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NOTES
(WATER AND SANITARY SEWER)

GENERAL NOTES

- THE LOCATION, 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. AECOM ASSUMES NO LIABILITY FOR THE CORRECTNESS OF THE DATA PROVIDED BY THE UTILITY OWNERS. THE CONTRACTOR SHALL FIELD VERIFY WITH TEST HOLES THE EXACT LOCATION, ELEVATION, MATERIAL TYPE, ROUNDNESS (AT POINTS OF CONNECTION) AND SIZE OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO ORDERING OF MATERIALS, EXCAVATION, AND INSTALLATION FOR THIS PROJECT. ALL COSTS ASSOCIATED WITH THE ADDITIONAL UNDERGROUND UTILITY LOCATING AND VERIFICATION SHALL BE INCIDENTAL AND INCLUDED IN THE UNIT PRICE BID FOR PROPOSED WATER MAINS AND SANITARY SEWER MAINS AND STRUCTURES. ALL INCIDENTALS FOR THE REQUIRED WORK TO INCLUDE BUT NOT LIMITED TO EXCAVATION, SHEETING, SHORING, RESTRAINTS, ADAPTERS, SLEEVES, ABANDONMENT OF EXISTING PIPE, TESTING, BEDDING, BACKFILL, COMPACTION, DEWATERING, ETC., CONFORM TO VDOT 520.06.
- THE CONTRACTOR SHALL HAND EXCAVATE WHEN CROSSING EXISTING UTILITIES TO AVOID DAMAGE. WHEN CONSTRUCTING WORK UNDER OR ADJACENT TO EXISTING UTILITIES, PROVIDE ADEQUATE SUPPORT TO PROTECT EXISTING UTILITIES FROM DAMAGE.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT TO UTILITY POLES WHERE NECESSARY.
- IF EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR IMMEDIATE REPAIR TO PRE-CONSTRUCTION CONDITION AT CONTRACTOR EXPENSE.
- THE CONTRACTOR SHALL ENSURE ALL UTILITIES REMAIN IN SERVICE DURING THE ENTIRETY OF CONSTRUCTION, EXCEPT FOR BOTETOURT COUNTY AND TOWN OF TROUTVILLE APPROVED OUTAGES.
- THE CONTRACTOR SHALL RESTORE ALL EXISTING SITE CONDITIONS (CURBS, SIDEWALKS, DRIVEWAYS, MAILBOXES, ETC.), DAMAGED DURING CONSTRUCTION, TO THEIR PRE-CONSTRUCTION CONDITION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND LICENSES REQUIRED BY THE STATE OF VIRGINIA, BOTETOURT COUNTY AND TOWN OF TROUTVILLE, OR OTHER GOVERNING AGENCIES, AS NECESSARY, TO COMPLETE THIS PROJECT. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ALL FEES ASSOCIATED WITH OBTAINING THESE PERMITS.
- THE CONTRACTOR SHALL COORDINATE WITH, AND ARRANGE FOR INSPECTION BY BOTETOURT COUNTY AND TOWN OF TROUTVILLE.
- LINE LENGTHS AND ASSOCIATED APPURTENANCES ILLUSTRATED HEREIN ARE FOR ESTIMATING PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE ACTUAL MATERIAL QUANTITIES REQUIRED TO FURNISH A COMPLETE WORKING SYSTEM, IN ACCORDANCE WITH THE INTENT OF THE DRAWINGS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION STAKEOUT. THE CENTERLINE OF WATER AND SEWER LINE TO BE REPLACED SHALL BE MARKED BY THE CONTRACTOR AT 100 FOOT STATIONS AND BENDS.
