

All construction and materials shall comply with current Standards and Specifications of the Township of West Bloomfield and/or the Detroit Water & Sewerage Department as their jurisdiction may apply.

Joints shall be "Super Bell-Tite" or "Tyton" or approved equal.

Valves and fittings shall meet West Bloomfield Township and Detroit Water & Sewerage Department current Standards and Specifications.

All hydrants shall be Water Master E.J.I.W. 5-BR250 Traffic-type and not self-draining with a 6.5" bury. Hydrant drain opening shall be securely plugged.

All Gate Valves shall be shall be E.J.I.W. Flow Master Valves.

The Contractor shall contact all utility companies for size and location of existing utilities and provisions shall be made for their protection. Contact Oakland County Utility Location and Protection Service ("MISSDIG."). The Contractor will be responsible for any and all damage to the utilities caused by his operation.

The Contractor shall, 48 hours prior to start of construction, notify the Inspection Section of the Detroit Water & Sewerage Department at (313) 224-4891, and the West Bloomfield Township Engineering Department at (248) 451-4824

All water main construction shall have competent full-time inspection provided by, or caused to be provided by, West Bloomfield Township.

All trenches under or within 4 feet of existing or proposed paving shall be backfilled with porous Granular Class II material in 12" layers for entire depth of trench and machine tamped to 95% compaction.

Where two utilities cross, provide porous Granular Class II backfill material in 12" compacted layers to the underside of the higher utility. New water gate well covers shall be provided with covers reading "West Bloomfield Water" in raised letters, East Jordan Ironworks #1040 or approved equal.

All water mains shall be constructed with a minimum cover of five and one half (5 1/2) feet below finished grades including open drainage courses.

Where water mains must dip to pass under other utilities, the sections which are deeper than normal shall be kept to a minimum length by the use of 11 1/4" vertical bends properly anchored. Vertical bends greater than 11 1/4" shall be provided with Mega-Lug or approved equal joint restraint.

Concrete thrust blocks shall be placed at all hydrants, tees, bends, and changes in direction of line of water main.

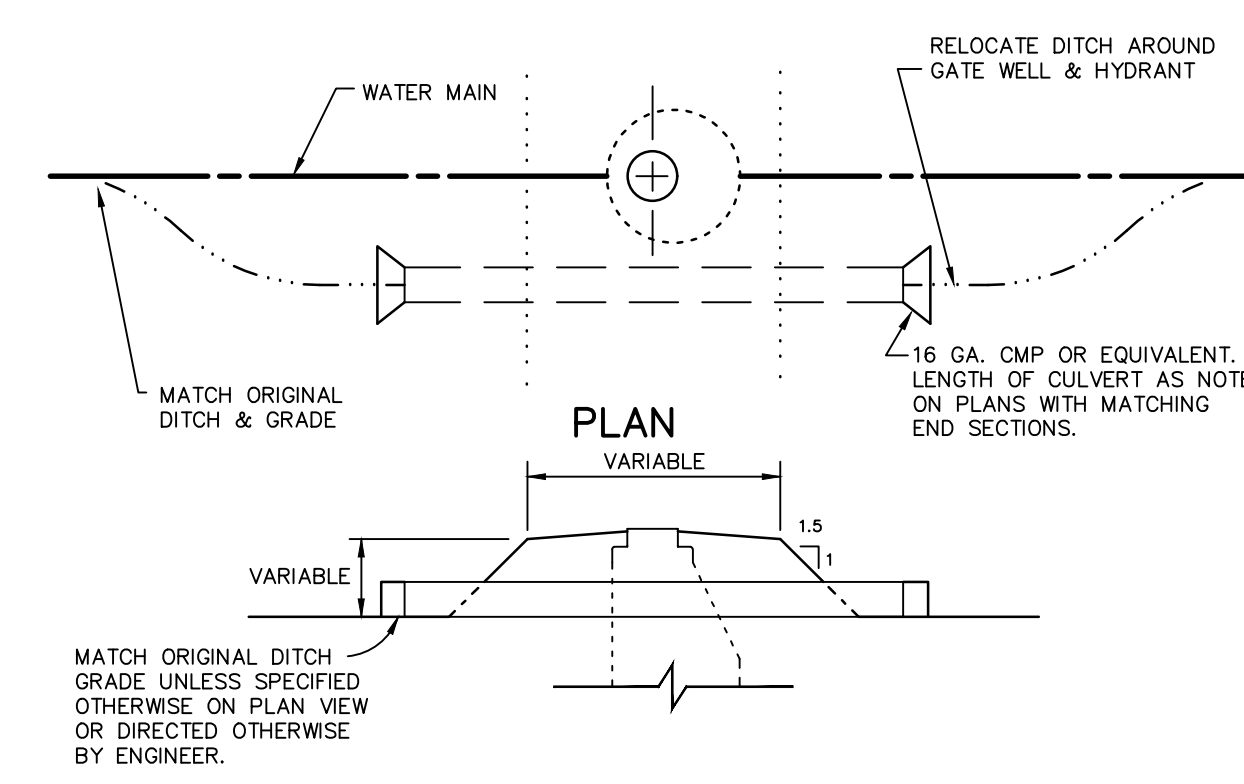
Water mains shall be pressure-tested at 150 p.s.i. for a minimum of two hours and witnessed by the Township. Taking of samples after chlorination shall be witnessed by the Township.

New water main construction to be connected to existing water system after successful completion of all tests.

The Contractor shall furnish all water used on this project, including water used for hydrostatic purposes, chlorination, and flushing. If he elects to purchase water from the Township, he must pay for the full measured amount at the current water rate for the system used. If a meter is not available to measure water volume, the Contractor shall pay for a minimum for five (5) times the volume capacity of the pipe installed, or as otherwise determined by the Township.

Air release manholes shall consist of a standard 5' diameter gate well style structure with a ValMatic Model 25C air release valve mounted on a 1" corporation stop. Air release shall be equipped with the vacuum check option. A 1/2" diameter galvanized pipe air discharge shall be extended to within 12" of the top of the structure. A gooseneck trap shall be installed at the top of the riser to prevent debris & water from entering the valve.

