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NOTES

(WATER AND SANITARY SEWER)

JACK AND BORE NOTES

- CONTRACTOR SHALL UTILIZE TRENCHLESS INSTALLATION METHOD SUITABLE FOR SOIL CONDITIONS, SOIL COMPOSITION, MOISTURE CONTENT, AND ANY OTHER ENVIRONMENTAL CONDITIONS/PARAMETERS THAT WOULD AFFECT THE INSTALLATION OF THE PIPE. GEOTECHNICAL BORINGS ARE INCLUDED AS PART OF THESE PLANS. CONTRACTOR SHALL BE RESPONSIBLE FOR, AND CONDUCT ADDITIONAL BORINGS AS NECESSARY TO COMPLETELY CHARACTERIZE THE SUBSURFACE SOILS, ROCK, AND ENVIRONMENT.
- GRADE TOLERANCE • ± 2 INCHES ALONG LENGTH OF BORE
ALIGNMENT TOLERANCE • ± 3 INCHES ALONG LENGTH OF BORE
- CONTRACTOR SHALL PROVIDE STEEL ENCASEMENT PIPE. MINIMUM INSIDE DIMENSION OF PIPE SHALL BE AS INDICATED. CONTRACTOR SHALL CONSULT WITH CARRIER PIPE AND JOINT MANUFACTURERS, AND ENSURE THAT ENCASEMENT PIPE INSIDE DIMENSION PROVIDES ADEQUATE CLEARANCE FOR INSTALLATION. PIPE ENDS SHALL BE PROTECTED FROM DAMAGE DURING JACKING.
- CONTRACTOR SHALL SUBMIT CALCULATIONS SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF VIRGINIA, THAT ENCASEMENT PIPE WALL THICKNESS AND PHYSICAL PROPERTIES (YIELD STRESS, COMPRESSIVE STRENGTH, ETC.) ARE SUFFICIENT TO WITHSTAND ALL JACKING FORCES, LIVE LOADS, AND SOIL LOADING. ENCASEMENT PIPE SHALL HAVE DESIGN LIFE EQUAL TO OR GREATER THAN CARRIER PIPE. THIS SHALL BE CLEARLY STATED IN CALCULATIONS.
- CONTRACTOR SHALL SUBMIT DESIGN LIFE ANALYSIS AS PART OF SEALED CALCULATIONS. DESIGN LIFE ANALYSIS SHALL ACCOUNT FOR ALL ENVIRONMENTAL, PHYSICAL, AND LOADING CONDITIONS THAT PIPE WILL BE EXPOSED TO DURING LIFE CYCLE. CALCULATIONS SHALL INDICATE THAT CORROSION COATING, IF UTILIZED TO PROVIDE SUITABLE DESIGN LIFE, IS OF SUFFICIENT THICKNESS AND DURABILITY TO WITHSTAND JACK FORCES AND INSTALLATION ABRASION WITH AN ADEQUATE SAFETY FACTOR. CALCULATIONS SHALL INDICATE THAT ADDITIONAL WALL THICKNESS, IF UTILIZED TO PROVIDE SUITABLE DESIGN LIFE, IS ADEQUATE TO ACCOUNT FOR CORROSION WITH AN ADEQUATE SAFETY FACTOR.
- CONTRACTOR SHALL PROVIDE RESTRAINED JOINT CARRIER PIPE. CONFORM TO PIPE MANUFACTURER RECOMMENDATIONS FOR INSTALLATION OF CARRIER PIPE IN CASING PIPE.
- CONTRACTOR SHALL CONFORM TO ALL APPLICABLE VDOT ROAD AND BRIDGE SPECIFICATIONS (2007) FOR ENCASEMENT PIPE AND INSTALLATION, AND JACK AND BORE METHOD.
- CONTRACTOR SHALL SUBMIT A COMPLETE PLAN AND SCHEDULE FOR JACK AND BORE METHOD AS REQUIRED BY VDOT ROAD AND BRIDGE SPECIFICATIONS (2007), SECTION 302.03 (A) 1, AS INDICATED IN SPECIFICATIONS. PLAN AND SCHEDULE MUST BE APPROVED BY VDOT ENGINEER PRIOR TO PROCEEDING WITH ANY JACK AND BORE WORK.
- CONTRACTOR SHALL PROVIDE ALL REQUIRED EQUIPMENT, PERSONNEL, MATERIALS, AND COORDINATION NECESSARY TO COMPLETE THE JACK AND BORE INSTALLATION. CONTRACTOR SHALL ENSURE INSTALLATION CONFORMS TO PLAN AND SCHEDULE APPROVED BY VDOT ENGINEER.
- CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE STATE AND FEDERAL STANDARDS, REGULATIONS, AND LAWS DURING WORK.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS AND FEES ASSOCIATED WITH JACK AND BORE INSTALLATION.
- UPON COMPLETION OF JACK AND BORE INSTALLATION, CONTRACTOR SHALL MAKE ALL REQUIRED CONNECTIONS FOR THE CARRIER PIPE TO CONFORM WITH PLAN DOCUMENTS.
- JACKING AND RECEIVING PIT'S SHALL BE BACKFILLED TO CONFORM WITH PIPE BEDDING DETAIL, AND APPLICABLE VDOT STANDARDS.

