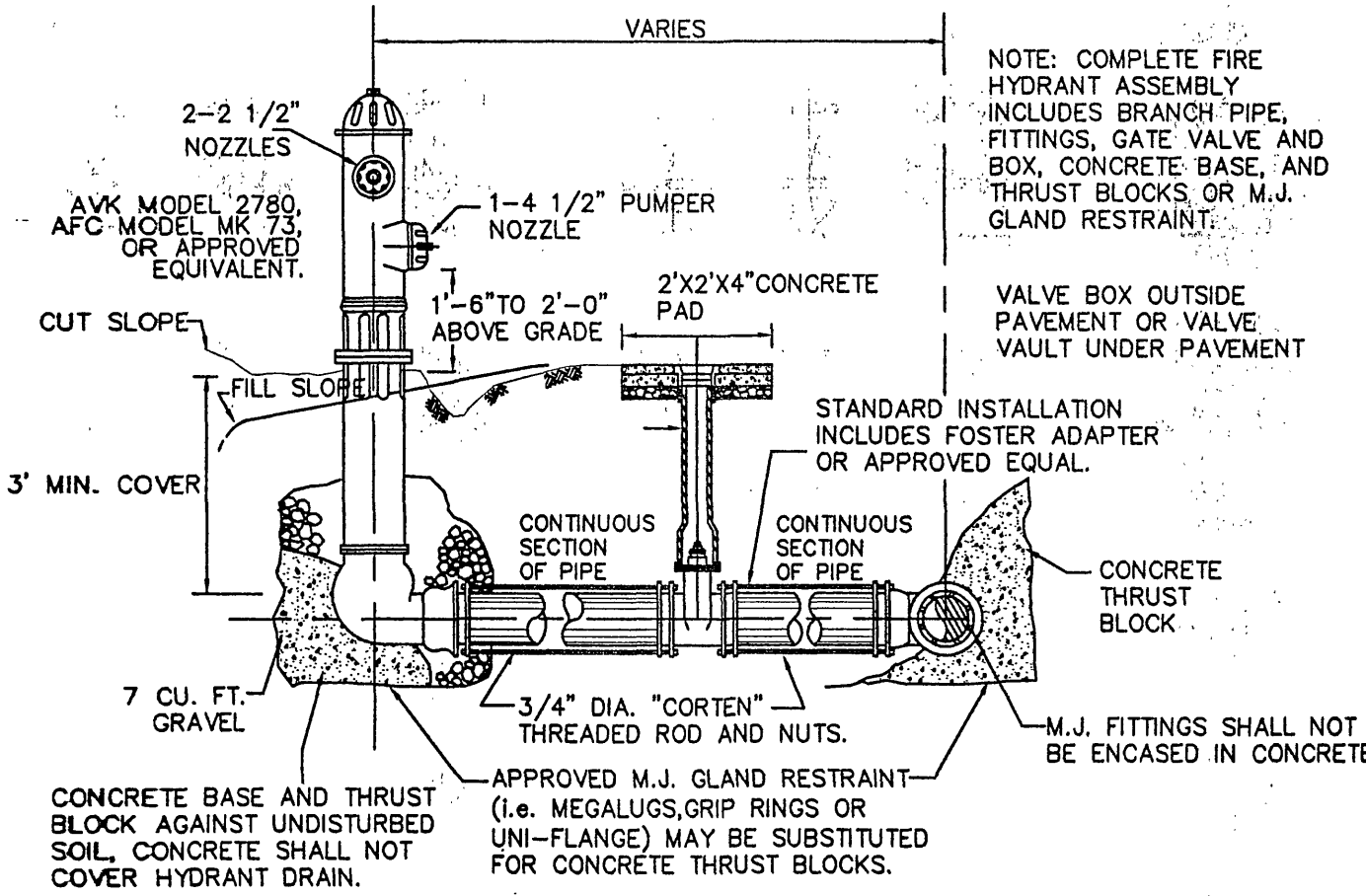
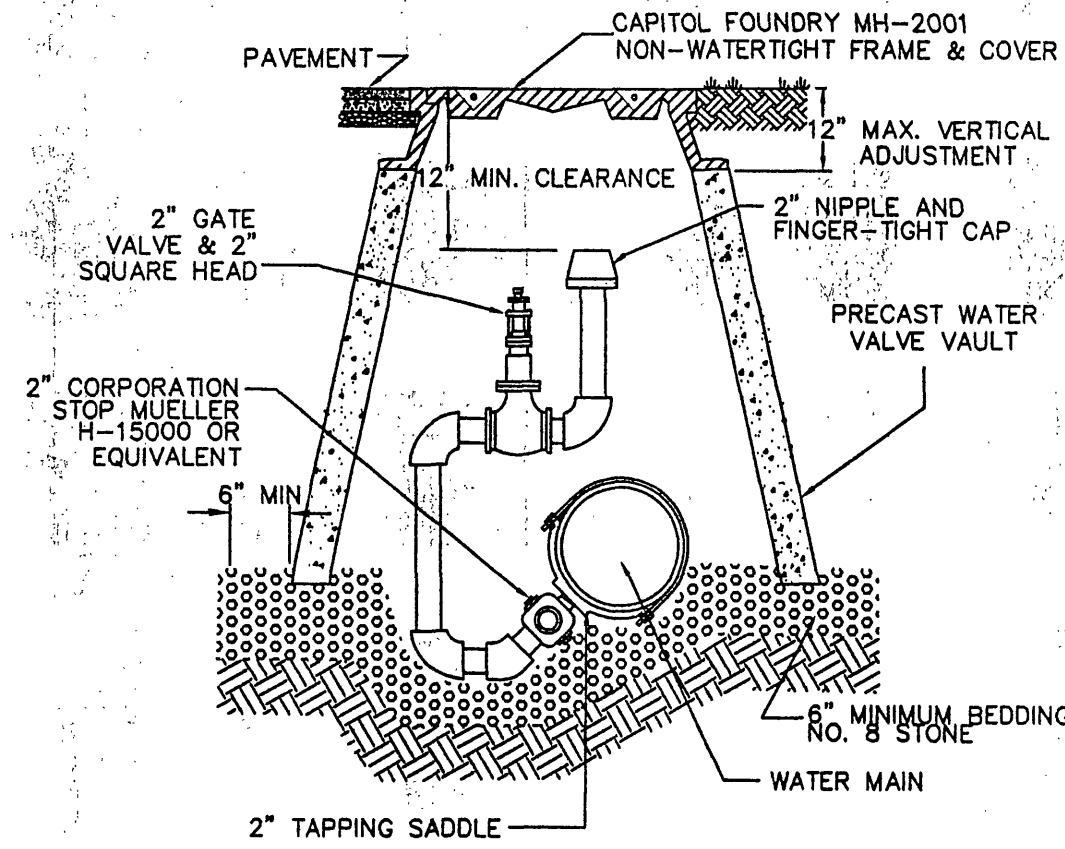


