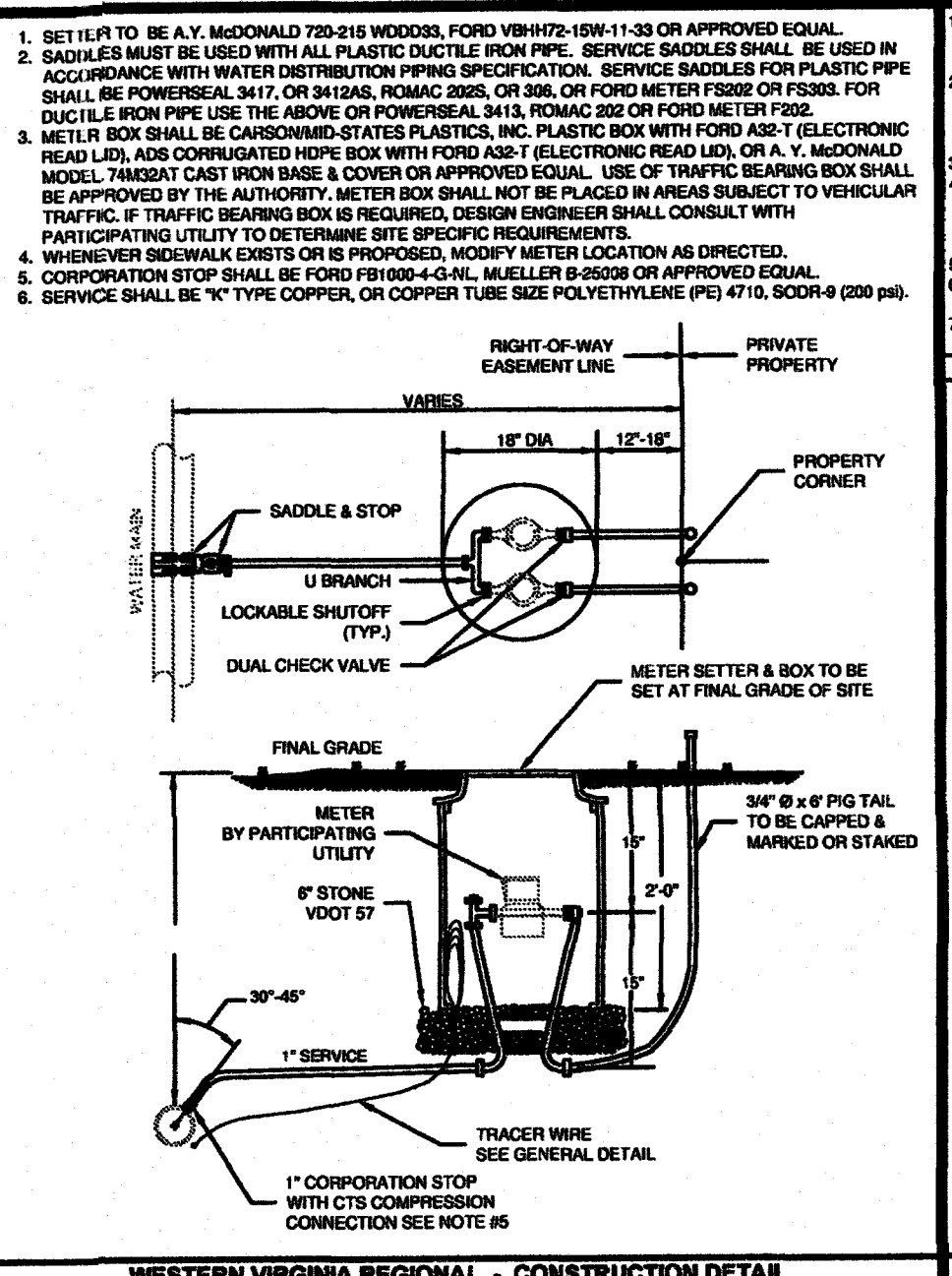
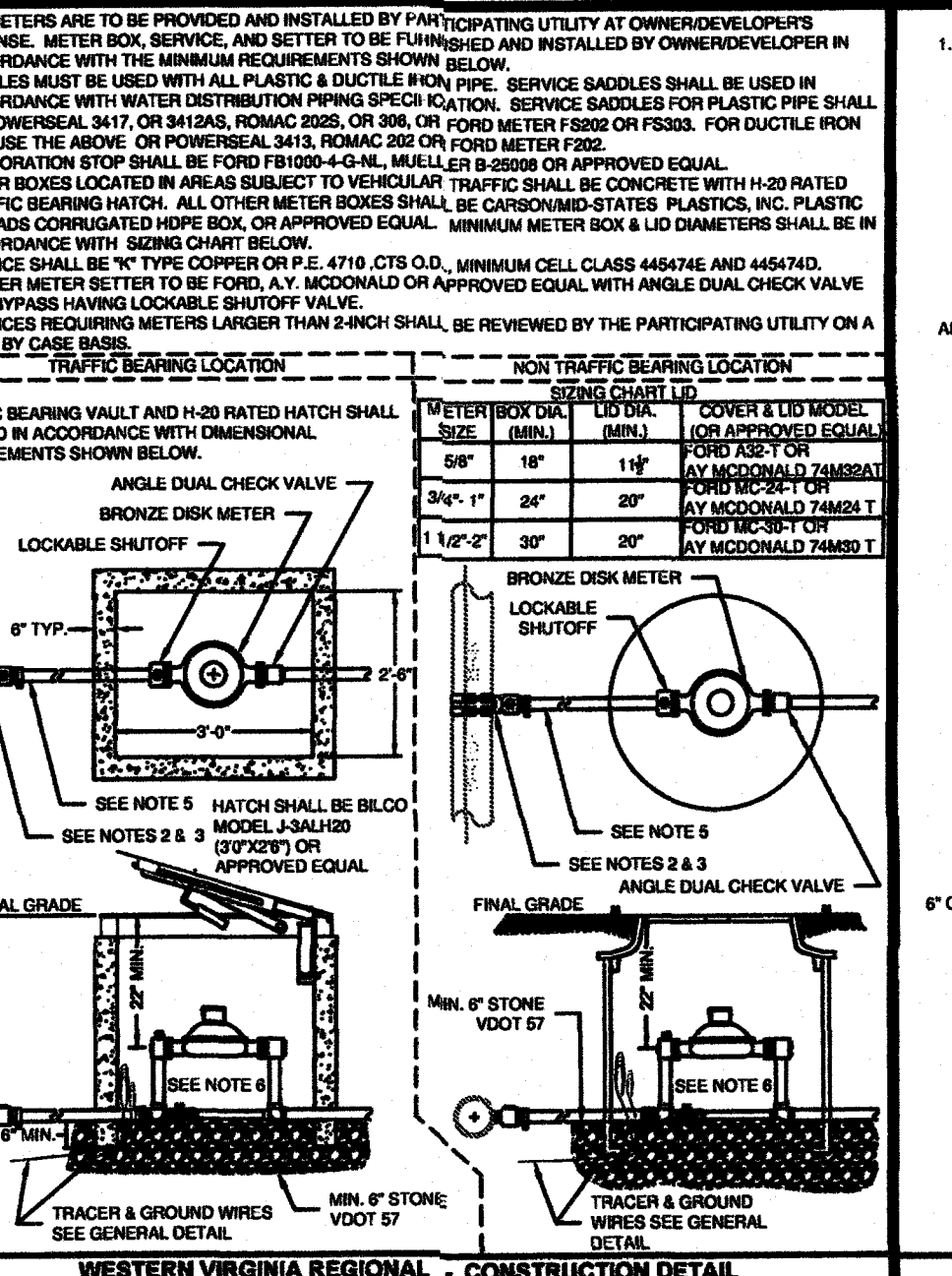


