HATCH SIZE
3" x 2"	10'	5'	4'x4'
4" x 2"	10'	5'	4'x4'
6" x 3"	12'	6'	4'x4'
8" x 4"	12'	6'	4'x4'

SECTION

- NOTES:**
1. BOXES EXCEEDING 5' IN DEPTH MUST BE APPROVED BY THE CITY.
 2. WHEN METER BOX CANNOT BE LOCATED ENTIRELY ON R/W, A PERMANENT EASEMENT SHALL BE OBTAINED TO PREVENT FENCES OR OTHER OBSTRUCTIONS FROM BEING ERECTED AROUND THE METER BOX.
 3. COVER OPENING & STEPS TO BE PLACED NEAREST THE METER REGISTER.
 4. BYPASS REQUIRED (WITH VALVES), TO BE INSTALLED INSIDE THE VAULT.
 5. THE METER MUST BE INSTALLED WITH AT LEAST 8 DIAMETERS OF STRAIGHT PIPE SAME SIZE AS METER ON THE INLET SIDE TO PERMIT ON-SITE MAINTENANCE AND CALIBRATION. A STRAINER MAY BE PROVIDED IN LIEU OF THE STRAIGHT PIPE IN ACCORDANCE WITH THE METER MANUFACTURER'S RECOMMENDATIONS. AN INLET AND OUTLET GATE VALVE WITH BYPASS LINE ARE REQUIRED (SEE ILLUSTRATION).
 6. THESE BOXES ARE NOT TO BE INSTALLED IN TRAFFIC AREAS WITHOUT PRIOR PERMISSION FROM THE CITY.
 7. DOUBLE CHECK BACK FLOW PREVENTION REQUIRED ON PROPERTY OWNER'S SIDE OF METER. LOCATION SHALL BE APPROVED BY THE CITY.
 8. ALL VALVES AND FITTINGS INSIDE THE VAULT SHALL BE FLANGED.
 9. ALL FITTINGS OUTSIDE THE VAULT SHALL BE MECHANICAL JOINT WITH RETAINER GLANDS.
 10. METER MUST BE SENSUS TOUCH-READ METER WITH STRAINER AND BY-PASS.
 11. METER SHALL BE PROVIDED WITH A TEST RISER.

<p>CITY OF CANTON, GEORGIA</p>	<p>COMPOUND METERS AND VAULT</p> <p>CONSTRUCTION STANDARD</p>	DATE: SEPT. '13	<p>STANDARD NO. W708</p>
		APPROVED:	

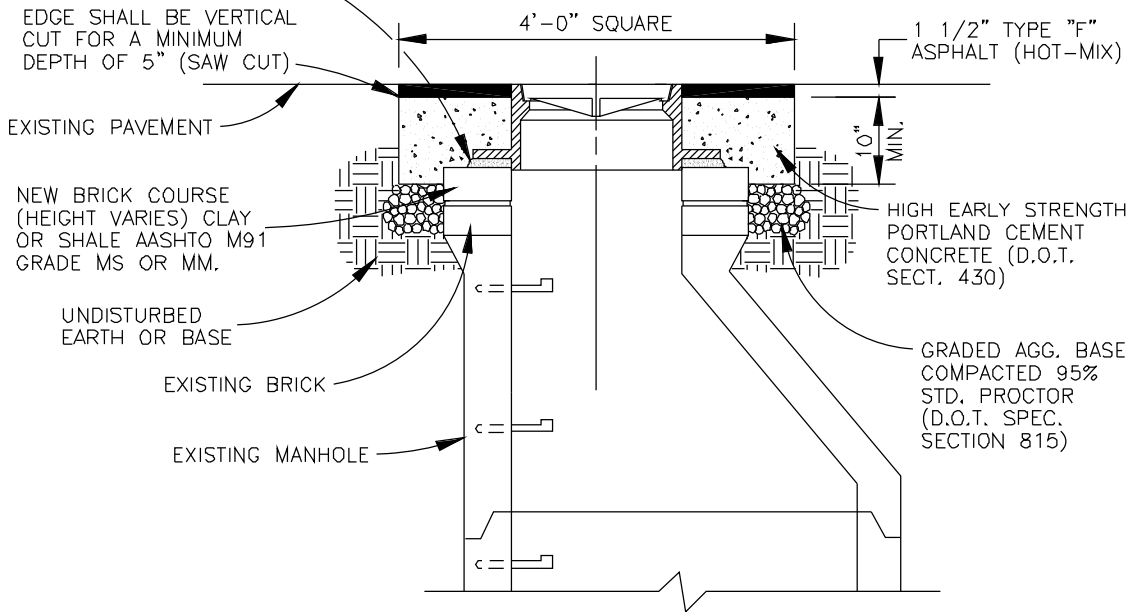


10" COMPACT FIRE LINE ASSEMBLY = MIN. 6" BY-PASS
8" CFA = MIN. 4" BY-PASS
6" CFA = MIN. 3" BY-PASS
4" CFA = MIN. 2" BY-PASS

- NOTES:
1. ALL 4" AND LARGER METERS SHALL BE SENSUS COMPOUND METERS OR SENSUS COMPACT FIRELINE FIRE SERVICE METER ASSEMBLIES EQUIPPED WITH A 5,000 GALLON REGISTER FOR HIGH FLOWS AND A 1,000 GALLON REGISTER FOR LOW FLOWS. EACH REGISTER SHALL BE EQUIPPED WITH A TOUCHREAD PITLID REGISTER COMPATIBLE WITH THE CITY'S METER READING EQUIPMENT.
 2. ALL METERS SHALL BE PROVIDED WITH A TEST RISER.
 3. ALL METERS IN VAULTS ARE REQUIRED TO HAVE A BY-PASS.
 4. ALL PROJECT FEES ARE REQUIRED TO BE PAID BEFORE METER IS SET OR METER WILL BE LOCKED IMMEDIATELY.
 5. THE CITY MAY REQUIRE AS MUCH AS 4' GRAVEL BED UNDERNEATH THE VAULT FOR DRAINAGE.
 6. STAND-ON-PIPE SUPPORTS ARE REQUIRED UNDERNEATH THE METER AND WHEEL VALVES FOR SUPPORT OF THE WEIGHT.
 7. THE VAULT LID IS REQUIRED TO BE 3' X 3' SPRINGLOADED ALUMINUM HATCH.
 8. ALL OPENINGS OR HOLES IN THE VAULT WILL BE REQUIRED TO BE ENCLOSED WITH CONCRETE AND MADE WATER TIGHT.

CITY OF CANTON, GEORGIA	COMPACT FIRE LINE ASSEMBLY VAULT CONSTRUCTION STANDARD	DATE: SEPT. '13	STANDARD NO. W709
		APPROVED:	

PLACE FOUR STEEL SHIMS (4" x 2") EQUALLY SPACED AROUND BOTTOM OF MH FRAME. THICKNESS SHALL BE AS REQUIRED TO MAKE COVER FLUSH WITH PAVEMENT. SURROUND SHIMS WITH CEMENT. WHEN THICKNESS IS LESS THAN 1/2", USE CONCRETE MORTAR INSTEAD. WHEN THICKNESS IS GREATER THAN 2", USE BRICKS. (NOT TO EXCEED 2 COURSES.)

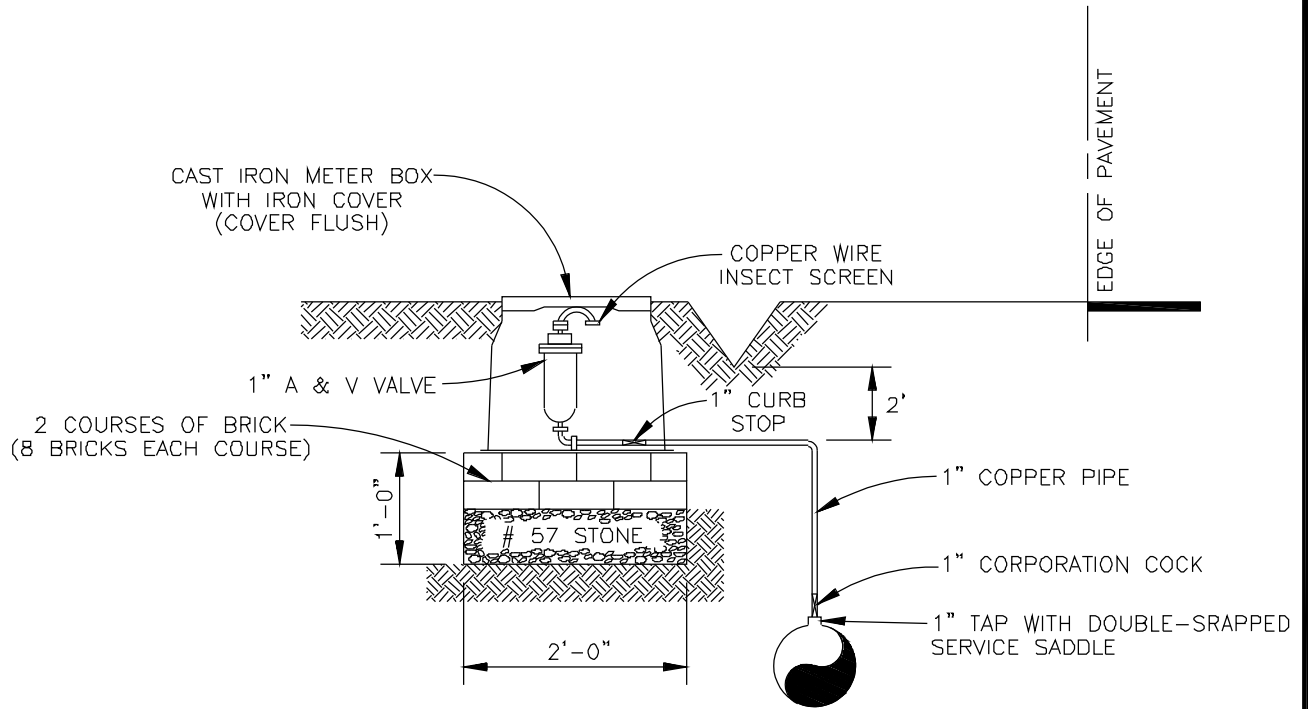


MANHOLE FRAME-GRADE ADJUSTMENT

NOTES:

1. PORTLAND CONCRETE FOR COLLAR SHALL BE A MIN. OF 10" THICK AND SHALL EXTEND FROM THE LAST FULL COURSE OF BRICK TO 1 1/2" BELOW THE EXISTING PAVEMENT.
2. THE CONTRACTOR HAS THE OPTION OF USING PORTLAND CONCRETE FOR THE FULL DEPTH (FROM THE ASPHALT TO UNDISTURBED EARTH) OR AS SHOWN ABOVE.
3. THE CONCRETE SHALL BE LEFT WITH A RAKED FINISH TO PROVIDE A ROUGH SURFACE FOR THE ASPHALT TO BOND TO BITUMINOUS TACK AND ASPHALT SHALL BE PLACED PER CURRENT D.O.T. SPECIFICATIONS.
4. STEEL PLATES MAY BE REQUIRED BY THE CITY IN HIGH TRAFFIC AREAS TO PROTECT THE FRESH CONCRETE FOR A MINIMUM OF 40 HOURS. IN THESE HIGH TRAFFIC AREAS BARRICADES, CONES, ETC. WILL NOT BE ALLOWED.
5. BEFORE WORKING IN AN AREA, THE CONTRACTOR SHALL NOTIFY THE CITY.

CITY OF CANTON, GEORGIA	MANHOLE FRAME-GRADE ADJUSTMENT CONSTRUCTION STANDARD	DATE: SEPT. '13	STANDARD NO. S710
		APPROVED:	



NOTES: 1. VALVE MARKER REQUIRED.

TYPICAL WATER AIR & VACUUM RELEASE VALVE ASSEMBLY

CITY OF
CANTON, GEORGIA

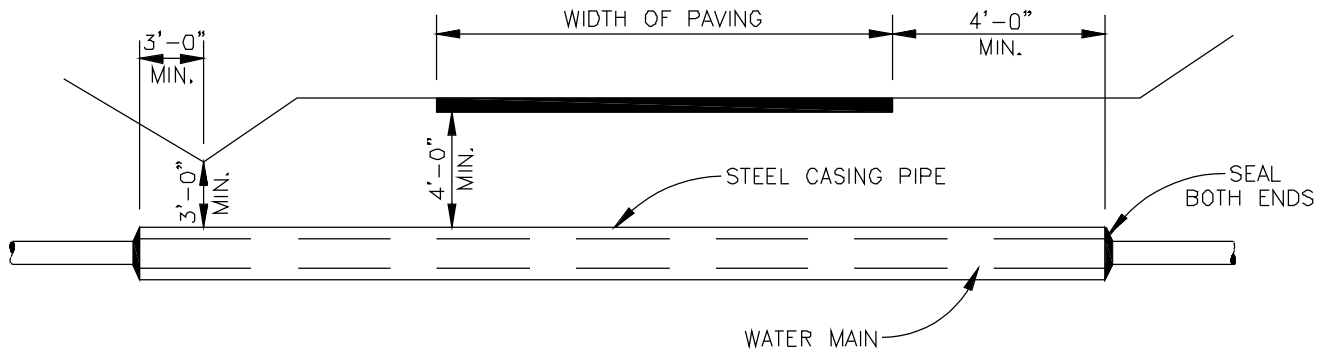
WATER A&V
RELEASE VALVE
ASSEMBLY
CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

STANDARD
NO.

W711



NOTES:

1. CASING PIPE SHALL EXTEND A MINIMUM OF 3' BEYOND TOE OF FILL SLOPES OR DITCH LINES AND 4' BEYOND EDGE OF P.V.M.T. AND BACK OF CURB.
2. CARRIER PIPE INSIDE CASING SHALL BE D.I.P.

TYPICAL ROAD CROSSING

CITY OF
CANTON, GEORGIA

TYPICAL ROAD
CROSSING

CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

STANDARD
NO.

W712

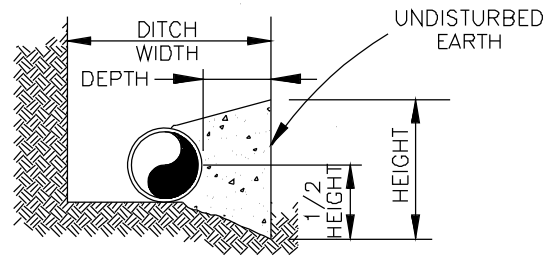
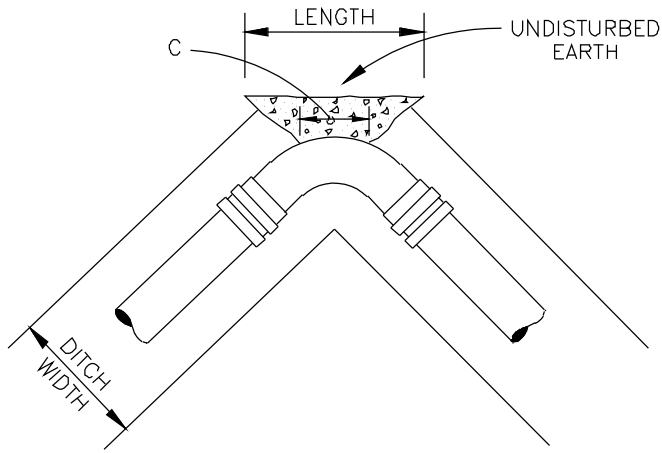


TABLE FOR CONCRETE BLOCKING
(250 PSI TEST PRESSURE)

MINIMUM DIMENSIONS OF BLOCKING							
FITTING	SIZE	DEPTH (FT.)	LENGTH (FT.)	"C" (IN.)	HEIGHT (FT.)	VOLUME (C.Y.)	THRUST (LB.)
11 1/4" BEND	6"	1.0	2.0	6	1.0	0.04	1,385
11 1/4" BEND	8"	1.0	2.0	7	1.0	0.05	2,465
11 1/4" BEND	10"	1.0	2.0	9	1.0	0.07	3,850
11 1/4" BEND	12"	1.0	2.5	11	1.5	0.12	5,550
11 1/4" BEND	16"	2.0	2.5	12	2.1	0.26	9,860
11 1/4" BEND	20"	2.0	3.5	15	2.5	0.48	15,406
11 1/4" BEND	24"	2.0	4.0	18	3.0	0.70	22,185
22 1/2" BEND	6"	1.0	2.0	6	1.0	0.04	2,760
22 1/2" BEND	8"	1.0	2.0	7	1.5	0.06	4,905
22 1/2" BEND	10"	1.0	2.0	9	2.0	0.10	7,665
22 1/2" BEND	12"	1.0	3.0	11	2.0	0.16	11,040
22 1/2" BEND	16"	2.0	3.5	12	3.0	0.45	19,625
22 1/2" BEND	20"	2.0	4.0	15	4.0	0.74	30,665
22 1/2" BEND	24"	3.0	5.0	18	4.5	1.47	44,160
45° BEND	6"	1.0	2.0	6	1.5	0.06	5,415
45° BEND	8"	1.0	2.5	7	2.0	0.10	9,625
45° BEND	10"	2.0	3.5	9	2.5	0.31	15,040
45° BEND	12"	2.0	3.5	11	3.0	0.41	21,655
45° BEND	16"	3.0	5.0	12	4.0	1.45	38,495
45° BEND	20"	4.0	6.0	15	5.0	2.05	60,145
45° BEND	24"	4.0	7.5	18	6.5	3.35	91,610
90° BEND	6"	1.0	2.5	12	2.0	0.13	10,005
90° BEND	8"	2.0	3.0	14	3.0	0.38	17,785
90° BEND	10"	2.5	4.5	18	3.0	0.74	27,785
90° BEND	12"	3.0	5.0	20	4.0	1.24	40,000
90° BEND	16"	4.0	6.5	26	5.5	2.91	71,125
90° BEND	20"	4.0	8.0	32	7.0	4.68	111,135
90° BEND	24"	5.0	10.0	40	8.0	8.50	160,035

NOTES:

1. SOIL BEARING STRENGTH OF 2000 PSI IS ASSUMED IN THE CALCULATIONS ABOVE. ENGINEER SHALL VERIFY.
2. COVER GLANDS AND BOLTS WITH POLYETHYLENE BEFORE PLACING CONCRETE.
3. ALLOW CONCRETE TO SET UP A MINIMUM OF 6 HOURS BEFORE PLACING BACKFILL.
4. CONCRETE SHALL BE 3000 PSI, CLASS A.
5. ALL IRON FITTINGS SHALL BE BLOCKED AND SUPPORTED AS SHOWN ABOVE.
6. VERTICAL BENDS WITH AN UPWARD THRUST SHALL BE RESTRAINED AS SHOWN IN STANDARD W715.
7. VERTICAL BENDS WITH A DOWNWARD THRUST SHALL BE RESTRAINED AS SHOWN IN STANDARD W716.

CONCRETE BLOCKING FOR BENDS

CITY OF
CANTON, GEORGIA

CONCRETE
BLOCKING DETAIL

CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

STANDARD
NO.

W713

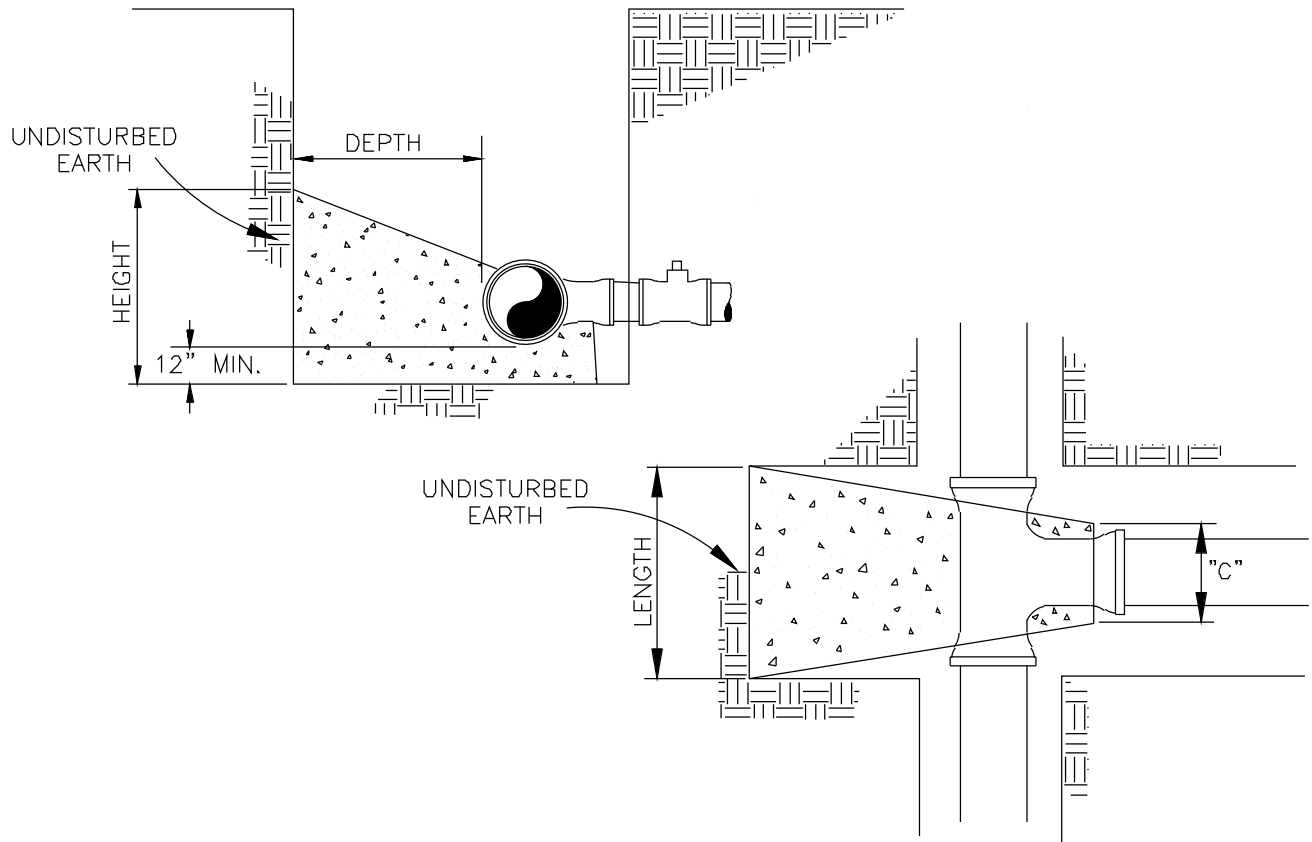


TABLE FOR CONCRETE BLOCKING
(250 PSI TEST PRESSURE)

MINIMUM DIMENSIONS OF BLOCKING						
SIZE	DEPTH (FT.)	LENGTH (FT.)	"C" (IN.)	HEIGHT (FT.)	VOLUME (C.Y.)	THRUST (LB.)
6"	1.0	2.5	12	1.5	0.10	7,070
8"	1.7	3.25	14	2.0	0.27	12,565
10"	2.0	4.0	18	2.5	0.50	19,635
12"	2.5	4.5	20	3.25	0.91	28,275
16"	3.0	5.0	26	5.0	1.77	50,265
20"	4.0	7.0	32	5.75	3.69	78,540
24"	6.0	9.0	40	6.5	7.94	113,100

NOTES:

1. SOIL BEARING STRENGTH OF 2000 PSI IS ASSUMED IN THE CALCULATIONS ABOVE. ENGINEER SHALL VERIFY.
2. COVER GLANDS AND BOLTS WITH POLYETHYLENE BEFORE PLACING CONCRETE.
3. ALLOW CONCRETE TO SET UP A MINIMUM OF 6 HOURS BEFORE PLACING BACKFILL.
4. CONCRETE SHALL BE 3000 PSI, CLASS A.
5. ALL IRON FITTINGS SHALL BE BLOCKED AND SUPPORTED AS SHOWN ABOVE.