- Curb boxes shall be:
- Arch Pattern Style with one (1) inch uppers.
 - ERIE (or 2 hole) lids.
 - Rods shall be stainless steel curb box - 1.5 inch and 2 inch in size and shall have enlarged curb box base.



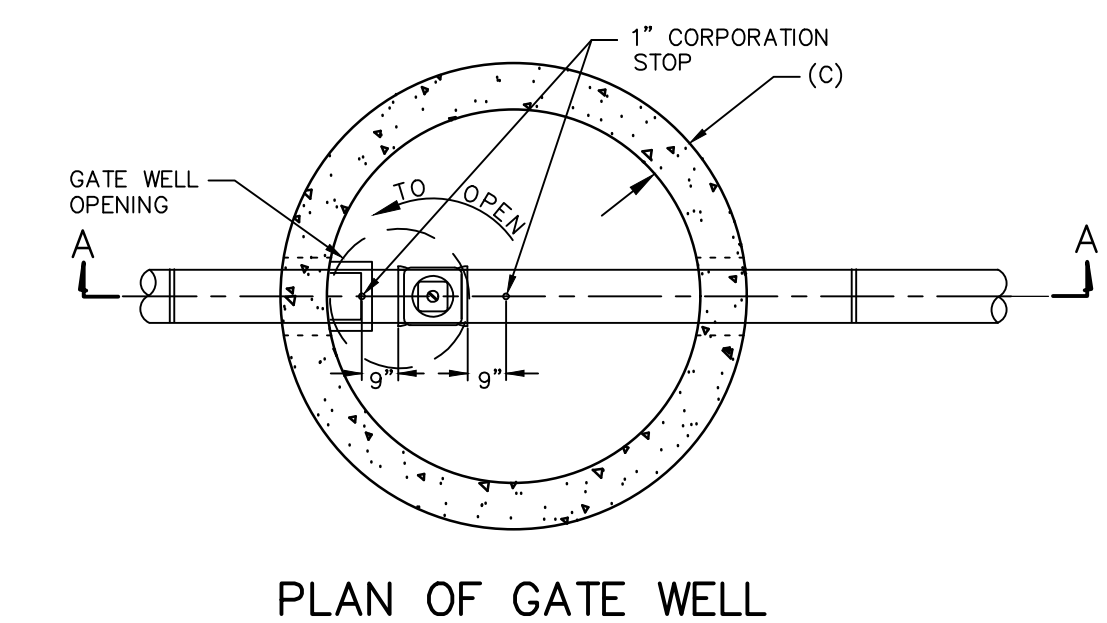
WATER MAIN STANDARD DETAILS

DATE	REVISIONS	INT
7/7/09	DETAIL UPDATE	SDA
12/22/09	REVISED HYD. SETTINGS DET. & NOTES	J & A
01/25/11	REVISED HYD. & GV&W NOTES	J & A
02/28/11	ADD CURB BOX INFO.	J & A
11/13/18	REVISED HYD. SETTINGS DET. & NOTES	J & A

