



GENERAL NOTES

1. THE CONTRACTOR SHALL NOTE THAT THE UTILITY PLAN SHEETS ARE PRIMARILY FOR WATER AND SEWER RELOCATION AND ADJUSTMENT. IN ADDITION, UNDERGROUND ELECTRIC AND BROADBAND CONDUIT INSTALLATIONS ARE INCLUDED HEREIN. THE CONTRACTOR SHALL REFER TO THE ROADWAY PLANS FOR ROADWAY AND DRAINAGE DESIGN. GAS AND OTHER UTILITY INSTALLATIONS ARE BY OTHERS.

WATER AND SEWER SYSTEM REPRESENTATIVE: WESTERN VIRGINIA WATER AUTHORITY(WVWA)
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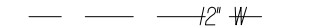






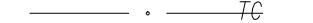


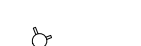

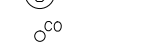









WATER MAIN, SEWERS, AND APPURTENANCES SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH WESTERN VIRGINIA WATER AUTHORITY REGIONAL DESIGN AND CONSTRUCTION STANDARDS, LATEST EDITION (WVWA STANDARDS) AND THE VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS AND STANDARDS. IN CASE OF CONFLICT, THE MORE STRINGENT REQUIREMENT SHALL APPLY. CONTRACTOR SHALL KEEP A COPY OF THE WVWA STANDARDS ON SITE AT ALL TIMES DURING UTILITY CONSTRUCTION.

2. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF, AND AT NO EXPENSE TO THE OWNER. ANY DAMAGES OR UNSCHEDULED INTERRUPTION OF WATER OR SEWER SERVICE SHALL BE REPORTED IMMEDIATELY TO WVWA.
3. THE LOCATIONS, DEPTHS AND SIZES OF EXISTING UTILITIES SHOWN ON THESE PLANS HAVE BEEN OBTAINED FROM AVAILABLE UTILITY RECORDS AND FIELD UTILITY SURVEYS AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL FIELD VERIFY, WITH TEST HOLES, THE EXACT LOCATION, ELEVATION, TYPE, ROUNDNESS AND SIZE OF ALL EXISTING UNDERGROUND UTILITIES AT POINTS OF CONNECTION AND CROSSINGS PRIOR TO ORDERING OF MATERIALS, EXCAVATION, AND INSTALLATION FOR THIS PROJECT.
4. THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 811 OR (800) 552-7001 TO REQUEST FIELD UTILITY LOCATIONS AT LEAST 72 HOURS BEFORE BEGINNING ANY EXCAVATION OR CONSTRUCTION SHOWN ON THESE PLANS.
5. CONTRACTOR SHALL DEVELOP A SCOPE AND SEQUENCE OF CONSTRUCTION IN SUCH A MANNER THAT THE WATER MAINS AND COLLECTOR SEWERS REMAIN IN SERVICE AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT A PLAN OF OPERATIONS AND PROPOSED METHODS AND TECHNIQUES FOR CONSTRUCTING THE WATER MAINS AND COLLECTOR SEWERS TO THE OWNER AND WVWA FOR APPROVAL PRIOR TO BEGINNING UTILITY CONSTRUCTION.
6. THE CONTRACTOR'S SEQUENCE OF CONSTRUCTION SHALL CONSIST OF A PRELIMINARY LIST OF DATES FOR UTILITY CONNECTIONS.
7. PRIOR TO CUTTING INTO ANY WATER MAIN, THE CONTRACTOR SHALL HAVE ALL FITTINGS, VALVES AND PIPES AT THE SITE AND SHALL VERIFY, IN THE PRESENCE OF THE WVWA INSPECTOR, THROUGH FIELD MEASUREMENTS, THAT ALL PIPING, FITTINGS AND VALVES WILL ALIGN AND FIT PROPERLY WITH THE EXISTING FACILITIES. CONNECTION TO EXISTING MAINS SHALL BE MADE ONLY AFTER THE PROPOSED MAIN IS INSTALLED, TESTED AND APPROVED BY THE WVWA. CONNECTIONS TO EXISTING MAINS SHALL ONLY OCCUR TUESDAY THROUGH THURSDAY.
8. ALL WORK SHALL BE SUBJECT TO INSPECTION BY THE WVWA. PROVIDE NOTICE AT LEAST 3 BUSINESS DAYS PRIOR TO THE START OF ANY WATER OR SEWER UTILITY WORK. FAILURE TO COMPLY OR PROPERLY NOTIFY MAY RESULT IN ADDITIONAL WORK BY THE CONTRACTOR IN ORDER TO PERMIT THE NECESSARY INSPECTION AND/OR DISCONNECTION FROM THE SYSTEM.
9. CONTRACTOR SHALL COORDINATE ALL CONNECTIONS TO THE EXISTING PUBLIC WATER FACILITIES WITH THE WVWA. A REPRESENTATIVE OF THE WVWA SHALL BE ON-SITE WHILE NEW CONNECTIONS ARE BEING MADE TO THE EXISTING PUBLIC WATER FACILITIES.
10. CONTRACTOR SHALL NOT OPERATE ANY EXISTING WATER OR SANITARY SEWER FACILITIES. OPERATION OF THESE FACILITIES SHALL ONLY BE DONE BY THE WVWA PERSONNEL. CONTRACTOR SHALL COORDINATE WITH THE WVWA FOR OPERATION OF THESE FACILITIES; AND PROVIDE 14 DAYS NOTICE PRIOR TO OPERATION OF VALVES RELATED TO NEW CONNECTIONS AND SYSTEM SHUTDOWNS.
11. PROCEDURES FOR ACCOMPLISHING EACH INSTALLATION SHALL BE THE CONTRACTOR'S RESPONSIBILITY. ALL MATERIALS, EQUIPMENT, LABOR, APPURTENANCES (INCLUDING BUT NOT LIMITED TO: EXCAVATING, TESTING, DISINFECTING, BACKFILLING, COMPACTING, DEWATERING, DISPOSING OF SURPLUS AND UNSUITABLE MATERIAL, SHEETING AND SHORING, BEDDING MATERIAL, INSTALLING PIPE, AND CONNECTING TO EXISTING LINES), REQUIRED TO ACCOMPLISH INSTALLATIONS IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION SHALL BE INCLUDED BY THE CONTRACTOR.
12. DURING INSTALLATION OF NEW PIPES, THE CONTRACTOR SHALL DO WHAT IS NECESSARY TO PROTECT EXISTING UTILITIES, PIPELINES AND FACILITIES AGAINST DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL PROVIDE ANY NEEDED TEMPORARY SUPPORTS REQUIRED TO INSTALL THE NEW UTILITIES WHILE MAINTAINING THE EXISTING UTILITIES AND FACILITIES IN OPERATION. (TEMPORARY SUPPORTING OF THE EXISTING WATER FACILITIES WILL REQUIRE WVWA APPROVAL PRIOR TO INSTALLATION).
13. ALL RELOCATED WATER MAINS MUST HAVE A MINIMUM COVER OF 3.0 FEET AND A MAXIMUM COVER OF 6.0 FEET, UNLESS OTHERWISE NOTED ON THE PLANS. ALL UTILITIES MUST HAVE A MINIMUM TEMPORARY COVER DURING CONSTRUCTION OF 2 FEET.
14. CONTRACTOR SHALL PERFORM UTILITY RELOCATION WORK PRIOR TO OR CONCURRENT WITH GRADING OR EXCAVATION.
15. THE CONTRACTOR SHALL NOT PERFORM ANY GRADING OPERATIONS OVER EXISTING FACILITIES WITHIN THE PROJECT WHICH WOULD IN ANY WAY JEOPARDIZE SERVICES UNTIL THE PROPOSED FACILITIES ARE INSTALLED AND PLACED INTO OPERATION AND EXISTING FACILITIES ABANDONED. ANY DEVIATION MUST BE APPROVED BY THE WVWA.

