

PROJECT REFERENCE NO.	SHEET NO.
U-5312	UC-2A
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MUNICIPAL ENGINEERING SERVICES COMPANY, PA.	
P.O. BOX 97 GARNER, NC. 27529 1919172-5393	UTILITY CONSTRUCTION PLANS ONLY

## GENERAL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SHOULD ANY FIELD CONDITIONS BE ENCOUNTERED THAT VARY FROM THE INFORMATION PROVIDED IN THE CONTRACT DOCUMENTS.
2. LOCATIONS OF SHOWN UTILITIES ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING EXACT LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO ANY EXCAVATION FOR THE PROJECT. NO SEPARATE MEASUREMENT OR DIRECT PAYMENT WILL BE MADE FOR THIS WORK AND ALL COST SHALL BE INCLUDED IN THE PRICE BID FOR THE ITEM TO WHICH IT PERTAINS.
3. BURIED TELEPHONE CABLES (FIBER OPTICS AND CONVENTIONAL) ARE KNOWN TO VARY DUE TO INSTALLATION TECHNIQUES. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR COORDINATING WITH THE UTILITY COMPANY TO DETERMINE SPECIFIC CABLE LOCATIONS. THE ENGINEER MUST BE NOTIFIED OF THE EXACT LOCATIONS AND ELEVATIONS OF THE CABLES.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL ELECTRIC UTILITY COMPANY ANY ADDITIONAL SUPPORT OF EXISTING ELECTRIC UTILITY POLES AS REQUIRED FOR THE EXCAVATION.
5. REGULATIONS AND CODES, SHALL BE CONSISTENT WITH NCDOT, NCDENR REQUIREMENTS AND STATE BUILDING CODE.
6. RELATION OF WATER MAINS TO SEWERS
  - (a) LATERAL SEPARATION OF SEWERS AND WATER MAINS. WATER MAINS SHALL BE LAID AT LEAST 10 FEET Laterally FROM EXISTING OR PROPOSED SEWERS, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT A 10-FOOT LATERAL SEPARATION-- IN WHICH CASE:
    - (1) THAT WATER MAIN IS LAID IN A SEPARATE TRENCH, WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER; OR DENR-PUBLIC WATER SUPPLY SECTION 15A: 18C.0900
    - (2) THE WATER MAIN IS LAID IN THE SAME TRENCH AS THE SEWER WITH THE WATER MAIN LOCATED AT ONE SIDE ON A BENCH OF UNDISTURBED EARTH, AND WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER.
    - (b) CROSSING A WATER MAIN OVER A SEWER. WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS OVER A SEWER, THE WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT AN 18 INCH VERTICAL SEPERATION--IN WHICH CASE BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.
    - (c) CROSSING A WATER MAIN UNDER A SEWER. WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER, BOTH THE WATER MAIN AND THE SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.
7. RELATION OF SANITARY SEWERS TO STORM SEWERS
  - (a) A 24 INCH VERTICAL SEPARATION SHALL BE PROVIDED BETWEEN STORM SEWER AND SANITARY SEWER OR FERROUS PIPE SHALL BE PROVIDED.
8. THE LOCATION OF ALL STRUCTURES SHOWN HEREIN WAS BY AN ACTUAL FIELD SURVEY AND REPRESENTS THE BEST INFORMATION AVAILABLE TO THE ENGINEER AT THE TIME OF THE SURVEY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION, SIZE, AND TYPE OF ALL UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION WHETHER SHOWN ON THE PLANS OR NOT. IT IS ADVISABLE THE CONTRACTOR VISIT THE SITE PRIOR TO BIDDING AND BECOME FAMILIAR WITH THE SITE AND ANY POTENTIAL CONFLICTS.
9. THE CONTRACTOR IS RESPONSIBLE FOR ALL SITE LAYOUTS AND STAKING AND THE COSTS SHALL BE INCLUDED IN HIS BID.
10. THE CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES THE CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO THE NORMAL WORKING HOURS. THE CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT. EXEMPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE ENGINEER.
11. ALL EXISTING UTILITIES AND IMPROVEMENTS THAT BECOME DAMAGED DURING CONSTRUCTION SHALL BE COMPLETELY RESTORED TO THE SATISFACTION OF THE OWNER AND ENGINEER AT THE CONTRACTOR'S SOLE EXPENSE.
12. THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES, INCLUDING, BUT NOT LIMITED TO BRACING AND SHORING. OBSERVATION VISITS TO THE SITE BY THE ENGINEER AND/OR THE ENGINEER'S REPRESENTATIVE(S) SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES.
13. ALL WORK WITHIN NCDOT RIGHT-OF-WAY SHALL MEET REQUIREMENTS OF THE LATEST EDITION OF NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES AND THE PROJECT SPECIFICATIONS. SHOULD A CONFLICT ARISE BETWEEN THE TWO, THE MOST STRINGENT SHALL APPLY.
