

UTILITY ADJUSTMENT QUANTITIES & NOTES

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

REVISED	FHWA REGION	STATE	FEDERAL AID PROJECT	ROUTE	STATE PROJECT	SHEET NO.
	3	VA.			U000-128-V18,PE-101 U000-128-V18,RW-201 U000-128-V18,C-501 U000-128-V18,B-611	9(1)

SUMMARY OF WATER FACILITIES

SHEET NO.	1" WATER SERVICE LINE	2" WATER SERVICE LINE	4" D.I. WATER MAIN	6" D.I. WATER MAIN	8" D.I. WATER MAIN	10" D.I. WATER MAIN	12" D.I. WATER MAIN	6" GATE VALVE & BOX	10" GATE VALVE & BOX	12" GATE VALVE & BOX	ADJUST EXIST. VALVE BOX	8" X 8" TAPPING SLEEVE VALVE & BOX	10" X 10" TAPPING SLEEVE VALVE & BOX	12" X 12" TAPPING SLEEVE VALVE & BOX	16" X 12" TAPPING SLEEVE VALVE & BOX	FIRE HYDRANT	ADJUST EXIST. WATER MANHOLE FRAME & COVER	1" AIR RELEASE VALVE & BOX	RELOC. EXIST. WATER METER & BOX	ADJUST EXIST. WATER METER BOX	WATER METER MANHOLE	RECONSTRUCT EXIST. WATER MANHOLE
	L.F. 1	L.F. 1	L.F. 2	L.F. 2	L.F. 2	L.F. 2	L.F. 2	EA. 3	EA. 3	EA. 3	EA. 4	EA. 5	EA. 5	EA. 5	EA. 5	EA. 6	EA. 7	EA. 8	EA. 9	EA. 10	EA. 11	EA. 12
9(2)	11			77	55		209	2						1		2	4		1			5
9(3)	9	55		6		25	335	1	1							1			1		1	4
9(4)	30		55	79	17	78	550	2				1	1			1	5	1	1			1
9(5)	13			39			360			1	1				1	2	3		2	2		2
TOTAL	63	55	55	201	72	103	1454	5	1	1	1	1	1	1	1	6	12	1	5	2	1	12

SUMMARY OF SANITARY SEWER FACILITIES

SHEET NO.	6" D.I. SANITARY SEWER PIPE	8" D.I. SANITARY SEWER PIPE	16" D.I. SANITARY SEWER PIPE	18" D.I. SANITARY SEWER PIPE	12" SANITARY DROP CONNECTION	SANITARY SEWER MANHOLE	MANHOLE FRAME & COVER F&C-1	ADJUST EXIST. FRAME & COVER	RECONSTRUCT EXISTING SANITARY MANHOLE
	L.F. 13	L.F. 13	L.F. 13	L.F. 13	L.F. 14	L.F. 15	EA. 16	EA. 17	L.F. 18
9(2)	16					8	1	4	6
9(3)								2	3
9(4)		140	87	113	5	67	9	4	
9(5)								2	6
TOTAL	16	140	87	113	5	75	10	12	15

