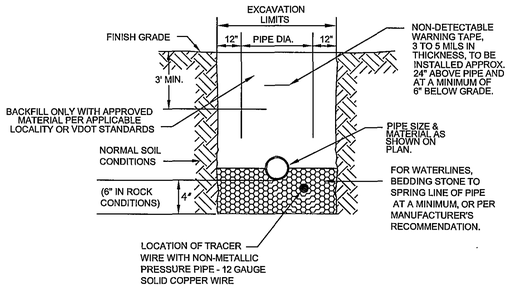
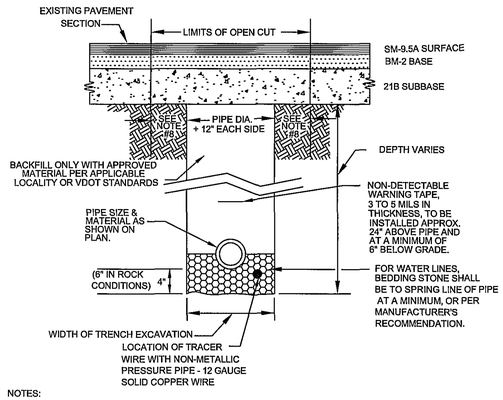
NOTES:

1. BEDDING, HAUNCHING AND INITIAL BACKFILL CONSTRUCTION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
2. ALL PVC PIPE SHALL BE BEDDED IN COMPACTED VDOT #57 OR #68 STONE.
3. IN AREAS NOT SUBJECTED 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 10" LIFTS AND SHALL BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D 698.
4. BEDDING REQUIREMENTS FOR DUCTILE IRON WATER LINE ARE DEPENDENT ON MANUFACTURER'S BEDDING CRITERIA.
5. 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			
	07/01/04			BEDDING AND BACKFILL OUTSIDE OF PAVED AREAS	W-24
	03/01/06				

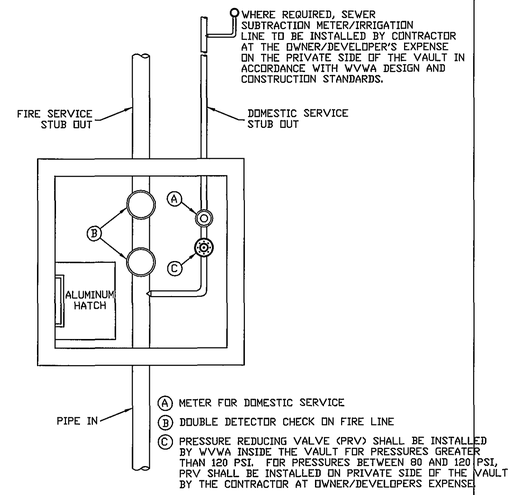


NOTES:

1. BEDDING, HAUNCHING AND INITIAL BACKFILL CONSTRUCTION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
2. ALL PVC PIPE SHALL BE BEDDED IN COMPACTED VDOT #57 OR #68 STONE.
3. IN ROANOKE COUNTY, THE CONTRACTOR SHALL REPLACE THE OPEN CUT WITH A MINIMUM TOP OR AS REQUIRED BY VDOT. IN ROANOKE CITY, CONTRACTOR SHALL REPLACE PAVEMENT AS REQUIRED BY CITY OF ROANOKE RIGHT OF WAY EXCAVATION AND RESTORATION STANDARDS.
4. ALL CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE AS SPECIFIED BY VDOT OR APPLICABLE LOCALITY.
5. PRIOR TO CONSTRUCTION, CONTRACTOR IS RESPONSIBLE FOR SECURING ALL REQUIRED PERMITS FROM VDOT AND/OR APPLICABLE LOCALITY.
6. IN AREAS SUBJECTED TO VEHICULAR TRAFFIC, BEDDING STONE AND FILL SHALL BE PLACED IN 6" LIFTS AND SHALL BE COMPACTED TO AT LEAST 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D 698.
7. BEDDING REQUIREMENTS FOR DUCTILE WATER LINE ARE DEPENDENT ON MANUFACTURER'S BEDDING CRITERIA.
8. BENCHCUT ON EACH SIDE OF PAVEMENT: CITY OF ROANOKE EQUALS 12"; VDOT RIGHT-OF-WAY EQUALS 6".
9. 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			
	07/01/04			BEDDING AND BACKFILL UNDER PAVEMENT AND RIGHT-OF-WAY	W-25
	03/01/06				

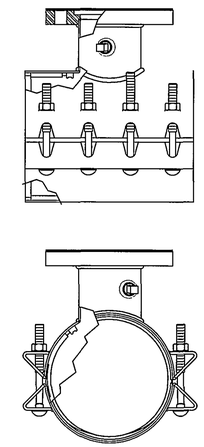


NOTES:

1. FOR 6' FIRE LINE, EXTERIOR VAULT DIMENSIONS SHALL BE 6' X 6'
2. FOR 8' FIRE LINE, EXTERIOR VAULT DIMENSIONS SHALL BE 11' X 7'
3. VAULT TO BE FURNISHED AND INSTALLED BY WVWA AT OWNER/DEVELOPERS EXPENSE.