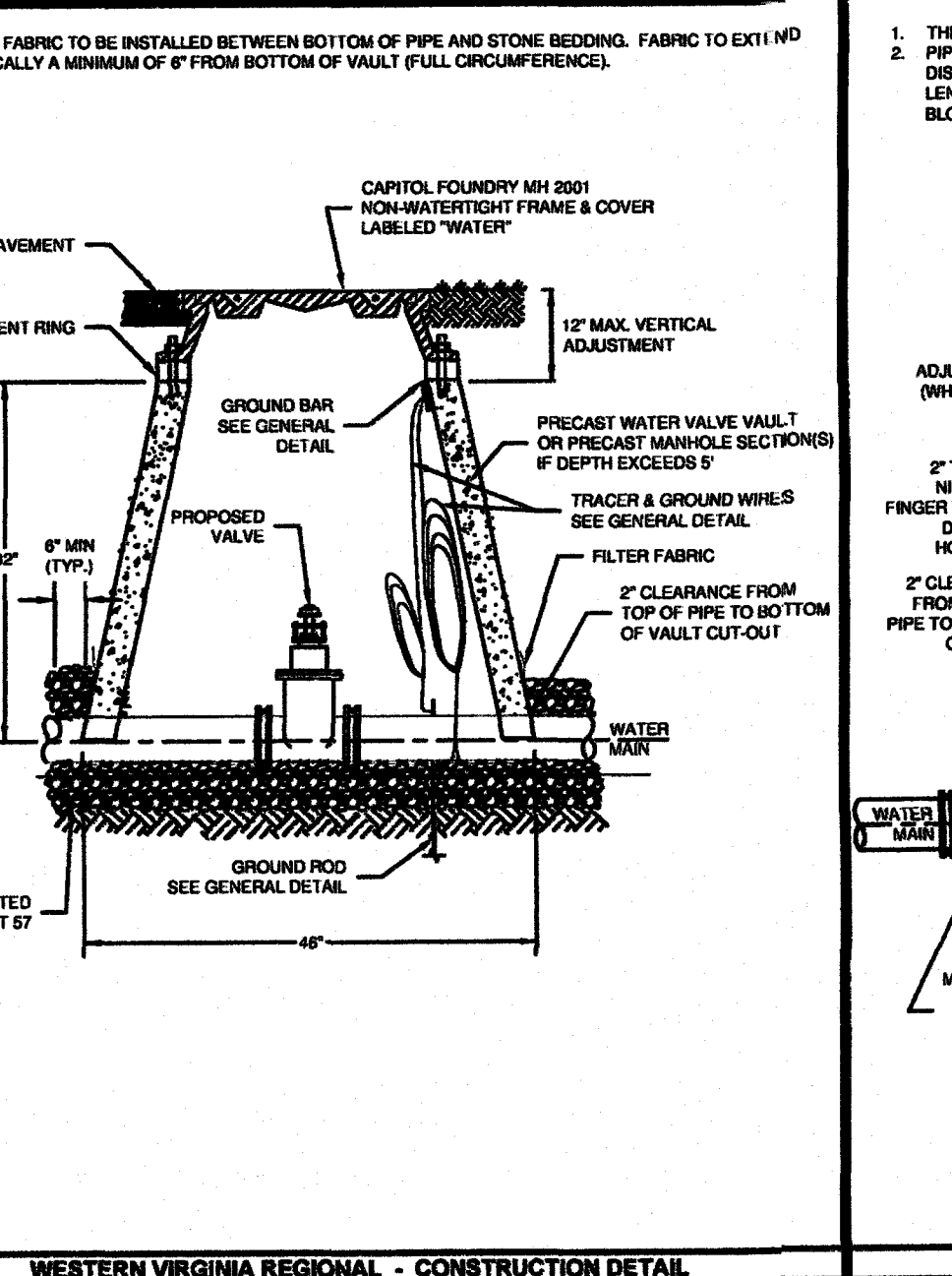
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
SINGLE RESIDENTIAL WATER SERVICE (NEW DEVELOPMENT)
01/01/15



