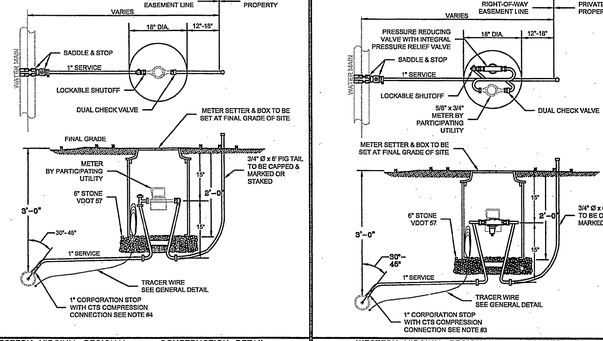
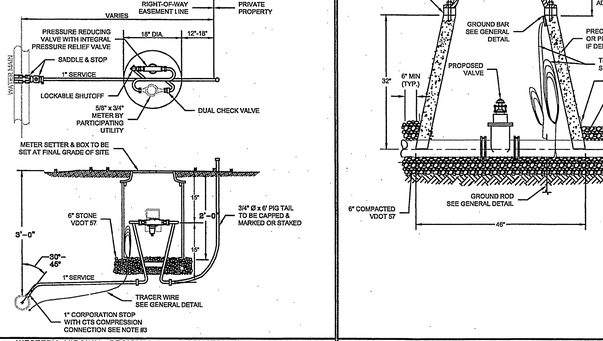
1. SETTER TO BE A.Y. McDONALD 22-216W0033, FORD V3HH72-15W-11-33 OR APPROVED EQUAL.
2. SADDLES MUST BE USED WITH ALL PLASTIC & DUCTILE IRON PIPE. SERVICE SADDLES SHALL BE USED IN ACCORDANCE WITH WATER DISTRIBUTION PIPING SPECIFICATION. SERVICE SADDLES FOR PLASTIC PIPE SHALL BE: POWERSEAL 3417, OR 3412AS, ROMAC 202S, OR 306, OR FORD METER FS92 OR FS93. FOR DUCTILE IRON PIPE USE THO ABOVE OR POWERSEAL 3413, ROMAC 202 OR FORD METER F202.
3. METER BOX SHALL BE CARSONMID-STATES PLASTICS, INC. PLASTIC BOX WITH FORD A23-7 (ELECTRONIC READ LID), ADS CORRUGATED HDPE BOX WITH FORD A32-7 (ELECTRONIC READ LID), OR A.Y. McDONALD MODEL 74M23AT CAST IRON BASE & COVER OR APPROVED EQUAL. METER BOX SHALL NOT BE PLACED IN AREAS SUBJECT TO VEHICULAR TRAFFIC. IF TRAFFIC BEARING BOX IS REQUIRED, DESIGN ENGINEER SHALL CONSULT WITH PARTICIPATING UTILITY TO DETERMINE SITE SPECIFIC REQUIREMENTS.
4. CORPORATION STOP SHALL BE FORD F1003-4-G OR APPROVED EQUAL.
5. SERVICE SHALL BE "K" TYPE COPPER, OR COPPER TUBE SIZE POLYETHYLENE (PE) 4710, SCDR-9 (200 psi).
6. WHENEVER SIDEWALK EXISTS OR IS PROPOSED, MODIFY METER LOCATION AS DIRECTED.



WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

SINGLE RESIDENTIAL
WATER SERVICE – (NEW DEVELOPMENT)
(LINE PRESSURE UNDER 120 PSI) — 01/01/14 — W-1

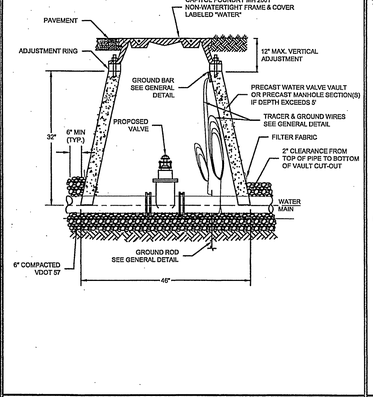
1. TANDEM SETTERS TO BE A.Y. McDONALD 50-215WDD033, FORD TVBH972-15W-11-33 OR APPROVED EQUAL.
2. SADDLES MUST BE USED WITH ALL PLASTIC & DUCTILE IRON PIPE. SERVICE SADDLES SHALL BE USED IN ACCORDANCE WITH WATER DISTRIBUTION PIPING SPECIFICATION. SERVICE SADDLES FOR PLASTIC PIPE SHALL BE: POWERSEAL 3417, OR 3412AS, ROMAC 202S, OR 306, OR FORD METER FS92 OR FS93. FOR DUCTILE IRON PIPE USE THO ABOVE OR POWERSEAL 3413, ROMAC 202 OR FORD METER F202.
3. CORPORATION STOP SHALL BE FORD F1004-4-G OR APPROVED EQUAL.
4. METER BOX SHALL BE CARSONMID-STATES PLASTICS, INC. PLASTIC BOX WITH FORD A32-7 (ELECTRONIC READ LID), ADS CORRUGATED HDPE BOX WITH FORD A23-7 (ELECTRONIC READ LID), OR A.Y. McDONALD MODEL 74M23AT CAST IRON BASE & COVER OR APPROVED EQUAL.
5. SERVICE SHALL BE "K" TYPE COPPER, OR COPPER TUBE SIZE POLYETHYLENE (PE) 4710, SCDR-9 (200 psi).
6. PRESSURE REDUCING VALVE WITH INTEGRAL PRESSURE RELIEF VALVE SHALL BE WILKINS NR3XLEC OR APPROVED EQUAL. TO BE SUPPLIED AND INSTALLED BY CONTRACTOR UPSTREAM OF METER.
7. THIS CONFIGURATION IS REQUIRED WHEN THE WATER PRESSURE AT THE WATER MAIN EXCEEDS 120 PSI.
8. WHENEVER SIDEWALK EXISTS OR IS PROPOSED, MODIFY METER LOCATION AS DIRECTED.



WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

SINGLE RESIDENTIAL
WATER SERVICE FOR HIGH PRESSURE
(LINE PRESSURE OVER 120 PSI) — 01/01/14 — W-3

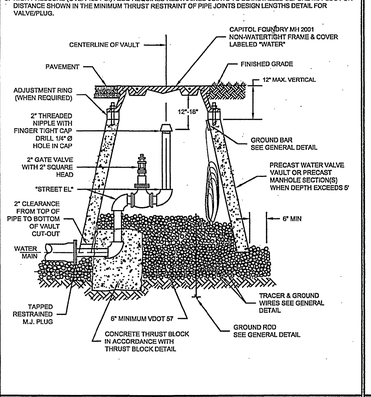
1. FILTER FABRIC TO BE INSTALLED BETWEEN BOTTOM OF PIPE AND STONE BEDDING. FABRIC TO EXTEND VERTICALLY A MINIMUM OF 6" FROM BOTTOM OF VAULT (FULL CIRCUMFERENCE).



WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

WATER LINE VALVE
& VAULT — 01/01/14 — W-9

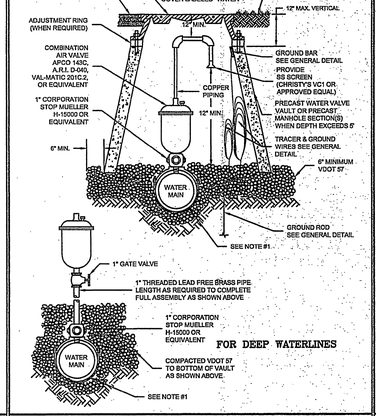
1. WHEN APPROVED BY PARTICIPATING UTILITY, FIRE HYDRANT ASSEMBLIES MAY BE USED AS PERMANENT END OF LINES.
2. DETAIL FOR UP TO 8" MAINS, LARGER LINES SEE WATER SYSTEM DESIGN STANDARDS FOR MIN. FLUSHING VALVE REQUIREMENTS.
3. THE END OF A PIPELINE SHALL NOT TERMINATE IN A PAVED AREA OR UNDER A CONCRETE CURB & GUTTER.
4. THE PIPING AND "STREET ELS" BETWEEN THE MAIN LINE AND 2" GATE VALVE SHALL BE LEAD FREE BRASS OR DUCTILE IRON.
5. HIGH PRESSURE (OVER 120 PSI) ALSO REQUIRES RESTRAINED JOINTS TO BE INSTALLED BEFORE MJ PLUG FOR DISTANCE SHOWN IN THE MINIMUM THRUST RESTRAINT OF PIPE JOINTS DESIGN LENGTHS DETAIL FOR VALVE/PLUG.



WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

PERMANENT END
OF LINE BLOW-OFF ASSEMBLY — 01/01/14 — W-10

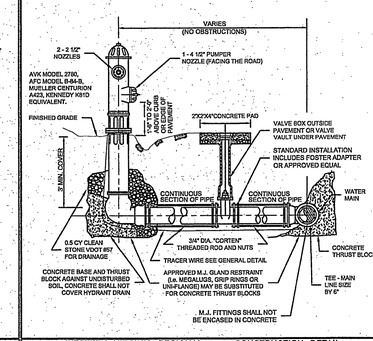
1. SEE RESIDENTIAL WATER SERVICE DETAIL FOR SADDLE REQUIREMENTS.
2. LARGER COMBINATION VALVE MAY BE REQUIRED DEPENDING ON APPLICATION.



WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

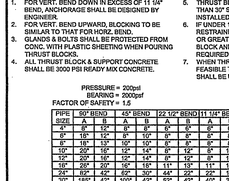
COMBINATION AIR VALVE ASSEMBLY — 01/01/14 — W-13

1. PUBLIC HYDRANTS SHALL BE PAINTED SILVER WITH AN OIL-BASED PAINT. PRIVATE HYDRANTS SHALL ALSO BE PAINTED SILVER WITH AN OIL-BASED PAINT UNLESS OTHERWISE SPECIFIED BY THE JURISDICTIONAL FIRE MARSHALL.
2. FIRE HYDRANT SHALL BE INSTALLED 2' MIN. AND 4' MAX. FROM BACK OF CURB OR 6' MIN. AND 12' MAX. FROM EDGE OF PAVEMENT 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 OR OUT OF SERVICE RINGS SHALL BE PLACED OVER ALL NEWLY INSTALLED FIRE HYDRANTS.
5. HIGH PRESSURE (OVER 120 PSI) REQUIRES THE USE OF ALL 3 RESTRAINTS.
6. IF DURING CONSTRUCTION THE SEASONAL WATER LEVELS ARE NOTED TO BE ABOVE THE DRAIN OUTLETS OF THE PROPOSED HYDRANT, THE PARTICIPATING UTILITY WILL BE NOTIFIED IMMEDIATELY SO THAT THE HYDRANT CAN BE RELOCATED TO A SUITABLE LOCATION OR THE DRAIN PLUGGED.
7. TWO WRAPS OF TRACER WIRE SHALL BE WRAPPED AROUND BASE OF HYDRANT.
8. APPROVED MODELS - AVK MODEL 2780, AFC MODEL B-54-S, MUELLER CENTURION A423, KENNEDY K810 EQUIVALENT.



WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

FIRE HYDRANT
ASSEMBLY — 01/01/14 — W-17



NOTES

1. FOR VERT. BEND DOWN IN EXCESS OF 11 1/4° BEND, ANCHORAGE SHALL BE DESIGNED BY ENGINEER.
2. FOR VERT. BEND UPWARD, BLOCKING TO BE SIMILAR TO THAT FOR HORZ. BEND.
3. GLANDS & BOLTS SHALL BE PROTECTED FROM CONC. WITH PLASTIC SHEETING WHEN POURING THRUST BLOCKS.
4. ALL THRUST BLOCK & SUPPORT CONCRETE SHALL BE 3000 PSI READY MIX CONCRETE.
5. THRUST BLOCKS WITH "D" DIMENSION GREATER THAN 30" SHALL HAVE THE RESTRAINED PIPE INSTALLED WITH A MINIMUM OF 4' OF COVER.
6. IF UNDER 100 PSI WORKING PRESSURE, RESTRAINED JOINTS MUST BE USED. IF EQUAL OR GREATER THAN 100 PSI, BOTH THRUST BLOCK AND RESTRAINED JOINTS ARE REQUIRED.
7. WHEN THRUST BLOCK IS REQUIRED BUT NOT FEASIBLE TO CONSTRUCT, THRUST COLLAR SHALL BE USED. SEE THRUST COLLAR DETAIL.