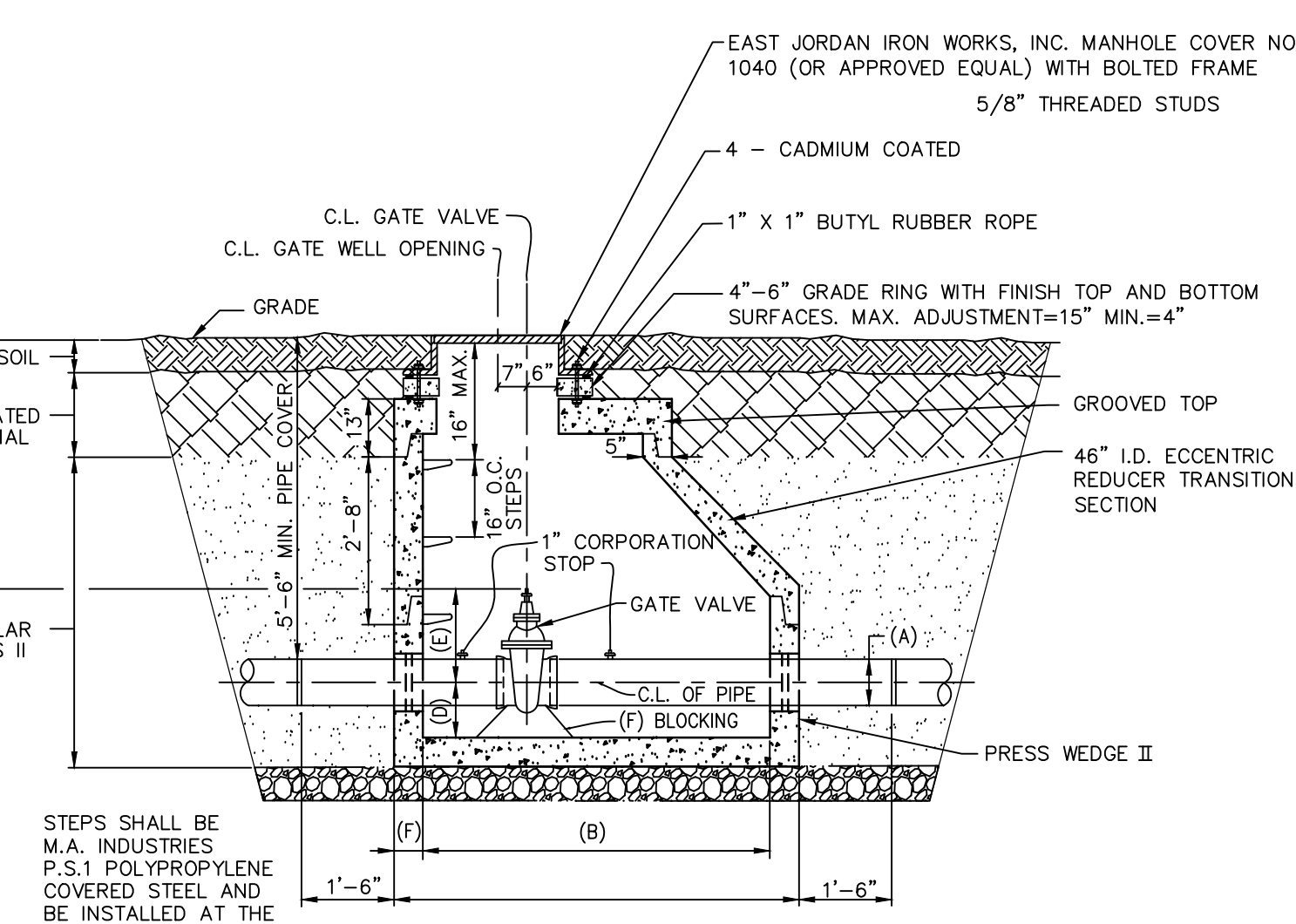
CHARTER TOWNSHIP OF
WEST BLOOMFIELD

4550 Walnut Lake Road
West Bloomfield, Michigan 48325
Telephone 248-451-4800

SHEET No: CE-5	
DATE: 4-1-07	SCALE: NONE
DSN/CK BY: G.N.	DRAWN BY: S.T.



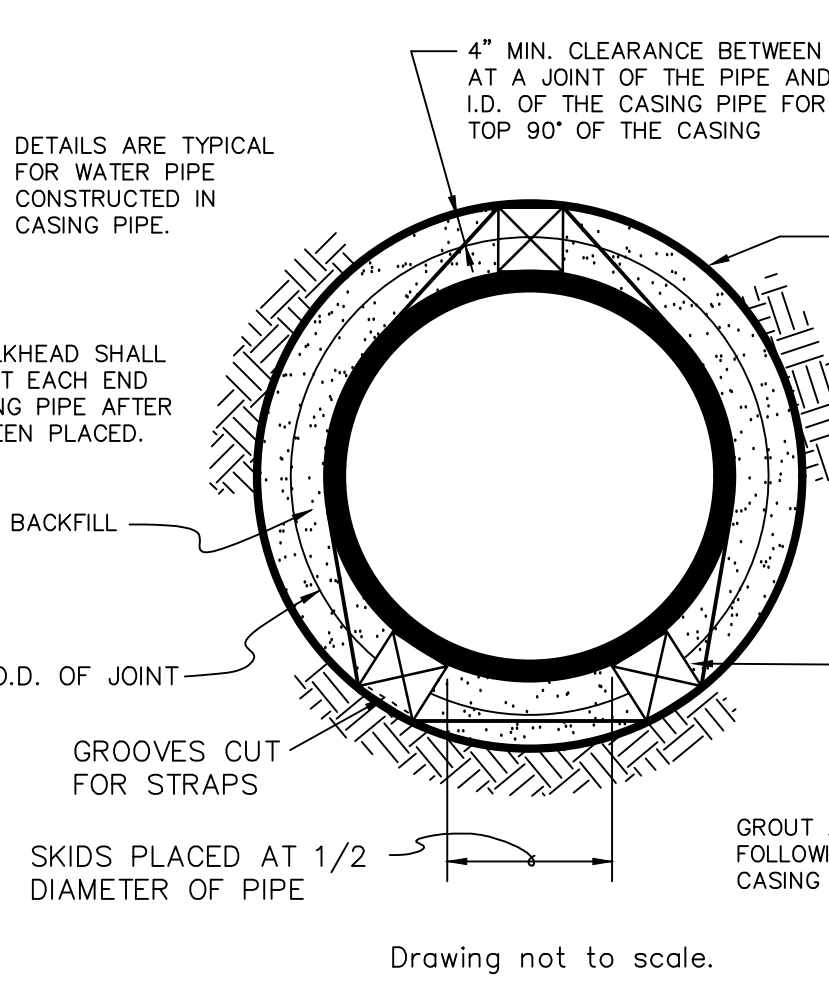
PLAN OF GATE WELL



GATE WELL SECTION (A-A)

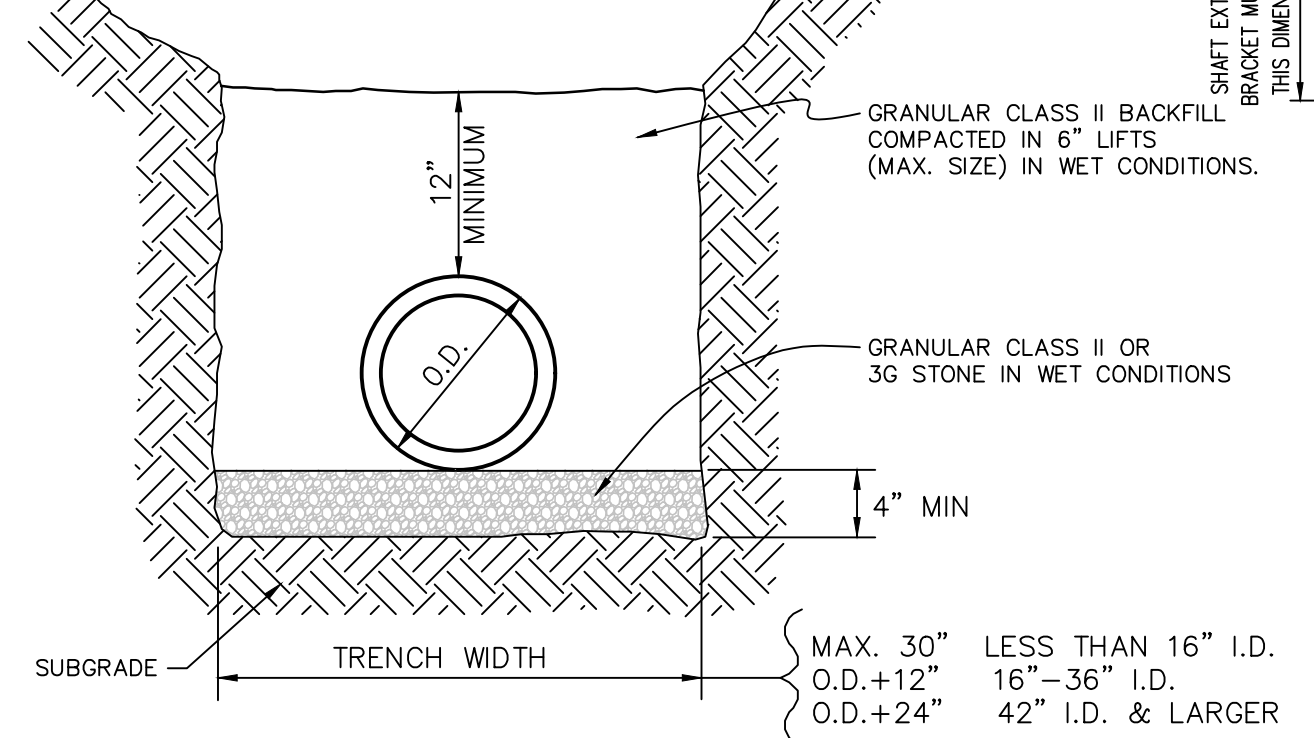
DIM	GATE WELL DIMENSIONS-INCHES			
A	6" & 8"	12"	16"	
B	6'-0"	6'-0"	7'-0"	
C	6"	6"	7"	
D	9 1/2"	13"	15"	
E	23"	31"	40"	
F	3"	4"	4"	

