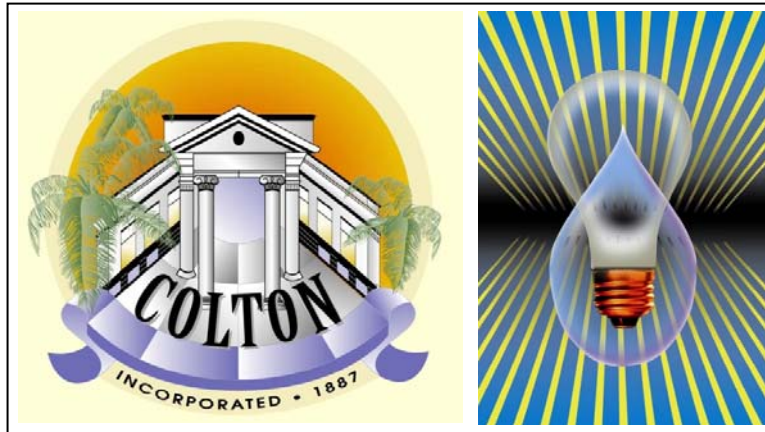


**CITY OF COLTON
PUBLIC UTILITIES
WATER / WASTEWATER DEPARTMENT**

STANDARD DRAWINGS



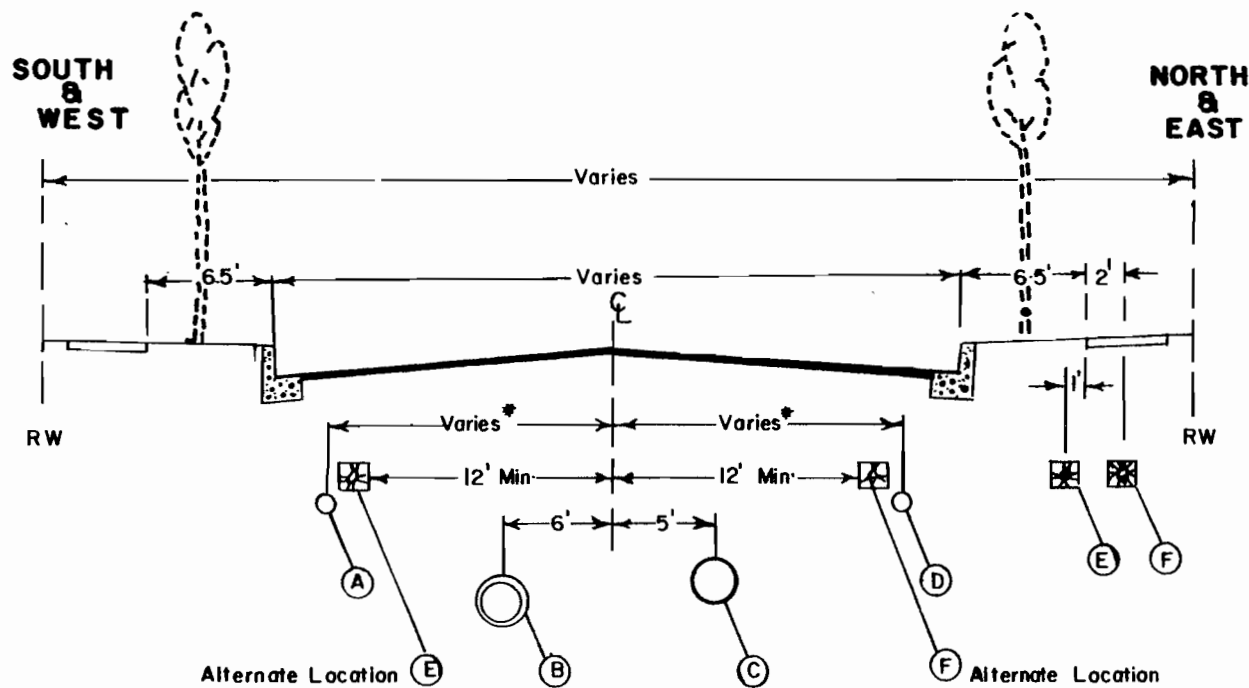
PUBLIC UTILITIES

STANDARD DETAIL DRAWINGS

WATER & WASTEWATER DEPARTMENT

Number	Title
<u>Streets</u>	
122	Recommended Utility Location
124	Standard Trench Repair
124A	Standard Excavation Repair
126B	City of Colton Water/Wastewater Dept. Title Block
127	Sidewalk Jog for Fire Hydrants
<u>Drains</u>	
201	Standard Pipe Bedding in Trenches
202	Alternate Pipe Bedding in Trenches
<u>Sewer</u>	
300	Standard RCP Manhole
301	Drop Manhole
302	Manhole Cover and Frame
303	Breaking Into Existing Manholes
304	Sewer Connections
305	Cement Mortar Joint Collar
306	Steel Encasement Pipe (for water and sewer)
307	Terminus Manhole with Laterals
308	Sewer On-Site Cleanout
309	Sewer Mainline Cleanout
310	Sewer Wye Connections
311	Sewer Double Wye Branches
312	Sewer Lateral Connections (Normal Cut)
312B	Sewer Lateral Connections (Deep Cut)
<u>Water</u>	
700	Fire Hydrant Assembly (Residential and commercial/Industrial)
701	Typical Service Connection (1" Service)
702	Typical Service Connection (1-1/2" and 2" Service)
703	Thrust Block Installation Class 150 and 200
704	Typical Gate Valve Assembly
705	Typical Main Line Tapping Assembly
706	Typical 2" or 3" Blow-Off Assembly
706A	Typical 4" or 6" Blow-Off Assembly
706B	Typical 4" or 6" Blow-Off Assembly (Above Ground)
707	Air Vacuum Assembly
708	4", 6", 8", 10", or 12" Double Detector Check Assembly w/ Fire Dept. Connection
709	Reduced Pressure Valve Backflow Prevention Assembly
710	Concrete Encasement
711	Pipe Support Detail
712	Water Quality Sampling Station
714	4" Guard Posts
715	Restrained Joint Details716A Water Meter 5/8" & 3/4"
716	Water Meter 5/8" & 3/4"
716A	Water Meter 1"
716B	Water Meter 1-1/2" & 2" Domestic
716C	Water Meter 4" & 6" Compound
720	Water & Sewer Clearance

RECOMMENDED UTILITY LOCATION



UTILITY	MIN COVER
(A) WATER	36"
(B) STORM DRAIN	Varies
(C) SEWER	Varies
(D) GAS	30"
(E) POWER	36"
(F) TELEPHONE - CATV	30"

RECOMMENDED UTILITY INSTALLATION SCHEDULE

1. STORM DRAIN
2. SEWER
3. POWER & TELEPHONE
4. CURB & GUTTER
5. WATER
6. GAS
7. PAVING

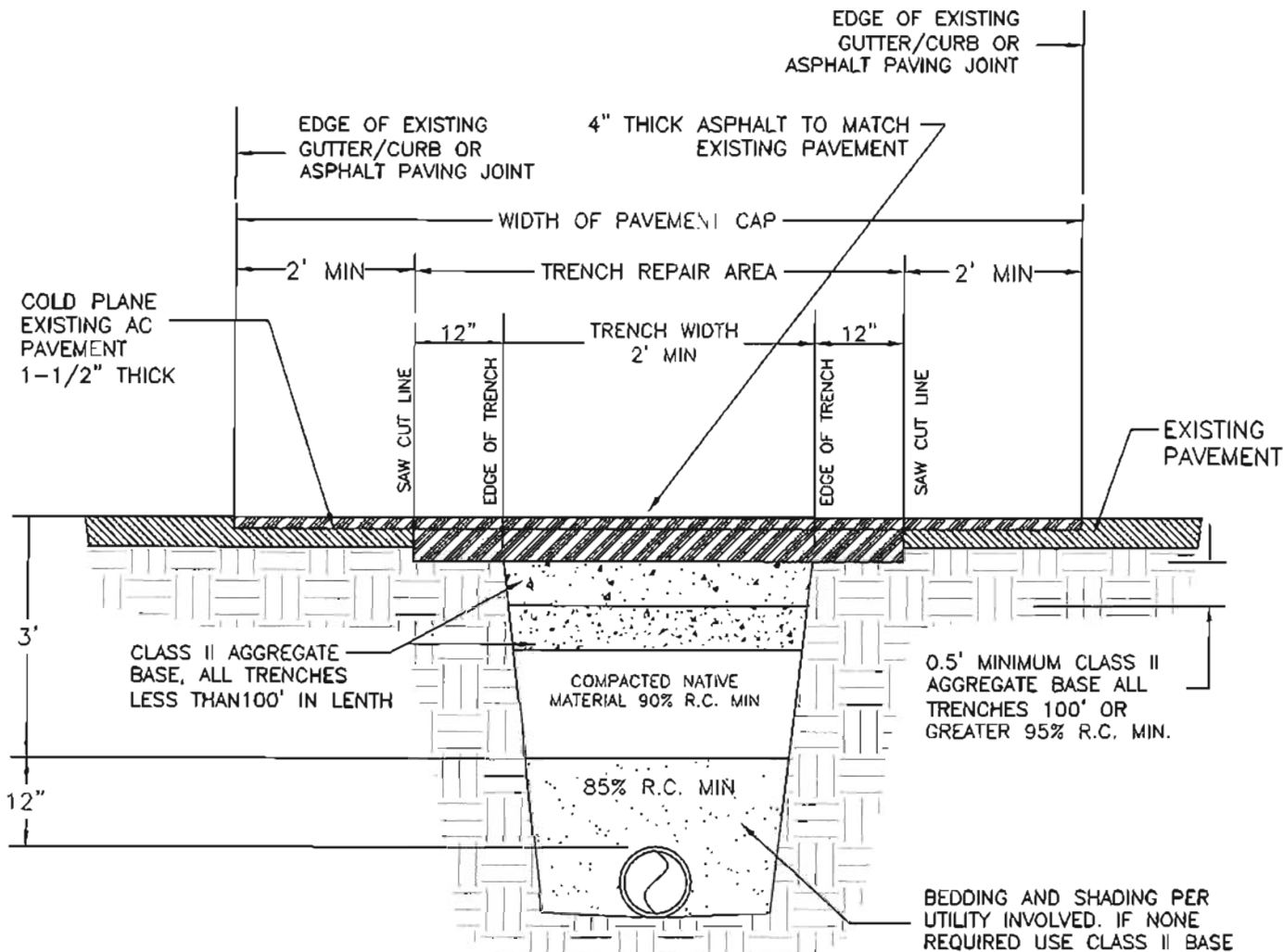
NOTES

1. WHERE ULTIMATE STREET IMPROVEMENTS ARE TO BE CONSTRUCTED, MINIMUM COVER OF UTILITY LINES MAY BE VARIED TO FACILITATE INSTALLATION.
2. THE UTILITY COMPANIES SHALL MAKE EVERY EFFORT TO LOCATE THEIR FACILITIES IN THE RECOMMENDED LOCATIONS PARTICULARLY IN NEW SUBDIVISIONS.
3. EDISON & TELEPHONE UTILITIES MAY USE A COMMON TRENCH. ALTERNATE LOCATION MAY BE EITHER THE EDISON POSITION OR TELEPHONE POSITION.
4. VARIES 3' FROM THE CURB FACE TO 14' FROM CENTER LINE.
5. THE CENTER 24' OF THE STREET SHALL BE RESERVED FOR SEWER AND STORM DRAIN INSTALLATION.
6. SURFACE OF VAULT OR MANHOLE MUST MATCH PAVEMENT AND PARKWAY GRADES.
7. REPAIR OF TRENCHES AND REPLACEMENT OF PAVED SURFACING IN EXIST COUNTY ROADS SHALL BE IN ACCORDANCE WITH CURRENT SPECIFICATION FOR TRENCH REPAIR.
8. WHENEVER POSSIBLE, MANHOLE COVERS SHALL NOT BE PLACED WITHIN SIDE-WALKS.

CITY OF COLTON PUBLIC WORKS DEPARTMENT

RECOMMENDED UTILITY LOCATION

DRAWN BY TV	SCALE NTS	DRAWING NO. 122
CHK'D	DATE 2-24-1978	
APP'D <i>[Signature]</i>		



GENERAL NOTES

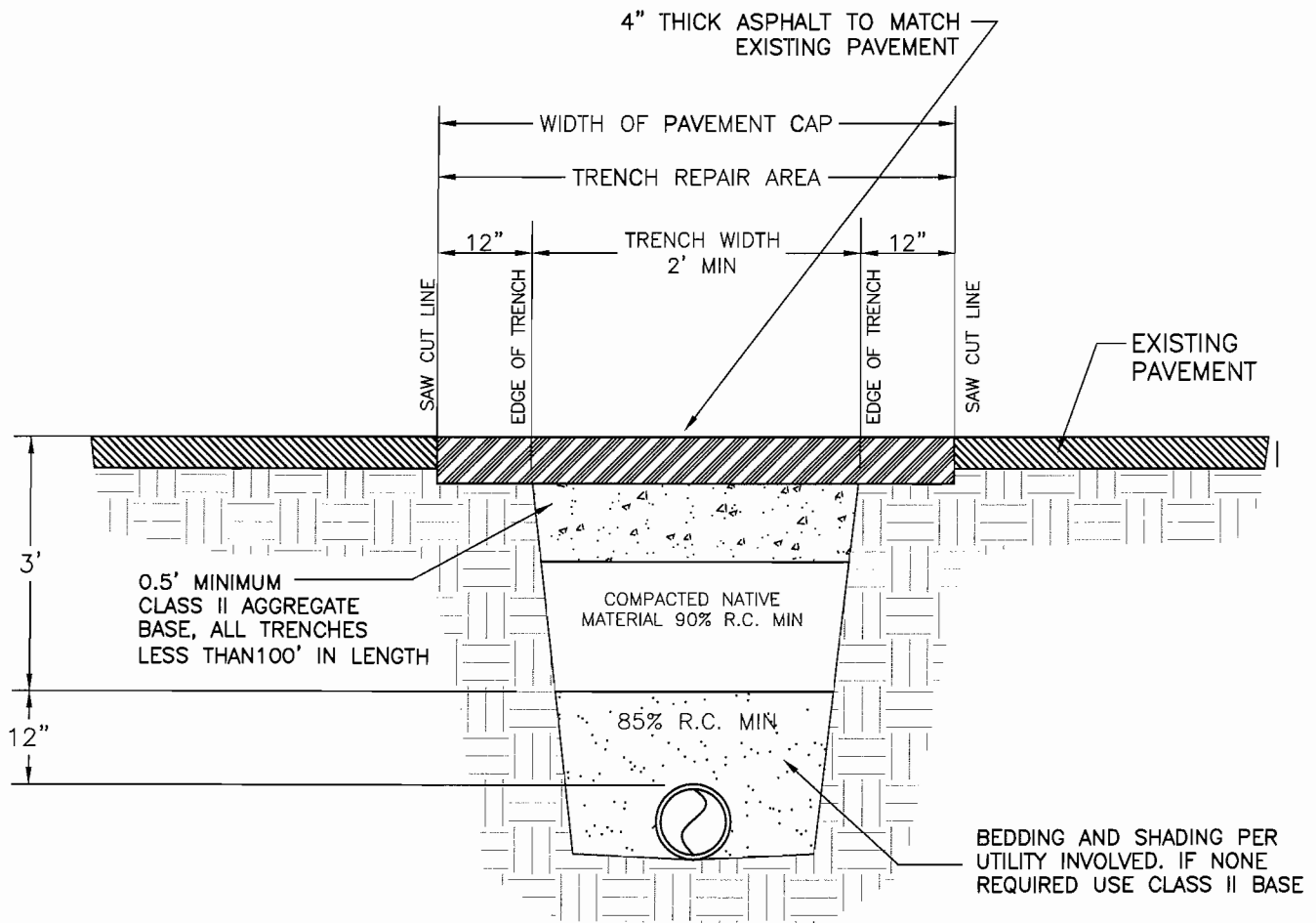
- 1.) TRENCH BACKFILL SHALL BE PER SECTION 306-1.3 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTIONS, EXCEPT AS SHOWN ON THIS DRAWING.
- 2.) COMPACTION OF BACKFILL SHALL BE VERIFIED BY CONTRACTOR AND APPROVED BY THE ENGINEERING DEPARTMENT PRIOR TO THE PLACING OF PERMANENT PAVEMENT. COMPACTION TESTS SHALL BE TAKEN BY A LICENSED ENGINEER OR TESTING LABORATORY AT RANDOM LOCATIONS SELECTED BY THE TESTING FIRM AND/OR THE CITY ENGINEER. LONGITUDINAL TRENCHES SHALL HAVE A COMPLETE SERIES OF COMPACTION TESTS TAKEN FOR EACH FOUR FEET OF THICKNESS OF BACKFILL PLACED. EACH SERIES SHALL CONSIST OF TESTS TAKEN AT APPROXIMATE MAXIMUM INTERVALS OF 250 FEET. LATERAL TRENCHES SHALL HAVE COMPACTION TESTS TAKEN ON 50% OF THE LATERALS, ONE TEST FOR EACH FOUR FEET OF THE DEPTH OF THE LATERAL.
- 3.) UNDERGROUND SERVICE ALERT SHALL BE NOTIFIED 2 WORKING DAYS PRIOR TO THE START OF WORK. 1-800-422-4133
- 4.) UNTIL PERMANENT PAVEMENT IS REPLACED OVER A BACKFILLED TRENCH, MINIMUM 2" THICKNESS OF TEMPORARY ASPHALT CONCRETE PAVING SHALL BE WITHIN THE TRENCH AREA. THE TEMPORARY PAVING SHALL BE PLACED AND COMPACTED IN SUCH A MANNER AS TO PROVIDE A SAFE AND SMOOTH TRAVELED SURFACE. PERMITTEE SHALL MAINTAIN THE TEMPORARY PAVEMENT IN THIS SAFE AND SMOOTH CONDITION UNTIL PERMANENT PAVING IS IN PLACE.
- 5.) PRIOR TO PLACEMENT OF PERMANENT PAVING, EXISTING PAVEMENT SHALL BE CUT TO A NEAT STRAIGHT EDGE. CRACKED PAVEMENT ADJACENT TO THE TRENCH SHALL BE REMOVED.
- 6.) ALL EDGES OF EXISTING PAVEMENT BEING JOINED AND SURFACE BEING OVERLAID SHALL RECEIVE A TACK COAT OF ASPHALT EMULSION.
- 7.) ALL TRENCHES EXCEEDING 400 FEET IN LENGTH, MUST BE CAPPED WITH A MINIMUM 10 FOOT WIDTH UTILIZING A PAVING MACHINE. MINIMUM OF 1" THICKNESS (DI-AR-4000) ABOVE EXISTING PAVEMENT, EXCEPT WHERE EDGES ARE FEATHERED AS DIRECTED BY THE CITY ENGINEER.
- 8.) ALL ASPHALT PAVING SHALL MATCH TO THE EXISTING PAVEMENT MATERIALS INCLUDING RUBBERIZED ASPHALT

NO.	REVISIONS/DATE	APPROVED BY

CITY OF COLTON
PUBLIC WORKS DEPARTMENT

TRENCH REPAIR


DRAWN BY	JCS	SCALE	NTS	DRAWING NO.
CHECKED BY	VO	DATE	JUNE 24, 2009	124
APPROVED BY	<i>Thomas Williams</i>			
THOMAS I WILLIAMS, P.E.				



GENERAL NOTES

- 1.) TRENCH BACKFILL SHALL BE PER SECTION 306-1.3 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTIONS, EXCEPT AS SHOWN ON THIS DRAWING.
- 2.) COMPACTION OF BACKFILL SHALL BE VERIFIED BY CONTRACTOR AND APPROVED BY THE ENGINEERING DEPARTMENT PRIOR TO THE PLACING OF PERMANENT PAVEMENT. COMPACTION TESTS SHALL BE TAKEN BY A LICENSED ENGINEER OR TESTING LABORATORY AT RANDOM LOCATIONS SELECTED BY THE TESTING FIRM AND/OR THE CITY ENGINEER. LONGITUDINAL TRENCHES SHALL HAVE A COMPLETE SERIES OF COMPACTION TESTS TAKEN FOR EACH FOUR FEET OF THICKNESS OF BACKFILL PLACED. EACH SERIES SHALL CONSIST OF TESTS TAKEN AT APPROXIMATE MAXIMUM INTERVALS OF 250 FEET. LATERAL TRENCHES SHALL HAVE COMPACTION TESTS TAKEN ON 50% OF THE LATERALS, ONE TEST FOR EACH FOUR FEET OF THE DEPTH OF THE LATERAL.
- 3.) UNDERGROUND SERVICE ALERT SHALL BE NOTIFIED 2 WORKING DAYS PRIOR TO THE START OF WORK. 1-800-422-4133
- 4.) UNTIL PERMANENT PAVEMENT IS REPLACED OVER A BACKFILLED TRENCH, MINIMUM 2" THICKNESS OF TEMPORARY ASPHALT CONCRETE PAVING SHALL BE WITHIN THE TRENCH AREA. THE TEMPORARY PAVING SHALL BE PLACED AND COMPACTED IN SUCH A MANNER AS TO PROVIDE A SAFE AND SMOOTH TRAVELED SURFACE. PERMITTEE SHALL MAINTAIN THE TEMPORARY PAVEMENT IN THIS SAFE AND SMOOTH CONDITION UNTIL PERMANENT PAVING IS IN PLACE.
- 5.) PRIOR TO PLACEMENT OF PERMANENT PAVING, EXISTING PAVEMENT SHALL BE CUT TO A NEAT STRAIGHT EDGE. CRACKED PAVEMENT ADJACENT TO THE TRENCH SHALL BE REMOVED.
- 6.) ALL EDGES OF EXISTING PAVEMENT BEING JOINED AND SURFACE BEING OVERLAID SHALL RECEIVE A TACK COAT OF ASPHALT EMULSION.
- 7.) ALL TRENCHES EXCEEDING 400 FEET IN LENGTH, MUST BE CAPPED WITH A MINIMUM 10 FOOT WIDTH UTILIZING A PAVING MACHINE. MINIMUM OF 1" THICKNESS (DI-AR-4000) ABOVE EXISTING PAVEMENT, EXCEPT WHERE EDGES ARE FEATHERED AS DIRECTED BY THE CITY ENGINEER. REFER TO TRENCH REPAIR CITY STANDARD DWG NO. 124.
- 8.) ALL ASPHALT PAVING SHALL MATCH TO THE EXISTING PAVEMENT MATERIALS INCLUDING RUBBERIZED ASPHALT

NO.	REVISIONS/DATE	APPVD BY
CITY OF COLTON		
PUBLIC WORKS DEPARTMENT		
EXCAVATION REPAIR		
DRAWN BY	JCS	SCALE NTS
CHECKED BY	VO	DATE SEPT 30, 2009
APPROVED BY	<i>Thomas Williams</i> THOMAS I. WILLIAMS, P.E.	
		124a

BENCHMARK		PREPARED BY: [ENGINEERING COMPANY] [INFORMATION]	CITY OF COLTON PUBLIC WORKS AND UTILITY SERVICES DEPARTMENT DIRECTOR: _____ DATE: _____ NAME: _____ ACCEPTED: _____ PLAN NO. #####	REVISIONS WATER OR SEWER IMPROVEMENT PLAN OR PROJECT NAME ON-SITE UTILITY PLAN ADDRESS: _____	DATE SCALE NO. OF SHEETS SHEET - OF -
		APPL.			

NOTE:

1. Title block to be placed in LOWER RIGHT HAND corner of plans.
2. Place on all Water, Sewer, and Onsite Utility Plans.
3. Revisions shall be entered from the bottom, up.
4. Total height of Title Block must be 2 inches.
5. A Dig Alert identification number is required before a permit to excavate will be issued. Provide a Dig Alert note and logo beside title block on all sheets (See example below).

Underground Service Alert



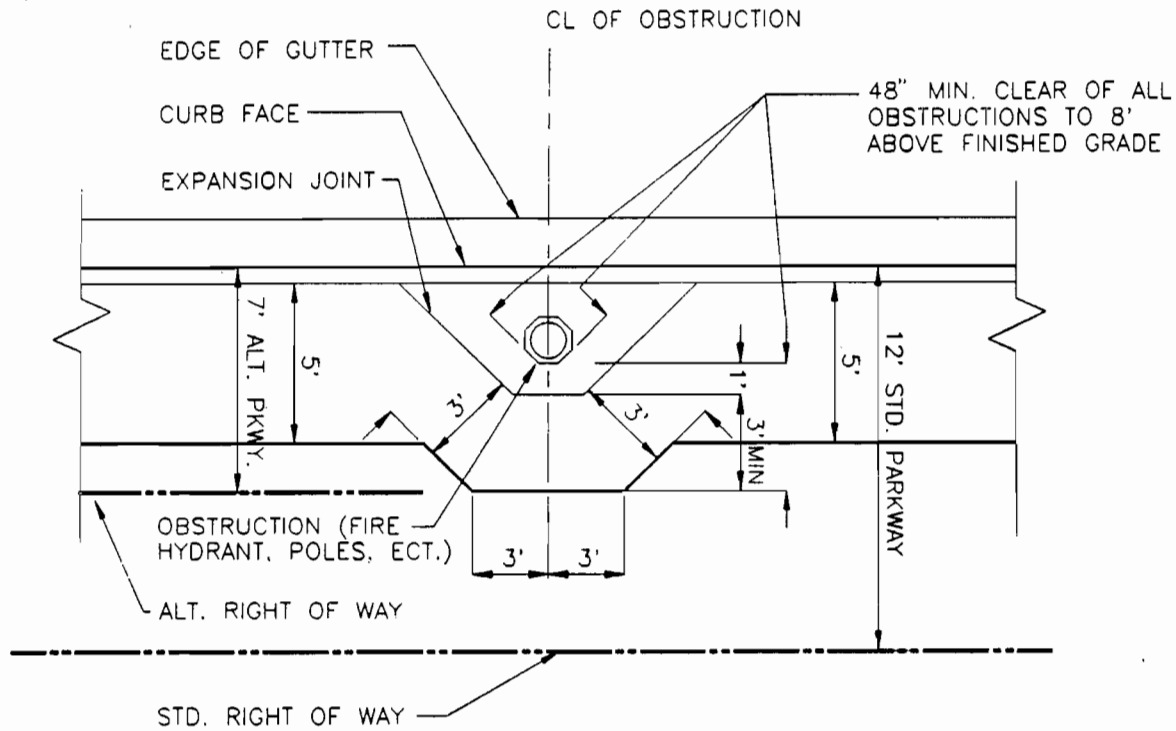
Call: TOLL FREE

1-800

422-4133

TWO WORKING DAYS BEFORE YOU DIG

CITY OF COLTON WATER/WASTEWATER DEPARTMENT CITY OF COLTON WATER/WASTEWATER DEPT. TITLE BLOCK		
DATE: JAN 2011	SCALE: N.T.S.	DWG. NO. 126B
DWN BY: JCS	REV: _____	
APP'D BY: _____ DIRECTOR		



NOTES:

1. CONCRETE SHALL BE CLASS 520-C-2500
2. SEE STANDARD DRAWING 109 FOR EXPANSION JOINTS AND SCORING LINES.
3. ALL EXCESS DIRT TO BE REMOVED FROM PREMISES BY CONTRACTOR.
4. LIGHT BROOM FINISH PERPENDICULAR TO CURB.
5. PARKWAY FROM CURB TO PROPERTY LINE TO BE BROUGHT TO GRADE BY CONTRACTOR BEFORE FINAL APPROVAL.
6. THIS STANDARD APPLIES TO ALL OBSTRUCTIONS IN SIDEWALK AREA WHERE LESS THAN A 48" CLEAR WIDTH IS AVAILABLE FOR WHEELCHAIRS.

<p>CITY OF COLTON PUBLIC WORKS DEPT: JOHN C. HUTTON, DIR.</p>		
<p>SIDEWALK JOG FOR ALL OBSTRUCTIONS</p>		
DRAWN BY: S.E.S.	SCALE: N.T.S.	DRAWING NO.
CHECKED BY: T.R.W.	DATE: JANUARY 1 1992	<p style="font-size: 2em;">127</p>
APPROVED BY: <i>[Signature]</i> R.C.E. 13440		

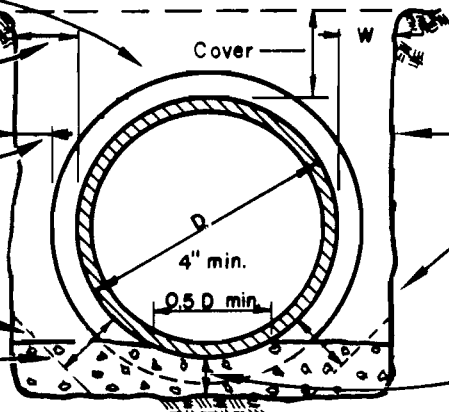
Backfill as specified on improvement planes

6" min. clearance to barrel

2" min. clearance to bell or collar

Excavation to this line permitted

Bedding A



Excavated bank or sheeting

Screed bedding A to fit curvature and grade of pipe. Type of screed and the method of use to be approved by the Engineer.

Bedding material below bottom of pipe shall be $\frac{1}{2} D$ for pipes 39" and larger in diameter, and 4" for pipes less than 39" in diameter. In no case shall it be less than 1" below any bell or collar.

BEDDING & BACKFILL AROUND PIPE (Load Factor 1.4)

- (a) "W" at springing line shall not be less than 6" for any depth of trench. This dimension may include the thickness of any sheeting.
- (b) Where cover is 8" or less, "W", measured at top of pipe, may be any dimension greater than 6".
- (c) Where cover is greater than 8", W, measured at top of pipe, shall not be greater than 8"; or else provide Case I bedding or stronger pipe. The stated 8" includes the thickness of any sheeting.

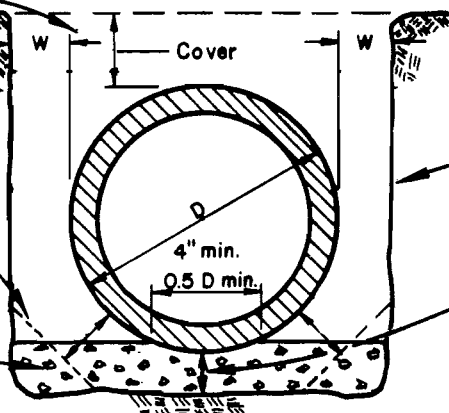
CASE II - VITRIFIED CLAY AND PLAIN CONCRETE PIPE

Backfill as specified on improvement planes

Excavated bank or sheeting

Excavation to this line permitted.

Bedding A



Screed bedding A to fit curvature and grade of pipe. Type of screed and the method of use to be approved by the Engineer.

Bedding material below bottom of pipe shall be $\frac{1}{2} D$ for pipes 39" and larger in diameter, and 4" for pipes less than 39" in diameter. In no case shall it be less than 1" below any bell or collar.

