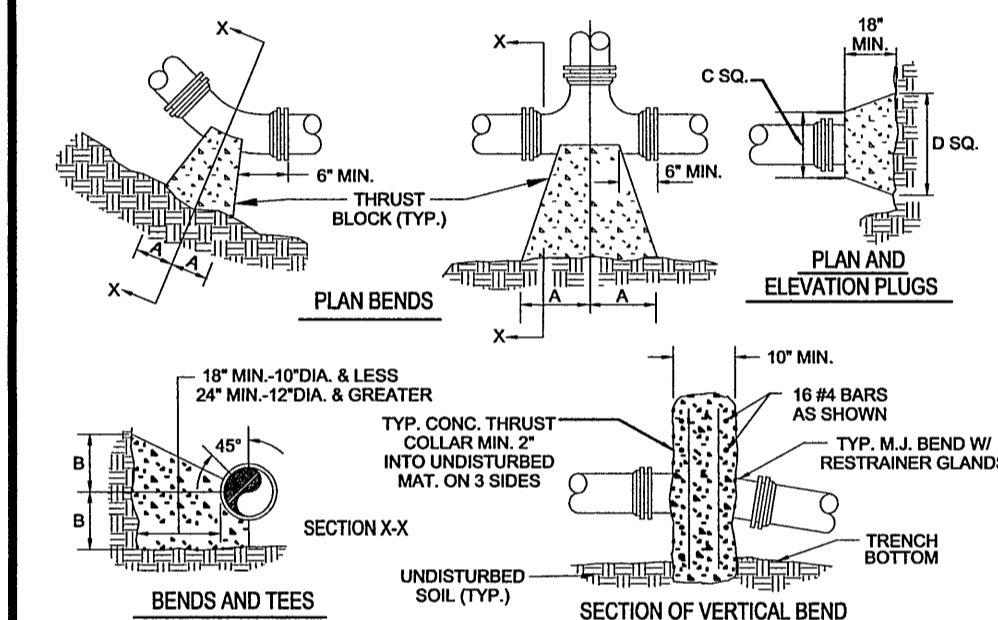


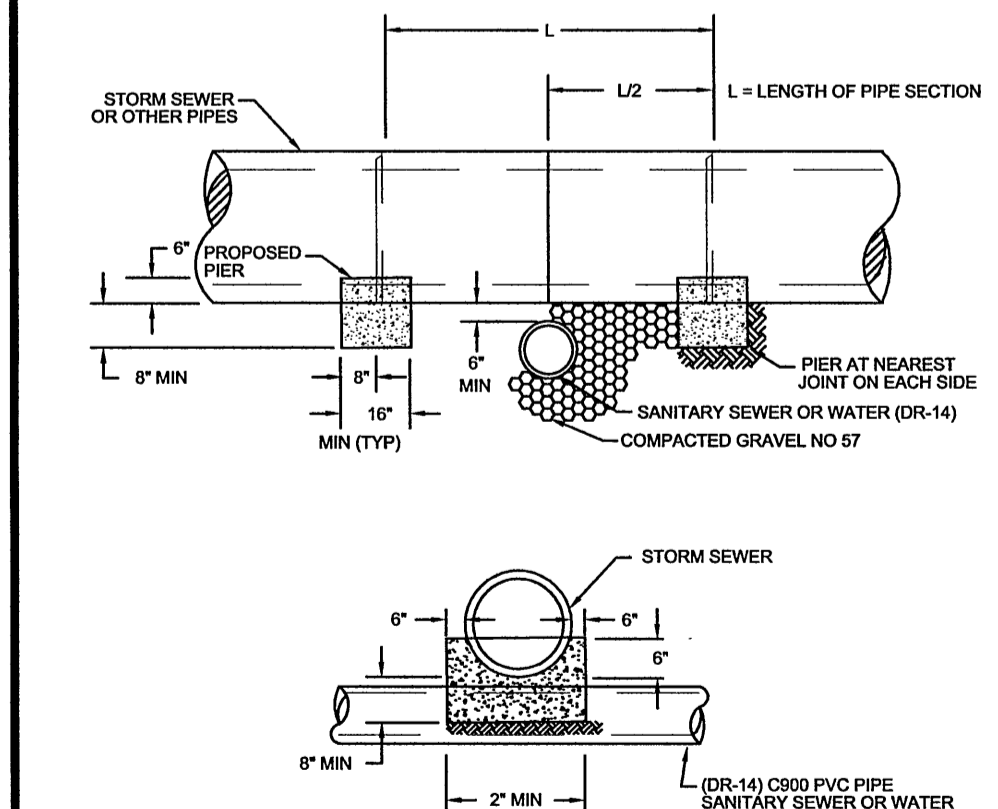
WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS			
REVISION DATE	DESCRIPTION	W-08	W-08
07/01/04	WATER LINE VALVE		
03/01/09	INSTALLATION		