CASING PIPE	
NORMAL SIZE	MIN. WALL THICKNESS
8" - 36"	0.375
42"	0.375
48" - 60"	0.500

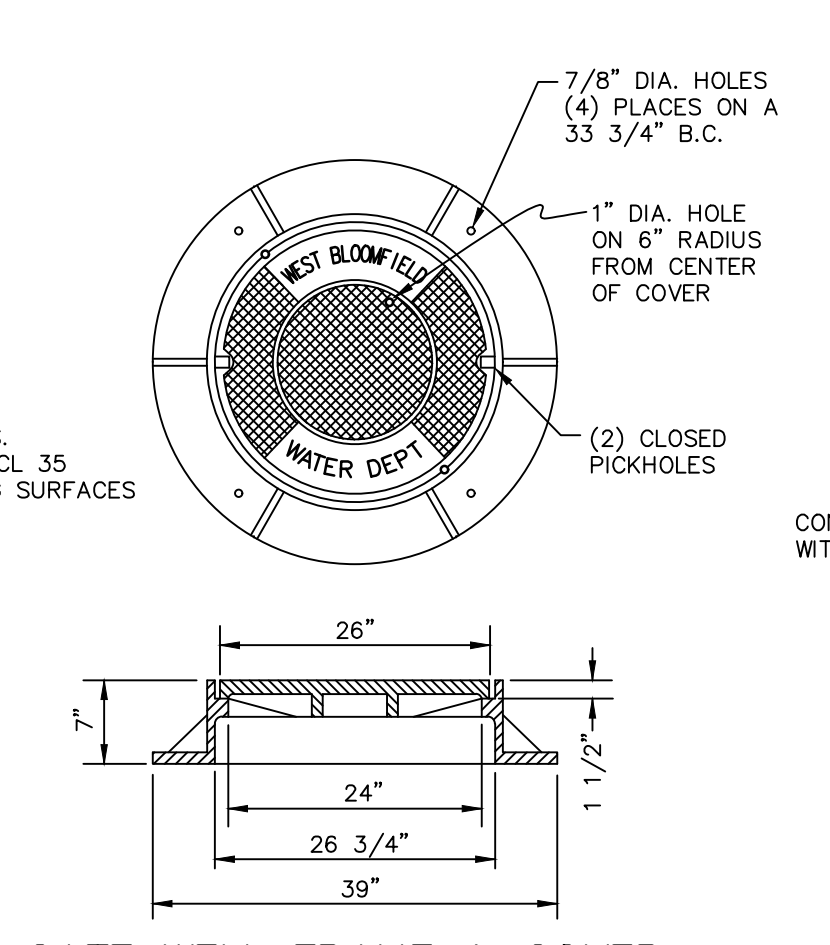


Drawing not to scale.

PIPE BARREL SUPPORT FOR WATER MAIN
CONSTRUCTED IN CASING
(33-05-24)



Drawing not to scale.
STANDARD BEDDING FOR WATER PIPE
(33-11-10)



GATE WELL FRAME & COVER
(33-12-17)

ALL HYDRANTS INSTALLED SHALL BE PAINTED PRIOR TO FINAL ACCEPTANCE.