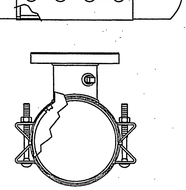
PRESSURE = 200psi
BEARING = 2000psf
FACTOR OF SAFETY = 1.5

PIPE SIZE	90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND		TEE		PLUG	
	A	B	A	B	A	B	A	B	A	B	C	D
4"	8"	12"	8"	8"	8"	8"	8"	8"	11"	10"	10"	8"
6"	18"	12"	8"	10"	8"	8"	8"	8"	11"	10"	12"	18"
8"	18"	13"	10"	10"	8"	8"	8"	8"	11"	12"	12"	24"
10"	20"	16"	12"	12"	8"	12"	8"	12"	14"	16"	16"	30"
12"	20"	16"	12"	14"	8"	12"	8"	12"	14"	16"	16"	30"
16"	20"	20"	12"	18"	11"	13"	11"	16"	20"	20"	20"	36"
24"	60"	42"	60"	30"	44"	22"	22"	18"	60"	42"	22"	42"
30"	180"	42"	100"	42"	52"	42"	42"	30"	180"	42"	180"	42"

WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

THRUST BLOCK
REQUIREMENTS — 01/01/14 — W-18

1. TAPPING SLEEVE SHALL BE POWERSEAL MODEL 3490 TYPE 304 STAINLESS STEEL WITH CARBON STEEL FLANGE, ROMAC'S MODEL SST III, FORD MODEL FTSS WITH CARBON STEEL FLANGE OR APPROVED EQUIVALENT. SLEEVE SHALL BE RATED AT 150 PSI OVER WORKING PRESSURE AND MUST HAVE A TEST PLUG.
2. TAPPING VALVE SHALL BE AVK RESILIENT SEATED GATE VALVE SERIES 25 M.FL. MUELLER T-2360 RESILIENT WEDGE TAPPING VALVE WITH M.FL. OR AFC SERIES 2500 RESILIENT WEDGE TAPPING VALVE WITH M.J. VALVE SHALL BE RATED AT 250 PSI.
3. TAPPING SLEEVE AND VALVE SHALL BE FULL PORT TO ACCEPT FULL SIZE SHELL CUTTER.
4. STEEL FLANGE SHALL MEET AWWA C207.
5. SIZE-ON-SIZE TAPPING NOT ALLOWED UNLESS APPROVED BY PARTICIPATING UTILITY.



WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

TAPPING SLEEVE
AND VALVE — 01/01/14 — W-21

INSTALLATION OF DUCTILE IRON WATER MAINS
TABLE 4 AWWA C600-05
Maximum Joint Deflection Full Length of Pipe - Push on Type Joint

Nominal Pipe Size (inches)	Deflection Angle - θ (degree)	Maximum Offset - δ* (inches) Joint Length 18-Feet	Joint Length 20-Feet	Approximate Radius of Curve - R* Produced by Succession of Joints Joint Length 18-Feet	Joint Length 20-Feet
3	5°	19	21	205	230
4	5°	19	21	205	230
6	5°	19	21	205	230
8	5°	19	21	205	230
10	5°	19	21	205	230
12	5°	19	21	205	230
14	3°	11	12	340	380
16	3°	11	12	340	380
18	3°	11	12	340	380
20	3°	11	12	340	380
24	3°	11	12	340	380
30	3°	11	12	340	380

* SEE FIGURE 4.
For 14-inch and larger push-on joints, maximum deflection angle may be larger than shown above. Consult the manufacturer.