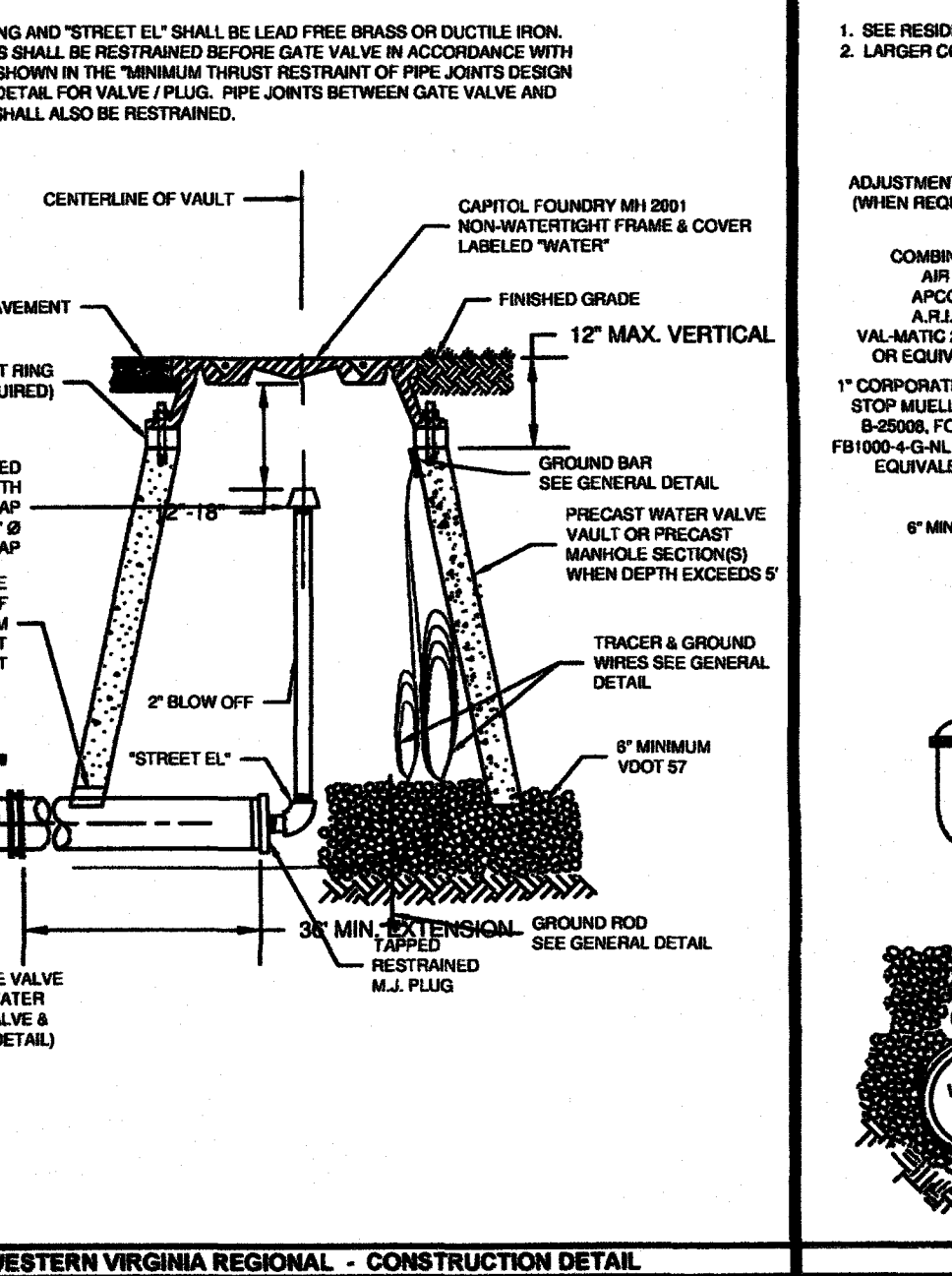
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DOUBLE RESIDENTIAL WATER SERVICE
02/10/15