- NOTES:
- FOR VERT. BEND DOWN IN EXCESS OF 11 1/4" BEND, ANCHORAGE SHALL BE DESIGNED BY ENGINEER.
 - FOR VERT. BEND UPWARD, BLOCKING TO BE SIMILAR TO THAT FOR HORIZ. BEND.
 - GLANDS & BOLTS SHALL BE PROTECTED FROM CONG. BY PLASTIC SHEETING WHEN POURING THRUST BLOCKS.
 - ALL THRUST BLOCK & SUPPORT CONG. SHALL BE 3000 PSI READY MIX CONG.
 - THRUST BLOCKS WITH 18" DIMENSION GREATER THAN 30" SHALL HAVE THE RESTRAINED PIPE INSTALLED WITH A MINIMUM OF 4" OF COVER.

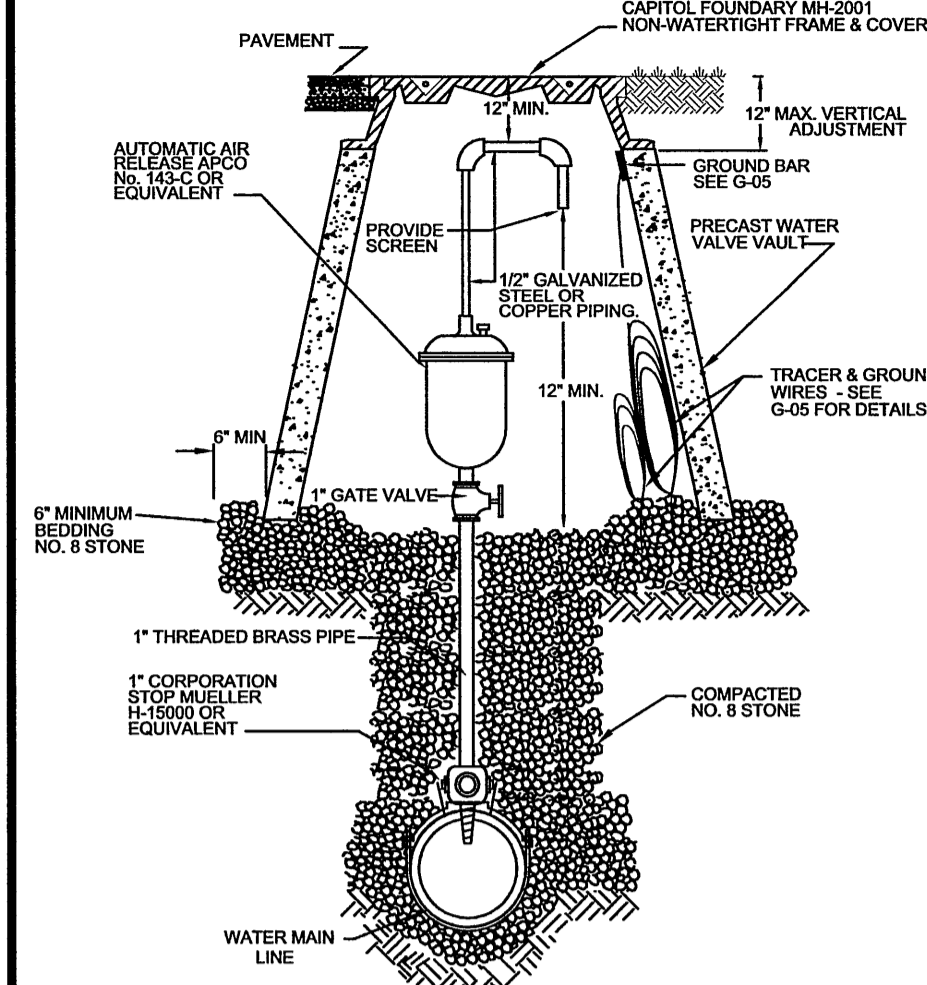
PIPE SIZE	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	TEE	PLUG
4"	8"	8"	8"	8"	8"	8"
6"	12"	12"	12"	12"	12"	12"
8"	18"	18"	18"	18"	18"	18"
10"	24"	24"	24"	24"	24"	24"
12"	30"	30"	30"	30"	30"	30"
14"	36"	36"	36"	36"	36"	36"
16"	42"	42"	42"	42"	42"	42"
18"	48"	48"	48"	48"	48"	48"
20"	54"	54"	54"	54"	54"	54"
22"	60"	60"	60"	60"	60"	60"
24"	66"	66"	66"	66"	66"	66"
30"	84"	84"	84"	84"	84"	84"

WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS			
REVISION DATE	DESCRIPTION	W-19	W-19
07/01/04	THRUST BLOCK		
03/01/09	CONSTRUCTION		

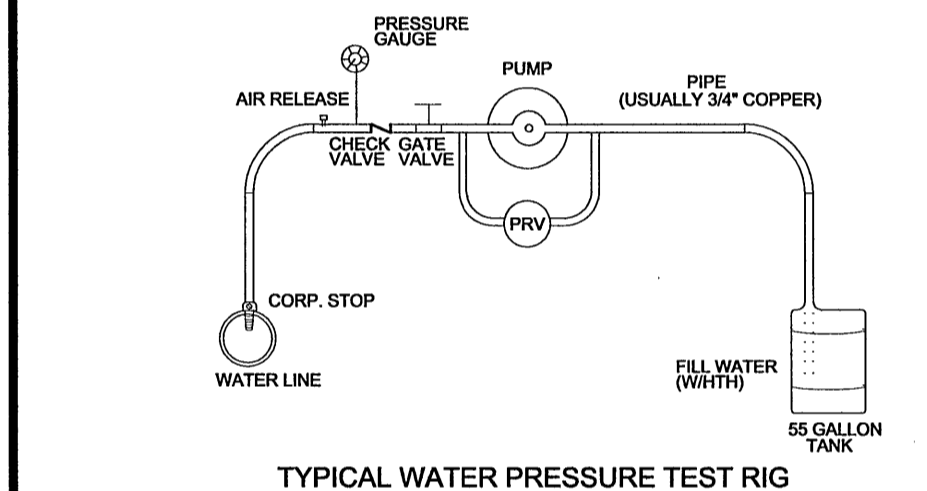


- NOTE:
- PIER REQUIRED WHEN STORM DRAIN OR OTHER PIPES CROSS OVER THE OTHER UTILITY WITH A VERTICAL CLEARANCE OF LESS THAN 18".
 - PIER TO BE BUILT ON UNDISTURBED EARTH.
 - CONCRETE TO BE READY MIX, CLASS A3.

