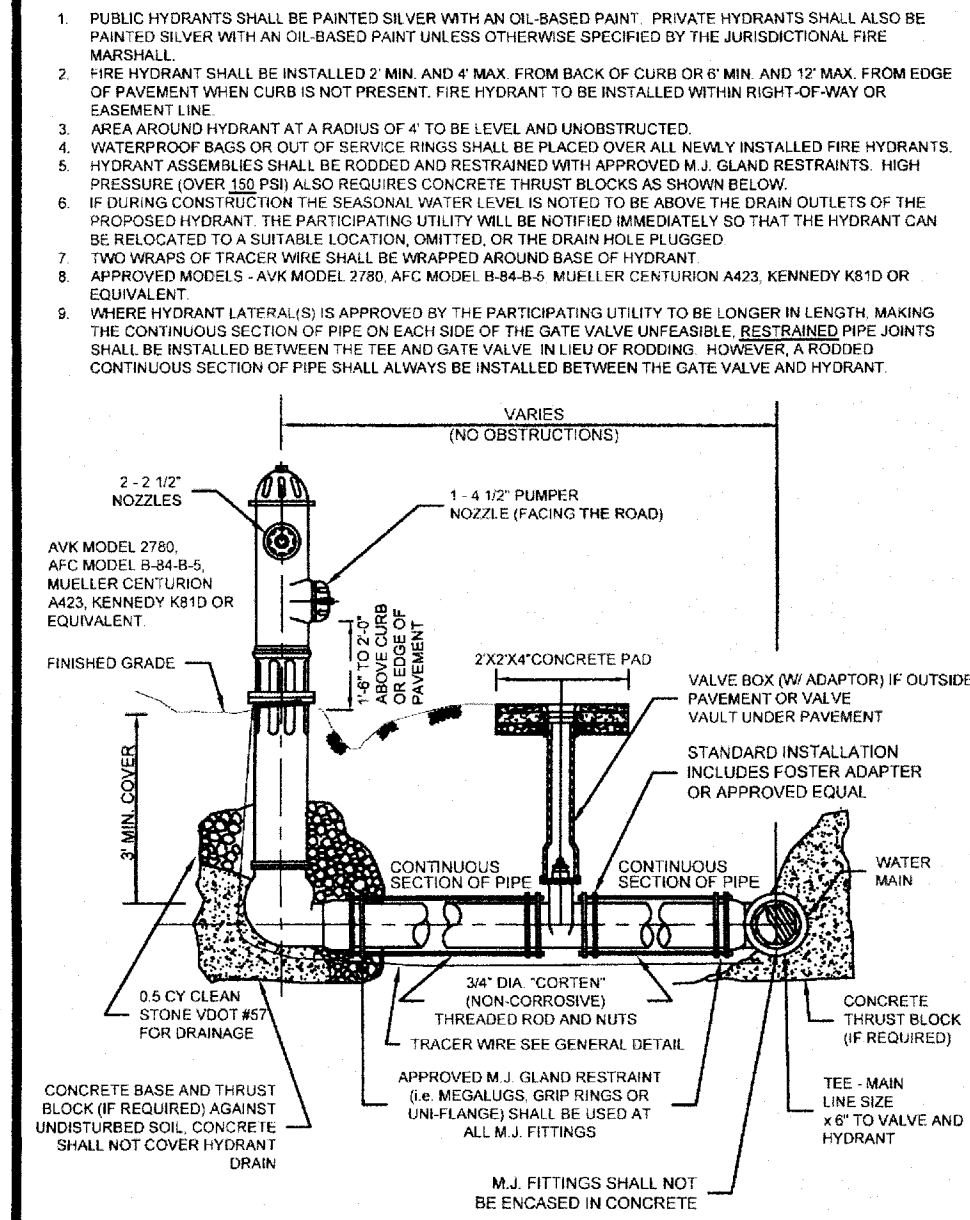


WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
SINGLE RESIDENTIAL WATER SERVICE - (NEW DEVELOPMENT)  
02/10/15 W-1



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
FIRE HYDRANT ASSEMBLY  
02/10/15 W-17

1. ALL WATER FACILITIES SHALL BE INSTALLED ACCORDING TO THE WESTERN VIRGINIA WATER AUTHORITY (WVA) DESIGN AND CONSTRUCTION STANDARDS (LATEST REVISION).

2. ALL CONNECTIONS TO THE EXISTING WATER MAINS SHALL BE COORDINATED WITH THE WVA.

3. A MINIMUM COVER OF 3 FEET IS REQUIRED OVER PROPOSED LINES, EXCEPT WHERE SHOWN.

4. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND UNCOVERING VALVE VAULTS AFTER PAVING AND ADJUSTMENT TO FINAL GRADE IF NECESSARY.

5. ALL EXISTING UTILITIES MAY NOT BE SHOWN IN THE EXACT LOCATION. THE CONTRACTOR SHALL COMPLY WITH THE STATE WATER WORKS REGULATIONS WHERE LINES CROSS.