BEDDING & BACKFILL AROUND PIPE (Load Factor 1.4)

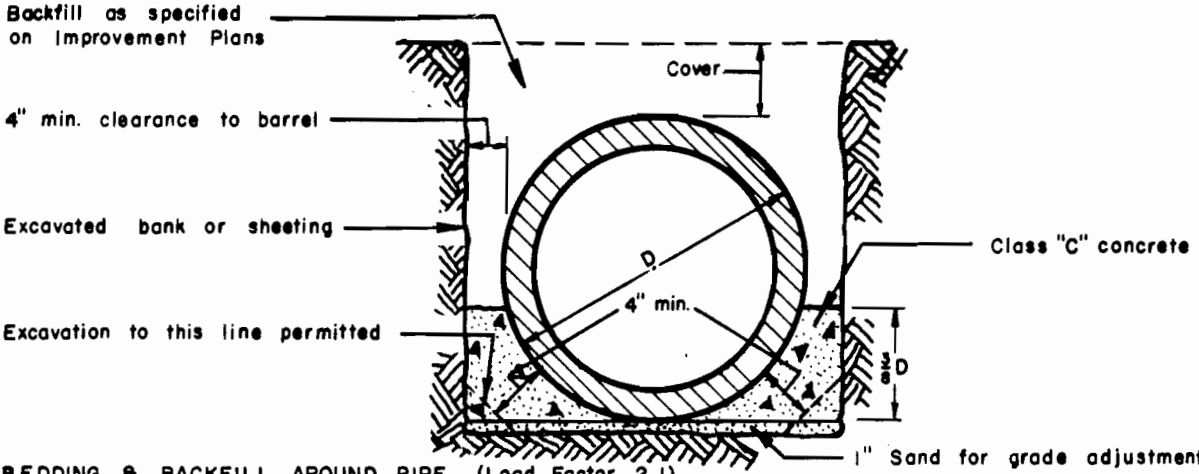
- (a) "W" at springing line shall not be less than the following: 6" for pipe 60" or less in diameter, 10" for pipe 63" to 96" inclusive in diameter, and 12" for pipe larger than 96" in diameter. These dimensions may include the thickness of any sheeting.
- (b) Where cover is 10" or less, "W", measured at the top of the pipe, may be any dimension greater than the above specified minimum, unless otherwise specified on the general plan.
- (c) Where cover is greater than 10", "W", measured at the top of the pipe, shall not be greater than 10" for pipe 96" in diameter or less, or 12" for pipe over 96" in diameter; or else provide Case I bedding or stronger pipe. These dimensions includes the thickness of any sheeting.

CASE III - REINFORCED CONCRETE PIPE

NOTES:

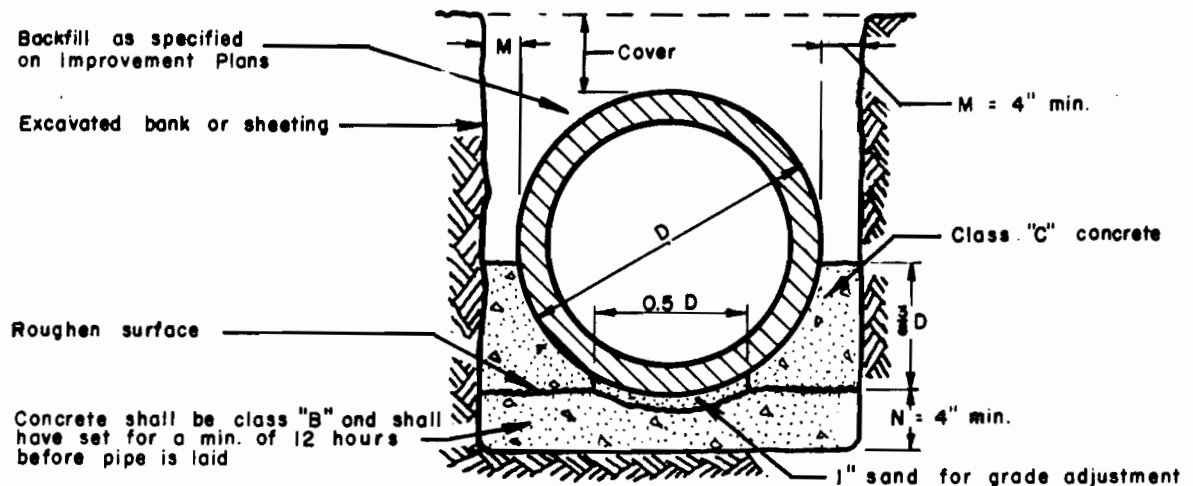
1. For Case I, Case IV, and Case V see STD. Dwg. No. 202
2. Bedding A shall be composed of sand, crushed rock or gravel, or other imported material as may be specified or otherwise approved by the Engineer.
3. Cost of bedding shall be included in the price for pipe in place.
4. Backfill shall contain no rocks larger than 4" in greatest dimension.
5. Where rocks are included in the bedding, "nesting" thereof will not be permitted.
6. 3 - Edge Bearing Test load factor = 1.0.

CITY OF COLTON PUBLIC WORKS DEPT.		
STANDARD PIPE BEDDING IN TRENCHES		
DRAWN BY G.W.A.	SCALE N.T.S.	DRAWING NO.
CHK'D <i>[Signature]</i>	DATE NOV. 1963	201
APP'D <i>[Signature]</i>		



BEDDING & BACKFILL AROUND PIPE (Load Factor 2.1)
 The above shall be used where specified on plans or where required as an alternate to Case II or Case III Bedding as shown on Standard Drawing No. 201

CASE I



BEDDING & BACKFILL AROUND PIPE (Load Factor 3.0)
 The above shall be used where required by Engineer as an alternate to Case I against sheeting or unstable trench sides or to meet other conditions arising during construction. M and N shall be specified on the plans or by the Engineer.

CASE IV

NOTES:

1. For Case II and Case III, see Standard Drawing No. 201
2. Backfill shall contain no rocks larger than 4".
3. 3 - Edge Bearing Test load factor = 1.0.
4. Cost of Bedding shall be included in the price for pipe in place.

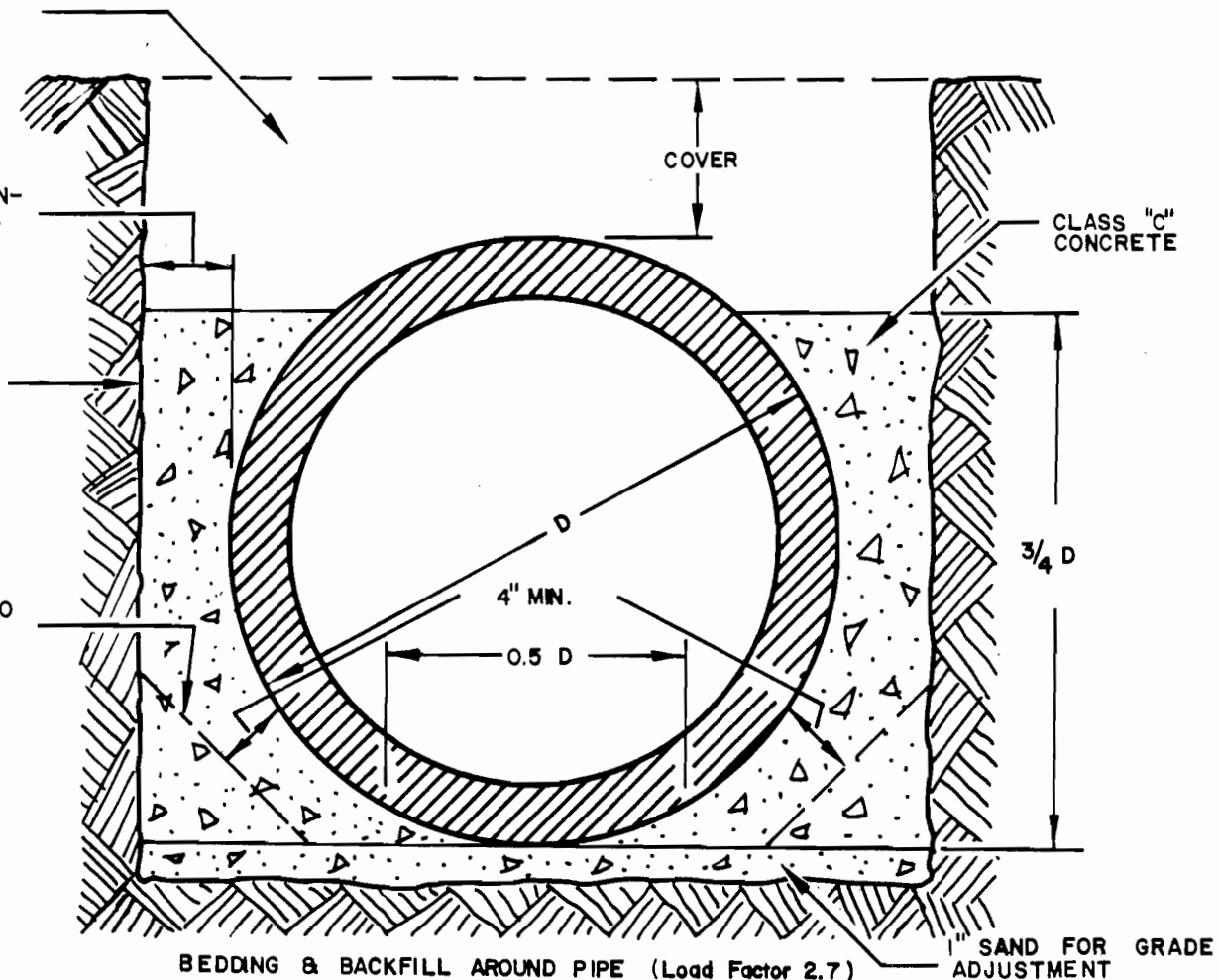
CITY OF COLTON PUBLIC WORKS DEPT.			
ALTERNATE PIPE BEDDING IN TRENCHES			
DRAWN BY	G.W.A.	SCALE	N.T.S.
CHK'D	<i>[Signature]</i>	DATE	OCT. 1963
APP'D	<i>[Signature]</i>		DRAWING NO. 202

BACKFILL AS SPECIFIED ON IMPROVEMENT PLANS

4" MIN. CLEARANCE TO BARREL

EXCAVATED BANK OR SHEETING

EXCAVATION TO THIS LINE IS PERMITTED



BEDDING & BACKFILL AROUND PIPE (Load Factor 2.7)

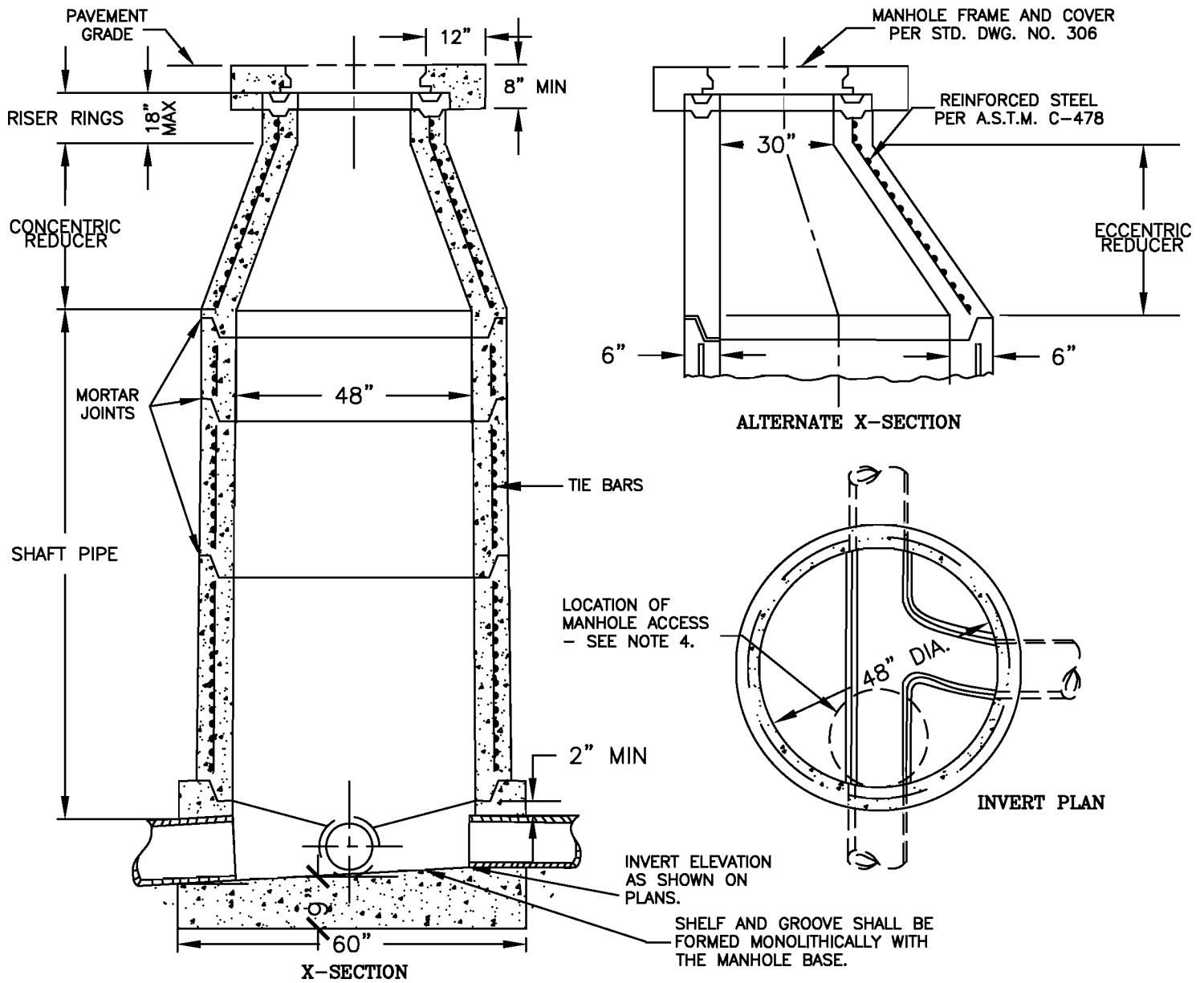
1" SAND FOR GRADE ADJUSTMENT

CASE V

NOTES

1. CASE V BEDDING SHALL BE USED WHERE SPECIFIED ON IMPROVEMENT PLANS.
2. FOR CASE II & III, SEE STANDARD NO. 201
3. FOR CASE I & IV, SEE SHEET I.
4. BACKFILL SHALL CONTAIN NO ROCKS LARGER THAN 4".
5. 3-EDGE BEARING TEST LOAD FACTOR = 1.0
6. COST OF BEDDING SHALL BE INCLUDED IN THE PRICE FOR PIPE IN PLACE.

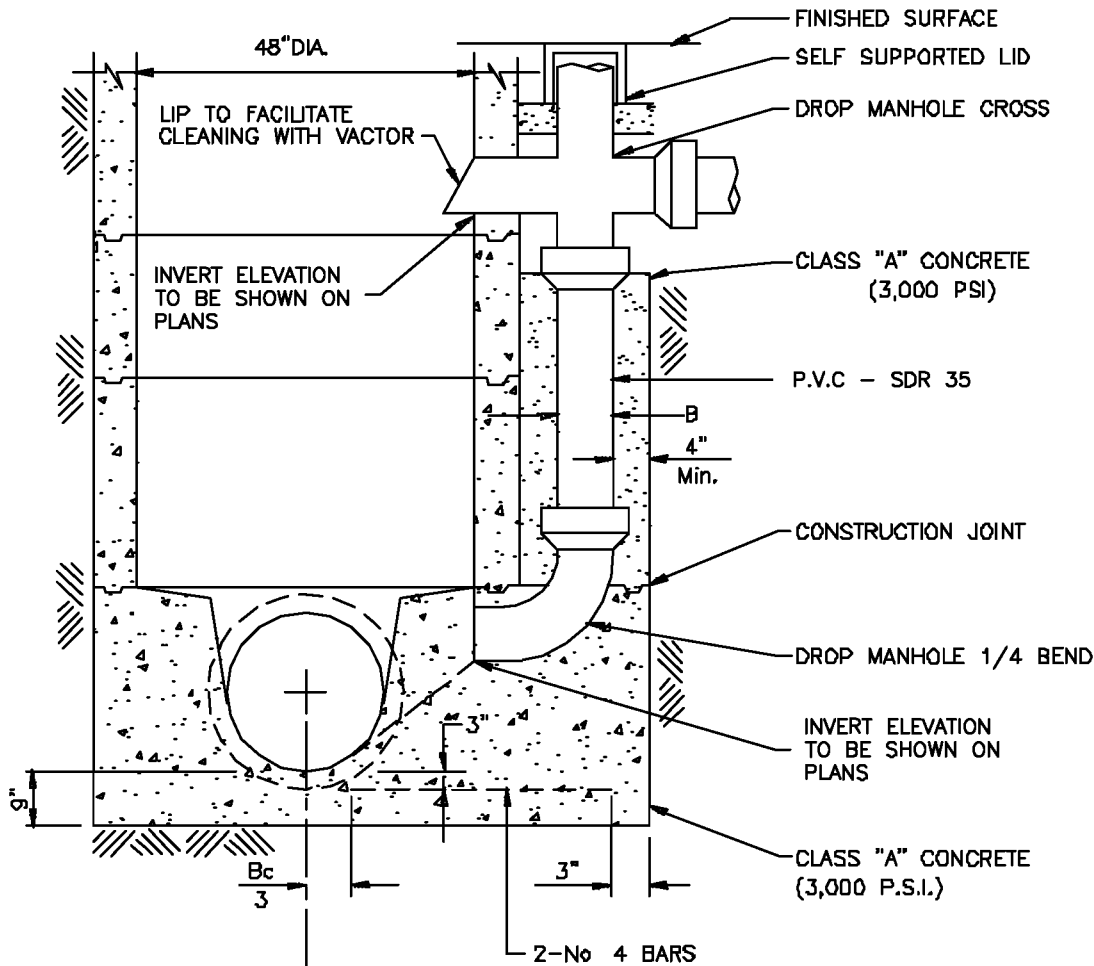
CITY OF COLTON PUBLIC WORKS DEPT		
ALTERNATE PIPE BEDDING IN TRENCHES		
DRAWN BY: T. FARKAS	SCALE N.T.S.	DRAWING NO. 202
CHK'D <i>[Signature]</i>	DATE NOV. 1963	
APP'D <i>[Signature]</i>		



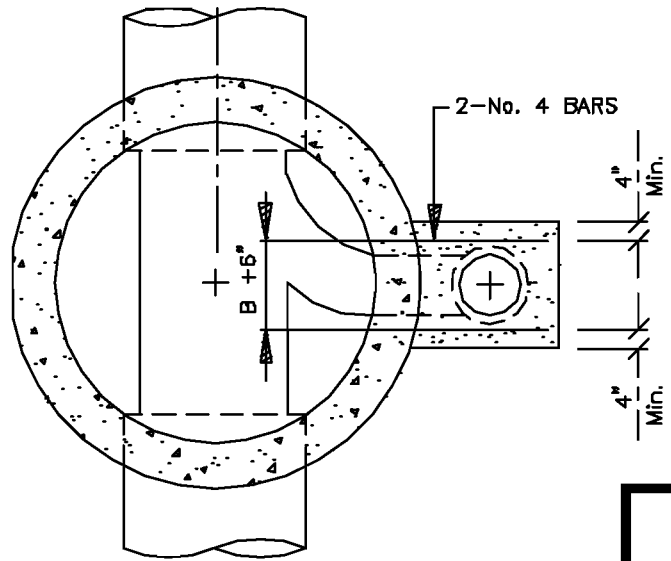
NOTES:

1. ALL SECTIONS TO BE WASHED TO REMOVE ANY LOOSE MATERIAL, THEY ARE TO BE SET IN PREFORMED COLD-APPLIED READY-TO-USE PLASTIC JOINT SEALING COMPOUND AND PRIMER, RAM-NEK OR APPROVED EQUAL.
2. PROVIDE FLEXIBLE JOINT IN ALL SEWER PIPES OUTSIDE OF MANHOLE BUT WITHIN 12" OF CONCRETE BASE.
3. CONCRETE RING AROUND FRAME SHALL BE CURED WITH A PIGMENTED CURING COMPOUND MEETING THE REQ. OF SECTION 90-7 OF STATE OF CA. DEPT. OF TRANSPORTATION STD. SPECS.
4. ALL MANHOLE TOPS SHALL BE INSTALLED WITH MANHOLE COVER OVER THE UPSTREAM INLET, EXCEPT AS OTHERWISE SPECIFIED.
5. PRECAST REINFORCED CONCRETE MANHOLES SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. C478, BE DESIGNED FOR A.A.S.H.T.O H-20 LOADING AND CONCRETE SHALL BE COMPACTLY VIBRATED, CENTRIFUGALLY SPUN, OR MECHANICALLY TAMPED.
6. SEWER MAINS ARE TO BE LAID THRU THE MANHOLE WHERE POSSIBLE AND USED AS A FORM FOR THE INVERT. THE TOP 1/2 DIAMETER OF THE PIPE IS TO BE BROKEN OUT TO A NEAT LINE, BROKEN EDGES SHALL BE PLASTERED SMOOTH WITH CONCRETE MORTAR.
7. CONCRETE BASE SHALL BE OF CLASS "A" CONCRETE AND PLACED AGAINST UNDISTURBED EARTH IN ONE OPERATION. CONCRETE INVERTS SHALL BE TRUE TO GRADE AND ALIGNMENT, AND FINISHED WITH A SMOOTH SURFACE. SPECIAL CARE SHALL BE USED IN FORMING ALL CHANNELS TO FACILITATE THE FLOW OF SEWAGE.

CITY OF COLTON		
WATER/WASTEWATER DEPARTMENT		
STANDARD R.C.P MANHOLE		
DATE: NOV 2006	SCALE: N.T.S.	DWG. NO. 300
DWN BY: S.M.H	REV: _____	
APP'D BY: _____		
DIRECTOR		



B = OUTSIDE DIAMETER OF PIPE

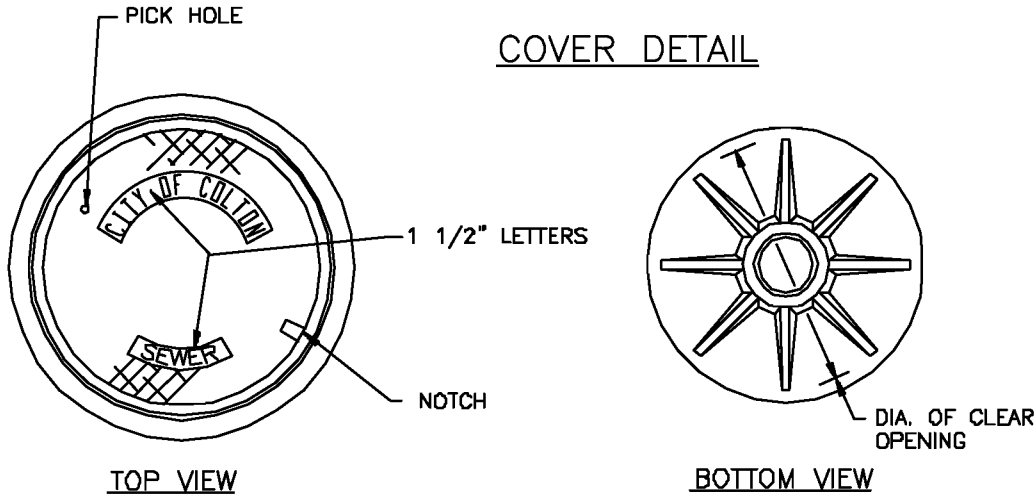


NOTES:

1. FOUNDATION FOR DROP SECTION SHALL BE POURED MONOLITHICALLY WITH MANHOLE BASE.
2. ALL APPLICABLE PROVISIONS OF STANDARD MANHOLE DETAIL DRAWING 300 SHALL APPLY TO DROP MANHOLE.
3. THIS CONFIGURATION IS ALLOWED ONLY FOR A NEW SEWER CONNECTION TO AN EXISTING MANHOLE, SO THAT THE SLOPE OF THE NEW SEWER PIPE DOES NOT EXCEED 5%.
4. EXISTING MANHOLE MUST BE COMPLETELY COATED WITH ZEBRON OR T-LOK COATING.
5. WEIGHT OF CLEANOUT LID MUST NOT BE SUPPORTED BY THE PIPE.

CITY OF COLTON		
WATER/WASTEWATER DEPARTMENT		
DROP MANHOLE		
DATE:	SCALE: N.T.S.	DWG. NO. 301
DWN BY: <u>S.M.H</u>	REV: <u>FEB 2007</u>	
APP'D BY: _____		
DIRECTOR		

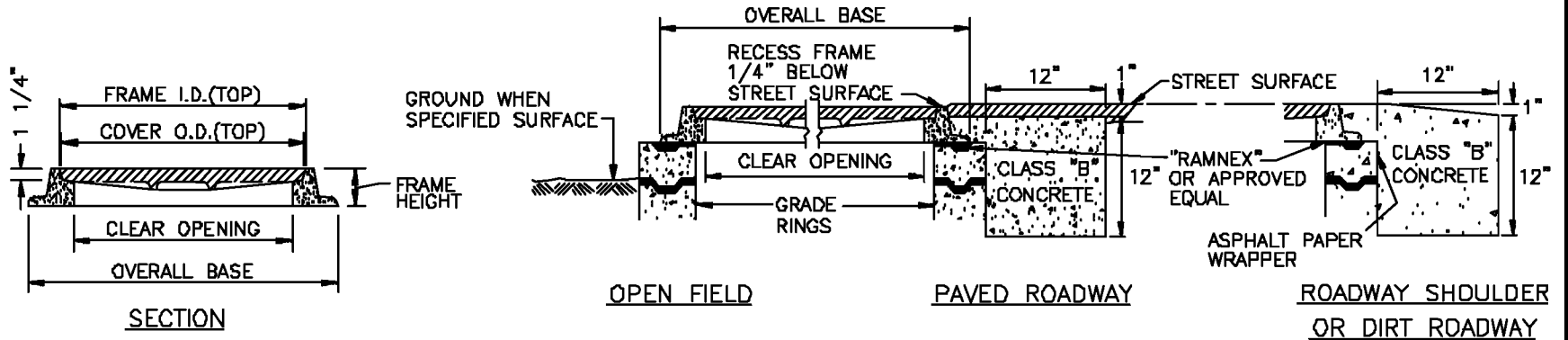
COVER DETAIL



MANHOLE COVER & FRAME REQUIRED DIMENSIONS						
COVER RIM THICKNESS	CLEAR OPENING	COVER O.D.	FRAME I.D.	FRAME HEIGHT	OVERALL BASE	TOTAL WT
1 1/4"	30"	32 1/4"	32 1/2"	5 1/2"	36"	430

* REQUEST NOTCH AND PICKLE WHEN ORDERING FROM MANUFACTURER.

SECTION THROUGH FRAME SHOWING TYPICAL INSTALLATION



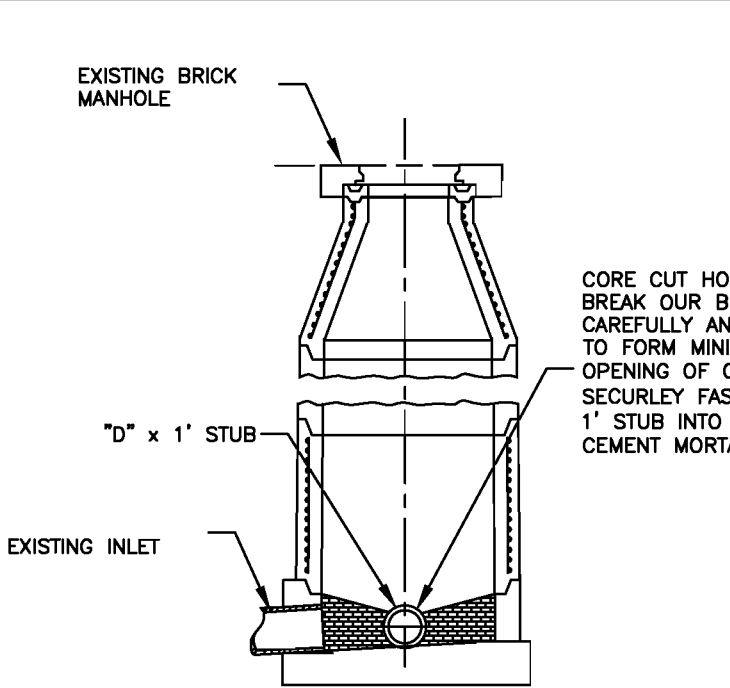
NOTES:

1. MANHOLE COVER SHALL BE DESIGNED FOR A.A.S.H.T.O. H-20 LOADING.
2. CAST IRON SHALL HAVE MINIMUM TENSILE STRENGTH OF 30,000 LBS. PER SQUARE INCH.
3. MANHOLE COVER SHALL BE 30" DIAMETER ALHAMBRA FOUNDRY CO. TYPE A-1252*, LONG BEACH IRON WORKS INC., TYPE X-106B, NEENAH FOUNDRY CO. TYPE NFC-1252 OR APPROVED EQUAL.
4. MARKER POSTS SHALL BE INSTALLED TO MARK MANHOLE LOCATIONS IN OPEN FIELD INSTALLATIONS.
5. FRAME AND COVER TO BE RAISED TO FINISHED GRADE AFTER FINISHED PAVING.

