

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.	Hollins Road at Plantation Rd	601	0601-080-233,C-501	12(11)

SHEET NO.	WATER MAIN SUMMARY														
	WATER SERVICE LINE		DI WATER MAIN			GATE VALVE & BOX	GATE VALVE & MANHOLE		FIRE HYDRANT	20mm WATER METER & BOX	50mm WATER METER & BOX	ADJUST. EXIST. WATER MANHOLE FRAME & COVER	CONC. ENCASE.	25mm AIR RELEASE VALVE AND MANHOLE	WATER VAULT
	5	1	3	2	4	6	6	12	11	13	14				
20mm	50mm	150mm	200mm	300mm	150mm	200mm	300mm								
M	M	M	M	M	EA	EA	EA	EA	EA	EA	EA	M	EA	EA	
12(3)	1		47.3	251		1	1					20	1		
12(4)				306								4			
12(5)				302			1								
12(6)	24		10	345	1			1	1	1					
12(7)	34		30	300			1		1					1	
12(8)	24	21	13.5	300	1		1	1	1	1	1				
12(9)	6			356.5			1		1						
12(10)	26		9	10	403	1	1	2	1	2					
12(11)			10	174	1			1							
TOTAL	114	22	43	88	2738	4	2	6	4	7	1	1	24	1	1

SHEET NO.	SANITARY SEWER SUMMARY						
	SANITARY SEWER MANHOLE	MANHOLE FRAME & COVER WF&C-1	SAN SEWER PIPE	ADJUST EXIST FRAME & COVER	RECONSTRUCT EXISTING SANITARY MANHOLE	150mm SAN SERVICE LATERAL CONNEC- TION	150mm SEWER CLEANOUT
			7			7	9
			450mm			10	8
8	8						
M	EA	M	EA	M	M	EA	
12(3)							
12(4)	12. 0	5	248				
12(5)	8.6	3	313			44	2
12(6)	7.3	3	131	2			
12(7)				1			
12(8)				3	0.5		
12(9)				2			
12(10)							
12(11)							
TOTAL	28	11	692	8	1	44	2

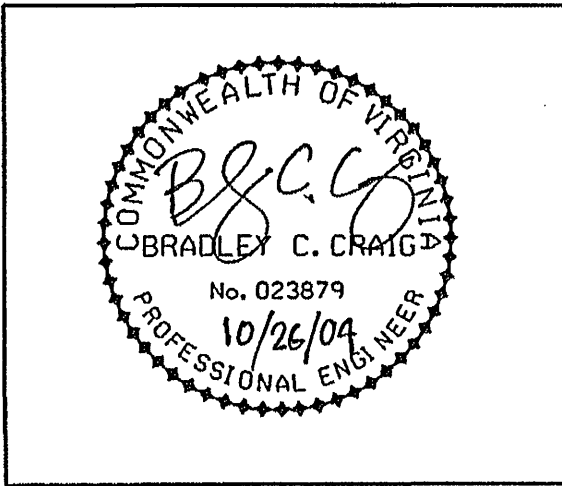
GENERAL NOTES

1. LOCATION DEPTHS AND SIZES OF EXISTING UTILITIES SHOWN ON THE UTILITY ADJUSTMENT PLANS ARE NOT GUARANTEED. THE CONTRACTOR SHALL FIELD VERIFY WITH TEST HOLES THE LOCATION, ELEVATION, TYPE, ROUNDNESS AND SIZE OF ALL EXISTING UNDERGROUND UTILITIES AND POINTS OF CONNECTION PRIOR TO EXCAVATION, ORDERING OF MATERIALS AND INSTALLATION FOR THIS PROJECT.