CONCRETE BLOCKING—FOR TEES AND PLUGS

<p>CITY OF CANTON, GEORGIA</p>	<p>CONCRETE BLOCKING DETAIL</p>	DATE:	SEPT. '13	<p>STANDARD NO. W714</p>
		APPROVED:		
		CONSTRUCTION STANDARD		

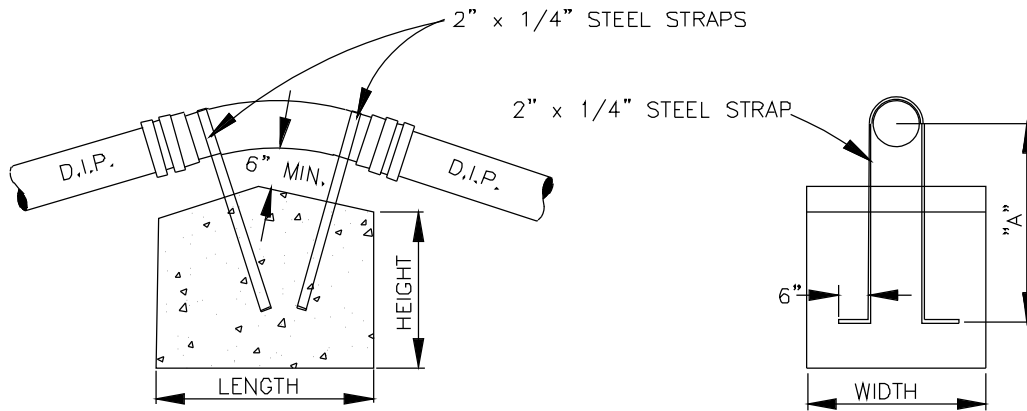


TABLE FOR CONCRETE BLOCKING
(250 PSI TEST PRESSURE)

FITTING	SIZE	MINIMUM DIMENSIONS OF BLOCKING					"A" (IN.)	LENGTH OF STRAP (IN.)
		HEIGHT (FT.)	LENGTH (FT.)	WIDTH (FT.)	VOLUME (C.Y.)			
11 1/4" BEND	6"	2.0	2.0	2.5	0.37	24	69.5	
11 1/4" BEND	8"	3.0	2.2	2.5	0.61	24	72.5	
11 1/4" BEND	10"	3.0	3.0	3.0	1.00	26	80.0	
11 1/4" BEND	12"	3.0	4.0	3.0	1.33	30	91.0	
11 1/4" BEND	16"	3.0	5.0	4.5	2.50	30	97.0	
11 1/4" BEND	20"	3.3	6.0	5.0	3.67	36	115.0	
11 1/4" BEND	24"	4.0	6.5	5.5	5.30	36	122.0	
22 1/2" BEND	6"	2.5	3.0	2.5	0.69	24	69.5	
22 1/2" BEND	8"	3.1	3.5	3.0	1.21	24	72.5	
22 1/2" BEND	10"	3.2	4.0	4.0	1.90	26	80.0	
22 1/2" BEND	12"	3.5	5.0	4.5	2.92	30	91.0	
22 1/2" BEND	16"	4.7	5.5	5.0	4.79	36	109.0	
22 1/2" BEND	20"	6.0	6.0	5.7	7.60	45	133.0	
22 1/2" BEND	24"	8.0	5.7	6.5	10.98	60	170.0	

NOTES:

1. COVER GLANDS AND BOLTS WITH POLYETHYLENE BEFORE PLACING CONCRETE.
2. ALLOW CONCRETE TO SET UP A MINIMUM OF 6 HOURS BEFORE PLACING BACKFILL.
3. CONCRETE SHALL BE 3000 PSI, CLASS A.
4. ALL IRON FITTINGS SHALL BE BLOCKED AND SUPPORTED AS SHOWN ABOVE.

CONCRETE BLOCKING—VERTICAL BENDS—UPWARD THRUST

CITY OF
CANTON, GEORGIA

CONCRETE
BLOCKING DETAIL

CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

STANDARD
NO.

W715

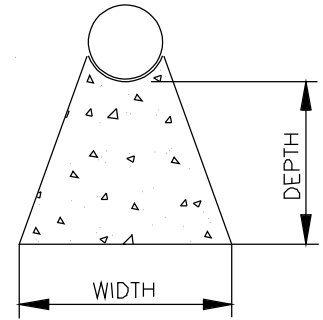
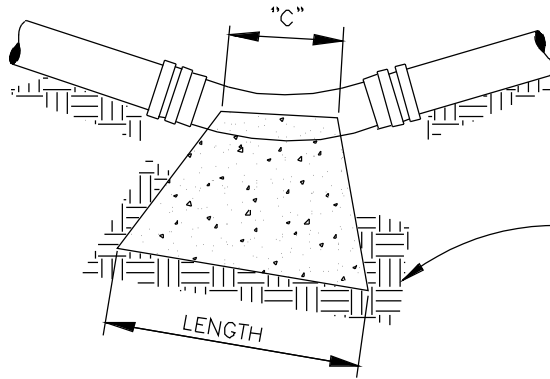


TABLE FOR CONCRETE BLOCKING
(250 PSI TEST PRESSURE)

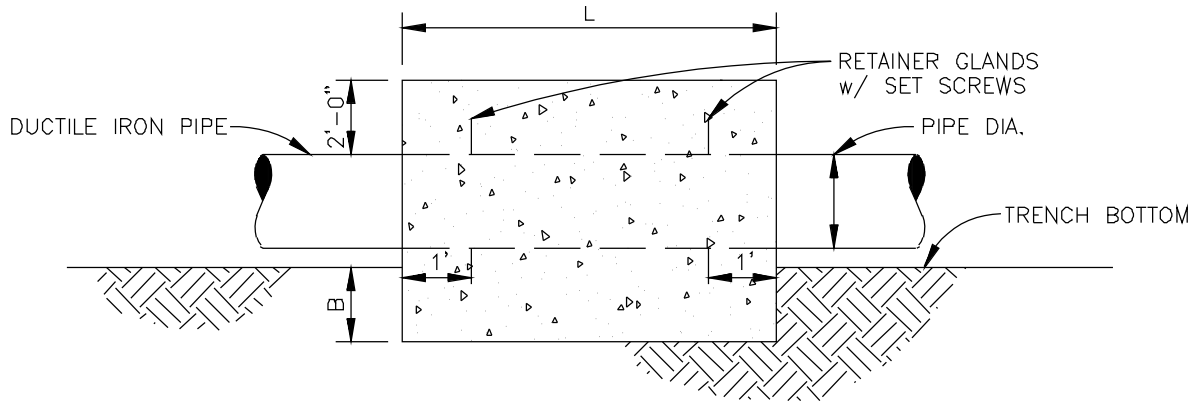
MINIMUM DIMENSIONS OF BLOCKING								
FITTING	SIZE	DEPTH (FT.)	LENGTH (FT.)	"C" (IN.)	WIDTH (FT.)	VOLUME (C.Y.)	THRUST (LB.)	
11 1/4" BEND	6"	1.0	2.0	6	1.0	0.04	1,385	
11 1/4" BEND	8"	1.0	2.0	7	1.0	0.05	2,465	
11 1/4" BEND	10"	1.0	2.0	9	1.0	0.07	3,850	
11 1/4" BEND	12"	1.0	2.5	11	1.5	0.12	5,550	
11 1/4" BEND	16"	2.0	2.5	12	2.1	0.26	9,860	
11 1/4" BEND	20"	2.0	3.5	15	2.5	0.48	15,406	
11 1/4" BEND	24"	2.0	4.0	18	3.0	0.70	22,185	
22 1/2" BEND	6"	1.0	2.0	6	1.0	0.04	2,760	
22 1/2" BEND	8"	1.0	2.0	7	1.5	0.06	4,905	
22 1/2" BEND	10"	1.0	2.0	9	2.0	0.10	7,665	
22 1/2" BEND	12"	1.0	3.0	11	2.0	0.16	11,040	
22 1/2" BEND	16"	2.0	3.5	12	3.0	0.45	19,625	
22 1/2" BEND	20"	2.0	4.0	15	4.0	0.74	30,665	
22 1/2" BEND	24"	3.0	5.0	18	4.5	1.47	44,160	
45° BEND	6"	1.0	2.0	6	1.5	0.06	5,415	
45° BEND	8"	1.0	2.5	7	2.0	0.10	9,625	
45° BEND	10"	2.0	3.5	9	2.5	0.31	15,040	
45° BEND	12"	2.0	3.5	11	3.0	0.41	21,655	
45° BEND	16"	3.0	5.0	12	4.0	1.45	38,495	
45° BEND	20"	4.0	6.0	15	5.0	2.05	60,145	
45° BEND	24"	4.0	7.5	18	6.5	3.35	91,610	
90° BEND	6"	1.0	2.5	12	2.0	0.13	10,005	
90° BEND	8"	2.0	3.0	14	3.0	0.38	17,785	
90° BEND	10"	2.5	4.5	18	3.0	0.74	27,785	
90° BEND	12"	3.0	5.0	20	4.0	1.24	40,000	
90° BEND	16"	4.0	6.5	26	5.5	2.91	71,125	
90° BEND	20"	4.0	8.0	32	7.0	4.68	111,135	
90° BEND	24"	5.0	10.0	40	8.0	8.50	160,035	

NOTES:

1. SOIL BEARING STRENGTH OF 2000 PSI IS ASSUMED IN THE CALCULATIONS ABOVE. ENGINEER SHALL VERIFY.
2. COVER GLANDS AND BOLTS WITH POLYETHYLENE BEFORE PLACING CONCRETE.
3. ALLOW CONCRETE TO SET UP A MINIMUM OF 6 HOURS BEFORE PLACING BACKFILL.
4. CONCRETE SHALL BE 3000 PSI, CLASS A.
5. ALL IRON FITTINGS SHALL BE BLOCKED AND SUPPORTED AS SHOWN ABOVE.

CONCRETE BLOCKING—VERTICAL BENDS—DOWNWARD THRUST

CITY OF CANTON, GEORGIA	CONCRETE BLOCKING DETAIL	DATE:	SEPT. '13	STANDARD NO. W716
		APPROVED:		
		CONSTRUCTION STANDARD		



PROFILE VIEW

PIPE DIA.	L	B
6"	4'	1'
8"	4'	1'
10"	4'	1'
12"	4'	1'
16"	4'	2'

NOTE:
 CONCRETE COLLAR WIDTH EQUALS THE WIDTH OF THE TRENCH PLUS FOUR FEET (TWO FEET ON EACH SIDE OF THE TRENCH).

CONCRETE THRUST COLLAR

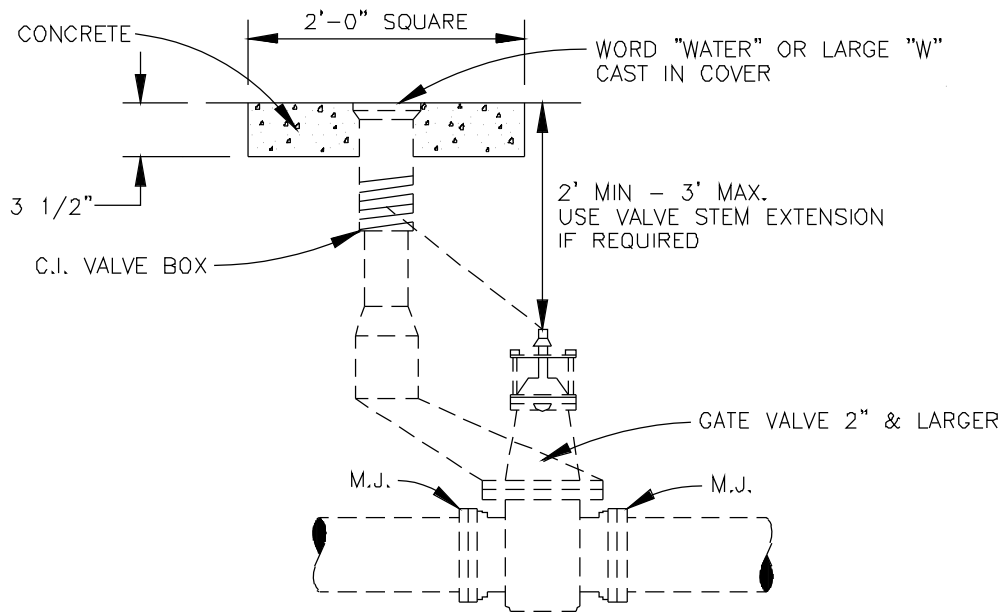
CITY OF
 CANTON, GEORGIA

CONCRETE
 THRUST
 COLLAR
 CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

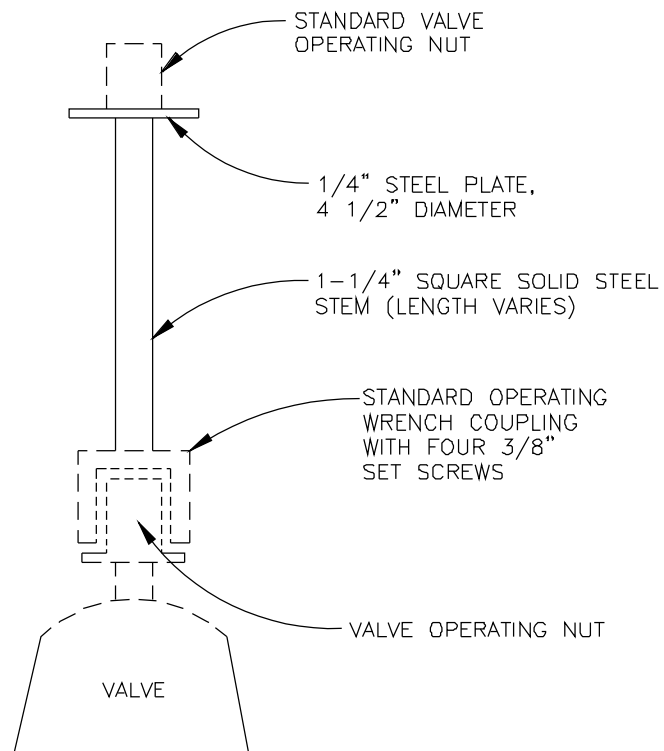
STANDARD
 NO.
 W717



TYPICAL VALVE INSTALLATION

NOTES:

1. TOP OF EXTENSION SHALL BE NO MORE THAN THREE FEET BELOW FINAL GRADE.
2. CONTRACTOR IS RESPONSIBLE FOR IN FIELD MEASUREMENT OF DEPTH OF PIPE COVER TO DETERMINE NEED FOR VALVE STEM EXTENSION.



VALVE STEM EXTENSION DETAIL

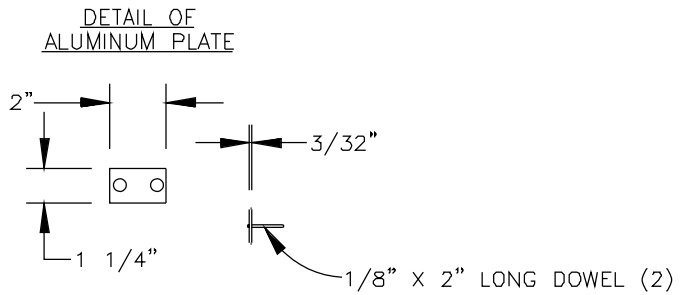
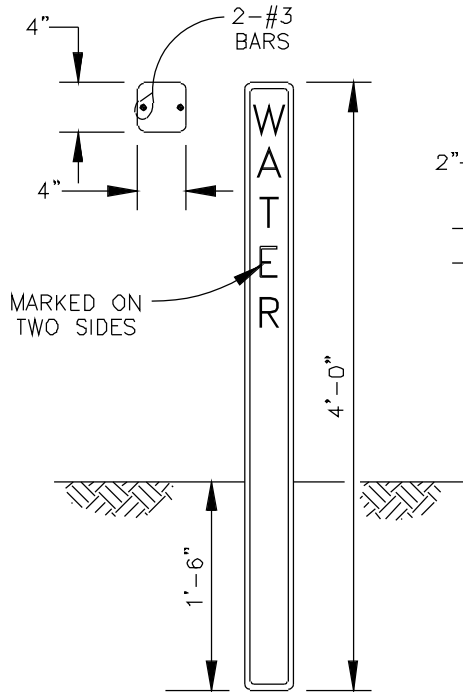
CITY OF
CANTON, GEORGIA

TYPICAL
VALVE
INSTALLATION
CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

STANDARD
NO.
W718



NOTES:

1. ALUMINUM PLATE CAST IN SIDE OF MARKER POST.
2. DISTANCE (NEAREST FOOT) FROM ϕ OF POST TO ϕ OF VALVE BOX AND DIRECTION ARROW TO BE STAMPED INTO PLATE WITH STEEL DIE AFTER MARKER IS SET.

DETAIL OF CONCRETE VALVE MARKER

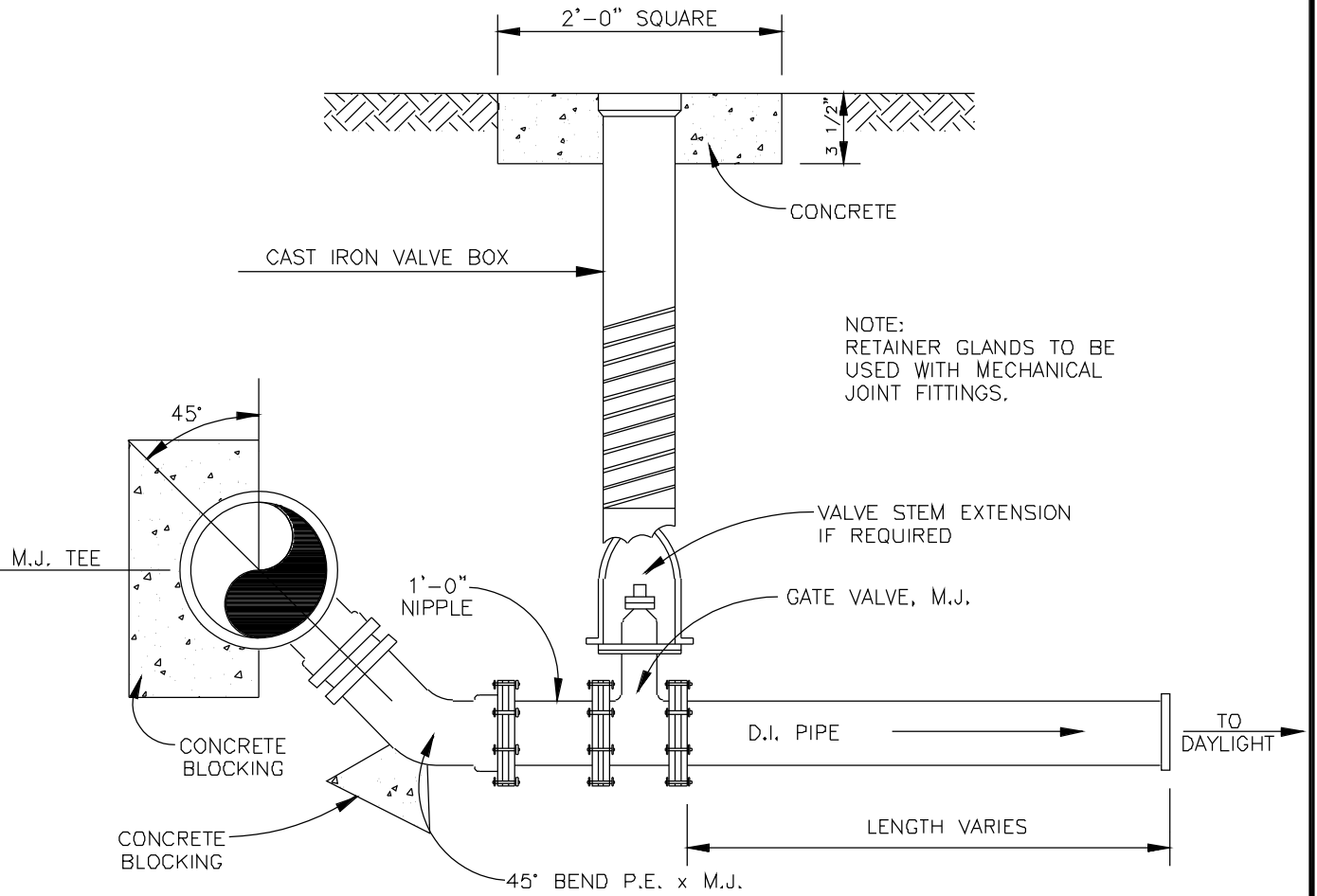
CITY OF
CANTON, GEORGIA

CONCRETE
VALVE
MARKER
CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

STANDARD
NO.
W719



BLOW-OFF ASSEMBLY

NOT TO SCALE

CITY OF
CANTON, GEORGIA

BLOW-OFF
ASSEMBLY

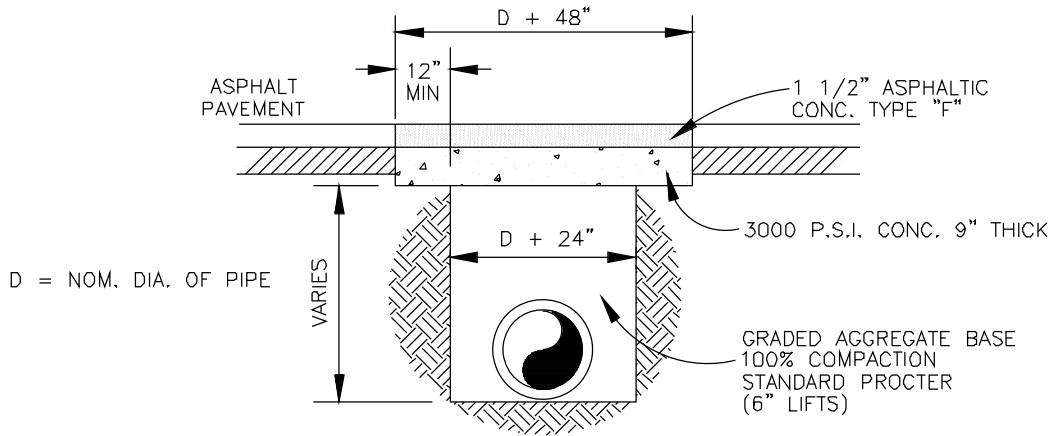
CONSTRUCTION STANDARD

DATE: SEPT. '13

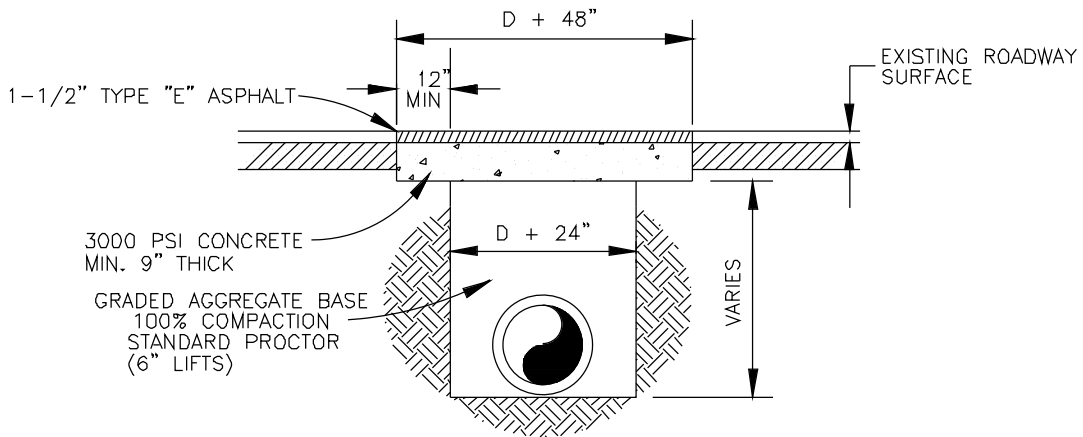
APPROVED:

STANDARD
NO.