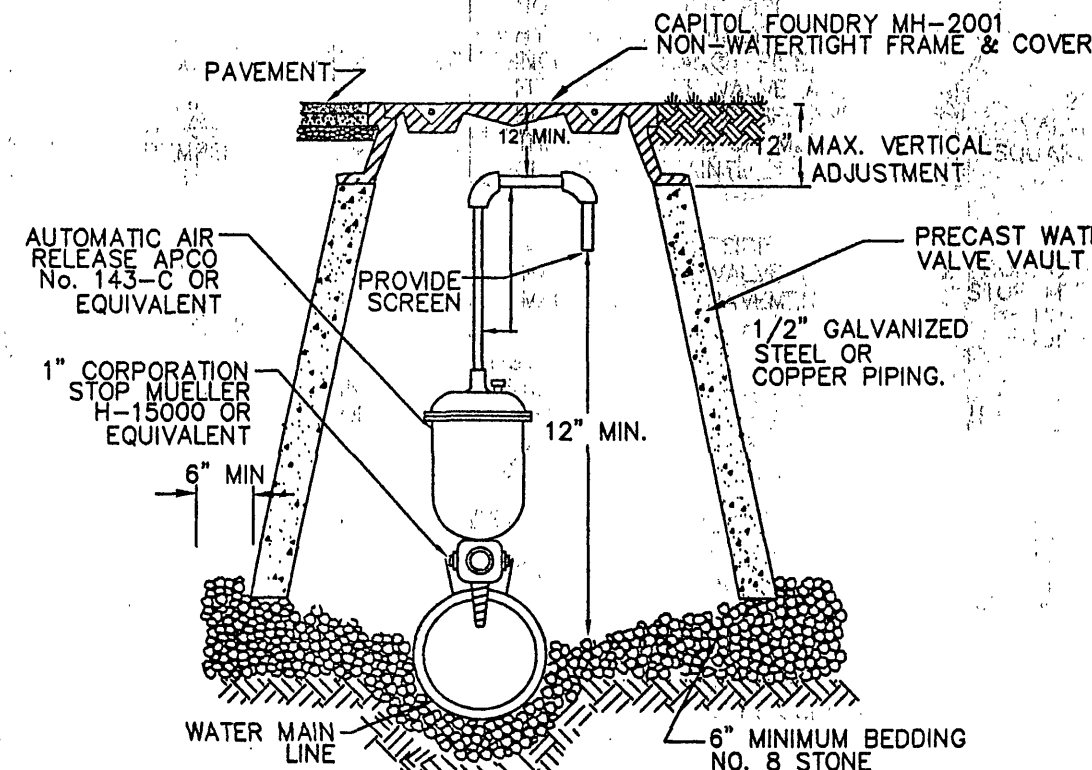
NOTES: 1. MAIN BODY OF HYDRANT MUST BE PAINTED SILVER WITH RED REFLECTIVE CAPS AND BONNET. 2. FIRE HYDRANT SHALL BE INSTALLED 2' MIN. AND 4' MAX. FROM BACK OF CURB OR 6' MIN. AND 12' MAX. WHEN CURB IS NOT PRESENT. FIRE HYDRANT TO BE INSTALLED WITHIN RIGHT-OF-WAY OR EASEMENT LINE. 3. AREA AROUND HYDRANT AT A RADIUS OF 4' TO BE LEVEL AND UNOBSTRUCTED. 4. WATERPROOF BAGS SHALL BE PLACED OVER ALL NEWLY INSTALLED FIRE HYDRANTS. 5. HIGH PRESSURE (OVER 120 PSI) REQUIRES THE USE ALL 3 RESTRAINTS.