- THE CONTRACTOR SHALL VERIFY THE ACTUAL FIELD CONDITIONS AND DEPTH AT EACH POINT OF CONNECTION TO EXISTING UTILITIES TO ALLOW ADJUSTMENTS IN THE WORK WITHOUT IMPACTING THE WORK PROGRESSION.
- THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR AND EQUIPMENT AND PERFORM ALL WORK NECESSARY TO PROVIDE A COMPLETE WATER AND SANITARY SYSTEM READY FOR USE. WORK SHALL BE COMPLETED IN ACCORDANCE WITH APPLICABLE STANDARDS AND CONSTRUCTION SPECIFICATIONS OF VDOT, VA DEQ, VDH, BOTETOURT COUNTY AND TOWN OF TROUTVILLE, AND THESE CONTRACT DOCUMENTS.
- ALL EXCAVATION FOR UNDERGROUND PIPE INSTALLATION MUST COMPLY WITH OSHA STANDARDS FOR THE CONSTRUCTION INDUSTRY (29 CFR PART 1926). LIVE GAS LINES EXIST IN MULTIPLE AREAS OF THE PROJECT CORRIDOR, AND IN THE VICINITY OF PROPOSED UTILITY WORK. CONTRACTOR SHALL COMPLY WITH ALL PERTINENT REGULATIONS AND GAS UTILITY PROVIDER REQUIREMENTS FOR WORK IN THE VICINITY OF THESE GAS LINES.
- CONNECTIONS TO EXIST. SANITARY SEWER/WATER LINES SHALL BE MADE ONLY AFTER THE PROPOSED LINES ARE COMPLETED AND APPROVED BY BOTETOURT COUNTY AND THE TOWN OF TROUTVILLE. THE CONTRACTOR SHALL COORDINATE THE ACTIVATION OF PROPOSED SANITARY SEWER/WATER LINES WITH BOTETOURT COUNTY AND TOWN OF TROUTVILLE FIVE DAYS PRIOR TO ANTICIPATED DATE OF CHANGEOVER AND OR TIE IN. CONTRACTOR SHALL COORDINATE WITH BOTETOURT COUNTY AND THE TOWN OF TROUTVILLE FOR THE OPERATION OF EXISTING VALVES. A REPRESENTATIVE FROM BOTETOURT COUNTY AND TOWN OF TROUTVILLE SHALL BE PRESENT DURING THE OPERATION OF ALL VALVES IN CONNECTION WITH CHANGEOVER OF WATER LINES AND SHALL BE PRESENT DURING TIE INS TO EXISTING SANITARY SEWER/ WATER LINES. SHUT DOWN TIME FOR SANITARY SEWER/WATER LINES SHALL BE LIMITED AS DIRECTED BY BOTETOURT COUNTY AND THE TOWN OF TROUTVILLE AND SHALL BE PERFORMED AT TIMES ACCEPTABLE TO THE TOWN AND COUNTY. THIS MAY REQUIRE WORK AFTER NORMAL WORKING HOURS.
- REMOVAL/ABANDONMENT OF EXISTING SANITARY SEWER/WATER LINES IS INCIDENTAL TO THE COST OF THE PROPOSED SANITARY SEWER/WATER BID ITEMS.
- NO BELLS OF PROPOSED SANITARY SEWER/WATER LINES SHALL BE LOCATED UNDERNEATH DRAINAGE/UTILITY LINES AT CROSSINGS. FULL LENGTHS OF PROPOSED LINE SECTIONS SHALL BE CENTERED AT CROSSINGS.
- WHERE NOTED, "COUNTY" SHALL BE SHORTHAND NOTATION FOR BOTETOURT COUNTY. WHERE NOTED, "TOWN" SHALL BE SHORTHAND NOTATION FOR TOWN OF TROUTVILLE
- THE CONTRACTOR SHALL PROTECT ALL DISTURBED AREAS FROM WATER DAMAGE. ALL UNSUITABLE MATERIALS THAT ARE THE RESULT OF THE CONTRACTOR'S ACTION SHALL BE REMOVED AND REPLACED WITH LIKE MATERIALS AT THE CONTRACTOR'S EXPENSE.