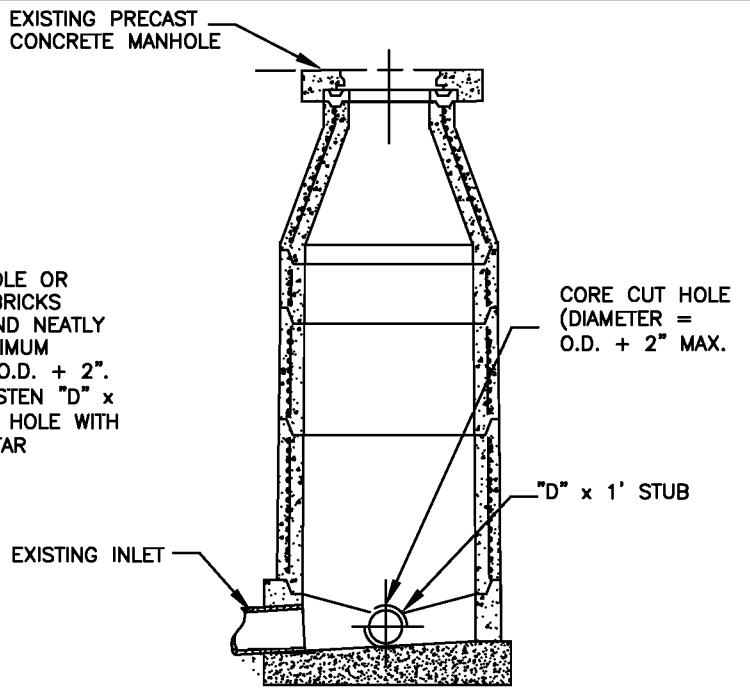
CITY OF COLTON
WATER/WASTEWATER DEPARTMENT

MANHOLE COVER AND FRAME

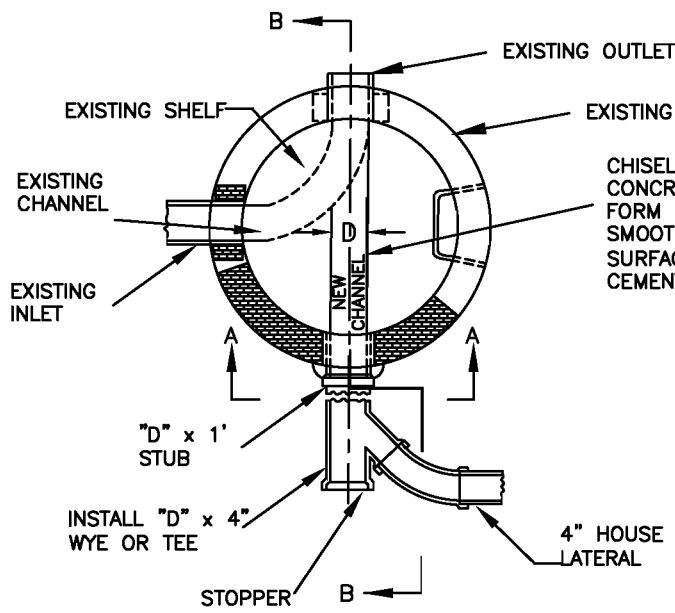
DATE:	SCALE: N.T.S.	DWG. NO. 302
DWN BY: S.M.H	REV: FEB 2007	
APP'D BY:	DIRECTOR	



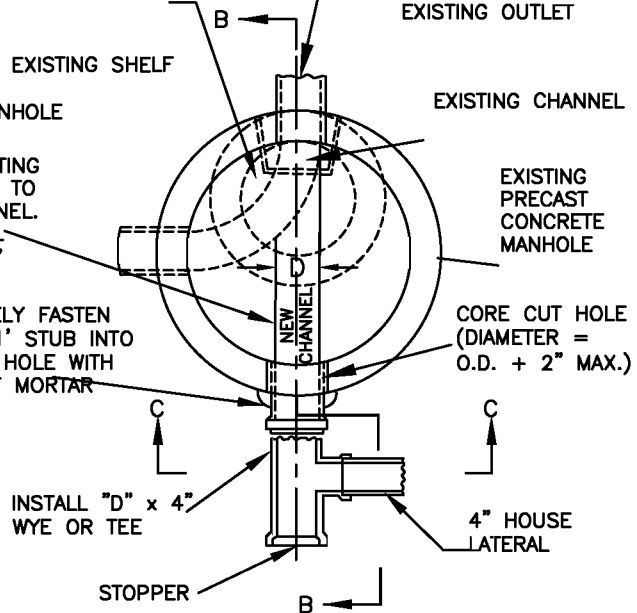
SECTIONAL ELEVATION A-A



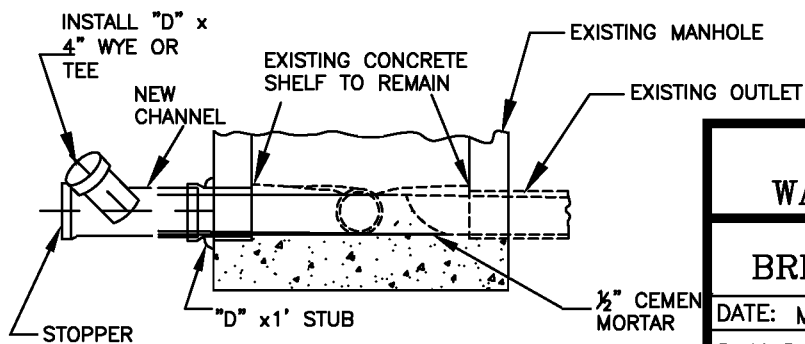
SECTIONAL ELEVATION C-C



SECTIONAL PLAN OF BASE



SECTIONAL PLAN OF BASE



**SECTIONAL ELEVATION B-B
CHANNEL BASE**

CITY OF COLTON WATER/WASTEWATER DEPARTMENT		
BREAKING INTO EXISTING MANHOLES		
DATE: MARCH 2007	SCALE: N.T.S.	DWG. NO. 303
DWN BY: S.M.H	REV: _____	
APP'D BY: _____		DIRECTOR
		SHEET 1 OF 2

NOTES:

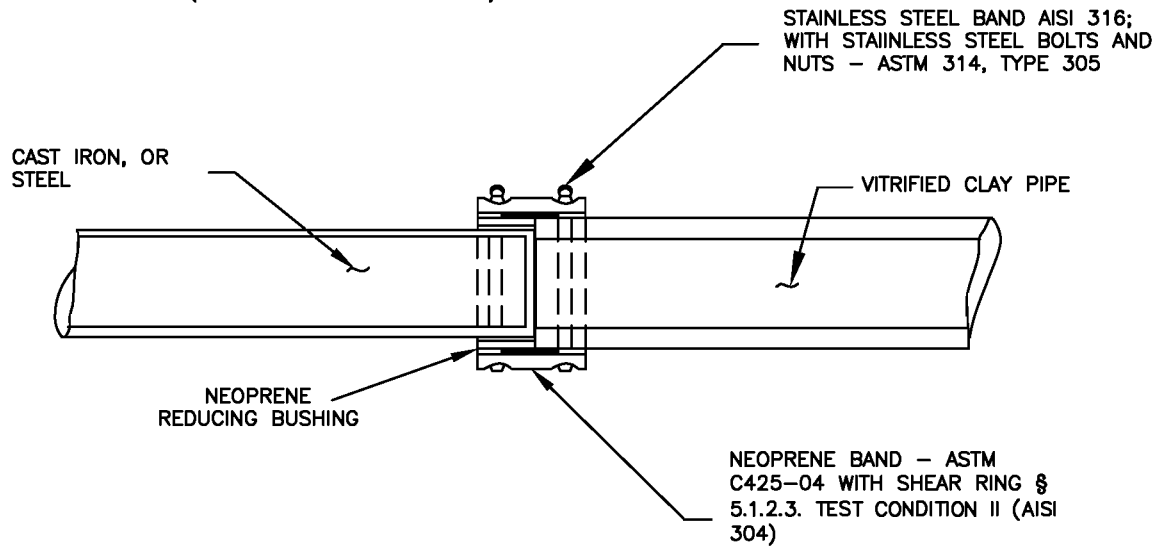
1. INVERT ELEVATION OF "D" x 1 FT. STUB AT THE INSIDE FACE OF MANHOLE TO BE 0.10 FT. HIGHER THAN EXISTING OUTLET INVERT ELEVATION.
2. THE CORE CUT HOLE SHALL BE MADE WITH EQUIPMENT SPECIALLY DESIGNED TO CUT A SMOOTH HOLE WITHOUT SPALLING OR DAMAGE TO THE REINFORCING STEEL OR STRUCTURE.
3. "D" TO BE 8 IN. MINIMUM.
4. ALL WORK SHOULD BE UNCOVERED AND CONVENIENT FOR THE INSPECTION.

HOUSE LATERAL NOTES:

1. WYE TO BE LAID WITH $\frac{1}{8}$ IN. RISE PER 1 FT. AND 6 IN. SPUR AT 45° FROM HORIZONTAL UNLESS OTHERWISE NOTED ON PLANS.
2. "D" x 6 IN. WYE OR TEE AND 6 IN. HOUSE LATERAL MAY BE SUBSTITUTED FOR "D" x 4 IN. WYE OR TEE AND 4 IN. HOUSE LATERAL.
3. USE TYPE "D" OR "G" JOINTS PER SUB-SECTION.
4. ALL WORK SHOULD BE UNCOVERED AND CONVENIENT FOR THE INSPECTION.

CITY OF COLTON WATER/WASTEWATER DEPARTMENT		
BREAKING INTO EXISTING MANHOLES		
DATE: MARCH 2007	SCALE: N.T.S.	DWG. NO. 303
DWN BY: <u>S.M.H</u>	REV: _____	
APP'D BY: _____		SHEET 2 OF 2
DIRECTOR		

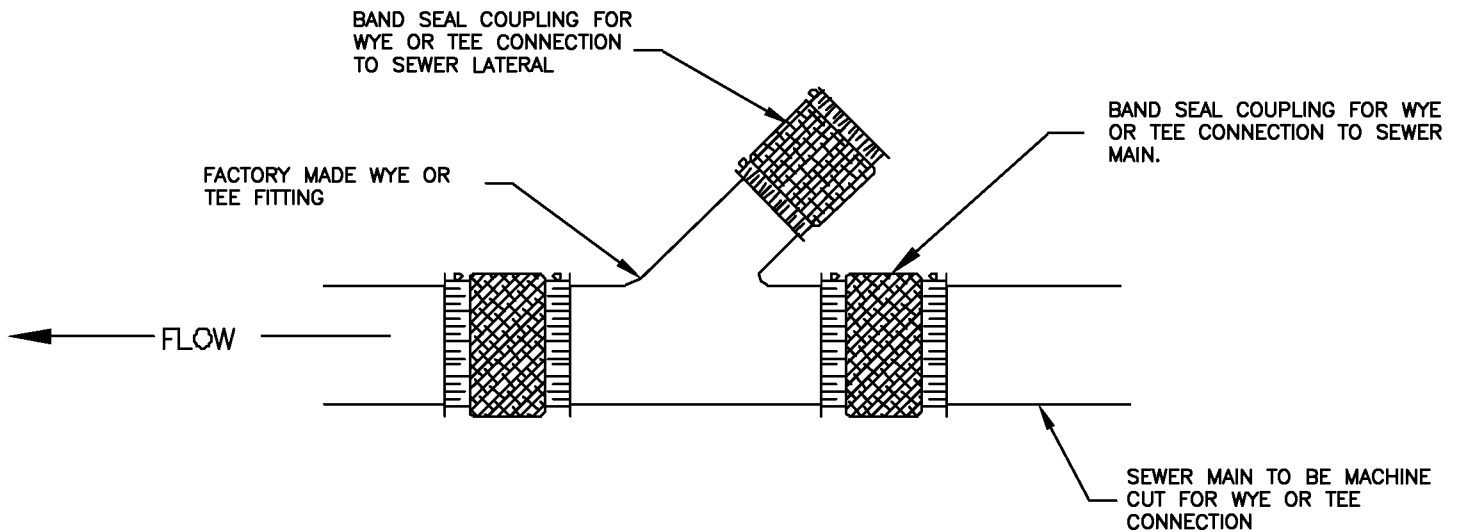
FLEXIBLE COUPLING (NON-PRESSURE)



NOTES:

NO CONNECTION ALLOWABLE AT BELL END OF V.C.P. CUT BELL END OFF V.C.P. PRIOR TO MAKING CONNECTION.

FACTORY MADE WYE OR TEE CONNECTION



CITY OF COLTON
WATER/WASTEWATER DEPARTMENT

SEWER CONNECTIONS

DATE: MARCH 2007

SCALE: N.T.S.

DWG. NO.

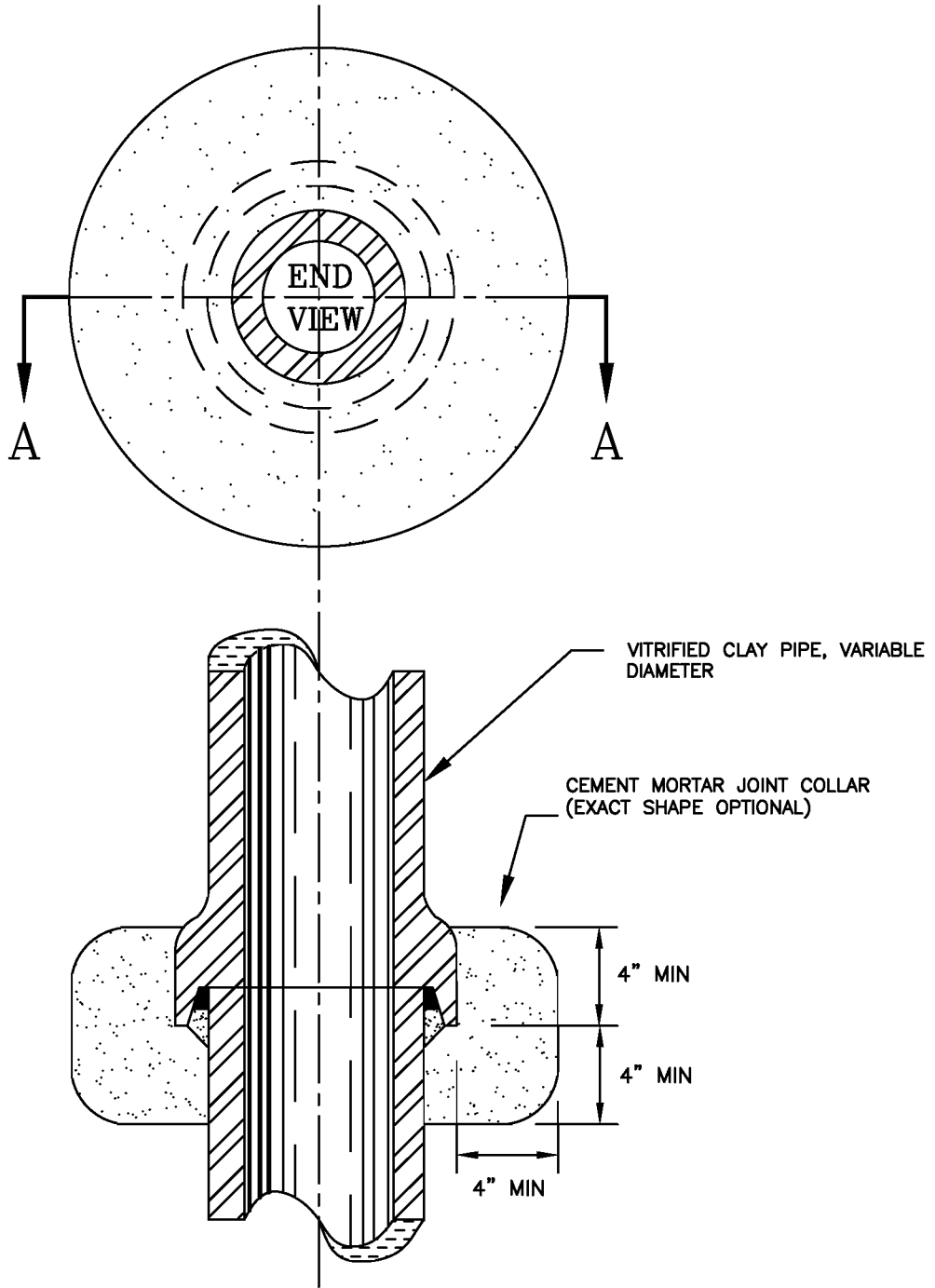
DWN BY: S.M.H

REV: _____

304

APP'D BY: _____

DIRECTOR

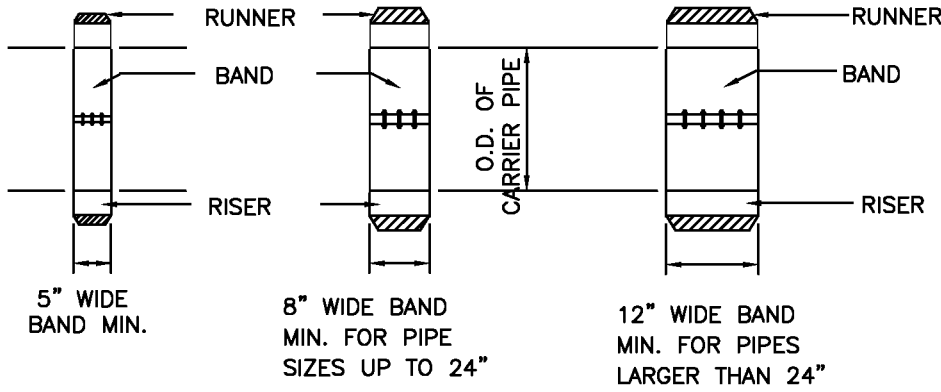


SECTION A-A

NOTES:

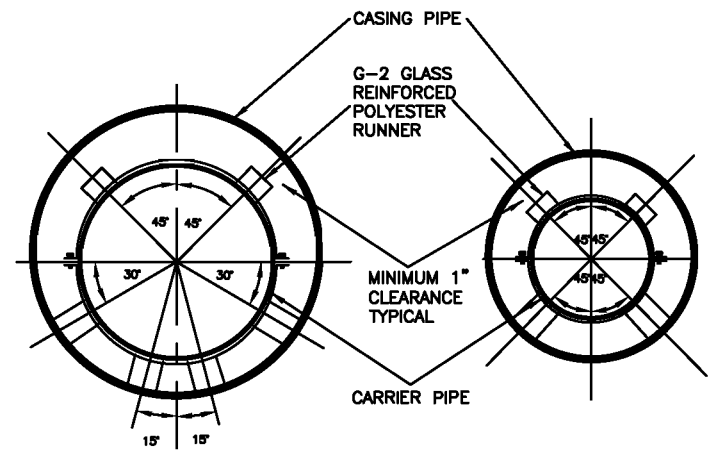
- (1) CEMENT MORTAR JOINT COLLAR TO BE INSTALLED AROUND ANY JOINT (OF SEWER MAIN OR LATERAL) WHICH IS WITHIN TEN (10) FT. OF ANY TREE.
- (2) MORTAR TO BE A MIXTURE OF ONE PART PORTLAND CEMENT AND TWO PARTS OF CLEAN, SCREENED SAND - TROWELLED SMOOTH.

CITY OF COLTON WATER/WASTEWATER DEPARTMENT		
CEMENT MORTAR JOINT COLLAR		
DATE: MARCH 2007	SCALE: N.T.S.	DWG. NO. 305
DWN BY: S.M.H	REV: _____	
APP'D BY: _____		
DIRECTOR		



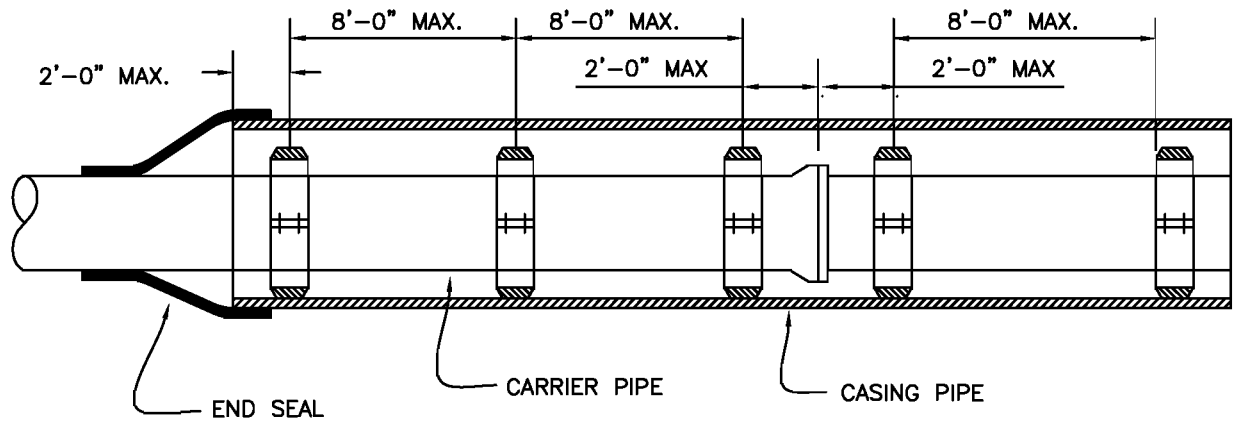
TYPE I SPACERS

TYPE II SPACERS



SIZES 14" THRU 36"

SIZES 4" THRU 12"



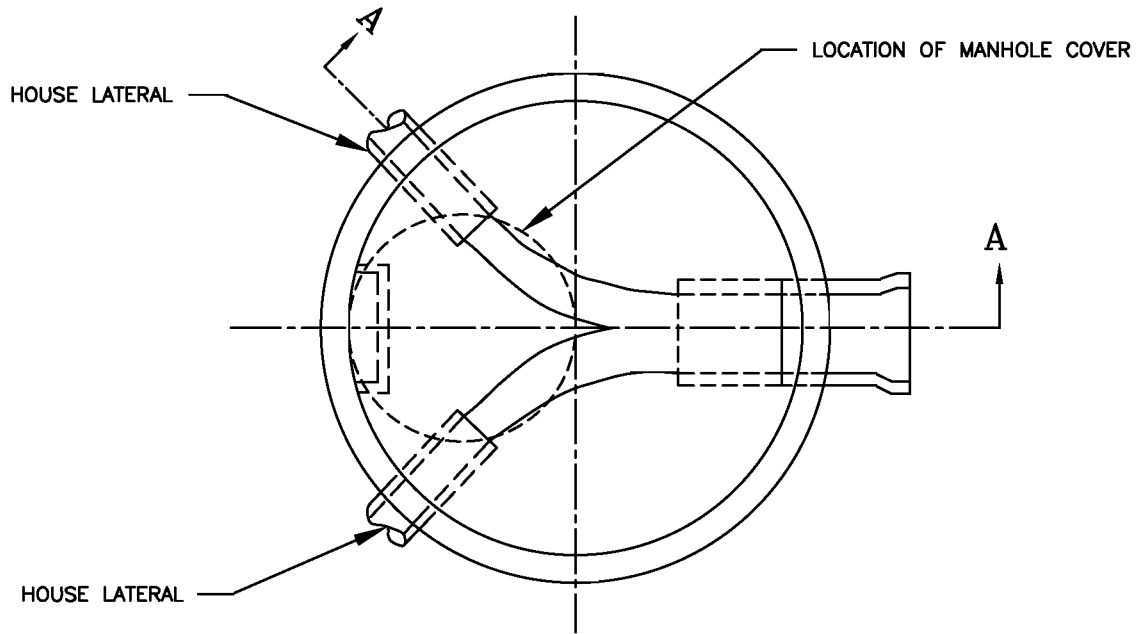
WALL THICKNESS FOR STEEL CASING PIPE

UNDER 14"	0.251"
14" & 16"	0.282"
18"	0.313"
20"	0.344"
22"	0.375"
24"	0.407"
26"	0.438"
28" & 30"	0.469"
32"	0.501"
34" & 36"	0.532"
38" - 44"	0.563"
46" - 50"	0.688"
52" & 54"	0.813"
60"	0.876"
66"	1.000"

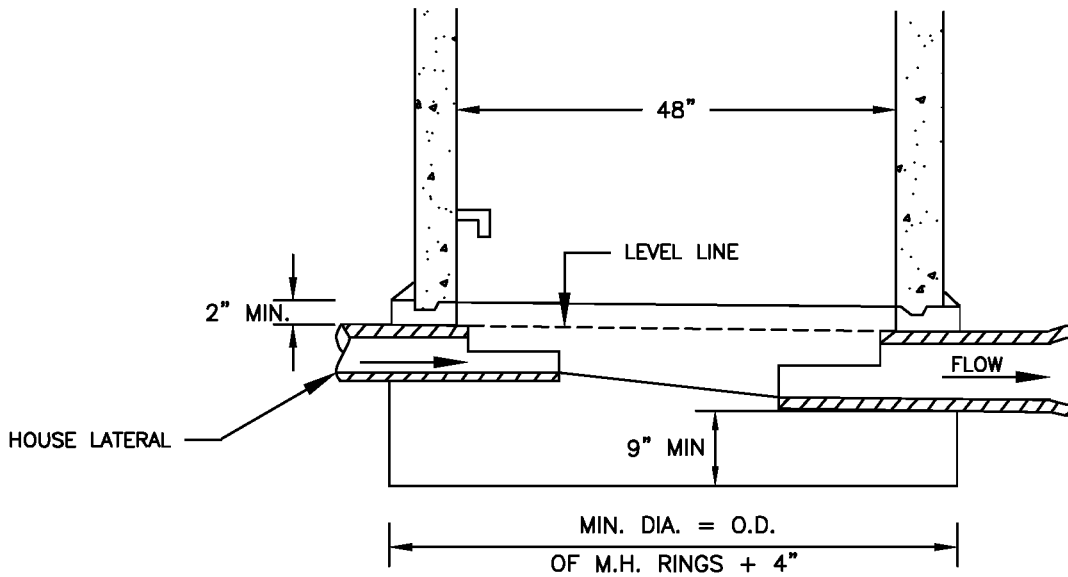
NOTES:

- (1) 2" MINIMUM BELL CLEARANCE SHALL BE PROVIDED FOR SLEEVES LESS THAN 60' LONG.
- (2) 4" MINIMUM BELL CLEARANCE SHALL BE PROVIDED FOR SLEEVES 60' OR LONGER.
- (3) THE INSIDE DIAMETER OF THE CASING PIPE SHALL BE A MINIMUM OF 2" LARGER THAN THE OUTSIDE BELL DIAMETER OF THE CARRIER PIPE IF CARRIER PIPE IS LESS THAN 6" IN DIAMETER. IF THE DIAMETER OF THE CARRIER PIPE IS 6" OR LARGER, THE DIAMETER OF THE CASING PIPE SHALL BE A MINIMUM OF 4" LARGER THAN THE LARGEST OUTSIDE DIAMETER OF THE CARRIER PIPE.
- (4) THE END OF THE CASING PIPE SHALL EXTEND A MINIMUM OF 25' FROM THE CENTERLINE OF RAIL WHEN APPLICABLE.
- (5) THE END OF CASING PIPE SHALL EXTEND A MINIMUM OF 6' FROM EDGE OF PAVEMENT OR BACK OF CURB.
- (6) THE TOP OF THE CASING PIPE SHALL BE A MINIMUM OF 6' BELOW THE BASE OF RAIL WHEN APPLICABLE.
- (7) THE TOP OF THE CASING PIPE SHALL BE A MINIMUM OF 3' BELOW THE INVERT OF ROADSIDE DRAINAGE DITCHES.
- (8) STEEL CASING SHALL BE INSTALLED BY MEANS OF JACKING OR DRY BORING, EXCEPT WHERE SPECIFICALLY DIRECTED BY DIRECTOR TO BE INSTALLED BY OPEN TRENCH CONSTRUCTION.

CITY OF COLTON WATER/WASTEWATER DEPARTMENT		
STEEL ENCASEMENT PIPE		
DATE: APRIL 2007	SCALE: N.T.S.	DWG. NO. 306
DWN BY: SMH	REV: _____	
APP'D BY: _____ <small>DIRECTOR</small>		



PLAN
TERMINUS MANHOLE
WITH HOUSE LATERALS

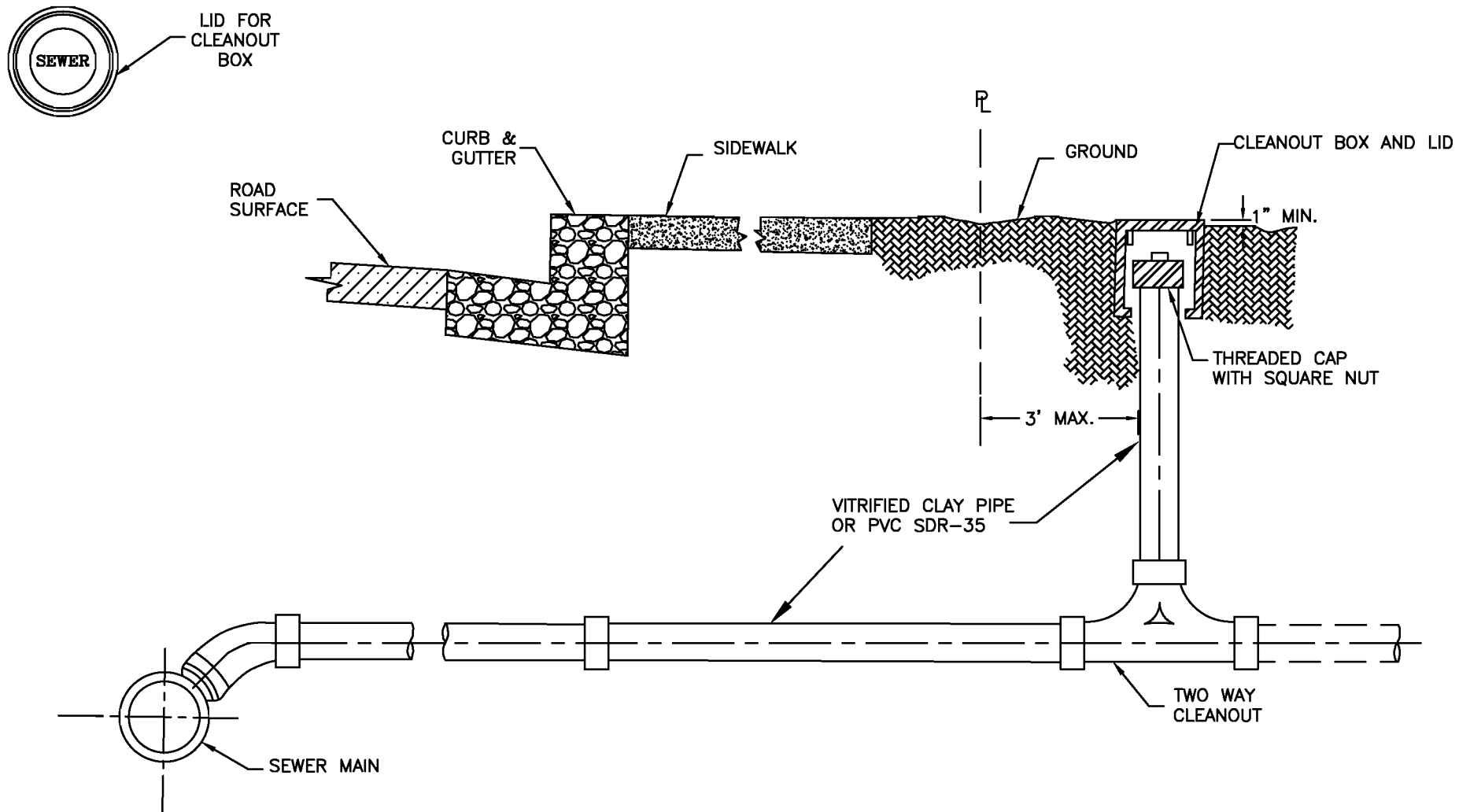


SECTION "A"-"A"
TERMINUS MANHOLE

NOTES:

- (1) REFER TO STANDARD DRAWINGS OF MANHOLES FOR DETAILS PERTAINING TO MANHOLES ONLY.
- (2) SEWER MAINS LAID IN THE MANHOLE ARE TO FORM THE INVERT. THE TOP $\frac{1}{2}$ DIA. OF THE PIPE IS TO BE BROKEN OUT TO A NEAT LINE. BROKEN EDGES SHALL BE PLASTERED SMOOTH WITH CEMENT MORTAR.
- (3) AS MANY AS FOUR 4" LATERALS MAY FLOW INTO TERMINUS MANHOLE.