FIRE HYDRANT ASSEMBLY

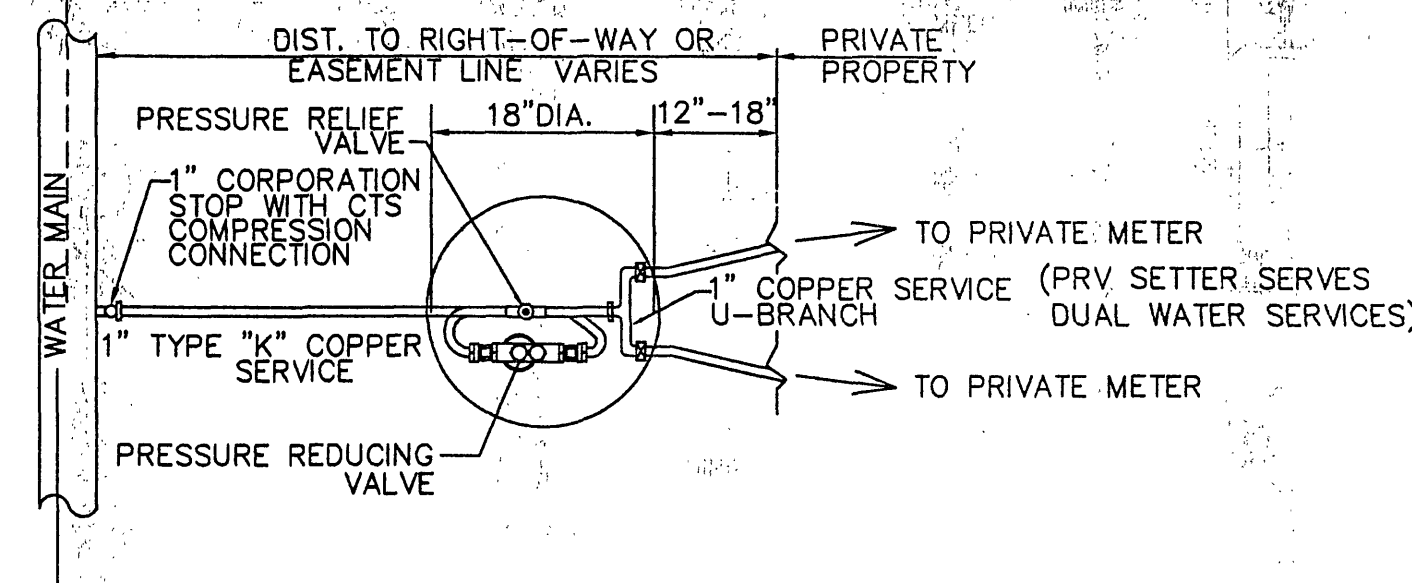


IN-LINE BLOWOFF ASSEMBLY

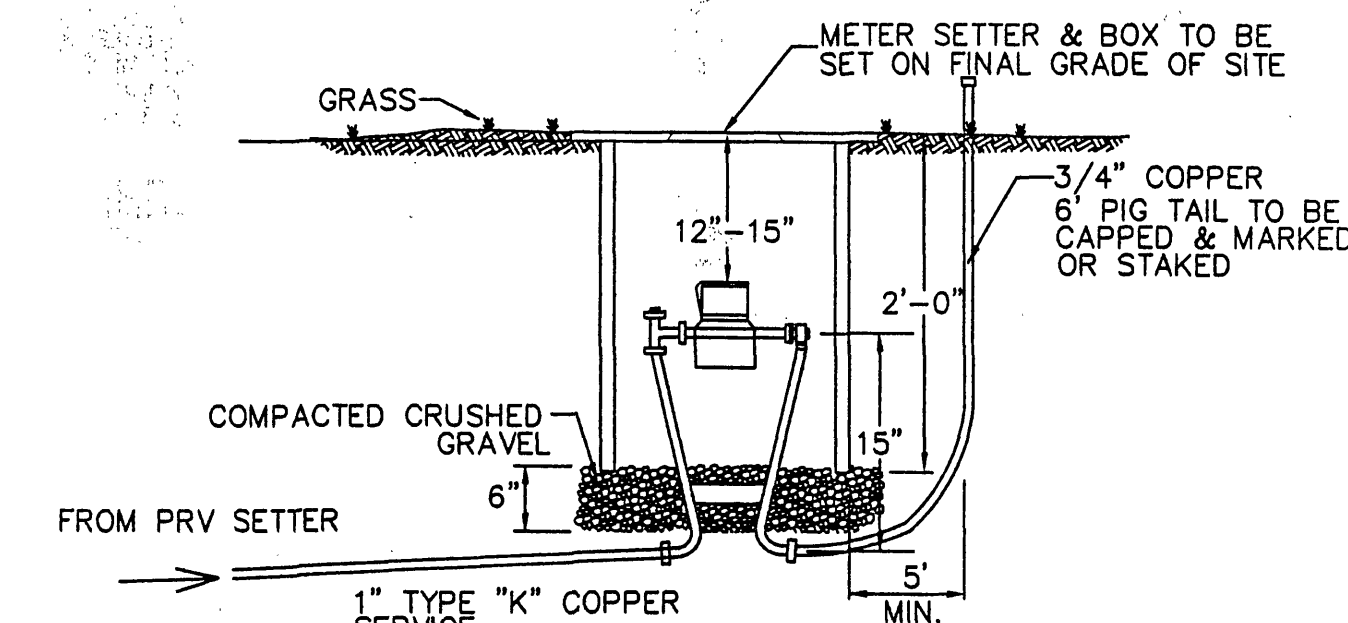
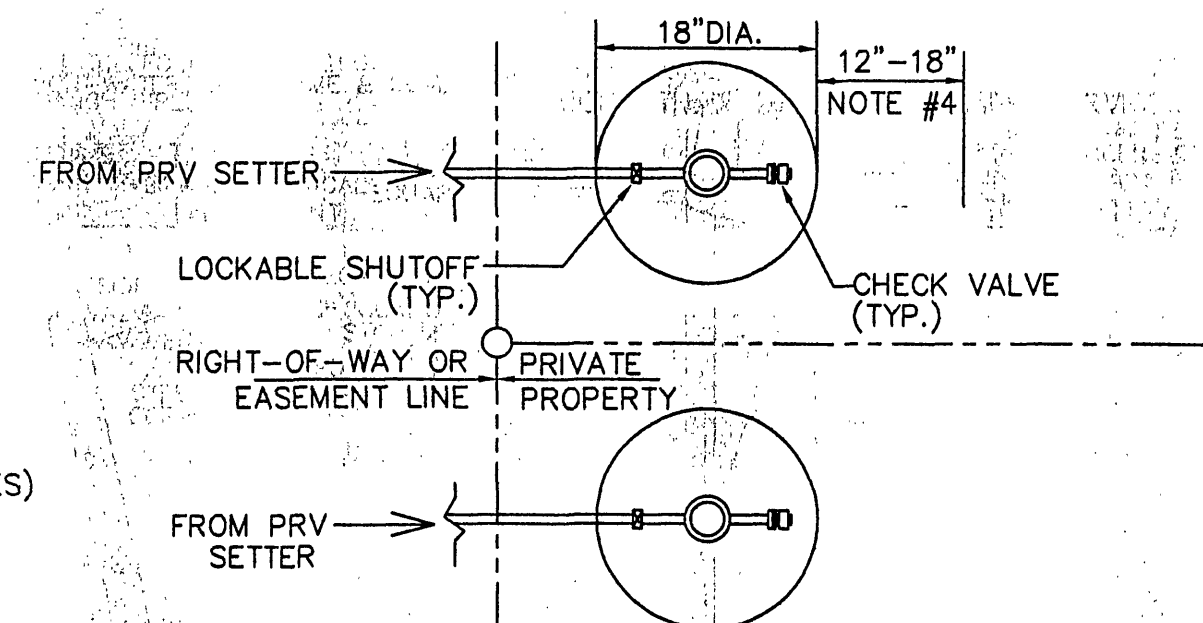


AUTOMATIC AIR RELEASE ASSEMBLY

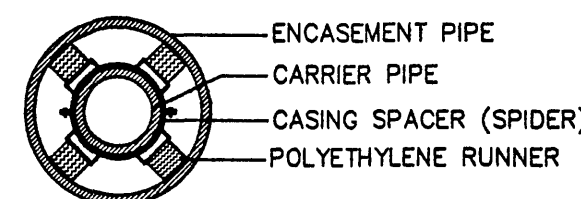
1. SETTERS TO BE A.Y. McDONALD #20-215 WOLL33, FORD VBHH72-15W-1133 OR APPROVED EQUAL.
2. PRESSURE REDUCING VALVE TO BE WATTS 600' OR APPROVED EQUAL.
3. S BAR TO BE ST-2-31084-01 WITH PRV OR EQUAL.
4. METER BOX MUST BE MID-STATES PLASTICS, INC. PLASTIC BOX WITH FORD A32-T (ELECTRONIC READ LID) OR A. Y. McDONALD MODEL 74M32C-TC CAST IRON BASE & COVER OR APPROVED EQUAL.
5. THIS CONFIGURATION IS REQUIRED WHEN THE WATER PRESSURE AT THE WATER MAIN EXCEEDS 80 PSI, MAXIMUM WATER PRESSURE OF 80 PSI PRIOR TO ENTERING THE RESIDENCE.
6. PRESSURE REDUCING VALVE SHALL SERVICE NO MORE THAN 2 PRIVATE WATER SERVICES