WATER/SANITARY SEWER UTILITY NOTES

- ALL WATER AND SANITARY SEWER LINE PIPE, FITTINGS, VALVES, AND WORK SHALL CONFORM TO TECHNICAL CONDITIONS OF COUNTY STANDARDS AND SPECIFICATIONS, LATEST EDITION INCLUDING ALL AMENDMENTS, UNLESS OTHERWISE INDICATED. PAY PROVISIONS AND BID ITEM DESCRIPTIONS SHALL BE PER VDOT, AND AS QUANTIFIED ON SHEET 18B. MINIMUM COVER FOR WATER AND SANITARY SEWER UTILITIES SHALL BE FOUR (4) FEET. WATER LINE SHALL BE AWWA C151/ANSI A 21.51 DUCTILE IRON, SPECIAL THICKNESS CLASS 52, WITH INTERIOR CEMENT LINING FOR WATER SERVICE AND BITUMASTIC OUTER COATING. SANITARY SEWER LINE SHALL BE AWWA C151/ANSI A 21.51 DUCTILE IRON, SPECIAL THICKNESS CLASS 51, WITH PROTECTO 401 INTERIOR COATING, AND BITUMASTIC OUTER COATING.
- CONTRACTOR IS RESPONSIBLE FOR KNOWING, UNDERSTANDING, AND CONFORMING TO ALL PERTINENT VIRGINIA DEPARTMENT OF HEALTH (VDH) WATERWORKS AND SEWAGE COLLECTION AND TREATMENT (SCAT) REGULATIONS.
- ALL WATER LINES AND FITTINGS SHALL BE RESTRAINED JOINT PIPE AND FITTINGS SUITABLE FOR BURIED SERVICE. ALL JOINTS SHALL BE RESTRAINED AND FULLY EXTENDED DURING INSTALLATION. RESTRAINED JOINT PIPE/FITTINGS SHALL BE MANUFACTURED BY:
 - US PIPE - TR FLEX®
 - AMERICAN - FLEX-RING®
 - GRIFFIN - SNAP-LOK®, OR APPROVED EQUAL.WEDGE ACTION RESTRAINED JOINT RETAINER GLAND DEVICES SHALL BE MANUFACTURED BY EBBA IRON - MEGALUG, FORD METER BOX COMPANY, INC., GRIFFIN PIPE, OR APPROVED EQUAL.
- RESTRAIN ALL JOINTS OF VALVES AND FITTINGS. RESTRAIN JOINTS OF WATER/ SANITARY SEWER CARRIER PIPE IN CASING PIPE AS INDICATED BY JACK AND BORE NOTES.
- CONTRACTOR SHALL USE TEST PRESSURE OF 150 PSI FOR TESTING INSTALLED WATER LINES.
- CONNECTION FITTINGS TO JOIN PROPOSED WATER LINES TO EXIST. WATER LINES SHALL BE PRESSURE RATED FITTINGS SUITABLE TO JOIN PIPE MATERIALS. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY EXIST. PIPE MATERIAL, SIZE, AND CONDITION PRIOR TO ORDERING CONNECTION FITTING. CONTRACTOR SHALL ENSURE EXIST. PIPE CONDITION IS ACCEPTABLE (ACCORDING TO CONNECTION FITTING MANUFACTURER REQUIREMENTS AND INDUSTRY STANDARD). IF EXIST. PIPE CONDITION IS NOT ACCEPTABLE, CONTRACTOR SHALL NOTIFY CITY FOR DIRECTION. CONNECTION FITTING SHALL BE AS MANUFACTURED BY SMITH-BLAIR, DRESSER, OR APPROVED EQUAL. CONNECTION FITTING SHALL BE SUITABLE FOR BURIED SERVICE, WITH CORROSION PROOF HARDWARE. MATCH DESIGN LIFE OF PROPOSED PIPING, AND BE PRESSURE RATED FOR INDICATED TEST PRESSURE WITH ADEQUATE SAFETY FACTOR. EXISTING AND PROPOSED PIPES SHALL BE ALIGNED STRAIGHT VERTICALLY AND HORIZONTALLY AT CONNECTION FITTING TO PREVENT ANY THRUST FORCES.
- CONTRACTOR SHALL BE RESPONSIBLE TO RENEW ALL SERVICES CONNECTED TO WATER LINES TO BE ABANDONED. CONTRACTOR SHALL EXTEND AND CONNECT SERVICES TO EXIST. AND PROPOSED WATER LINES TO REMAIN AS INDICATED TO PERFORM RENEWAL. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PIPING, FITTINGS, ANCILLARY ITEMS, AND NECESSARY EQUIPMENT TO INSTALL RENEWED SERVICES. CONTRACTOR SHALL AVOID EXIST. AND PROPOSED SUB-SURFACE UTILITIES AS REQUIRED TO INSTALL RENEWED SERVICES. CONTRACTOR SHALL CONFORM TO REQUIREMENTS OF MAINTENANCE OF TRAFFIC TO PERFORM RENEWAL. TRENCHLESS INSTALLATION OF SERVICES MAY BE PREFERABLE AND/OR REQ'D. TO MEET THIS CONDITION. IF TRENCHLESS EXCAVATION IS UTILIZED, CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDING OTHER BURIED UTILITIES DURING ENTIRETY OF BORE, AND SHALL CONFORM TO ALL PERTINENT REGULATIONS. CONTRACTOR SHALL ENSURE SERVICE LINE COVER DEPTH PER BOTETOURT COUNTY REQUIREMENTS.