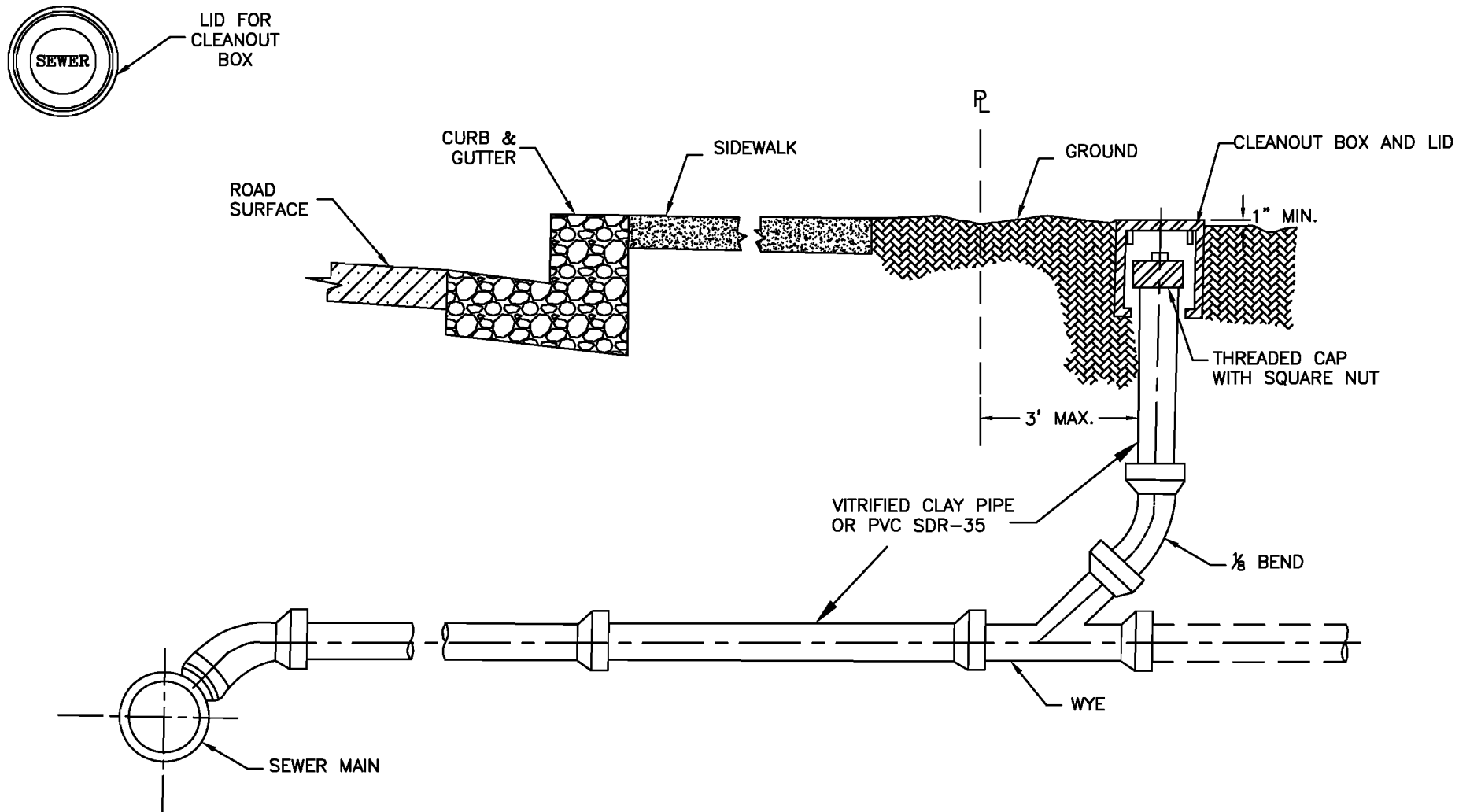
CITY OF COLTON WATER/WASTEWATER DEPARTMENT		
TERMINUS MANHOLE WITH LATERALS		
DATE: APRIL 2007	SCALE: N.T.S.	DWG. NO. 307
DWN BY: S.M.H	REV: _____	
APP'D BY: _____		
DIRECTOR		



NOTES:

- (1) CLEANOUT RING AND COVER BROOKS 1-RT VALVE BOX MARKED "SEWER", OR APPROVED EQUAL.
- (2) MINIMUM 4" LATERAL, OR AS SHOWN ON PLANS.
- (3) PLACE CLEANOUT A MAXIMUM OF 3' BEHIND PROPERTY LINE OR AT BOUNDARY OF EASEMENT.
- (4) LID MUST BE CAST IRON FOR LOCATING PURPOSES, MARKED "SEWER".
- (5) TOP OF CLEANOUT LID TO BE PLACED 1" ABOVE GROUND SURFACE

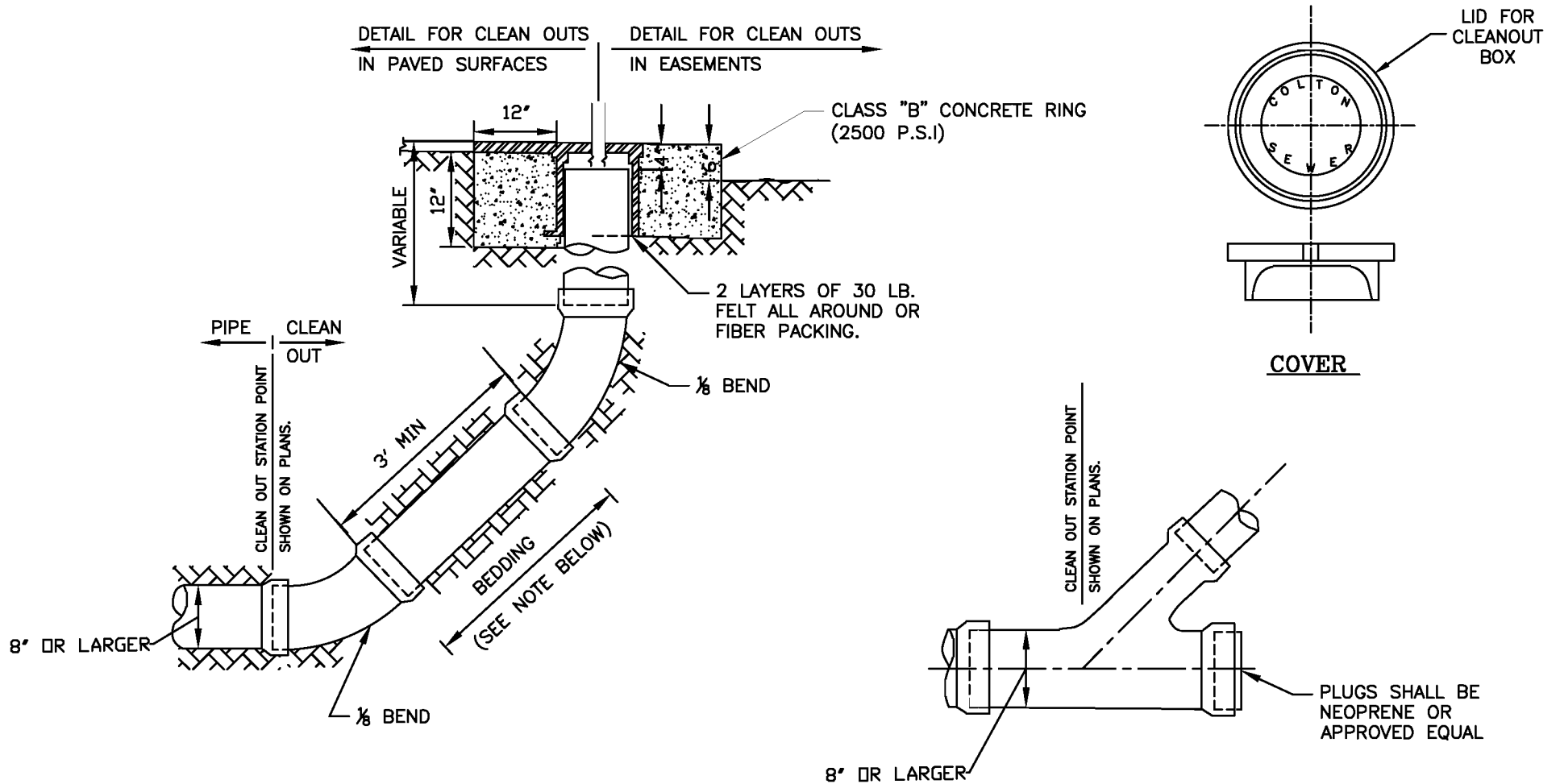
CITY OF COLTON WATER/WASTEWATER DEPARTMENT		
SEWER ON-SITE CLEANOUT		
DATE: APRIL 2007	SCALE: N.T.S.	DWG. NO. 308
DWN BY: SMH	REV: JCS 4/21/10	
APP'D BY: _____ DIRECTOR		



NOTES:

- (1) CLEANOUT RING AND COVER BROOKS 1-RT VALVE BOX MARKED "SEWER", OR APPROVED EQUAL.
- (2) MINIMUM 4" LATERAL, OR AS SHOWN ON PLANS.
- (3) PLACE CLEANOUT A MAXIMUM OF 3' BEHIND PROPERTY LINE OR AT BOUNDARY OF EASEMENT.
- (4) LID MUST BE CAST IRON FOR LOCATING PURPOSES, MARKED "SEWER".
- (5) TOP OF CLEANOUT LID TO BE PLACED 1" ABOVE GROUND SURFACE

CITY OF COLTON WATER/WASTEWATER DEPARTMENT		
SEWER ON-SITE CLEANOUT		
DATE: APRIL 2007	SCALE: N.T.S.	DWG. NO. 308
DWN BY: SMH	REV: _____	
APP'D BY: _____ DIRECTOR		

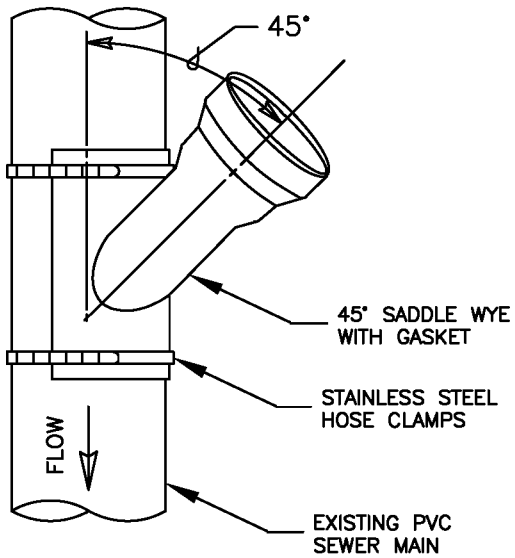


ALTERNATE
 FOR LOWER 1/8 BEND WHERE
 APPROVED BY DIRECTOR AND
 SHOWN ON PLANS.

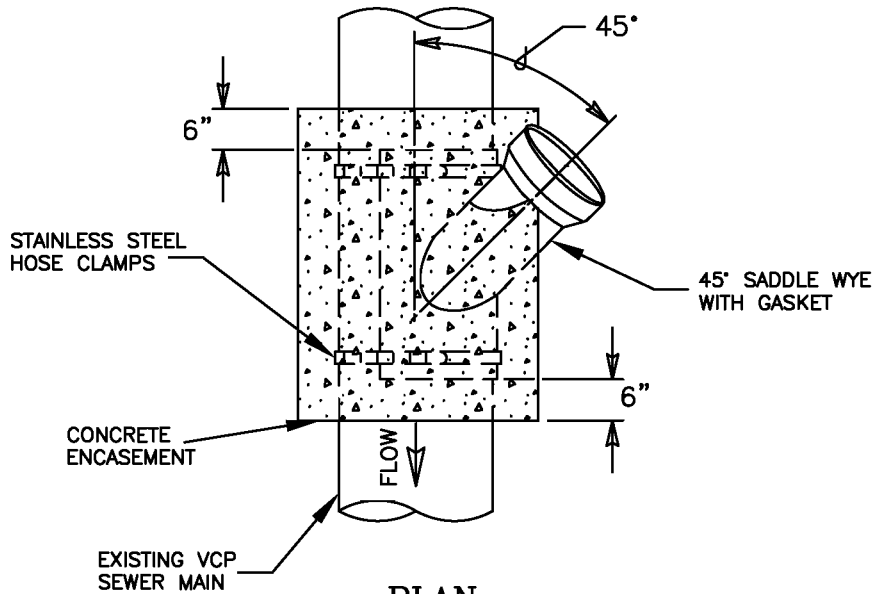
NOTES:

- (1) CLEANOUT PIPE MUST BE SAME DIAMETER AND MATERIAL AS MAIN LINE SEWER.
- (2) CLEANOUT COVER AND CASTING SHALL BE ALHAMBRA FOUNDRY CO. TYPE A-1240, LONG BEACH IRON WORKS TYPE X-510A OR APPROVED EQUAL.
- (3) CLEANOUT COVER SHALL BE MARKED "COLTON" AND "SEWER".
- (4) STATION OF LOWER 1/8 BEND OR WYE SHALL CORRESPOND TO THE CLEANOUT STATION SHOWN ON THE CONSTRUCTION DRAWINGS WITH CLEANOUT CONSTRUCTION EXTENDED BEYOND THAT POINT AS NECESSARY.
- (5) PLUGS SHALL BE CEMENTED IN PLACE WITH CEMENT MORTAR OR SHALL BE NEOPRENE PLUG OR APPROVED EQUAL.

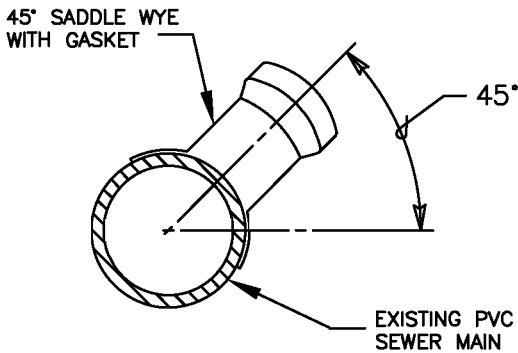
CITY OF COLTON WATER/WASTEWATER DEPARTMENT		
SEWER MAINLINE CLEANOUT		
DATE: MAY 2007	SCALE: N.T.S.	DWG. NO. 309
DWN BY: SMH	REV: _____	
APP'D BY: _____ DIRECTOR		



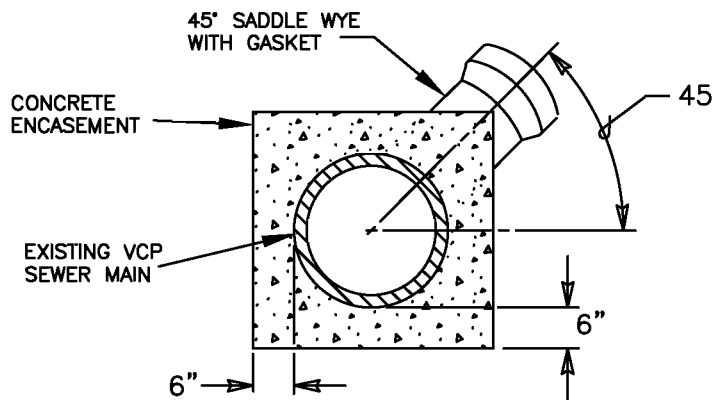
PLAN



PLAN



ELEVATION



ELEVATION

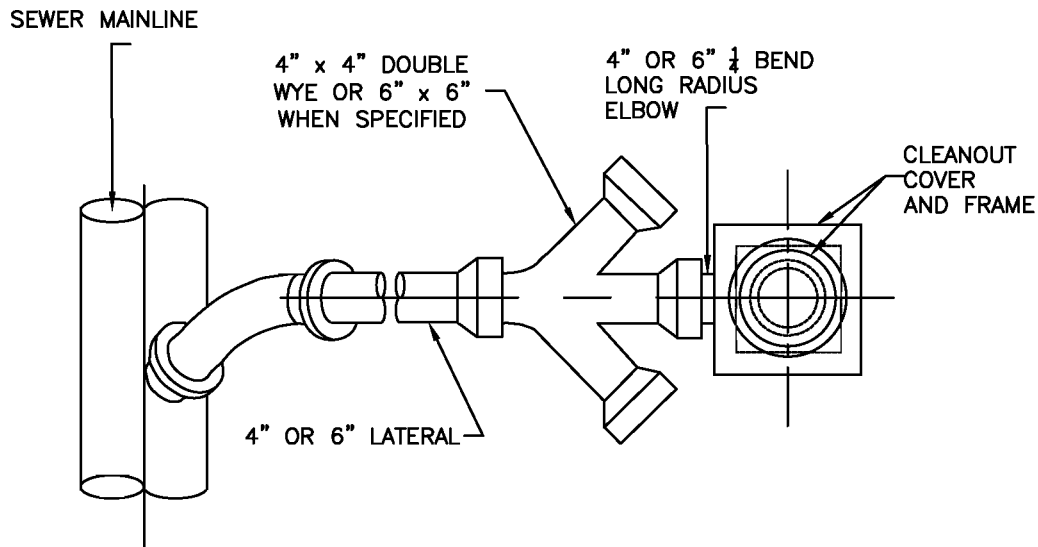
WYE CONNECTION FOR
EXISTING PVC PIPE

WYE CONNECTION FOR
EXISTING VCP PIPE

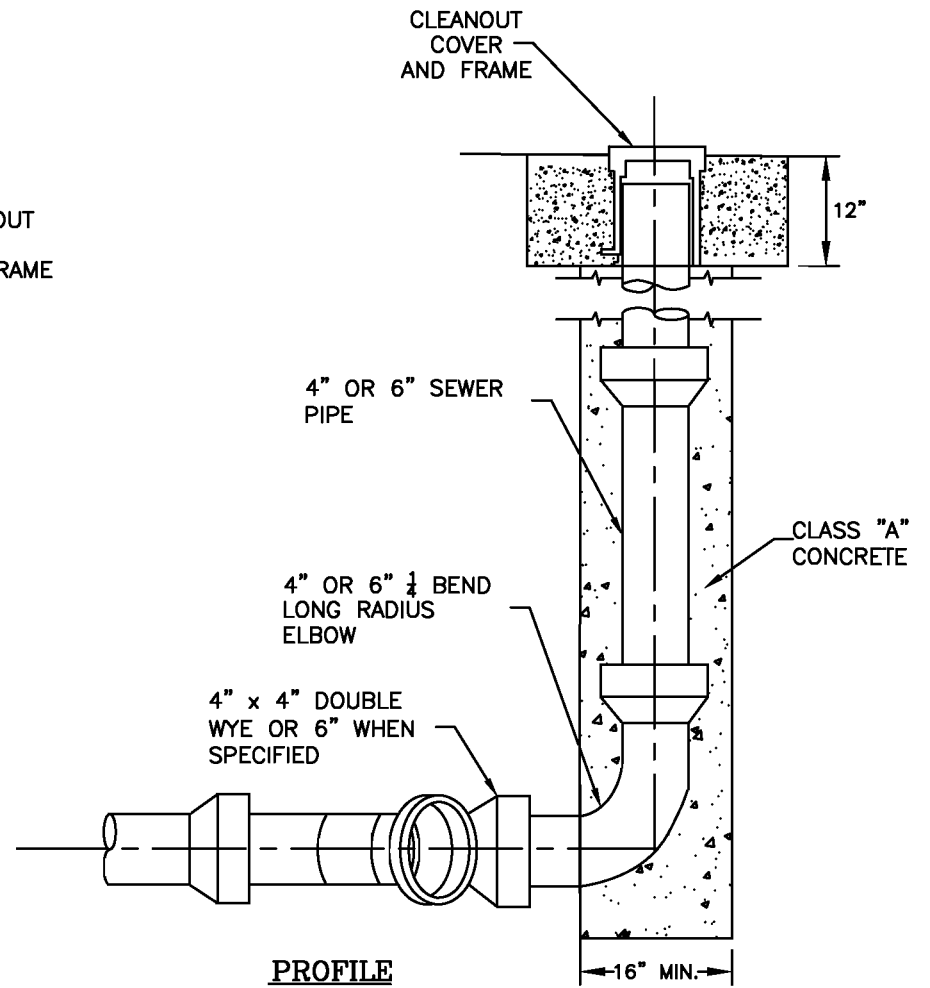
NOTES:

- (1) CONNECTIONS TO EXISTING SEWER MAINS TO BE MADE BY "A" OR "C-42" LICENSED CONTRACTOR AND INSPECTED BY UTILITIES INSPECTOR.
- (2) FOR SEWER LATERAL INSTALLATION, SEE CITY OF COLTON STANDARD 308 AND 312.
- (3) NO MORE THAN ONE CUT IN WYE WILL BE ALLOWED FOR EACH LENGTH OF EXISTING SEWER MAIN.
- (4) CONNECTION SHALL NOT BE MADE DIRECTLY ON TOP OF SEWER MAIN UNLESS APPROVED BY DIRECTOR.

CITY OF COLTON WATER/WASTEWATER DEPARTMENT		
SEWER WYE CONNECTIONS		
DATE: MAY 2007	SCALE: N.T.S.	DWG. NO. 310
DWN BY: S.M.H	REV: _____	
APP'D BY: _____ DIRECTOR		



PLAN TOP VIEW

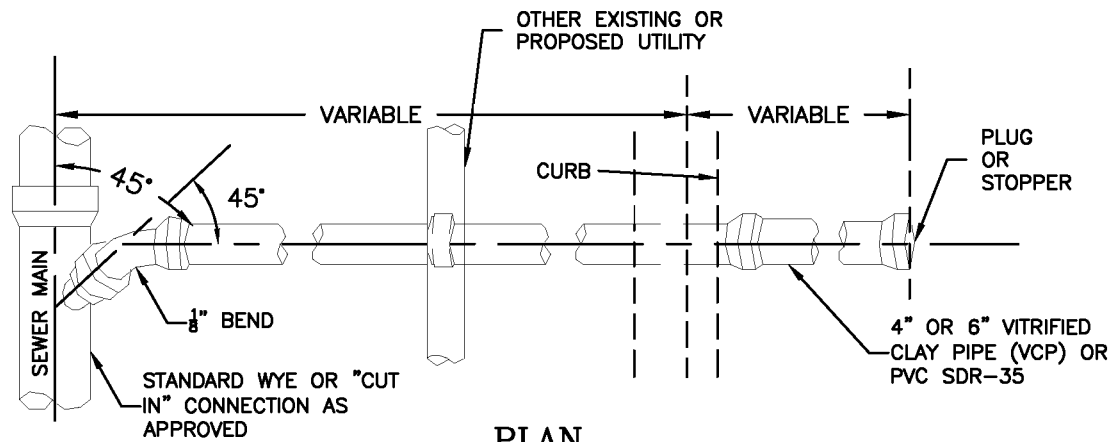


PROFILE

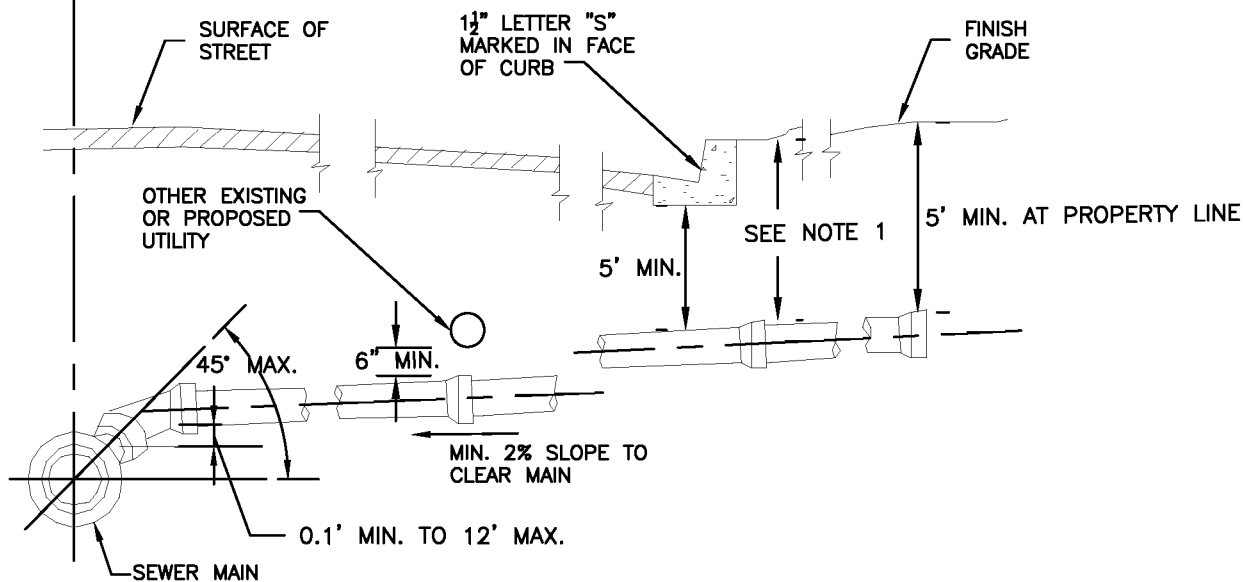
NOTES:

- (1) USE CLASS "A" CONCRETE THROUGHOUT.
- (2) WYES NOT BEING USED MUST HAVE PLUGS CEMENTED IN PLACE WITH CEMENT MORTAR OR NEOPRENE PLUGS OR APPROVED EQUAL.
- (3) FOR SEWER LATERAL CONNECTIONS, SEE COLTON STANDARDS 308 AND 312.
- (4) MINIMUM LATERAL SLOPE MUST BE 1/4 INCH RISE PER FOOT UNLESS OTHERWISE AS APPROVED BY DIRECTOR.
- (5) WYES MUST BE MINIMUM OF 5' DEEP FROM TOP OF SURFACE TO TOP OF WYE AT PROPERTY LINE.
- (6) DOUBLE WYE TO BE LAID HORIZONTALLY.
- (7) WYES MUST BE MINIMUM OF 4" FROM TOP OF WYE TO BOTTOM OF ANY UNDERGROUND UTILITY.

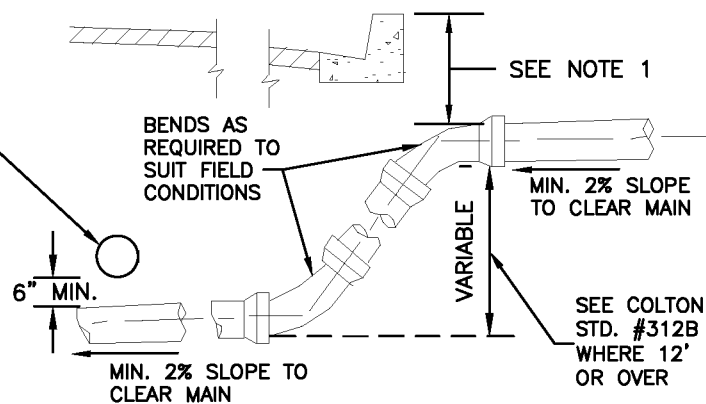
CITY OF COLTON WATER/WASTEWATER DEPARTMENT		
SEWER DOUBLE WYE BRANCHES		
DATE: MAY 2007	SCALE: N.T.S.	DWG. NO. 311
DWN BY: SMH	REV: _____	
APP'D BY: _____ DIRECTOR		



PLAN



ELEVATION



ALTERNATE ELEVATION

NOTES:

- (1) CORE DRILL AND PROVIDE SADDLE FOR PROPOSED SEWER LATERAL CONNECTION TO SEWER MAIN 8" OR LARGER.
- (2) WHERE UTILITY TRENCH IS PROPOSED BACK OF CURB, SEWER LATERAL SHALL HAVE 5' COVER BELOW CURB GRADE AT PROPERTY LINE.
- (3) WHEN CLEARANCE IS LESS THAN SHOWN BETWEEN UTILITIES, CONCRETE ENCASEMENT OF SEWER IS REQUIRED.
- (4) SEPARATION BETWEEN WATER AND SEWER LINES SHALL BE 10" MINIMUM.
- (5) WHERE SEWER LATERAL CROSSES ABOVE AN EXISTING OR PROPOSED WATER MAIN, USE D.I. PIPE WITH HOT DIP BITUMINOUS COATING 10' EACH SIDE OF WATER MAIN.
- (6) PIPE MUST BE VITRIFIED CLAY PIPE (VCP) OR PVC SDR-35.
- (7) LATERALS SHALL END AT THE PROPERTY LINE BY MEANS OF SEWER CLEANOUT.

**CITY OF COLTON
WATER/WASTEWATER DEPARTMENT**

SEWER LATERAL "NORMAL CUT"

DATE: MAY 2007

SCALE: N.T.S.

DWG. NO.

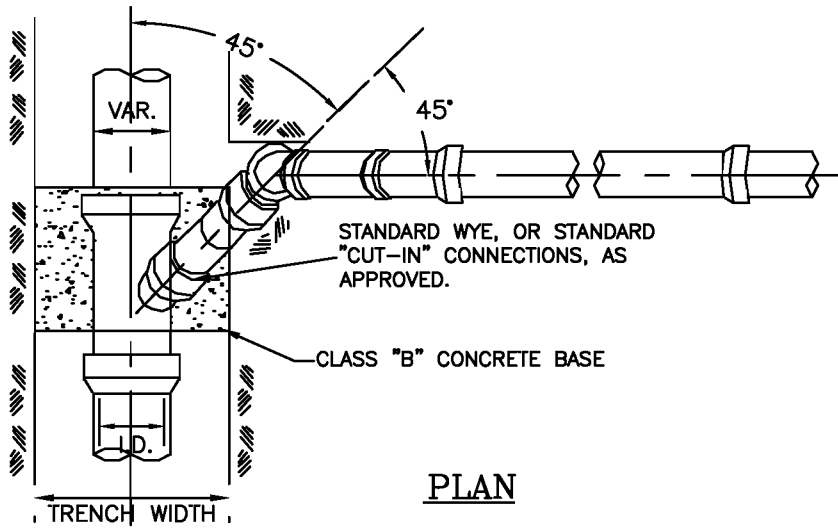
DWN BY: S.M.H

REV: _____

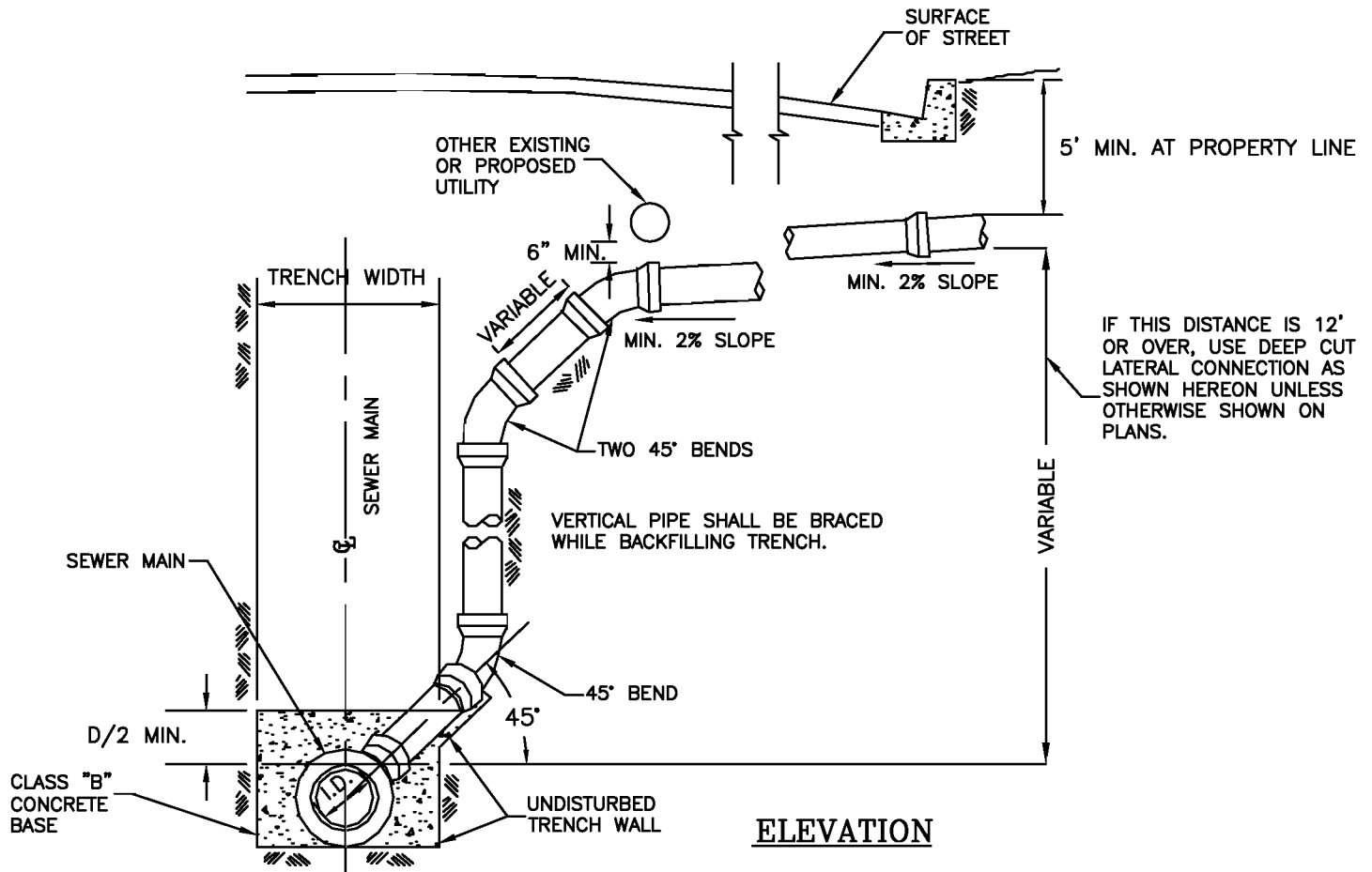
312

APP'D BY: _____

DIRECTOR



PLAN



ELEVATION

NOTES:

- (1) CORE DRILL AND PROVIDE SADDLE FOR PROPOSED SEWER LATERAL CONNECTION TO EXISTING SEWER MAIN 8" OR LARGER.
- (2) SEE COLTON STD. #312 FOR DETAILS OF SEWER LATERAL TO PROPERTY LINE.
- (3) IN NO CASE SHALL A LATERAL CONNECT TO THE SEWER MAIN DIRECTLY ON TOP OF THE PIPE UNLESS AS APPROVED BY THE DIRECTOR.
- (4) MINIMUM 10' SEPARATION TO BE PROVIDED BETWEEN THE SEWER LATERAL AND WATER SERVICE.
- (5) PROVIDE AND USE VITRIFIED CLAY PIPE (VCP) OR PVC SDR-35.
- (6) WHEN CLEARANCE IS LESS THAN SHOWN BETWEEN UTILITIES, CONCRETE ENCASEMENT OF SEWER IS REQUIRED.
- (7) WHERE UTILITY TRENCH IS PROPOSED BACK OF CURB, SEWER LATERAL SHALL HAVE 5' COVER BELOW CURB GRADE AT PROPERTY LINE.