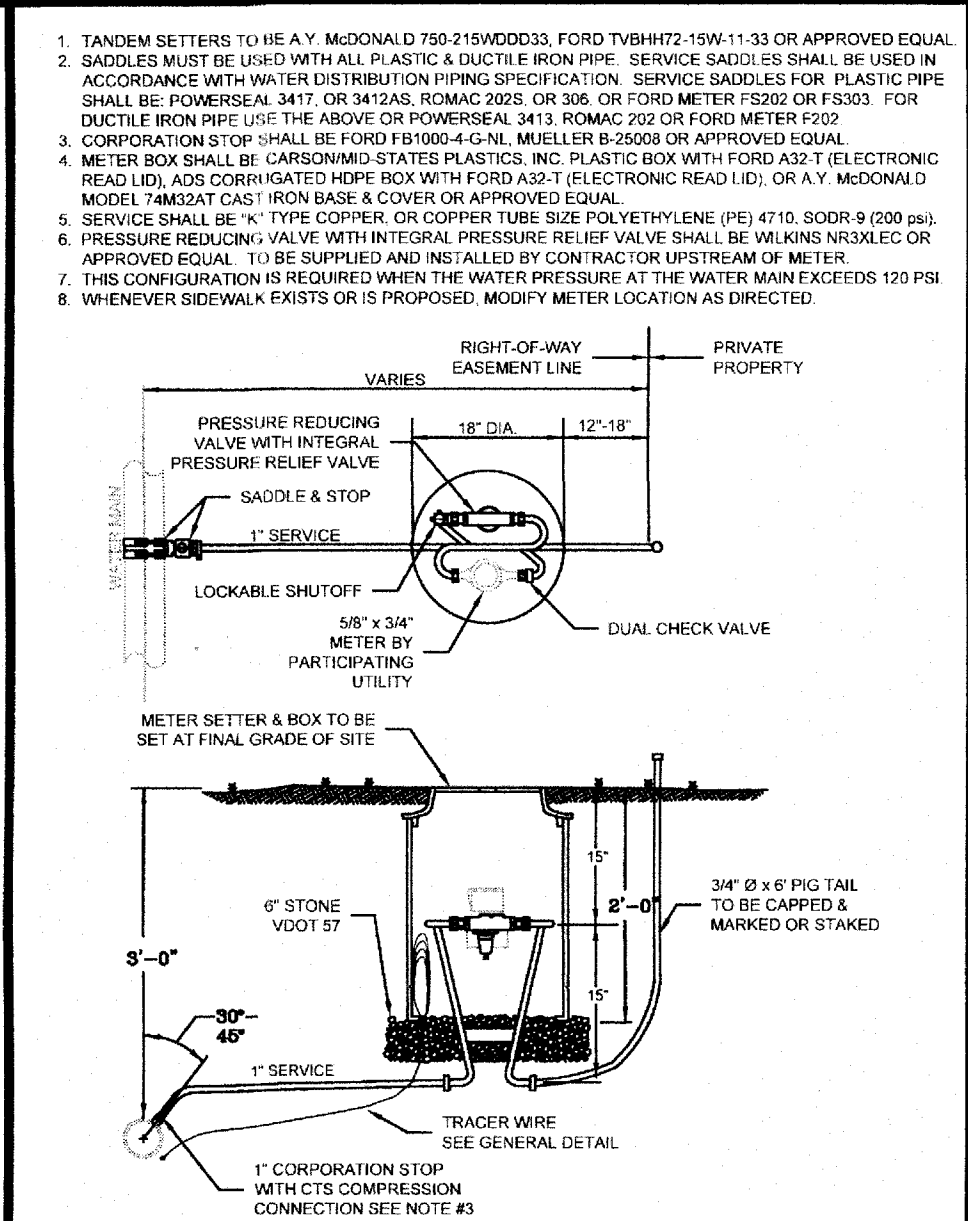
6. ALL EXCAVATION, BACKFILL AND PAVEMENT REPLACEMENT IN THE VDOT RIGHT OF WAY SHALL BE REPLACED IN ACCORDANCE WITH THE LUP-SP & LUP-OC PROVISIONS.