TYPE "C" TANDEM PRESSURE SETTER FOR DUAL SERVICE (LINE PRESSURE OVER 80 PSI)

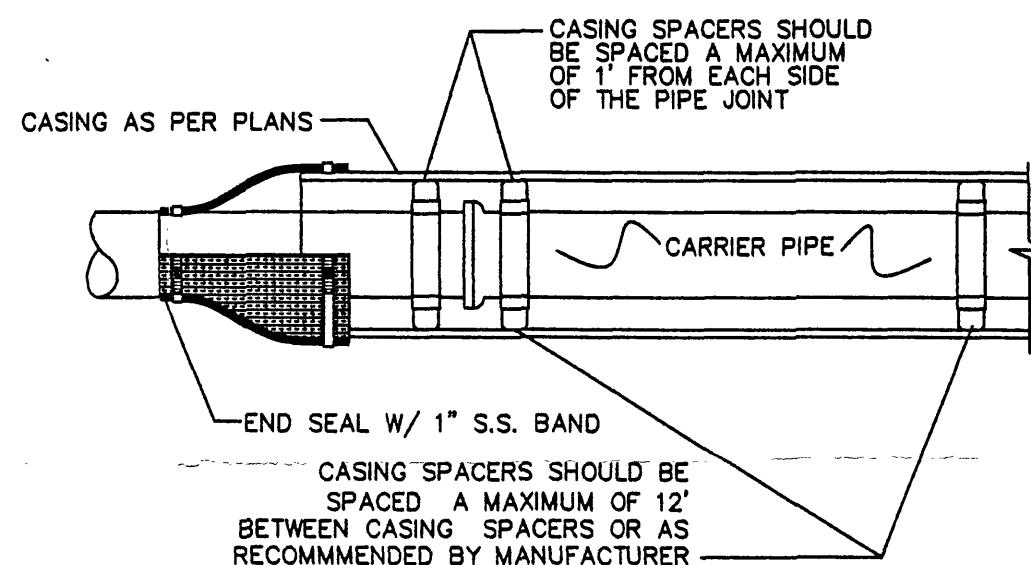


DUAL RESIDENTIAL WATER SERVICE

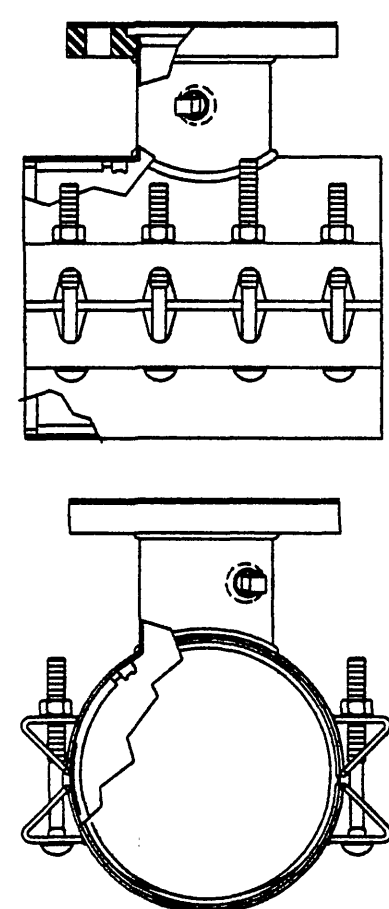


ALTERNATE PIPE SUPPORT IN CASING PIPE: 18" LONG TREATED TIMBER SKIDS OF APPROPRIATE WIDTH SO THAT BELLS OR FLANGES DO NOT REST ON CASING WITH MORE THAN 3/4" FREE PLAY. SKIDS TO BE PLACED AT 4'-0" O.C. AND SECURED WITH 2"x 1/4" GALV. STEEL STRAPS OR 1" S.S. BANDS. SOAP-BASED LUBRICANT MAY BE USED FOR SLIDING OF SKID WITH DUCTILE IRON PIPE AND FLAX-BASED LUBRICANT MAY BE USED FOR SLIDING OF SKID WITH PVC PIPE.

NOTE: A 1" DRAIN WILL BE REQUIRED ON THE LOWER END OF THE CASING IF THE CASING ENDS ARE SEALED WITH MORTAR AND BRICK.