W720



STATE OR STATE-AID ROADS

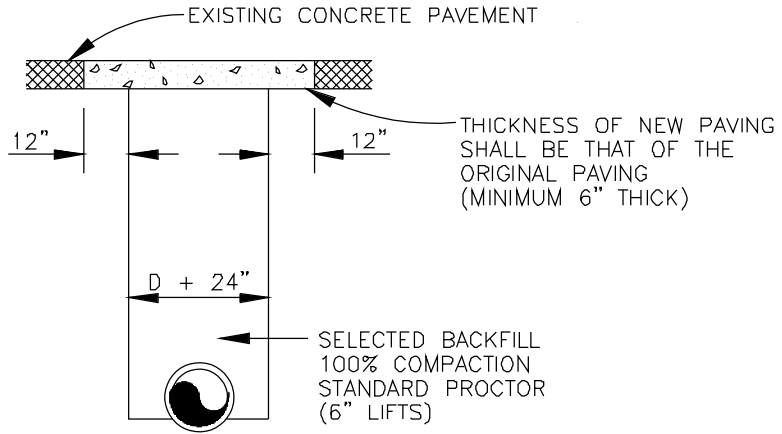


NOTES:

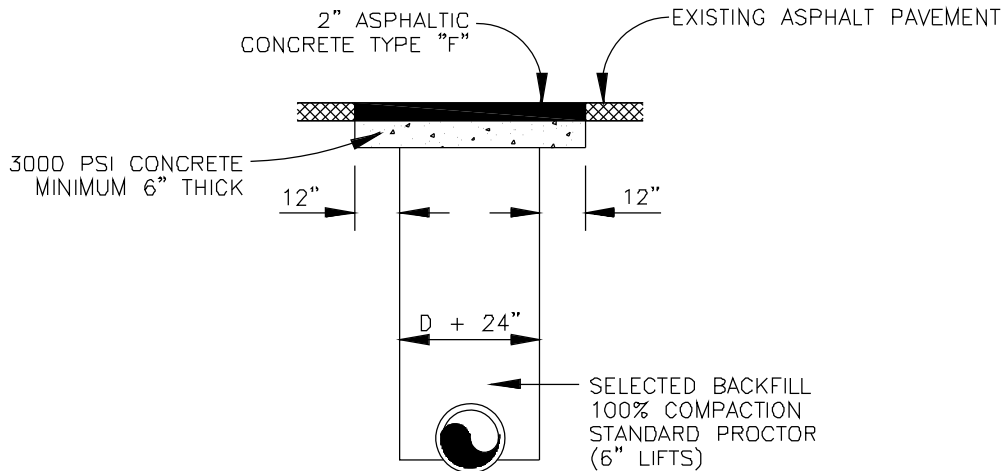
1. PERMISSION MUST BE OBTAINED FROM THE CITY OF CANTON TO OPEN CUT EXISTING ROADS.
2. ROADWAYS WILL GENERALLY BE BORED OR TUNNELED FROM DITCH LINE TO DITCH LINE.
3. IF CONCRETE PAVEMENT, REPLACE WITH ORIGINAL THICKNESS (MINIMUM 8"), FLUSH WITH EXISTING PAVEMENT.

CITY ROADS

<p>CITY OF CANTON, GEORGIA</p>	<p>TYPICAL STREET CUT REPAIR</p> <p>CONSTRUCTION STANDARD</p>	DATE: SEPT. '13	<p>STANDARD NO. W721</p>
		APPROVED:	



CONCRETE DRIVEWAY



ASPHALT DRIVEWAY

NOTES:

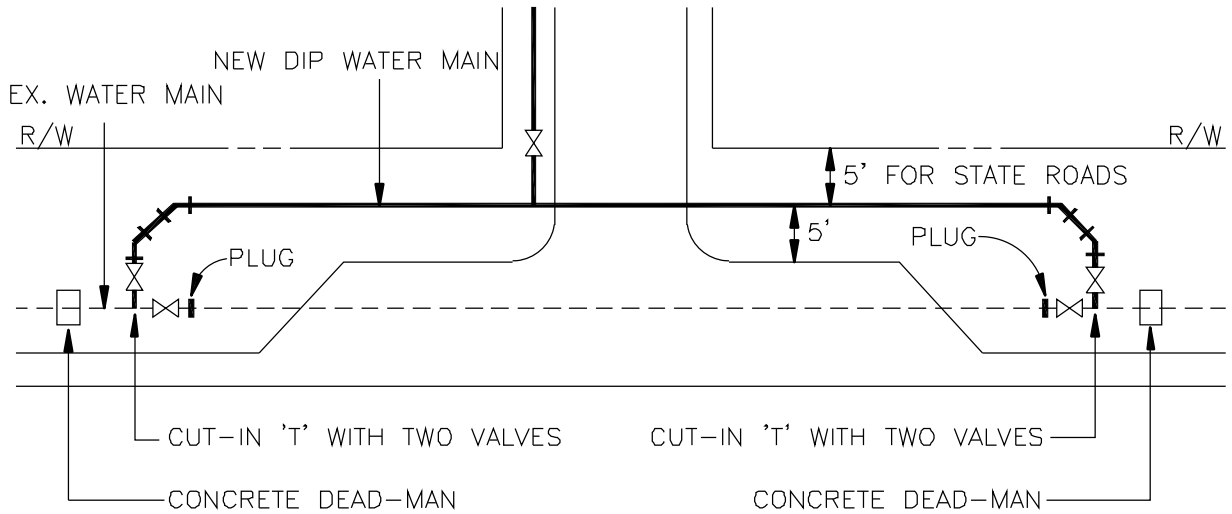
1. BACKFILL TO BE COMPACTED AS DIRECTED IN SPECIFICATIONS.
2. D = NOMINAL PIPE DIAMETER

CITY OF
CANTON, GEORGIA

**TYPICAL
DRIVEWAY
CUT REPAIR**
CONSTRUCTION STANDARD

DATE:	SEPT. '13
APPROVED:	

STANDARD
NO.
W722

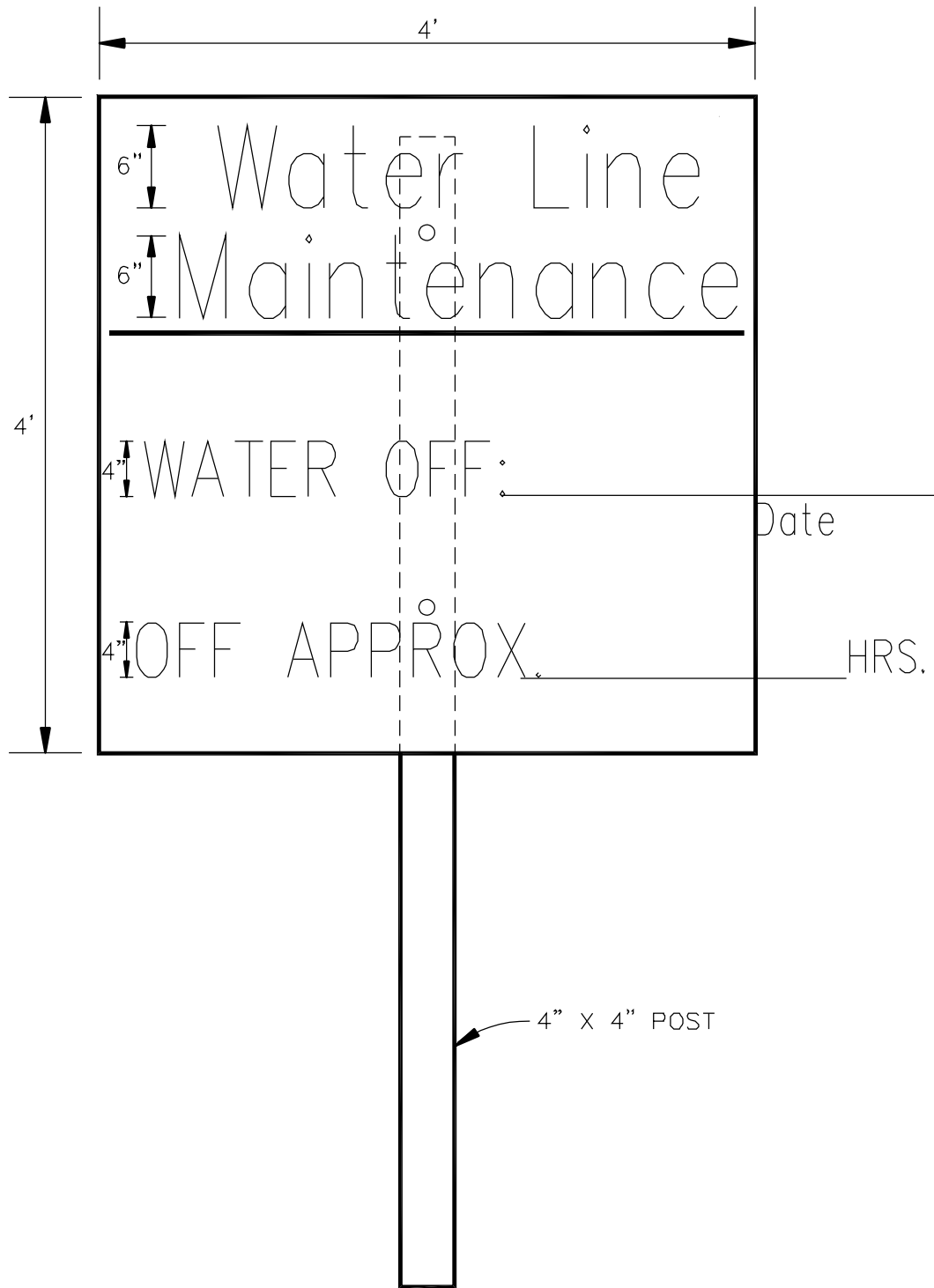


24 HR. NOTICE TO ALL CUSTOMERS

- - - - = EX. MAIN
 ——— = PROP. MAIN
 X = VALVE

- NOTES:
1. THE LOCATION OF THE NEW DIP WATER MAIN IS DEPENDENT ON WHETHER THE ROAD IS A STATE ROUTE OR A CITY ROAD.
 2. SOME VALVES MAY BE ELIMINATED DEPENDING UPON FLOWS.

CITY OF CANTON, GEORGIA	TURN LANE RELOCATION DETAIL CONSTRUCTION STANDARD	DATE: SEPT. '13	STANDARD NO. W723
		APPROVED:	



CITY OF
CANTON, GEORGIA

WATER LINE
MAINTENANCE
SIGN
CONSTRUCTION STANDARD

DATE:	SEPT. '13
APPROVED:	

STANDARD
NO.
W724

**COLOR CODES
FOR
UTILITY LOCATING**

- RED** ELECTRIC
- YELLOW** GAS-OIL
- ORANGE** TELEPHONE/CATV
- BLUE** WATER
- GREEN** SEWER

**IF YOU DIG GEORGIA
CALL US FIRST !**

1-800-282-7411

It's The Law !

Utilities Protection Center, Inc.

**THREE WORKING DAYS
BEFORE
YOU DIG GEORGIA
CALL**

**Utilities Protection
Center, Inc.**



1-800-282-7411

It's The Law !

CITY OF
CANTON, GEORGIA

**"CALL BEFORE
YOU DIG"
DETAIL**
CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

STANDARD
NO.
W725

DETAIL W726 – PAGE 1 OF 3

CITY OF CANTON

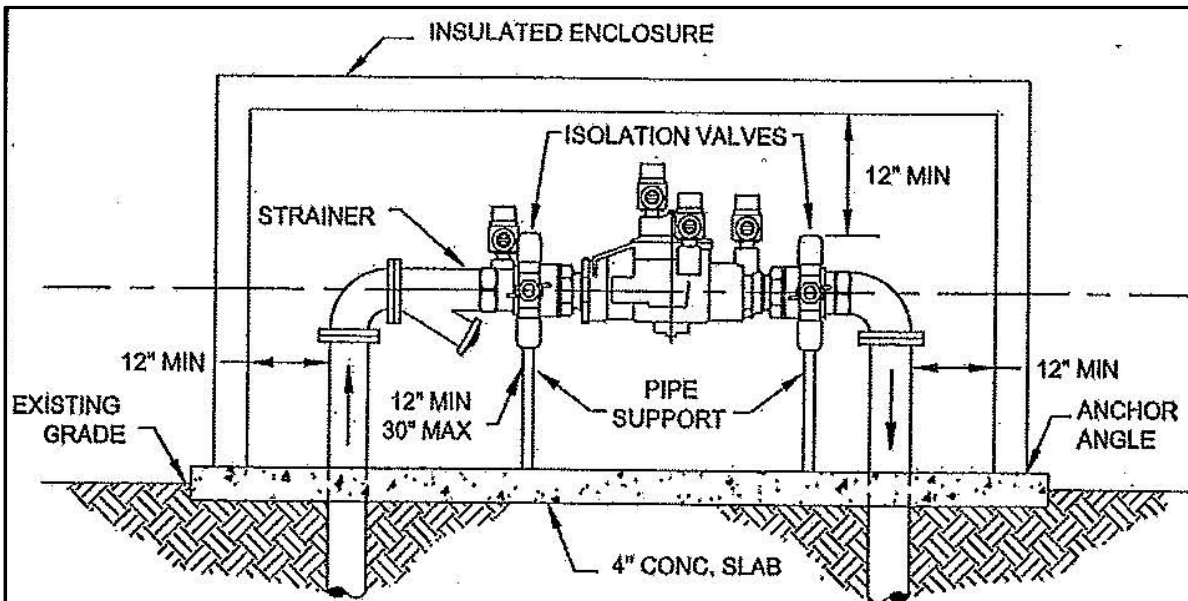
POTABLE WATER SYSTEM CONSTRUCTION

GENERAL NOTES

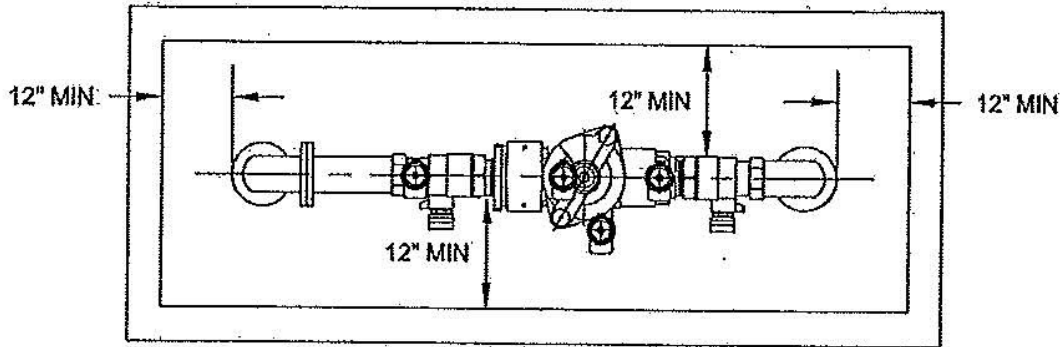
1. All potable water system construction must follow the current UDC standards.
2. All water mains shall be ductile iron pipe, except where the City Engineer approves otherwise. Ductile iron pipe shall be thickness Class 50, designed in accordance with AWWA C150 and manufactured in accordance with AWWA C151. All ductile iron pipe shall have an outside bituminous coating per AWWA C151 and an inside standard cement lining with bituminous seal coat per AWWA C104. All references to AWWA standards shall mean latest revisions published.
1. All line valves shall be marked by concrete valve markers and by a “V” cut into the curbing, with the point of the “V” aimed at the valve.
2. A concrete valve marker is to be placed directly above the plug on all dead-end water mains.
3. Information regarding underground utilities on these plans is not guaranteed as to accuracy or completeness. Prior to beginning work, the Contractor shall request a field location through the utilities protection center and any utility owners thought to have facilities in the area. The Contractor shall promptly compare these field-marked locations with the project plans and then notify the Designer of any anticipated problems or need for contract changes. It is the Contractor's responsibility to excavate or cause the utility owner to excavate for the purpose of determining exact elevations or locations at utility crossings and other critical locations well in advance of the work under this contract. Damage to existing utilities resulting from the Contractor's negligence shall be repaired at the Contractor's expense.
4. All service lines under pavement shall be encased in Schedule 40 PVC casing with a minimum diameter of 2 inches, extending a minimum of 3 feet beyond the pavement and/or sidewalk on each side of the road. Two-inch services shall be encased in 4” PVC casings. All water service laterals 2 inches and smaller shall be Type K copper tubing with compression fittings as specified in the Water Standards.
5. Concrete thrust blocking shall be placed at all bends, tees, valves, reducers and all other fittings. Prior to blocking, fittings shall be wrapped with polyethylene film.
6. The Developer/Contractor shall meet with the City Engineer at least 24 hours before beginning construction. The Contractor shall notify the City Engineer or his designated representative by 8:30 a.m. of each workday when work is scheduled unless authorized otherwise.
7. Water mains shall be installed so that the top of the pipe is a minimum of 4 feet below final grade, 4 feet below the edge of the pavement, or 4 feet below the ditch paralleling the road, whichever is deepest.
8. Contractor shall place a vertical piece of two 2-inch PVC pipe on top of the water main at all tees, bends, fittings, elevation transitions, and every 50 feet along the length of the main for the purpose of collecting elevation data for record drawings. The top of the 2-inch PVC shall be capped or taped to prevent dirt and other debris from clogging the 2-inch pipe before the depth can be measured.
9. All fittings and valves are to be mechanical joint with retainer glands unless otherwise approved. Retainer glands shall be EBAA Mega-Lug or approved equal.

10. Type 4 bedding is required at all restrained pipe installations.
11. Contractor must show proof of insurance in the amount specified by the City of Canton.
12. All backflow preventer devices are to be tested by a by a person who is certified to understand the design and intended operation of backflow prevention devices. Tester must provide credentials of certification to the City of Canton Engineering Department for approval by the City Engineer. A list of approved testers is available from the City of Canton Engineering Department. See also Section 10.03.00 of this UDC.
13. All backflow prevention devices and double check valve assemblies shall be approved in accordance with the applicable standards of the American Society of Sanitary Engineering, the American Water Works Association, and the University of Southern California Foundation of Cross Connection Control and Hydraulic Research. Final approval of acceptable devices will rest with the City Engineer. A list of approved devices is available from the City of Canton Engineering Department. See also Section 10.03.00 of this UDC.
14. All meters shall be installed, tested, repaired and removed by the City in accordance with the Canton Industrial Pretreatment Program Manual.
15. A horizontal separation of at least 10 feet is required between existing or proposed water mains and existing or proposed sanitary sewer lines.
16. A vertical separation of at least 18 inches is required where a water main crosses an existing or proposed sanitary sewer line. A full joint of water main is required to be centered at the sanitary sewer line crossing.
17. No portion of this project is being constructed on or near an existing landfill, abandoned landfill, or any other site used for waste disposal.
18. Potable water and sanitary sewer structures are not allowed within a dam. Utility pipelines and structures must be a minimum of 30 feet outside the toe of slope of the dam.
19. Hydrant flow tests are valid for one year and only apply to a single phase of this project.
20. Existing city roads shall not be open cut unless permission is granted by the City of Canton.
21. Plan approval is valid for 12 months without beginning construction. Plans shall be subject to beginning the process of review and approval if 12 months expire prior to the start of construction.
22. Record drawings of water and sanitary sewer facilities are required to be submitted to the City of Engineering Department upon completion of the project.
23. If construction plans are stamped for a full project, and then the Developer revises the plans to build the development in phases, no construction or field inspection will be allowed to begin until the revised, phased plans are re-approved and stamped for the phased construction.
24. If an existing water main is to be paved over by a new entrance or accel/decel lanes, the water main is to be abandoned and replaced with a new DIP water main located 5 feet or more behind the new back of curb.
25. New water mains installed along city, county or state roads, within 80 feet of steel gas main crossings, or in any wetland areas must be encased in polyethylene tubing (Polywrap 8 mil).
26. All streams and protective buffers shall be crossed in accordance with current city and state regulations.

27. Fire hydrants shall be designed to be placed within 200 feet of new entrances, in all cul-de-sacs, and at every proposed intersection.
28. New fire hydrants shall be Mueller Super Centurion 250, M&H AWWA C502 Style 129 Traffic Model, or US Pipe Metropolitan 250 Model 94. All hydrants shall be rated for 250 psi working pressure and shall be equipped with a 5¼ inch valve opening, two 2½ inch hose nozzles and one 4½ inch pumper nozzle.
29. Inside of steel casings, pipe joints shall be restrained using Fast-Grip gaskets or approved equal.
30. All new water mains must pass leakage testing and disinfection testing witnessed by a City of Canton Engineering Department representative before a project is released and accepted.
31. All water meter vaults and DDCV assembly vaults are to be located off of the road right-of-way in a permanent easement dedicated to the City of Canton. The easement shall be dimensioned to be 10 feet off each corner of the vault. Smaller domestic use meters adjacent to a DDCV assembly can be located within the 10-foot spacing between the vault and the edge of the easement.
32. Inside of developments with curb and gutter, the Contractor shall cut a "V" into the top of the curb for all water valves (line valves and hydrant valves) with the point of the "V" aimed at the valve. The Contractor shall also cut a "W" in the top of the curb above all water service laterals.
33. The report stating the results of the hydrant flow test and the 24-hour pressure recording chart shall be shown within the plans for this project.
34. Horizontal locations will be referenced to Georgia State Plane Coordinates System (NAD 83 West Zone Feet).
35. Vertical locations will be referenced to North American Vertical Datum (NAVD 88).
36. Orthometric locations will be referenced to GEOID 99/03.
37. No landscaping or structures will be allowed in City easements.
38. Contractor shall provide meter stubs.



PROFILE

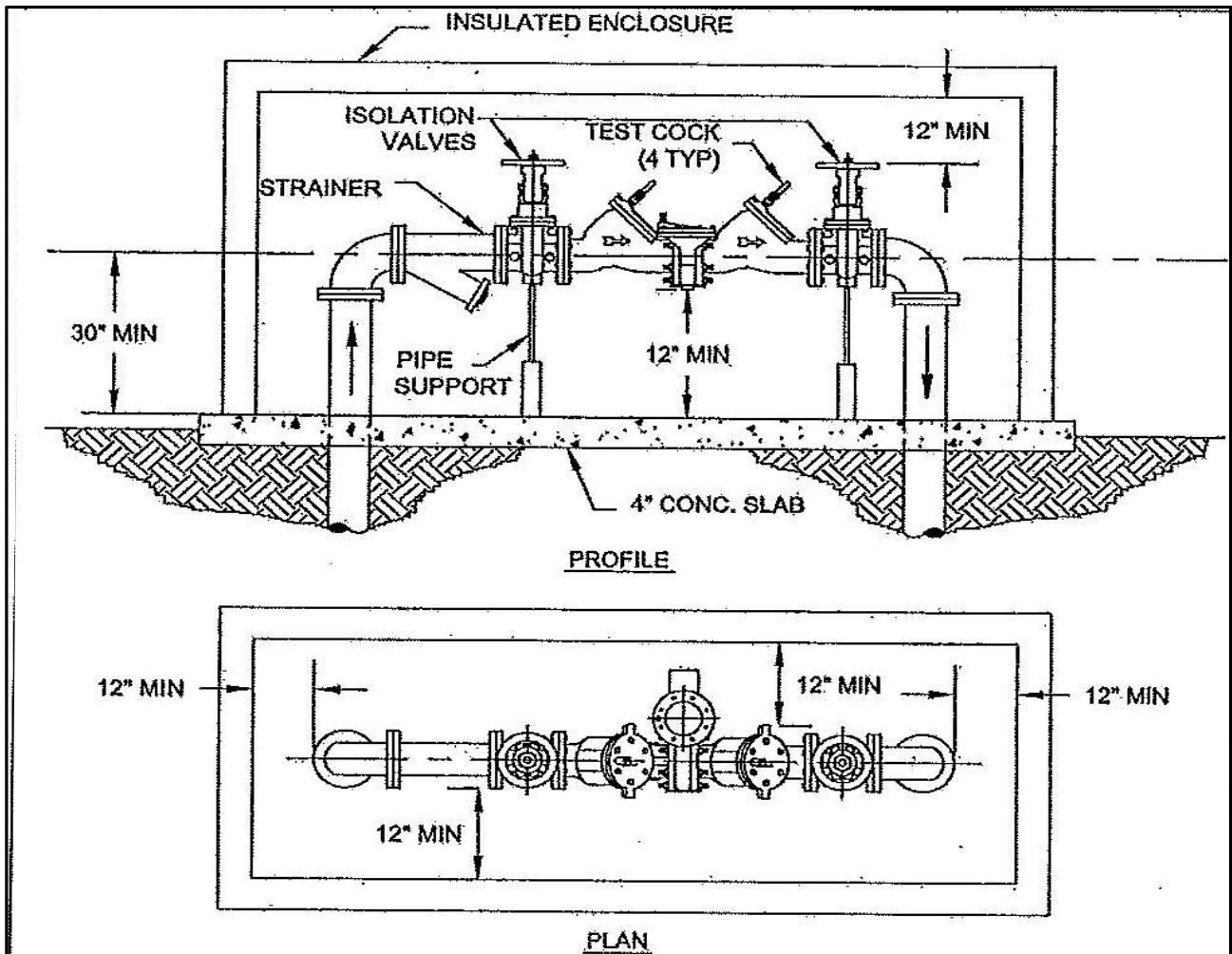


PLAN

NOTES

1. DRAWING NOT TO SCALE.
2. CONTACT PROGRAM ADMINISTRATOR FOR A LIST OF APPROVED BACKFLOW PREVENTION DEVICES.
3. APPROVED ENCLOSURES: HOT BOX, HYDROCOWL, WATTS. INSTALL INSULATED ENCLOSURE PER MANUFACTURER'S RECOMMENDATIONS. CONTACT PROGRAM ADMINISTRATOR FOR APPROVAL OF OTHER ENCLOSURES.
4. INSULATED ENCLOSURES MUST HAVE A DRAIN PORT APPROPRIATELY SIZED TO ALLOW DISCHARGE OF WATER IN THE EVENT THE REDUCED PRESSURE ZONE RELIEF VENT OPENS.
5. FITTINGS AND PIPE SHALL BE SCHEDULE 40 GALVANIZED STEEL.
6. VALVES SHALL BE BRONZE, FULL PORT, BALL VALVES WITH TFE SEATS AND STAINLESS STEEL OPERATOR HANDLES.
7. PIPE SUPPORTS REQUIRED ON PIPING 1-1/2" IN DIAMETER AND LARGER.
8. PERMITS, PLAN APPROVALS, AND INSPECTIONS MUST BE OBTAINED AND SCHEDULED PRIOR TO WORK THROUGH THE PROGRAM ADMINISTRATOR.