THE CONTRACTOR SHALL NOTE THAT THE UTILITY PLAN SHEETS ARE FOR WATER AND SEWER RELOCATION/ADJUSTMENT/BETTERMENT WORK ONLY. THE CONTRACTOR SHALL REFER TO THE ROADWAY PLANS FOR ROADWAY AND DRAINAGE DESIGN.
2. THE CONTRACTOR SHALL COORDINATE THE VALVE OPERATIONS, CHANGEOVER OR TAPPING OF WATER AND SANITARY SEWER FACILITIES WITH THE WESTERN VIRGINIA WATER AUTHORITY (WVWA) 48 HOURS PRIOR TO VALVE OPERATIONS, CHANGEOVER OR TAPPING. WVWA WILL OPERATE ALL EXISTING VALVES IN CONNECTION WITH CHANGEOVER OR TAPPING. TAPPING OF THE WATER MAINS SHALL BE PERFORMED BY THE WVWA, BUT COORDINATED AND ARRANGED FOR BY THE CONTRACTOR. CONTRACTOR SHALL GIVE WVWA AMPLE NOTICE TO ALLOW FOR THE FURNISHING OF THE TAPPING EQUIPMENT AND MATERIALS.
3. THE CONTRACTOR SHALL NOT PERFORM ANY GRADING OPERATIONS OVER EXISTING WATER AND SEWER FACILITIES WITHIN THE PROJECT WHICH WOULD IN ANY WAY JEOPARDIZE SERVICES UNTIL THE PROPOSED WATER AND SEWER FACILITIES ARE INSTALLED AND PLACED INTO OPERATION AND EXISTING WATER AND SEWER FACILITIES ARE ABANDONED. ANY DEVIATION MUST BE APPROVED BY THE ENGINEER.
4. EXISTING MAINS, HYDRANTS AND WATER SERVICES SHALL REMAIN IN SERVICE UNTIL NEW MAINS AND HYDRANTS ARE PLACED IN SERVICE AND APPROVED BY THE ENGINEER. PROPOSED FIRE HYDRANTS SHALL REMAIN COVERED BY MEANS OF SECURELY ATTACHED BURLAP BAGS UNTIL TESTED AND PLACED IN SERVICE.
5. THE CONTRACTOR SHALL NOT INSTALL WATER MAIN JOINTS BENEATH PROPOSED OR EXISTING UTILITIES OR PROPOSED VDOT STORM DRAINAGE WHEN CROSSING UNDER THESE STRUCTURES. A MINIMUM OF 2 FEET BEYOND THE OUTSIDE OF THE FOREIGN PIPE OR UTILITY SHALL BE REQUIRED WHEN PLACING JOINTS, UNLESS OTHERWISE SHOWN ON THE PLANS.
6. INSTALL VALVES WITH OPERATOR STEMS IN THE VERTICAL PLANE THROUGH THE PIPE AXIS AND PERPENDICULAR TO THE PIPE AXIS. LOCATE VALVES AS SHOWN ON DRAWINGS.

