



# Florida Department of Transportation

JEB BUSH  
GOVERNOR

605 Suwannee Street  
Tallahassee, FL 32399-0450

DENVER J. STUTLER, JR.  
SECRETARY

July 21, 2005

Mr. Donald Davis  
Program Operations Engineer  
Federal Highway Administration  
227 N. Bronough Street, Suite 2015  
Tallahassee, Florida 32301

Re: Office of Design, Specifications  
Section 455  
Proposed Specification: 4550021 – Structural Steel and Miscellaneous Metals.

Dear Mr. Davis:

We are submitting, for your approval, two copies of a proposed Supplemental Specification for Structural Steel and Miscellaneous Metals.

This change was made by Karen Byram, of the State Specifications Office as a result of changes made to Sections 560, 561, 562, 971 or the addition of the new Section 975.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via Email to SP965DB or [duane.brautigam@dot.state.fl.us](mailto:duane.brautigam@dot.state.fl.us).

If you have any questions relating to this specification change, please call Duane F. Brautigam, State Specifications Engineer at 414-4110.

Sincerely,

Signature on file

Duane F. Brautigam, P.E.  
State Specifications Engineer

DFB/jho  
Attachment

cc: General Counsel  
Florida Transportation Builders' Assoc.  
State Construction Engineer

**STRUCTURAL STEEL AND MISCELLANEOUS METALS.**  
**(REV 4-15-05)**

SUBARTICLE 455-2.1 (Pages 465-467) is deleted and the following substituted:

**455-2.1 General:** Employ a professional testing laboratory, or Specialty Engineer with prior load test experience, to conduct the load test in compliance with these Specifications, to record all data, and to furnish reports of the test results to the Engineer except when the Contract Documents show that the Department will supply a Geotechnical Engineer to provide these services.

Perform the load test by applying a load up to the load required in the Contract Documents or to the failure load, whichever occurs first.

Do not apply test loads to piles sooner than 48 hours (or the time interval shown in the plans) after driving of the test pile or reaction piles, whichever occurs last.

Allow up to four weeks after the last load test for the analysis of the load test data and to provide all the estimated production tip elevations. If the Contractor is willing to construct production foundation elements in areas designated by the Engineer, tip elevations will be determined in these areas beginning seven days after the receipt of the load test data which represents the designated area.

Do not begin static load testing of drilled shafts until the concrete has attained a compressive strength of 3,400 psi [23.5 MPa]. The Contractor may use high early strength concrete to obtain this strength at an earlier time to prevent testing delays.

Load test piles/shafts in the order directed by the Engineer. The Department will furnish certain load test equipment and/or personnel when shown in the plans. Inspect all equipment to be furnished by the Department at least 30 days prior to use, and notify the Engineer of any equipment that is not in satisfactory operating condition. The Department will consider any necessary repairs ordered by the Engineer to place the equipment in satisfactory operating condition as Unforeseeable Work. Provide the remainder of the equipment and personnel needed to conduct the load tests. Unless shown otherwise in the Contract Documents, provide all equipment, materials, labor, and technical personnel required to conduct the load tests, including determination of anchor reaction member depths. In this case, provide a loading apparatus designed to accommodate the maximum load plus an adequate safety factor.

While performing the load test, provide safety equipment, and employ safety procedures consistent with the latest approved practices for this work. Include with these safety procedures adequate support for the load test plates and jack to prevent them from falling in the event of a release of load due to hydraulic failure, test pile/shaft failure, or any other cause.

Include in the bid the cost of transporting load test equipment and instrumentation supplied by the Department from their storage location to the job site and back. Handle these items with care. The Contractor is responsible for the safe return of these items. After completion of the static load tests, return all Department furnished equipment in satisfactory operating condition. Repair all damage to the test equipment furnished by the Department to the satisfaction of the Engineer. Clean all areas of rust on structural steel items, and ~~repair~~*recoat* those areas in accordance with Section ~~561~~*560*. Return all load test equipment supplied by the Department within 30 days after completing the load tests.

The Contractor is responsible for the equipment from the time it leaves its storage area until the time it is returned. During this time, insure the equipment against loss or damage

for the replacement cost thereof (the greater of \$150,000 or the amount shown in the plans) or for the full insurable value if replacement cost insurance is not available.

Notify the Engineer at the preconstruction conference or no later than 30 days before beginning test pile installation of the proposed testing schedule so that items supplied by the Department may be reserved. Notify the Department at least ten working days before pick-up or return of the equipment. During pick-up, the Department will complete a checklist of all equipment placed in the Contractor's possession. The Department will later use this checklist to verify that the Contractor has returned all equipment. Provide personnel and equipment to load or unload the equipment at the Department's storage location. Provide lifting tongs or nylon slings to handle Department owned test girders. Do not perform cutting, welding, or drilling on Department owned girders, jacks, load cells, or other equipment.

