ITEM 551.150002TZ - LATERAL LOAD TESTING - STATNAMIC

DESCRIPTION. This work shall consist of furnishing all materials, equipment and labor necessary for conducting Statnamic lateral load tests in accordance with ASTM D7383 and reporting the test results. The Contractor shall supply all material, equipment, labor and reports as specified prior to, during and after the load test. The Statnamic Supplier shall instrument and monitor the piles used for the Statnamic lateral load test, as approved by the Engineer, with the Contractor providing auxiliary equipment and services as detailed herein. The testing shall be performed as specified and shown on the Plans. At the end of the testing all test apparatus shall be removed.

The Contractor shall furnish and include all costs in the bid item for all materials, personnel and equipment as described in the Plans and Special Provisions and as required by the Contractor to adequately perform the Statnamic lateral load tests. The Contractor shall engage the services of an approved Statnamic Supplier, for instrumenting, conduction and reporting of the load tests. The Contractor must provide a minimum of 30 days notice to the Statnamic Supplier before the Statnamic load testing so that internal instrumentation can be installed in the test piles. The Statnamic Supplier shall be contacted at:

Applied Foundation Testing, Inc.
4035 J Louis Street
Green Cove Springs, Florida 32043
Phone: 904-284-1337
Fax: 904-284-1339

The Contractor, in cooperation with the Statnamic Supplier, shall supply and supervise the mobilization, assembly and operation of the Statnamic load test equipment. The Statnamic Supplier shall provide and install the required instrumentation in the piles, acquire the test data during testing and culminate the Statnamic test data into a report.

LOCATION. The locations of the Statnamic lateral load tests are indicated on the Plans.

MATERIALS. The Contractor in cooperation with the Statnamic Supplier will supply all materials and equipment required to install the Statnamic apparatus, conduct the load tests and remove the load test apparatus as required. Such materials and equipment include but are not limited to:

1. One (1) or more Statnamic apparatus as required for each Statnamic lateral load test. Each Statnamic device shall be equipped with the necessary pressure chamber and cylinder, load, acceleration and deflection transducers, reaction mass carriage, reaction masses, exhaust silencer, and Statnamic fuel.

2. A hemispherical bearing assembly, adequate to distribute the applied Statnamic test load to the shaft.

3. Statnamic load, acceleration and deflection signal conditioner and data acquisition system for the Statnamic device are also supplied. All required electronic equipment for the recording, processing and storage of the Statnamic test shall be operated by the Statnamic
Supplier.

4. Power source adequate for electronic equipment and a data acquisition system for the strain gages.

5. A crane or other lifting equipment capable of lifting the Statnamic components (weight of the components to be provided by the Statnamic Supplier to the Contractor), operator and labor for unloading Statnamic trucks during mobilization and demobilization and for assembling and disassembling the Statnamic lateral load test.

6. An adequate area for the handling of the Statnamic equipment during the load test program will be required. For these over water tests, the Statnamic device will require a separate barge from which the testing will be performed. The Statnamic barge should be kept stationary to resist river flow. The Contractor shall also provide all incidental over water equipment associated with the erection of the test and the transportation of personnel and equipment to and from the barge.

7. Materials and installation required to provide a suitable reference beam oriented perpendicular to the direction of the loading. Reference beam supports shall be at least five (5) pile diameters clear distance from the test pile. The supports shall be isolated from wave action for over water tests. Typically, this is accomplished by vertically installing a smaller casing inside of a larger casing.

8. Materials that are supplied to the site become the responsibility of the Contractor at the conclusion of the load test and shall be removed from the job site.

PERSONNEL. Geotechnical engineers experienced in the implementation of Statnamic testing to instrument the test shafts, assist with test setup, perform the testing, assist with disassembly of test apparatus, provide additional assistance as needed with pertinent Statnamic testing issues.

PREPARATION. The Contractor shall notify the Engineer at least 30 days in advance before performing the Statnamic lateral load test. The Contractor shall perform site and pile preparation. Pile preparation includes the cutting and cleaning of the surface of the test pile down to test elevation. For over water or elevated work areas, the area provided must be level and at the test elevation. The support falsework platform shall be assembled and installed by the Contractor at each Statnamic lateral test location over water.

PROCEDURE. The Contractor shall assist the Statnamic Supplier as necessary during all aspects of the Statnamic lateral load testing. A suitable area adjacent to the test pile shall be provided by and for the Contractor to assemble the Statnamic apparatus and other attachments under the direction of the Statnamic Supplier and the Engineer.

After completion of each load test and approval from the Engineer, the Contractor shall remove any equipment, material, debris, etc. from the site. The test piles shall be cut off as shown on the Plans. The Contractor shall dispose of the remaining portion of the pile at no expense to the State.
INSTRUMENTATION. Load-deflection instrumentation along pile shaft shall be as required on the Plans. In addition to providing the required instrumentation, the Contractor shall also provide a data acquisition system appropriate for recording the data of each specific type of instrument. The resistance strain gages and internal accelerometers will require specialized equipment capable of digitizing at suitably fast rates. The Statnamic Supplier shall supply the necessary instrumentation and associated equipment to collect and record the test data. The Statnamic Supplier shall collect and record the test data in accordance with ASTM D 7383.

WAITING PERIOD. Statnamic lateral load testing may begin immediately after the second restrike with approval of the Engineer.

COORDINATION WITH UNDERWATER NOISE ATTENUATION SYSTEM(S) Contractor shall ensure full coordination, including but not limited to spatial coordination, between the Contractor’s design and implementation of the underwater noise attenuation system(s) and the Contractor’s design and implementation of the pile load test and measurement systems and all other equipment and materials used for the works.

REPORTS. The following documentation shall be prepared by the Contractor for each load test: Pre-Installation Report, Post-Installation Report, Certification of the Loading System and Final Report. Reports shall be prepared in conformance with the requirements of ASTM D 7383, taking due allowance for the non-axial test configuration

Hard copies of all reports shall be organized and bound in a professional manner. Reports that are unorganized and prepared in a careless manner will be rejected and returned to the Contractor for revision. In addition to hard copies of reports, all data shall be furnished electronically in non-password protected Microsoft Excel®, on compact discs. In addition, all reports shall be furnished as non-protected portable document format (pdf) files on compact discs.

METHOD OF MEASUREMENT

A. Statnamic Lateral Load Test. This work will be measured as the number of Statnamic Lateral Load Tests completed and accepted by the Engineer. A completed Statnamic Lateral Load Test shall be one test conducted on a pile using the referenced method and providing a load equaling the target test load as specified in the Plans and these Special Provisions. A Statnamic lateral load test is completed and accepted when the Engineer is satisfied with the quality of the submitted final pile load test report and the interpretation of the data contained therein.

BASIS OF PAYMENT

A. Statnamic Lateral Load Test. The unit price bid shall include the cost of furnishing all labor, materials, and equipment necessary to satisfactorily complete the work and deliver the product. The cost of installing anchor piles, loading platform, barges, reaction, etc., shall be included in the unit price bid for each load test. The Statnamic lateral load test item includes everything necessary to assemble, install, conduct and remove the Statnamic lateral load test equipment as well as all report preparation. All costs associated with the procurement,
fabrication and installation of the test piles including procurement and installation of the instrumentation are measured and paid for elsewhere in the contract documents. The price and payment shall be considered full compensation for furnishing all materials, providing all tools, equipment, labor and incidentals, providing all assistance to the Engineer and the Statnamic Supplier and performing each Statnamic lateral load test. Subsequent removal of all test apparatus, extraneous material and appurtenances are also included.

Payment will be made under:

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