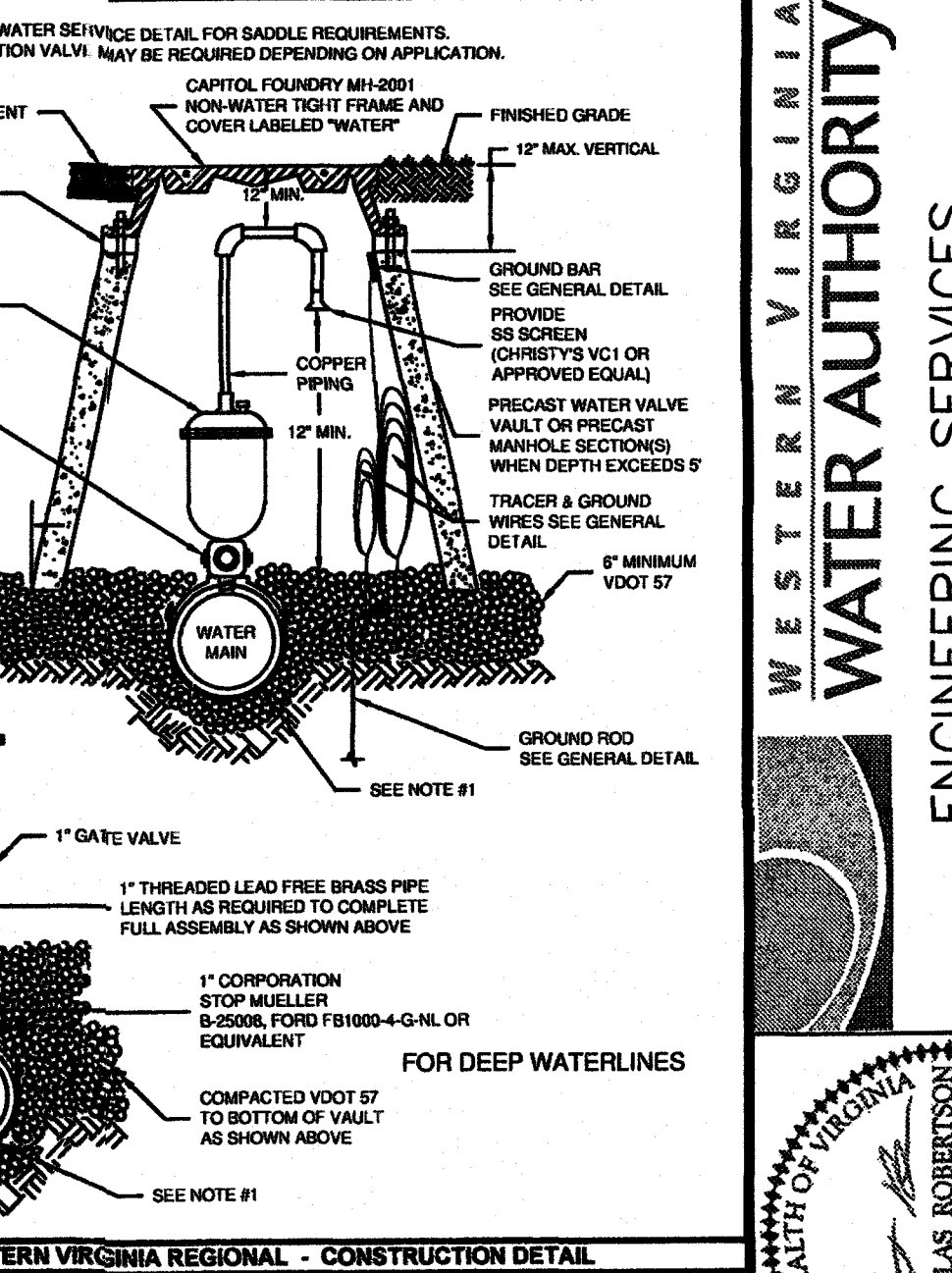
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COMMERCIAL WATER SERVICE METER SIZES 5/8\"/>



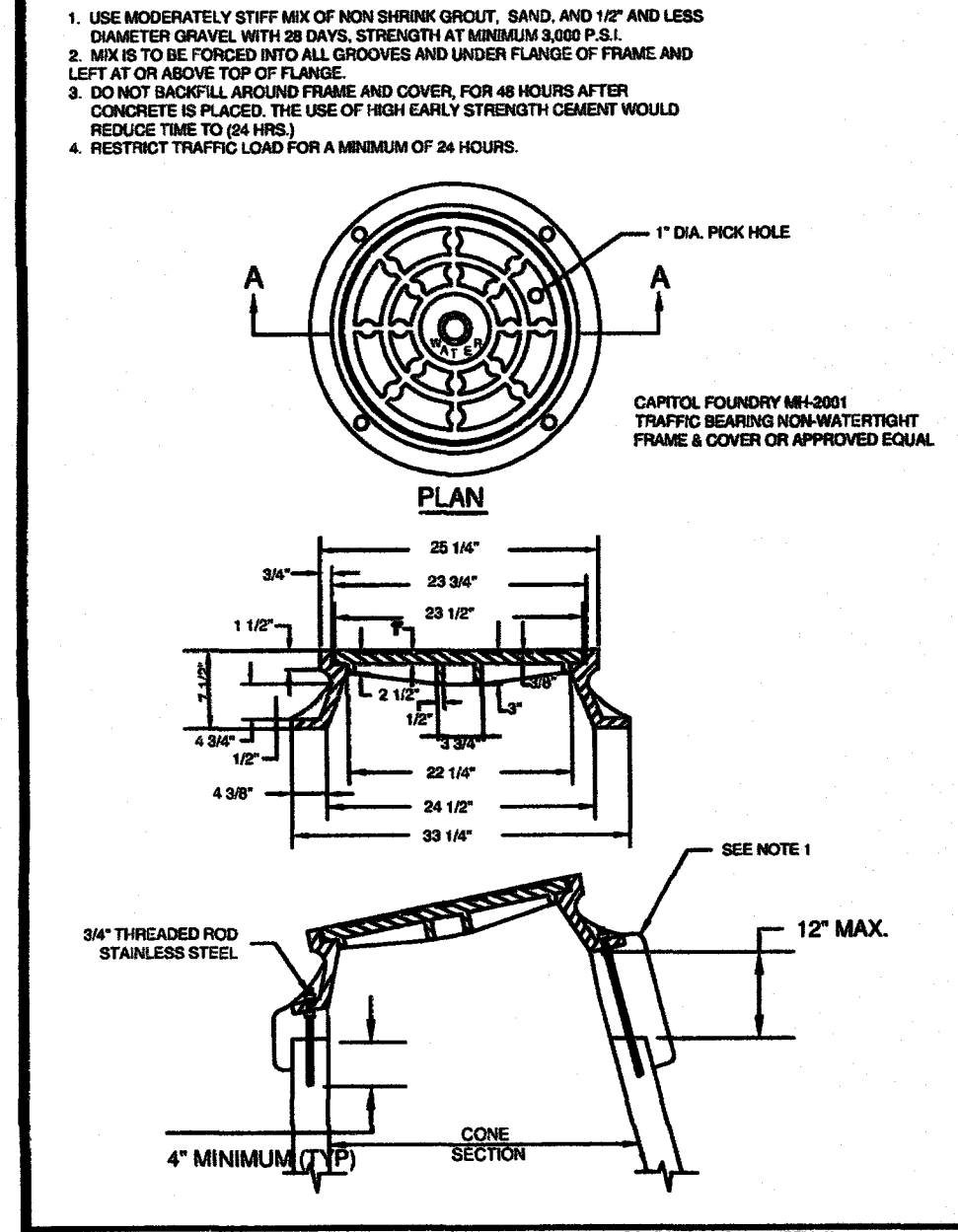
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
WATER LINE VALVE & VAULT
01/01/14