INSTALLATION OF DUCTILE IRON WATER MAINS
TABLE 4 AWWA C600-05
Maximum Joint Deflection Full Length of Pipe - Mechanical Joint Pipe

Nominal Pipe Size (inches)	Deflection Angle - θ (degree)	Maximum Offset - δ* (inches) Joint Length 18-Feet	Joint Length 20-Feet	Approximate Radius of Curve - R* Produced by Succession of Joints Joint Length 18-Feet	Joint Length 20-Feet
3	8°-18'	31	35	125	140
4	8°-18'	31	35	125	140
6	7°-09'	27	30	145	160
8	5°-21'	20	22	195	220
10	5°-21'	20	22	195	220
12	5°-21'	20	22	195	220
14	3°-35'	13.5	15	285	320
16	3°-35'	13.5	15	285	320
18	3°-00'	11	12	340	380
20	3°-00'	11	12	340	380
24	2°-23'	9	10	450	500

* SEE FIGURE 4.

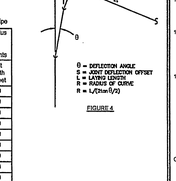
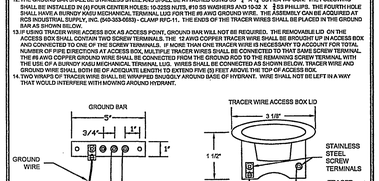