HYDROPHOBIC ACRYLIC - 2 COAT SYSTEM SPRAY APPLICATION-OVERCOAT

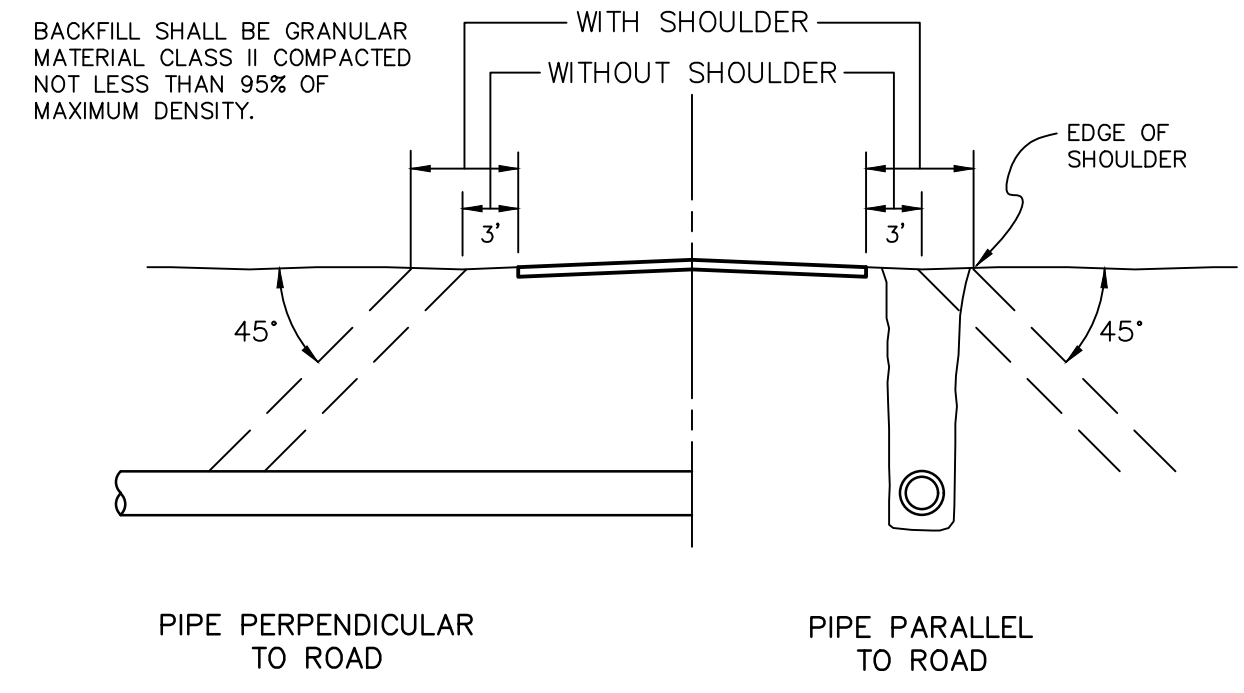
- Prep: Sand & Scrape to remove loose primer & rust. Clean all visible rust to bare metal using SSPC-SP11 power tool cleaning to bare metal. Feather edges of thick coatings and dull glossy surfaces. Hand wash hydrants with trisodium phosphate (TSP), to remove all dirt, grease and urine. Rinse with clean water. Hydrants must be clean, dry and free of oil, grease and other contaminants prior to priming.
- Apply a two (2) coat acrylic system to all prepared surfaces.
- Apply the coating at the following rates:

Coat	Minimum D.E.T.	Maximum D.E.T.
Primer (spot)	2.0	4.0
Intermediate (full)*	2.0	3.0
Topcoat (full)	2.0	3.0
Total	6.0	10.0

All over spray to be removed by wiping or power washing.
Apply in temperatures between 32°-100°F & surface temperature is at least 5' above dewpoint.

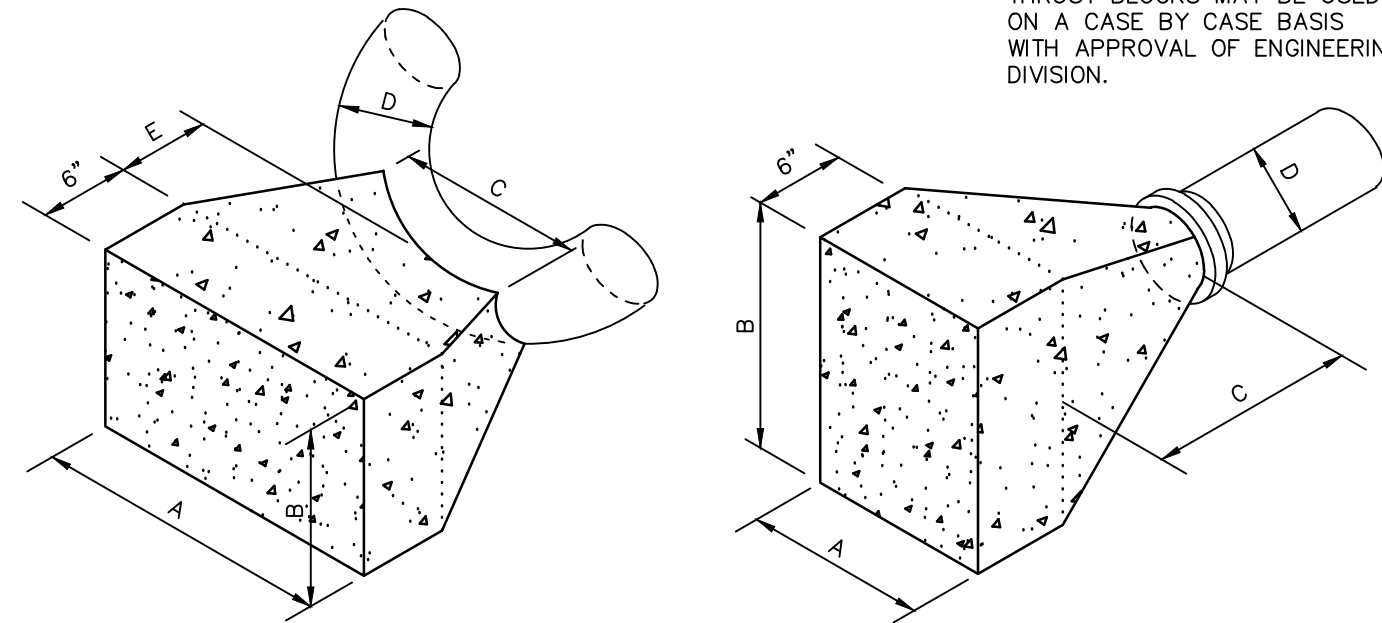
- The contractor should be advised that the owner or owner's representative will take mil readings on the exterior per SSPC-PA2, which requires gauge adjustment from magnetic plane to peak plane.
- Paint shall be Rust-Oleum Industrial Enamel Fire Hydrant Red 7400 system #1210402. Primer shall be a compatible Rust-Oleum primer.