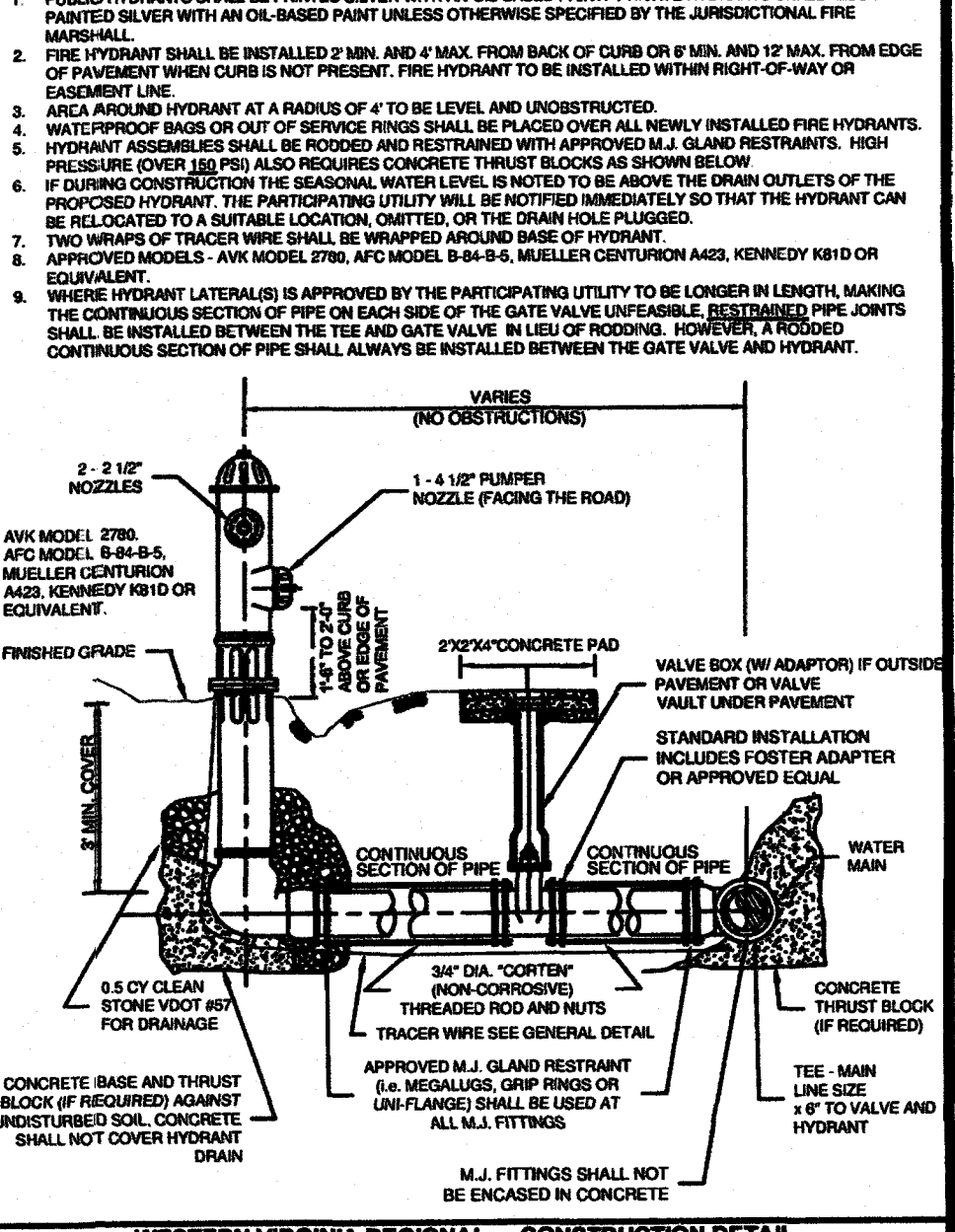
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
TEMPORARY END OF LINE BLOW-OFF ASSEMBLY
01/01/14