- LOCATIONS INDICATED ON PLANS FOR EXIST. WATER SERVICE CONNECTIONS/METER BOXES TO BE REPLACED ARE REPRESENTATIVE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD LOCATION AND IDENTIFYING ALL EXIST. ACTIVE WATER SERVICE CONNECTIONS/METER BOXES, AND REPLACING IDENTIFIED SERVICE CONNECTIONS/METER BOXES. CONTRACTOR SHALL MATCH EXIST. LINE DIAMETER. CONTRACTOR SHALL PROVIDE ALL PIPING, FITTINGS, ANCILLARY ITEMS, AND NECESSARY EQUIPMENT AS INDICATED AND REQ'D. BY THESE NOTES TO REPLACE THE ACTIVE WATER SERVICE CONNECTIONS/METER BOXES. COUNTY WILL PROVIDE AND INSTALL WATER METERS AT ALL BOX LOCATIONS UPON COMPLETION OF SERVICE CONNECTION/METER BOX REPLACEMENT. LOCATION OF REPLACEMENT WATER METER BOXES SHALL CONFORM TO ALL COUNTY STANDARDS AND REQUIREMENTS. METER BOXES IN TRAFFIC AREAS SHALL BE HL-93 LOAD RATED.
- CONTRACTOR SHALL ENSURE THAT FIRE PROTECTION SERVICE CONTINUITY IS MAINTAINED AT ALL TIMES IN THE PROJECT CORRIDOR.
- CONTRACTOR SHALL PROVIDE ALL PERSONNEL AND EQUIPMENT REQUIRED TO BYPASS PUMP TO MAINTAIN SANITARY SERVICE DURING CONSTRUCTION AND MAINTAIN TRAFFIC AS REQUIRED DURING BYPASS PUMPING. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS, CLEAN-UP, AND COORDINATION WITH REGULATORY AGENCIES SHOULD BYPASS PUMPING FAILURE CAUSE A SANITARY DISCHARGE OR DISCONTINUATION OF SERVICE. SANITARY SEWER BYPASS PUMPING COST IS INCIDENTAL TO THE COST OF THE ITEMS FOR THE RELOCATION OF THE EXISTING SANITARY SEWER TO THE PROPOSED LOCATIONS AS PART OF THIS PROJECT. BACK-UP PUMPS SHALL BE SUPPLIED. CONSTRUCTION DURING WINTER AND/OR COLD WEATHER MONTHS WILL REQUIRE NECESSARY ACCOMODATIONS TO PREVENT FREEZING DURING BYPASS OPERATIONS. COSTS TO PROVIDE FREEZE PROTECTION AS REQUIRED SHALL BE INCIDENTAL TO BID ITEM COSTS FOR SANITARY SEWER WORK. NO ADDITIONAL COMPENSATION WILL BE PROVIDED.
- CONTRACTOR SHALL ABANDON EXISTING SANITARY SEWER MANHOLES PER BOTETOURT COUNTY STANDARD.
- CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, MATERIALS, AND PERSONNEL AS REQUIRED TO DEWATER TRENCHES AND EXCAVATIONS DURING INSTALLATION OF NEW PIPE AND STRUCTURES.
- CONTRACTOR SHALL OPEN NO MORE TRENCH THAN CAN BE COVERED BY CONCLUSION OF CONSTRUCTION EACH DAY.
- EXISTING WATER LINES ABANDONED DURING CONSTRUCTION PERIOD SHALL BE DEWATERED AND PLUGGED. EXISTING SAN. SEWER LINES ABANDONED DURING CONSTRUCTION SHALL BE DEWATERED, FILLED WITH FLOWABLE FILL AND PLUGGED.
- PROPOSED SANITARY PIPE AND MANHOLES SHALL BE TESTED FOR LEAKAGE ACCORDING TO PERTINENT REGULATIONS AND STANDARDS. ALL PROPOSED WATER LINE PIPE SHALL BE DISINFECTED AND TESTED FOR LEAKAGE ACCORDING TO PERTINENT REGULATIONS AND STANDARDS, CONFORM TO VDOT 520.04/ AWWA C600 FOR HYDROSTATIC TESTING. CONFORM TO AWWA C651 FOR DISINFECTION OF ALL WATER DISTRIBUTION LINES. CONTRACTOR SHALL COORDINATE WITH THE COUNTY TO PERFORM DISINFECTION AND HYDROSTATIC TESTING.
- CONTRACTOR SHALL CONFORM TO ALL PERTINENT REGULATIONS AND GAS UTILITY PROVIDER REQUIREMENTS FOR WORKING IN PROXIMITY OF GAS LINES.
- CONTRACTOR SHALL COORDINATE WITH UTILITY PROVIDERS FOR EXISTING UTILITIES TO REMAIN AS REQ'D. TO INSTALL PROPOSED UTILITIES.
- CONTRACTOR SHALL AVOID EXISTING AND PROPOSED UTILITIES FOR ALL PROPOSED FIRE AND SERVICE LATERALS AND PROVIDE MIN. COVER AS SPECIFIED.
- ALL EXSITING SAN. SEWER MANHOLES AND CLEAN-OUTS SHALL BE RELOCATED AND/OR ADJUSTED TO FINISH GRADE AS REQUIRED, REGARDLESS IF THEY ARE SHOWN ON THE PLANS.
- PROVIDE VDOT UB-1 CONCRETE CRADLE AND CAP FOR UTILITY CROSSINGS AS REQUIRED BY VDOT, WHETHER INDICATED OF NOT. CRADLES AND CAPS SHALL BE INCIDENTAL TO COSTS OF PROPOSED UTILITY.
- CONTRACTOR SHALL PROVIDE AS-BUILTS TO THE COUNTY AND TOWN AT THE CONCLUSION OF CONSTRUCTION. AS-BUILTS SHALL SHOW INSTALLED PLAN AND PROFILE LOCATIONS OF ALL UTILITIES INSTALLED AS PART OF THIS PROJECT.

