

Technical Specification 003.01**FIELD ENGINEERING****1.0 General**

- a) The intent of this specification is to briefly describe the responsibilities of the Engineer and the utility contractor with regards to field engineering for a water and / or sewer project permitted in the County's name as public infrastructure.
- b) For a Brunswick County Capital Improvement Program (CIP) project Article 11 of the Brunswick County General Conditions of the Contract is also a part of this specification and is fully incorporated herein. Where a conflict may exist between this technical specification and Article 11 of the General Conditions, this specification shall be subordinate to Article 11 of the General Condition of the Contract.

2.0 Construction Layout

- a) It shall be the Engineer's responsibility to:
 - 1) Perform all required field surveying and engineering in order to produce accurate plans for the project.
 - 2) For projects that involve public sewer, the engineer shall field locate all wells within the construction project limits and within the radius of any wellhead protection zone required by the North Carolina Department of Environmental and Natural Resources / Public Water Supply Section, and to show the location of these wells and wellhead protection radii on the engineered drawings submitted to County Engineering for plan review and approval. They shall also be shown on the asbuilt drawings.
 - 3) Establish all required horizontal and vertical control required for the project work area for the contractor by utilizing permanent and temporary benchmarks and showing these benchmarks on the engineered plans.
- b) It shall be the utility contractor's responsibility to:
 - 1) Utilize the provided bench marks for vertical and horizontal control as indicated on the plans. It shall be the responsibility of the utility contractor to perform all of the field horizontal and vertical control of the facilities, and to maintain or replace these points and to provide such supplemental and additional finished lines, offsets, grades, and other measurements as may be required to ensure control and completion of the work, including staking the work limits of any utility easement and/or rights-of-way.
 - 2) All permanent and temporary benchmarks used during construction layout shall be noted on the record drawings and asbuilt drawings.

3.0 Asbuilt Drawings

- a) It shall be the utility contractor's responsibility to:
 - 1) Maintain a marked up set of the construction drawings that accurately reflects all changes made to the work as approved by the Engineer and/or County staff.
 - 2) Provide the record drawings to the Engineer at the end of the project so that accurate asbuilt drawings can be produced by the Engineer.
- b) It shall be the Engineer's responsibility to:
 - 1) Provide asbuilt drawings to the County at the end of the project in accordance with:
 - a) The Brunswick County Construction Checklist, and
 - b) County Technical Specification TS 010.01: As-Built Drawings.