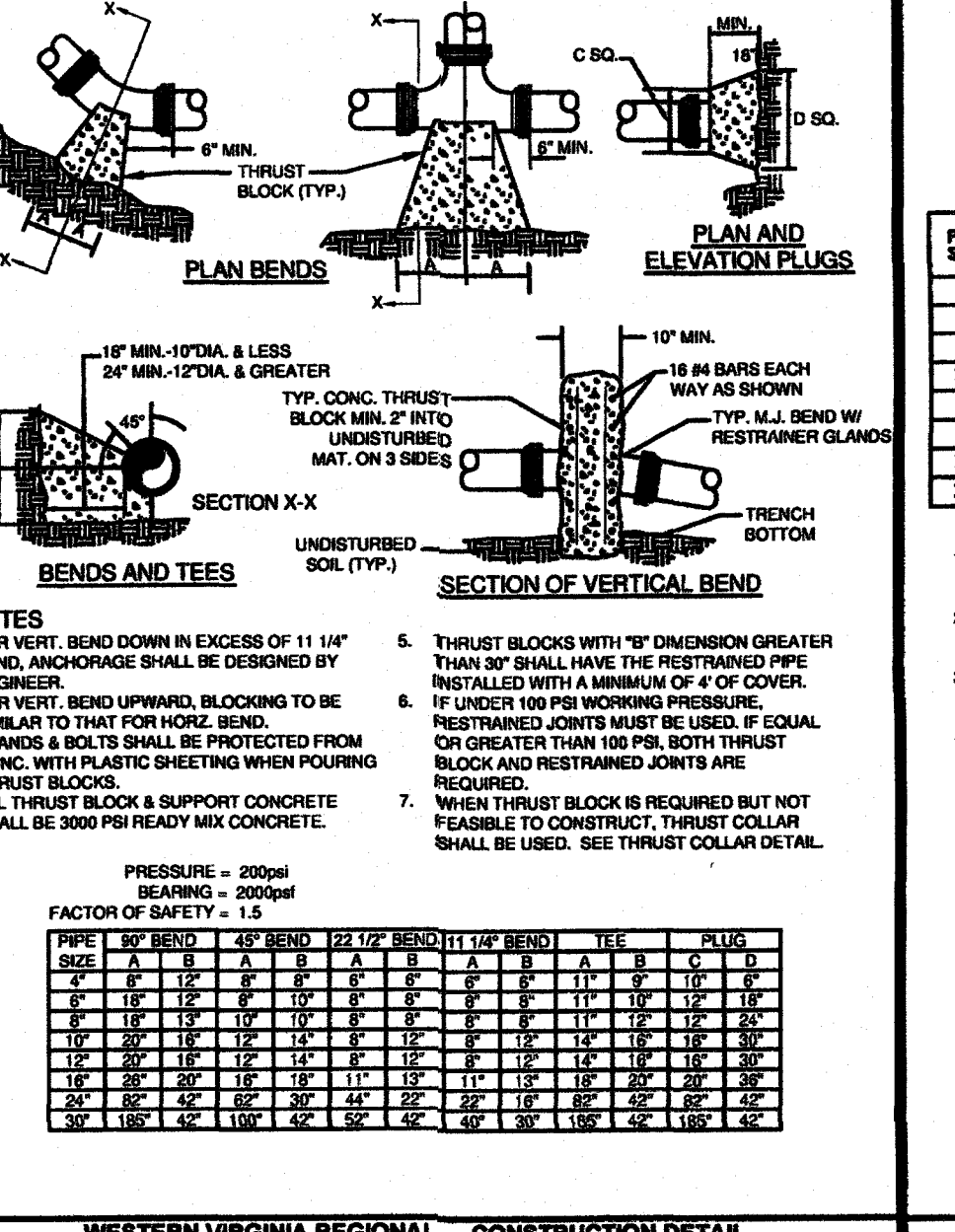
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
COMBINATION AIR VALVE ASSEMBLY
02/10/15