HYDRANT PAINTING SPECIFICATIONS



BACKFILL IN THE AREA OF STREETS,
ALLEYS, SIDEWALKS, DRIVES & PARKING AREAS

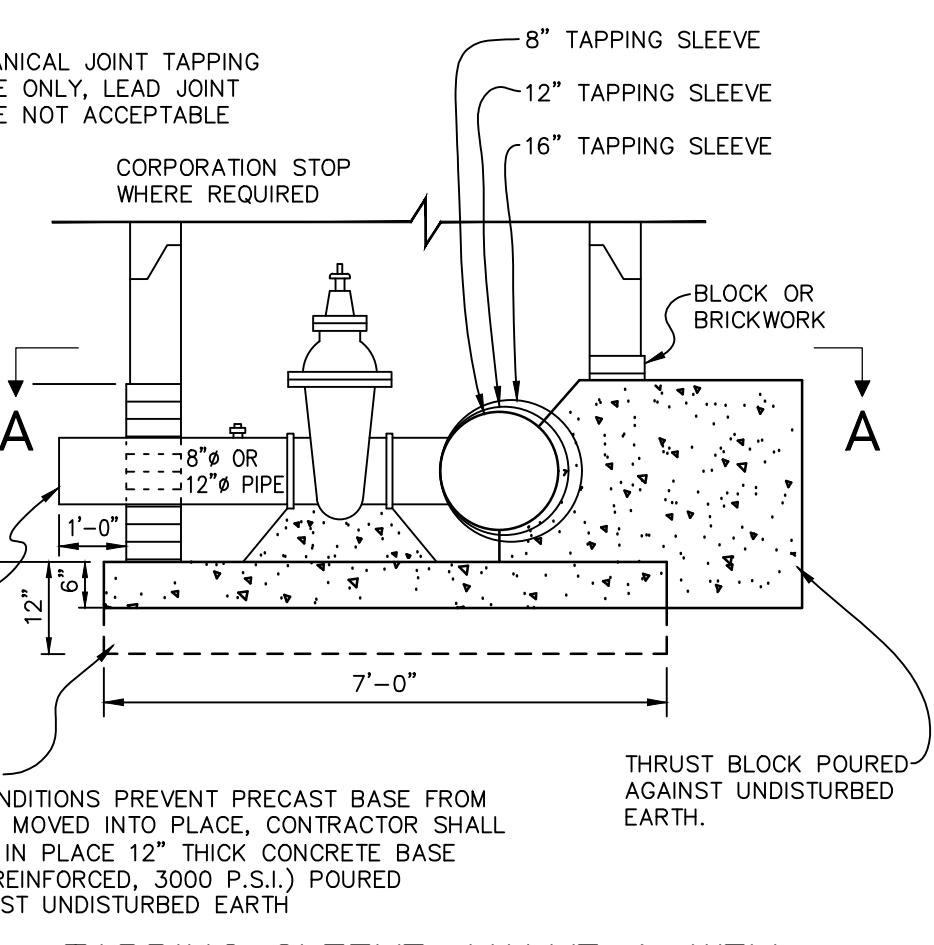
NOTE: 3000 PSI CONCRETE TO BE USED. THRUST BLOCK TO ABUT & REST AGAINST UNDISTURBED SOIL. MANHOLE BLOCK & MORTAR THRUST BLOCKS MAY BE USED ON A CASE BY CASE BASIS WITH APPROVAL OF ENGINEERING DIVISION.



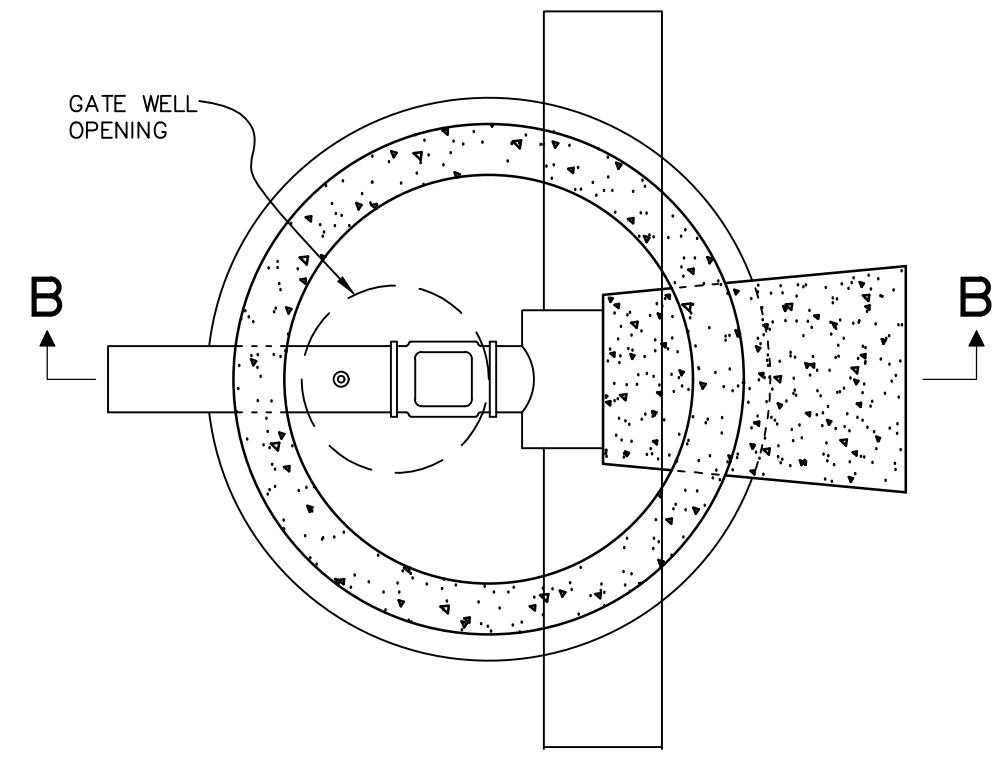
FOR 90° BENDS OR SMALLER				
D	A	B	C	E Min.
24"	8"	6'-6"	3'-6"	2'-6"
20"	8"	6'-6"	3'-6"	2'-6"
16"	6"	4'	2'-6"	2'
12"	4'	3'	2'	1'-9"
8"	3'	2'	2'	1'-6"
6"	2'	1'-6"	2'	1'-3"

FOR PLUGS			
D	A	B	C Min.
24"	7'	5'	2'-6"
20"	7'	5'	2'-6"
16"	4'-10"	4'-10"	2'
12"	4'-4"	3'	1'-9"
8"	2'-10"	2'-6"	1'-6"
6"	1'-6"	1'-6"	3"

