

2.3.7 SUBSURFACE INVESTIGATION REQUIREMENTS

2.3.7.1 GENERAL

1. The purpose of subsurface investigations are to provide sufficient data to properly evaluate conditions relative to design or construction situations for structure, site and utility work.
2. Subsurface investigations shall comply with the State Building Code for this project and the additional requirements included herein.
3. While no permits are required, all requirements that are necessary for permits shall be complied with.
4. Subsurface data, whether existing or new, should be obtained for any building, additions, site work, etc.
5. For borings, they shall generally be completed according to the requirements of the Connecticut Department of Transportation (DOT), as to methods, sampling, etc.

2.3.7.2 PROGRAM REQUIREMENTS

1. Subsurface investigations shall extend below footings to a depth where the intensity of the footing pressure will have a negligible effect on the soil. In addition, if borings encounter refusal, whether boulders, cemented soils, ledge rock, etc., several of them shall extend a minimum of five feet below the lowest required excavation elevation.
2. Subsurface investigations shall be made for site work if excavation will be required, or where unsuitable, unstable or highly organic materials might occur in construction areas.
3. Subsurface investigations may require seismic or other types or programs to determine limits of materials that are unsuitable or that may cause additional construction costs.
4. If construction is to occur below existing grades, (elevator pits, floors, pavements, sumps, etc.), groundwater observation wells shall be installed with provisions for periodic readings from the time of completion until Contract Documents are submitted.
5. Investigations shall be so located that minor revisions to proposed construction will not require extrapolation of data.
6. Where piles are anticipate, several borings, using driven casing as opposed to drilled casing, shall be completed. Driving criteria and blow counts on casing are to be recorded.
7. Prior to design of pile foundations an Investigation and Report shall be prepared in conformance with Pile Foundations of the requirements of the State Building Code. A Geotechnical Engineer shall be engaged for only large and/or complicated foundations.

2.3.7.3 SPECIFIC REQUIREMENTS

1. The subsurface investigations "As Drilled" locations shall be determined by a licensed land surveyor. Elevations shall be based on the project datum. A location plan sealed by the surveyor shall be submitted with the subsurface investigation report, unless done as a part of a separate surveying contract, in which case the survey information shall be provided to the subsurface investigation contractor for inclusion in the report.
2. Subsurface investigation shall be performed under the supervision of a licensed engineer. Complete visual descriptions of all materials, certified by a licensed engineer well versed in the soils engineering field, shall be recorded in the investigation report. Soils descriptions shall be according to ASTM D 2488, with the description of the type of material, except for topsoil, limited to the definitions or combinations thereof of Part 3 of ASTM D 2488. Rock descriptions shall include type, condition, and if cored, the % recovery and the Rock Quality Designation.
3. All subsurface investigation data and test results shall be on the Design Development Drawings.
4. For borings, a standard sample shall be obtained from ground surface. Also, several 18" test pits shall be excavated to verify the depth of topsoil and construction suitability of the surface soils.
5. Proposals are to be in a unit price format with estimated quantities provided by the consultant.

2.3.7.4 CONTRACT DOCUMENT REQUIREMENTS

1. The complete subsurface data shall be included on the contract documents. The investigation locations shall be indicated on a plan and tied to existing permanent features that are to remain.