WESTERN VIRGINIA WATER AUTHORITY – CONSTRUCTION STANDARDS

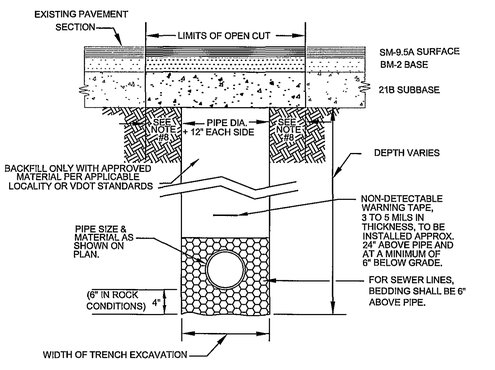
REVISION	DATE			
	03/01/06			WATER VAULT	W-26



1. TAPPING SLEEVE SHALL BE POWERSEAL MODEL 3490 TYPE 304 STAINLESS STEEL WITH CARBON STEEL FLANGE, ROMAC'S MODEL SST III OR APPROVED EQUIVALENT. SLEEVE SHALL BE RATED AT 250 PSI AND MUST HAVE A TEST PLUG.
2. TAPPING VALVE SHALL BE AVK RESILIENT SEATED GATE VALVE SERIES 25 MJFL OR MUELLER T-2360 RESILIENT WEDGE TAPPING VALVE WITH MJFL. VALVE SHALL BE RATED AT 250 PSI.
3. TAPPING SLEEVE AND VALVE SHALL BE FULL PORT TO ACCEPT FULL SIZE SHELL CUTTER.

WESTERN VIRGINIA WATER AUTHORITY – CONSTRUCTION STANDARDS

REVISION	DATE			
	07/01/04			TAPPING SLEEVE AND VALVE	W-23

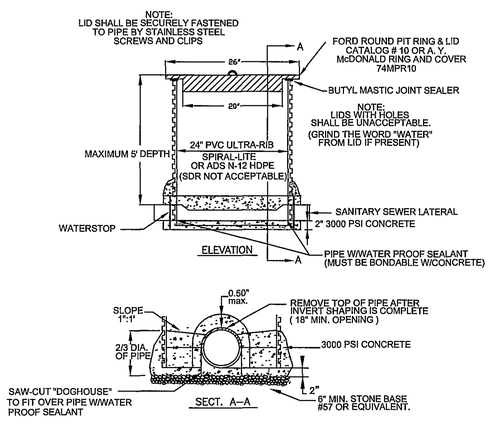


NOTES:

1. BEDDING, HAUNCHING AND INITIAL BACKFILL CONSTRUCTION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
2. ALL PVC PIPE SHALL BE BEDDED IN COMPACTED VDOT #57 OR #68 STONE.
3. IN ROANOKE COUNTY, THE CONTRACTOR SHALL REPLACE THE OPEN CUT WITH A MINIMUM TOP COURSE OF 1.5" (MINIMUM) VDOT SM-9.5A, BASE COURSE OF 6" VDOT BM-25d, AND SUBBASE OF 10" VDOT 21B, OR AS REQUIRED BY VDOT. IN ROANOKE CITY, CONTRACTOR SHALL REPLACE PAVEMENT AS REQUIRED BY CITY OF ROANOKE RIGHT OF WAY EXCAVATION AND RESTORATION STANDARDS.
4. ALL CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE AS SPECIFIED BY VDOT OR APPLICABLE LOCALITY.
5. PRIOR TO CONSTRUCTION, CONTRACTOR IS RESPONSIBLE FOR SECURING ALL REQUIRED PERMITS FROM VDOT AND/OR APPLICABLE LOCALITY.
6. IN AREAS SUBJECTED TO VEHICULAR TRAFFIC, BEDDING STONE AND FILL SHALL BE PLACED IN 6" LIFTS AND SHALL BE COMPACTED TO AT LEAST 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D 698.
7. ALL SEWER LINE PIPE SHALL BE BEDDED IN COMPACTED GRANULAR MATERIAL. BEDDING REQUIREMENTS FOR DUCTILE SEWER LINE ARE DEPENDENT ON MANUFACTUER'S BEDDING CRITERIA.
8. BENCHCUT ON EACH SIDE OF PAVEMENT: CITY OF ROANOKE EQUALS 12"; VDOT RIGHT-OF-WAY EQUALS 6".
9. 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			
	07/01/04			BEDDING AND BACKFILL UNDER PAVEMENT AND RIGHT-OF-WAY	S-31
	03/01/06				



NOTES:

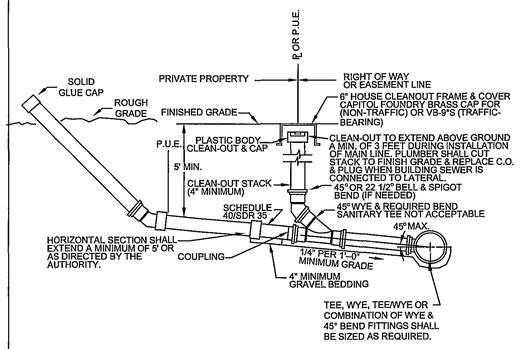
1. NOT ACCEPTABLE FOR USE IN TRAFFIC AREAS OR AREAS SUBJECT TO FLOODING.
2. VACUUM OR EXFILTRATION TESTING SHALL BE USED. VACUUM TESTING SHALL MEET THE SAME STANDARD FOR CONCRETE MANHOLES. EXFILTRATION TESTING SHALL HAVE NO LEAKAGE WITHIN 1 HOUR.
3. "AquaBlok" WASTEWATER ACCESS CHAMBERS MAY BE SUBSTITUTED. TRAFFIC BEARING BOXES WILL BE REQUIRED IF INSTALLED IN TRAFFIC AREAS. TESTING OF "AquaBlok" SHALL BE BY APPLICABLE PLUMBING CODE FOR SEWER LATERALS.
4. 2' DIA. CONCRETE WELL CASING 3000 PSI MAY BE SUBSTITUTED FOR ULTRA-RIB PIPE. ANY VERT. JOINTS IN THE CASING PIPE MUST BE BY BELL & SPIGOT CONNECTION WITH MASTIC.
5. INVERT SHAPING/CHANNEL SHALL BE 180 DEGREES THROUGH SAMPLE MANHOLE. NO ANGLES, RADIUS, ETC ARE ALLOWED IN SAMPLE MANHOLES.

WESTERN VIRGINIA WATER AUTHORITY – CONSTRUCTION STANDARDS

REVISION	DATE			
	07/01/04			SAMPLING STRUCTURE DETAIL	S-07
	03/01/06				

GENERAL NOTES:

1. TRAFFIC BEARING BOX REQUIRED IN TRAFFIC AREAS.
2. ALL PIPE AND FITTINGS SHALL BE OF SIMILAR MATERIAL.
3. ALL PIPE SHALL BE OF SAME SIZE.
4. NO BENDS ARE ALLOWED IN THE LATERAL FROM THE MAIN TO THE CLEANOUT STACK WYE. (EXCEPT AS NOTED)
5. ALL MAIN LINE TAPS ON ACTIVE MAINS WILL BE PERFORMED BY WESTERN VIRGINIA WATER AUTHORITY.
6. PIPING BEHIND CLEANOUT TO BE INSTALLED PER BOCA CODE.
7. MINIMUM LATERAL SIZE:
   4" FOR RESIDENTIAL SERVICE
   6" FOR NON-RESIDENTIAL SERVICE
8. MINIMUM COVER FOR ALL SEWER LATERALS SHALL BE THREE(3') FEET.
9. PROPERTY OWNER RESPONSIBLE FOR INSTALLING CLEANOUT ON PROPERTY LINE WHEN MAINTENANCE OCCURS, IN ACCORDANCE WITH THIS STANDARD.
10. FLOWLINE AT CLEANOUT WYE SHALL BE A MINIMUM OF THREE FEET (3') BELOW LOWEST SERVED FINISHED FLOOR.

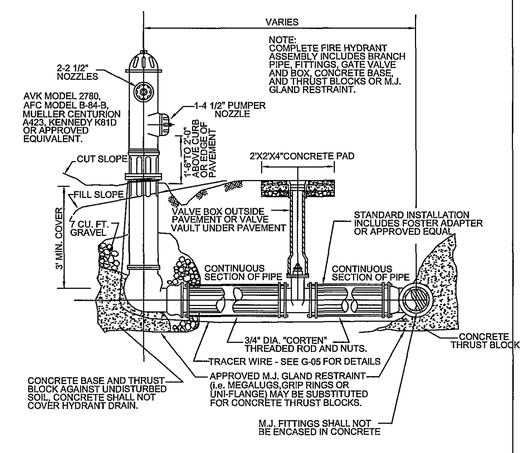


WESTERN VIRGINIA WATER AUTHORITY – CONSTRUCTION STANDARDS

REVISION	DATE			
	07/01/04			SANITARY SEWER LATERAL	S-08
	03/01/06				

NOTES:

1. PUBLIC HYDRANTS SHALL BE PAINTED SILVER WITH AN OIL-BASED PAINT AND PRIVATE HYDRANTS SHALL BE PAINTED WHITE WITH AN OIL-BASED PAINT.
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.



WESTERN VIRGINIA WATER AUTHORITY – CONSTRUCTION STANDARDS

REVISION	DATE			
	07/01/04			FIRE HYDRANT ASSEMBLY	W-18
	03/01/06				

COMMONWEALTH OF VIRGINIA
ROGER I. STURGILL
No. 033058
PROFESSIONAL ENGINEER

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FAX: 540/248-3221

GRANDIN COURT BAPTIST CHURCH
MAC CENTER ADDITION

WVWA DETAILS

CITY OF ROANOKE, VIRGINIA

DRAWN BY: BTC
DESIGNED BY: BTC
CHECKED BY: SMH
DATE: 6-4-07

REVISIONS:
7-3-07
8-24-07
10-30-07

SCALE: NTS

SHEET NO.
C-11

JOB NO.
R0500329.00