CITY OF COLTON		
WATER/WASTEWATER DEPARTMENT		
SEWER LATERAL "DEEP CUT"		
DATE: MAY 2007	SCALE: N.T.S.	DWG. NO. 312B
DWN BY: S.M.H	REV: _____	
APP'D BY: _____		
DIRECTOR		

FIRE HYDRANT HEAD AND FLUTED SPOOL COMPLETE

RESIDENTIAL - ONE FOUR (4) INCH STEAMER HOSE AND ONE TWO AND ONE-HALF (2-1/2) INCH FIRE HOSE OUTLET. JAMES JONES J-3700, 6 HOLE PATTERN.

COMMERCIAL/INDUSTRIAL - TWO FOUR (4) INCH STEAMER HOSE AND ONE TWO AND ONE-HALF (2-1/2) INCH FIRE HOSE OUTLET. JAMES JONES J-3775, 6 HOLE PATTERN.

6"x6" FLG. EXTENSION TO BE FURNISHED WITH CORE BREAK-OFF GROOVES.

BREAK-AWAY BOLTS, BOLT HEADS FACING DOWN.

4" MIN. FROM F.S.

1'-6" MIN.
2'-6" MAX.

2'-6" MIN.

CURB & GUTTER (WHERE SHOWN ON PLANS)

PAVEMENT

FIRE HYDRANT BURY: 6"X VARIABLE TRENCH DEPTH. TO BE ASPHALT COATED, WRAPPED WITH 3M TAPE-10 MIL AND EPOXY LINED.

VALVE CAN WITH SLIP SLEEVE AND LID PER STD. DWG. 704

MAIN TEE OR HOT TAP. MAIN LINE SIZE X 6" FLG. STD. DWG. 705

CONCRETE THRUST BLOCK STD. DWG. NO. 703

UNDISTURBED SOIL

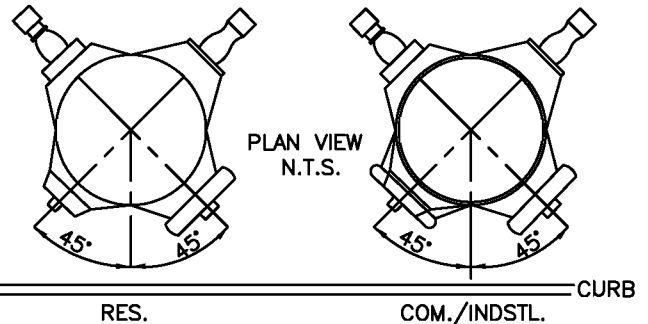
6" D.I. PIPE (NO EXCEPTIONS)

CONCRETE THRUST BLOCK TO BE INSTALLED PER CITY STD DWG #703.

6" FLANGED GATE VALVE PER STD. DWG. NO. 704.

UNDISTURBED SOIL

1. FIRE HYDRANTS SHALL BE LOCATED AT CORNER OF INTERSECTIONS WHERE PRACTICABLE.
2. FIRE HYDRANTS SHALL BE SPACED NOT MORE THAN 400 FEET IN RESIDENTIAL AREAS, AND 300 FEET IN COMMERCIAL/INDUSTRIAL AREAS.
3. IN THE COMMERCIAL AND INDUSTRIAL AREAS FIRE HYDRANTS SHALL BE SPACED NOT MORE THAN THREE HUNDRED (300) FEET APART AND EACH HYDRANT SHALL COVER NOT MORE THAN NINETY THOUSAND (90,000) SQUARE FEET.
4. ALL FIRE HYDRANTS TO BE PAINTED WITH ONE (1) COAT OF PRIMER AND TWO (2) COATS OF DUNN EDWARDS, HIGH VISIBILITY YELLOW, #10-14.
5. ALL PLANS OF TYPE AND LOCATION OF FIRE HYDRANTS SHALL BE SUBJECT TO THE FINAL APPROVAL OF THE DIRECTOR OF WATER/WASTEWATER, AND FIRE DEPARTMENT.



**CITY OF COLTON
WATER/WASTEWATER DEPARTMENT**

FIRE HYDRANT ASSEMBLY

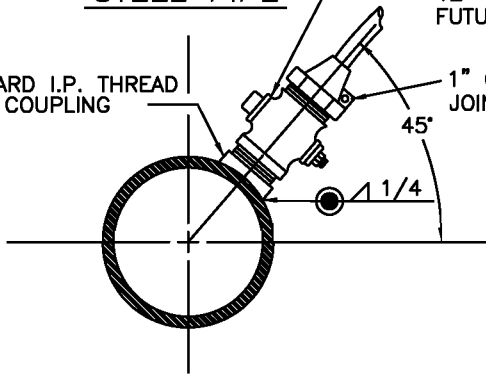
DATE: APRIL 2006	SCALE: N.T.S.	DWG. NO. 700
DWN BY: S.M.H	REV: JCS 6/25/10	
APP'D BY: _____ FIRE MARSHALL		APP'D BY: _____ DIRECTOR

TYPICAL MAIN LINE CONNECTIONS

CONCRETE METER BOX AND LID:
 PARKWAY TYPE, BROOKS #38-S
 TRAFFIC TYPE, BROOKS 38-TR
 OR APPROVED EQUAL. TYPE TO BE
 SHOWN ON PLANS.

STEEL PIPE

STANDARD I.P. THREAD
 STEEL COUPLING



12" TO EXISTING OR
 FUTURE BACK OF CURB.

1" CTS COMPRESSION
 JOINT

1" ANGLE METER VALVE
 FORD BA43-444W,
 JAMES JONES J-4201
 OR APPROVED EQUAL.

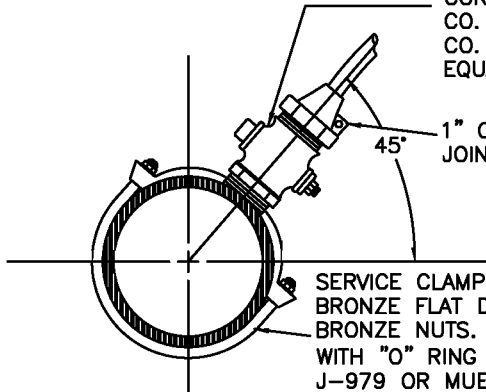
1" SEAMLESS COPPER
 TUBING SHALL BE IN
 CONFORMANCE WITH
 A.S.T.M. SPECIFICATION
 B88-47 AND BE SO
 DESIGNATED AS "TYPE
 K" COPPER WATER
 TUBE.

METER BOX LID TO BE 4"
 ABOVE FINISHED SURFACE.
 IN LANDSCAPED AREA.

ANGLE METER VALVE
 TO BE CENTERED IN
 METER BOX

**ASBESTOS-CEMENT
 OR CAST IRON PIPE**

CORPORATION STOP: MUELLER
 CO. P-25028, JAMES JONES
 CO. J-1935, OR APPROVED
 EQUAL.



1" CTS COMPRESSION
 JOINT

SERVICE CLAMP: BRONZE BODY AND
 BRONZE FLAT DOUBLE STRAPS AND
 BRONZE NUTS. FOR AC OR CI PIPE,
 WITH "O" RING GASKET. JAMES JONES
 J-979 OR MUELLER BR2S SERIES OR
 APPROVED EQUAL.

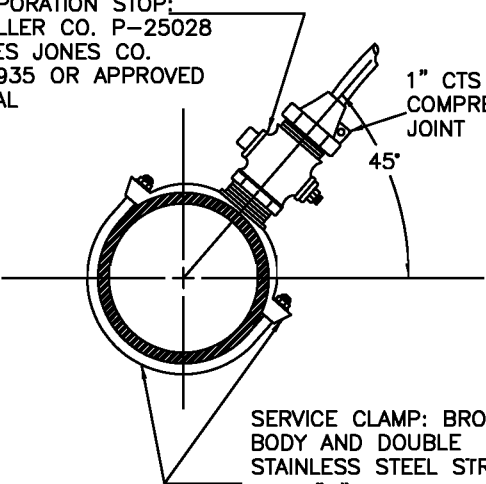
1" BRONZE BALL VALVE
 FORD B13-332W W/HB-34S,
 JAMES JONES J-1908,
 JAMES JONES J-1908W,
 OR APPROVED EQUAL

CURB FACE

CHIP 3" "W"
 IN CURB FACE TO
 IDENTIFY
 SERVICE
 LOCATION

C-900 PLASTIC PIPE

CORPORATION STOP:
 MUELLER CO. P-25028
 JAMES JONES CO.
 J-1935 OR APPROVED
 EQUAL



1" CTS
 COMPRESSION
 JOINT

SERVICE CLAMP: BRONZE
 BODY AND DOUBLE
 STAINLESS STEEL STRAPS
 WITH "O" RING GASKET.
 JAMES JONES J-969
 DOUBLE, MUELLER CO.
 BR2S~304L OR APPROVED
 EQUAL.

NOTES:

1. ALL THREAD DIMENSIONS SHALL BE IN ACCORDANCE WITH THE DETAILS GIVEN IN AWWA SPECIFICATION NO. C800-55 "THREADS FOR UNDERGROUND SERVICES LINE FITTINGS".
2. AVOID OVER-TIGHTENING OF CORPORATION STOPS. TIGHTEN JUST SUFFICIENTLY TO MAKE A WATER-TIGHT JOINT (50 TO 60 lbs. WITH A TORSION WRENCH).
3. LARGEST SIZE CORPORATION STOP FOR DIRECT TAP TO A.C. OR DUCTILE IRON PIPE TO BE 1".
4. DOUBLE STRAP SERVICE CLAMPS SHALL BE USED ON ALL SERVICE CONNECTIONS.
5. EACH DOMESTIC WATER SERVICE MUST BE A MIN. OF 18" FROM COUPLING OR SADDLE.

**CITY OF COLTON
 WATER /WASTEWATER DEPARTMENT**

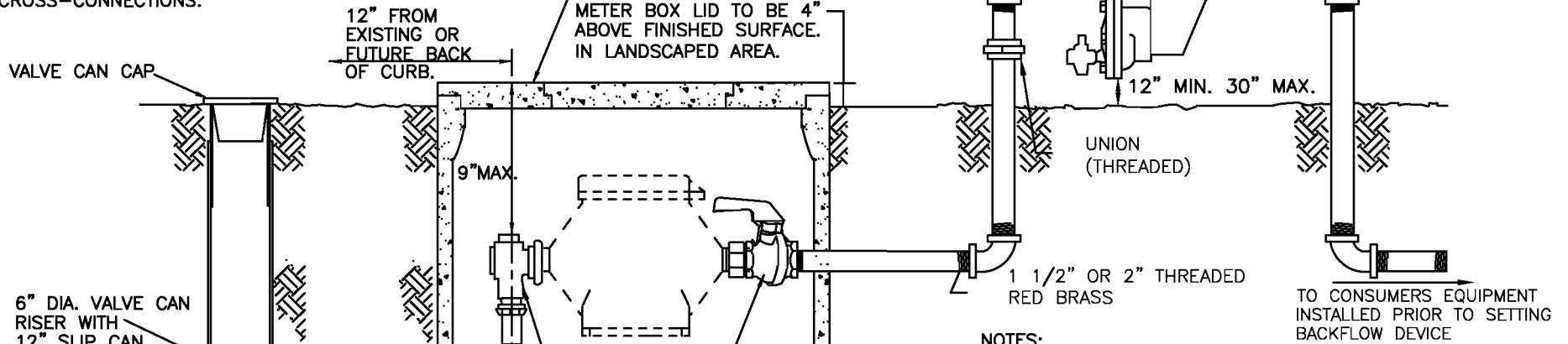
**TYPICAL SERVICE CONNECTION
 1" SVC.**

DATE: MARCH 2006	SCALE: N.T.S.	DWG. NO. 701
DWN BY: SMH	REV: JCS 4/21/10	
APP'D BY: _____ DIRECTOR		

UPON INSTALLATION AND PRIOR TO WATER DELIVERY, THE BACKFLOW PREVENTION ASSEMBLY SHALL BE TESTED AND CERTIFIED BY A TESTER POSSESSING A CERTIFICATE OF COMPETENCY ISSUED BY COUNTY DEPT. OF HEALTH AND APPROVED BY CITY. COMPLETED TEST REPORTS SHALL BE FORWARDED TO CITY OF COLTON WATER DEPARTMENT. TITLE 17, PUBLIC HEALTH REGULATIONS RELATING TO CROSS-CONNECTIONS.

CONCRETE METER BOX AND LID:
 PARKWAY TYPE, 1 1/2"-BROOKS 38 S,
 2"-BROOKS 65-S. TRAFFIC TYPE,
 1 1/2"-BROOKS-38 TR, 2"-BROOKS
 65-TR.

BACKFLOW ASSEMBLIES
 (AMES #4000B OR
 APPROVED EQUAL) TO BE
 SUPPLIED AND INSTALLED
 BY CONTRACTOR

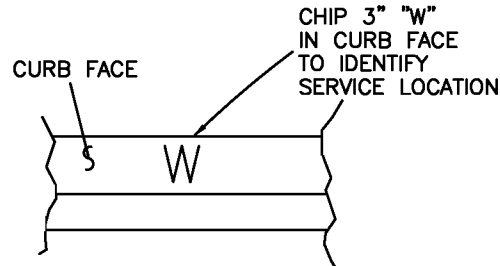
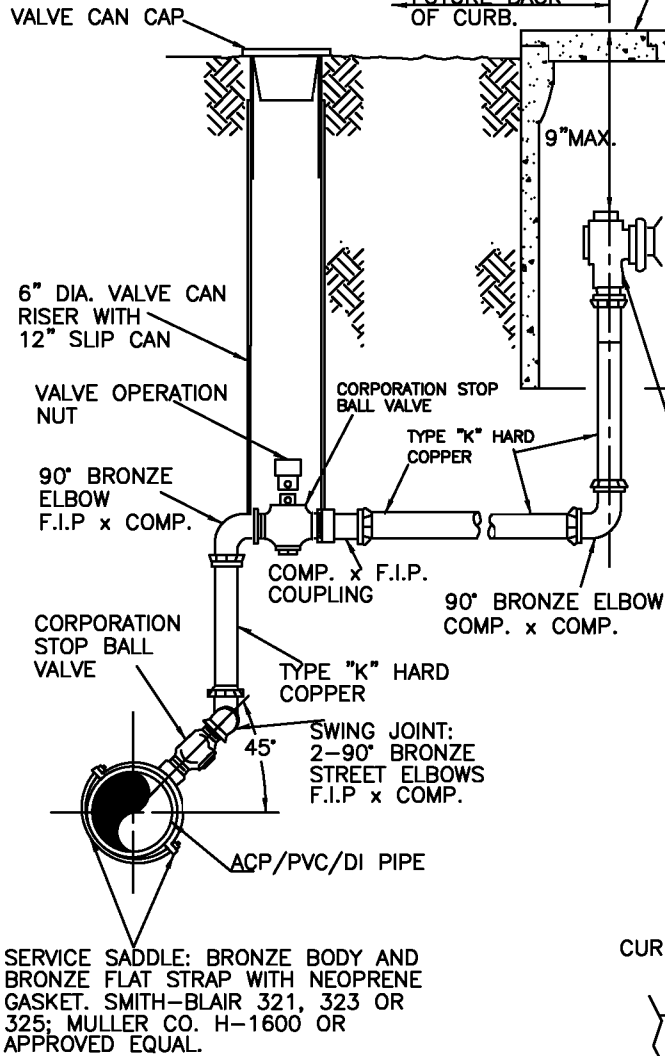


TO CONSUMERS EQUIPMENT
 INSTALLED PRIOR TO SETTING
 BACKFLOW DEVICE

NOTES:

1. ALL THREAD DIMENSIONS SHALL BE IN ACCORDANCE WITH THE DETAILS GIVEN IN AWWA SPECIFICATION NO. C800-55 "THREADS FOR UNDERGROUND SERVICES LINE FITTINGS".
 2. AVOID OVER-TIGHTENING OF CORPORATION STOPS. TIGHTEN JUST SUFFICIENTLY TO MAKE A WATER-TIGHT JOINT (50 TO 60 lbs. WITH A TORSION WRENCH).
 3. DOUBLE STRAP SERVICE CLAMPS SHALL BE USED WHERE THE OUTLET IS OVER ONE(1) INCH. DO NOT USE LARGER OUTLET SIZES THAN SHOWN BELOW:
 MAX. SIZE OUTLET FOR USE WITH DOUBLE STRAP SERVICE CLAMPS OR SADDLES.
- | PIPE SIZE | OUTLET SIZE |
|-----------|-------------|
| 4" | 1" |
| 6" | 1 1/2" |
| 8"-16" | 2" |
4. EACH DOMESTIC WATER SERVICE MUST BE A MIN. OF 18" FROM COUPLING OR SADDLE.
 5. NO OUTLET CONNECTIONS SHALL BE MADE BETWEEN THE METER AND THE BACKFLOW DEVICE.
 6. LOCATION OF ASSEMBLY TO BE APPROVED BY CITY.

NOTE:
 SEE COLTON STANDARD
 #709 FOR MINIMUM
 CLEARANCE OF REDUCED
 PRESSURE VALVE
 BACKFLOW ASSEMBLY



CITY OF COLTON WATER/WASTEWATER DEPARTMENT		
TYPICAL SERVICE CONNECTION 1 1/2" and 2" SVC.		
DATE: MAY 2006	SCALE: N.T.S.	DWG. NO. 702
DWN BY: SMH	REV: JCS 4/21/10	
APP'D BY: _____ <small>DIRECTOR</small>		

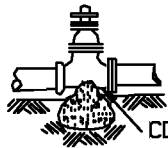
NOTES:

- 1 CONCRETE THRUST BLOCKS ARE TO BE POURED AGAINST UNDISTURBED EARTH.
- 2 CONCRETE THRUST BLOCKS SHALL BE OF CLASS 'C' (4 ½ SACK MIX) CONCRETE.
- 3 ALL GATE VALVES SHALL BE SUPPORTED PER DETAIL 'A' BELOW & STD. DWG. 704.
- 4 PLUG ALL STUBS PER SPECS.
- 5 ALL CONCRETE SHALL BE POURED TO AVOID INTERFERENCE WITH BOLTED CONNECTIONS.
- 6 WHERE PIPE CONNECTS TO A FITTING IN A STEEL PIPELINE, THE STEEL PIPELINE SHALL BE BLOCKED AS SHOWN HEREON.
- 7 CONCRETE SHALL BE CONFINED BY FORMS TO PROVIDE A MINIMUM CLEARANCE OF 4" AT FLANGE BOLTS AND NUTS.
- 8 THRUST BLOCKS SHALL BE PLACED AT ALL TEES, WYES, COPS, ELIS, VALVES, REDUCERS, AND HYDRANTS.

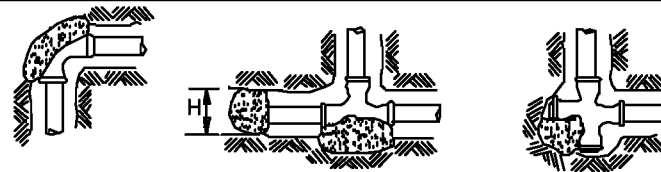
THRUST BLOCK TABLES

PIPE SIZE IN.	TYPE OF FITTING	SAFE SOIL BEARING #/S.F.	THRUST BLOCK DIMENSIONS		SAFE SOIL BEARING #/S.F.	THRUST BLOCK DIMENSIONS		SAFE SOIL BEARING #/S.F.	THRUST BLOCK DIMENSIONS		SAFE SOIL BEARING #/S.F.	THRUST BLOCK DIMENSIONS	
			CLASS 150 HT-WIDTH	CLASS 200 HT-WIDTH		CLASS 150 HT-WIDTH	CLASS 200 HT-WIDTH		CLASS 150 HT-WIDTH	CLASS 200 HT-WIDTH		CLASS 150 HT-WIDTH	CLASS 200 HT-WIDTH
16	TEE	1500	5'x7'	6'x7'	2000	4'x7'	5'x6'	3000	4'x5'	4'x5'	5000	3'x3'	3'x4'
16	90° BEND	1500	5x10	6x10	2000	5x8	5x9	3000	4x6	5x6	5000	3x5	3x6
16	45° BEND	1500	4x7	4x8	2000	4x5	4x6	3000	3x5	4x4	5000	2x4	2x5
16	22 1/2° BEND	1500	3x5	4x4	2000	3x4	3x4	3000	2x4	3x3	5000	2x2	2x3
14	TEE	1500	4x7	4x8	2000	4x5	4x6	3000	3x5	4x4	5000	3x3	2x5
14	90° BEND	1500	5x10	5x9	2000	5x8	5x7	3000	5x5	4x6	5000	3x5	3x5
14	45° BEND	1500	4x5	4x6	2000	4x4	3x6	3000	3x4	3x4	5000	2x3	2x4
14	22 1/2° BEND	1500	3x4	3x4	2000	2x4	3x3	3000	2x3	2x6	5000	1x3	2x2
12	TEE	1500	4x5	4x6	2000	3x5	3x6	3000	3x4	3x4	5000	2x3	2x4
12	90° BEND	1500	4x7	4x8	2000	4x6	4x6	3000	3x5	4x4	5000	3x3	2x5
12	45° BEND	1500	4x4	3x6	2000	3x4	3x5	3000	2x4	3x3	5000	2x3	2x3
12	22 1/2° BEND	1500	2x4	3x3	2000	2x3	2x4	3000	2x2	2x3	5000	1x3	1x3
8	TEE	1500	3x3	2x5	2000	2x3	2x4	3000	2x3	2x3	5000	1x3	1x3
8	90° BEND	1500	3x4	3x5	2000	3x3	3x4	3000	2x3	2x4	5000	2x2	2x3
8	45° BEND	1500	2x4	2x4	2000	2x3	2x6	3000	2x2	2x2	5000	1x2	1x3
8	22 1/2° BEND	1500	2x2	2x2	2000	1x3	1x3	3000	1x2	1x2	5000	1x1	1x1
6	TEE	1500	2x3	2x3	2000	2x2	2x2	3000	1x3	1x3	5000	1x2	1x2
6	90° BEND	1500	2x4	2x4	2000	2x3	2x3	3000	2x2	2x2	5000	1x2	1x3
6	45° BEND	1500	2x2	2x2	2000	1x3	2x2	3000	1x2	1x3	5000	1x1	1x2
6	22 1/2° BEND	1500	1x2	1x2	2000	1x2	1x2	3000	1x1	1x1	5000	1x1	1x1
4	TEE	1500	1x3	1x3	2000	1x2	1x2	3000	1x2	1x2	5000	1x1	1x1
4	90° BEND	1500	2x2	2x2	2000	1x3	1x3	3000	1x2	1x2	5000	1x1	1x1
4	45° BEND	1500	1x3	1x2	2000	1x2	1x2	3000	1x1	1x1	5000	0	1x1
4	22 1/2° BEND	1500	1x1	1x1	2000	1x1	1x1	3000	0	1x1	5000	0	0

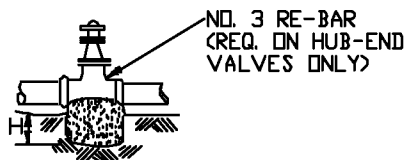
TYPICAL THRUST BLOCKS INSTALLATION



CONCRETE TO BE NO CLOSER THAN 4" TO BOLTS AND IF POSSIBLE SHALL BE FORMED.

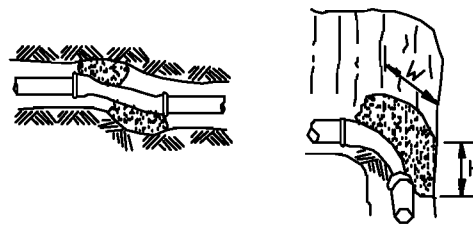


PLAN VIEW



APPLIES TO HUB-END VALVES

DETAIL 'A'



PERSPECTIVE VIEW

**CITY OF COLTON
WATER / WASTEWATER DEPARTMENT**

**THRUST BLOCK INSTALLATION
CLASS 150 & 200**

DATE: MAY 2006

SCALE: N.T.S.

DWG. NO.

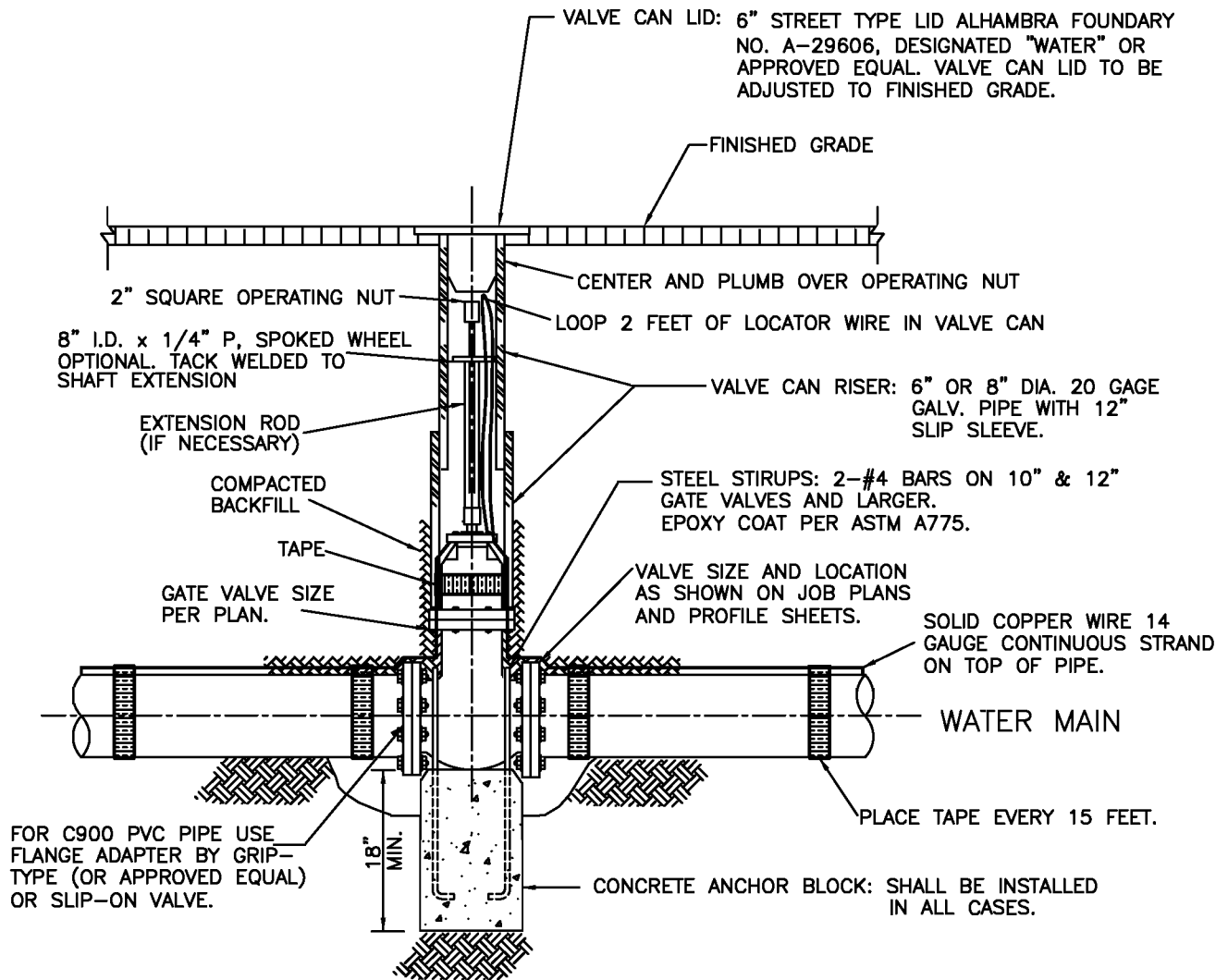
DWN BY: _____

REV: SMH

703

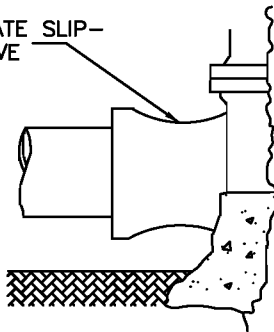
APP'D BY: _____

DIRECTOR



FOR C900 PVC PIPE USE FLANGE ADAPTER BY GRIP-TYPE (OR APPROVED EQUAL) OR SLIP-ON VALVE.