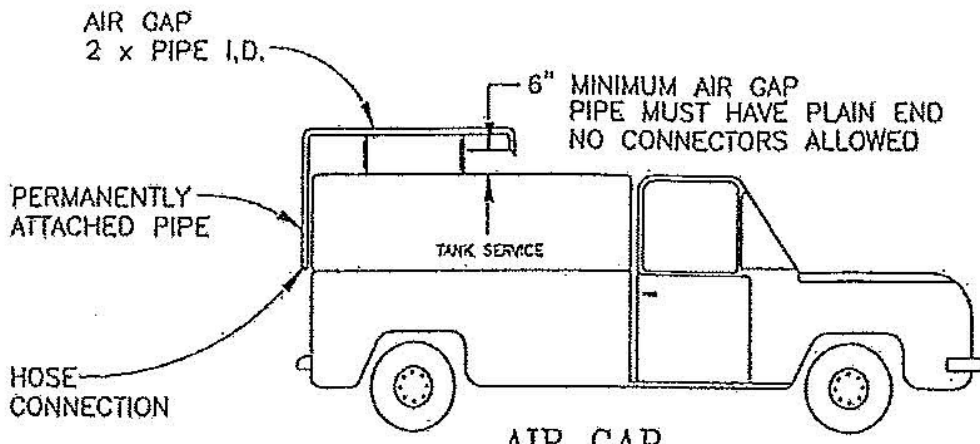
<p>CITY OF CANTON CROSS-CONNECTION CONTROL PROGRAM</p>	<p>DRAWING 1</p>
<p>REDUCED-PRESSURE ZONE BACKFLOW ASSEMBLY (RPZ) SIZE 3/4" - 2 1/2" ABOVE GROUND TYPICAL INSTALLATION</p>	<p>MAY 2000</p>



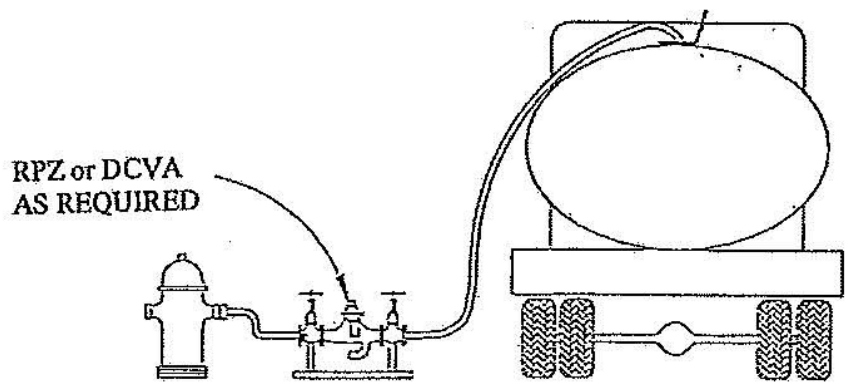
NOTES

1. DRAWING NOT TO SCALE.
2. CONTACT THE PROGRAM ADMINISTRATOR FOR A LIST OF APPROVED BACKFLOW PREVENTION DEVICES.
3. APPROVED ENCLOSURES: HOT BOX, HYDROCOWL, WATTS. INSTALL INSULATED ENCLOSURE PER MANUFACTURER'S RECOMMENDATIONS. HEATERS ARE RECOMMENDED TO PREVENT FREEZING. CONTACT PROGRAM ADMINISTRATOR FOR APPROVAL OF OTHER ENCLOSURES.
4. INSULATED ENCLOSURES MUST HAVE A DRAIN PORT APPROPRIATELY SIZED TO ALLOW DISCHARGE OF WATER IN THE EVENT THE REDUCED PRESSURE ZONE RELIEF VENT OPENS.
5. FITTINGS AND PIPE INSIDE THE ENCLOSURE SHALL BE FLANGED DUCTILE IRON PIPE. BURIED PIPE SHALL BE MECHANICAL JOINT DUCTILE IRON PIPE.
6. ISOLATION VALVES SHALL BE RESILIENT WEDGE, NON-RISING STEM, GATE VALVES. WHERE REQUIRED BY FIRE CODE OR OTHER REQUIREMENTS, RESILIENT WEDGE OS&Y VALVES SHALL BE USED.
7. PIPE SUPPORTS REQUIRED.
8. PERMITS, PLAN APPROVALS, AND INSPECTIONS MUST BE OBTAINED AND SCHEDULED PRIOR TO WORK THROUGH THE PROGRAM ADMINISTRATOR.

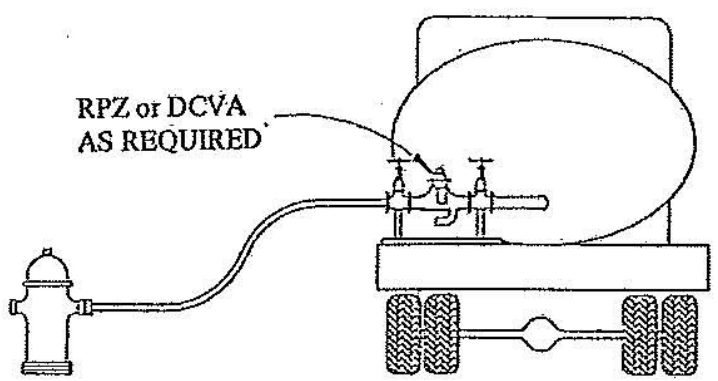
CITY OF CANTON CROSS-CONNECTION CONTROL PROGRAM	DRAWING 2
REDUCED-PRESSURE ZONE BACKFLOW ASSEMBLY (RPZ) SIZE 3" - 10" ABOVE GROUND TYPICAL INSTALLATION	MAY 2000



AIR GAP
PREFERRED METHOD



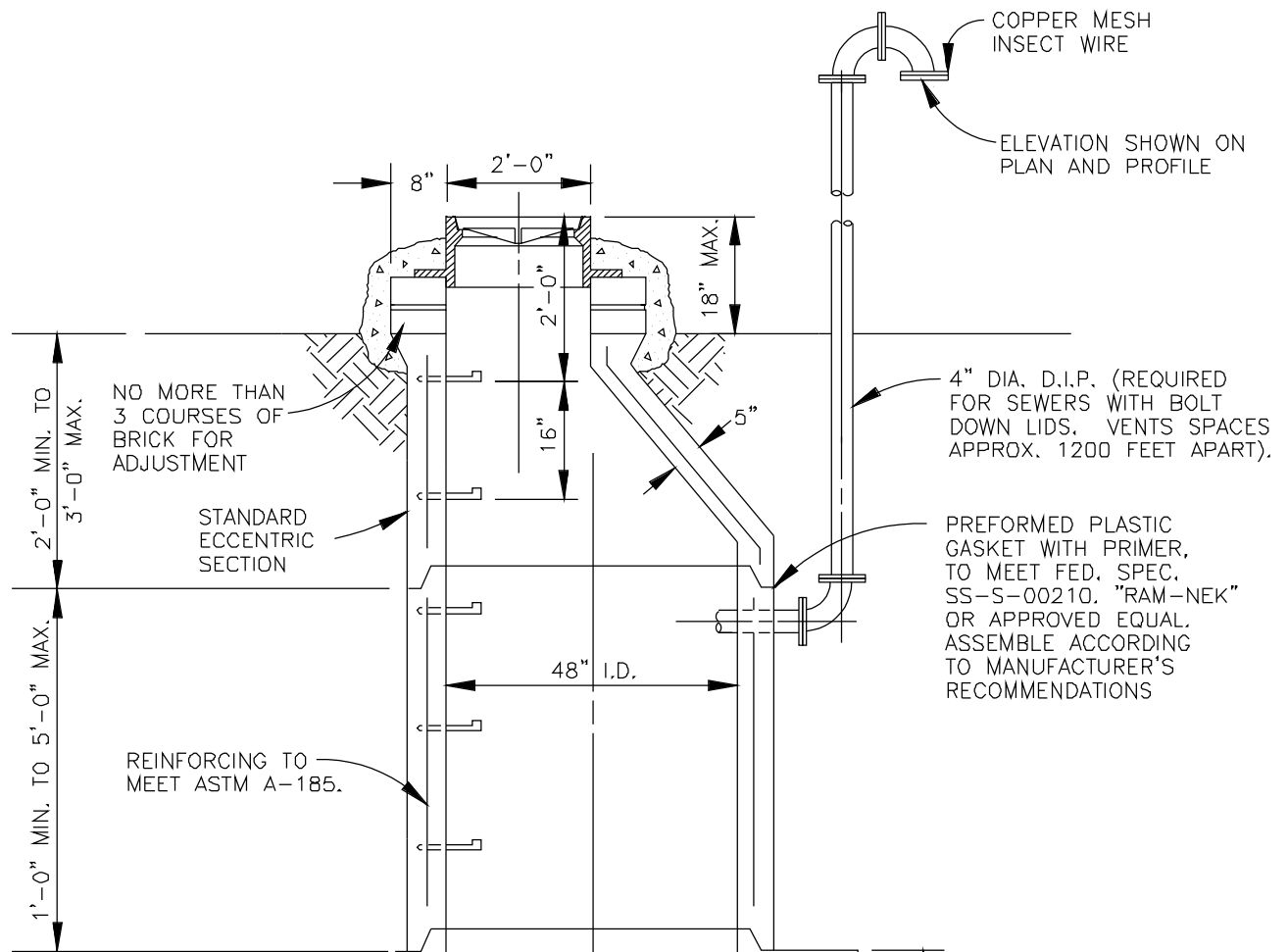
PORTABLE DEVICE



MOUNTED DEVICE

WATER BEING INTRODUCED FROM THE CITY WATER SYSTEM INTO A VESSEL, TANK, TANKER TRUCK OR MISCELLANEOUS OTHER CONTAINERS SHALL BE THROUGH ONE OF THE APPROVED METHODS INDICATED ABOVE.

<p>CITY OF CANTON CROSS-CONNECTION CONTROL PROGRAM</p>	<p>DRAWING 5</p>
<p>FILLING TANKS</p>	<p>MAY 2000</p>



NOTES:

1. MANHOLE RIMS ARE TO BE FLUSH WITH PAVEMENT IN PAVED AREAS.
2. MANHOLE RIMS ON OUTFALL LINES ARE TO BE 18" ABOVE GROUND.
3. MANHOLE RIMS IN FUTURE STREETS ARE TO BE 48" ABOVE GROUND.
4. SEE DETAIL S704 REGARDING SAFETY PLATFORMS.
5. SEE DETAIL S730 REGARDING LAST MANHOLE ON SEWER LINE BEFORE A WET WELL.

8" FOOTING REQUIRED ON DEPTHS OF 16 FEET AND OVER WITH NO.4 BARS AT 12" O.C.E.W. ON A 6" GRANULAR FOUNDATION.

CITY OF
CANTON, GEORGIA

STANDARD
VENTED MANHOLE
(FOR PIPE LARGER THAN 18")
CONSTRUCTION STANDARD

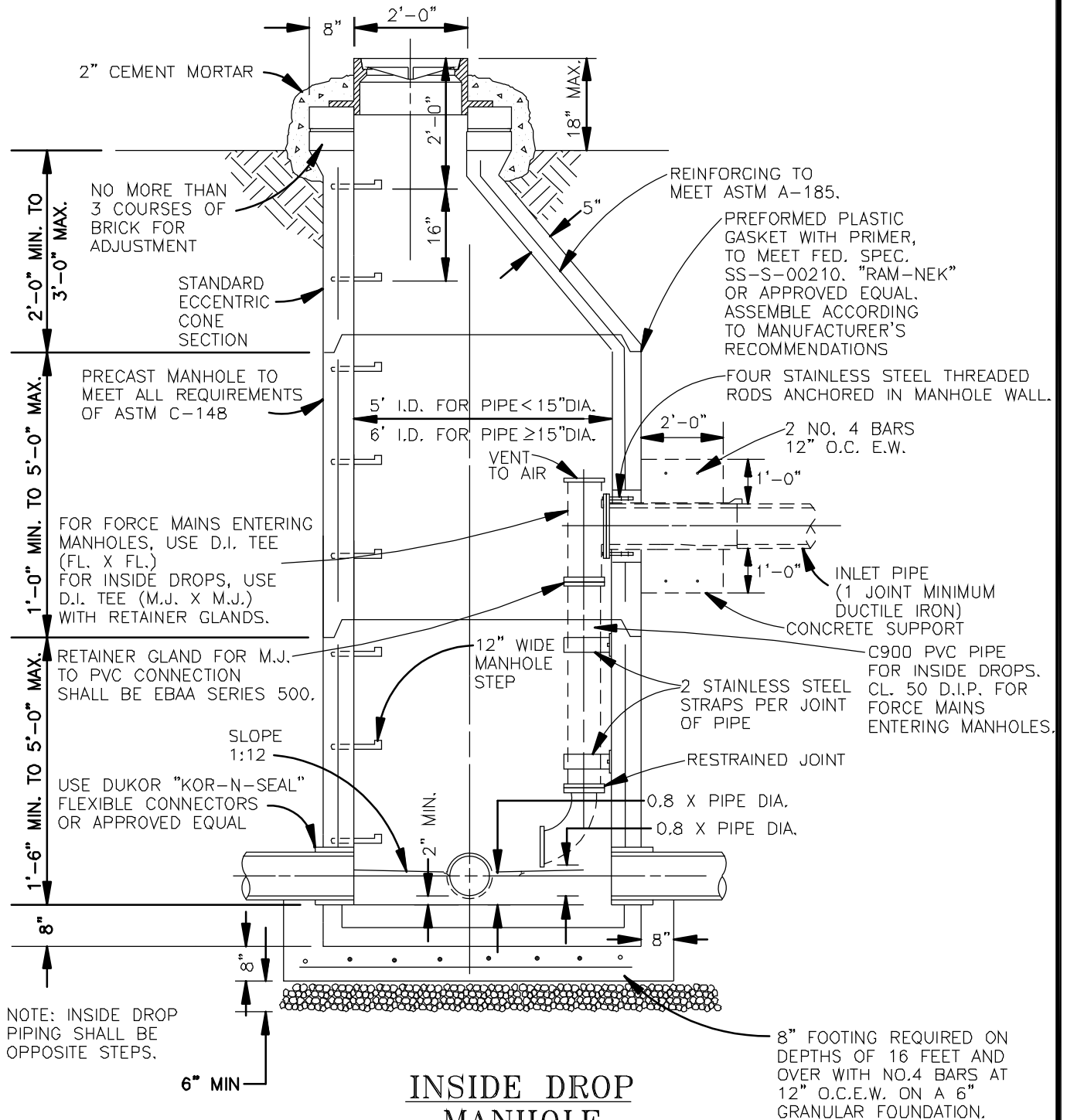
DATE: SEPT. '13

APPROVED:

STANDARD NO.
S702

NOTES:

1. MANHOLE RIMS ARE TO BE FLUSH WITH PAVEMENT IN PAVED AREAS.
2. MANHOLE RIMS ON OUTFALL LINES ARE TO BE 18" ABOVE GROUND.
3. MANHOLE RIMS IN FUTURE STREETS ARE TO BE 48" ABOVE GROUND.
4. SEE DETAIL S704 REGARDING SAFETY PLATFORMS.
5. SEE DETAIL S730 REGARDING LAST MANHOLE ON SEWER LINE BEFORE A WET WELL.



INSIDE DROP MANHOLE

(REQUIRED WHERE DROP IN ELEVATION EXCEEDS 10 FEET.)

CITY OF
CANTON, GEORGIA

INSIDE
DROP
MANHOLE
CONSTRUCTION STANDARD

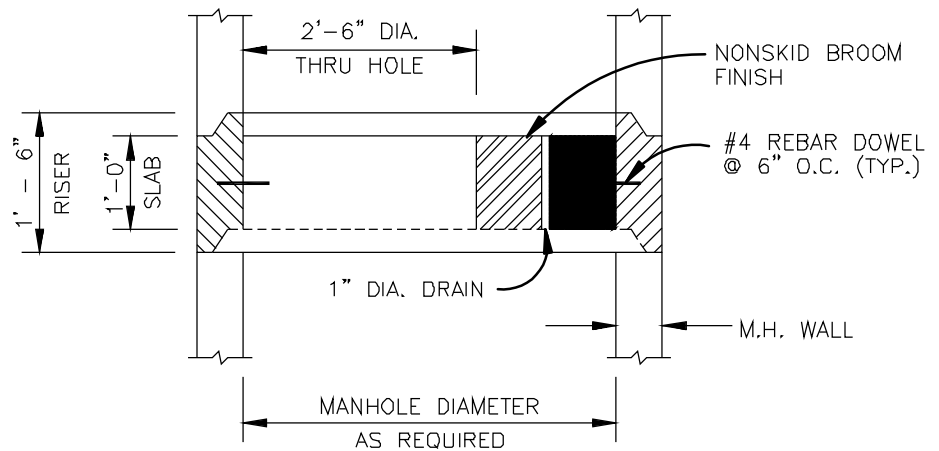
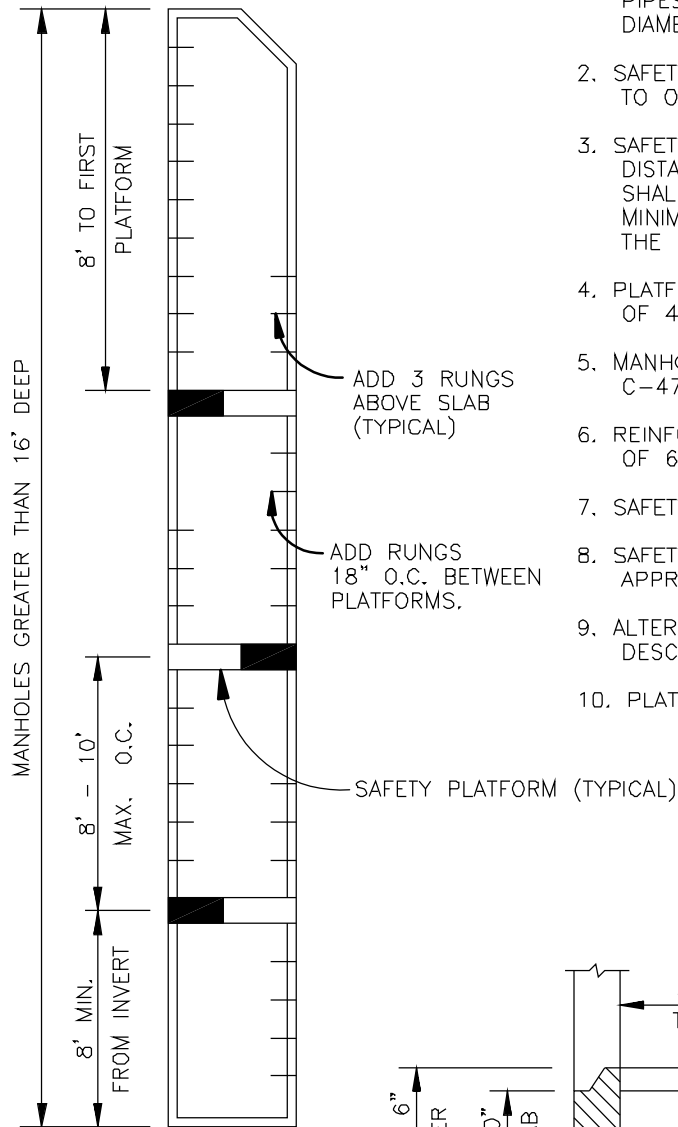
DATE: SEPT. '13

APPROVED:

STANDARD NO.
S703

NOTES:

1. ALL MANHOLES FOR 24" DIAMETER AND LARGER SEWER PIPE SHALL BE 5'-0" IN DIAMETER. ALL MANHOLES FOR SEWER PIPES LESS THAN 24" IN DIAMETER SHALL BE 4'-0" IN DIAMETER.
2. SAFETY PLATFORMS ARE REQUIRED ON ALL MANHOLES EQUAL TO OR GREATER THAN 16 FEET IN DEPTH.
3. SAFETY PLATFORMS ARE TO BE PLACED AT A MAXIMUM DISTANCE OF 8' - 10' APART. THE FIRST PLATFORM SHALL BE 8' BELOW THE COVER. THERE SHALL BE A MINIMUM OF 8' FROM THE INVERT TO THE BOTTOM OF THE LOWEST PLATFORM.
4. PLATFORMS ARE TO BE DESIGNED TO OBTAIN A STRENGTH OF 4000 PSI IN 28 DAYS.
5. MANHOLE AND PLATFORM SHALL MEET A.S.T.M. SPECS. C-478.
6. REINFORCING STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 60,000 PSI.
7. SAFETY PLATFORMS SHALL BE PLACED BETWEEN RISERS.
8. SAFETY PLATFORMS SHALL BE PRECAST CONCRETE OR APPROVED EQUAL.
9. ALTERNATE OPENINGS IN SAFETY PLATFORMS AS INDIVIDUAL DESCENDS.
10. PLATFORMS SHALL BE CORED FOR PIPES FOR INSIDE DROPS.