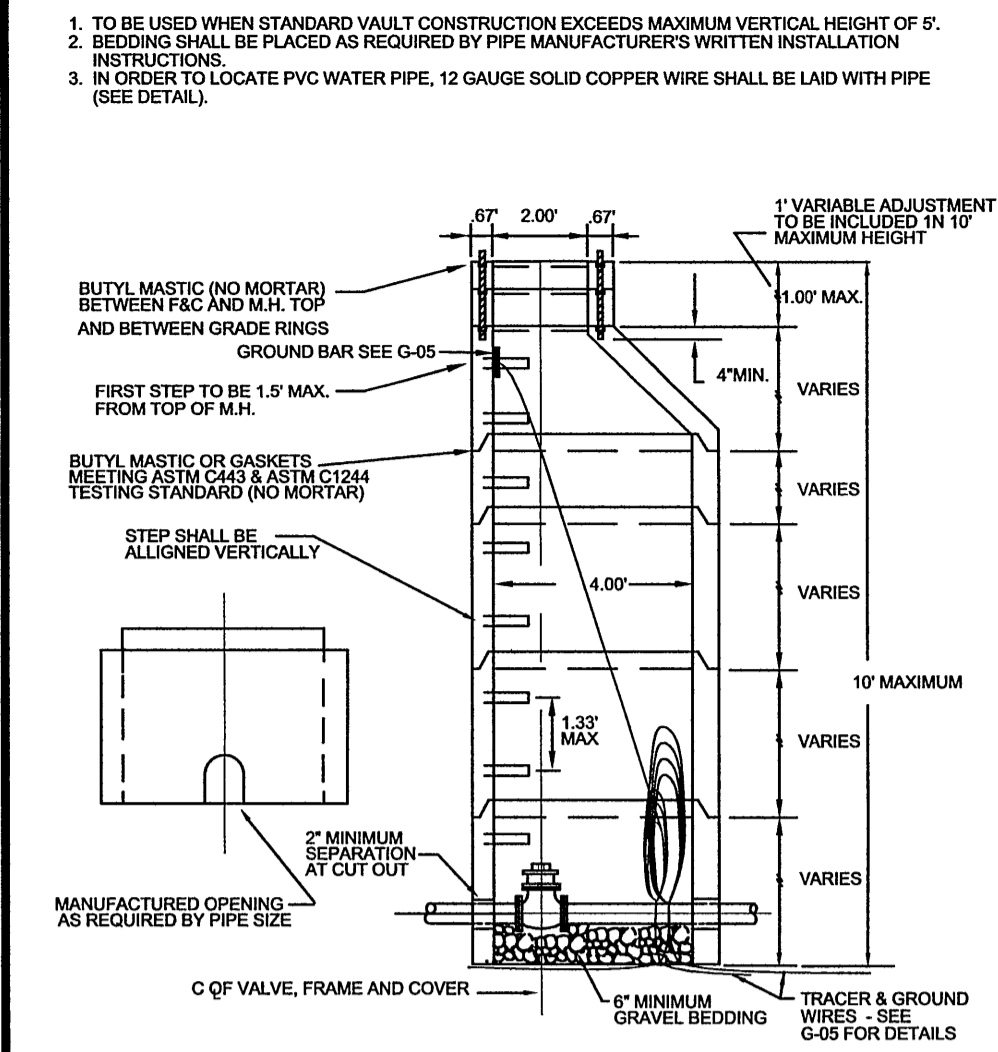
WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS			
REVISION DATE	DESCRIPTION	S-16	S-16
07/01/04	CONCRETE PIER		
03/01/09			



WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS			
REVISION DATE	DESCRIPTION	W-13	W-13
07/01/04	AUTOMATIC AIR		
03/01/09	RELEASE ASSEMBLY		
	FOR DEEP WATER LINES		