SEQUENCE OF CONSTRUCTION

GENERAL NOTES:

- INSTALL PORTIONS OF STORM AND OTHER PROPOSED INFRASTRUCTURE INDICATED TO BE INSTALLED UNDERNEATH PROPOSED WATER AND SANITARY SEWER INFRASTRUCTURE (AT CROSSINGS) PRIOR TO INSTALLING PROPOSED WATER AND SANITARY SEWER INFRASTRUCTURE.
- TRAFFIC CONTROL DEVICES MAY BE MODIFIED FOR SHORT DURATIONS IN ACCORDANCE WITH VAWAPM TO FACILITATE CONSTRUCTION OUTSIDE THE WORK ZONES SHOWN ON THE NOT PLANS. CONTRACTOR SHALL PERFORM THIS WORK DURING NIGHTTIME HOURS WHILE MAINTAINING TRAFFIC MOVEMENTS PER MOT REQUIREMENTS. DURING DAYTIME HOURS, CONTRACTOR SHALL PROVIDE TEMPORARY TRAFFIC-RATED STEEL SHEETING CONFORMING TO VDOT REQUIREMENTS FOR ANY EXCAVATIONS WITHIN THE ROADWAY THAT HAVE NOT BEEN BACKFILLED AND PAVED.
- PRIOR TO CONSTRUCTION, CONTRACTOR SHALL IDENTIFY ALL WATER AND SANITARY SEWER SERVICES AND CONNECTIONS AND ENSURE THAT SERVICES TO BE MAINTAINED (SERVICES NOT ROUTING TO BUILDINGS/STRUCTURES TO BE DEMOLISHED) POST CONSTRUCTION HAVE CONTINUAL SERVICE DURING CONSTRUCTION WITH MINIMAL DISRUPTIONS AND ARE RE-ESTABLISHED AS REQUIRED TO PROVIDE A FULLY FUNCTIONING WATER AND SANITARY SEWER SYSTEM. IF ANY CONNECTIONS ARE IDENTIFIED THAT ARE NOT SHOWN AND INDICATED ON THESE PLANS, CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER FOR DIRECTION.

WATER UTILITY

STAGE I:

CONSTRUCT ENTIRETY OF WATER MAIN "A" (AND SERVICES FOR WATER MAIN "A" TO POINT OF CONNECTIONS WITHOUT MAKING CONNECTIONS) AND WATER MAIN "D".

INSTALL 8" INSERTING VALVE AND BOX AND THRUST COLLAR AND BLOCKING AT CONSTRUCTION POINT [A] AS INDICATED ON PLAN.

CONSTRUCT WATER MAIN "B" BETWEEN CONSTRUCTION POINTS [B] AND [C]. PROVIDE TEMPORARY PLUGS AT CONSTRUCTION POINTS [B] AND [C]. DO NOT INSTALL VALVES AND INFRASTRUCTURE AND CONNECT TO EXISTING WATER MAIN AT CONSTRUCTION POINT [B] (AS INDICATED BY DETAIL "B").

PRESSURE TEST WATER MAIN "A" AND PORTION OF WATER MAIN "B" INSTALLED DURING THIS STAGE. DO NOT DISINFECT EITHER WATER MAIN DURING THIS STAGE.

PRESSURE TEST AND DISINFECT WATER MAIN "D", AND RETURN EXISTING WATER MAIN TO SERVICE.

CONSTRUCT WATER MAIN "C" BETWEEN CONSTRUCTION POINTS [E] AND [G] EITHER PRIOR TO OR CONCURRENTLY WITH CONSTRUCTION OF SANITARY SEWER INFRASTRUCTURE DURING THIS STAGE. UPON COMPLETION OF INSTALLATION OF ALL SANITARY SEWER INFRASTRUCTURE AND TRANSFER OF ALL EXISTING SANITARY SEWER SERVICE TO PROPOSED SANITARY SEWER INFRASTRUCTURE, CONSTRUCT REMAINDER OF WATER MAIN "C" AND MAKE INDICATED CONNECTIONS. REMOVAL OF EXISTING ABANDONED SANITARY SEWER MAY BE REQUIRED TO MAKE CONNECTIONS AS INDICATED ON PLAN.

PRESSURE TEST AND DISINFECT WATER MAIN "C", AND RETURN EXISTING WATER MAIN TO SERVICE.

STAGE III, STEP B:

COMPLETE CONSTRUCTION OF WATER MAIN "B", AND MAKE CONNECTIONS AT CONSTRUCTION POINTS [B] AND [D].