MANHOLE PLATFORMS

NOT TO SCALE

CITY OF
CANTON, GEORGIA

SAFETY
PLATFORMS

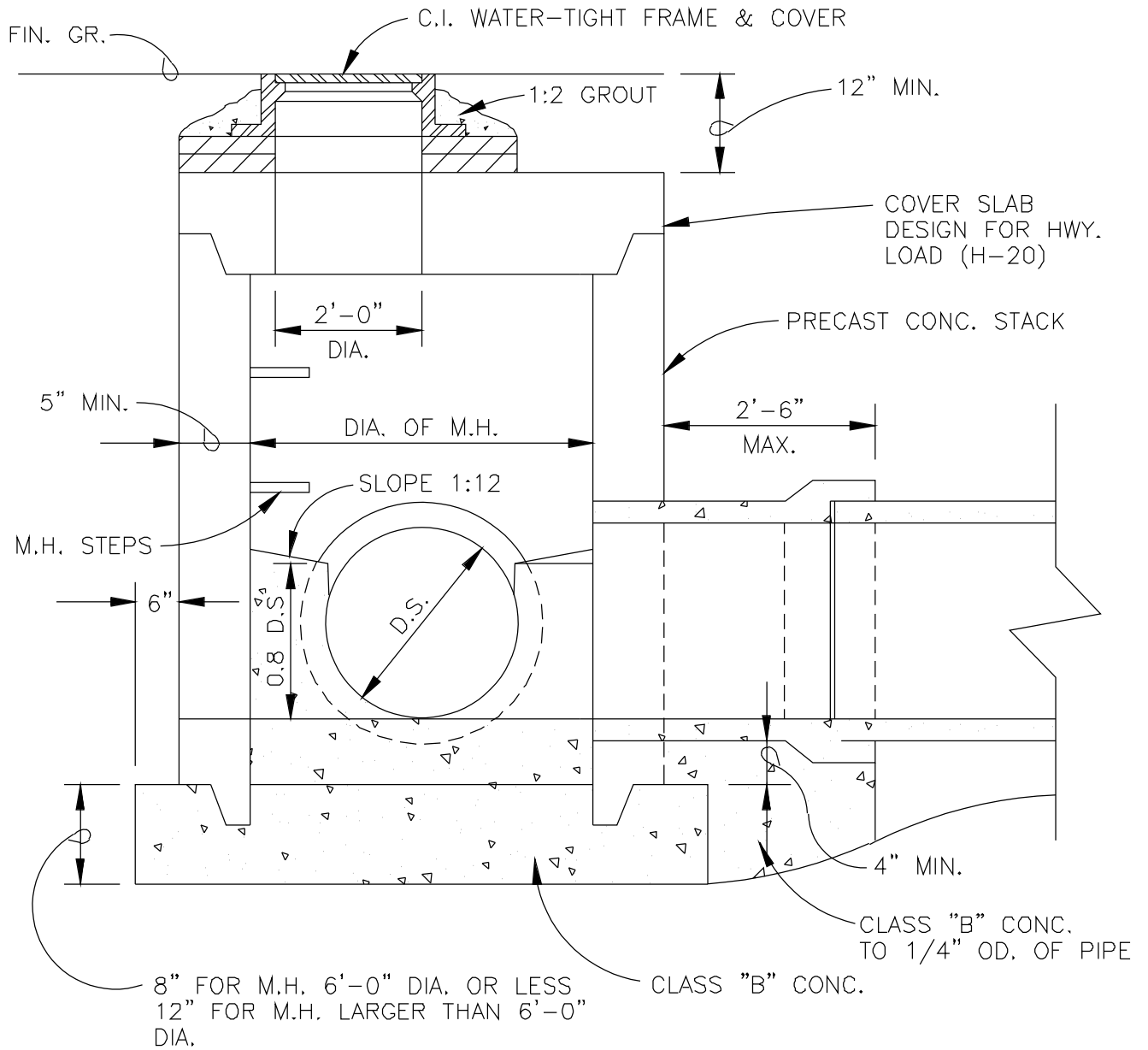
CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

STANDARD
NO.

S704



SHALLOW MANHOLE DETAIL

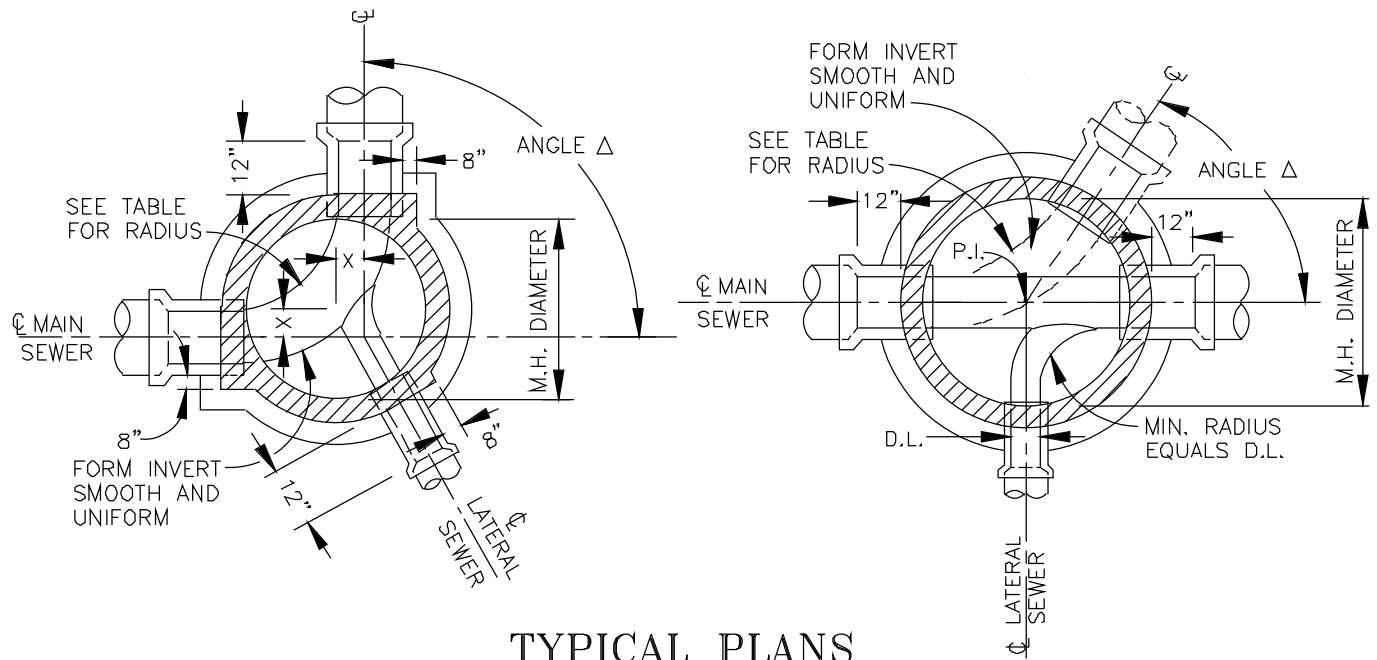
CITY OF
CANTON, GEORGIA

SHALLOW
MANHOLE
DETAIL
CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

STANDARD
NO.
S705



TYPICAL PLANS STANDARD MANHOLE

STANDARD MANHOLE SCHEDULE OF GOVERNING DIMENSIONS				
PIPE SIZE	ANGLE Δ	MANHOLE DIAMETER	"R"	"X"
8" TO 18"	0° TO 90°	4'-0"	2'-0"	0"
21" & 24"	0° TO 60°	4'-0"	2'-0"	6"
21" & 24"	60° TO 70°	5'-0"	2'-0"	6"
21" & 24"	70° TO 80°	5'-0"	2'-0"	7- 1/2"
21" & 24"	80° TO 90°	5'-0"	2'-0"	10- 1/2"
30" & 36"	0° TO 60°	5'-0"	3'-0"	8"
30" & 36"	60° TO 70°	6'-0"	3'-0"	10"
30" & 36"	70° TO 80°	6'-0"	3'-0"	13"
30" & 36"	80° TO 90°	6'-0"	3'-0"	16"
42"	0° TO 35°	6'-0"	3'-0"	3"
42"	35° TO 50°	6'-0"	6'-0"	6"
42"	50° TO 90°	7'-0"	6'-0"	0"
48" & 54"	0° TO 35°	6'-0" & 7'-0"	6'-0"	0"
48" & 54"	35° TO 90°	8'-0"	6'-0"	0"

CITY OF
CANTON, GEORGIA

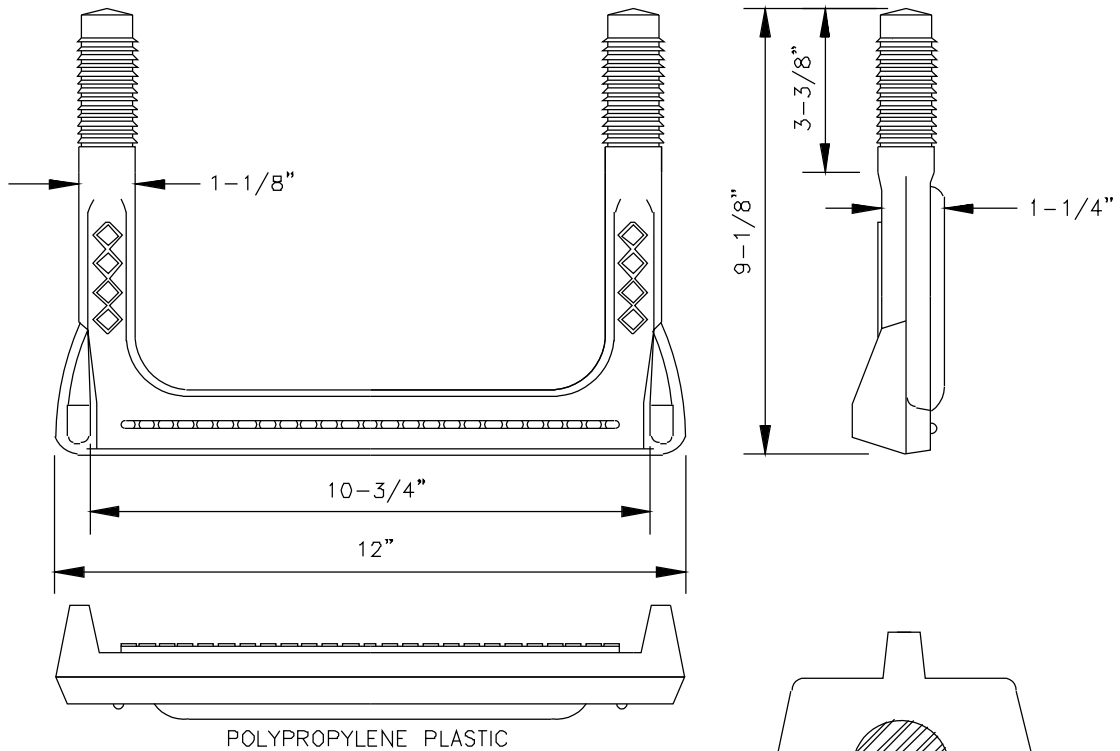
STANDARD
MANHOLE PLANS

CONSTRUCTION STANDARD

DATE: SEPT. '13

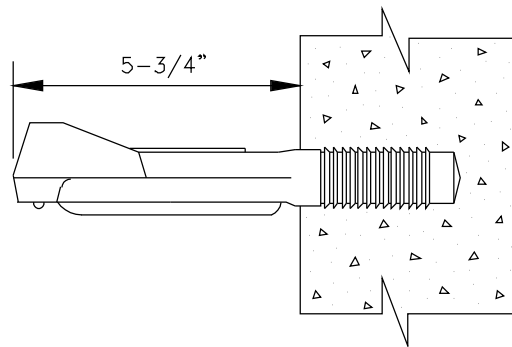
APPROVED:

STANDARD
NO.
S706



1/2" GRADE 60 STEEL REINFORCEMENT

SECTION



MANHOLE STEP
DETAIL

CITY OF
CANTON, GEORGIA

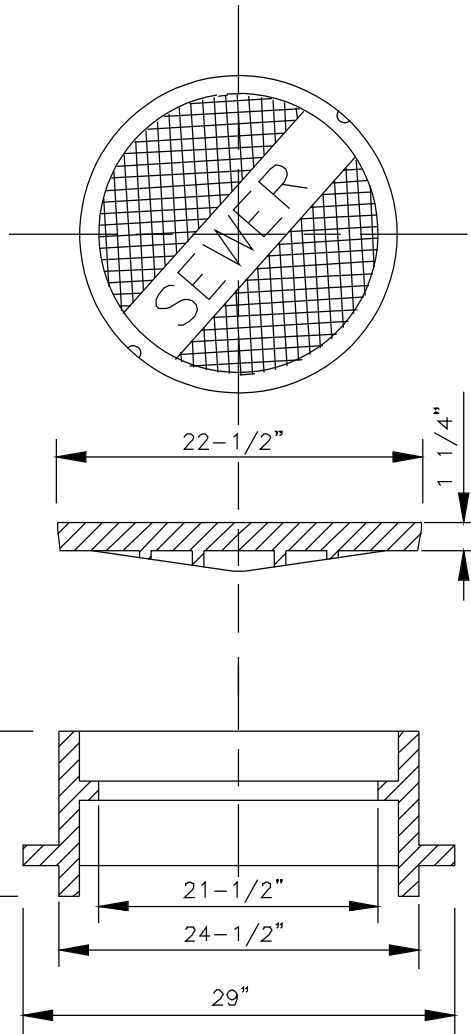
MANHOLE
STEP

CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

STANDARD
NO.
S707



MANHOLE FRAME AND COVER

TOTAL WEIGHT: 315 LB.

NOTE: PICK HOLES SHALL NOT PENETRATE THE COVER.

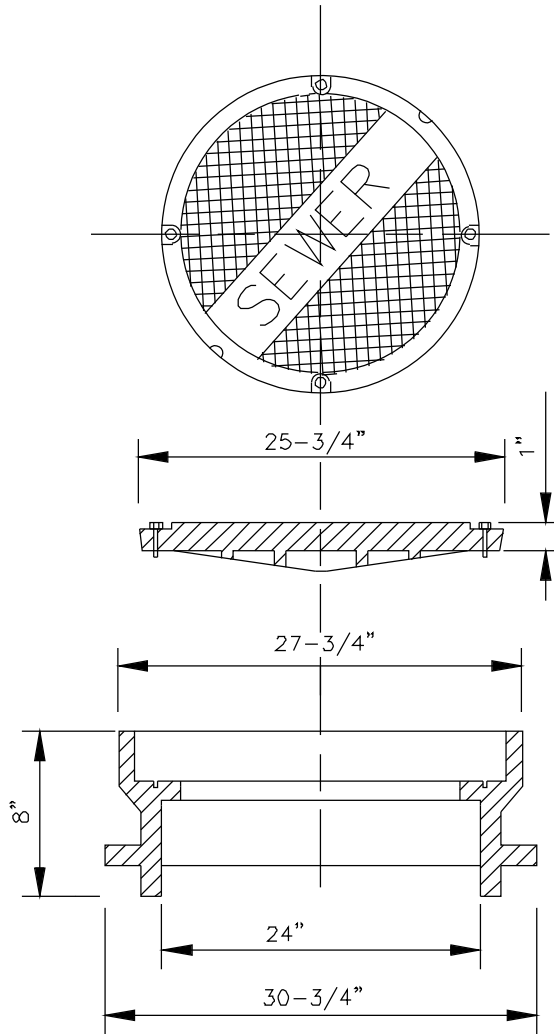
CITY OF
CANTON, GEORGIA

STANDARD
MANHOLE
FRAME & COVER
CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

STANDARD
NO.
S708



WATER-TIGHT MANHOLE FRAME AND COVER

TOTAL WEIGHT: 375 LB. WATER-TIGHT

NOTE: PICK HOLES SHALL NOT PENETRATE THE COVER.

CITY OF
CANTON, GEORGIA

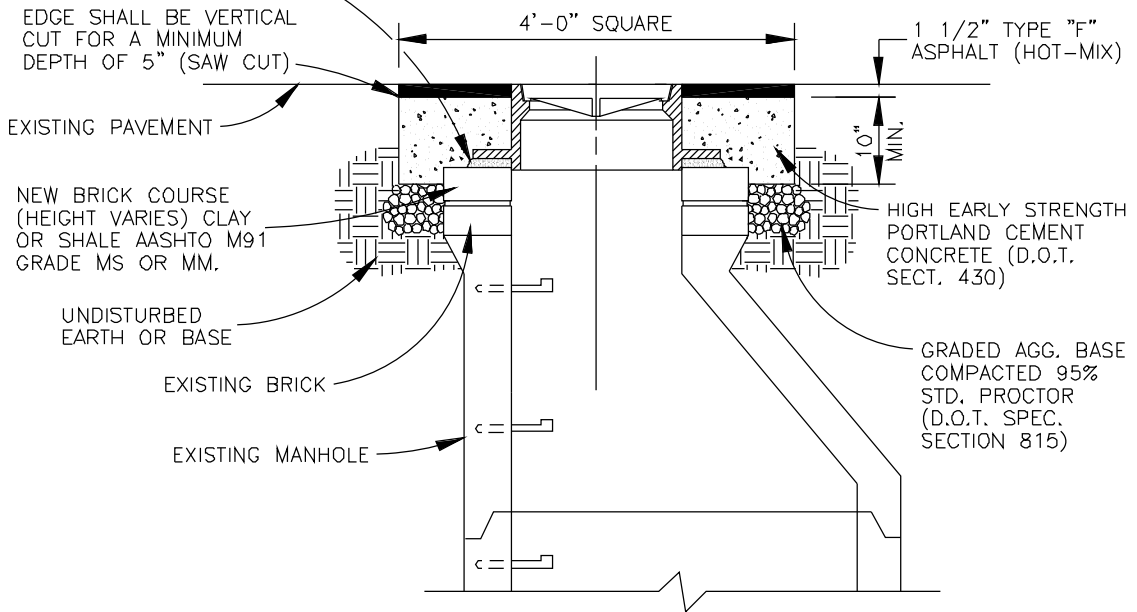
STANDARD
MANHOLE
FRAME & COVER
CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

STANDARD
NO.
S709

PLACE FOUR STEEL SHIMS (4" x 2") EQUALLY SPACED AROUND BOTTOM OF MH FRAME. THICKNESS SHALL BE AS REQUIRED TO MAKE COVER FLUSH WITH PAVEMENT. SURROUND SHIMS WITH CEMENT. WHEN THICKNESS IS LESS THAN 1/2", USE CONCRETE MORTAR INSTEAD. WHEN THICKNESS IS GREATER THAN 2", USE BRICKS. (NOT TO EXCEED 2 COURSES.)



MANHOLE FRAME-GRADE ADJUSTMENT

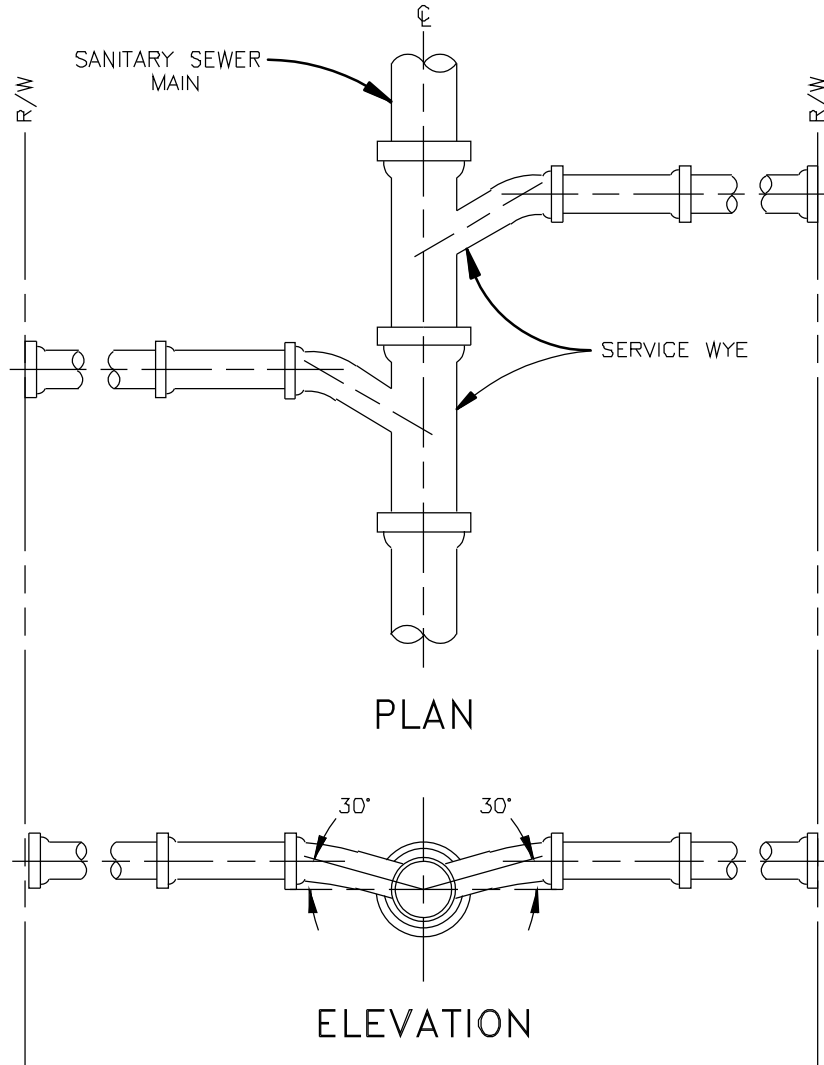
NOTES:

1. PORTLAND CONCRETE FOR COLLAR SHALL BE A MIN. OF 10" THICK AND SHALL EXTEND FROM THE LAST FULL COURSE OF BRICK TO 1 1/2" BELOW THE EXISTING PAVEMENT.
2. THE CONTRACTOR HAS THE OPTION OF USING PORTLAND CONCRETE FOR THE FULL DEPTH (FROM THE ASPHALT TO UNDISTURBED EARTH) OR AS SHOWN ABOVE.
3. THE CONCRETE SHALL BE LEFT WITH A RAKED FINISH TO PROVIDE A ROUGH SURFACE FOR THE ASPHALT TO BOND TO BITUMINOUS TACK AND ASPHALT SHALL BE PLACED PER CURRENT D.O.T. SPECIFICATIONS.
4. STEEL PLATES MAY BE REQUIRED BY THE CITY IN HIGH TRAFFIC AREAS TO PROTECT THE FRESH CONCRETE FOR A MINIMUM OF 40 HOURS. IN THESE HIGH TRAFFIC AREAS BARRICADES, CONES, ETC. WILL NOT BE ALLOWED.
5. BEFORE WORKING IN AN AREA, THE CONTRACTOR SHALL NOTIFY THE CITY.

CITY OF CANTON, GEORGIA	MANHOLE FRAME-GRADE ADJUSTMENT CONSTRUCTION STANDARD	DATE: SEPT. '13	STANDARD NO. S710
		APPROVED:	

NOTE:

1. SEWER LATERAL TO BE LOCATED 10 FEET FROM THE SIDE LOT LINE ON THE DOWNSTREAM SIDE OF THE SANITARY SEWER.
2. MIN. SLOPE OF 1% REQ'D. FOR 6" SERVICE.