WATER ITEMS

- WATER SERVICE LINES SHALL BE TYPE "K" COPPER.
- WATER MAIN FITTINGS SHALL BE DUCTILE IRON FITTINGS IN ACCORDANCE WITH AWWA C151 WITH A MINIMUM PRESSURE RATING OF 200 PSI. WATER MAIN TEST PRESSURE SHALL BE 150 PSI. BEDDING SHALL BE VDOT STANDARD UB-1, TYPE I. ALL SIZES OF DUCTILE IRON WATER MAIN SHALL BE PRESSURE CLASS 350. PIPE SHALL BE CEMENT-MORTAR LINED, SEAL COATED, AND MECHANICAL JOINT OR PUSH-ON JOINT. ALL BENDS, VALVES, SLEEVES, REDUCERS, TEES, PIPE, AND FITTINGS SHALL BE ANCHORED WITH REACTION BACKING IN ACCORDANCE WITH VDOT STANDARD RB-1 OR SHALL BE FULLY RESTRAINED WITH A MECHANICAL JOINT RESTRAINING MECHANISM WHICH, WHEN ACTUATED, IMPARTS MULTIPLE WEDGING ACTION AGAINST THE PIPE. MECHANICAL JOINT RESTRAINING MECHANISMS SHALL BE USED AT THE TIE-INS TO THE EXISTING WATER MAINS TO PROVIDE A MINIMAL AMOUNT OF DOWNTIME FOR THE WATER MAIN. MECHANICAL JOINT PIPE SHALL BE USED WITH MECHANICAL JOINT RESTRAINING MECHANISMS. SEE SHEET (10) FOR LENGTHS OF PIPE (EXISTING AND PROPOSED) TO BE RESTRAINED.
- GATE VALVES SHALL BE IN ACCORDANCE WITH SPECIFICATION AWWA C509. GATE VALVES SHALL BE RESILIENT SEAT WITH MECHANICAL JOINT ENDS AND SHALL OPEN LEFT (COUNTER CLOCKWISE) WITH A 2" OPERATING NUT AND SHALL HAVE A NONRISING STEM, DOUBLE O-RING SEAL AND A WORKING PRESSURE OF AT LEAST 200 PSI. VALVE BOXES SHALL BE IN ACCORDANCE DETAIL ON SHEET (10). GATE VALVES SHALL BE MANUFACTURED BY MUELLER OR AMERICAN DARLING.
- ADJUST EXIST. VALVE BOX SHALL BE IN ACCORDANCE WITH VDOT STANDARD VB-1.
- TAPPING SLEEVE SHALL BE MECHANICAL JOINT, FURNISHED COMPLETE WITH PLAIN RUBBER GASKETS, MECHANICAL JOINT ACCESSORIES, AND DUCKBACK GASKETS. CONNECTING FLANGE BETWEEN SLEEVE AND VALVE SHALL CONFORM TO MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVES AND FITTINGS INDUSTRY STANDARD SP80. TAPPING SLEEVES SHALL BE ALL STAINLESS, JCM MODEL 432 OR EQUIVALENT AS APPROVED BY AWWA. TAPPING VALVES SHALL MEET THE SAME SPECIFICATIONS AS GATE VALVES, EXCEPT THEY SHALL HAVE A FULL UNOBSTRUCTED OPENING TO RECEIVE A FULL SIZE SHELL CUTTER. TAPPING VALVES SHALL OPEN BY TURNING TO THE RIGHT. TAPPING VALVES SHALL BE MANUFACTURED BY MUELLER OR AMERICAN DARLING.
- FIRE HYDRANT SHALL HAVE FULL 360 DEGREE REVOLVING HEAD AND BE OF THE SAFETY FLANGE, BREAKAWAY TOP TYPE, AND BE IN ACCORDANCE WITH AWWA C502. FIRE HYDRANT SHALL HAVE A BARREL DIAMETER NO SMALLER THAN 6", A HYDRANT VALVE DIAMETER NO SMALLER THAN 5 1/4", AND SHALL BE EQUIPPED WITH TWO 2 1/2" HOSE NOZZLES, AND ONE 4" PUMPER NOZZLE. THREADS SHALL BE NATIONAL STANDARD THREADS. THE DIRECTION OF OPENING SHALL BE CAST ON THE HEAD OF THE HYDRANT AND SHALL BE COUNTER-CLOCKWISE. HYDRANT SHALL BE PAINTED WITH ONE COAT OF PRIMER AND TWO COATS OF RED PAINT. HYDRANT SHALL BE MUELLER, AMERICAN DARLING OR KENNEDY A MINIMUM THREE FEET BURY DEPTH. FIRE HYDRANT SHALL BE IN ACCORDANCE WITH VDOT STANDARD FH-1, TYPE 1.