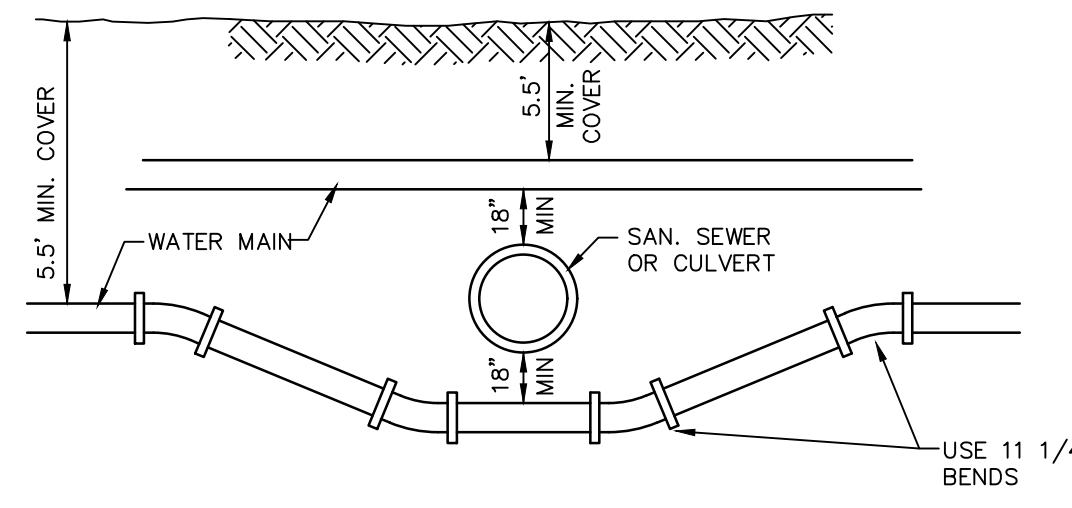
FOR TEES				
D	A	B	C	E Min.
24"	4'-8"	4'-6"	3'-6"	3'
20"	4'-8"	4'-6"	3'-6"	3'
16"	4'-8"	4'-8"	2'-6"	2'-9"
10"	3'	2'	2'	2'-3"
8"	2'-8"	2'	2'	2'-3"
6"	2'	2'	2'	2'-3"



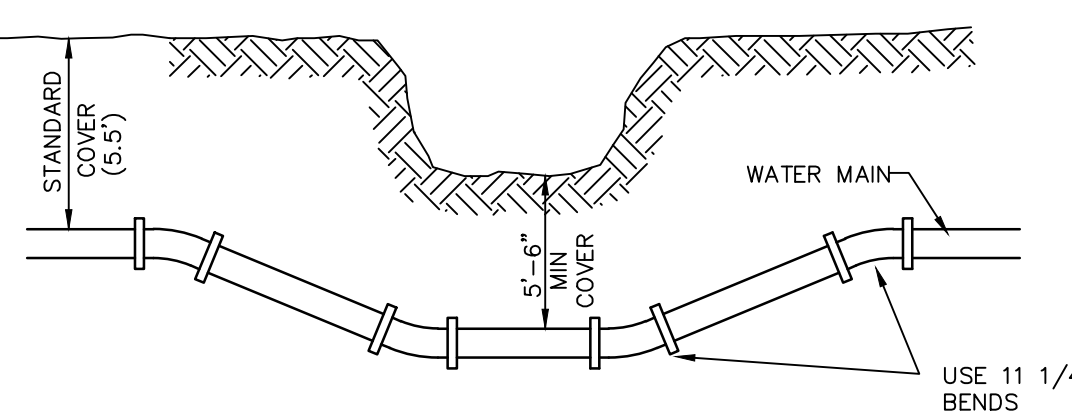
TAPPING SLEEVE, VALVE & WELL
(B-B)



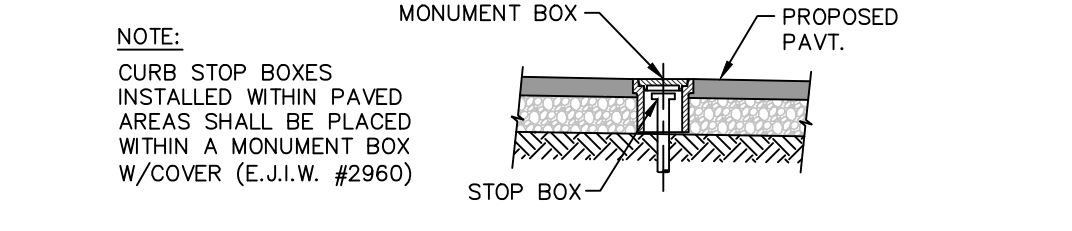
PLAN TAPPING SLEEVE, VALVE & WELL - TYPICAL
(A-A)