7. ALL TRENCHES IN EXISTING RIGHT OF WAYS SHALL BE COMPACTED ACCORDING TO VDOT STANDARDS.

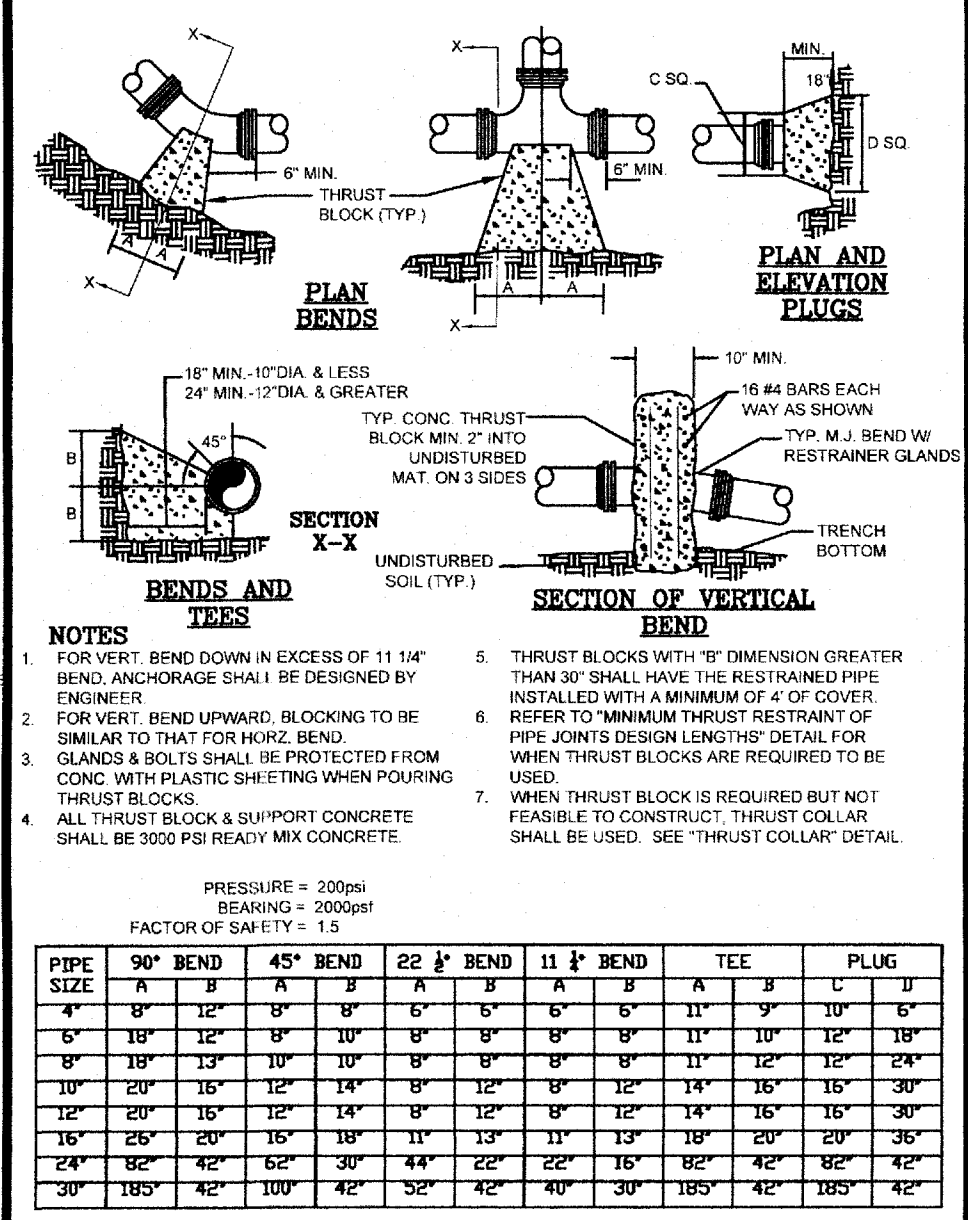
8. ALL WATER MAINS SHALL BE CLASS 350 DUCTILE IRON IN ACCORDANCE WITH AWWA C151 EXCEPT THROUGH BORED SECTIONS, WHICH MAY BE DR-11 HDPE.

9. ALL PAVEMENT CUTS SHALL BE SAW CUT AND EDGES TACK COATED PRIOR TO PAVING.

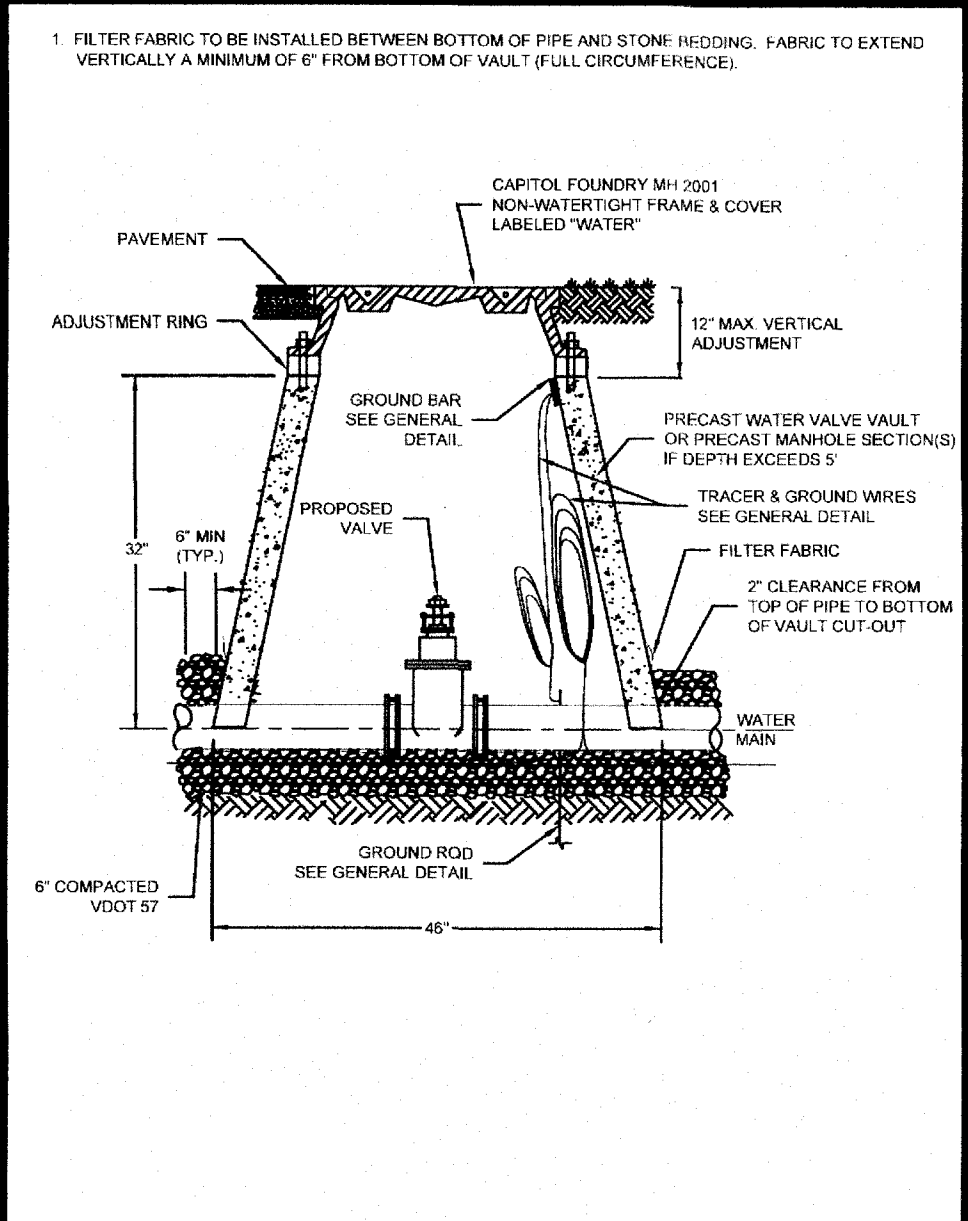
10. THE CONTRACTOR SHALL DISINFECT IN ACCORDANCE WITH AWWA SPECIFICATION C651, LATEST REVISION.