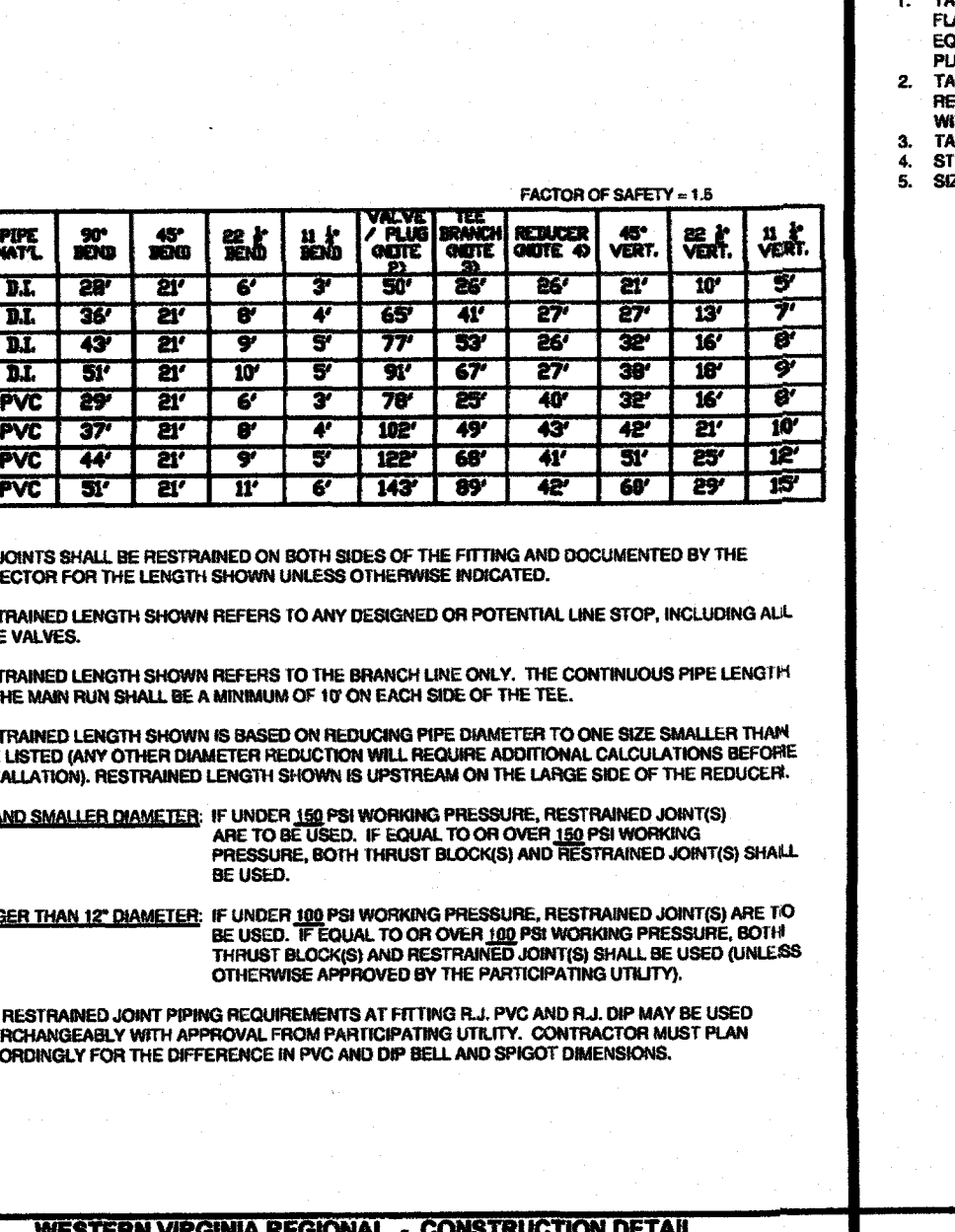
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
VAULT FRAME AND COVER
01/01/14



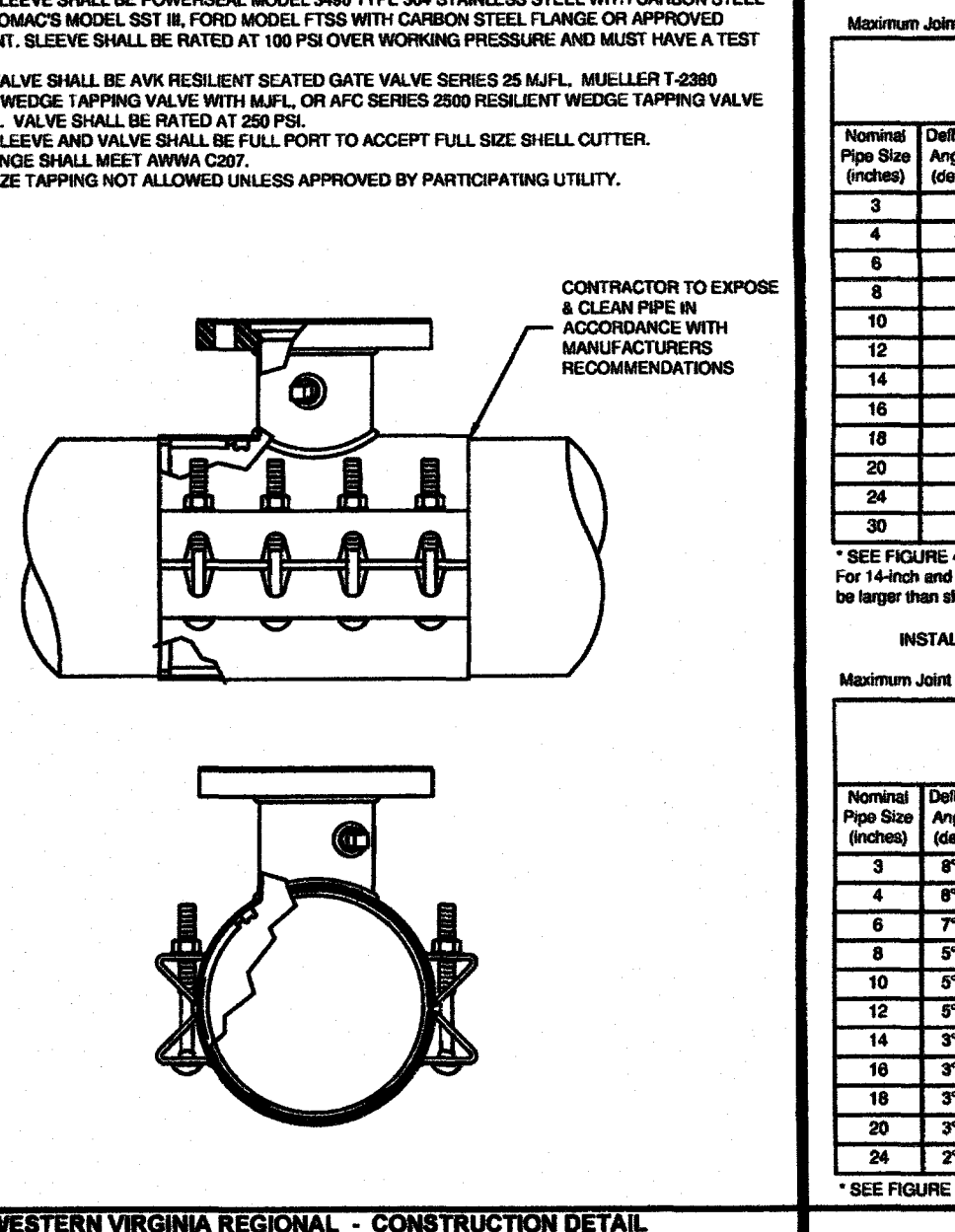
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
FIRE HYDRANT ASSEMBLY
02/10/15