PIPE SUPPORT IN CASING PIPE

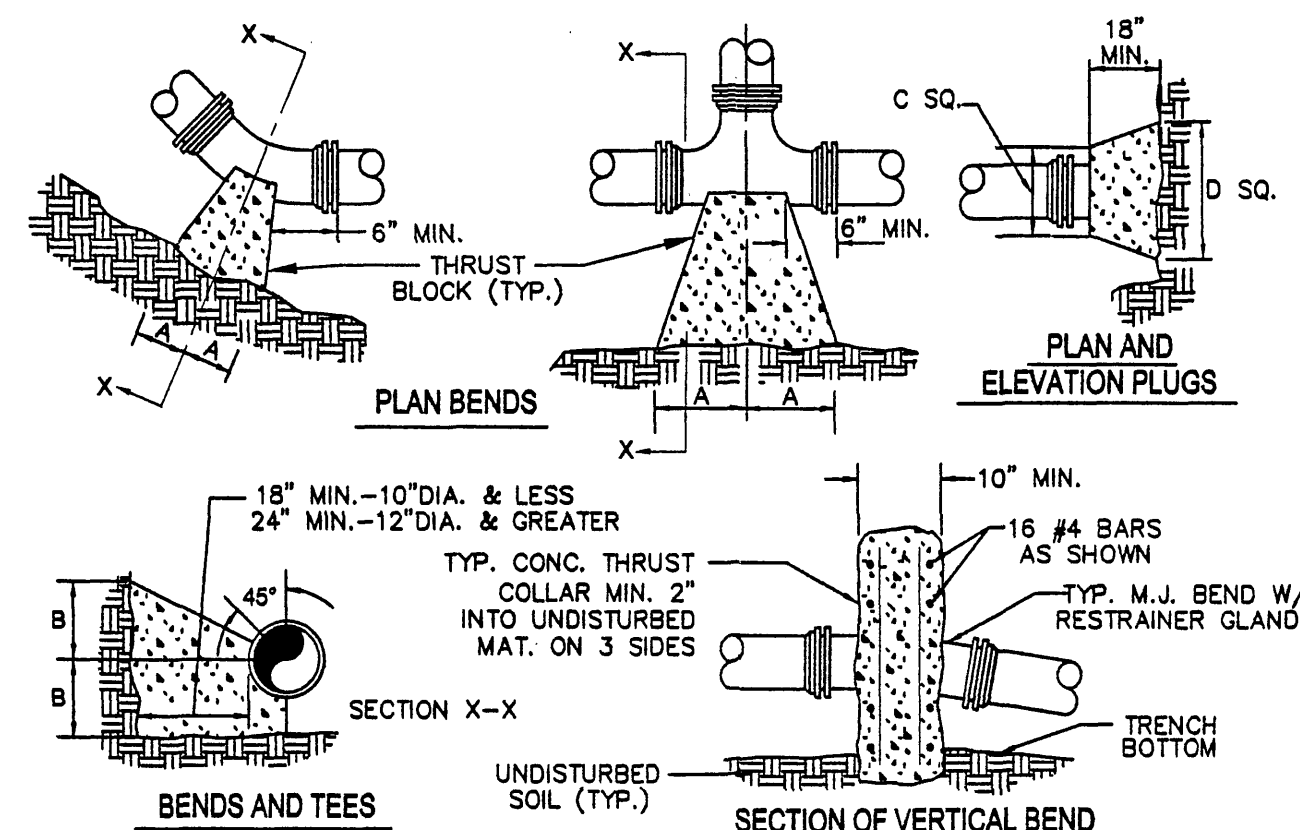


FACTOR OF SAFETY = 1.5

PIPE SIZE	PIPE MAT'L	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	VALVE / PLUG BRANCH (NOTE 2)	TEE	REDUCER	VERT. 45°	VERT. 22 1/2°	VERT. 11 1/4°
8"	D.I.	28'	12'	6'	3'	38'	34'	20'	23'	11'	5'
8"	D.I.	37'	15'	7'	4'	51'	47'	21'	30'	15'	7'
10"	D.I.	45'	19'	9'	4'	61'	57'	20'	37'	18'	9'
12"	D.I.	53'	22'	11'	5'	73'	69'	38'	43'	21'	10'
8"	PVC	30'	12'	6'	3'	56'	38'	29'	35'	17'	8'
8"	PVC	40'	16'	8'	4'	74'	56'	31'	46'	22'	11'
10"	PVC	47'	20'	9'	5'	89'	82'	30'	56'	27'	13'
12"	PVC	56'	23'	11'	6'	108'	88'	58'	66'	32'	16'

1. ALL JOINTS SHALL BE RESTRAINED ON BOTH SIDES OF THE FITTING FOR THE LENGTH SHOWN UNLESS OTHERWISE INDICATED.
2. REDUCER IS ONE SIZE SMALLER THAN PIPE LISTED. RESTRAINED LENGTH IS UPSTREAM ON THE LARGE SIDE OF THE REDUCER.