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
SINGLE RESIDENTIAL WATER SERVICE FOR HIGH PRESSURE (LINE PRESSURE UNDER 120 PSI)  
02/10/15 W-3



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
THRUST BLOCK REQUIREMENTS  
02/10/15 W-18



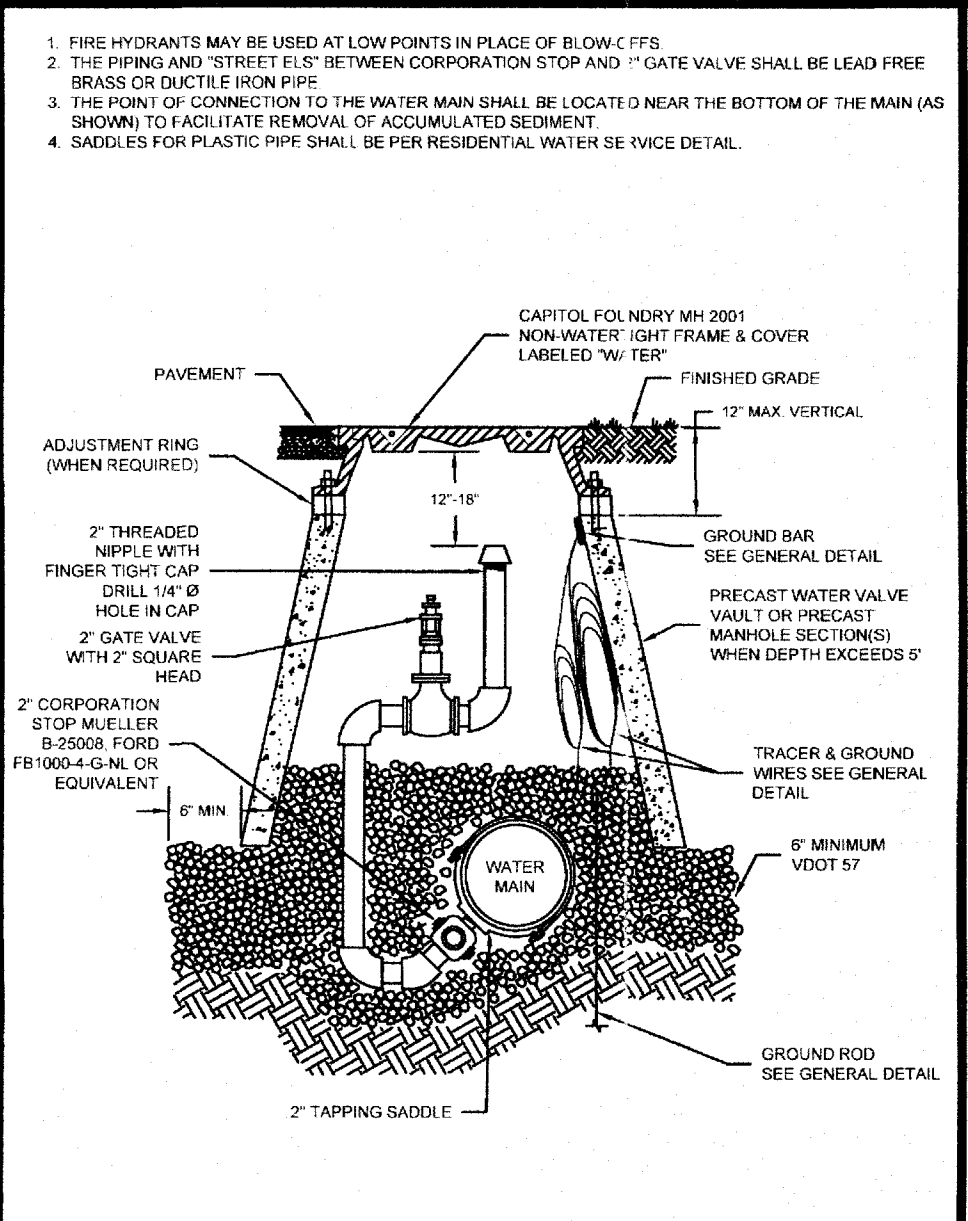
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
WATER LINE VALVE & VAULT  
02/10/15 W-9

