SCOPE OF WORK

SUNY Alfred Sustainable Advanced Manufacturing Center
Wellsville Campus – SUNY Alfred
Wellsville, New York

Contractor shall furnish all labor, equipment and materials necessary to complete test borings as described herein.

TEST BORING PROGRAM

Contractor shall provide all labor, equipment and supplies necessary to complete all work described herein. Contractor shall provide a drill rig with sufficient manpower and ancillary equipment. This equipment shall be mobilized to the project site at start of the work on the first day of work and will include, but will not be limited to:

- Truck-mounted drill rig of sufficient size to complete the work;
- a minimum of 150 feet of 4-inch I.D. hollow stem augers;
- drilling rods, as necessary for drilling;
- two split spoon samplers, 1-inch I.D. by 24-inches long;
- NX-sized core barrel, 5-ft. minimum length, with suitable diamond bit;
- small tools;
- new glass, one-quart or 8-ounce soil sample jars; and
- new wooden core boxes, minimum 3-ft. in length.

The Contractor shall drill up to seven (7) test borings with continuous split-spoon sampling to a depth of twelve (12) feet below ground surface (bgs) and standard sampling from twelve (12) feet to completion depth at the locations selected by Fisher Associates representatives as approximately shown on the attached figure (Figure 1 – Option 3). At this time, the exploration program shall include:

Building Area Test Borings (B-1 through B-5):

- One (1) test boring to a depth of 100-feet with continuous sampling to twelve (12) feet below ground surface (bgs) and standard sampling to completion;

- Two (2) test borings to a depth of forty (40) feet with continuous sampling to twelve (12) feet bgs and standard sampling to completion; and,

- Two (2) soil borings to a depth of thirty (30) feet bgs with standard sampling to completion.

In the event bedrock is encountered before reaching the completion depth of the 100-foot soil boring, a ten (10) foot rock core will be collected (two five-foot runs).

Pavement Area Test Borings (P-1, P-2):

- Two (2) soil borings to the depth of ten (10) feet with continuous sampling.

INFILTRATION TEST INSTALLATION REQUIREMENTS:

The Contractor shall install four (4) infiltration test points (I-1 through I-4). This will consist of augering a hole to a depth of 6 ft bgs. After augering you will install a 4" diameter solid PVC pipe to the bottom. The annulus space between the pipes and the boreholes will need to be backfilled, prior to performing the test. Fill casing with clean water to a depth of 24" and allow pre-soaking for 24 hours.

Fisher Associate's personnel will conduct the infiltration testing after the pre-soaking. Upon completion of the infiltration testing remove the PVC piping and backfill as described below. Assume 1-day for Fisher Associates to conduct the tests prior to removal. The exploration program may be adjusted or revised by the Engineer based on conditions encountered in the field. However, the exploration program will generally follow the outline noted above and as described in the Subsurface Exploration Quotation Sheet contained in Attachment B.

The contractor should also be aware that there is the potential for encountering former foundations/slabs/concrete mats from the former refinery. In the event that these are encountered, there may be a need to determine the thickness of the pad. The aerial extent will be determined via alternate methods (e.g. GPR). A cost will be included in Attachment B to compensate for time expended on these pads.

In addition to the ASTM Standards for soil and rock investigations, it should be noted that the site is a NYSDEC State Superfund Site and all workers will be properly trained in the procedures of CFR 1910.120 and conduct their work in accordance with the November 2012 NYSDEC-approved Site Excavation Work Plan prepared by URS Corporation, and prepare a Site Specific Health and Safety Plan (HASP) to address site concerns using the Site Specific HASP developed for the site that will cover the anticipated work to be performed at the site. The NYSDEC-approved Site Excavation Work Plan and the template to be used for the Site Specific HASP are included as Attachments C and D respectively at the end of this section. The complete Site Management Plan (SMP) prepared by URS Corporation is available upon request from the Engineer.

The exploration program may be adjusted or revised by the Engineer based on conditions encountered in the field.

Soil samples shall be collected from each spoon sample and placed in clean glass jars and clearly labeled with the job name, job number, the boring number, the sample number, sample depth interval, date of sample collection and blow counts per 6 inches.

All soil and or rock samples will become the property of the owner and will be delivered to the Engineer at their Rochester, New York office after any soil testing is completed. The cost to deliver the samples shall be the responsibility of the Contractor.

TEST BORING LOGS

The Contractor shall prepare and supply the Engineer with all exploration logs for the completed explorations. The logs shall contain the information noted above and shall be prepared in accordance with accepted practice. Soil and rock classifications shall be based on visual observation of the recovered soil samples. The draft boring logs shall be emailed to the Engineer within three days of boring completion. The final boring logs shall be emailed and mailed to the Engineer within one week of boring completion.

DRILLING AND SAMPLING PROCEDURE

The drill holes shall be advanced by any method satisfactory to Engineer, and samples shall be obtained at agreed upon depths and/or intervals. Samples shall be obtained using accepted standards or methods approved by Engineer. Where Standard Penetration Tests are taken, they shall be obtained using the following procedures:

a. Standard Penetration Tests, rock coring shall be in accordance with the latest revision of ASTM Procedures.

Contractor shall be responsible for complying with the standard of care of the industry. Completed and/or abandoned holes shall be backfilled with concrete grout placed to the base (bottom) of the existing pavement section, except as noted below. In areas of pavement, a bituminous plug shall be placed at the ground surface and shall be the same thickness as the exiting bituminous pavement. In grass-covered or vegetated areas, 3-in. of soil cover shall be placed over the grout backfill. Spoils shall be disposed by the Contractor. The Contractor shall assume all liability connected with settling or caving and hold Engineer harmless from such.

GENERAL PROVISIONS

1. The Contractor shall be responsible for obtaining all permits required to carry out such work.
2. Contract prices provide should be based on New York State Prevailing Wage Rates.
3. Potential contaminants may be present at the project site. Engineer will provide environmental monitoring during drilling, and drilling or excavating will be temporarily halted if elevated levels of VOCs are encountered. Subsurface exploration activities will resume when VOC levels return to appropriate levels.

   Personal Protective Equipment (PPE) for drill personnel shall be minimum Level D. Drilling will be halted and PPE modified if conditions require PPE levels beyond Level D.
4. All excess spoil shall be containerized and removed from the site.
5. Decontaminate all drilling equipment after each test boring. Decontamination fluids will be containerized by the drilling contractor for disposal off site.

All boring locations shall be backfilled with cuttings to within two (2) feet of the ground surface upon completion unless dictated by other conditions (artesian, environmental, etc.). The surface completion shall match the existing conditions (i.e. asphalt patch or concrete grout).

LABORATORY SOIL TESTING

The Contractor will conduct testing on selected soil/rock samples collected from the site during the soil boring investigations as directed by the Engineer. The soil/rock testing will include:

Five (5) moisture content determinations,
Five (5) Grain Size Analyses (Sieve and Hydrometer), and
Two (2) Atterberg Limits Analyses.

The Contractor shall deliver the recovered samples to the Engineer and the Engineer shall select the samples for laboratory analysis after completion of the drilling and review of the logs and samples.