14. FIELD SURVEY DATA PROVIDED BY NCDOT. VERTICAL DATUM BASED ON NAD88. HORIZONTAL COORDINATES BASED ON NAD83/95.
15. DURING THE PROGRESS OF THE WORK, THE CONTRACTOR SHALL KEEP THE WORK AREA AND ADJACENT AREAS FREE FROM ACCUMULATIONS OF WASTE MATERIAL, RUBBISH AND OTHER DEBRIS TO THE SATISFACTION OF THE ENGINEER.
16. THE CONTRACTOR SHALL REMOVE AND PROPERLY REINSTALL ANY FIXTURES, FENCES, AND/OR OTHER STRUCTURES THAT MAY INTERFERE WITH CONSTRUCTION OF THE PROJECT TO THE SATISFACTION OF THE ENGINEER, AND THE COSTS FOR SUCH SHALL BE INCLUDED IN HIS BID.
17. THE CONTRACTOR IS URGED TO VISIT AND FAMILIARIZE THEMSELVES WITH THE JOB SITE AND TO COMPLETELY READ AND UNDERSTAND THE CONTRACT DOCUMENTS PRIOR TO SUBMITTING A BID.
18. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION, SIZE AND TYPE OF ALL UNDERGROUND UTILITIES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RELOCATION (AS DIRECTED BY THE ENGINEER) OF ANY CONFLICTING UNDERGROUND UTILITIES, IF REQUIRED, AT NO ADDITIONAL COST TO THE OWNER. IT IS ADVISABLE THAT THE CONTRACTOR VISIT THE SITE PRIOR TO BIDDING AND BECOME FAMILIAR WITH THE SITE AND ANY POTENTIAL CONFLICTS.
19. CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PROVIDING LAY DOWN AREA FOR MATERIAL STORAGE.
20. CONTRACTOR IS RESPONSIBLE FOR REMOVING DEMOLISHED MATERIALS AND DISPOSING THEM AT A LOCATION PROPERLY PERMITTED TO RECEIVE SUCH MATERIAL.
21. THE CONTRACTOR SHALL NOTIFY THE OWNER AT LEAST 48 HOURS PRIOR TO MAKING ANY TIE-IN TO THE EXISTING WATER LINE.
22. MINIMUM DEPTH OF COVER FOR BURIED PIPELINE SHALL BE THREE (3) FEET UNLESS OTHERWISE NOTED.
23. MAINTAIN 2'-0" MINIMUM CLEARANCE BETWEEN ALL EXISTING PIPES CROSSED, UNLESS OTHERWISE NOTED.
24. THE CONTRACTOR SHALL FURNISH AND INSTALL SHEETING NECESSARY FOR THE INSTALLATION OF THE PIPELINE.
25. INSTALLATION, TESTING AND MATERIAL SPECIFICATIONS SHALL BE IN ACCORDANCE WITH THE DESIGN DOCUMENTS STANDARDS AND MANUFACTURERS INSTRUCTIONS UNLESS NOTED OTHERWISE. SHOULD THERE BE A CONFLICT AMONG THE AFOREMENTIONED DOCUMENTS, THE MOST STRINGENT SHALL APPLY.
26. THRUST BLOCKING SHALL BE PROVIDED AT ALL BENDS, VALVES, AND FITTINGS AND WHERE A CHANGE IN ALIGNMENT OCCURS. THRUST BLOCKING MAY REQUIRE TO BE RODDED IF DIRECTED TO DO SO BY THE ENGINEER.
27. ALL UNDERGROUND FITTINGS SHALL BE MECHANICAL JOINT, DUCTILE IRON COMPACT FITTINGS UNLESS OTHERWISE NOTED. THE COST OF FITTINGS SHALL BE INCIDENTAL TO COST OF PIPE UNLESS OTHERWISE NOTED IN BID FORM.
30. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL POWER COMPANY ANY ADDITIONAL SUPPORT OF EXISTING POWER POLES AS REQUIRED FOR THE PIPELINE TRENCH EXCAVATION. ALL COST OF SUCH WORK SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
31. PROVIDE TEMPORARY LINER (STRAW AND NETTING) FOR ALL DISTURBED DITCH LINES. THE CONTRACTOR SHALL REMOVE AND REINSTALL ALL FENCE, SIGNAGE, MAILBOXES, ETC. AS REQUIRED FOR PIPE INSTALLATION. THE COST OF ANY ADDITIONAL FENCE MATERIALS REQUIRED SHALL BE INCLUDED IN CONTRACTORS BID.
32. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RECONNECTION OF ANY WATER SERVICE DISTURBED AS A RESULT OF THE CONSTRUCTION.
33. INTERRUPTION OF WATER SERVICE SHALL BE LIMITED TO 4 HOURS. INDIVIDUAL SERVICE CONNECTION INTERRUPTIONS SHALL BE SCHEDULED BETWEEN REGULAR WORKING HOURS UNLESS OTHERWISE PERMITTED BY THE UTILITY OWNER. WATER SERVICES SHALL BE RESTORED WITHIN THE SAME DAY.
34. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING LOCATION, SIZE, TYPE AND ELEVATION OF ALL UNDERGROUND UTILITIES, AS WELL AS RECONNECTING ANY WATER AND/OR SANITARY SEWER SERVICES DISTURBED DURING CONSTRUCTION, EVEN IF THEY ARE NOT SHOWN ON THE PLANS. THE WATER LINE SHALL BE INSTALLED AS TO PROVIDE A MINIMUM OF 3 FEET COVERAGE ABOVE THE TOP OF THE PIPE FROM FINISHED GRADE, UNLESS SHOWN DIFFERENTLY ON PLANS. THE CONTRACTOR SHALL VERIFY THAT ALL NEW WATER AND SANITARY SEWER LINES HAVE TEN (10') FEET HORIZONTAL CLEARANCE BETWEEN EACH OTHER.
35. THE CONTRACTOR IS HEREIN FOREWARNED AS TO THE POSSIBILITY OF HAVING TO VARY THE DEPTH OF THE PIPELINE INSTALLATION TO ACHIEVE MINIMUM CLEARANCE OF EXISTING OR PROPOSED UTILITIES OR STORM DRAINAGE WHILE MAINTAINING A MINIMUM COVER SPECIFIED (WHETHER EXISTING OR PROPOSED PIPELINES, CONDUITS, CABLES, MAINS, STORM DRAINAGE ARE SHOWN ON THE PLANS OR NOT).
36. CONNECTING TO EXISTING WATER MAINS MAY ALTER SUCH LINES TO THE EXTENT THAT THESE PIPELINES WITH EXISTING PIPE BENDS, VALVES AND OTHER RELATED APPURTENANCES MAY ALSO REQUIRE REACTION BLOCKING; THIS IS ALSO THE RESPONSIBILITY OF THE CONTRACTOR.
37. THE CONTRACTOR SHALL SUBMIT HIS PROPOSED METHOD OF ANCHORING TO THE ENGINEER FOR REVIEW AND APPROVAL OF RESTRAINING ALL PIPE, PIPE BENDS, VALVES AND OTHER RELATED APPURTENANCES. ANCHORING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONNECTING TO EXISTING WATER MAINS MAY ALTER SUCH LINES TO THE EXTENT THAT THESE PIPELINES WITH EXISTING PIPE BENDS, VALVES AND OTHER RELATED APPURTENANCES MAY ALSO REQUIRE REACTION BLOCKING; THIS ALSO THE RESPONSIBILITY OF THE CONTRACTOR.
38. THE CONTRACTOR SHALL WARRANT ALL WORK FOR A PERIOD OF ONE (1) YEAR FROM THE FINAL DATE OF ACCEPTANCE BY THE OWNER AND SHALL BE RESPONSIBLE FOR THE REPAIR AND/OR REPLACEMENT OF ALL FAILURES DETERMINED BY THE OWNER TO BE CAUSED BY WORKMANSHIP AND/OR SUBSTANDARD MATERIALS.
39. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE OWNER, THE INSTALLATION OF ALL WATER MAINS, APPURTENANCES, SHUT-DOWNS, TIE-INS, TESTING AND WORK REQUIRED.
40. THE CONTRACTOR AT ALL TIMES SHALL MAINTAIN PROPER BARRICADING, DUST CONTROL, TRAFFIC CONTROL, SHORING AND SAFETY MEASURES OF EVERY NATURE.
41. ALL REQUIRED TESTING (CHLORINATION, BACTERIOLOGICAL, HYDROSTATIC AND LEAKAGE) SHALL BE COMPLETED PRIOR TO PLACING ANY WATER MAIN OR APPURTENANCE INTO SERVICE AND SHALL BE PERFORMED UNDER THE SUPERVISION OF THE OWNER OR HIS REPRESENTATIVE.
42. WATER MAINS, SERVICES AND APPURTENANCES SHALL NOT BE BACKFILLED PRIOR TO INSPECTION, FIELD MEASUREMENTS AND TESTING UNTIL APPROVED BY THE OWNER.
43. MAINTAIN SERVICE FROM EXISTING WATER LINES UNTIL DIRECTED BY ENGINEER TO TRANSFER SERVICES TO NEW WATER LINE. THE CONTRACTOR SHALL NOT MAKE ANY CONNECTION OF NEW WATER LINE(S) TO EXISTING WATER LINE(S) OR TRANSFER SERVICES (IF REQUIRED) UNTIL SATISFACTORY HYDROSTATIC PRESSURE TEST AND BACTERIOLOGICAL TEST RESULTS HAVE BEEN OBTAINED AND CONFIRMED ACCEPTABLE.
44. FIRE HYDRANTS AND VALVES REMOVED DURING THE COURSE OF THIS WORK SHALL REMAIN THE PROPERTY OF ORANGE-ALAMANCE WATER SYSTEM, AND DISPOSAL OF SUCH SHALL BE COORDINATED WITH THE TOWN.
45. LINE ABANDONMENT SHALL CONSIST OF EMPTYING AND PLUGGING EXISTING LINES THAT ARE REPLACED AND SHALL BE INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL PAYMENT WILL BE ALLOWED