CLOSE 8" INSERTING VALVE AT CONSTRUCTION POINT [A]. DEPRESSURIZE EXISTING LINE TO THE NORTH OF CONSTRUCTION POINT [A] IN ORDER TO CUT AND INSTALL PROPOSED CONNECTION AT CONSTRUCTION POINT [B].

PRESSURE TEST PORTION OF WATER MAIN "B" INSTALLED DURING THIS STAGE. DISINFECT WATER MAIN "A" AND WATER MAIN "B". COMPLETE CONNECTION OF SERVICES FOR WATER MAIN "A", AND PLACE MAINS IN SERVICE.

SANITARY SEWER UTILITY

STAGE I:

CONSTRUCT SANITARY SEWER FROM DIRECTLY ADJACENT TO SANITARY SEWER MH 1816)-2 TO SANITARY SEWER MH 1816)-5 (DO NOT INSTALL SANITARY SEWER MH 1816)-2 AT THIS TIME).

CONSTRUCT SANITARY SEWER FROM DIRECTLY ADJACENT TO SANITARY SEWER MH 1816)-2 TO DIRECTLY ADJACENT TO SANITARY SEWER MH 1816E)-2 (DO NOT INSTALL SANITARY SEWER MH 1816E)-2 AT THIS TIME).

CONSTRUCT SANITARY SEWER FROM SANITARY SEWER MH 1816)10 TO DIRECTLY ADJACENT TO SANITARY SEWER MH 1816E)-2 (DO NOT INSTALL SANITARY SEWER MH 1816E)-2 AT THIS TIME).

CONSTRUCT AS MUCH OF SANITARY SEWER INFRASTRUCTURE AS POSSIBLE WHILE MAINTAINING EXISTING SANITARY SEWER SERVICE FROM SANITARY SEWER MH 1816)-8 TO SANITARY SEWER MH 1816)-8B.

CONSTRUCT SANITARY SEWER PIPE BETWEEN SANITARY SEWER MH 1816)-10 AND SANITARY SEWER MH 1816)-12.

ESTABLISH BYPASS SANITARY SEWAGE PUMPING FROM LOCATION ON EXISTING SANITARY SEWER JUST UPSTREAM OF SANITARY SEWER MH 1816E)-2 TO LOCATION ON EXISTING SANITARY SEWER JUST DOWNSTREAM OF SANITARY SEWER MH 1816E)-1. BYPASS OPERATION SHALL ALSO PERMIT BYPASSING FROM TWO PROPOSED SANITARY SEWER PIPE SEGMENTS (THAT WILL BE CONNECTED TO SANITARY SEWER MH 1816E)-2) TO JUST DOWNSTREAM OF SANITARY SEWER MH 1816E)-1. TEMPORARY STRUCTURES AND/OR OTHER MEANS TO PREVENT SANITARY SPILLS AND DISCHARGES MAY BE REQUIRED TO PERFORM THIS BYPASSING OPERATION. COSTS TO PROVIDE STRUCTURES AND/OR OTHER MEANS TO PREVENT SANITARY SPILLS AND DISCHARGES SHALL BE INCIDENTAL TO COST TO INSTALL SANITARY SEWER PIPE. NO ADDITIONAL COMPENSATION WILL BE PROVIDED.

CONSTRUCT SANITARY SEWER BETWEEN SANITARY SEWER MH 1816E)-2 AND SANITARY SEWER MH 1816E)-1.

INSTALL SANITARY SEWER MH 1816)-2, SANITARY SEWER MH 1816)-11, SANITARY SEWER MH 1816)-12, AND COMPLETE SANITARY SEWER FROM SANITARY SEWER MH 1816)-8 TO SANITARY SEWER MH 1816)-8B (AND CONNECT TO EXISTING SANITARY SEWER SERVICE FROM BUILDING). BYPASS PUMPING SHALL ENSURE NO DISCONTINUITY OF SANITARY SEWER SERVICE DURING CONSTRUCTION AND COMPLETION OF SANITARY SEWER INFRASTRUCTURE INSTALLATION. SANITARY SEWER INDICATED FOR ABANDONMENT SHALL BE ABANDONED PER WATER/SANITARY SEWER UTILITY NOTES.

REMOVE EXISTING SANITARY SEWER PIPE BETWEEN SANITARY SEWER MH 1816)-2 AND CONSTRUCTION POINT [E] PRIOR TO MODIFYING AND EXTENDING THE ADJACENT BOX CULVERT WINGWALL STRUCTURE.

REMOVE EXISTING SANITARY SEWER PIPE BETWEEN EXISTING VDOT SURVEYED SANITARY SEWER MH NO.61 AND EXISTING VDOT SURVEYED SANITARY SEWER MH NO.62 PRIOR TO MODIFYING AND EXTENDING THE ADJACENT BOX CULVERT WINGWALL STRUCTURE.

REVISED	STATE	ROUTE	STATE PROJECT	SHEET NO.
	VA.	11	0081-011-120, PE-102 RW-202, C-502	18A

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 TO BE USED FOR ANY TYPE OF CONSTRUCTION.