MATERIAL NOTES

- ALL ADJUSTMENT OF EXISTING WATER MANHOLE FRAMES AND COVERS SHALL INCLUDE REPLACEMENT OF EXISTING FRAMES & COVERS WITH NEW FRAMES AND COVERS. WATER MANHOLE FRAME & COVER SHALL BE IN ACCORDANCE WITH VDOT STANDARD F&C-1.
- 1" AIR RELEASE VALVE SHALL BE IN ACCORDANCE WITH VDOT STANDARD ARV-1, TYPE B.
- RELOCATION OF EXISTING WATER METER & BOXES SHALL BE IN ACCORDANCE WITH VDOT STANDARD WM-1.
- ADJUSTMENT OF EXISTING WATER METER BOXES SHALL BE IN ACCORDANCE WITH VDOT STANDARD WM-1.
- WATER METER MANHOLE SHALL BE IN ACCORDANCE WITH DETAIL ON SHEET (10).
- RECONSTRUCT EXIST. WATER MANHOLE SHALL BE IN ACCORDANCE WITH SECTION 510 OF THE 1991 EDITION OF THE VDOT ROAD AND BRIDGE SPECIFICATIONS. ALL RECONSTRUCT EXIST. WATER MANHOLE SHALL INCLUDE REPLACEMENT OF EXISTING FRAMES & COVERS WITH NEW FRAMES & COVERS. MANHOLE FRAME & COVER SHALL BE IN ACCORDANCE WITH VDOT STANDARD F&C-1.
- SANITARY SEWER ITEMS
- DUCTILE IRON SANITARY SEWER PIPE SHALL BE PRESSURE CLASS 350 IN ACCORDANCE WITH AWWA C151. PIPE SHALL BE PUSH-ON JOINT WITH SINGLE THICKNESS CEMENT MORTAR LINING AND SINGLE THICKNESS ASPHALTIC COATING. BEDDING SHALL BE VDOT STANDARD UB-1, TYPE 2.
- SANITARY DROP CONNECTION SHALL BE IN ACCORDANCE WITH VDOT STANDARD SMH-1.
- SANITARY SEWER MANHOLE SHALL BE IN ACCORDANCE WITH VDOT STANDARD SMH-1.
- MANHOLE FRAME & COVER F&C-1. SHALL BE IN ACCORDANCE WITH VDOT STANDARD F&C-1.
- ALL ADJUSTMENT OF EXISTING FRAMES & COVERS SHALL INCLUDE REPLACEMENT OF EXISTING FRAMES & COVERS WITH NEW FRAMES & COVERS. MANHOLE FRAME & COVER SHALL BE IN ACCORDANCE WITH VDOT STANDARD F&C-1.
- RECONSTRUCT EXISTING SANITARY MANHOLE SHALL BE IN ACCORDANCE WITH SECTION 510 OF THE 1991 EDITION OF THE VDOT ROAD AND BRIDGE SPECIFICATIONS. ALL RECONSTRUCT EXIST. SANITARY MANHOLE SHALL INCLUDE REPLACEMENT OF EXISTING FRAMES & COVERS WITH NEW FRAMES & COVERS. MANHOLE FRAME & COVER SHALL BE IN ACCORDANCE WITH VDOT STANDARD F&C-1.

WATER FACILITIES COST RESPONSIBILITY

52.6% PROJECT COST  
47.4% CITY OF ROANOKE COST

SANITARY SEWER FACILITIES COST RESPONSIBILITY

100% PROJECT COST  
0.0% CITY OF ROANOKE COST

SEQUENCE OF CONSTRUCTION

THE RELOCATION AND ADJUSTMENT OF EXISTING UTILITIES, AND THE INSTALLATION OF PROPOSED UTILITIES SHALL BE PERFORMED PRIOR TO, OR CONCURRENT WITH THE ROADWAY CONSTRUCTION.