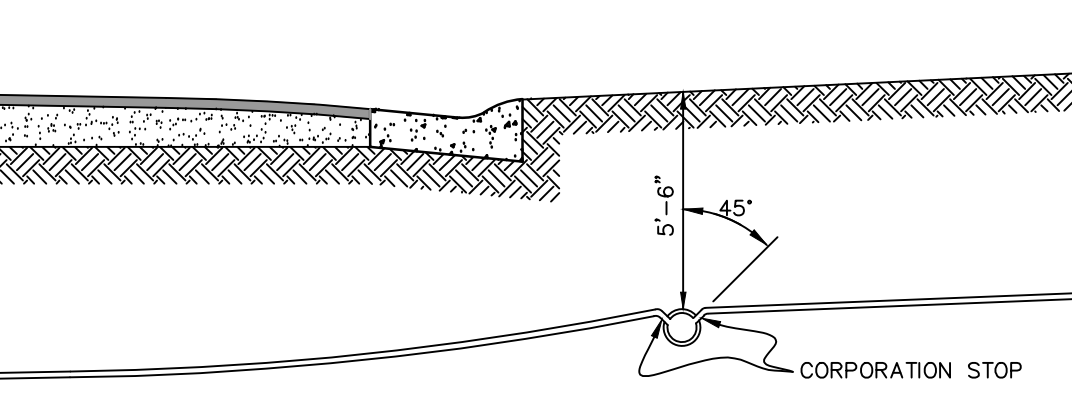
SEWER OR CULVERT CROSSING



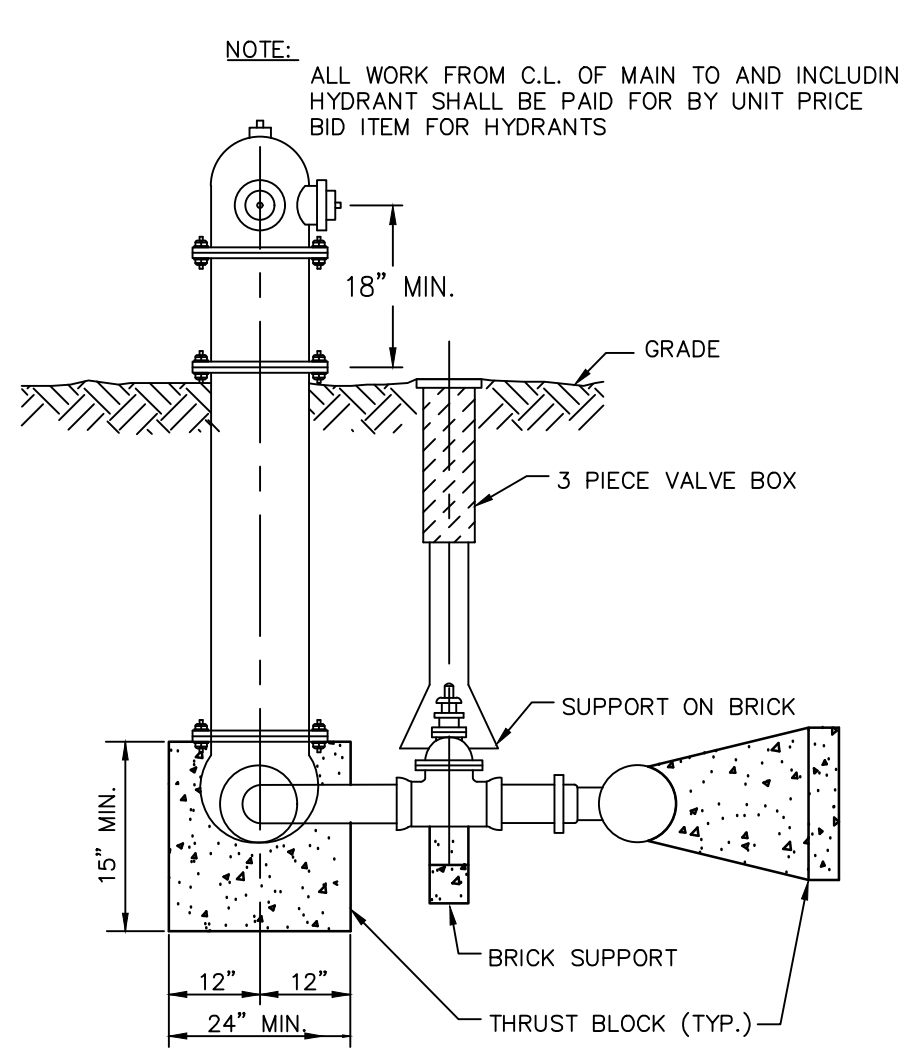
DITCH AND STREAM CROSSING



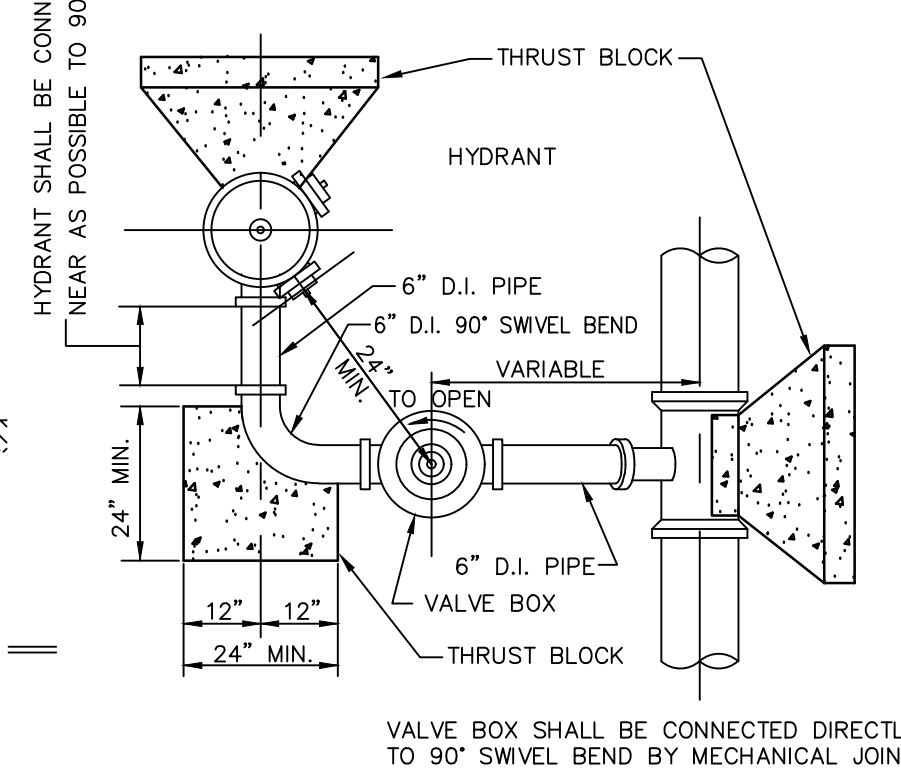
CURB STOP BOX WITHIN PAVEMENT OR DRIVEWAY



TYPICAL SINGLE FAMILY WATER SERVICE CONNECTION
(33-12-16_2)



MANDATORY HYDRANT SETTING



MANDATORY HYDRANT SETTING
(33-12-16_2)