ALTERNATE SLIP-ON VALVE



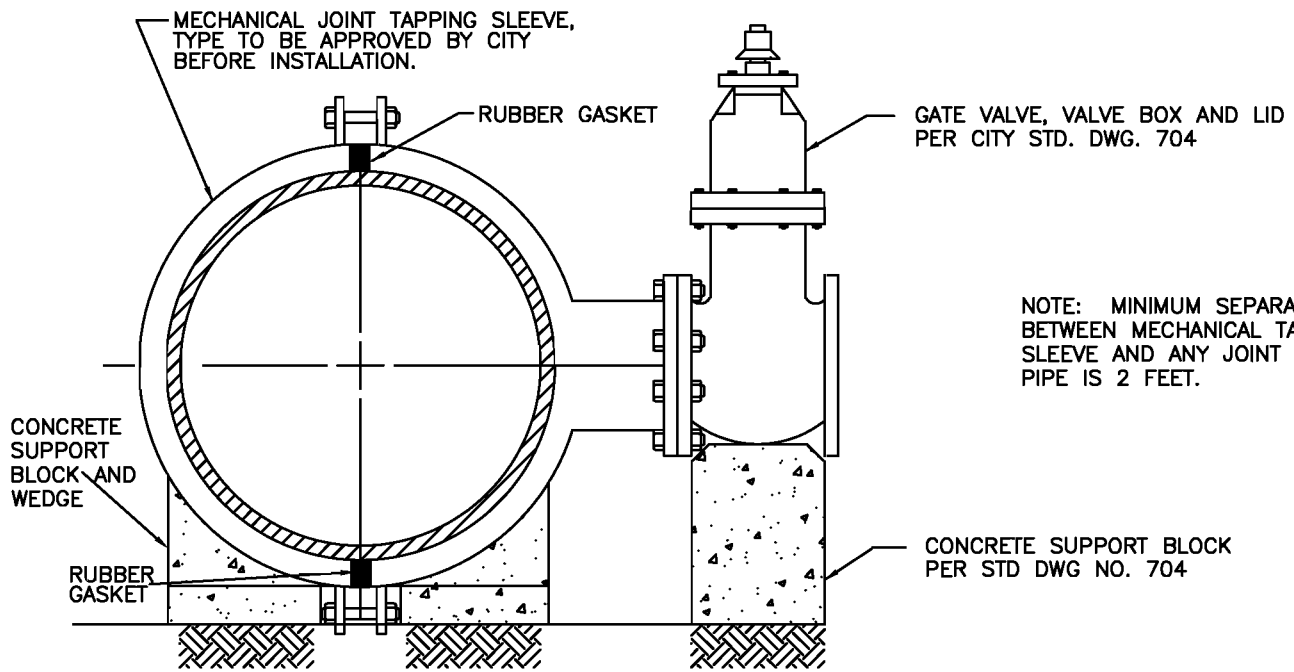
NOTES:

1. FABRICATED EXTENSION STEM REQUIRED IF VALVE NUT IS MORE THAN 36" BELOW FINISHED GRADE.
2. GATE VALVE TO BE MUELLER, M&H (RESILIENT SEAT) OR APPROVED EQUAL.
3. ANCHOR BLOCKS SHALL BE 450-C-2000 CLASS CONCRETE. CONCRETE SHALL BE POURED AGAINST UNDISTURBED SOIL.
4. VALVE CAN LID TO BE PAINTED DUNN EDWARDS OCEAN BLUE #SB009, TWO(2) COATS.

**CITY OF COLTON
WATER/WASTEWATER DEPARTMENT**

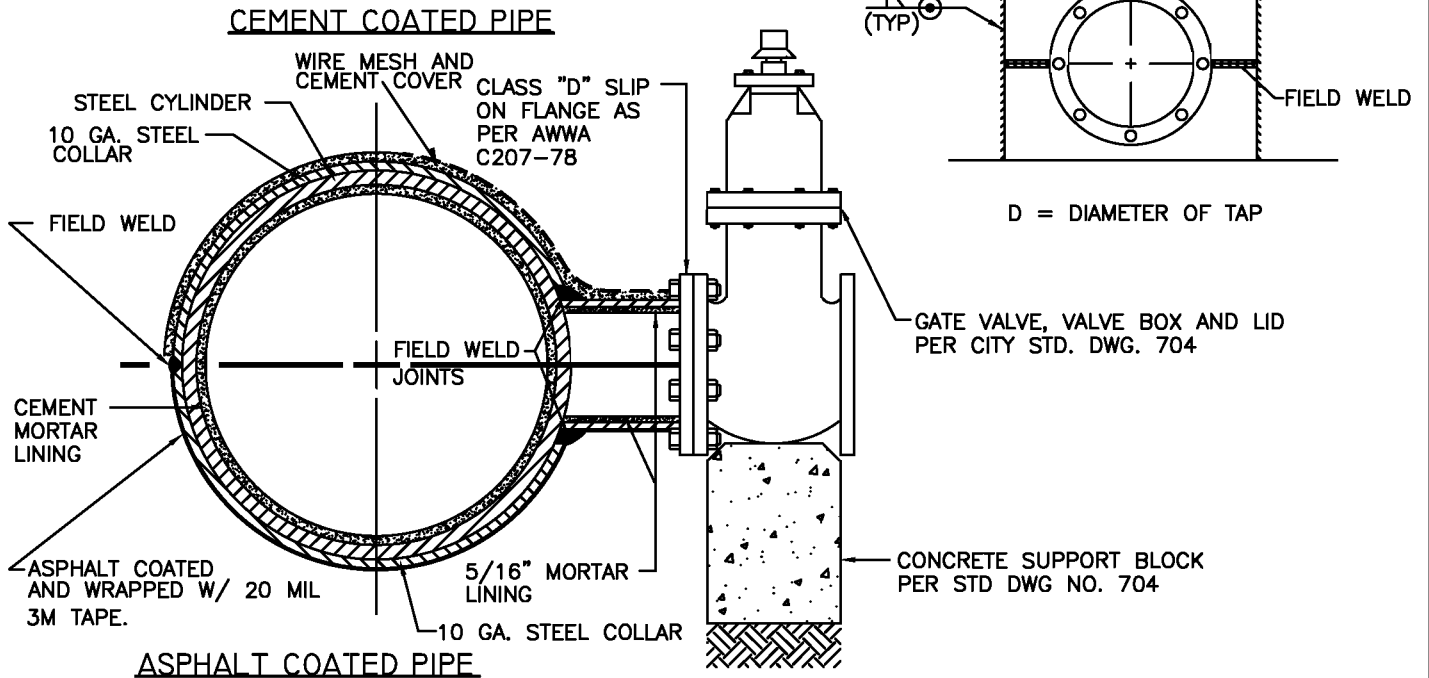
**TYPICAL GATE VALVE
ASSEMBLY**

DATE: MAY 2006	SCALE: N.T.S.	DWG. NO. 704
DWN BY: _____	REV: S.M.H	
APP'D BY: _____	DIRECTOR	



NOTE: MINIMUM SEPARATION BETWEEN MECHANICAL TAPPING SLEEVE AND ANY JOINT IN PIPE IS 2 FEET.

TAPPING SLEEVE AND GATE VALVE FOR CAST IRON, ABESTOS-CEMENT AND PVC PIPE.



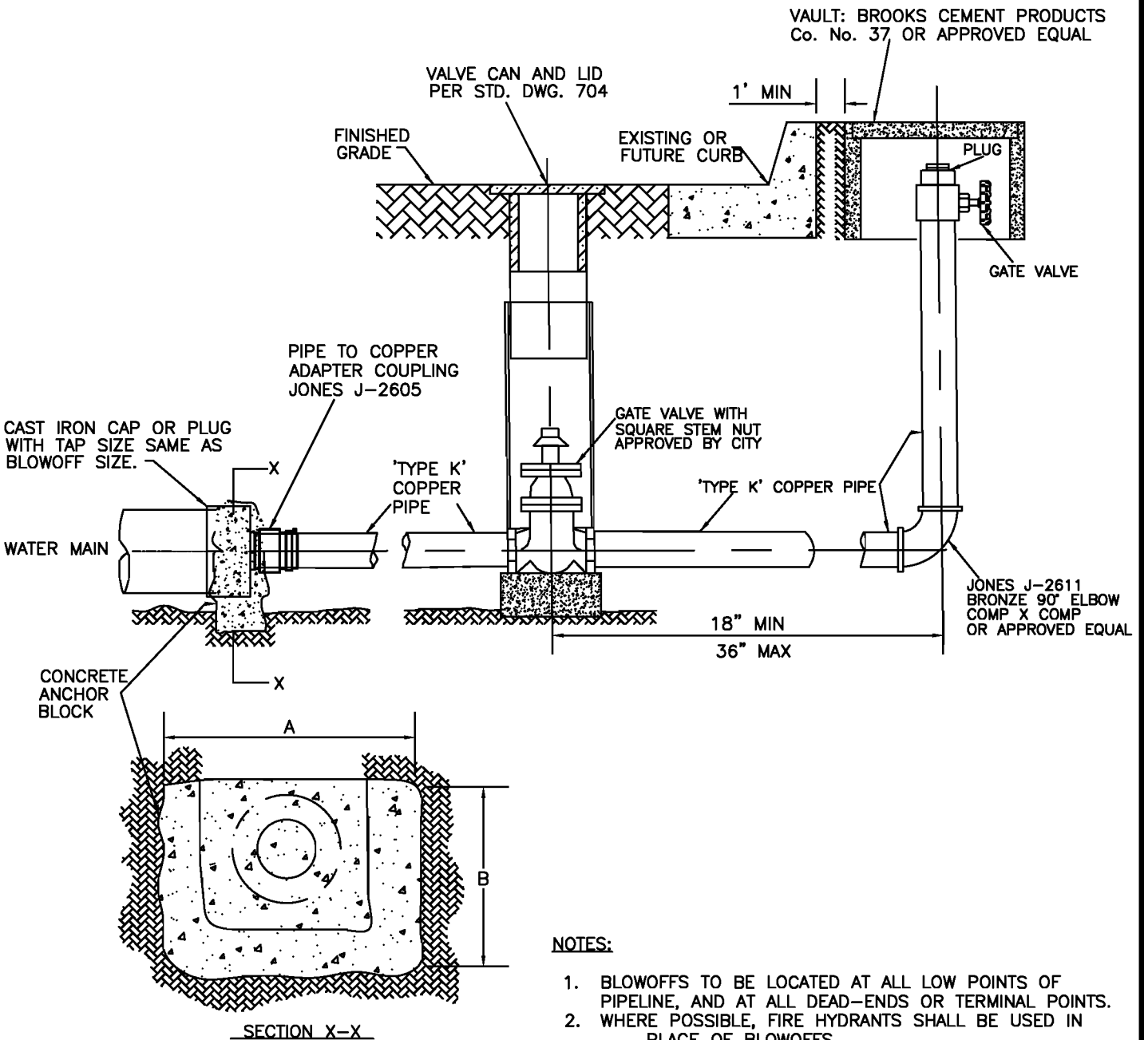
WELDED TAPPING NOZZLE & GATE VALVE FOR STEEL CYLINDER PIPE

NOTE:
ALL HAND WELDING IN FIELDS SHALL BE DONE BY WELDERS CERTIFIED IN ACCORDANCE WITH APPENDIX II OF THE AMERICAN STANDARD CODE FOR PRESSURE PIPING (A.S.A DESIGNATION: B 31.1)

CITY OF COLTON
WATER/WASTEWATER DEPARTMENT

TYPICAL MAIN LINE TAPPING ASSEMBLY

DATE: MAY 2006	SCALE:	DWG. NO. 705
DWN BY: _____	REV: SMH	
APP'D BY: _____ DIRECTOR		

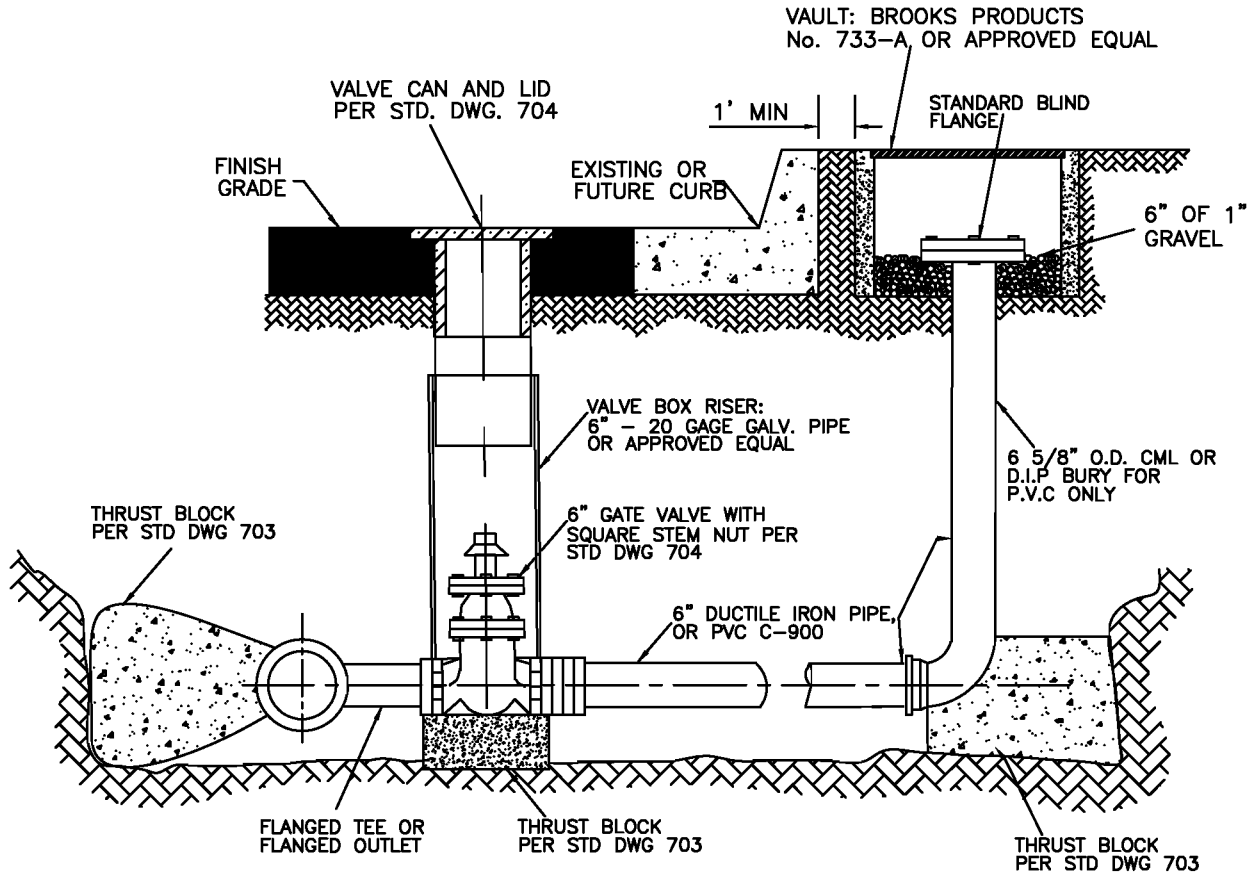


NOTES:

1. BLOWOFFS TO BE LOCATED AT ALL LOW POINTS OF PIPELINE, AND AT ALL DEAD-ENDS OR TERMINAL POINTS.
2. WHERE POSSIBLE, FIRE HYDRANTS SHALL BE USED IN PLACE OF BLOWOFFS.
3. INSTALLATION LOCATION TO BE FIELD COORDINATED WITH UTILITIES INSPECTOR.
4. FOR INSTALLATIONS OUTSIDE OF PAVED ROADWAYS, THE ASSEMBLY SHALL BE INSTALLED CLEAR OF THE TRAVELED WAY AND PROTECTED WITH GUARD POSTS AS DIRECTED BY THE CITY.
5. PIPE SIZE AND FITTINGS TO MATCH BLOWOFF SIZE.

DIMENSION OF ANCHOR		
PIPE SIZE	DIMENSION A	DIMENSION B
4"-6"	3'	12"
8"	4'	12"
10"	5'	18"

CITY OF COLTON		
WATER/WASTEWATER DEPARTMENT		
TYPICAL 2" OR 3" BLOW-OFF ASSEMBLY		
DATE: MAY 2006	SCALE: N.T.S.	DWG. NO. 706
DWN BY: S.M.H	REV: _____	
APP'D BY: _____		
DIRECTOR		

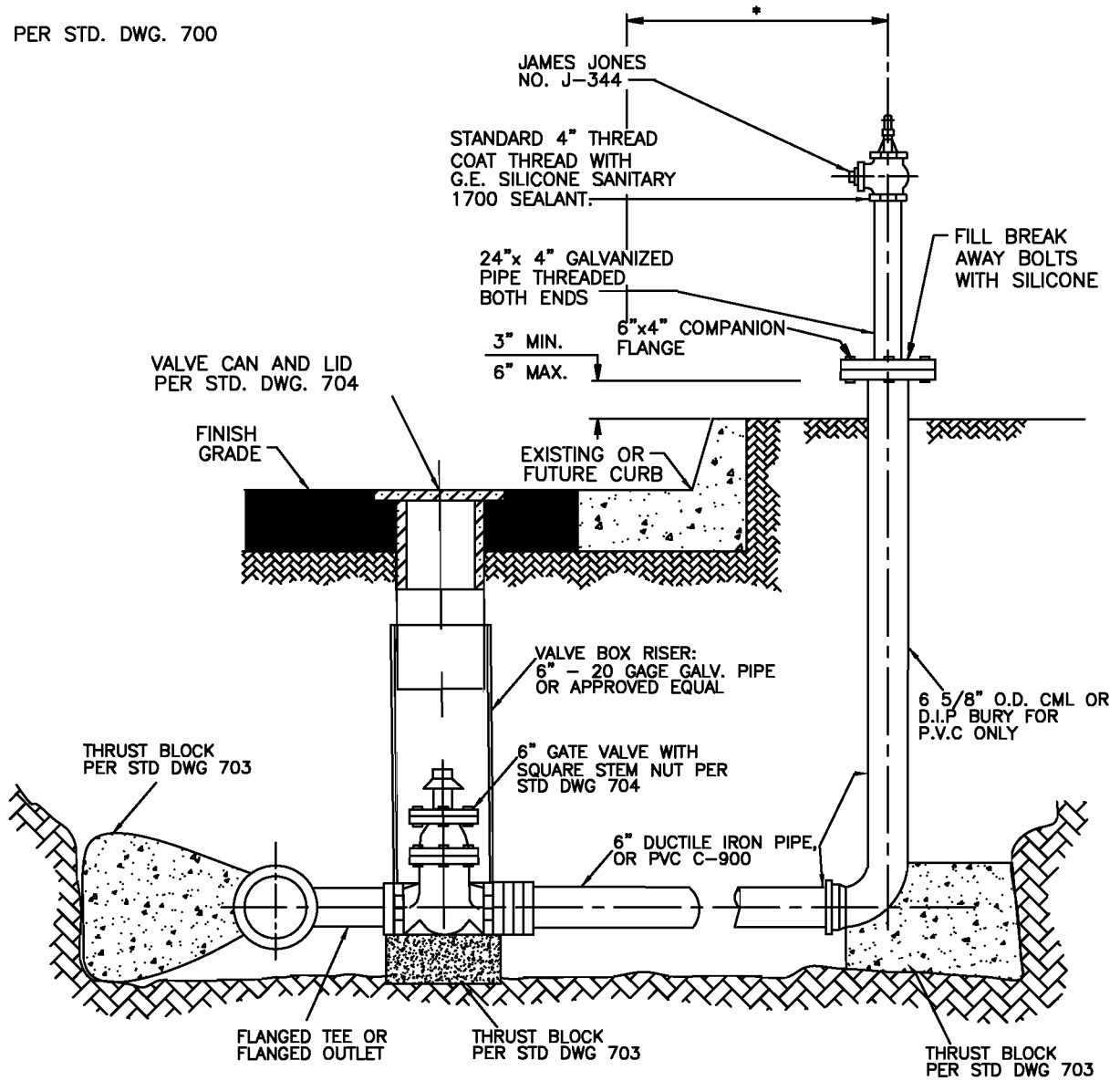


NOTES:

1. BLOWOFFS TO BE LOCATED AT ALL LOW POINTS OF PIPELINE, AND AT ALL DEAD-ENDS OR TERMINAL POINTS.
2. WHERE POSSIBLE, FIRE HYDRANTS SHALL BE USED IN PLACE OF BLOWOFFS.
3. INSTALLATION LOCATION TO BE FIELD COORDINATED WITH UTILITIES INSPECTOR.
4. FOR INSTALLATIONS OUTSIDE OF PAVED ROADWAYS, THE ASSEMBLY SHALL BE INSTALLED CLEAR OF THE TRAVELED WAY AND PROTECTED WITH GUARD POSTS AS DIRECTED BY THE CITY.
5. PIPE SIZE AND FITTINGS TO MATCH BLOWOFF SIZE.
6. FOR MAINLINE PIPELINES GREATER THAN 12" DIAMETER, INSTALL FLEXIBLE COUPLING.

CITY OF COLTON		
WATER/WASTEWATER DEPARTMENT		
TYPICAL 4" OR 6"		
BLOW-OFF ASSEMBLY		
DATE: MAY 2006	SCALE: N.T.S.	DWG. NO. 706A
DWN BY: S.M.H	REV: _____	
APP'D BY: _____		
DIRECTOR		

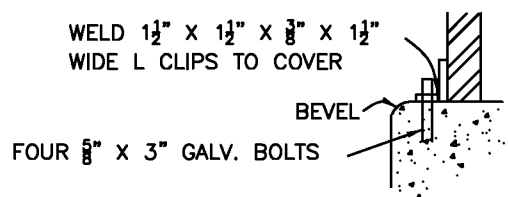
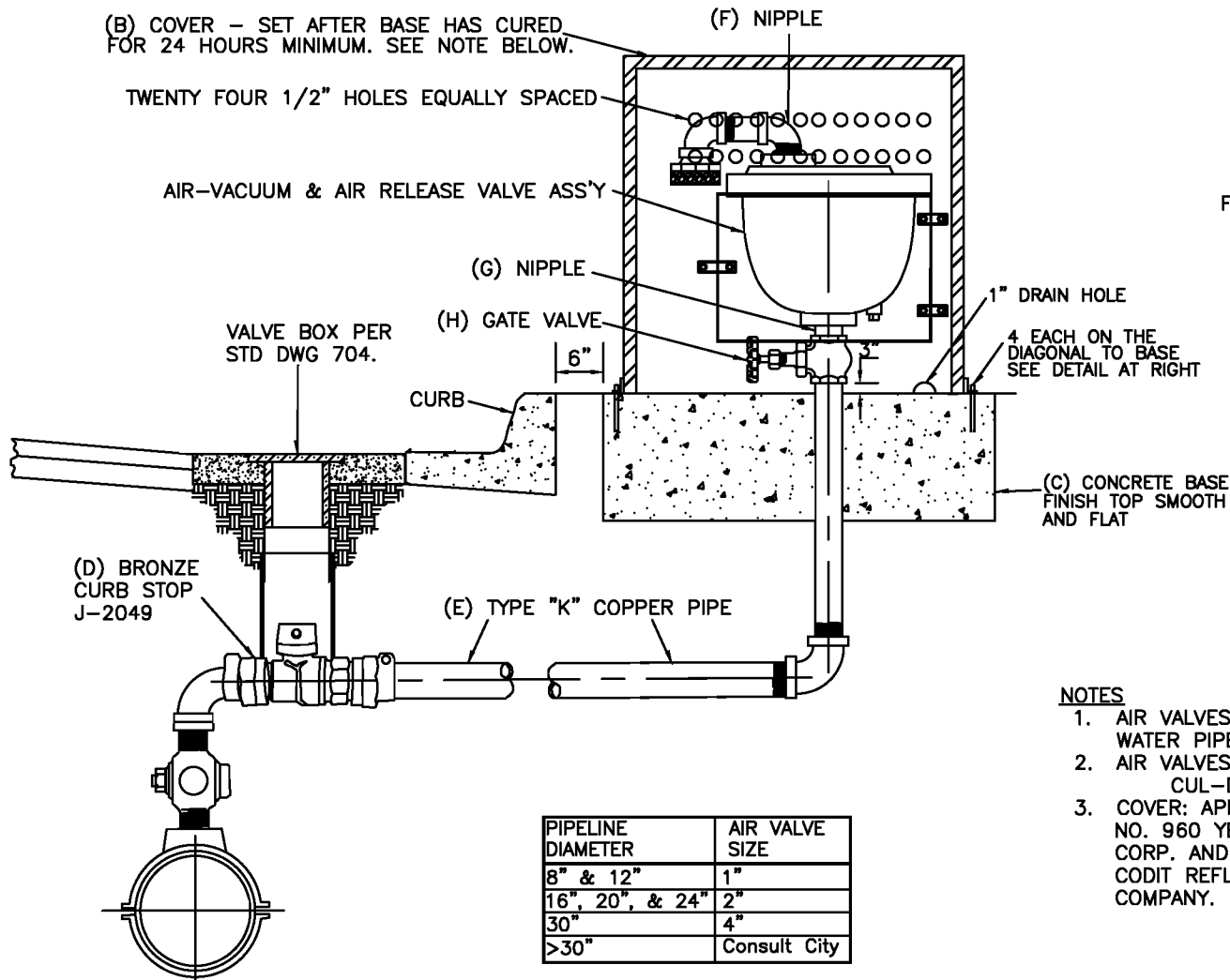
* PER STD. DWG. 700



NOTES:

1. BLOWOFFS TO BE LOCATED AT ALL LOW POINTS OF PIPELINE, AND AT ALL DEAD-ENDS OR TERMINAL POINTS.
2. WHERE POSSIBLE, FIRE HYDRANTS SHALL BE USED IN PLACE OF BLOWOFFS.
3. INSTALLATION LOCATION TO BE FIELD COORDINATED WITH UTILITIES INSPECTOR.
4. FOR INSTALLATIONS OUTSIDE OF PAVED ROADWAYS, THE ASSEMBLY SHALL BE INSTALLED CLEAR OF THE TRAVELED WAY AND PROTECTED WITH GUARD POSTS AS DIRECTED BY THE CITY.
5. PIPE SIZE AND FITTINGS TO MATCH BLOWOFF SIZE.
6. FOR MAINLINE PIPELINES GREATER THAN 12" DIAMETER, INSTALL FLEXIBLE COUPLING.

CITY OF COLTON		
WATER/WASTEWATER DEPARTMENT		
TYPICAL 4" OR 6"		
BLOW-OFF ASSEMBLY (ABOVE GROUND)		
DATE: JUNE 2010	SCALE: N.T.S.	DWG. NO. 706B
DWN BY: JCS	REV: _____	
APP'D BY: _____		
DIRECTOR		



- NOTES**
1. AIR VALVES TO BE LOCATED AT ALL HIGH POINTS OF WATER PIPELINES.
 2. AIR VALVES SHALL NOT BE INSTALLED AT END OF CUL-DE-SACS.
 3. COVER: APPLY 1 COAT OF ZINC CHROMATE PRIMER NO. 960 YELLOW AS MANUFACTURED BY RUSTOLEUM CORP. AND 1 FINISH COAT OF NO. 7211 YELLOW, CODIT REFLECTIVE LIQUID, AS MANUFACTURED BY 3M COMPANY.

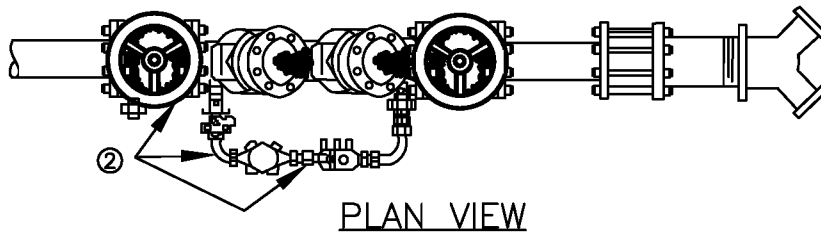
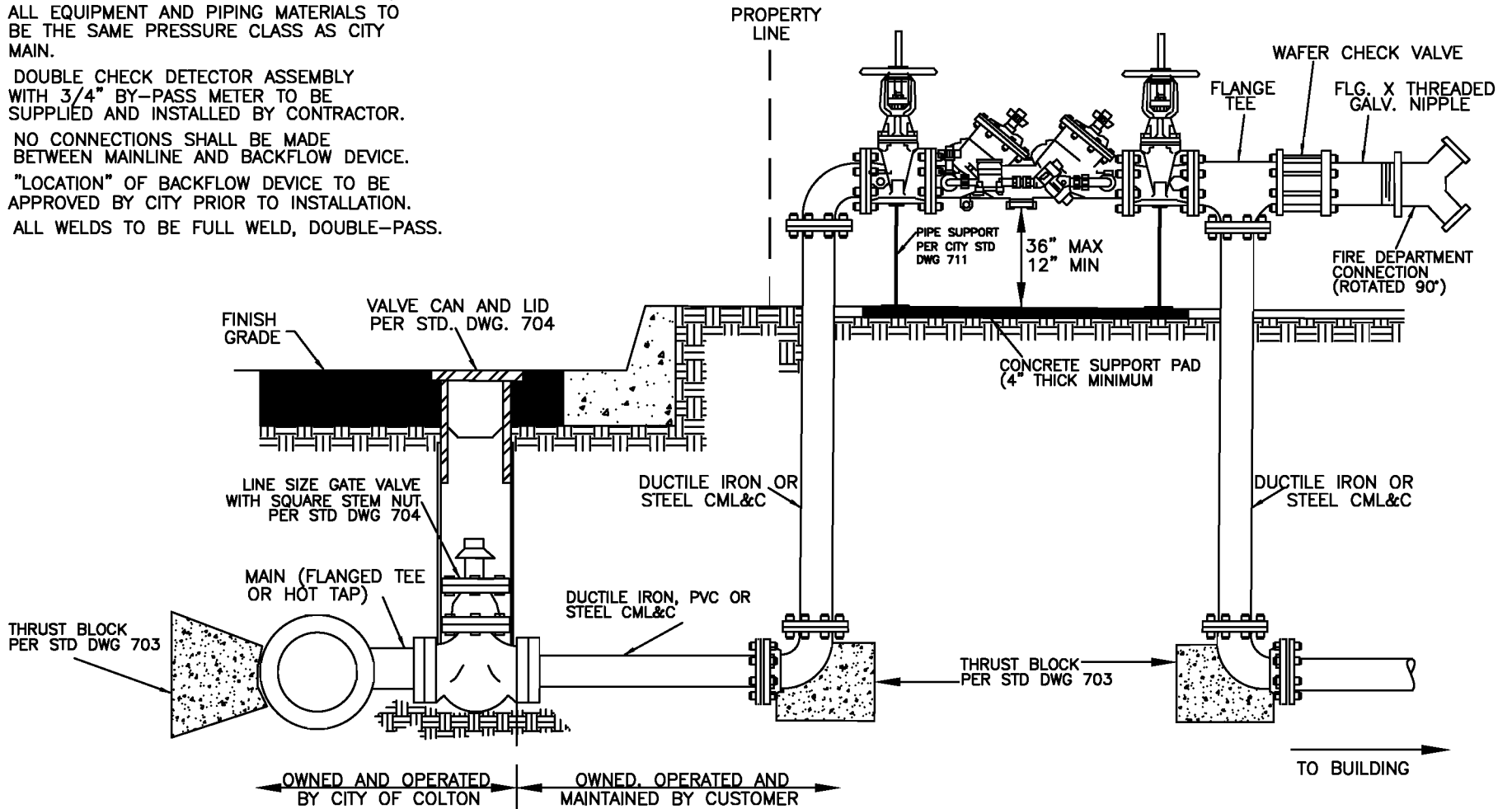
PIPELINE DIAMETER	AIR VALVE SIZE
8" & 12"	1"
16", 20", & 24"	2"
30"	4"
>30"	Consult City