FIGURE 4

WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

DUCTILE IRON PIPE
DEFLECTION ALLOWANCE TABLES — 01/01/14 — W-22

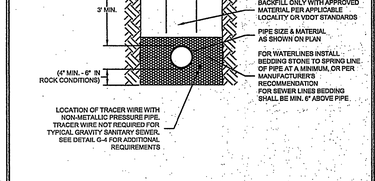
1. TRACER WIRES SHALL BE INSTALLED USING MANHOLES, TRACER WIRE ACCESS BOXES, VALVE BOXES OR VAULTS, WATER METERS AND FIRE HYDRANTS AS ACCESS POINTS.
2. FOR WATER AND SEWER INSTALLED BY OPEN TRENCHING, HORIZONTAL DIRECTIONAL DRILLING, OR PIPE BURSTING, TRACER WIRE SHALL BE INSTALLED TRACK-SIDE WITH NON-METALLIC PRESSURE TRACER WIRE OR APPROVED EQUAL. TRACER WIRE SHALL BE A 10 AWG SOLID COPPER CONDUCTOR WITH POLYETHYLENE INSULATION SURROUNDED BY A CORE MATERIAL COMPRISED OF HIGH-STRENGTH, WOVEN POLYESTER FIBER WITH WATER BLOCKING YARNS ENCAPSULATED IN AN ABRASION RESISTANT (GREEN OR BLUE) 30 MIL HDPE JACKET. TRACER WIRE SHALL HAVE A MINIMUM TENSILE STRENGTH OF 1,850 LBS, AND SHALL NOT CONDUCT AN ELECTRICAL CURRENT IF STRUCK BY LIGHTNING. SPLICES SHALL ONLY BE MADE WITH CRIMP-STYLE, FILLED CONNECTORS DESIGNED FOR WIRE WITH A WOVEN POLYESTER FIBER CORE SUCH AS NEPTCO TRACE-SAFE WATER BLOCKING CONNECTORS OR APPROVED EQUAL. SPLICES SHALL BE MADE IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS.
3. SPLICES AT THE ENDS OF TRACER WIRE, INTERMITTENT OF ACCESS POINTS, SHALL BE MADE USING NEPTCO TS-10-N, WATER BLOCKING BUTT SPLICE CONNECTORS OR APPROVED EQUAL.
4. AT ACCESS POINTS, TRACER WIRE SHALL BE SPLICED USING NEPTCO TS-10-14-N, WATER BLOCKING BUTT SPLICE CONNECTORS OR APPROVED EQUAL. A MINIMUM OF 30 MIL HDPE JACKET SHALL BE CONNECTED IN THE 12 AWG OPENING OF THE BUTT SPLICE CONNECTOR, EXTENDED UP INTO THE ACCESS POINT STRUCTURE, AND ATTACHED TO THE GROUND BAR PER NOTE #12 OR LID TERMINALS PER NOTE #13. AT ALL ACCESS POINTS, EACH DIRECTION OF PIPE SHALL HAVE AN INDEPENDENT TRACER WIRE FIXED EXTENDED TO GROUND BAR OR LID TERMINALS TO ALLOW FOR CONTINUOUS TRACING AND CURRENT GROUND LOCATING. THE 12 AWG COPPER TRACER WIRE SHALL BE OF ADEQUATE LENGTH TO EXTEND FIVE (5) FEET ABOVE THE TOP OF STRUCTURE.
5. WHERE HDPE PIPE IS INSTALLED WITHOUT STEEL CASING PIPE, SUCH AS A DIRECTIONALLY DRILLED CROSSINGS, AND CONNECTED TO DUCTILE IRON PIPE ON EACH END, TRACER WIRE SHALL BE INSTALLED ALONG FULL LENGTH OF PIPE WITH AN ACCESS POINT INSTALLED AT EACH HDPE/DUCTILE IRON TRANSITION. TRACER WIRE SHALL BE CONNECTED TO THE ACCESS POINT IN ACCORDANCE WITH THIS DETAIL.
6. AS-BUILTS SHALL SHOW TRACER WIRE(S) LOCATION AND ACCESS POINT(S).
7. 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.
8. WHERE LINES ARE GREATER THAN SIX (6) FEET IN DEPTH, WIRE SHALL BE BROUGHT TO THE SURFACE EVERY FIVE HUNDRED (500) FEET AND PLACED IN A WATER METER BOX OR A DRAINAGE & WATER SOLUTIONS, INC. (OR APPROVED EQUAL) ALL CAST IRON TRACER WIRE ACCESS BOX.
9. THE TRACER WILL BE TESTED BY THE PARTICIPATING UTILITY AS PART OF THE PROJECT'S FINAL ACCEPTANCE.
10. THE GROUND WIRE SHALL BE #6 AWG COPPER TRACER WIRE AND SHALL BE OF ADEQUATE LENGTH TO EXTEND A MINIMUM OF (5) FIVE FEET BEYOND THE TOP OF THE STRUCTURE. THE END OF THE GROUND WIRED SHALL CONNECT TO THE GROUND BAR OR LID TERMINAL USING A BURNDY KAQU MECHANICAL TERMINAL LUG.
11. A GROUND ROD SHALL BE INSTALLED AT EACH LOCATION WHERE GROUND WIRE SURFACES AND CONNECTS TO GROUND BAR OR LID TERMINAL. GROUND ROD SHALL BE COPPER CLAD STEEL, BE COPPER CLAD WITH A MINIMUM DIAMETER OF 5/8" AND BE A MINIMUM OF FOUR (4) FEET INTO THE GROUND.
12. THE GROUND BAR SHALL BE STAINLESS STEEL AND SHALL BE ATTACHED USING SS 2" X 1/2"-BS HEX TAPCON. THE FOLLOWING SHALL BE INSTALLED IN (4) FOUR CENTER HOLES: 10-32SS NUTS, #10 SS WASHERS AND 10-32 X 3/4 SS PHILLIPS. THE FOURTH HOLE SHALL HAVE A BURNDY KA6U MECHANICAL TERMINAL LUG FOR THE #6 AWG GROUND WIRE. THE ASSEMBLY CAN BE ADQUIRED AT RCS INDUSTRIAL SUPPLY, INC. (540-333-0553) - CLAMP WG-11. THE ENDS OF THE TRACER WIRES SHALL BE PLACED IN THE GROUND BAR AS SHOWN BELOW.
13. IF USING TRACER WIRE ACCESS BOX AS ACCESS POINT, GROUND BAR WILL NOT BE REQUIRED. THE REMOVABLE LID ON THE ACCESS BOX SHALL CONTAIN TWO SCREW TERMINALS. THE 12 AWG COPPER TRACER WIRE SHALL BE BROUGHT UP IN ACCESS BOX AND CONNECTED TO ONE OF THE SCREW TERMINALS. IF MORE THAN ONE TRACER WIRE IS NECESSARY TO ACCOUNT FOR TOTAL NUMBER OF PIPE DIRECTIONS AT ACCESS BOX, MULTIPLE TRACER WIRES SHALL BE CONNECTED TO THAT SAME SCREW TERMINAL. THE #6 AWG COPPER GROUND WIRE SHALL BE CONNECTED FROM THE GROUND ROD TO THE REMAINING SCREW TERMINAL WITH THE USE OF A BURNDY KA6U MECHANICAL TERMINAL LUG. WIRES SHALL BE CONNECTED AS SHOWN BELOW. TRACER WIRE AND GROUND WIRE SHALL BOTH BE OF ADEQUATE LENGTH TO EXTEND FIVE (5) FEET ABOVE THE TOP OF ACCESS BOX.
14. TWO WRAPS OF TRACER WIRE SHALL BE WRAPPED SNUGGLY AROUND BASE OF HYDRANT. WIRE SHALL NOT BE LEFT IN A WAY THAT WOULD INTERFERE WITH MOWING AROUND HYDRANT.



WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

TRACER WIRE
FOR NON-METALLIC
PRESSURE PIPE — 01/01/14 — G-4

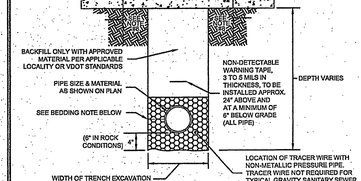
1. BEDDING, HAUNCHING AND INITIAL BACKFILL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THIS DETAIL AND MANUFACTURERS RECOMMENDATION.
2. ALL PVC PIPE SHALL BE BEDDED IN COMPACTED VDOT #57 OR #58 STONE, OR CRUSHER RUN.
3. IN AREAS SUBJECTED TO VEHICULAR TRAFFIC, BEDDING STONE AND FILL SHALL BE PLACED IN 6" LIFTS FROM BOTTOM OF TRENCH TO 1' ABOVE THE PIPE AND THE REMAINING SHALL BE PLACED IN 12" 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 MANUFACTURERS BEDDING CRITERIA.
5. ALL EXCAVATIONS SHALL COMPLY WITH OSHA TECHNICAL MANUAL, CHAPTER 2, TITLED "EXCAVATIONS: HAZARD RECOGNITION IN TRENCHING AND SHORING."
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.



WESTERN VIRGINIA REGIONAL – CONSTRUCTION DETAIL

BEDDING AND BACKFILL
OUTSIDE OF PAVED AREAS — 01/01/14 — G-11

1. BEDDING, HAUNCHING AND INITIAL BACKFILL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THIS DETAIL AND MANUFACTURERS RECOMMENDATION.
2. ALL PVC PIPE SHALL BE BEDDED IN COMPACTED VDOT #57 OR #58 STONE.
3. IN VDOT ROW, THE CONTRACTOR SHALL REPLACE THE PAVEMENT AS REQUIRED AND SPECIFIED BY VDOT. IN ROANOKE CITY, CONTRACTOR SHALL REPLACE PAVEMENT AS REQUIRED BY CITY OF ROANOKE RIGHT OF WAY EXCAVATION AND RESTORATION STANDARDS, LATEST EDITION.
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 IRON WATER LINE ARE DEPENDENT ON MANUFACTURERS BEDDING CRITERIA.
8. BENCH CUT ON EACH SIDE OF PAVEMENT SHALL BE IN ACCORDANCE WITH VDOT OR APPLICABLE LOCALITY'S SPECIFICATIONS.
9. ALL EXCAVATIONS SHALL COMPLY WITH OSHA TECHNICAL MANUAL, CHAPTER 2, TITLED "EXCAVATIONS: HAZARD RECOGNITION IN TRENCHING AND SHORING."
10. 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.


EXISTING PAVEMENT SECTION
LIMITS OF OPEN CUT
SURFACE MIX ASPHALT
BASE MIX ASPHALT
SUBBASE
BACKFILL ONLY WITH APPROVED MATERIAL PER APPLICABLE LOCALITY OR VDOT STANDARDS
PIPE SIZE & MATERIAL AS SHOWN ON PLAN
SEE BEDDING NOTE BELOW
(6" IN ROCK CONDITIONS)
4"
NON-DETECTABLE WARNING TAPE, 3 TO 5 MILS IN THICKNESS, TO BE INSTALLED APPROX. 24" ABOVE AND AT A MINIMUM OF 6" BELOW GRADE (ALL PIPE)
DEPTH VARIES
WIDTH OF TRENCH EXCAVATION PIPE DIA. + 6" EACH SIDE (M