FACTOR OF SAFETY = 1.5

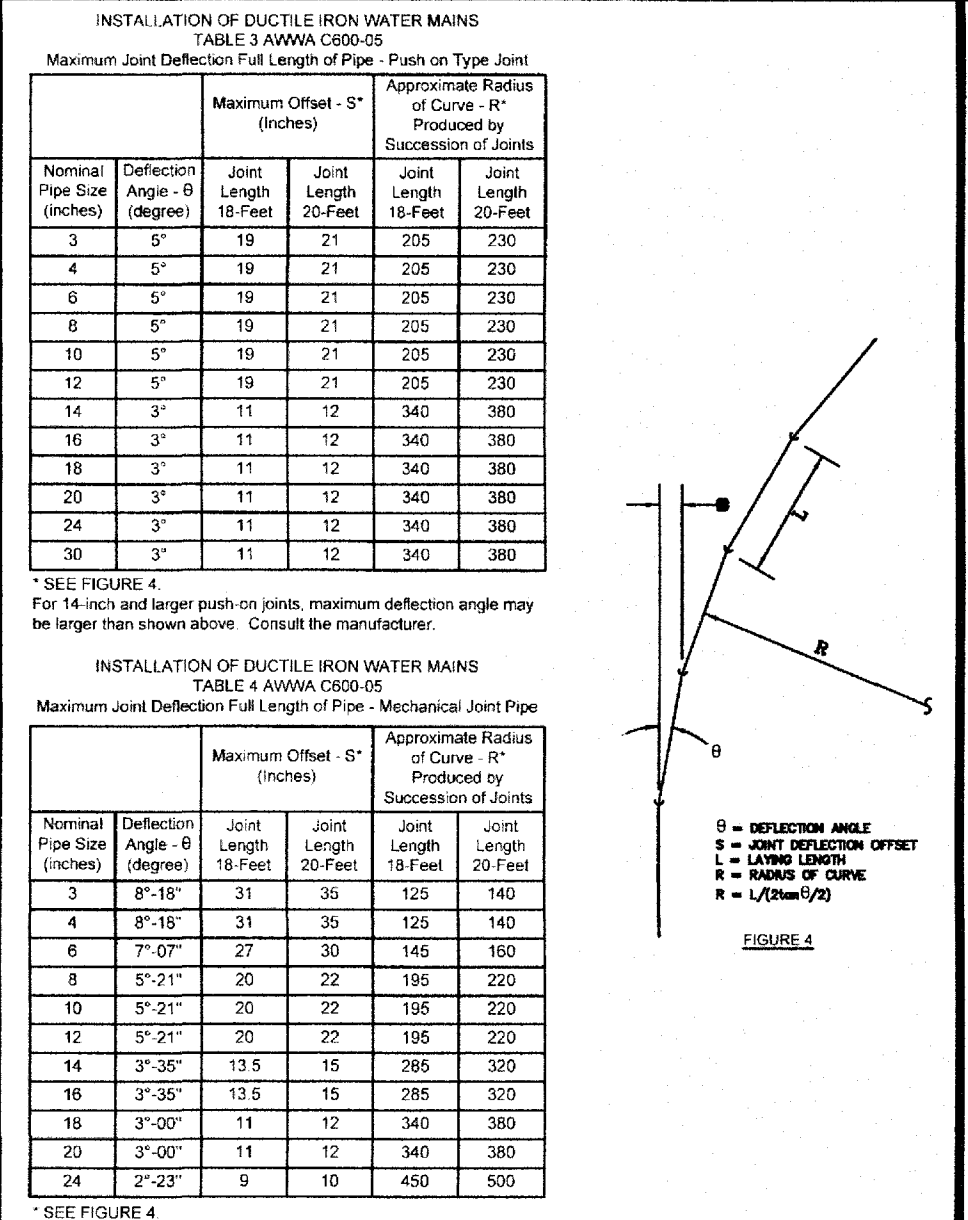
PIPE SIZE	PIPE MAT. 1	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	VOLVE / PL. BRANCH (IN/FEET)	TELL BRANCH (IN/FEET)	REDUCER (IN/FEET)	45° VEE	90° VEE	11 1/4° VEE
6"	D.I.	28'	21'	6'	3'	30'	26'	26'	21'	10'	5'
8"	D.I.	36'	21'	6'	4'	65'	41'	27'	27'	13'	7'
10"	D.I.	43'	21'	9'	5'	77'	53'	26'	38'	16'	8'
12"	D.I.	51'	21'	12'	6'	91'	63'	27'	50'	18'	9'
6"	PVC	29'	21'	6'	3'	78'	25'	40'	32'	16'	8'
8"	PVC	37'	21'	8'	4'	102'	49'	43'	42'	21'	10'
10"	PVC	44'	21'	9'	5'	122'	68'	41'	51'	25'	12'
12"	PVC	51'	21'	11'	6'	143'	89'	42'	68'	29'	15'