GENERAL NOTES

- THE CONTRACTOR SHALL NOT PERFORM ANY GRADING OPERATIONS OVER OR UNDER EXISTING WATER AND SANITARY SEWER FACILITIES WITHIN THE PROJECT WHICH WOULD IN ANY WAY JEOPARDIZE THEM UNTIL THE PROPOSED WATER AND SANITARY SEWER FACILITIES ARE INSTALLED AND PLACED INTO OPERATION, AND EXISTING WATER AND SANITARY SEWER FACILITIES ARE ABANDONED. ANY VARIANCE MUST BE APPROVED BY THE ENGINEER.
- THE CONTRACTOR SHALL COORDINATE THE CHANGEOVER OF WATER FACILITIES WITH THE CITY OF ROANOKE UTILITY LINE SERVICES, AND SHALL NOTIFY ED TRENT, SUPERINTENDENT FOR THE WATER AND SEWER SERVICES (TELE. 703-981-2513) FIVE DAYS PRIOR TO ANTICIPATED DATE OF CHANGEOVER. A REPRESENTATIVE OF THE CITY OF ROANOKE UTILITY LINE SERVICES SHALL BE PRESENT DURING THE OPERATION OF ALL VALVES IN CONNECTION WITH CHANGEOVER OF WATER FACILITIES.
- THE CONTRACTOR SHALL SCHEDULE HIS FIRE HYDRANT INSTALLATION FOR A MINIMAL AMOUNT OF DOWNTIME. ALL POSSIBLE TRENCHING AND ASSEMBLY REQUIRED FOR THE NEW HYDRANT SHALL BE DONE PRIOR TO TAKING THE OLD HYDRANT OFF LINE. THE CONTRACTOR SHALL INFORM THE LOCAL FIRE DEPARTMENT PRIOR TO ANY WORK ON FIRE HYDRANTS WITHIN THE PROJECT. THE CONTRACTOR SHALL NOTIFY CITY OF ROANOKE, FIRE DISPATCHERS OFFICE (TELE. 703-981-2829), WITH THE LOCATION OF HYDRANTS BEING WORKED ON AND A DOWNTIME SCHEDULE FOR EACH HYDRANT. EXISTING FIRE HYDRANTS REMOVED FROM THE SYSTEM SHALL REMAIN THE PROPERTY OF THE CITY OF ROANOKE AND SHALL BE DELIVERED, BY THE CONTRACTOR, TO THE UTILITY LINE SERVICES LOT AT 3447 HOLLINS ROAD NE BETWEEN THE HOURS OF 8:00 AM AND 3:00 PM, MONDAY THROUGH FRIDAY.
- WATER AND SANITARY SEWER LINES ARE OWNED BY THE CITY OF ROANOKE.
- THE LOCATIONS OF EXISTING WATER MAINS, WATER SERVICE LINES, SANITARY SEWER, SANITARY SEWER SERVICE LATERALS, AND UNDERGROUND TELEPHONE, POWER, GAS, AND CABLE TELEVISION LINES ARE APPROXIMATE ONLY AND SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO EXCAVATION. THE CONTRACTOR SHALL ADJUST ALL SANITARY SEWER SERVICE LATERALS AND WATER SERVICE LINES FOUND TO BE IN CONFLICT WITH PROPOSED CONSTRUCTION. QUANTITIES OF LATERAL MATERIALS AND SERVICE LINE MATERIALS SHOWN ON THE PLANS ARE ESTIMATED. ACTUAL MATERIAL NEEDED MAY VARY DEPENDING ON FIELD CONDITIONS. THE CONTRACTOR SHALL PROTECT EXISTING WATER AND SANITARY SEWER FACILITIES WHILE LAYING PROPOSED STORM SEWER IN THE VICINITY OF EXISTING WATER AND SANITARY SEWER FACILITIES.
- THE SHEET REFERENCES MADE WITHIN THESE PLANS USING PARENTHESES REFER TO THE CORRESPONDING SHEET OF THE UTILITY ADJUSTMENT PLANS. EXAMPLE:  
SHEET (2) - REFERS TO SHEET 9(2)
- ALL EXISTING WATER VALVES NOT REQUIRED IN THE COMPLETED SYSTEM SHALL BE CLOSED AND HAVE THEIR VALVE BOX REMOVED.
- WATER MAINS SHALL NOT BE OUT OF SERVICE FOR MORE THAN THREE HOURS PER DAY. ALL SHUT DOWNS ARE TO BE IN CONJUNCTION WITH WATER LINE CHANGEOVER AND SHALL BE COORDINATED WITH THE CITY OF ROANOKE UTILITY LINE SERVICES. (SEE GENERAL NOTE 2)
- EXISTING WATER LINES ARE CAST IRON.
- AIR RELEASE VALVE REQUIRED AT FIFTH ST. OFF. REV. @ STATION 17+50 TO BE DISCUSSED AT THE PRECONSTRUCTION CONFERENCE.