

**ITEM 17551.5010 M - STATIC AXIAL COMPRESSIVE PILE LOAD TEST  
FOR BORED-IN PILES**

**REASON FOR DISAPPROVAL:**

The special specification for a static axial compressive pile load test for bored-in piles has been revised into a new generic special specification. The following item revises this special specification:

Item 17551.5020 M, Static Axial Compressive Load Test.

This Specification is  
DisApproved

# **ITEM 17551.5010 M - STATIC AXIAL COMPRESSIVE PILE LOAD TEST FOR BORED-IN PILES**

## **DESCRIPTION**

Under this work, furnish all testing materials, equipment and labor necessary to properly perform static pile load tests on bored-in piles where indicated in the plans or where ordered by the Engineer, and prepare a load test report as required under Construction Details.

Perform the work in accordance with the requirements of ASTM D 1143-81: Standard Test Method for Piles Under Static Axial Compressive Load. Engage a professional engineer, licensed and registered to practice in New York State, to design the loading system and procedures.

Definition of Terms:

Load Test Acceptance

Criteria:

The slope of the pile deflection curve at twice the allowable design load is less than a slope of 0.15 mm per kN of applied load, according to the load versus gross settlement curve determined by the Static Pile Load Test.

Design Load:

The load permitted on a pile.

## **MATERIALS**

These are as required by ASTM D 1143-81. Construct the jack stand of steel with machined edges so that the surfaces are square.

## **CONSTRUCTION DETAILS**

Provide the following submittals to the Engineer for approval by the D.C.E.T.S. least thirty (30) days prior to commencing Static Pile Load Test Procedures:

1. Details of the load application and reaction system.
2. Details showing the deflection measurement apparatus and set-up, including that required for determining telltale movements.
3. Load cell, jack, and pressure gauge, calibration curves, determined by an independent laboratory.
4. Certifications for all structural components.

Design a load frame and reaction system that can apply a load of 4 times the allowable design load.

Perform each test in accordance with the requirements of ASTM D 1143-81, except as modified by this specification, as follows:

Sections 3.2.2 and 3.2.3 both apply. Use a calibrated load cell, jack, and pressure gauge for each test.

Firmly embed all supports for the reference beams and wires in the ground at a clear distance of not less than 3 m from the test pile. Locate reaction piles or anchors at least 3 m away from the test pile.

Do not use driven piles or dead load to provide a reaction force.

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Place a thin cardboard shim between bearing surfaces to increase friction and improve bearing contact. If bearing surfaces are slightly non-parallel, place a lead or tempered masonite shim between bearing surfaces. Do not use swivel bearing plates.

Apply the load in accordance with Section 5.6- Quick Load Test Method for individual Piles. Apply the load in increments of 10% of the required test load shown on the Plans. The time interval between load increments is 5 (five) minutes. Do not use Section 6.4 for measurement procedures.

Take and record the readings of time, load, and settlement immediately before and after the application of each load increment. Continue applying load increments until twice the pile design load is reached. Maintain the full test load for 10 minutes, with readings recorded at 2-1/2, 5 and 10 minutes. Remove the test load in 4 approximately equal decrements with 5 minute intervals between decrements.

Prepare a load test report according to the requirements in Appendix C of FHWA manual entitled "Static Testing of Deep Foundations," Publication No. FHWA-SA-91-042.

**METHOD OF MEASUREMENT**

Payment will be made for each test prepared, conducted, and documented as required by this specification.

**BASIS OF PAYMENT**

The unit price for each test includes the cost of all equipment, materials, and labor necessary to successfully complete and document each test.