16. THE CONTRACTOR SHALL MAINTAIN A SET OF RECORD DRAWINGS ON SITE TO BE SUBMITTED TO THE WVWA PROJECT INSPECTORS AND OWNER PRIOR TO SUBSTANTIAL COMPLETION. THEY SHALL REFLECT THE AS-BUILT FIELD MEASUREMENTS (INVERTS, STATIONS, ETC.) FOR THE CONSTRUCTED FACILITIES.
17. PLAN LOCATION AND DIMENSIONS SHALL BE ADHERED TO.
18. ALL PIPE ELEVATIONS SHOWN ARE INVERT UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS.
19. ITEMS DESIGNATED "T.B.A." AND/OR  ARE TO BE ABANDONED. ITEMS DESIGNATED "T.B.R." AND/OR  ARE TO BE REMOVED.
20. ALL CONCRETE SHALL BE VDOT CLASS A3 IF CAST-IN-PLACE, AND VDOT CLASS A4 IF PRECAST.
21. 1.0 FOOT MINIMUM VERTICAL SEPARATION IS REQUIRED BETWEEN WATER MAIN AND STORM SEWER CULVERTS. WHEN THE 1.0 FOOT MINIMUM SEPARATION CANNOT BE ACHIEVED AND WHERE FREEZING IS A POSSIBILITY, THE WATER MAIN SHALL BE ENCASED IN CONCRETE AND/OR INSULATED AS APPROVED IN WRITING BY THE WVWA. CONCRETE ENCASEMENT AND INSULATION SHALL EXTEND A MINIMUM OF 5 FEET BEYOND THE CENTERLINE OF THE CULVERT IN BOTH DIRECTIONS OR 5 FEET BEYOND ENDS OF CULVERT WHEN PARALLEL.
22. SAW CUT ASPHALT (FULL DEPTH) SHALL BE REQUIRED WHEN TRENCHING IS WITHIN A PAVED ROADWAY. PAVEMENT REPAIR SHALL BE IN ACCORDANCE WITH DETAIL G-12.
23. TEMPORARY PAVEMENT PATCHES SHALL BE REPLACED WITH PERMANENT PAVEMENT OR PROPOSED PAVEMENT STRUCTURE PRIOR TO FINAL PROJECT ACCEPTANCE.
24. THE CONSTRUCTION OF THE WATER MAINS, COLLECTOR SEWERS AND APPURTENANCES SHALL BE PERFORMED BY A PUBLIC UTILITY PIPELINE CONTRACTOR WITH EXPERIENCE IN THE INSTALLATION AND TESTING OF WATER MAINS AND COLLECTOR SEWERS AND DISINFECTION OF WATER MAINS AND SYSTEMS.
25. THE CONTRACTOR, WITH HIS ASSOCIATED MATERIALS SUPPLIERS, SHALL PROVIDE CERTIFICATION ACCEPTABLE TO THE WVWA AND OWNER THAT ALL PIPE MATERIALS SUPPLIED ON THE PROJECT MEET OR EXCEED THE CURRENT EDITION OF THE WVWA STANDARDS.
26. FOR CONSTRUCTION DETAILS, REFER TO THE 10(2) SERIES OF SHEETS.
27. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE PROPOSED UTILITIES SHOWN ON THESE PLANS WITH THE PHASING OF THE ROADWAY CONSTRUCTION AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS. AS A RESULT, THE UTILITY ADJUSTMENTS AND RELOCATIONS MAY REQUIRE MULTIPLE MOBILIZATIONS OF EQUIPMENT AND MATERIALS ASSOCIATED WITH PHASED CONSTRUCTION.
28. THE CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION/COORDINATION MEETING AT LEAST 14 DAYS PRIOR TO ANY CONSTRUCTION SHOWN ON THESE PLANS. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT, AT THE MEETING, A DETAILED SEQUENCE OF CONSTRUCTION TO INCLUDE A SCHEDULE OF OPERATIONS AND PROPOSED METHODS INTENDED TO MINIMIZE DOWN-TIME OF THE EXISTING UTILITIES.
29. THE NUMBER AND TYPE OF FITTINGS REQUIRED FOR THE COMPLETION OF WATER RELOCATION WORK ARE NOT GUARANTEED AND, THEREFORE, SHALL BE DETERMINED BY ACTUAL CONDITIONS ENCOUNTERED IN THE FIELD DURING CONSTRUCTION.
30. CONTRACTOR SHALL FURNISH COPIES OF ALL SHOP DRAWINGS PRIOR TO CONSTRUCTION AND/OR INSTALLATION OF 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.
31. DURING CONSTRUCTION STAKEOUT FOR NEW UTILITIES, CONTRACTOR SHALL ALSO STAKE ANY PROPOSED DRIVEWAY ENTRANCES USING THE ENTRANCE PROFILE SHEETS AND PROPOSED STORM DRAINAGE USING THE DRAINAGE DESCRIPTION SHEETS. UTILITIES SHALL BE INSTALLED SO AS TO AVOID CONFLICT WITH THESE PROPOSED ITEMS.
32. THE CONTRACTOR SHALL TEMPORARILY RESTORE THE PIPE TRENCH/EXCAVATION IN PAVED AREAS AS SOON AS POSSIBLE, USING ONE OF THE THREE FOLLOWING METHODS BASED UPON THE STATUS OF CONSTRUCTION COMPLETION AND FIELD CONDITIONS:
- a. MATCH EXISTING MATERIAL AND DEPTH.
- b. PLACE THE FINAL PAVEMENT SECTION REQUIRED PER DETAIL G-12.
- c. PLACE THE TEMPORARY PAVEMENT SECTION (2-INCH OF SM-9.5D & 4-INCH OF BM-25.0A).
33. DUCTILE IRON SANITARY SEWER MAINS SHALL BE LINED WITH PROTECTO 401 TM EPOXY, OR APPROVED EQUAL, IN ACCORDANCE WITH THE WVWA STANDARDS.