SEWER SERVICE
LATERAL

CITY OF
CANTON, GEORGIA

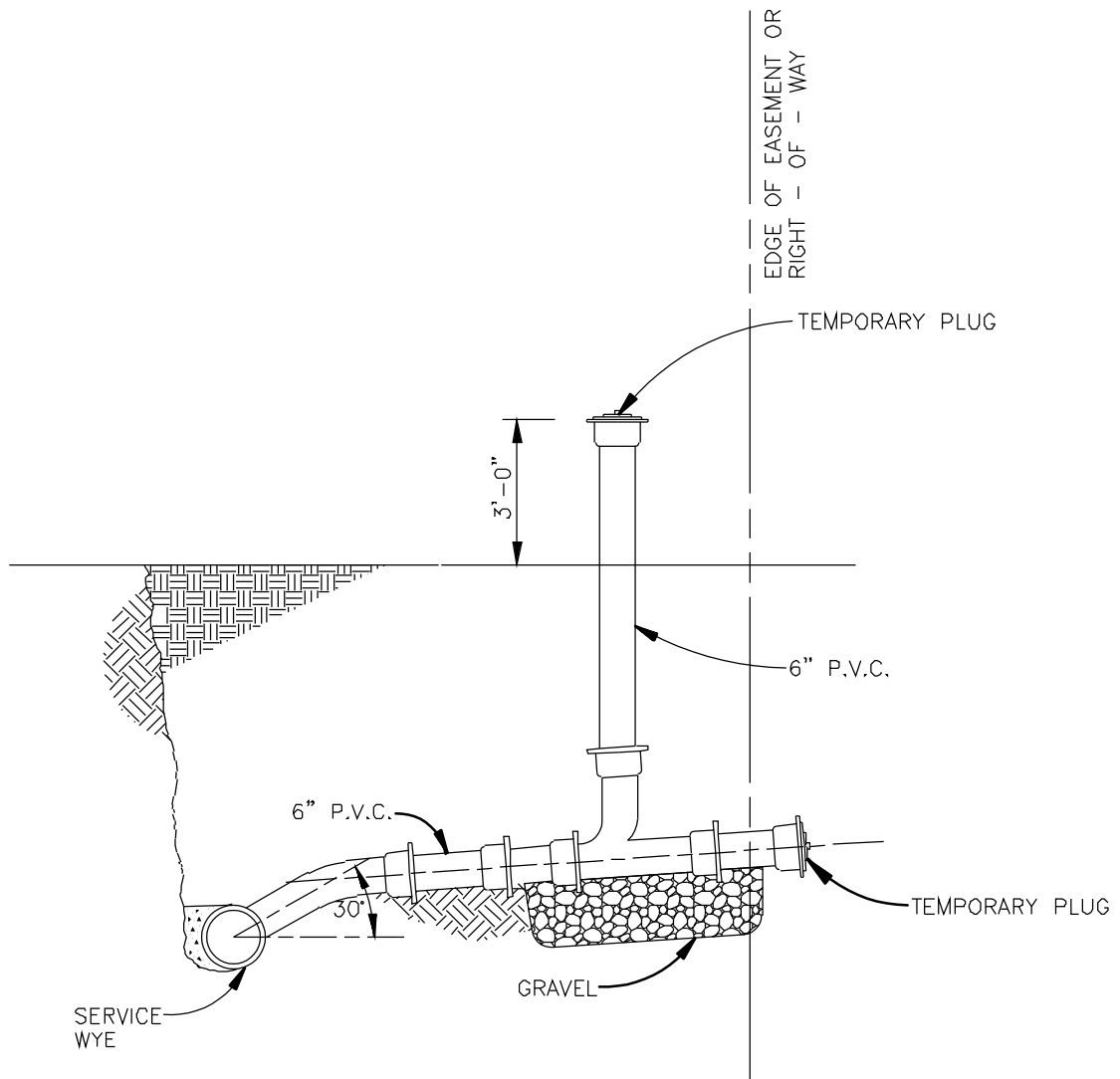
SEWER SERVICE
LATERAL

CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

STANDARD
NO.
S711



**SANITARY
SEWER SERVICE
LOCATION DETAIL**

(BY SEWER CONTRACTOR)

CITY OF
CANTON, GEORGIA

SEWER SERVICE
LOCATION DETAIL

CONSTRUCTION STANDARD

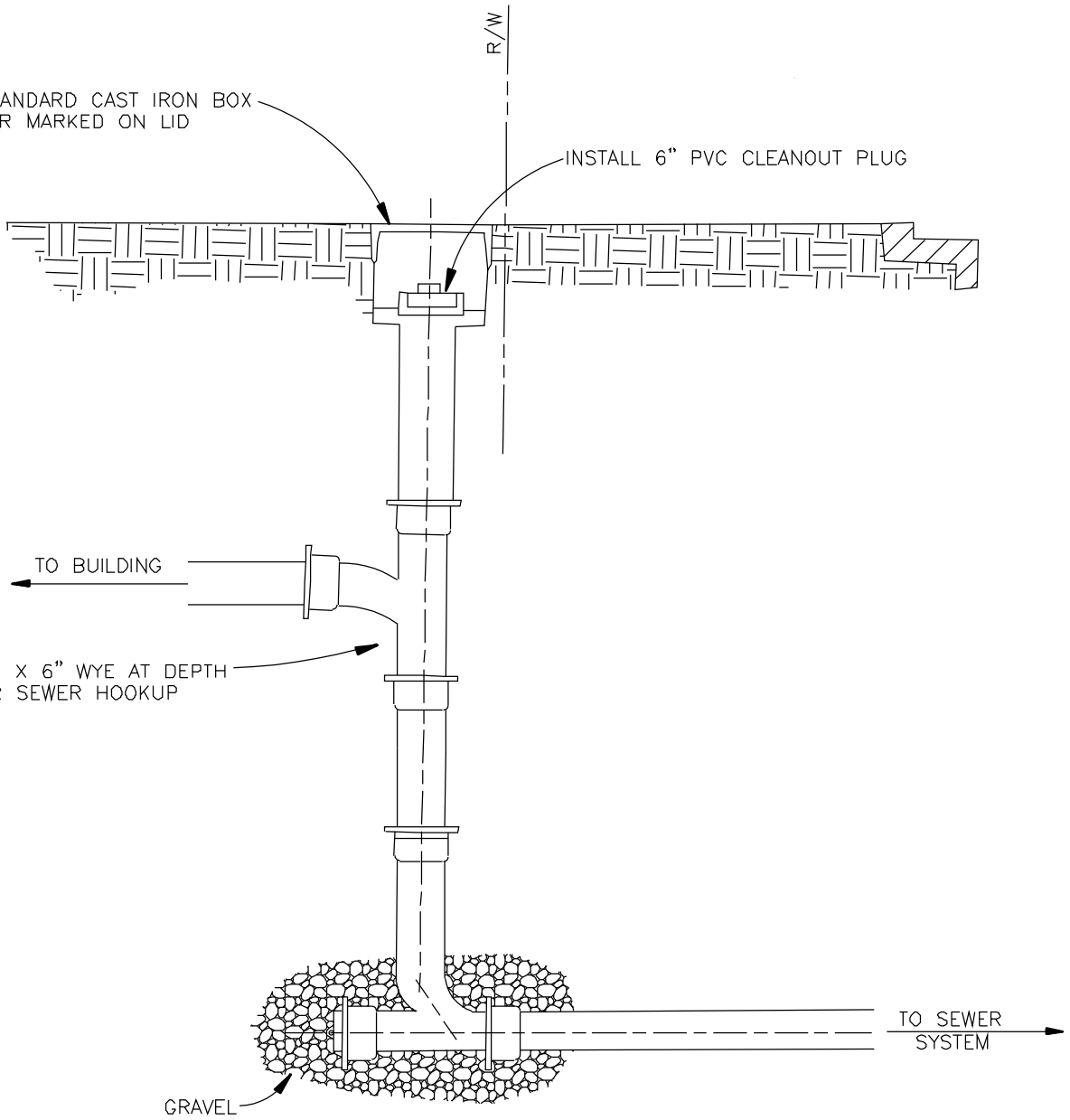
DATE: SEPT. '13

APPROVED:

STANDARD
NO.
S712

INSTALL STANDARD CAST IRON BOX
WITH SEWER MARKED ON LID

INSTALL 6" PVC CLEANOUT PLUG



INSTALL 6" X 6" WYE AT DEPTH
REQ'D FOR SEWER HOOKUP

TO BUILDING

TO SEWER
SYSTEM

GRAVEL

CLEANOUT DETAIL

(BY BUILDER)

CITY OF
CANTON, GEORGIA

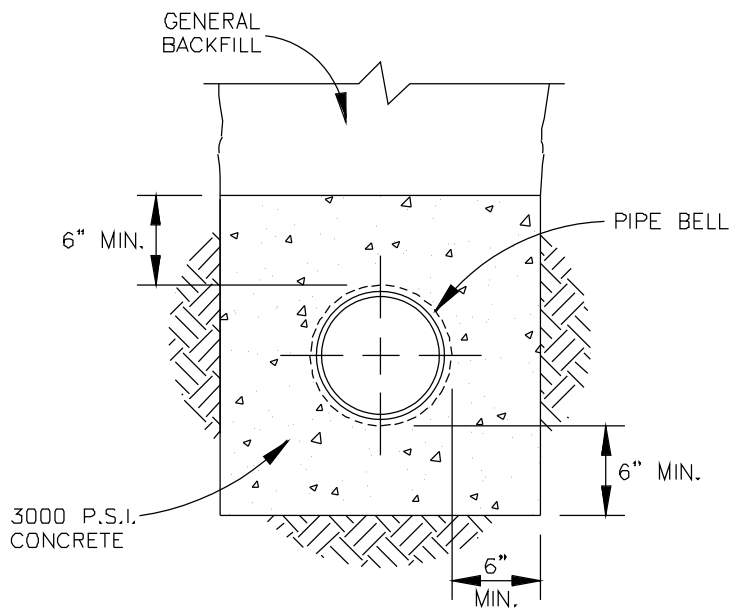
CLEANOUT
DETAIL

CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

STANDARD
NO.
S713



CONCRETE ENCASEMENT

CITY OF
CANTON, GEORGIA

CONCRETE
ENCASEMENT

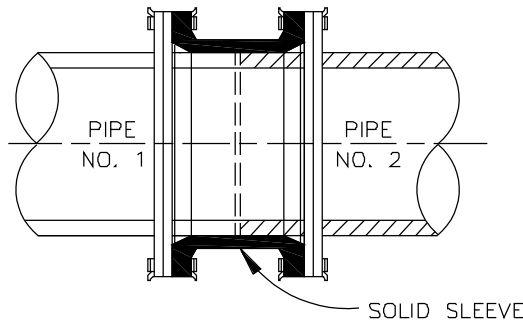
CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

STANDARD
NO.

S714



PIPE ADAPTER
JOINING DIFFERENT TYPES OF PIPE

NOTES:

1. FOR PIPE CONNECTIONS UP TO 12", USE A HARCO ADAPTER.
2. FOR PIPE CONNECTIONS GREATER THAN 12", USE A SOLID SLEEVE.
3. WHERE THE REQUIRED PIPE SIZES ARE DIFFERENT, INSTALL ONE SIZE OF D.I.P. FROM MANHOLE TO MANHOLE.

CITY OF
CANTON, GEORGIA

TYPICAL
PIPE ADAPTER

CONSTRUCTION STANDARD

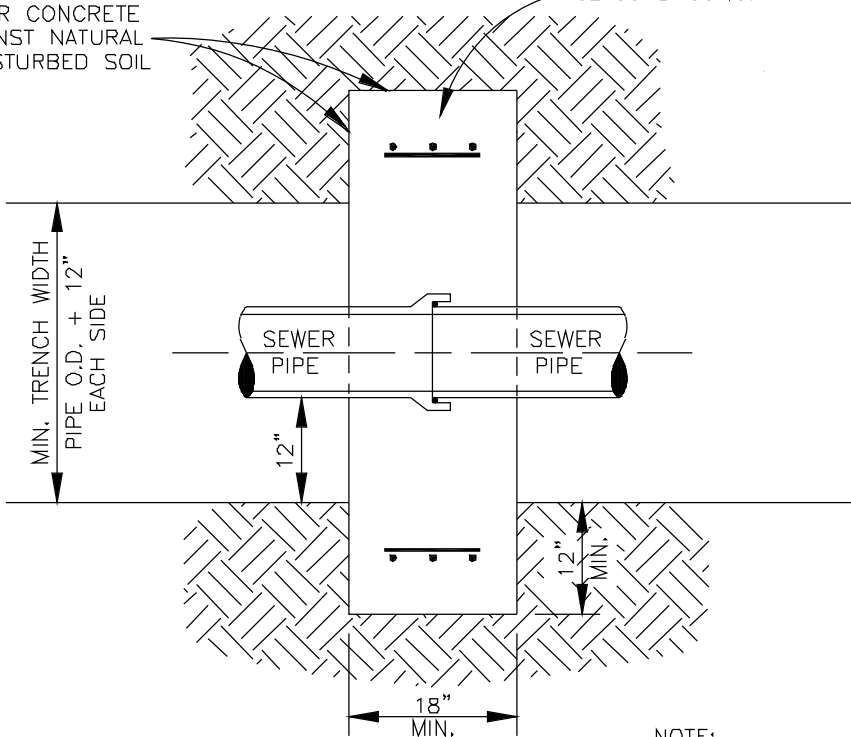
DATE: SEPT. '13

APPROVED:

STANDARD
NO.
S715

POUR CONCRETE AGAINST NATURAL UNDISTURBED SOIL

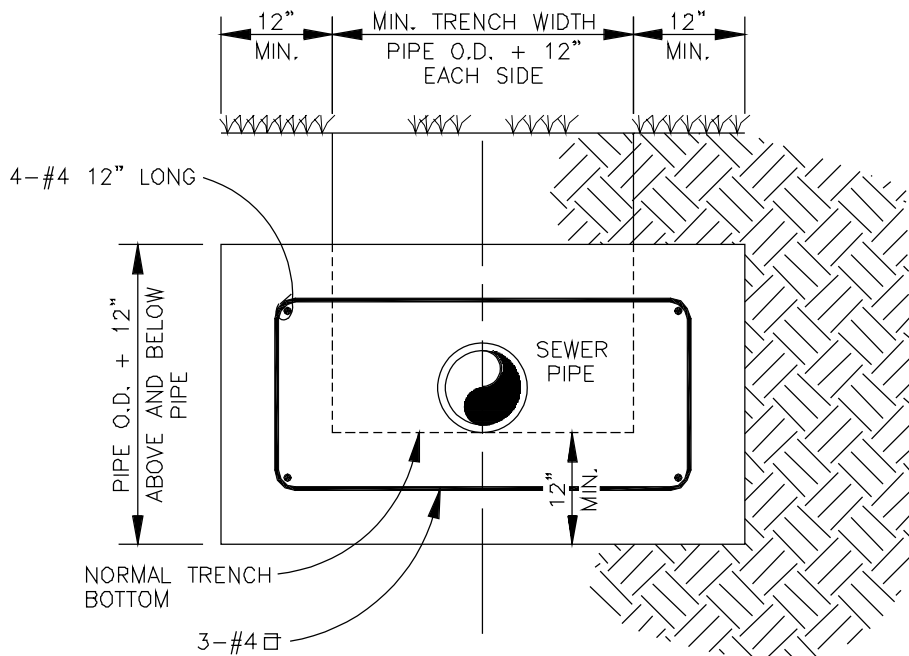
CLASS B CONC.



PLAN

NOTE:

1. COLLAR REQUIRED AT EVERY PIPE JOINT.



SECTION

SEWER PIPE ANCHOR

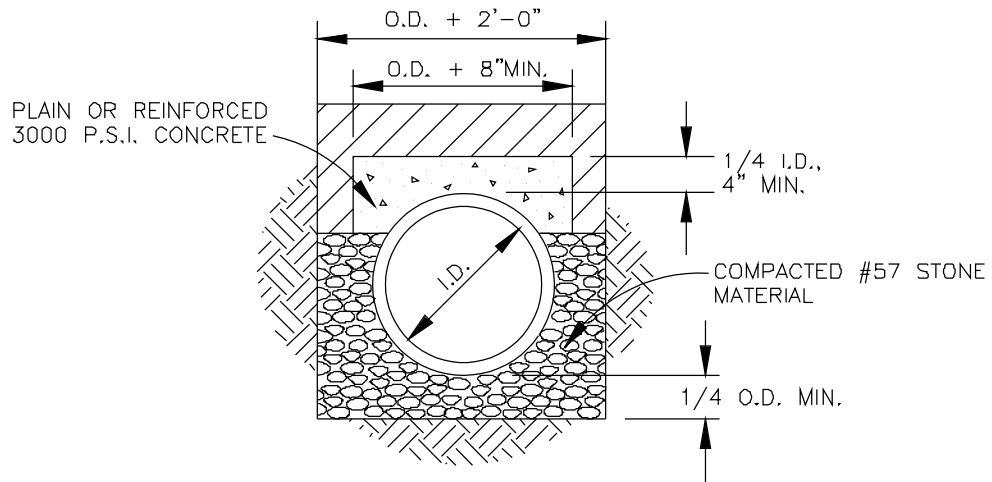
CITY OF
CANTON, GEORGIA

SEWER PIPE
ANCHOR
(SLOPES 20% OR MORE)
CONSTRUCTION STANDARD

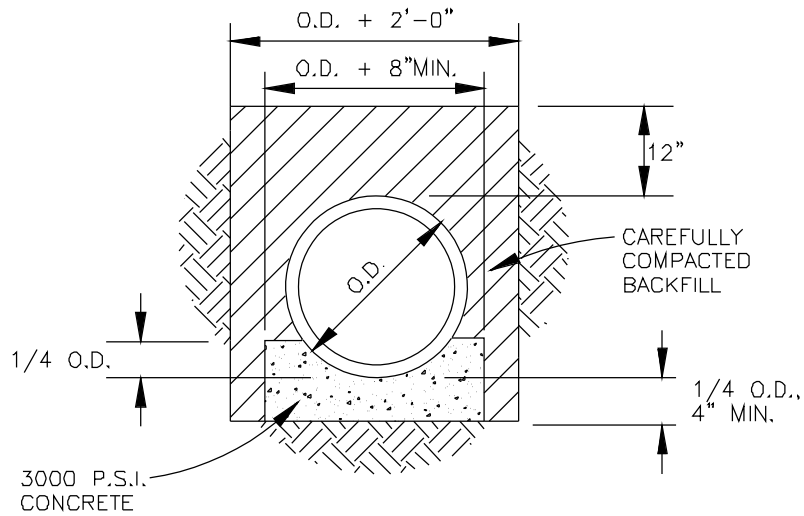
DATE: SEPT. '13

APPROVED:

STANDARD
NO.
S716



CONCRETE ARCH



CONCRETE CRADLE

CITY OF
CANTON, GEORGIA

PIPE CLASS
'A' BEDDING

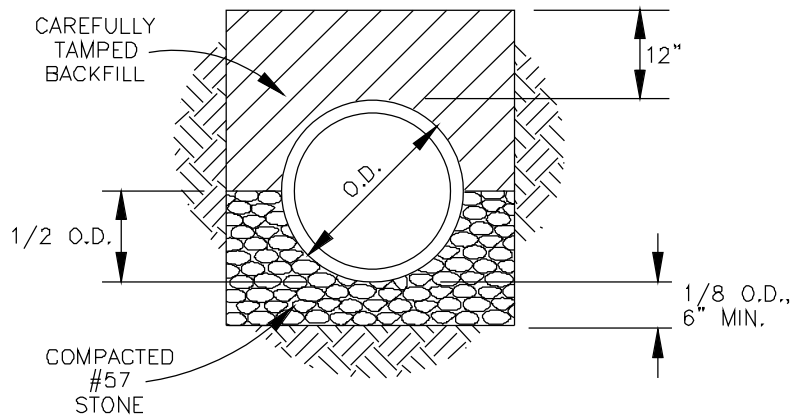
CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

STANDARD
NO.

S717



COMPACTED GRANULAR BEDDING
LOAD FACTOR 1.9

PIPE CLASS 'B' BEDDING

CITY OF
CANTON, GEORGIA

PIPE CLASS
'B' BEDDING

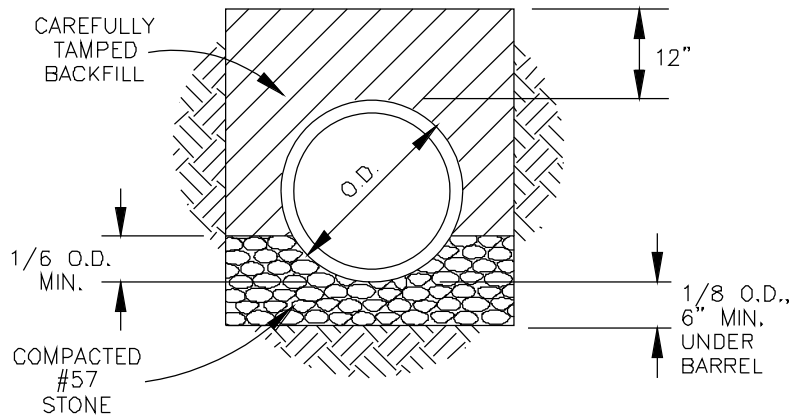
CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

STANDARD
NO.

S718



GRANULAR BEDDING
LOAD FACTOR 1.5

PIPE CLASS 'C' BEDDING

CITY OF
CANTON, GEORGIA

PIPE CLASS
'C' BEDDING

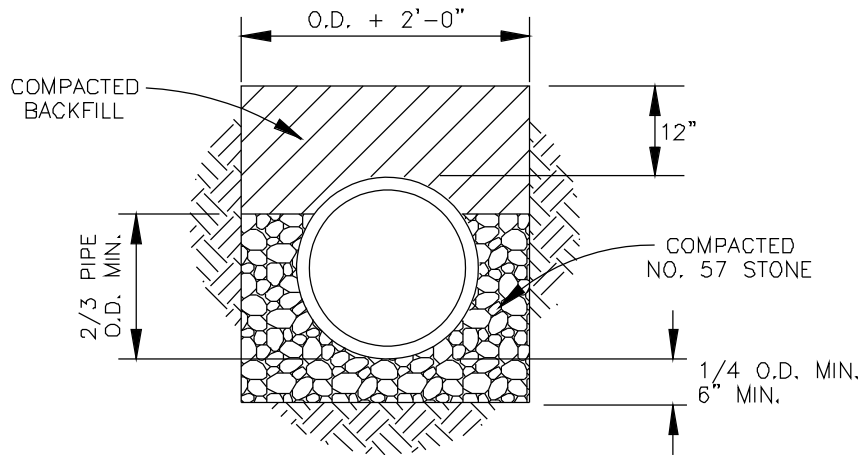
CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

STANDARD
NO.

S719



**MINIMUM P.V.C. PIPE
BEDDING DETAIL**

NOT TO SCALE

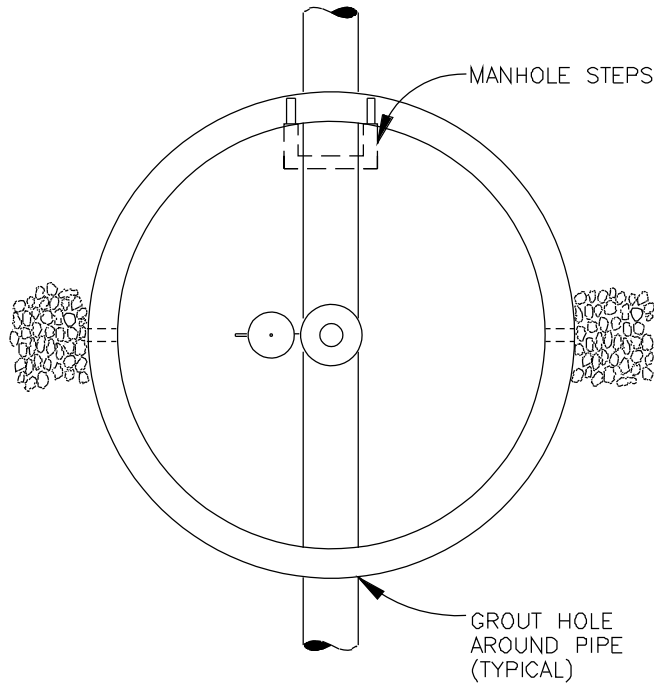
NOTE: IF PVC SANITARY SEWER LINE IS CONSTRUCTED IN 100 YEAR FLOOD PLAIN OR BELOW GROUNDWATER TABLE, COMPACTED CLASS 1 MATERIAL IS REQUIRED TO THE TOP OF THE PIPE.

