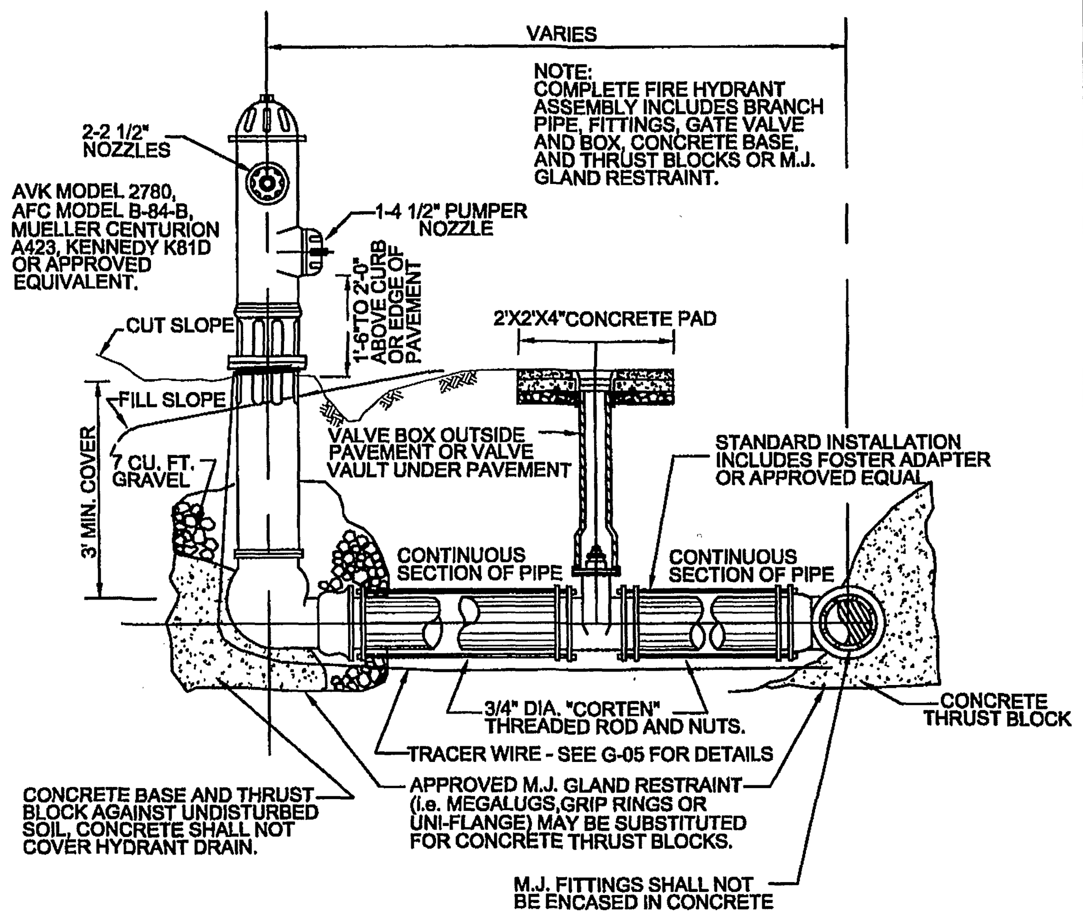
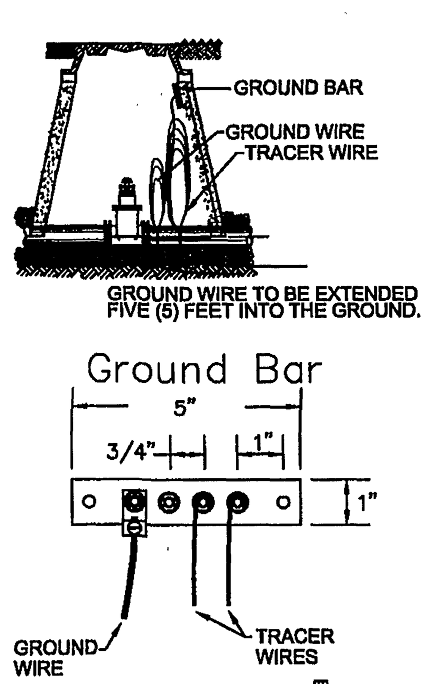
NOTES:
1. PUBLIC HYDRANTS SHALL BE PAINTED SILVER WITH AN OIL-BASED PAINT AND PRIVATE HYDRANTS SHALL BE PAINTED WHITE WITH AN OIL-BASED PAINT.
2. FIRE HYDRANT SHALL BE INSTALLED 2' MIN. AND 4' MAX. FROM BACK OF CURB OR 6' MIN. AND 12' MAX. WHEN CURB IS NOT PRESENT. FIRE HYDRANT TO BE INSTALLED WITHIN 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.