- ALL JOINTS SHALL BE INSTALLED ON BOTH SIDES OF THE FITTING AND DOCUMENTED BY THE INSPECTOR FOR THE LENGTH SHOWN REFERS TO ANY DESIGNED OR POTENTIAL LINE INCLUDING ALL GATE VALVES.
- RESTRAINED LENGTH SHOWN REFERS TO ANY DESIGNED OR POTENTIAL LINE INCLUDING ALL GATE VALVES.
- RESTRAINED LENGTH SHOWN REFERS TO THE BRANCH LINE ONLY. THE CONTINUOUS PIPE LENGTH OF THE MAINLINE SHALL BE A MINIMUM OF 50' DRAINAGE SIDE OF THE TEES.
- RESTRAINED LENGTH IS BASED ON REDUCING PIPE DIAMETER TO ONE SIZE SMALLER THAN PIPE LISTED (ANY OTHER DIAMETER REDUCTION WILL REQUIRE ADDITIONAL CALCULATIONS BEFORE INSTALLATION). RESTRAINED LENGTH SHOWN IS UPSTREAM ON THE LARGE SIDE OF THE REDUCER.
- 17" AND SMALLER DIAMETER:** IF UNDER 150 PSI WORKING PRESSURE: RE-INSTALED JOINT(S) ARE TO BE USED. IF EQUAL TO OR OVER 150 PSI WORKING PRESSURE, BOTH THURST & LOCK(S) AND RE-INSTALED JOINT(S) SHALL BE USED.
- LARGER THAN 17" DIAMETER:** IF UNDER 100 PSI WORKING PRESSURE: RE-INSTALED JOINT(S) ARE TO BE USED. IF EQUAL TO OR OVER 100 PSI WORKING PRESSURE, BOTH THURST & LOCK(S) AND RE-INSTALED JOINT(S) SHALL BE USED (UNLESS OTHERWISE APPLIED TO THE PROJECT BY THE PROJECTING AUTHORITY).
- FOR RESTRAINED JOINT PIPE REQUIREMENTS AT FITTING R, P, V/C AND R, R, DI MAY BE USED INTERCHANGEABLY WITH APPROVAL FROM PARTICIPATING UTILITY. CONTRACTOR MUST PLAN ACCORDINGLY FOR THE DIFFERENCE IN PVC AND DIP BELL AND SPOT/ DIMENSIONS.

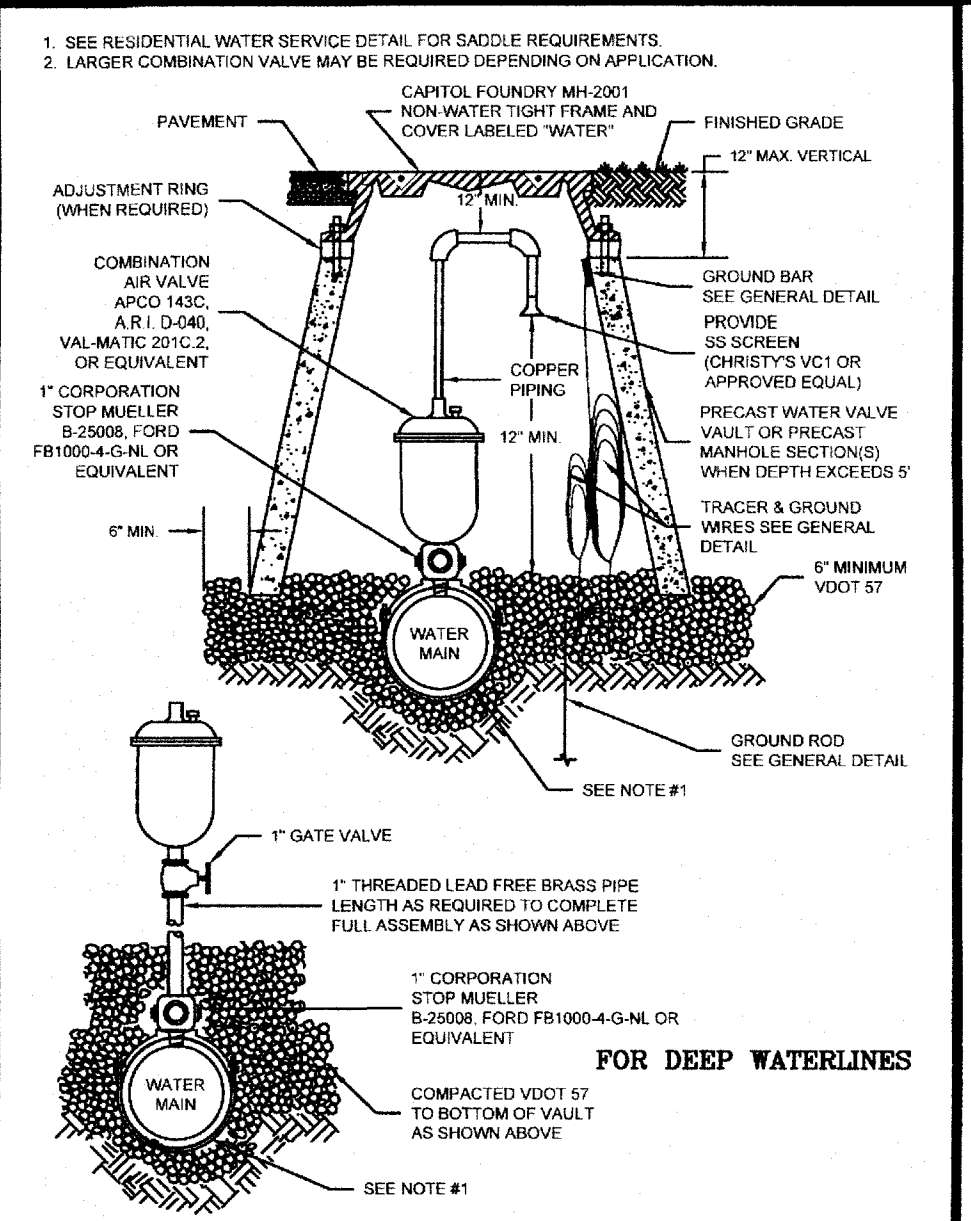
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
MINIMUM THRUST RESTRAINT OF PIPE JOINTS DESIGN TABLES  
02/10/15 W-19