SUBARTICLE 455-2.9 (Page 472) is deleted and the following substituted:

**455-2.9 Disposition of Loading Material:** After completing all load tests, clean, remove all rust and debris from Department equipment, ~~repaint~~*recoat* all areas having damage to the ~~paint-coat~~ in accordance with Section ~~561~~*560*, and return all load test equipment supplied by the Department to its designated storage area. Repair any structural damage to Department owned equipment to the satisfaction of the Engineer. Notify the Department at least ten working days in advance so that arrangements can be made to unload the equipment. Remove all equipment and materials, which remains the Contractor's property, from the site. Clean up and restore the site to the satisfaction of the Engineer.

SUBARTICLE 455-8.7 (Page 494) is deleted and the following substituted:

**455-8.7 PaintingCoating: PaintCoat** exposed parts of steel piling, wedging, bracing, and splices in accordance with the provisions for ~~painting-coating~~ structural steel as specified in Section ~~561~~*560*, except as might be otherwise specified in the plans.

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**455-2.1 General:** Employ a professional testing laboratory, or Specialty Engineer with prior load test experience, to conduct the load test in compliance with these Specifications, to record all data, and to furnish reports of the test results to the Engineer except when the Contract Documents show that the Department will supply a Geotechnical Engineer to provide these services.

Perform the load test by applying a load up to the load required in the Contract Documents or to the failure load, whichever occurs first.

Do not apply test loads to piles sooner than 48 hours (or the time interval shown in the plans) after driving of the test pile or reaction piles, whichever occurs last.

Allow up to four weeks after the last load test for the analysis of the load test data and to provide all the estimated production tip elevations. If the Contractor is willing to construct production foundation elements in areas designated by the Engineer, tip elevations will be determined in these areas beginning seven days after the receipt of the load test data which represents the designated area.

Do not begin static load testing of drilled shafts until the concrete has attained a compressive strength of 3,400 psi [23.5 MPa]. The Contractor may use high early strength concrete to obtain this strength at an earlier time to prevent testing delays.

Load test piles/shafts in the order directed by the Engineer. The Department will furnish certain load test equipment and/or personnel when shown in the plans. Inspect all equipment to be furnished by the Department at least 30 days prior to use, and notify the Engineer of any equipment that is not in satisfactory operating condition. The Department will consider any necessary repairs ordered by the Engineer to place the equipment in satisfactory operating condition as Unforeseeable Work. Provide the remainder of the equipment and personnel needed to conduct the load tests. Unless shown otherwise in the Contract Documents, provide all equipment, materials, labor, and technical personnel required to conduct the load tests, including determination of anchor reaction member depths. In this case, provide a loading apparatus designed to accommodate the maximum load plus an adequate safety factor.

While performing the load test, provide safety equipment, and employ safety procedures consistent with the latest approved practices for this work. Include with these safety procedures adequate support for the load test plates and jack to prevent them from falling in the event of a release of load due to hydraulic failure, test pile/shaft failure, or any other cause.

Include in the bid the cost of transporting load test equipment and instrumentation supplied by the Department from their storage location to the job site and back. Handle these items with care. The Contractor is responsible for the safe return of these items. After completion of the static load tests, return all Department furnished equipment in satisfactory operating condition. Repair all damage to the test equipment furnished by the Department to the satisfaction of the Engineer. Clean all areas of rust on structural steel items, and recoat those areas in accordance with Section 560. Return all load test equipment supplied by the Department within 30 days after completing the load tests.

The Contractor is responsible for the equipment from the time it leaves its storage area until the time it is returned. During this time, insure the equipment against loss or damage

for the replacement cost thereof (the greater of \$150,000 or the amount shown in the plans) or for the full insurable value if replacement cost insurance is not available.

Notify the Engineer at the preconstruction conference or no later than 30 days before beginning test pile installation of the proposed testing schedule so that items supplied by the Department may be reserved. Notify the Department at least ten working days before pick-up or return of the equipment. During pick-up, the Department will complete a checklist of all equipment placed in the Contractor's possession. The Department will later use this checklist to verify that the Contractor has returned all equipment. Provide personnel and equipment to load or unload the equipment at the Department's storage location. Provide lifting tongs or nylon slings to handle Department owned test girders. Do not perform cutting, welding, or drilling on Department owned girders, jacks, load cells, or other equipment.

SUBARTICLE 455-2.9 (Page 472) is deleted and the following substituted:

**455-2.9 Disposition of Loading Material:** After completing all load tests, clean, remove all rust and debris from Department equipment, recoat all areas having damage to the coat in accordance with Section 560, and return all load test equipment supplied by the Department to its designated storage area. Repair any structural damage to Department owned equipment to the satisfaction of the Engineer. Notify the Department at least ten working days in advance so that arrangements can be made to unload the equipment. Remove all equipment and materials, which remains the Contractor's property, from the site. Clean up and restore the site to the satisfaction of the Engineer.

SUBARTICLE 455-8.7 (Page 494) is deleted and the following substituted:

**455-8.7 Coating:** Coat exposed parts of steel piling, wedging, bracing, and splices in accordance with the provisions for coating structural steel as specified in Section 560, except as might be otherwise specified in the plans.