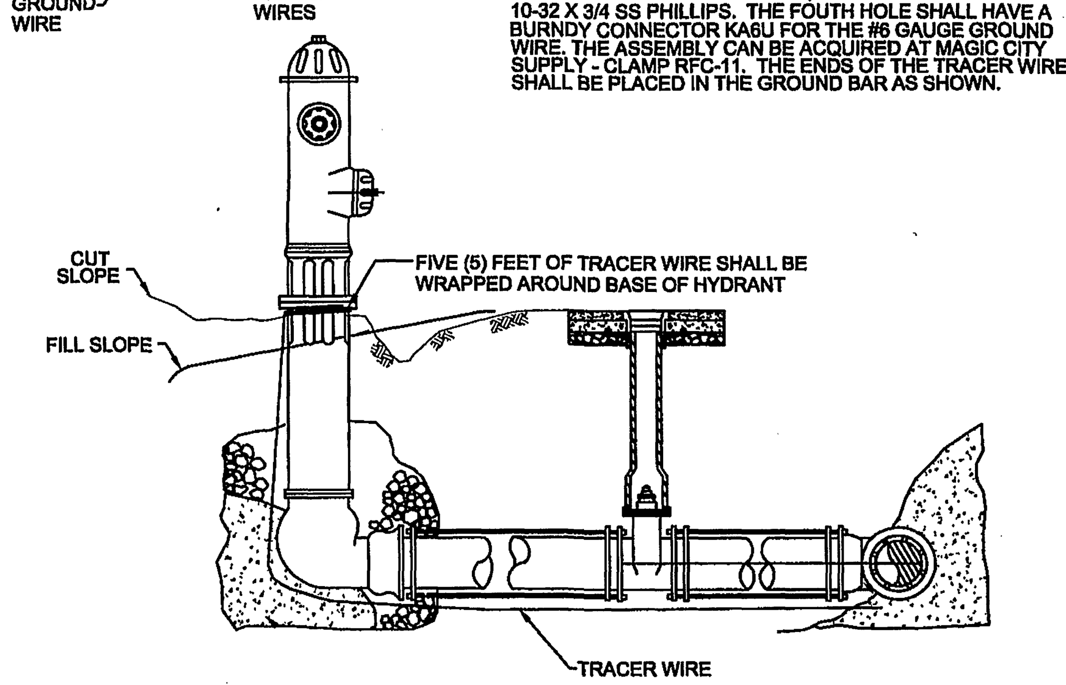


WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS

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



1. TRACER WIRES SHALL BE INSTALLED USING MANHOLES, VALVE BOXES OR VAULTS, WATER METERS AND FIRE HYDRANTS AS ACCESS POINTS.
2. TRACER WIRE SHALL BE A 12 GAUGE SOLID COPPER WIRE WITH POLYETHYLENE INSULATION OF 30 MIL THICKNESS.
3. SPLICES SHALL BE MADE USING A 3M DIRECT BURY SPLICE KIT (DBY) OR EQUIVALENT.
4. TRACER WIRE SHALL BE LONG ENOUGH TO EXTEND A DISTANCE OF FIVE (5) FEET BEYOND THE STRUCTURE.
5. ASBUILTS SHALL SHOW TRACER WIRE(S) LOCATION AND ACCESS POINT(S).
6. THE TRACER WIRE SHALL BE PLACED ALONG THE LOWER QUADRANT OF THE PIPE. THE WIRE SHALL NOT TOUCH THE PIPE, BUT SHALL BE A MAXIMUM OF 6" FROM THE PIPE. NON-METALLIC SPACERS MAY BE USED TO MAINTAIN A SET DISTANCE FROM THE UTILITY.
7. WHERE LINES ARE GREATER THAN SIX(6) FEET IN DEPTH, WIRE SHALL BE BROUGHT TO THE SURFACE EVERY ONE-HUNDRED (100) FEET AND PLACED IN A WATER METER BOX OR APPROVED JUNCTION BOX.
8. THE TRACER WILL BE TESTED BY THE AUTHORITY AS PART OF THE PROJECT'S FINAL ACCEPTANCE.
9. THE GROUND WIRE SHALL BE #6 GAUGE COPPER WIRE AND INSTALLED TO EXTEND A DISTANCE OF FIVE (5) FEET INTO THE GROUND. GROUND WIRE SHALL BE OF ADEQUATE LENGTH TO EXTEND FIVE (5) FEET BEYOND THE TOP OF STRUCTURE AND THE END OF GROUND WIRE SHALL BE PLACED INTO THE KA6U CONNECTOR.
10. THE GROUND BAR SHALL BE STAINLESS STEEL AND SHALL BE ATTACHED USING SS 1/4" X 1 1/4" SS HEX TAPCON. THE FOLLOWING SHALL BE INSTALLED IN 4 (FOUR) CENTER HOLES: 10-32 SS NUTS, #10 SS WASHERS AND 10-32 X 3/4 SS PHILLIPS. THE FOUTH HOLE SHALL HAVE A BURNDY CONNECTOR KA6U FOR THE #6 GAUGE GROUND WIRE. THE ASSEMBLY CAN BE ACQUIRED AT MAGIC CITY SUPPLY - CLAMP RFC-11. THE ENDS OF THE TRACER WIRES SHALL BE PLACED IN THE GROUND BAR AS SHOWN.



WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS

REVISION DATE				
07/01/04			TRACER WIRE FOR NON-METALLIC PRESSURE PIPE	G-05
03/01/06				

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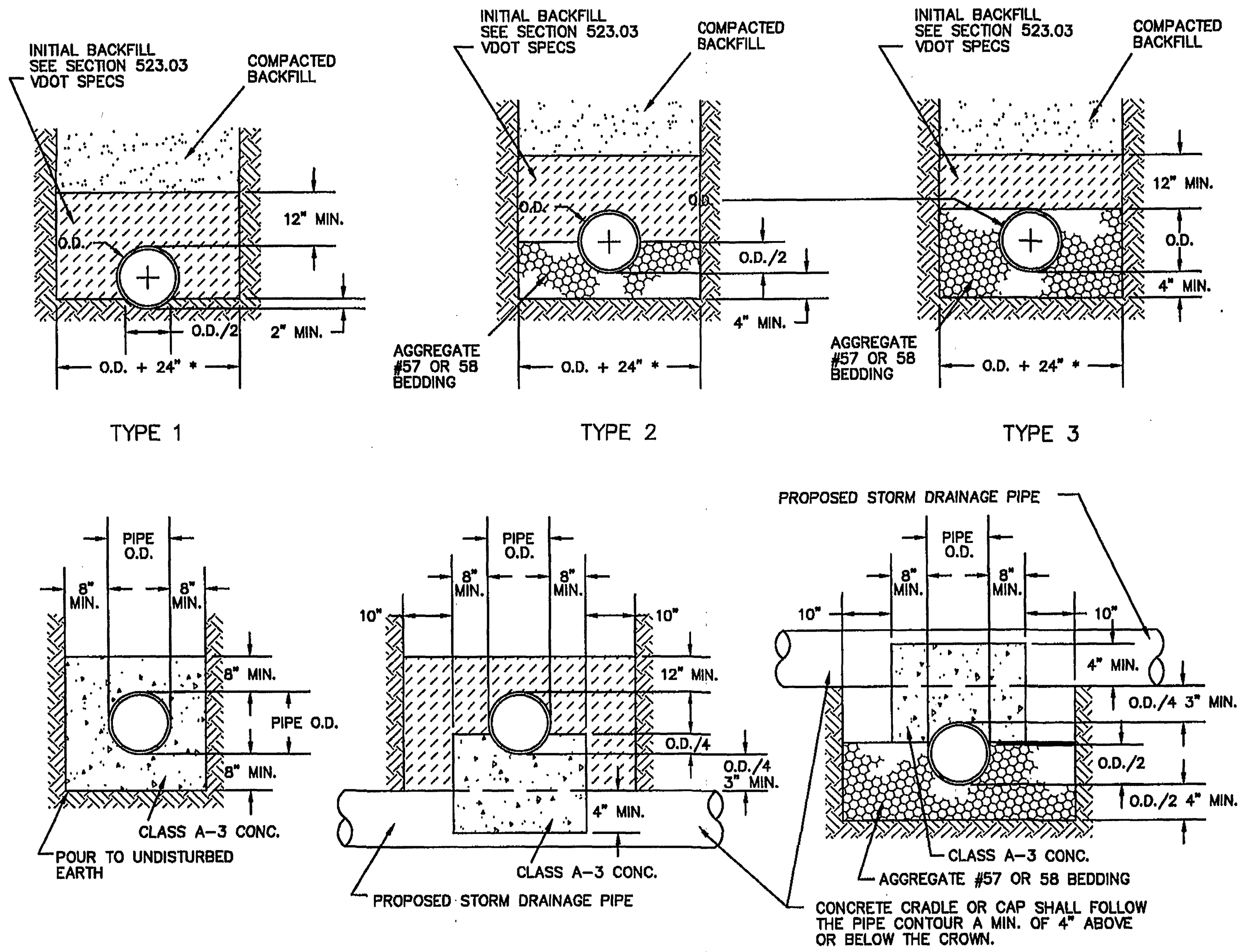
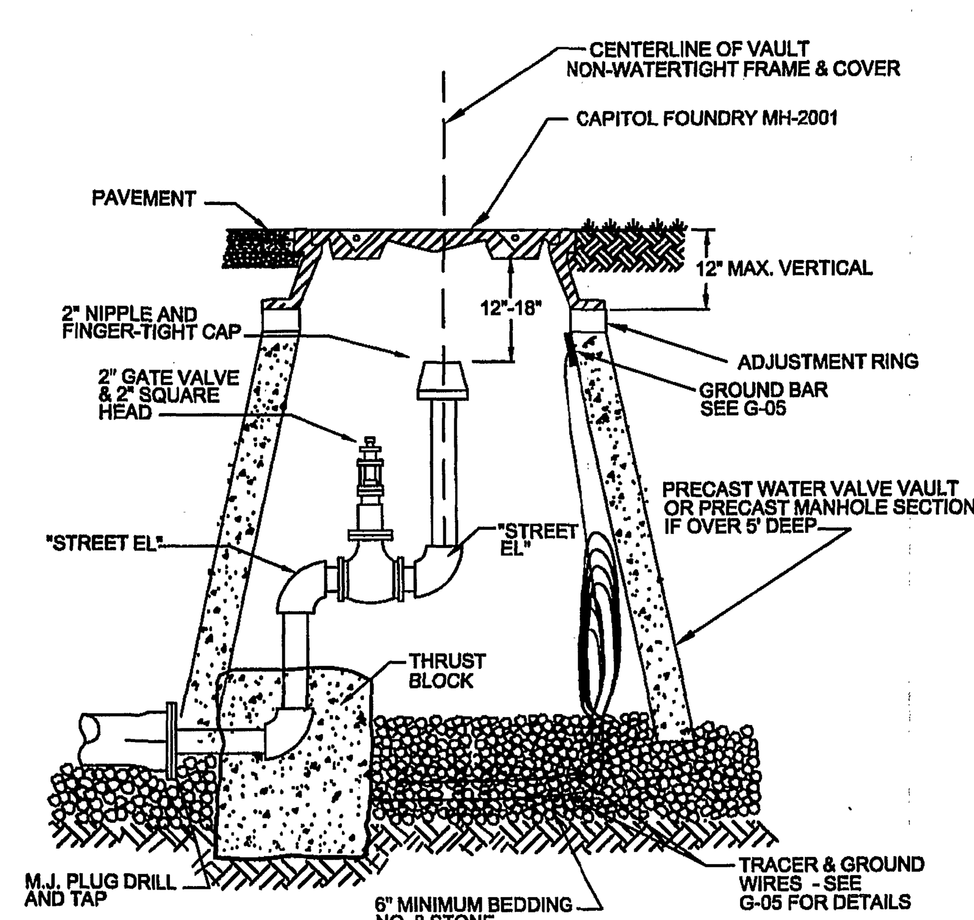
UTILITY BEDDING AND PROTECTION
WATER AND SANITARY SEWER FACILITIES