VALVE STEM EXTENSIONS SHALL BE INSTALLED WHEN THE DISTANCE FROM THE OPERATING NUT TO TOP OF VALVE MANHOLE FRAME IS GREATER THAN 1,000 MM. CONTRACTOR SHALL PROVIDE VALVE OPERATOR EXTENSIONS, AS REQUIRED, TO BRING OPERATOR TO A MINIMUM OF 300 MM OF PROPOSED GRADE, AND 1,000 MM MAXIMUM OF PROPOSED GRADE FOR NEW VALVES. THE EXTENSION SHALL REPLACE, OR BE SECURELY ATTACHED TO THE NORMAL 50 MM SQUARE OPERATING NUT, SHALL BE AT LEAST AS STRONG AS THE VALVE STEM, AND SHALL BE COATED IN ACCORDANCE WITH AWWA C550.
7. WATER MAIN PIPE SHALL BE LAID WITH BELL ENDS FACING THE DIRECTION OF LAYING. WHERE GRADE IS 10 PERCENT OR GREATER, PIPE SHALL BE LAID UPHILL WITH BELL ENDS UPGRADE.
8. CONTRACTOR TO FIELD VERIFY LOCATIONS AND DEPTH OF ALL OPERATIONAL SANITARY SERVICE LATERALS PRIOR TO CONSTRUCTION OR ADJUSTMENT OF THE UTILITY SYSTEMS. CONTRACTOR SHALL SCHEDULE SANITARY SEWER LATERAL CONNECTIONS WITH THE PROPERTY OWNER, USER, AND WVWA.
9. FOR EXISTING SERVICE TO BE REPLACED OR ABANDONED, THE CONTRACTOR SHALL SEAL AND ABANDON SANITARY SEWER LATERALS AT SANITARY SEWER MAIN AND ABANDON WATER SERVICE BY CRIMPING THE SERVICE LINE AND SHUTTING OFF THE CORPORATION STOP AT THE MAIN. CONTRACTOR SHALL NOT DISTURB WATER MAIN DURING THE TRANSFER OR ABANDONMENT OF SERVICES.
10. ALL EXISTING VALVE BOXES, AIR RELEASES, SANITARY SEWER MANHOLES AND CLEAN OUTS SHALL BE RELOCATED AND/OR ADJUSTED TO FINISH GRADE AS REQUIRED, REGARDLESS IF THEY ARE SHOWN ON THE PLANS.
11. THE CONTRACTOR, WITH HIS ASSOCIATED MATERIALS SUPPLIERS, SHALL PROVIDE CERTIFICATION ACCEPTABLE TO THE ENGINEER, THAT ALL MATERIALS SUPPLIED ON THE PROJECT MEET OR EXCEED THE SPECIFICATIONS.
12. ALL RESTRAINT SYSTEMS INSTALLED UNDER THIS CONTRACT SHALL BE PLACED BEFORE BACKFILLING OF THE TRENCH AND INSPECTED BY THE ENGINEER. TEMPORARY BUTTRESSING FOR TESTING SHALL BE PROVIDED BY THE CONTRACTOR. A JOINT RESTRAINT SYSTEM SHALL BE USED IN LIEU OF REACTION BLOCKING. THE JOINT RESTRAINTS SHALL BE A STANDARD PRODUCT OF A MANUFACTURER. THE JOINT RESTRAINTS SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN ON SHEET 12(12).
13. PRESSURE AND LEAKAGE TESTING (WATER MAINS AND ACCESSORIES) SHALL BE IN ACCORDANCE WITH AWWA C600 AND THE LATEST EDITION OF VDOT "ROAD AND BRIDGE SPECIFICATIONS".
14. FLUSHING OF WATER MAINS SHALL BE IN ACCORDANCE WITH THE VDOT ROAD AND BRIDGE SPECIFICATIONS.
15. DISINFECTION OF WATER MAINS SHALL BE IN ACCORDANCE WITH AWWA C651 - LATEST REVISION, AND THE VDOT ROAD AND BRIDGE SPECIFICATIONS.
16. TESTING OF GRAVITY SANITARY SEWER SHALL BE IN ACCORDANCE WITH VDOT ROAD AND BRIDGE SPECIFICATION SECTION 520.04.
17. THE WESTERN VIRGINIA WATER AUTHORITY DO NOT GUARANTEE A 100 PERCENT SHUTDOWN OF THEIR WATER DISTRIBUTION SYSTEMS. THE CONTRACTOR SHALL ANTICIPATE CUT AND PLUG OPERATIONS UNDER PARTIAL PRESSURE.
18. THE CONTRACTOR SHALL COMPLY WITH "MISS UTILITY" REQUIREMENTS PRIOR TO PERFORMING ANY EXCAVATION.