	REVISED	STATE		SHEET NO.
		STATE	ROUTE	PROJECT
		VA.	11	0081-011-120, PE-102 RW-202, C-502
	DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT			
AECOM TECH. SERV., INC. ROANOKE, VIRGINIA UTILITY ENGINEER				

THESE PLANS ARE UNFINISHED
AND UNAPPROVED AND ARE NOT

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TO BE USED FOR ANY TYPE
OF CONSTRUCTION.

VDOT INTERSTATE 81 NORTH BOUND EXIT 150 IMPROVEMENT PROJECT
NORTH BOUND IMPROVEMENTS FROM AND TO INTERSTATE 81
IMPACTS ROUTES 11, 220, AND 220A

BOTETOURT COUNTY

- MODIFY EXISTING NORTH BOUND EXIT 150A
- ABANDON EXISTING NORTH BOUND I-81 ENTRANCE RAMP
- RELOCATE NORTH BOUND 1-81 ENTRANCE RAMP
- CREATE A NORTH BOUND EXIT 150B OFF RAMP
- CONSTRUCT ROUNDABOUT AT INTERSECTION OF EXIT 150B AND U.S. ROUTE 11

PROJECT
0081-011-120

SHEET NO.
18

CHARLES CRUSH
As-BUILTS
11-12-18

VDOT Exit 150