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PROJECT REFERENCE NO.	SHEET NO.
17BP.3.C.2	UC-3

DESIGNED BY: SHF
DRAWN BY: SHF
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NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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NORTH CAROLINA PROFESSIONAL SEAL ENGINEER KEVIN C. ZABB 23611

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5/21/2018 3:34:40 PM EDT

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

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UTILITY CONSTRUCTION

GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2018.

2. THE EXISTING WATER LINE UTILITIES BELONG TO BRUNSWICK COUNTY PUBLIC UTILITIES.

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3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES, DIVISION OF ENVIRONMENTAL HEALTH.

4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.

5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPORTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITONAL COST TO THE DEPARTMENT.

7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.

8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.

9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

10. CONTRACTOR SHALL NOT OPERATE ANY VALVES ON THE EXISTING UTILITY SYSTEMS. CONTRACTOR SHALL CONTACT THE UTILITY OWNER TO CONDUCT STRATEGIC OPERATION OF VALVES FOR SERVICE INTERRUPTION IN ORDER TO PERFORM SPECIFIC WORK.

11. CONTRACTOR SHALL CONTACT THE UTILITY OWNER PRIOR TO PERFORMING SYSTEM FLUSHING OR BLOW-OFF OPERATIONS.

PROJECT SPECIFIC NOTES:

1. PROPOSED OPEN TRENCH WATER LINE SHALL BE 8" PVC C900 DR-18 D.I.P.S. THAT CONFORMS TO NSF-61 AND ASTM D1784 FOR CELL CLASS 12454.

2. PROPOSED WATER LINE FOR DIRECTIONAL DRILLING SHALL BE 8" FUSIBLE PVC C900 DR-18 D.I.P.S. THAT CONFORMS TO NSF-61 AND ASTM D1784 FOR CELL CLASS 12454.

3. ALL WATER LINE FITTINGS, 4-INCHES THROUGH 12-INCHES IN DIAMETER, SHALL BE DUCTILE IRON AWWA C110 WITH A PRESSURE RATING OF 350 PSI.

4. ALL PROPOSED FITTINGS (BENDS, TEES, CROSSES, REDUCERS, PLUGS, ETC.) SHALL BE ADEQUATELY RESTRAINED BY THE USE OF A RESTRAINED JOINT SYSTEM AND/OR CAST IN PLACE CONCRETE THRUST RESTRAINTS AS DETAILED ON THESE DRAWINGS, AS DIRECTED BY THE RESIDENT ENGINEER AND APPROVED BY THE UTILITY OWNER REPRESENTATIVE.

5. JOINT RESTRAINT DEVICES FOR VALVES AND FITTINGS ON PVC PIPE SHALL HAVE DUCTILE IRON GLANDS THAT CAN BE USED WITH THE STANDARD MECHANICAL JOINT OF THE VALVES AND FITTINGS. TWIST OFF NUTS WITH PRESET FACTORY TORQUE SETTING SHALL BE USED TO ENSURE PROPER ACTUATION OF THE RESTRAINT DEVICE. ALL NUTS, BOLTS, AND FASTENERS SHALL BE HIGH STRENGTH ALLOY STEEL

6. ALL DUCTILE IRON PIPE AND FITTINGS INSTALLED IN CORROSIVE, CONTAMINATED, AND/OR DREDGED SOILS SHALL BE WRAPPED IN A POLYETHYLENE ENCASEMENT PER ANSI / AWWA A21.5 / C105 "POLYETHYLENE ENCASEMENT FOR DUCTILE IRON PIPING FOR WATER AND OTHER LIQUIDS". ALL FASTENERS SHALL BE STAINLESS STEEL TYPE 304, MINIMUM GRADE.

7. CONTRACTOR'S ATTENTION IS DIRECTED TO SECTIONS 102, 107, AND 1550 OF THE STANDARD SPECIFICATIONS CONCERNING TRENCHLESS INSTALLATION. IT IS CONTRACTOR'S RESPONSIBILITY TO HAVE BORE DESIGNED AND SEALED BY A LICENSED NORTH CAROLINA PROFESSIONAL ENGINEER. NO DAMAGE IS ALLOWED TO RIVER, STREAM, CREEK, WETLANDS, OR BUFFER ZONES.

8. TRACER WIRE SHALL BE INSTALLED ALONG ALL WATER LINE, INCLUDING PIPE INSTALLED BY HDD. TRACER WIRE SHALL BE BROUGHT UP INSIDE OF VALVE BOXES. CONTRACTOR SHALL PERFORM A SIGNAL STRENGTH TEST OF THE INSTALLED TRACER WIRE AT END OF PROJECT WITH UTILITY OWNER REPRESENTATIVE PRESENT.

9. IN ADDITION TO TRACER WIRE, CONTRACTOR SHALL ALSO INSTALL ELECTRONIC MARKER BALLS ALONG THE WATER LINE AS REQUIRED BY THE UTILITY OWNER. REFER TO THE SPECIAL PROVISIONS AND DETAIL ON SHEET UC-3B.

10. ALL HYDRANT AND BLOW-OFF OPERATIONS SHALL BE CONDUCTED IN SUCH A MANNER THAT: PRIVATE PROPERTY IS NOT IMPACTED; THERE SHALL BE NO FLOODING OF STREETS AND DRIVEWAYS; AND NO OTHER TRAFFIC PROBLEMS ARE CREATED.

11. VALVES ON 4-INCH THROUGH 12-INCH WATER LINES SHALL BE RESILIENT SEATED WEDGE GATE VALVES CONFORMING TO AWWA C509 / C515 WITH MECHANICAL JOINT ENDS.

PROJECT QUANTITIES

ITEM NUMBER	DESCRIPTION	QUANTITY	
-	-	-	-
5325800000-E	8" WATER LINE	294	LF
5329000000-E	DUCTILE IRON WATER PIPE FITTINGS	440	POUNDS
5546000000-E	8" VALVE	1	EA
5801000000-E	ABANDON 8" UTILITY PIPE	291	LF
5872608000-E	DIRECTIONAL DRILLING OF 8"	264	LF