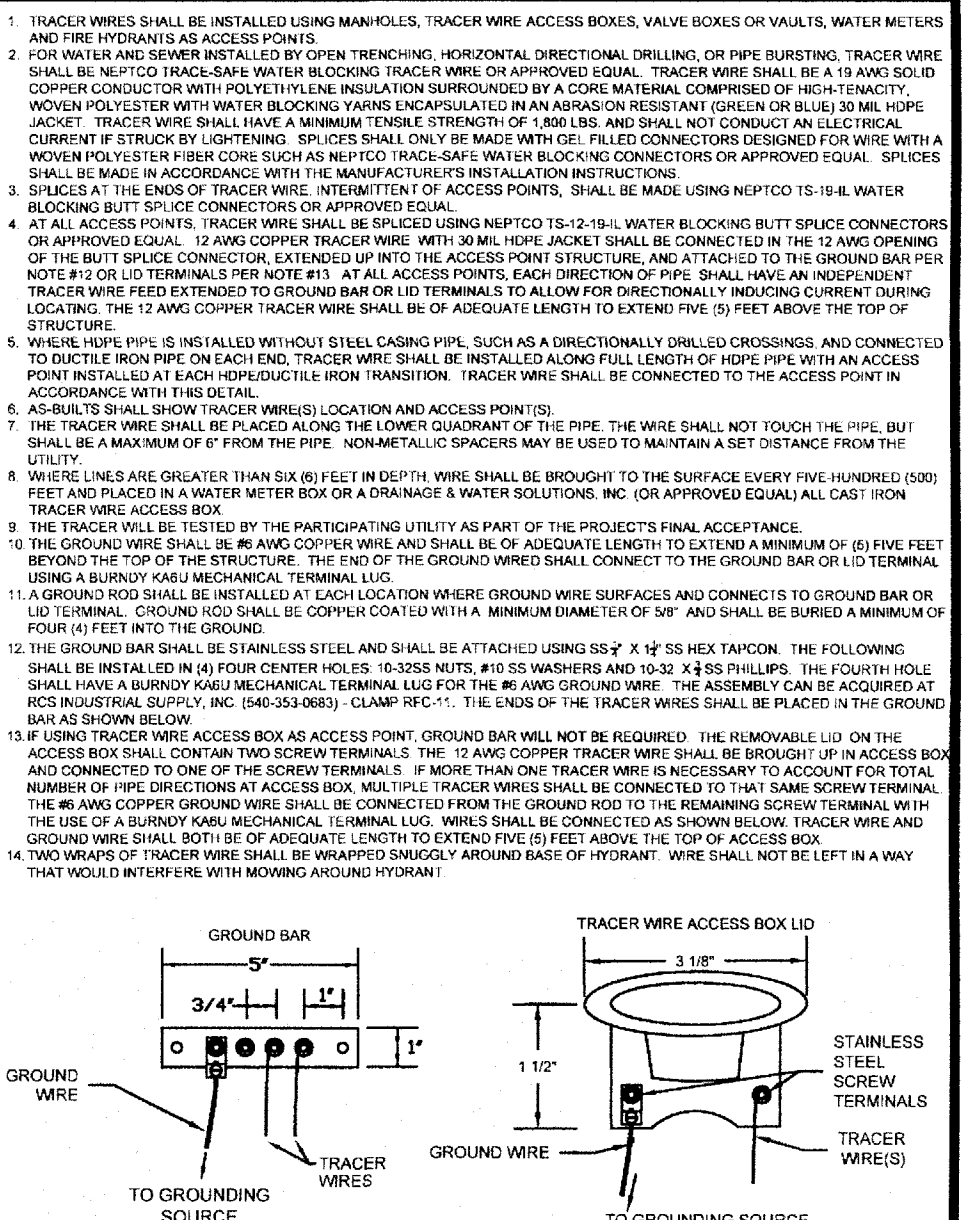
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
IN-LINE BLOW-OFF ASSEMBLY  
02/10/15 W-12