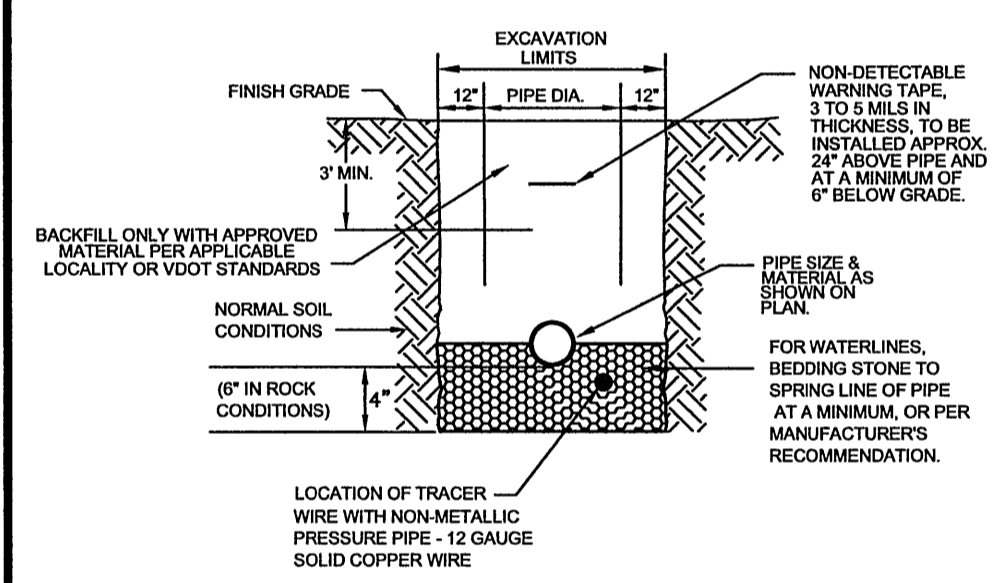


WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS			
REVISION DATE	DESCRIPTION	W-21	W-21
07/01/04	TYPICAL WATER		
03/01/09	PRESSURE TEST RIG		

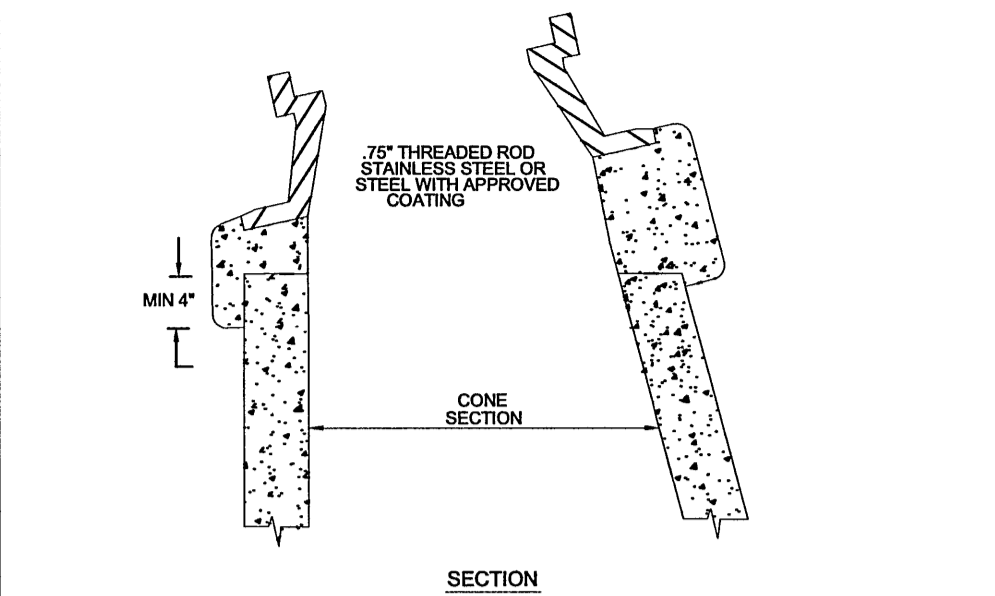


WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS			
REVISION DATE	DESCRIPTION	W-15	W-15
07/01/04	ALTERNATE VALVE		
03/01/09	Vault (MANHOLE)		