CONCRETE ENCASEMENT — CONCRETE CRADLE — CONCRETE CAP

NOTES:
1. WHERE THE TRENCH BOTTOM IS IN ROCK, IT SHALL BE EXCAVATED TO A MINIMUM OF 8" BELOW THE BOTTOM OF THE PIPE AND BACKFIELD WITH BEDDING MATERIAL.
2. WHERE PIPE FOUNDATIONS ARE YIELDING, PIPE SHALL BE BEDDED ON A MINIMUM OF 8" BEDDING MATERIAL.

* FOR PIPE LESS THAN 12" THE TRENCH WIDTH MAY BE 36" MAXIMUM.

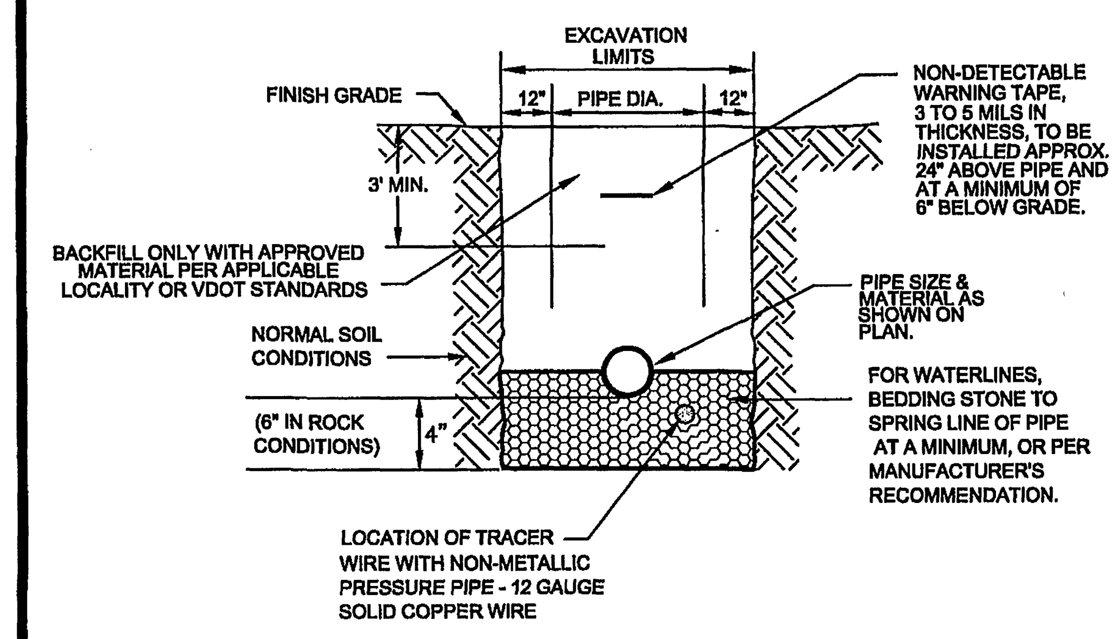


1. FIRE HYDRANT ASSMEBLIES MAY BE USED AS PERMANENT END OF LINES.
2. DETAIL FOR UP TO 8" MAINS, LARGER LINES SEE SEC. 102.08 FOR MIN. FLUSHING VALVE REQUIREMENTS.
3. THE END OF A PIPELINE SHALL NOT TERMINATE IN A PAVED AREA OR UNDER A CONCRETE VALLEY GUTTER.
4. THE LINE AND "STREET ELS" BETWEEN THE MAIN LINE AND 2" GATE VALVE SHALL BE BRASS

WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS

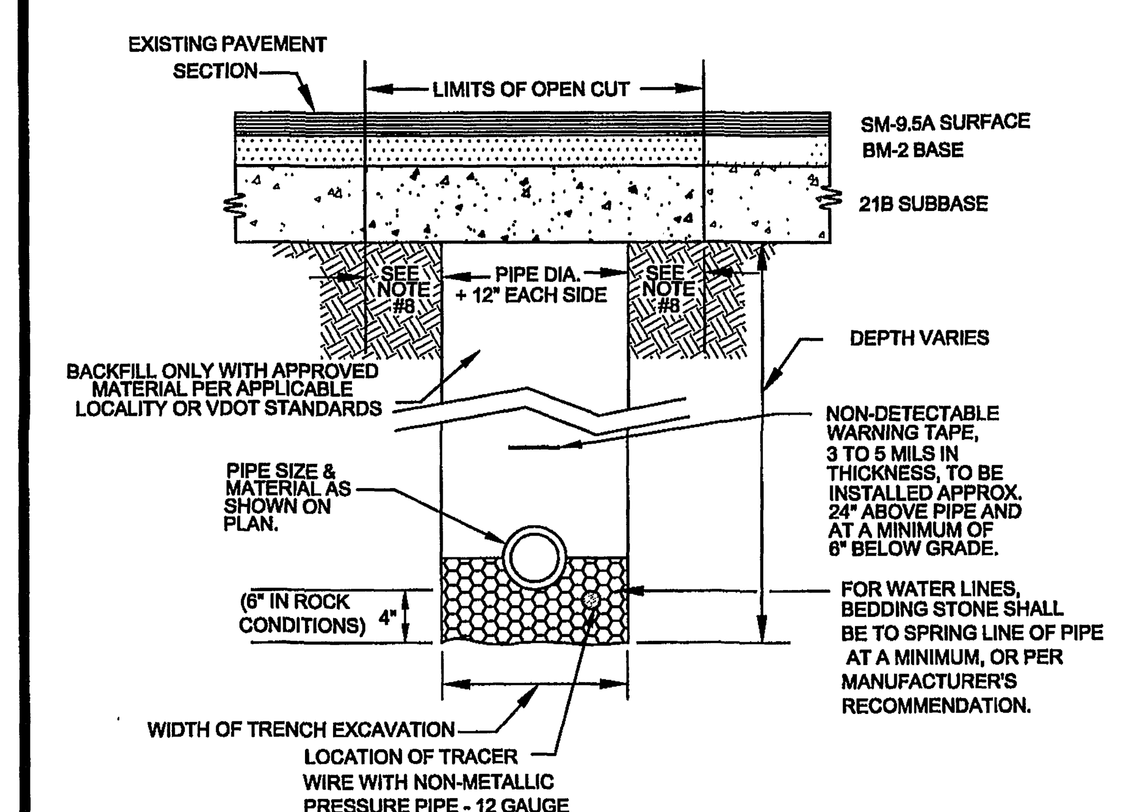
REVISION DATE				
07/01/04			PERMANENT END OF LINE	W-09
03/01/06				

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 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 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. 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				

COMMONWEALTH OF VIRGINIA
RANDALL M. HANCOCK
No. 014541
3/6/09
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DETAIL SHEET
DEYERLE AREA PHASE 2 WATERLINE REPLACEMENT
WESTERN VIRGINIA WATER AUTHORITY
CITY OF ROANOKE, VIRGINIA

REVISIONS
MARCH 2, 2009
PER WVWA COMMENTS

DESIGNED BY: RMH
DRAWN BY: DLD
CHECKED BY: RMH
SCALE: NONE
DATE: 10-24-07
PROJECT NUMBER: B04202-08

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