(A) SIZE OF AIR-VAC. & AIR RELEASE VALVE.	(B) STEEL COVER 10 GAUGE MIN.	(C) CONCRETE BASE	(D)	(E)	(F)	(G)	(H) GATE VALVE
1" VALVE & PRIMER CORP S-143-C OR APPROVED EQUAL	14" DIA X 24" HIGH	10" SQ. X 12" DEEP	1"	1"	1" x 3"	1" x 3"	1" FIG. 97 OR APPROVED EQUAL
2" VALVE & PRIMER CORP S-145-C OR APPROVED EQUAL	18" DIA X 28" HIGH	24" SQ. X 12" DEEP	2"	2"	2" x 3"	2" x 3"	2" FIG. 97 OR APPROVED EQUAL
3" VALVE & PRIMER CORP S-147-C OR APPROVED EQUAL	20" DIA X 24" HIGH	24" SQ. X 12" DEEP	3"	3"	3" x 4"	O M I T	
4" VALVE & PRIMER CORP S-149-C OR APPROVED EQUAL	20" DIA X 24" HIGH	24" SQ. X 12" DEEP	4"	4"	4" x 4"	O M I T	

CITY OF COLTON		
WATER/WASTEWATER DEPARTMENT		
AIR VACUUM ASSEMBLY		
DATE: JUNE 2006	SCALE: N.T.S.	DWG. NO. 707
DWN BY: S.M.H	REV: _____	
APP'D BY: _____ DIRECTOR		

NOTES:

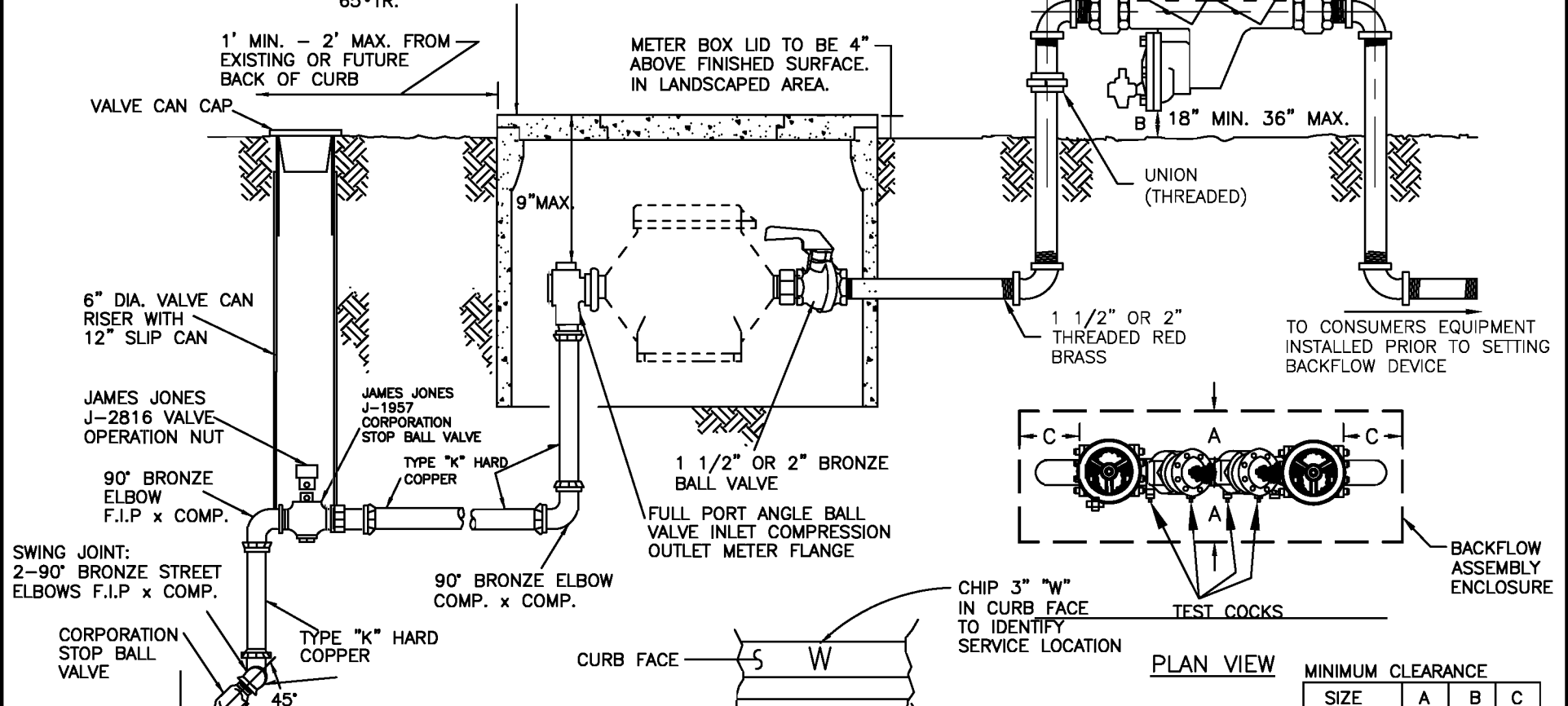
- ① DETECTOR CHECK, ALL PIPES AND FITTINGS SHALL BE DESIGNED FOR FIRE FLOW REQ. ALL EQUIPMENT AND PIPING MATERIALS TO BE THE SAME PRESSURE CLASS AS CITY MAIN.
- ② DOUBLE CHECK DETECTOR ASSEMBLY WITH 3/4" BY-PASS METER TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.
- ③ NO CONNECTIONS SHALL BE MADE BETWEEN MAINLINE AND BACKFLOW DEVICE.
- ④ "LOCATION" OF BACKFLOW DEVICE TO BE APPROVED BY CITY PRIOR TO INSTALLATION.
- ⑤ ALL WELDS TO BE FULL WELD, DOUBLE-PASS.



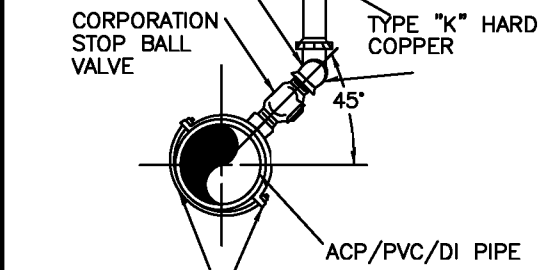
CITY OF COLTON		
WATER/WASTEWATER DEPARTMENT		
4", 6", 8", 10" OR 12" DOUBLE DETECTOR CHECK ASSEMBLY WITH FIRE DEPT. CONNECTION		
DATE: JULY 2006	SCALE: N.T.S.	DWG. NO. 708
DWN BY: S.M.H	REV: _____	
APP'D BY: _____		
DIRECTOR		

CONCRETE METER BOX AND LID:
 PARKWAY TYPE, 1 1/2"-BROOKS 38 °S,
 2"-BROOKS 65 §. TRAFFIC TYPE,
 1 1/2"-BROOKS 38 TR, 2"-BROOKS
 65•TR.

BACKFLOW ASSEMBLIES
 SUPPLIED & INSTALLED
 BY CONTRACTOR



SWING JOINT:
 2-90° BRONZE STREET
 ELBOWS F.I.P x COMP.



SERVICE SADDLE: BRONZE BODY AND
 BRONZE FLAT STRAP WITH NEOPRENE
 GASKET. SMITH-BLAIR 321, 323 OR
 325; MULLER CO. H-1600 OR
 APPROVED EQUAL.

NOTES:

1. ALL SUCH BACKFLOW PREVENTION DEVICES SHALL BE IN ACCORDANCE WITH THE CALIFORNIA ADMINISTRATIVE CODE TITLE 17, PUBLIC HEALTH REGULATIONS RELATING TO CROSS-CONNECTIONS.
2. LOCATION OF ASSEMBLY TO BE APPROVED BY CITY.
3. NO OUTLET CONNECTIONS SHALL BE MADE BETWEEN THE METER AND THE BACKFLOW DEVICE.
4. UPON INSTALLATION AND PRIOR TO WATER DELIVERY, THE BACKFLOW PREVENTION ASSEMBLY SHALL BE TESTED AND CERTIFIED BY A TESTER POSSESSING A CERTIFICATE OF COMPETENCY ISSUED BY COUNTY DEPT. OF HEALTH AND APPROVED BY CITY. COMPLETED TEST REPORTS SHALL BE FORWARDED TO CITY OF COLTON WATER DEPARTMENT. TITLE 17, PUBLIC HEALTH REGULATIONS RELATING TO CROSS-CONNECTIONS.

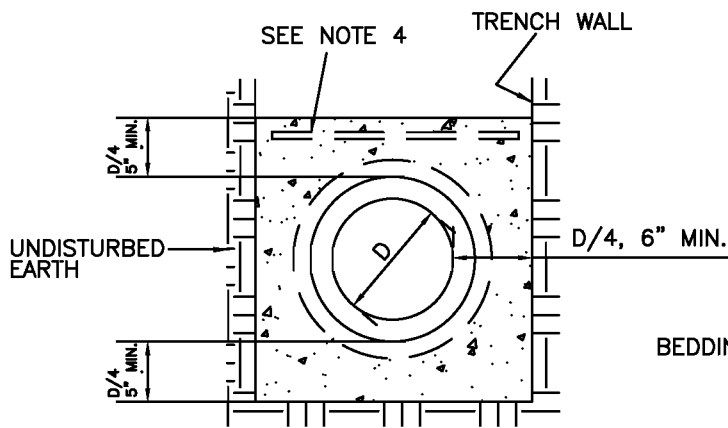
PLAN VIEW

MINIMUM CLEARANCE			
SIZE	A	B	C
3/4" - 1 1/2"	12"	18"	12"
2" - 3"	12"	24"	12"
4" - 6"	24"	30"	12"
8" - 10"	24"	36"	12"

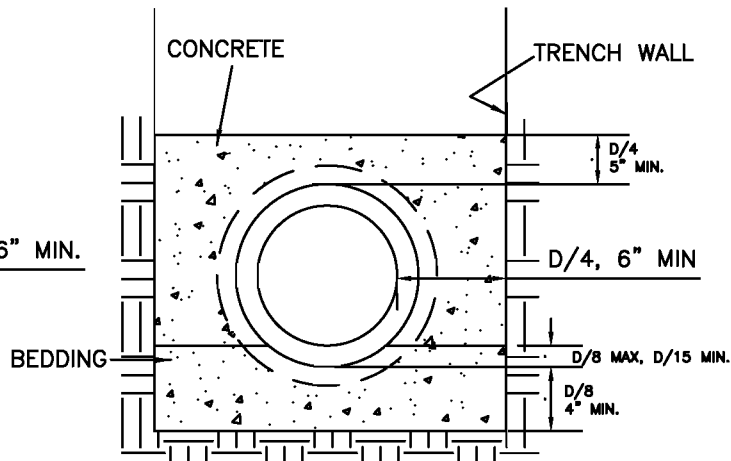
**CITY OF COLTON
 WATER/WASTEWATER DEPARTMENT**

**REDUCED PRESSURE VALVE
 BACKFLOW PREVENTION ASSY.**

DATE: JUNE 2010	SCALE: N.T.S.	DWG. NO. 709
DWN BY: JCS	REV: _____	
APP'D BY: _____ <small style="text-align: right;">DIRECTOR</small>		



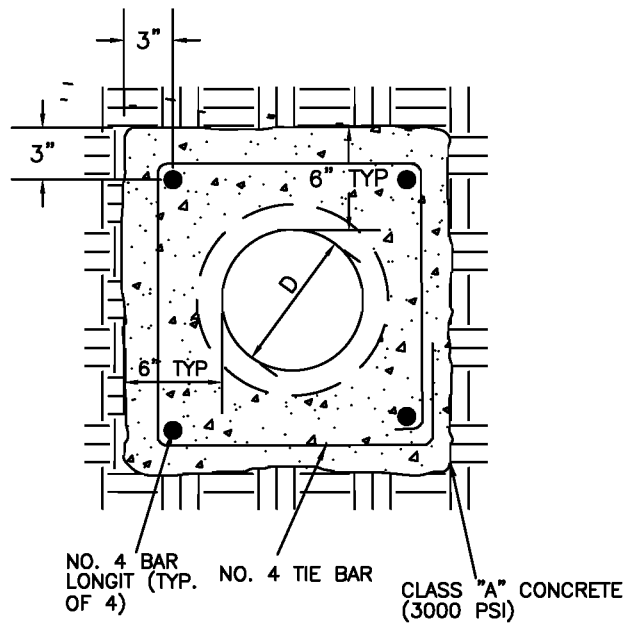
CONCRETE ENCASEMENT
NO. 1



CONCRETE ENCASEMENT
NO. 2

NOTES:

1. USE CONCRETE ENCASEMENT NO. 2 UNLESS OTHERWISE APPROVED BY THE DIRECTOR OR SHOWN ON THE CONTRACT DRAWINGS.
2. CONCRETE ENCASEMENT SHALL BE INSTALLED AS REQUIRED BY THE SPECIFICATIONS OR APPROVED BY THE DIRECTOR.
3. ALL CONCRETE SHALL BE CLASS "A" CONCRETE UNLESS MODIFIED BY THE DISTRICT.
4. STEEL REINFORCEMENT SHALL BE INSTALLED WHEN REQUIRED BY THE DISTRICT ENGINEER. RATION OF X-AREA OF STEEL TO AREA OF CONCRETE PER LINEAL FOOT OF PIPE $\geq 0.4\%$
MAX. SPACING IS 8" C.C.
MIN. SPACING IS 6" C.C.

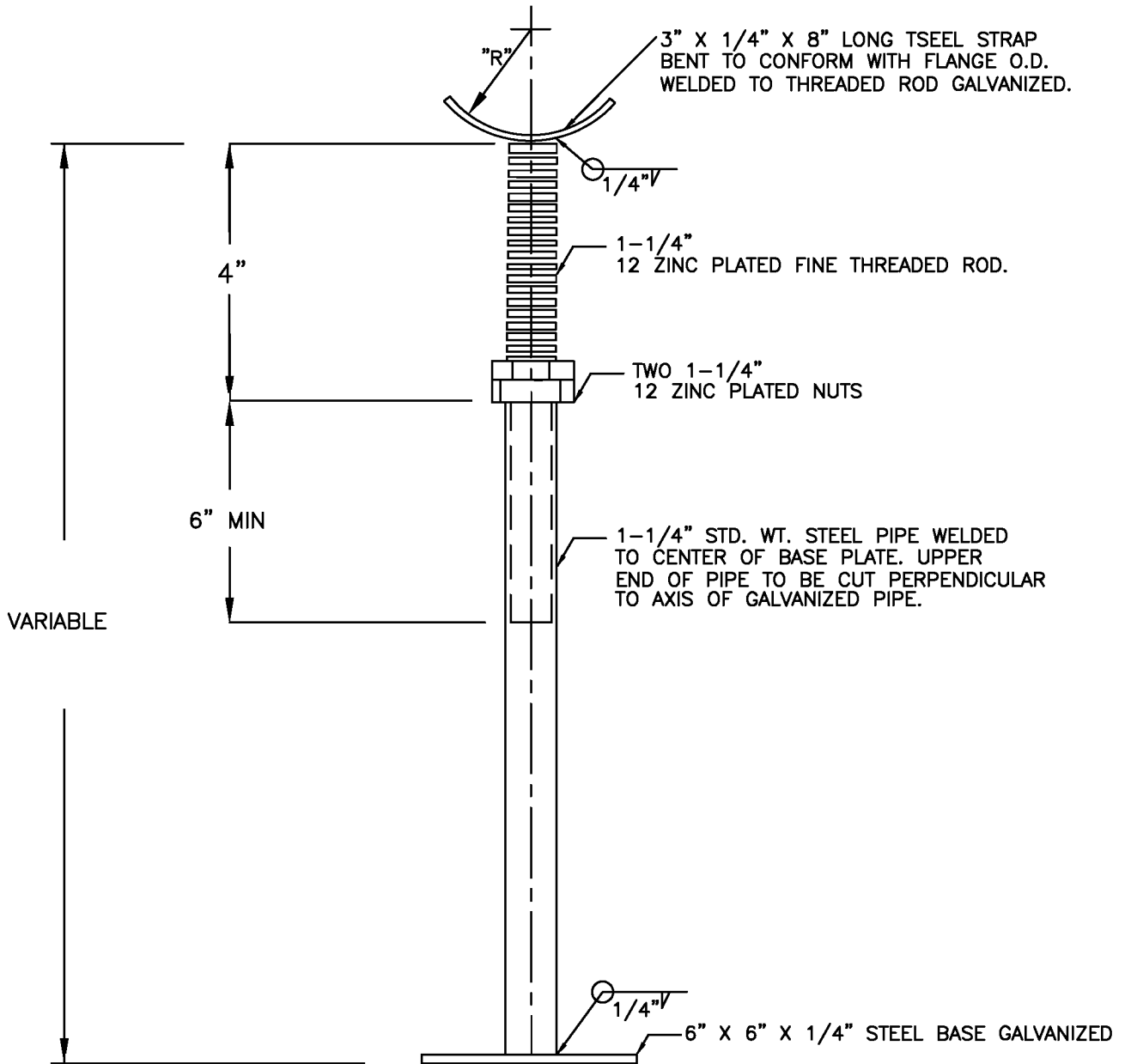


REINFORCED
CONCRETE ENCASEMENT
NO. 3

CITY OF COLTON
WATER/WASTEWATER DEPARTMENT

CONCRETE ENCASEMENT

DATE: JUNE 2006	SCALE: N.T.S.	DWG. NO. 710
DWN BY: S.M.H	REV: _____	
APP'D BY: _____	DIRECTOR	



CITY OF COLTON
WATER/WASTEWATER DEPARTMENT

PIPE SUPPORT DETAIL

DATE: JULY 2006

SCALE: N.T.S.

DWG. NO.

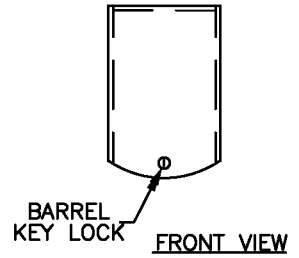
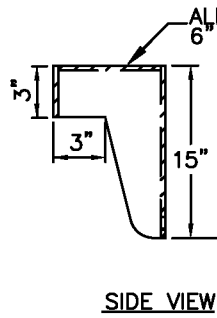
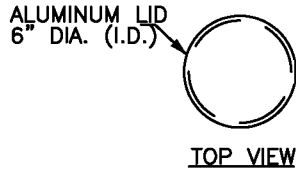
DWN BY: S.M.H

REV: _____

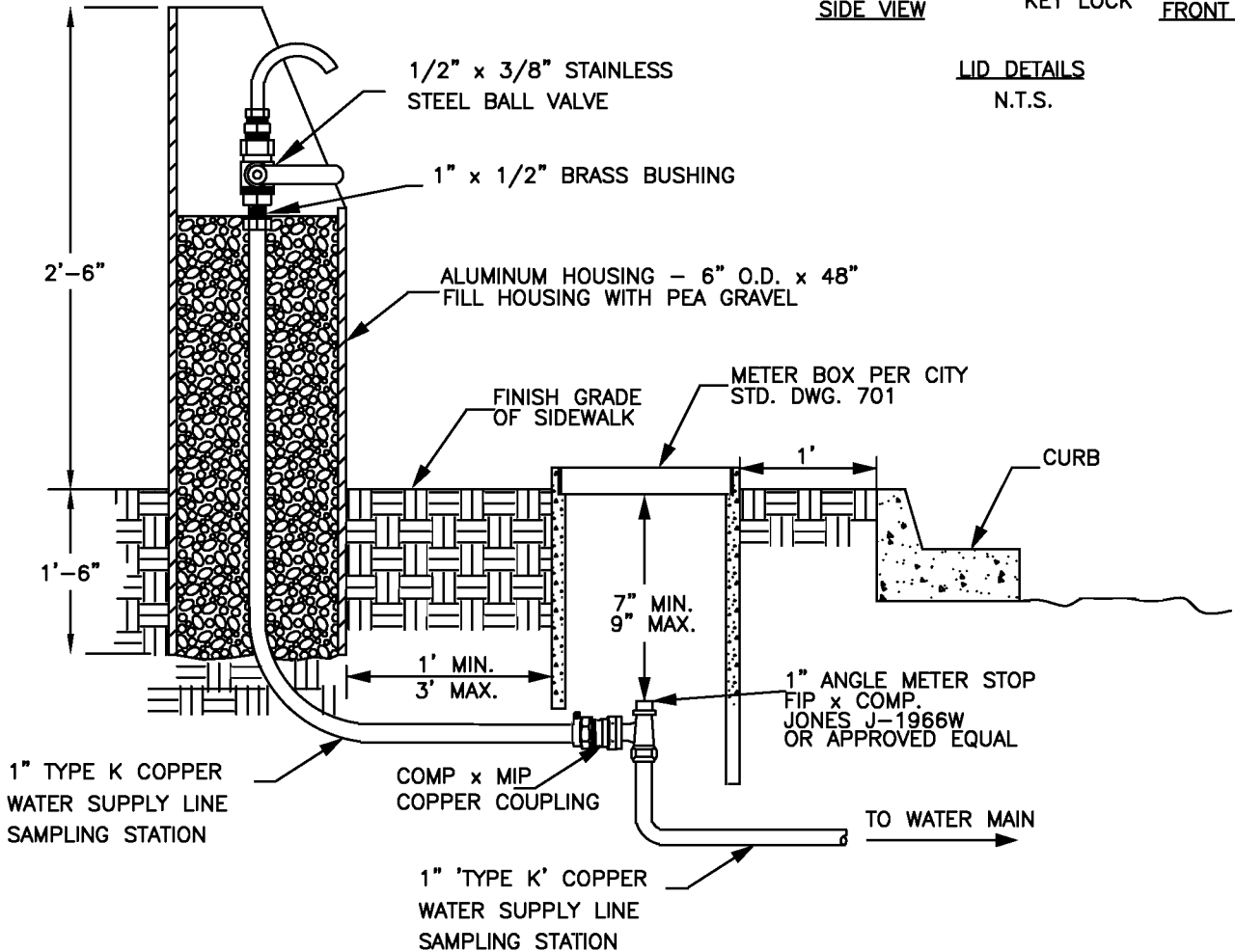
711

APP'D BY: _____

DIRECTOR



LID DETAILS
N.T.S.



NOTES:

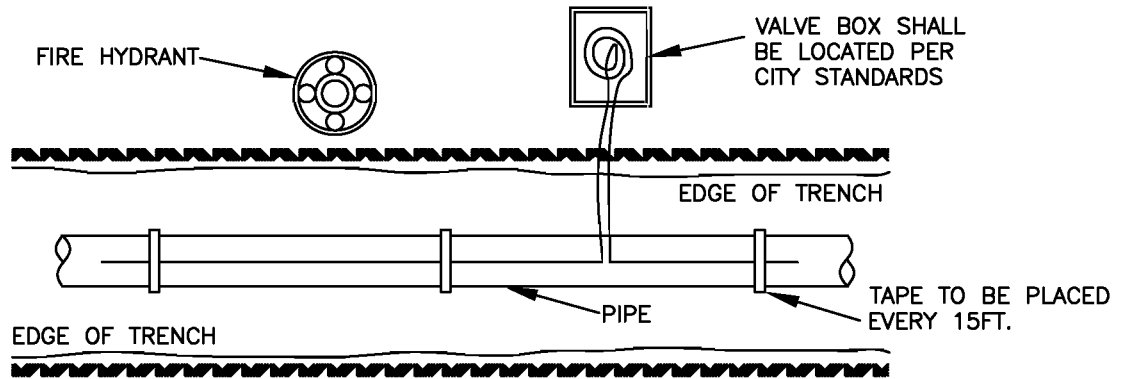
1. STATION TO BE ENCLOSED IN A LOCKABLE, NONREMOVABLE ALUMINUM-CAST HOUSING.
2. A 1" BALL VALVE WILL CONTROL THE WATER FLOW, AND BE LOCATED BEFORE THE SAMPLING BIBB, AS MANUFACTURED BY KORALEEN ENTERPRISES, ESCONDIDO, CA 92027.
3. STATIONS TO BE PLACED AT EVERY 5 SERVICE CONNECTIONS. 3 SAMPLING STATIONS MIN WITH 1 IN THE MIDDLE, 1 UPSTREAM AND 1 PLACED DOWNSTREAM.
4. SAMPLING STATIONS NOT TO BE PLACED AT DEAD ENDS.
5. KEYS TO LOCKS SHALL BE DELIVERED TO CITY OF COLTON WATER QUALITY DEPT. UPON ACCEPTANCE.
6. SAMPLING STATION TO BE KORALEEN OR APPROVED EQUAL.

CITY OF COLTON WATER/WASTEWATER DEPARTMENT		
WATER QUALITY SAMPLING STATION		
DATE: JULY 2006	SCALE: N.T.S.	DWG. NO. 712
DWN BY: _____	REV: S.M.H. _____	
APP'D BY: _____ DIRECTOR		

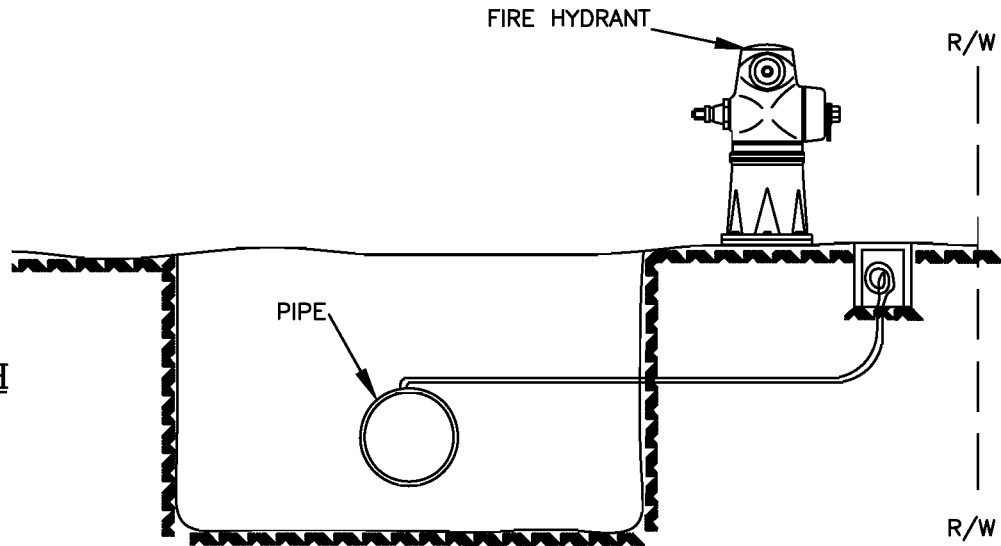
R/W

R/W

PLAN VIEW



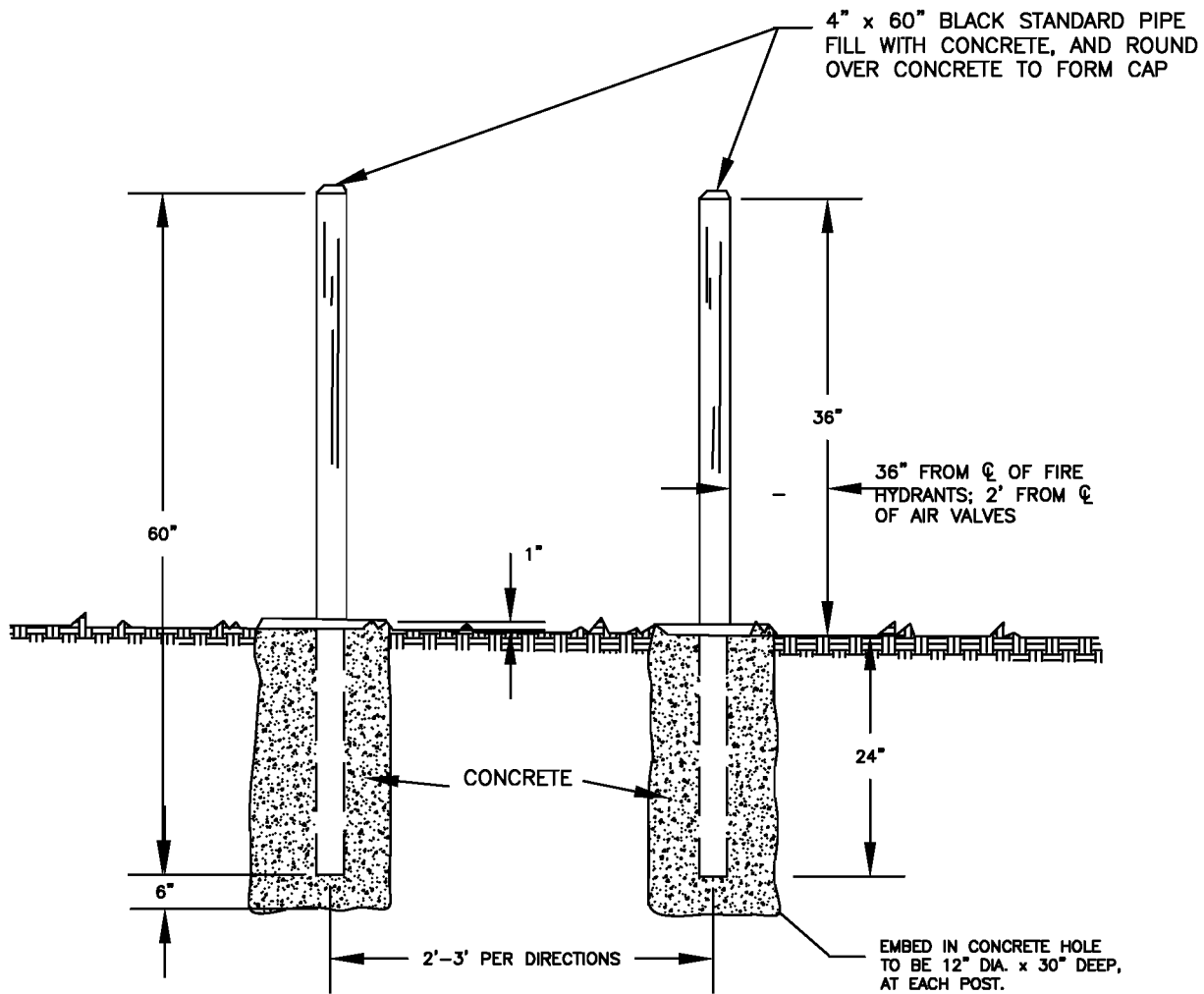
TYPICAL TRENCH SECTION



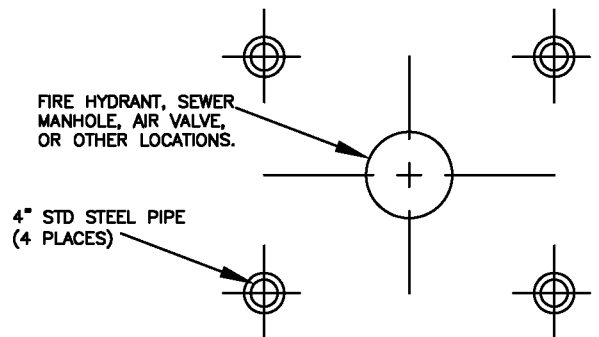
NOTES:

1. LOCATOR WIRE TO BE 14 GAUGE (CONTINUOUS STRAND) SOLID COPPER WIRE, UF, THWN, OR THHN
2. LOCATOR WIRE SHALL BE BROUGHT TO THE SURFACE BY FIRE HYDRANTS OR INSTALL MARKER POST. (FOR TRACT CONSTRUCTION, CHISEL "LW" IN FACE OF CURB IN LIEU OF MARKER POST).
3. LOOP 2 FEET OF WIRE IN VALVE CAN/BOX WITHIN 2 FEET OF FIRE HYDRANT OR MARKER POST.
4. LOCATOR WIRE SHALL BE INSTALLED OVER ALL WATERLINES, AND SEWER MAINS WHETHER OR NOT TELEMETRY WIRE IS BURIED WITH THE PIPE.
5. FOR PIPE DEPTHS GREATER THAN 8', LOCATOR WIRE SHALL BE PLACED ABOVE PIPE AT MAX 8' DEPTH. MARKER TAPE SHALL BE PLACED ABOVE THE LOCATORE WIRE.
6. A CONDUCTIVITY TEST IS TO BE PERFORMED ON ALL LOCATOR WIRES.
7. VALVE CAN/BOX SHALL BE PER CITY STD DWG #702.