THRUST RESTRAINT OF PIPE JOINTS DESIGN LENGTHS

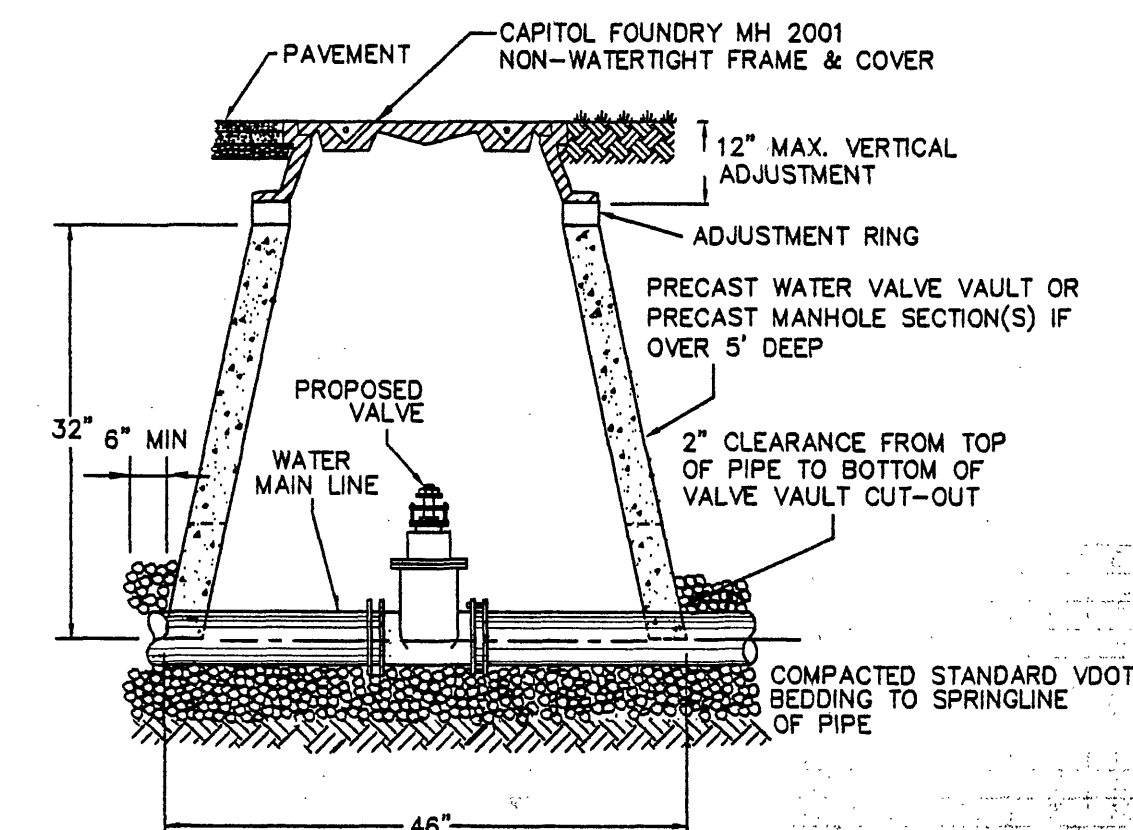


1. FOR VERT. BEND DOWN IN EXCESS OF 11 1/4° BEND, ANCHORAGE SHALL BE CONC. DESIGNED BY ENGINEER.
2. FOR VERT. BEND UPWARD, BLOCKING TO BE SIMILAR TO THAT FOR HORIZ. BEND.
3. GLANDS & BOLTS SHALL BE PROTECTED FROM CONC. BY PLASTIC SHEETING WHEN POURING THRUST BLOCKS.
4. ALL THRUST BLOCK & SUPPORT CONC.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