INDEX OF SHEETS		
SHEET NO.	DESCRIPTION	ROADWAY SHEET NO.
10(1)	GENERAL NOTES, LEGEND, AND INDEX SHEET	N/A
10(1A)	UTILITY NOTES	N/A
10(2)	DETAIL DRAWING WVWA - WATER	N/A
10(2A)	DETAIL DRAWING WVWA - WATER	N/A
10(2B)	DETAIL DRAWING WVWA - SEWER	N/A
10(2C)	DETAIL DRAWING	N/A
10(3)	UTILITY PLAN	3
10(3A)	UTILITY PROFILE	N/A
10(4)	UTILITY PLAN	4
10(4A)	UTILITY PROFILE	N/A
10(5)	UTILITY PLAN	5
10(5A)	UTILITY PROFILE - WATER	N/A
10(5B)	UTILITY PROFILE - SEWER	N/A
10(6)	UTILITY PLAN	6
10(6A)	UTILITY PROFILE	N/A
10(6-1)	UTILITY PLAN	6(1)
10(6A-1)	UTILITY PROFILE	N/A
10(7-1)	UTILITY PLAN	7(1)
10(7A-1)	UTILITY PROFILE	N/A

NOTE: THE UTILITY ADJUSTMENT SHEETS HAVE A BASE SHEET NUMBER WITH A SUFFIX NUMBER IN PARENTHESES (EXAMPLE - 20(1), 20(2), ETC...). SHEET NUMBER REFERENCES WITHIN THE PLANS REFER TO THE SUFFIX NUMBER ONLY. UTILITY PROFILES SHEETS FOLLOW THE CORRESPONDING SUFFIX NUMBER WITH AN "A" AND "B".

LEGEND	EXISTING	PROPOSED
SANITARY SEWER		
GAS LINE		
WATER MAIN		
TELEPHONE CABLE		
FIBER OPTIC CABLE OR CONDUIT		
ELECTRIC CABLE OR CONDUIT		
TRAFFIC CONTROL LINE		
WATER METER & BOX		
WATER VALVE & BOX		
WATER REDUCER		
FIRE HYDRANT		
SANITARY SEWER MANHOLE		
SEWER CLEANOUT		
CONCRETE THRUST COLLAR		
WATER SERVICE CONNECTION		



Whitman Requardt & Associates
Blacksburg, Virginia
UTILITY ENGINEER



COUNTY OF ROANOKE

5204 BERNARD DRIVE
ROANOKE, VA 24018

VDOT PROJECT NUMBERS:
0115-080-R95, P101, C501 &
EN12-080-823, P101, R201, C501

VDOT UPC NUMBERS: 98220 & 103607

PLANTATION ROAD, BICYCLE, PEDESTRIAN, AND
STREETSCAPE IMPROVEMENTS PROJECT

Drawing
GENERAL NOTES, LEGEND
AND INDEX SHEET

Sheet

10(1)