19. ACCESS TO ALL PUBLIC AND PRIVATE FIRE HYDRANTS IN SERVICE WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES. A MINIMUM CLEAR SPACE OF A 10 FOOT RADIUS AROUND THE HYDRANTS SHALL BE KEPT CLEAR OF ALL SOIL, STONE, MATERIALS, EQUIPMENT AND OTHER OBSTRUCTIONS. THE CONTRACTOR SHALL INFORM THE RESPECTIVE UTILITY 48 HOURS PRIOR TO ANY WORK ON EXISTING FIRE HYDRANTS WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL SCHEDULE HYDRANT INSTALLATION SO THAT NO TWO HYDRANTS IN LINE WILL BE OUT OF SERVICE AT THE SAME TIME. THE CONTRACTOR SHALL ALSO SEQUENCE EACH HYDRANT INSTALLATION FOR MINIMAL AMOUNT OF INTERRUPTED SERVICE. ALL POSSIBLE TRENCHING AND ASSEMBLY REQUIRED FOR THE NEW HYDRANT SHALL BE DONE PRIOR TO TAKING THE OLD HYDRANT OFF LINE. PRIOR TO REMOVING EXISTING HYDRANT, VERIFY RESTRAINT OF EXISTING FIRE HYDRANT, VALVE, WATER MAIN, AND PROVIDE RESTRAINT FROM THE EXISTING TEE TO THE EXISTING VALVE. RESTRAIN FROM THE EXISTING VALVE TO THE NEW HYDRANT DURING INSTALLATION. THE CONTRACTOR SHALL COORDINATE WITH THE WESTERN VIRGINIA WATER AUTHORITY FOR TESTING AND PAINTING OF NEW HYDRANTS.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SEWAGE OVERFLOWS OR SPILLAGE DURING SANITARY SEWER SYSTEM SHUTDOWN OR CONNECTIONS. ONCE GRAVITY SANITARY SEWER FACILITIES HAVE BEEN SHUTDOWN OR PUMP STATIONS PUMPED DOWN, THE CONTRACTOR SHALL PROVIDE STANDBY SEWAGE PUMPING AND HAULING OR BY-PASS PUMPING TECHNIQUES FOR THE DISPOSAL OF ALL OVERFLOWS WHICH MAY OCCUR IN THE SHUTDOWN OF THE SANITARY SEWER SYSTEM FACILITIES. THE APPROPRIATE TECHNIQUE SHALL HAVE THE CAPACITY TO HANDLE PEAK FLOWS FROM THE SEWER FACILITIES. A BACKUP PUMP SHALL BE KEPT ON SITE AND AVAILABLE FOR USE IF THE PRIMARY PUMP FAILS. THE METHOD FOR MAINTAINING SEWAGE CONVEYANCE SHALL BE APPROVED BY THE WESTERN VIRGINIA WATER AUTHORITY AND THE ENGINEER PRIOR TO SYSTEM SHUTDOWN. STAND BY SEWAGE PUMPING AND HAULING OR BY-PASS PUMPING SHALL BE CONSIDERED INCIDENTAL TO INSTALLATION OF SANITARY SEWER FACILITIES.
21. CONTRACTOR SHALL FURNISH EIGHT (8) COPIES OF ALL SHOP DRAWINGS TO THE ENGINEER PRIOR TO CONSTRUCTION AND/OR INSTALLATION OF WESTERN VIRGINIA WATER AUTHORITY FACILITIES AND RELATED ITEMS. ANY ITEMS INSTALLED PRIOR TO APPROVAL OF SHOP DRAWINGS ARE DONE AT THE CONTRACTOR'S RISK AND MAY BE SUBJECT TO REMOVAL AND CORRECT INSTALLATION AT THE CONTRACTOR'S EXPENSE.
22. THE NUMBER AND TYPE OF FITTINGS REQUIRED FOR THE COMPLETION OF WATER RELOCATION/ADJUSTMENT WORK ARE NOT GUARANTEED AND, THEREFORE, SHALL BE DETERMINED BY ACTUAL CONDITIONS ENCOUNTERED IN THE FIELD DURING CONSTRUCTION. FITTINGS 300MM IN SIZE AND LESS SHALL NOT BE MEASURED FOR SEPARATE PAYMENT. THE COST THEREOF SHALL BE INCLUDED IN THE BID PRICE FOR THE ITEM TO WHICH IT PERTAINS.
23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF NEW GUARDRAILS WITH EXISTING AND PROPOSED CROSSINGS OF UNDERGROUND UTILITIES WITH THE LIMITS OF THE ROADWAY PROJECT.
24. CONTRACTOR SHALL SALVAGE EXISTING WATER METERS, FIRE HYDRANTS, AND GATES VALVES WHERE THEY ARE TO BE ABANDONED. THE SALVAGED EQUIPMENT SHALL BE PLACED IN A DESIGNATED AREA WITHIN THE PROJECT LIMITS FOR THE UTILITY OWNER TO PICK UP.
25. CONTRACTOR SHALL MAINTAIN TWO(2) CLEAN RED - LINE MARKED UP SET OF UTILITY PLANS TO SERVE AS A SET OF RECORD DRAWINGS FOR THE PROJECT. THE DRAWINGS SHOULD CLEARLY DEPICT CONSTRUCTION CHANGES THAT DIFFER FROM THE UTILITY PLANS, INCLUDING BOTH THE PLAN AND PROFILE VIEWS OF THE PLANS. THE RECORD DRAWINGS SHALL BE DELIVERED TO THE WESTERN VIRGINIA WATER AUTHORITY UPON COMPLETION OF THE UTILITY PORTION OF THE PROJECT.
24. CONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF THE DESIGN AND CONSTRUCTION STANDARDS OF THE WESTERN VIRGINIA WATER AUTHORITY.

As-Built 12/06/2006



PLAN SHEETS 12(1) TO 12(18) HAVE BEEN DESIGN BY MATTERN & CRAIG AND THIS SEAL APPLIES TO THESE SHEETS ONLY.