CITY OF
CANTON, GEORGIA

**MINIMUM
P.V.C. PIPE
BEDDING DETAIL**
CONSTRUCTION STANDARD

DATE:	SEPT. '13
APPROVED:	

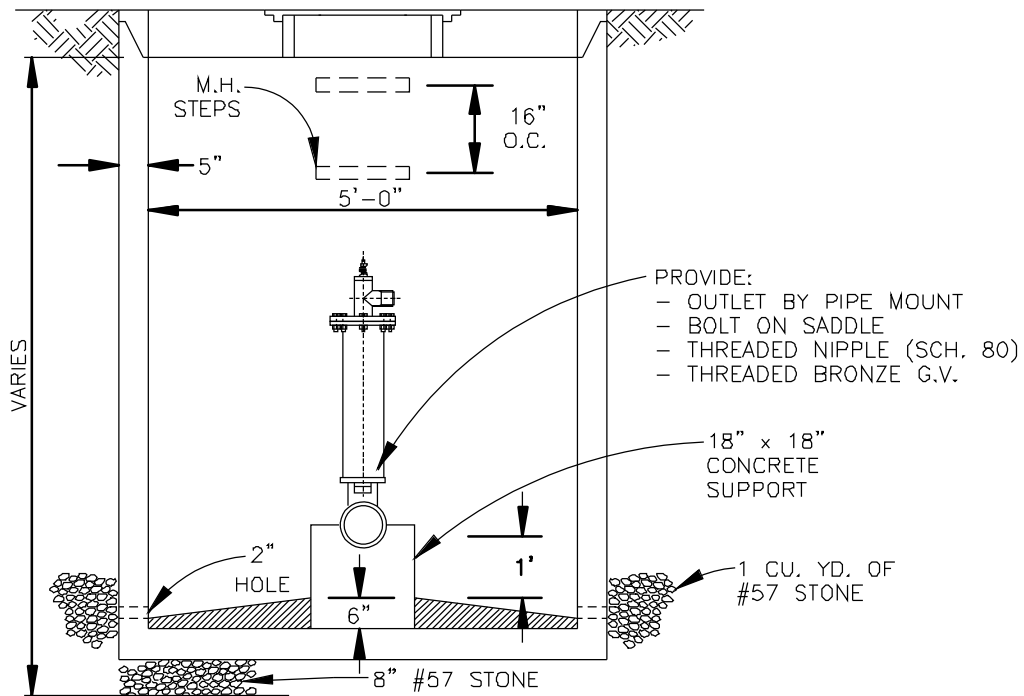
STANDARD
NO.
S720



PLAN

NOTES:

1. NO PIPE JOINTS ALLOWED WITHIN MANHOLE.
2. ALL MANHOLES IN ROAD RIGHT-OF-WAY SHALL BE FLUSH WITH GRADE



SECTION

SEWER AIR & VACUUM VALVE ASSEMBLY

CITY OF
CANTON, GEORGIA

SEWER AIR &
VACUUM VALVE
ASSEMBLY
CONSTRUCTION STANDARD

DATE: SEPT. '13

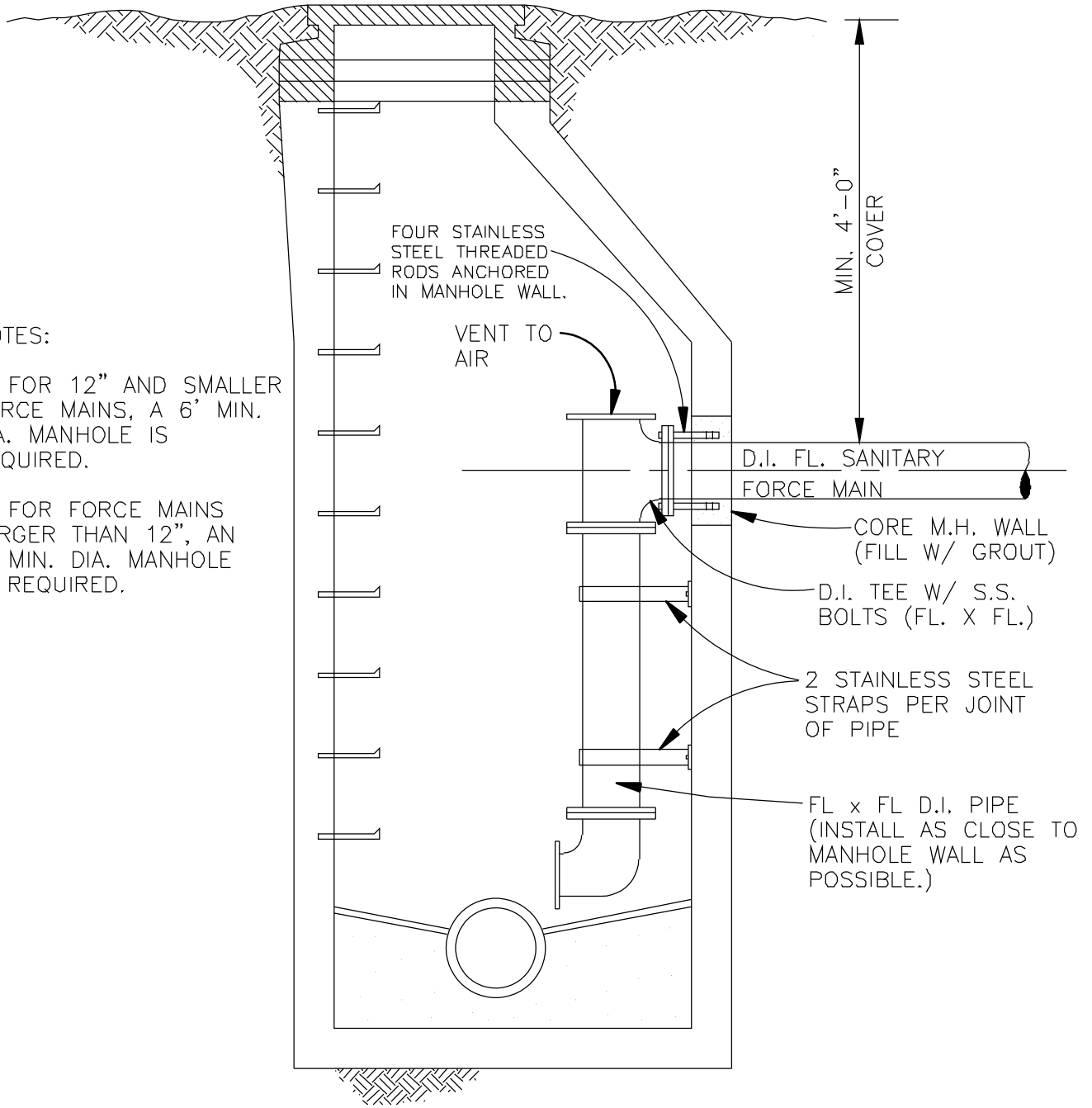
APPROVED:

STANDARD
NO.
S721

NOTES:

1. FOR 12" AND SMALLER FORCE MAINS, A 6' MIN. DIA. MANHOLE IS REQUIRED.

2. FOR FORCE MAINS LARGER THAN 12", AN 8' MIN. DIA. MANHOLE IS REQUIRED.



**FORCE MAIN CONNECTION
TO EXISTING MANHOLE**

CITY OF
CANTON, GEORGIA

FORCE MAIN
CONNECTION
TO MANHOLE
CONSTRUCTION STANDARD

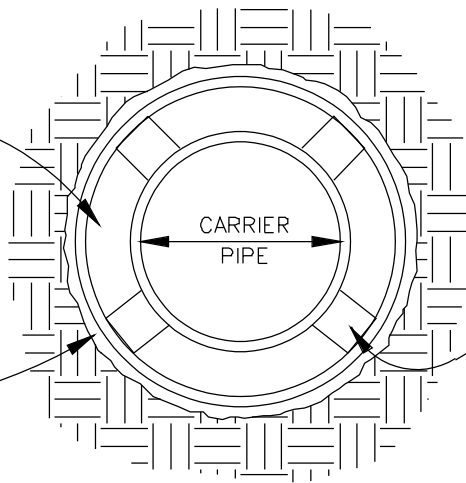
DATE: SEPT. '13

APPROVED:

STANDARD
NO.
S722

GROUT ANNULAR SPACE
BETWEEN CARRIER PIPE
AND LINER

GROUT BETWEEN
EARTH AND CASING



CASING SPACERS SHALL BE
INSTALLED TO SECURE THE
PIPE AT THE PROPER
GRADE AND ELEVATION
THROUGHOUT THE CASING
AND TO PREVENT MOVEMENT
OF THE PIPE DURING GROUTING.

CASING SPACER DETAIL

CITY OF
CANTON, GEORGIA

SEWER CASING
SPACER DETAIL

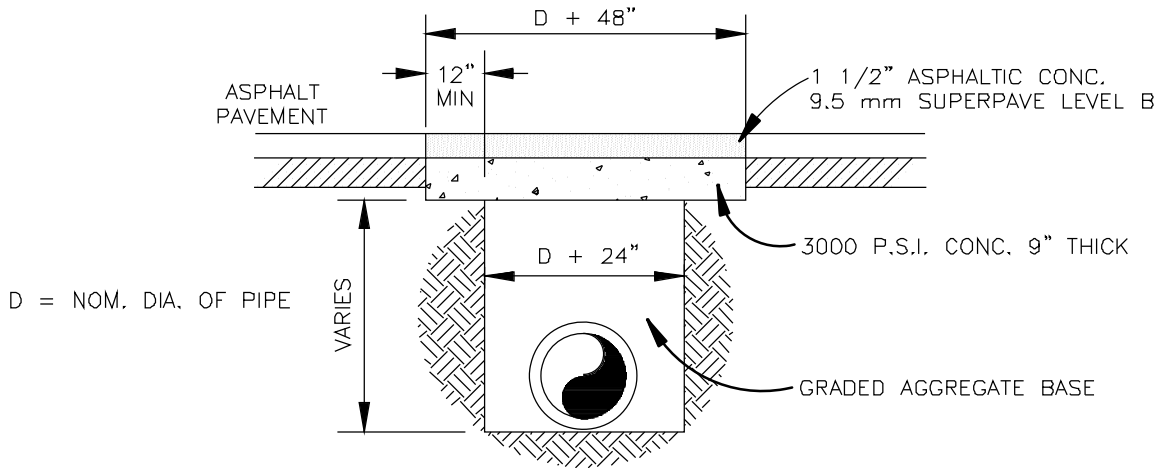
CONSTRUCTION STANDARD

DATE: SEPT. '13

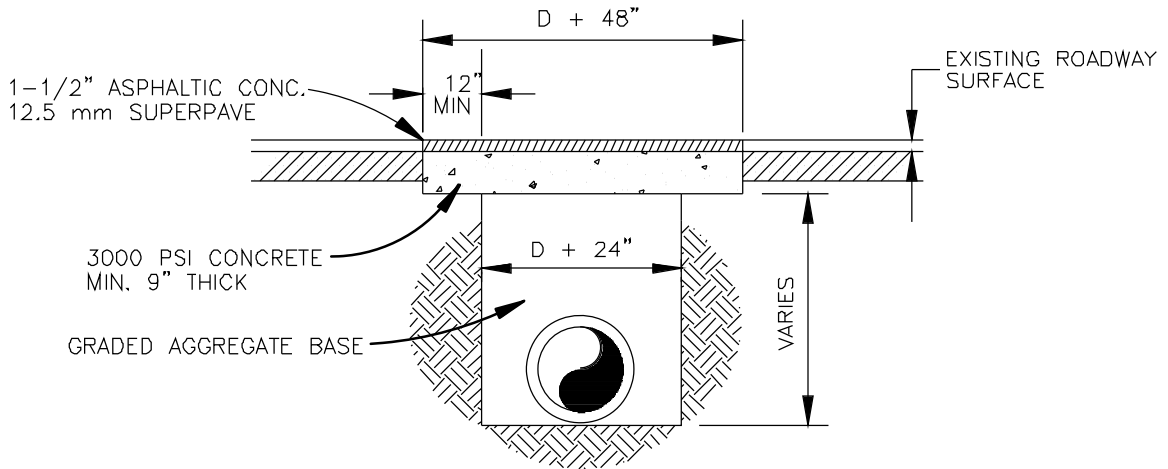
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STANDARD
NO.

S723



STATE OR STATE-AID ROADS



NOTES:

1. PERMISSION MUST BE OBTAINED FROM THE CITY OF CANTON TO OPEN CUT EXISTING ROADS.
2. ROADWAYS WILL GENERALLY BE BORED OR TUNNELED FROM DITCH LINE TO DITCH LINE.
3. IF CONCRETE PAVEMENT, REPLACE WITH ORIGINAL THICKNESS (MINIMUM 8"), FLUSH WITH EXISTING PAVEMENT.
4. COMPACTION REQUIREMENTS: 95% STD. PROCTOR FROM PIPE BEDDING TO 1' BELOW GRADE.
100% STD. PROCTOR FOR TOP 1' OF TRENCH.

CITY ROADS

**CITY OF
CANTON, GEORGIA**

**TYPICAL STREET
CUT REPAIR**

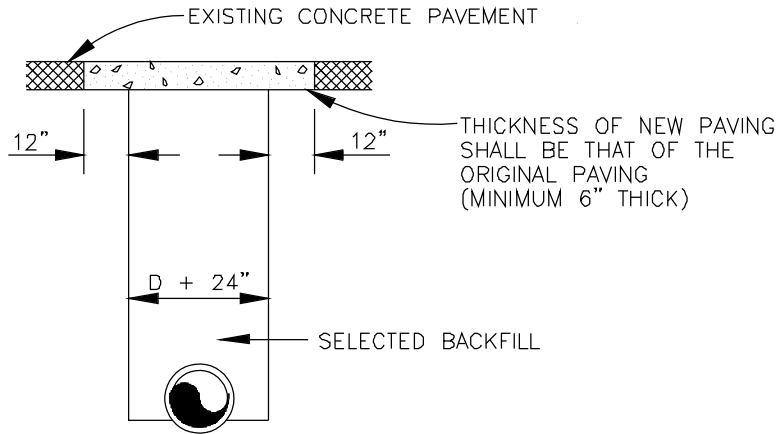
CONSTRUCTION STANDARD

DATE: SEPT. '13

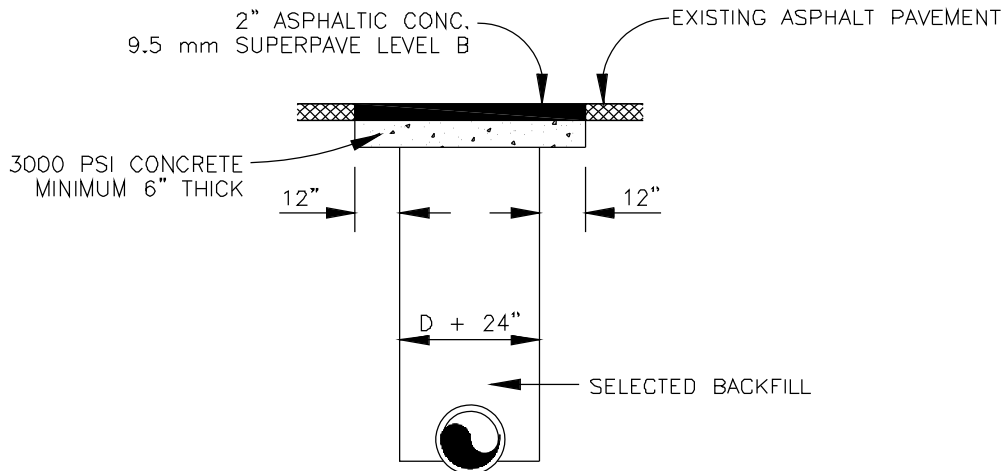
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NO.

S724



CONCRETE DRIVEWAY



ASPHALT DRIVEWAY

NOTES:

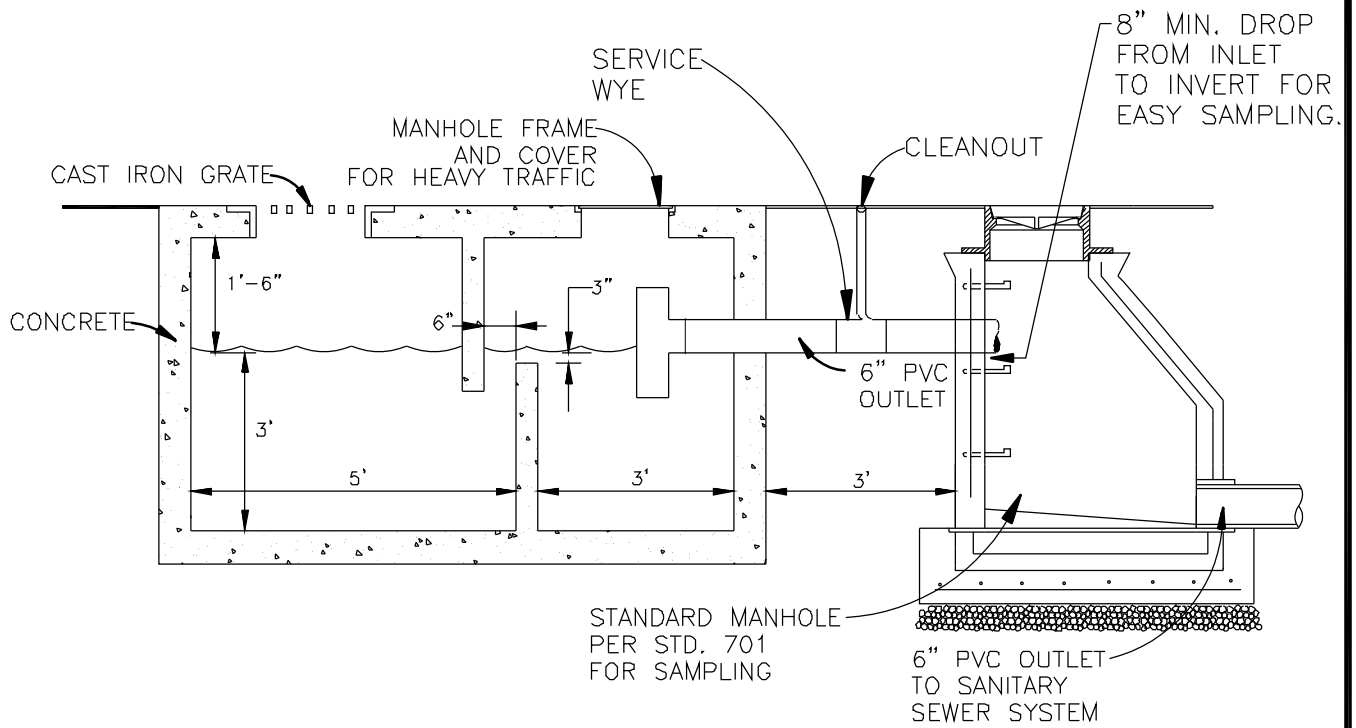
1. BACKFILL TO BE COMPACTED AS DIRECTED IN SPECIFICATIONS.
2. D = NOMINAL PIPE DIAMETER
3. COMPACTION REQUIREMENTS: 95% STD. PROCTOR FROM PIPE BEDDING TO 1' BELOW GRADE.
100% STD. PROCTOR FOR TOP 1' OF TRENCH.

**CITY OF
CANTON, GEORGIA**

**TYPICAL
DRIVEWAY
CUT REPAIR
CONSTRUCTION STANDARD**

DATE:	SEPT. '13
APPROVED:	

STANDARD
NO.
S725



MINIMUM SIZE: 1,500 GALLONS

NOTE:
 SIZE AND DIMENSIONS OF COMBINATION SAND/OIL TRAP AND PIPING
 DEPENDENT ON QUANTITY OF FLOW. DESIGN ENGINEER
 SHALL SUBMIT CALCULATIONS TO SUPPORT DESIGN SIZE.

CITY OF
 CANTON, GEORGIA

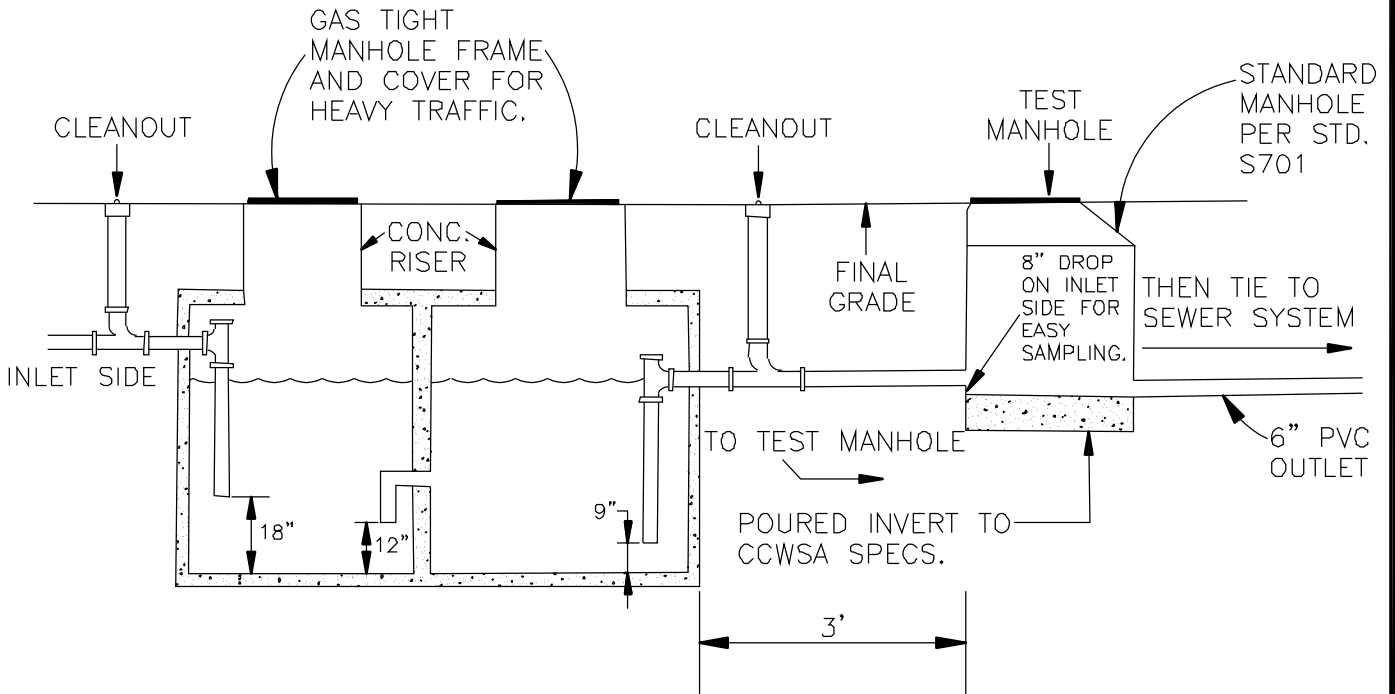
TYPICAL
 COMBINATION
 SAND/OIL TRAP
 CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

STANDARD
 NO.
 S726

CCWSA STANDARD 1500 GALLON GREASE TRAP



NOTES:

1. MIN. OF 4" PVC PIPING FROM BUSINESS TO TEST MANHOLE.
2. MIN. SIZE; 1,500 GALLONS
3. SIZE AND DIMENSIONS OF GREASE TRAP AND PIPING DEPENDENT ON FLOW FROM RESTAURANT. DESIGNER SHALL SUBMIT CALCULATIONS TO SUPPORT DESIGN SIZE.
4. ONLY THE FLOW FROM THE TRAP IS ALLOWED TO ENTER THE TEST MANHOLE.
5. ALL DUMPSTERS MUST BE ROUTED THROUGH THE INLET SIDE OF THE GREASE TRAP.
6. NO RESTROOM SEWAGE IS ALLOWED TO FLOW THROUGH THE GREASE TRAP.