- NOTES:
- BEDDING, HAUNCHING AND INITIAL BACKFILL CONSTRUCTION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
 - ALL PVC PIPE SHALL BE BEDDED IN COMPACTED VDOT #57 OR #63 STONE.
 - IN AREAS NOT SUBJECT TO VEHICULAR TRAFFIC, BEDDING STONE AND FILL SHALL BE PLACED IN 6" LIFTS FROM BOTTOM OF TRENCH TO 1" ABOVE THE PIPE AND THE REMAINING SHALL BE PLACED IN 18" LIFTS AND SHALL BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D 998.
 - BEDDING REQUIREMENTS FOR DUCTILE IRON WATER LINE ARE DEPENDENT ON MANUFACTURER'S BEDDING CRITERIA.
 - ALL EXCAVATIONS SHALL COMPLY WITH OSHA TECHNICAL MANUAL, CHAPTER 2, TITLED "EXCAVATIONS: HAZARD RECOGNITION IN TRENCHING AND SHORING."

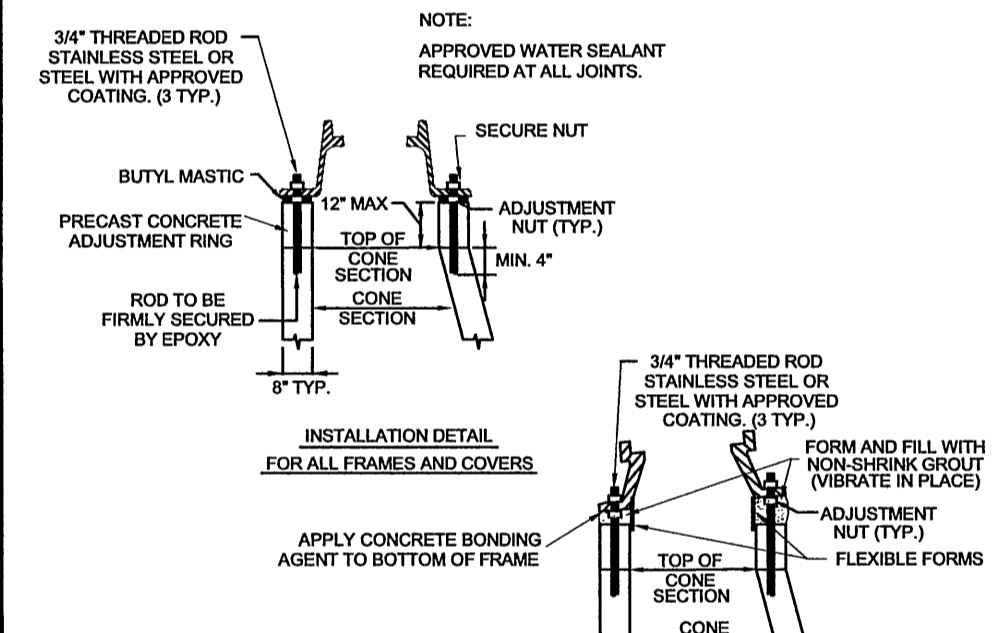
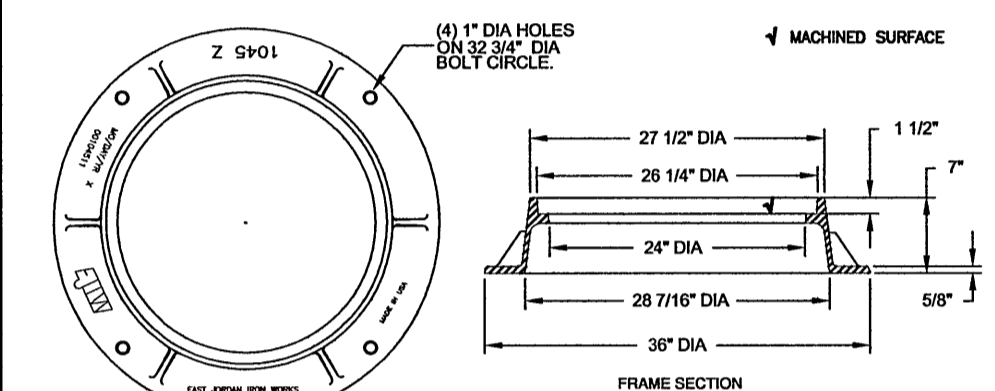


WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS			
REVISION DATE	DESCRIPTION	W-24	W-24
07/01/04	BEDDING AND BACKFILL		
03/01/09	OUTSIDE OF PAVED AREAS		



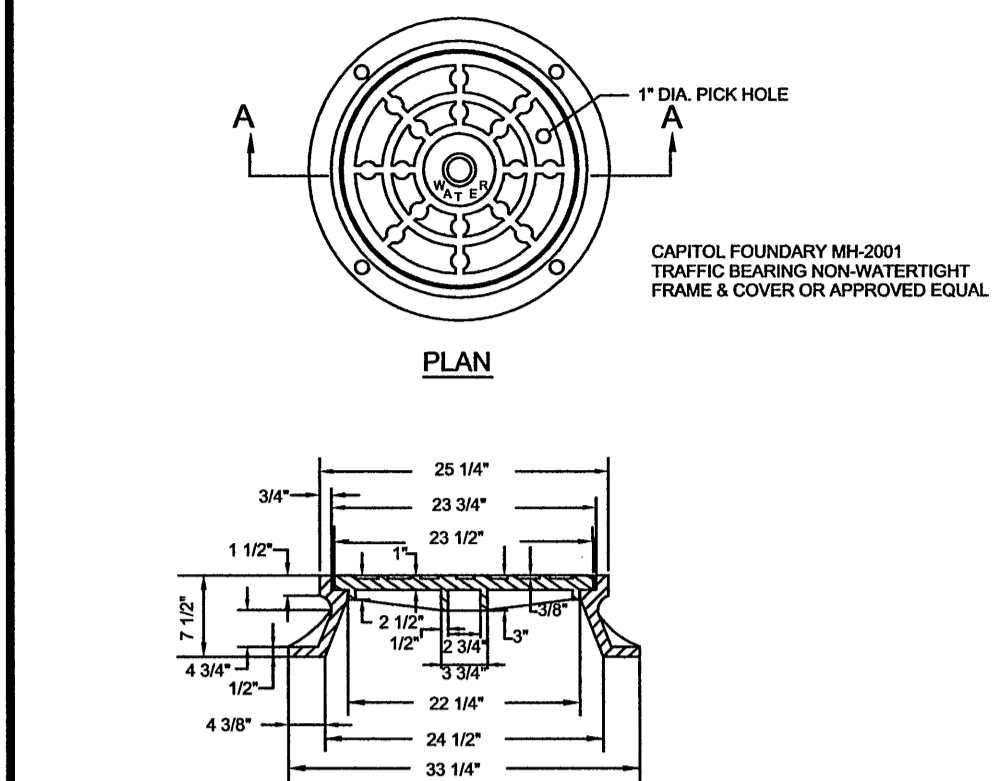
- NOTE:
- USE MODERATELY STIFF MIX OF NON-SHRINK CEMENT.
 - 3000 PSI. STRENGTH. 1800 PSI. DUCTILE IRON GRAVEL WITH 2\"/>

WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS			
REVISION DATE	DESCRIPTION	W-16	W-16
07/01/04	INSTALLATION DETAIL		
03/01/09	FOR ALL FRAMES AND COVERS		