CITY OF COLTON		
WATER/WASTEWATER DEPARTMENT		
LOCATOR WIRE INSTALLATION		
DATE: JULY 2006	SCALE: N.T.S.	DWG. NO. 713
DWN BY: _____	REV: S.M.H	
APP'D BY: _____		
DIRECTOR		



ELEVATION



LAYOUT

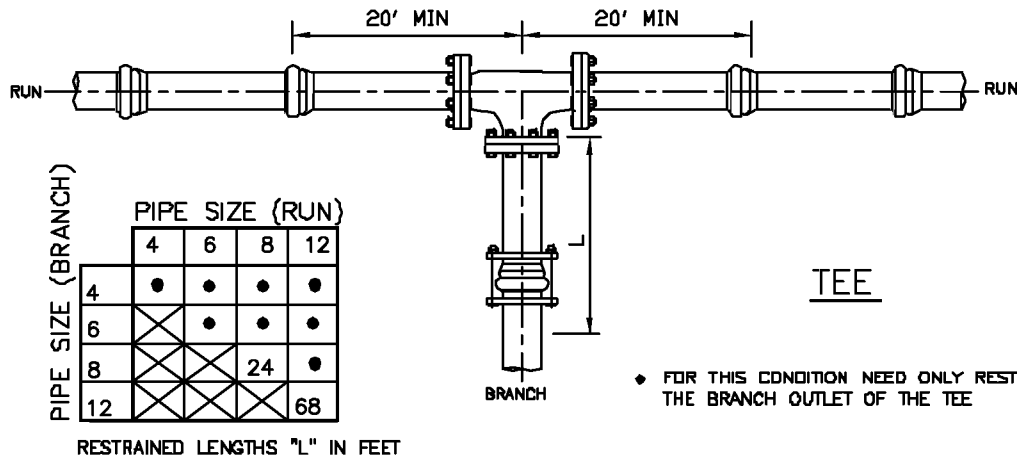
NOTES:

1. POUR CONCRETE AGAINST UNDISTURBED OR WELL COMPACTED EARTH 90% MIN.
2. PAINT ALL MATERIAL ABOVE GROUND WITH ONE (1) COAT OF PRIMER AND TWO (2) COATS OF DUNN EDWARDS, HIGH VISIBILITY YELLOW, #10-14
3. INSTALL AT ALL AIR VALVE LOCATIONS AND AT DESIGNATED FIRE HYDRANTS, OR OTHER LOCATIONS, AS REQUIRED ON PLANS OR SPECIFICATIONS.

CITY OF COLTON
WATER/WASTEWATER DEPARTMENT

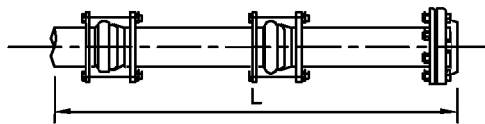
4" GUARD POSTS

DATE: JULY 2006	SCALE: N.T.S.	DWG. NO. 714
DWN BY: S.M.H	REV: _____	
APP'D BY: _____ DIRECTOR		



♦ FOR THIS CONDITION NEED ONLY RESTRAIN THE BRANCH OUTLET OF THE TEE

DEAD END/EACH SIDE OF VALVE



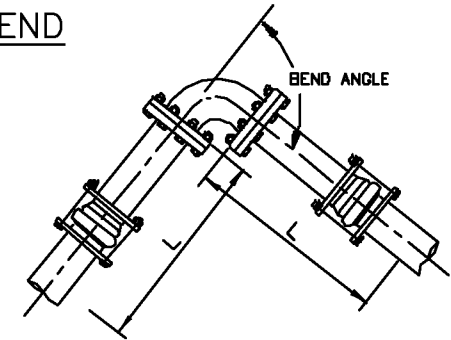
PIPE SIZES			
4	6	8	12
59	84	110	156

RESTRAINED LENGTHS "L" IN FEET

NOTES:

1. ALL JOINTS WITHIN LENGTH "L" MUST BE RESTRAINED.
2. FOR TEE, RESTRAIN BOTH RUN-SIDE JOINTS AND INSTALL A FULL LENGTH OF PIPE ON EACH SIDE OF BRANCH.
3. THIRTY-SIX (36) INCHES MINIMUM DEPTH OF COVER.
4. A SAFETY FACTOR OF 1.5.
5. PIPE BEDDING PER STANDARD DRAWING 201 OR 202.
6. TEST PRESSURE 1.5 TIMES THE PRESSURE RATING OF THE PIPE.
7. IF ACTUAL CONDITIONS DIFFER FROM THOSE LISTED ABOVE OF THE REQUIRED RESTRAINED LENGTH CANNOT BE MET, THE RESTRAINED LENGTH SHALL BE DETERMINED BY THE DESIGN ENGINEER AND APPROVED BY THE DIRECTOR.

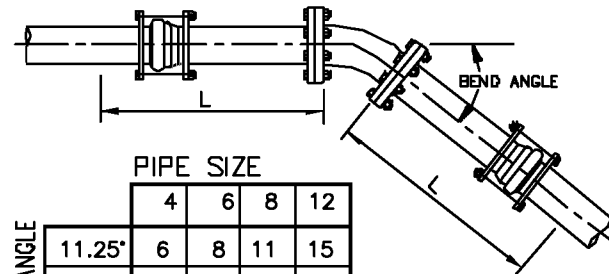
HORIZONTAL BEND



BEND ANGLE	PIPE SIZE			
	4	6	8	12
11.25°	2	3	4	6
22.5°	5	7	9	13
45°	10	14	19	26
90°	25	34	45	63

RESTRAINED LENGTHS "L" IN FEET

VERTICAL BEND



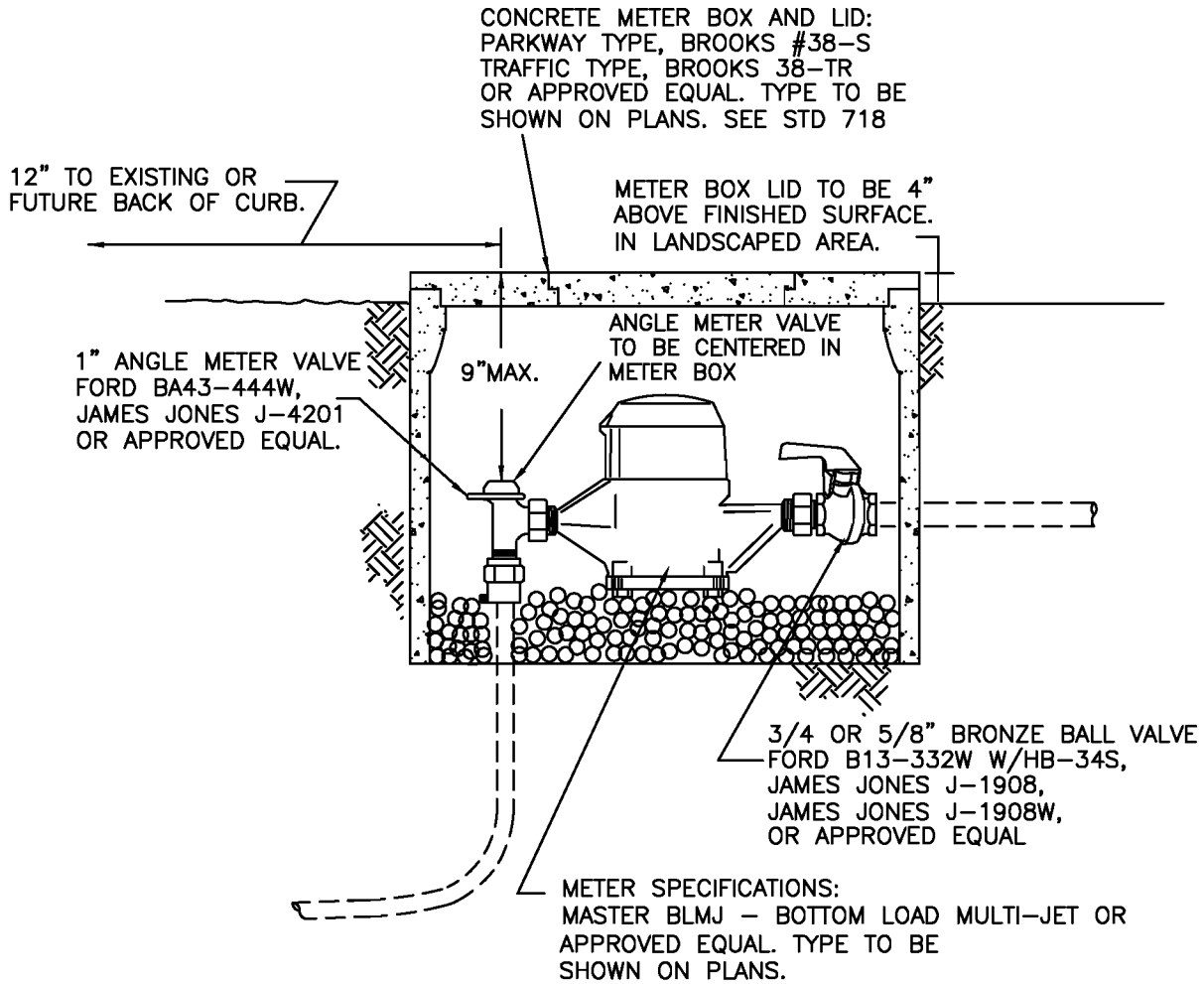
BEND ANGLE	PIPE SIZE			
	4	6	8	12
11.25°	6	8	11	15
22.5°	12	17	22	31
45°	25	35	46	65

RESTRAINED LENGTHS "L" IN FEET

CITY OF COLTON WATER/WASTEWATER DEPARTMENT

STANDARD RESTRAINT-TEE, DEAD END AND BEND (FOR P.V.C. C-900 PIPE)

DATE: _____	SCALE: N.T.S.	DWG. NO. 715
DWN BY: S.M.H _____	REV: FEB 2007 _____	
APP'D BY: _____ DIRECTOR		



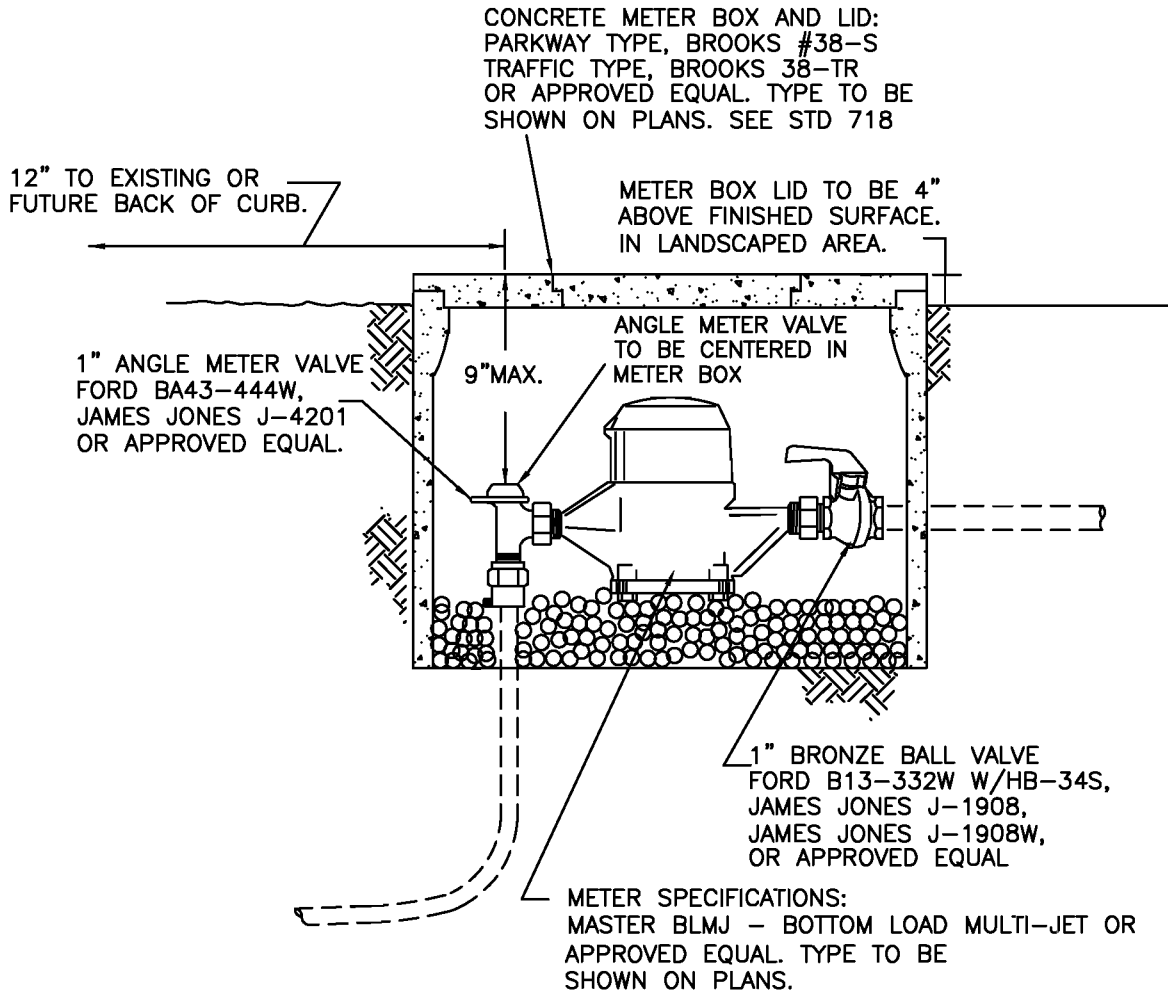
NOTES:

1. ALL METERS AND METER BOXES SHALL BE PROVIDED BY THE OWNER/DEVELOPER.
2. METER MODELS AND SPECIFICATIONS SHALL BE PROVIDED BY THE CITY OF COLTON WATER DEPARTMENT AT 909-370-5551.
3. REGISTRATION UNITS SHALL BE IN CUBIC FEET WITH CENTER SWEEP HAND AND LOW FLOW /LEAK INDICATOR.
4. MUST BE BOTTOM LOAD MULTI JET TYPE.

CITY OF COLTON
 WATER /WASTEWATER DEPARTMENT

TYPICAL WATER METER
 5/8", 3/4" SVC.

DATE: FEB 2011	SCALE: N.T.S.	DWG. NO. 716
DWN BY: JCS	REV: PSR	
APP'D BY: _____ DIRECTOR		



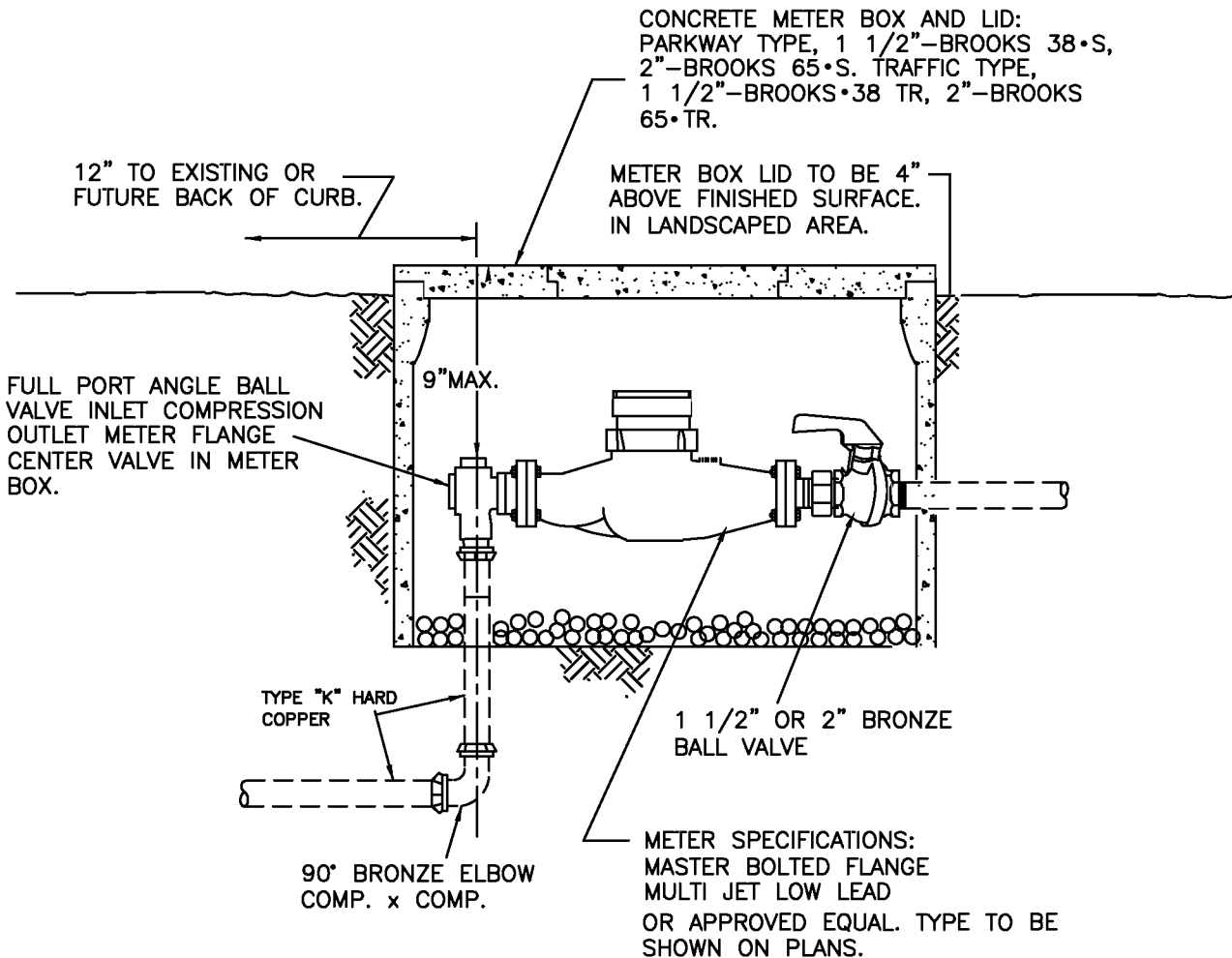
NOTES:

1. ALL METERS AND METER BOXES SHALL BE PROVIDED BY THE OWNER/DEVELOPER.
2. METER MODELS AND SPECIFICATIONS SHALL BE PROVIDED BY THE CITY OF COLTON WATER DEPARTMENT AT 909-370-5551.
3. REGISTRATION UNITS SHALL BE IN CUBIC FEET WITH CENTER SWEEP HAND AND LOW FLOW /LEAK INDICATOR.
4. MUST BE BOTTOM LOAD MULTI JET TYPE.

CITY OF COLTON
 WATER /WASTEWATER DEPARTMENT

TYPICAL WATER METER
 1" SVC.

DATE: FEB 2011	SCALE: N.T.S.	DWG. NO. 716A
DWN BY: JCS	REV: PSR	
APP'D BY: _____ DIRECTOR		



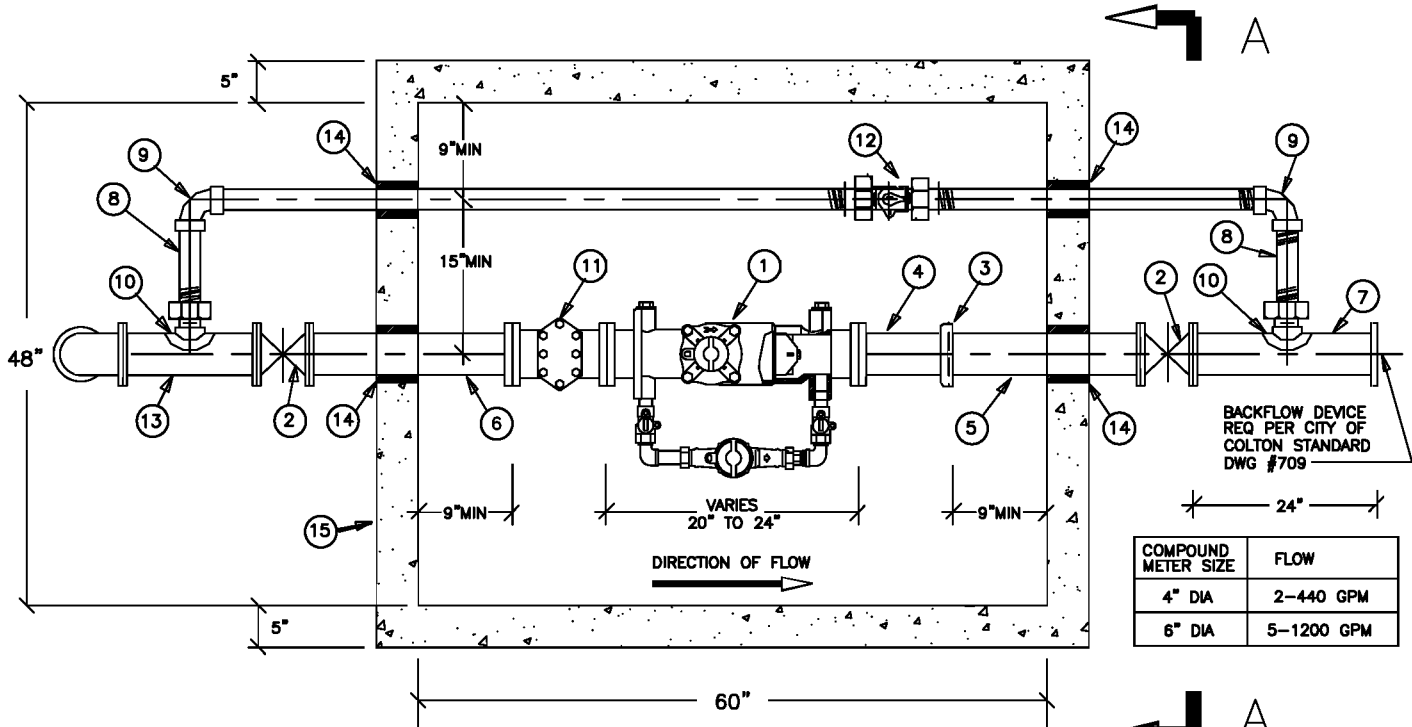
NOTES:

1. ALL METERS AND METER BOXES SHALL BE PROVIDED BY THE OWNER/DEVELOPER.
2. METER MODELS AND SPECIFICATIONS SHALL BE PROVIDED BY THE CITY OF COLTON WATER DEPARTMENT AT 909-370-5551.
3. REGISTRATION UNITS SHALL BE IN CUBIC FEET WITH CENTER SWEEP HAND AND LOW FLOW /LEAK INDICATOR.

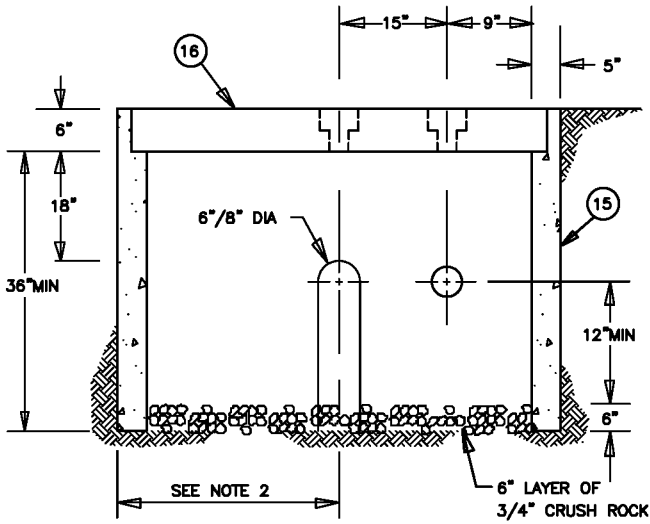
CITY OF COLTON
 WATER /WASTEWATER DEPARTMENT

TYPICAL WATER METER
 1-1/2", 2" SVC.

DATE: FEB 2011	SCALE: N.T.S.	DWG. NO. 716B
DWN BY: JCS	REV: PSR	
APP'D BY: _____ DIRECTOR		



COMPOUND METER SIZE	FLOW
4" DIA	2-440 GPM
6" DIA	5-1200 GPM



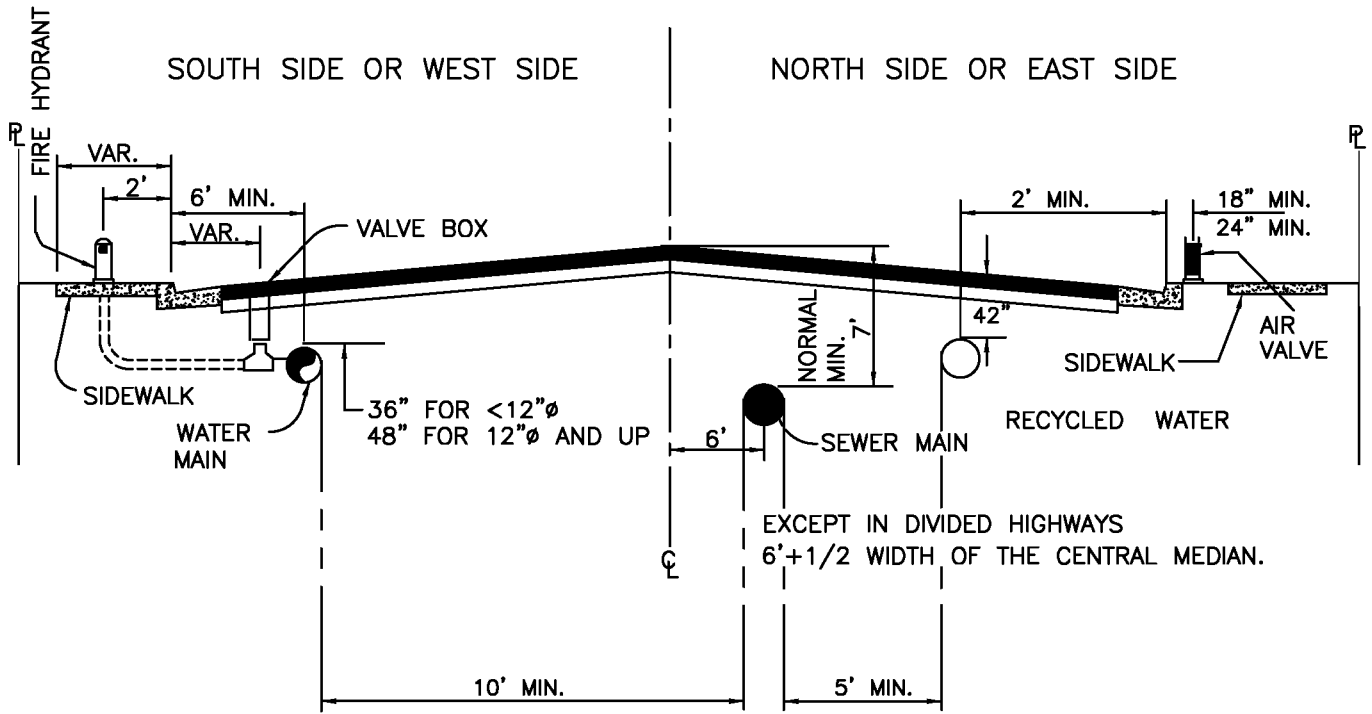
VIEW A-A

NOTES:

- 1. METER SUPPORT AS REQUIRED.
- 2. METER DIMENSIONS MAY VARY. CONTRACTOR SHALL VERIFY METER DIMS AND SUPPLY UTILITY BOX WITH ADEQUATE CLEARANCE.
- 3. INSTALL A 4"/6" COMPOUND METER W/ FLANGE
- 4. METER REGISTERS TO BE IN CUBIC FEET.
- 5. READ HOLES ARE TO BE POSITIONED OVER METER REGISTERS AFTER THE METER IS INSTALLED
- 6. ALL METERS AND METER BOXES SHALL BE PROVIDED BY THE OWNER/DEVELOPER.
- 7. METER MODELS AND SPECIFICATIONS SHALL BE PROVIDED BY THE CITY OF COLTON WATER DEPARTMENT AT 909-370-5551.

MATERIALS LIST		
ITEM	QTY	DESCRIPTION
①	1 EA	4"/6" COMPOUND METERS ■
②	2 EA	4"/6" GATE VALVES
③	1 EA	4"/6" VITAU LIC COUPLING
④	1 EA	4"/6" x 6" VITAU LIC NIPPLE WITH METER FLANGE ■■■
⑤	1 EA	4"/6" x 24" FLANGED X VITAU LIC NIPPLE (LENGTH VARIES)
⑥	1 EA	4"/6" FLANGE SPOOL WITH METER FLANGE ■■■
⑦	1 EA	4"/6" x 24" FLANGE SPOOL
⑧	12 FT+/-	2" BRASS (RED)
⑨	2 EA	2" 90° BRASS THREADED
⑩	2 EA	4" 2 1/2" SERVICE SADDLE W/ 2" x 2 1/2" REDUCING BRASS BUSHING
⑪	1 EA	4"/6" WATER METER STRAINER
⑫	1 EA	2" CURB STOP BRASS FIP X FIP W/ LOCK WING* NORMALLY CLOSED"
⑬	FT	4"/6" CLASS 150 DUCTILE IRON PIPE (Length to reach mainline)
⑭	4 EA	DRY-PACK PIPE OPENING
⑮	1 EA	4'-0" X 5'-0" UTILITY BOX W/ 5" WALLS ■■■
⑯	1 EA ■■■	TORSION SPRING ASSITED TWO-PIECE STEEL PARKWAY COVER OR STEEL TRAFFIC COVER WITH MANUFACTURED TOUCH READ HOLE
⑰	2 EA	4"/6" METER GASKETS
⑱	6 EA	4"/6" RING FLANGE GASKETS
⑲	-	5/8" x 3" BOLTS W/ NUTS
⑳	2 EA	6" DIA 20 GA. GALV. VALVE CAN W/ 12" SLIP CAN SLEEVE AND CAPS PER STD 704

CITY OF COLTON WATER / WASTEWATER DEPARTMENT		
TYPICAL 4", 6" COMPOUND WATER METER		
DATE: FEB 2011	SCALE: N.T.S.	DWG. NO. 716C
DWN BY: JCS	REV: PSR	
APP'D BY: _____		
DIRECTOR		



NOTE:

1. INSTALLATION OF POTABLE WATER MAINS AND THE REQUIRED CLEARANCE BETWEEN RECYCLED WATER PIPELINE AND POTABLE WATER SHALL BE PER CITY OF COLTON STANDARDS, WHICH CONFORM TO THE CDPH "CALIFORNIA DEPARTMENT OF PUBLIC HEALTH STANDARD" CHAPTER 16.

CITY OF COLTON WATER/WASTEWATER DEPARTMENT		
WATER/SEWER LOCATION		
DATE: JUNE 2010	SCALE: N.T.S.	DWG. NO. 720
DWN BY: JCS 6/15/10	REV: _____	
APP'D BY: _____ DIRECTOR		