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
THRUST BLOCK REQUIREMENTS
01/01/14



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



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
TAPPING SLEEVE AND VALVE
01/01/14

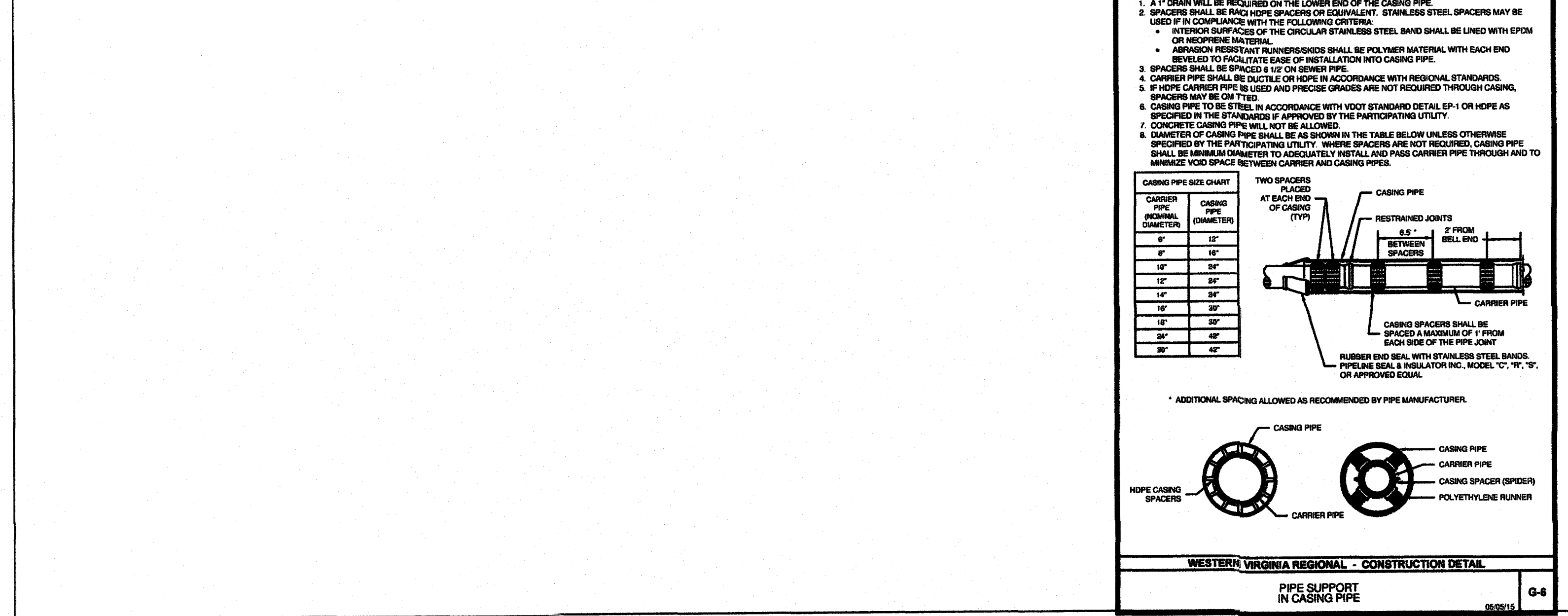
INSTALLATION OF DUCTILE IRON WATER MAINS
TABLE 4 AWWA C900-55
Maximum Joint Deflection Full Length of Pipe - Mechanical Joint

Nominal Pipe Size (inches)	Deflection (inches)	Joint Length (feet)	Joint Length (feet)	Joint Length (feet)	Joint Length (feet)
3"	19	21	205	230	
4"	19	21	205	230	
6"	19	21	205	230	
8"	19	21	205	230	
10"	19	21	205	230	
12"	19	21	205	230	
14"	11	12	340	380	
16"	11	12	340	380	
18"	11	12	340	380	
20"	11	12	340	380	
24"	11	12	340	380	
30"	11	12	340	380	

INSTALLATION OF DUCTILE IRON WATER MAINS
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20"	11	12	340	380	
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WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
DUCTILE IRON PIPE DEFLECTION ALLOWANCE TABLES
01/01/14



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
PIPE SUPPORT IN CASING PIPE
02/10/15

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

2. ALL DRIVEWAYS, CULVERTS & MAILBOXES MUST BE RESTORED TO EXISTING CONDITIONS AFTER CONSTRUCTION IS COMPLETED. ANY CHANGES TO EXISTING CONDITIONS MUST BE APPROVED BY WVWA.

3. ALL CONNECTIONS TO EXISTING WATER MAINS SHALL BE COORDINATED WITH THE WVWA.

4. A MINIMUM COVER OF 3 FEET IS REQUIRED OVER PROPOSED LINES EXCEPT WHERE SHOWN. 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 DUCTILE IRON IN ACCORDANCE WITH AWWA 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 FLUSH AND DISINFECT IN ACCORDANCE WITH AWWA SPECIFICATION C851, LATEST REVISION.

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL
PIPE SUPPORT IN CASING PIPE
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

RUTROUGH ROAD WATER & SEWER EXTENSION PHASE 1

WATER DETAILS

By: _____ Date: _____

Rev: _____ Description: _____

Designed: AAS
Checked: WNR
Approved: WNR
Date: 11-11-16
Project: _____

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Sheet 17 of 20