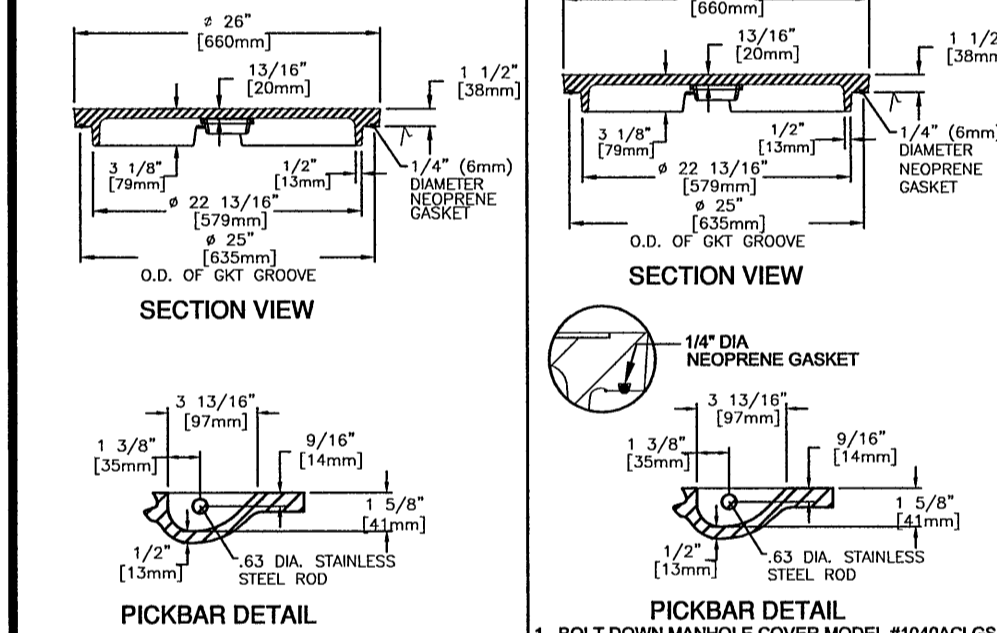
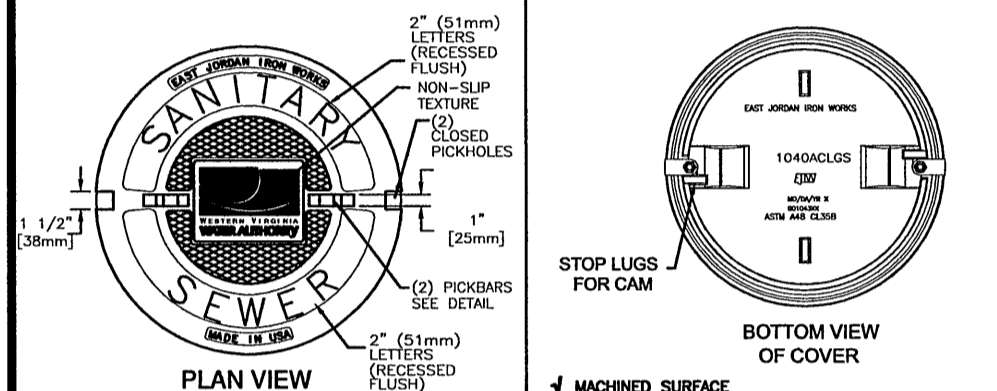


WATERTIGHT MANHOLE FRAME MODEL #1040Z
BY EAST JORDAN IRON WORKS, INC. OR EQUIVALENT.

WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS			
REVISION DATE	DESCRIPTION	S-05	S-05
07/01/04	WATERTIGHT		
03/01/09	MANHOLE FRAME		



WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS			
REVISION DATE	DESCRIPTION	W-17	W-17
07/01/04	MANHOLE FRAME		
03/01/09	AND COVER		



STANDARD MANHOLE COVER MODEL #1040AGS
BY EAST JORDAN IRON WORKS, INC. OR EQUIVALENT.

WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS			
REVISION DATE	DESCRIPTION	S-06	S-06
07/01/04	WATERTIGHT		
03/01/09	MANHOLE COVER		

HSMMAECOM

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SEALS



CONSULTANT



FALLING CREEK
DAM RENOVATION
WESTERN VIRGINIA
WATER AUTHORITY
BEDFORD COUNTY, VIRGINIA

REV	DATE	DESCRIPTION	APP
PROJECT NO:	61034	PROJECT PH: REGULATORY REVIEW	
ISSUE DATE:	JANUARY 12, 2009		
DESIGNED BY:	DMH	DRAWN BY:	MEW
CHECKED BY:	CGH	SUBMITTED BY:	DMH

CIVIL

WWVA STANDARD
DETAILS

CS504