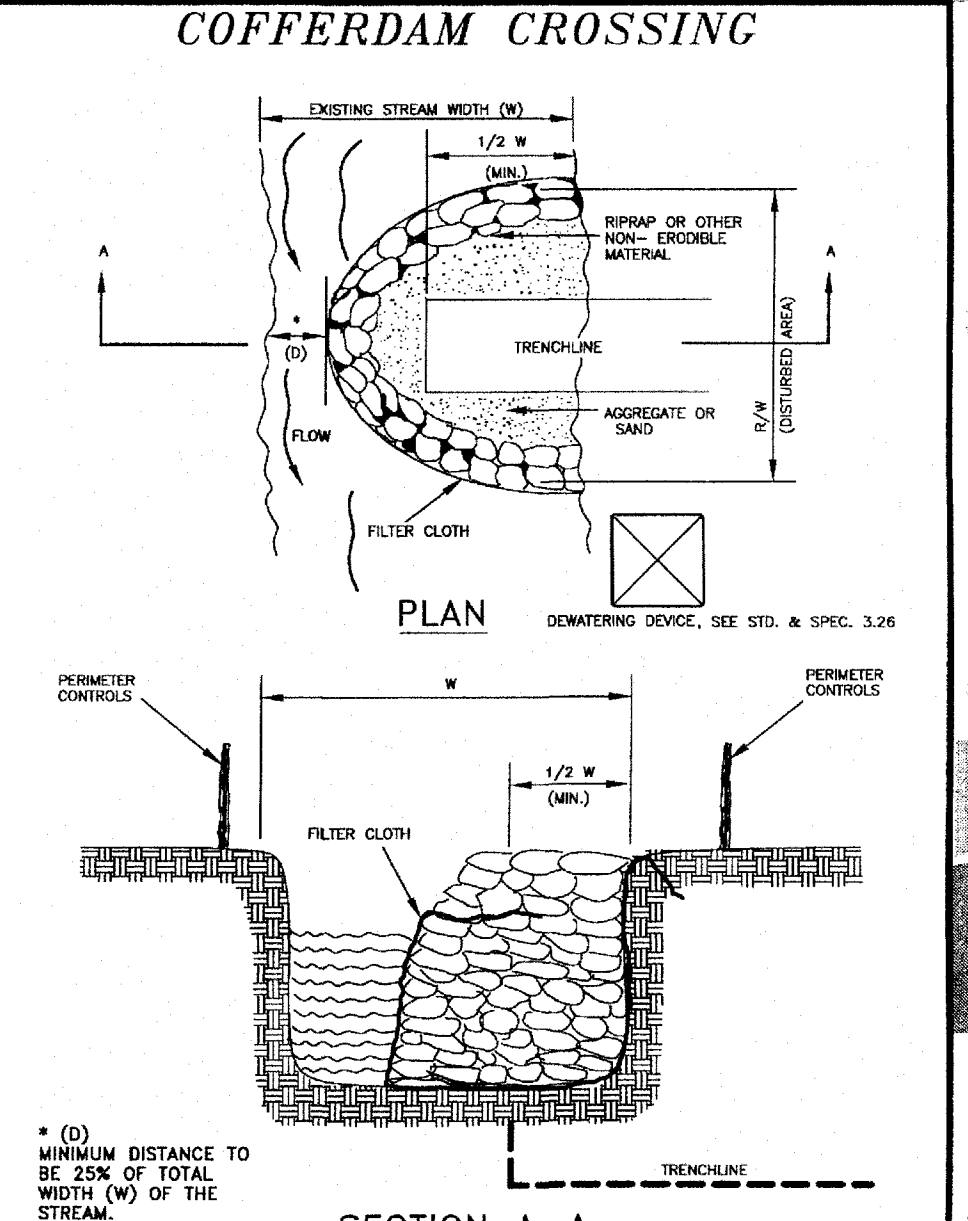
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
DUCTILE IRON PIPE DEFLECTION ALLOWANCE TABLES  
02/10/15 W-22



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
COMBINATION AIR VALVE ASSEMBLY  
02/10/15 W-13



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
TRACER WIRE FOR NON-PRESSURE PIPE  
02/10/15 G-4



COFFERDAM CROSSING  
SECTION A-A  
02/10/15

WESTERN VIRGINIA WATER AUTHORITY  
ENGINEERING SERVICES  
601 S JEFFERSON ST, SUITE 300  
ROANOKE, VA 24011  
540-853-5641 or 540-853-5770

1550 ZONE CONNECTION PROJECT-PHASE 2  
WATER DETAILS

By Date 2-17-16  
Description ADDENDUM 1  
Rev 1  
Designed: AAS  
Drawn: AAS  
Checked: RWB  
Approved:  
Date: 1/24/16  
Project:  
11  
Sheet 11 of 13