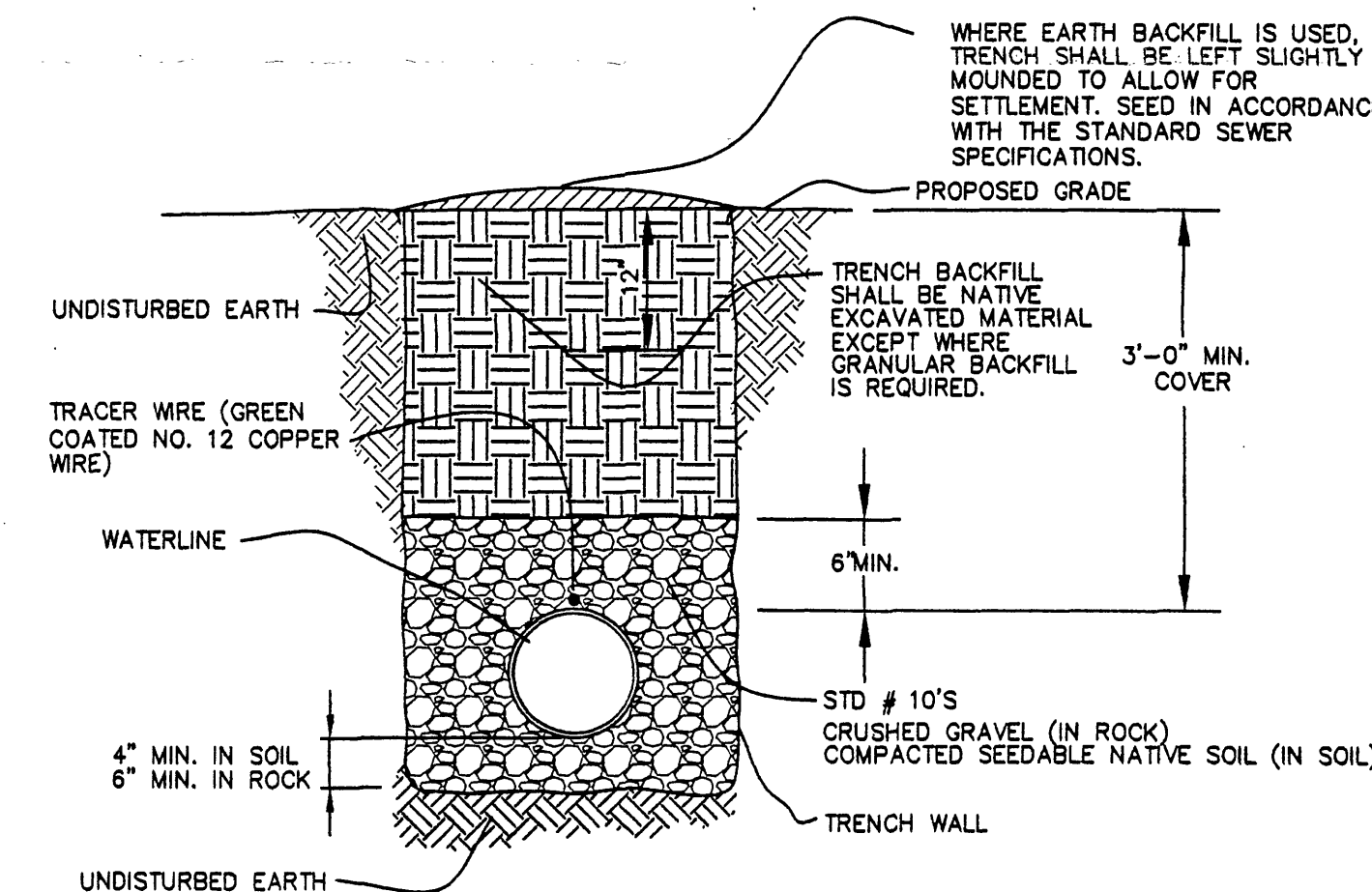
200 PSI PRESSURE = 2000 PSF BEARING = 1.5 FACTOR OF SAFETY =

PIPE SIZE	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	TEE	PLUG
4"	8'	12'	6'	3'	11'	6'
6"	12'	18'	9'	4'	17'	10'
8"	18'	27'	14'	6'	26'	15'
10"	24'	36'	18'	8'	34'	20'
12"	30'	45'	22'	10'	43'	25'
14"	36'	54'	27'	12'	52'	30'
16"	42'	63'	32'	14'	61'	35'
18"	48'	72'	37'	16'	70'	40'
20"	54'	81'	42'	18'	79'	45'
22"	60'	90'	47'	20'	88'	50'
24"	66'	99'	52'	22'	97'	55'
26"	72'	108'	57'	24'	106'	60'
28"	78'	117'	62'	26'	115'	65'
30"	84'	126'	67'	28'	124'	70'

THRUST BLOCK CONSTRUCTION



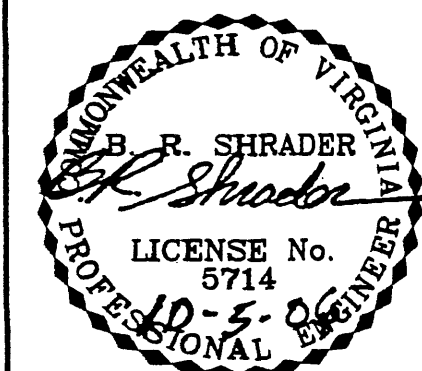
WATERLINE VALVE INSTALLATION



WATERLINE INSTALLATION

1. SETTER TO BE A.Y. McDONALD #20-215 WOLL33, FORD VBHH72-15W-1133 OR APPROVED EQUAL.
2. METER BOX MUST BE MID-STATES PLASTICS, INC. PLASTIC BOX WITH FORD A32-T (ELECTRONIC READ LID) OR A. Y. McDONALD MODEL 74M32C-TC CAST IRON BASE & COVER OR APPROVED EQUAL.
3. CORPORATION STOP MUST BE FORD F1000-4-6 OR APPROVED EQUAL.

WATER LINE DETAILS FOR THE WINDWARD
@ POINTE CHELI
GILLS CREEK DIST., FRANKLIN CO., VA.
DATE: JUNE 23, 2006
TAX ID.# 15-47.1
WPC-WS.DWG SHEET 6 OF 6



SHRADER ENGINEERING & LAND SURVEYING, INC.

119 S. BRIDGE ST.
BEDFORD, VA.
PHONE (540) 586-4710

P. O. BOX 647
24523
FAX (540) 586-4507

LAST REVISION THIS SHEET 10/5/06