CITY OF
CANTON, GEORGIA

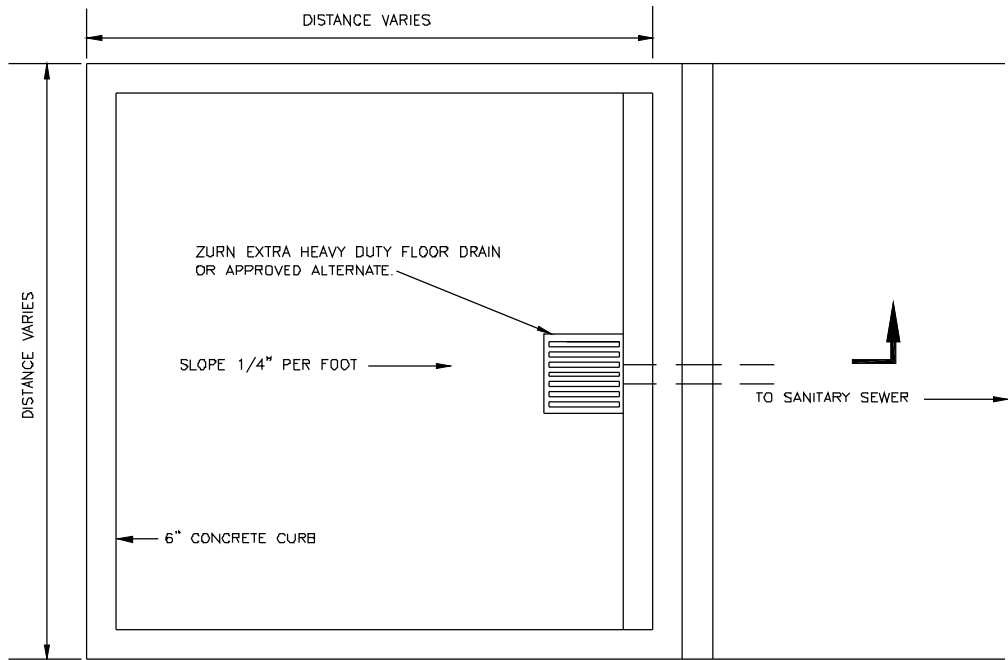
TYPICAL
GREASE TRAP

CONSTRUCTION STANDARD

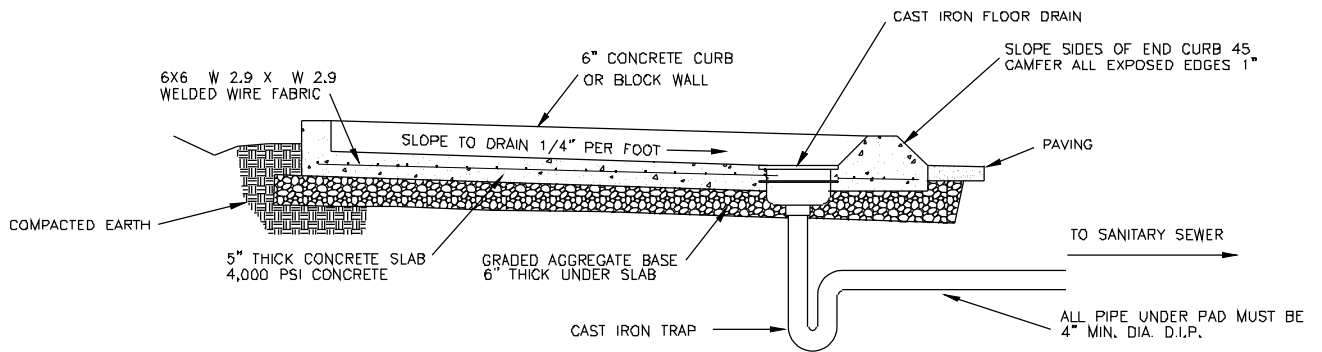
DATE: SEPT. '13

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STANDARD
NO.
S727



PLAN VIEW



SECTION VIEW

NOTE: FLOW FROM DUMPSTER PAD SHALL BE ROUTED THROUGH GREASE TRAP IF APPLICABLE.

CITY OF
CANTON, GEORGIA

DUMPSTER PAD
DETAIL

CONSTRUCTION STANDARD

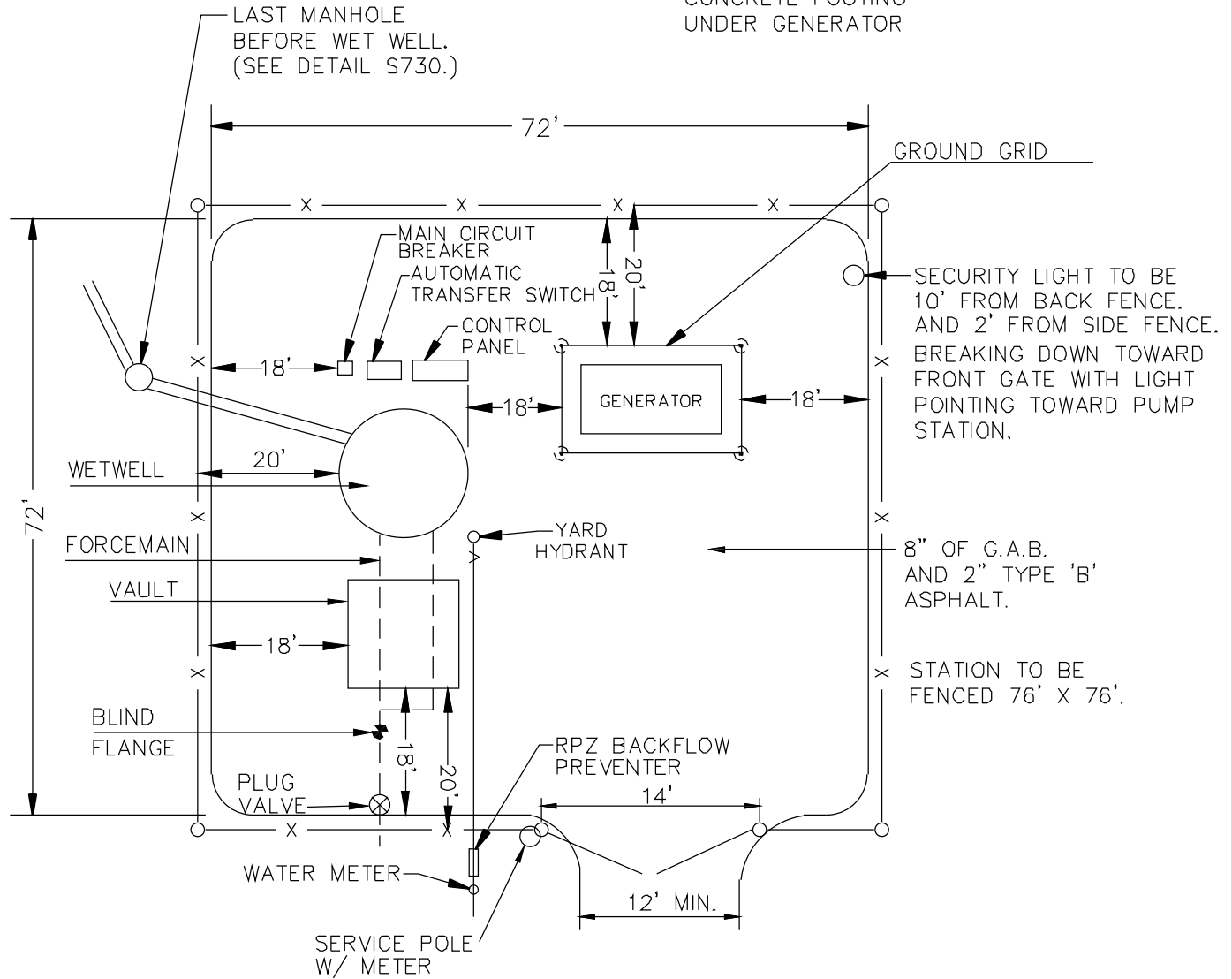
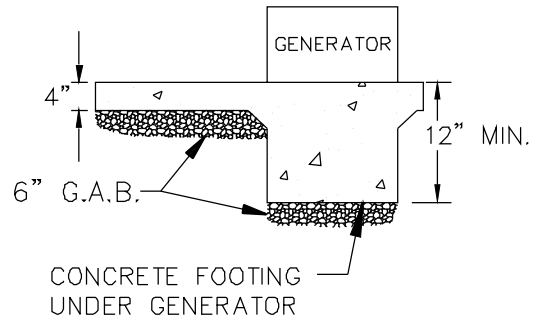
DATE: SEPT. '13

APPROVED:

STANDARD
NO.

S728

- NOTES:
1. FLOOR OF CHECK VALVE VAULT TO BE SLOPED TO DRAIN WET WELL.
 2. FLOOR DRAIN SHALL HAVE P-TRAP TO BLOCK GASES FROM WET WELL.
 3. GENERATOR AND CONTROL PANEL TO BE FIELD LOCATED BY THE CITY.



NOTE: THIS IS A GENERAL SCHEMATIC LAYOUT. LOCATIONS MAY VARY ACCORDING TO EQUIPMENT SIZE AND SITE REQUIREMENTS. NEED TO BE ABLE TO GET A TRUCK ON BOTH SIDES OF WET WELL AND GENERATOR. FOR DETAILED REQUIREMENTS, SEE CHAPTER 11 OF THE CANTON UNIFIED DEVELOPMENT CODE.

CITY OF
CANTON, GEORGIA

SUBMERSIBLE
SITE
LAYOUT PLAN
CONSTRUCTION STANDARD

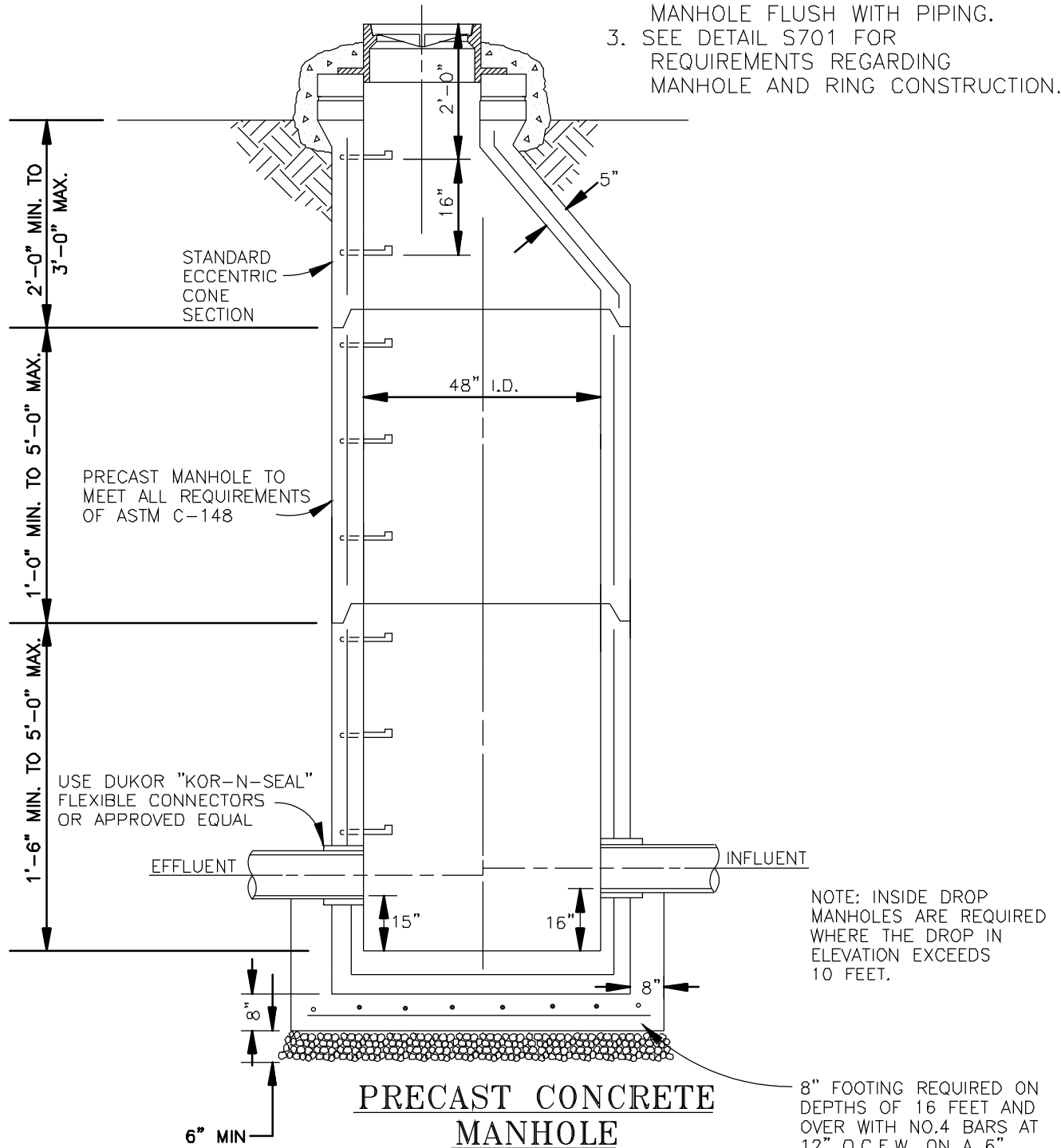
DATE: SEPT. '13

APPROVED:

STANDARD
NO.
S729

NOTES:

1. DEVELOPER MAINTAINS AND CLEANS OUT THIS MANHOLE FOR ONE YEAR AFTER LIFT STATION IS PUT INTO OPERATION.
2. AFTER ONE YEAR OF SERVICE, DEVELOPER SHALL RETURN TO BUILD NORMAL INVERT IN MANHOLE FLUSH WITH PIPING.
3. SEE DETAIL S701 FOR REQUIREMENTS REGARDING MANHOLE AND RING CONSTRUCTION.



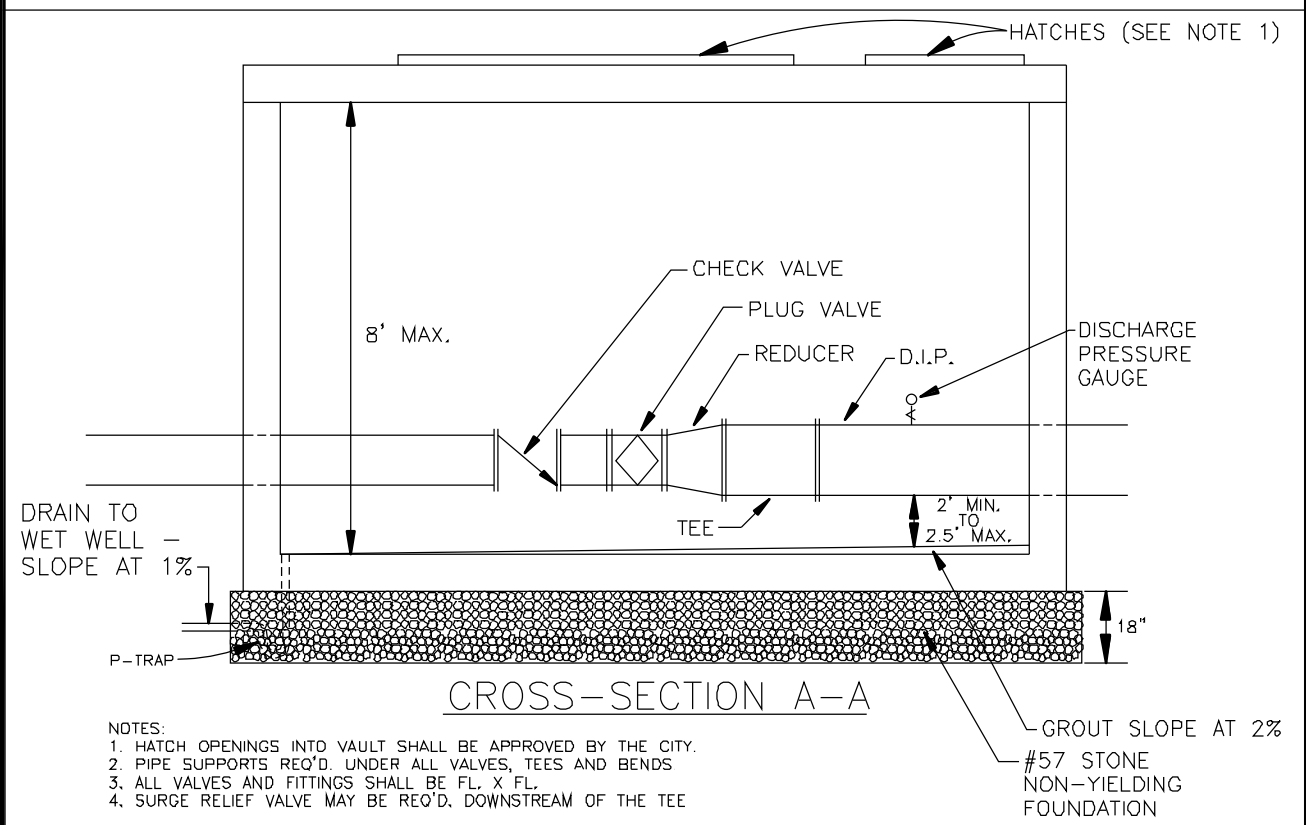
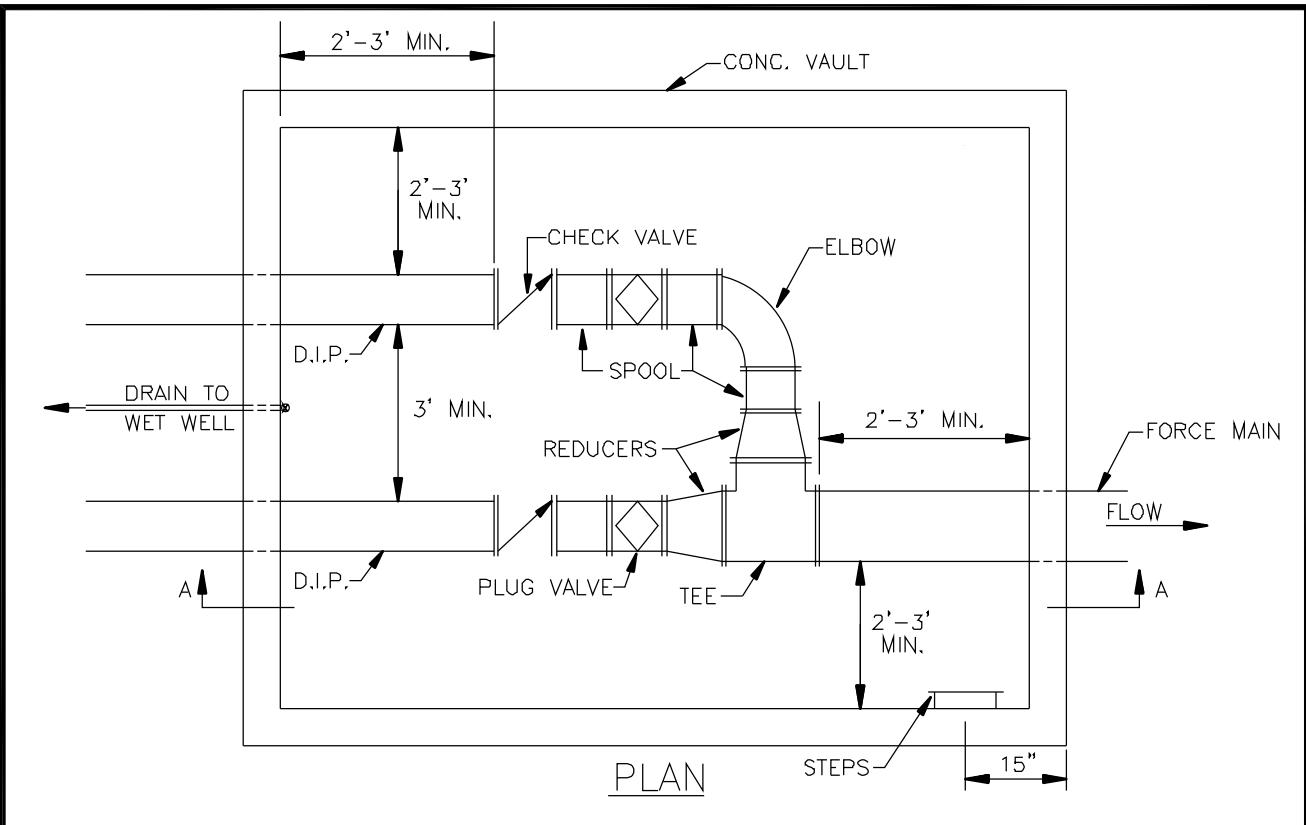
CITY OF
CANTON, GEORGIA

LAST MANHOLE
ON SEWER LINE
BEFORE WET WELL
CONSTRUCTION STANDARD

DATE: SEPT. '13

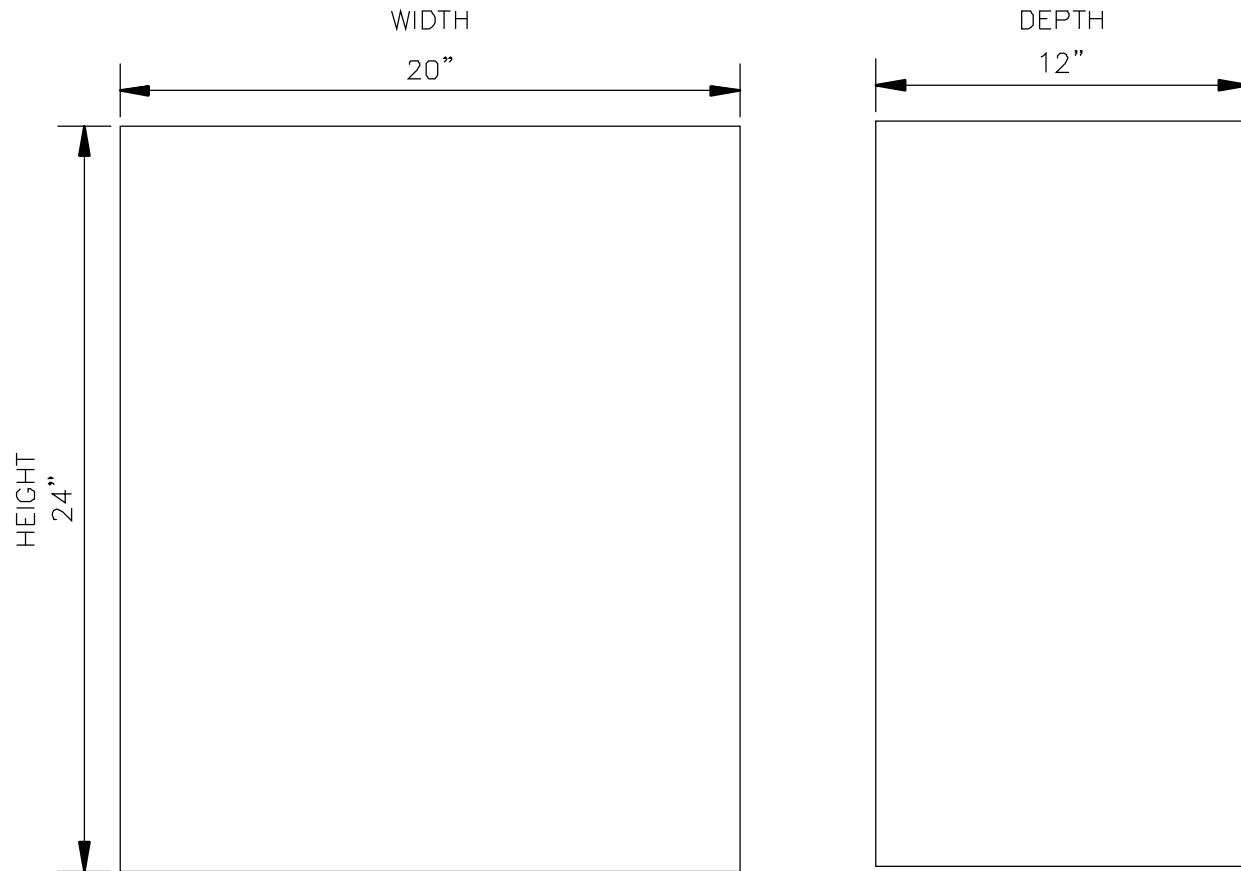
APPROVED:

STANDARD
NO.
S730



- NOTES:
1. HATCH OPENINGS INTO VAULT SHALL BE APPROVED BY THE CITY.
 2. PIPE SUPPORTS REQ'D. UNDER ALL VALVES, TEES AND BENDS
 3. ALL VALVES AND FITTINGS SHALL BE FL, X FL.
 4. SURGE RELIEF VALVE MAY BE REQ'D. DOWNSTREAM OF THE TEE

<p>CITY OF CANTON, GEORGIA</p>	<p>LIFT STATION VALVE PIT DETAIL</p> <p>CONSTRUCTION STANDARD</p>	DATE: SEPT. '13	<p>STANDARD NO. S731</p>
		APPROVED:	



ROOM NEEDED IN CONTROL PANEL FOR SCADA

CITY OF
CANTON, GEORGIA

SCADA
RTU PANEL
CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

STANDARD
NO.
S732

GROUND CONDUCTOR
IN 3/4" CONDUIT,
SIZE PER N.E.C.

#2 BARE STRANDED COPPER
CONDUCTOR (TYPICAL)

GROUND GRID 24"
BELOW GRADE

3/4"Øx10'
COPPERWELD
GROUND ROD
(TYP. FOR 4)

TO MAIN
CIRCUIT
BREAKER
ENCLOSURE

GENERATOR
ON CONCRETE
PAD

CADWELD ALL
CONNECTIONS (TYP.)

CITY OF
CANTON, GEORGIA

PUMP STATION
GROUNDING

CONSTRUCTION STANDARD

DATE: SEPT. '13

APPROVED:

STANDARD
NO.

S733