



## *Florida Department of Transportation*

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SECRETARY

July 21, 2015

Khoa Nguyen  
Director, Office of Technical Services  
Federal Highway Administration  
3500 Financial Plaza, Suite 400  
Tallahassee, Florida 32312

Re: State Specifications Office  
Section **548**  
Proposed Specification: **5480805 Retaining Wall Systems.**

Dear Mr. Nguyen:

We are submitting, for your approval, two copies of the above referenced Supplemental Specification.

The changes are proposed by Ben Watson of the State Materials Office to update a test method. FM 5-521 is no longer a valid method and has been replaced with FM 1-T180.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via email to [daniel.scheer@dot.state.fl.us](mailto:daniel.scheer@dot.state.fl.us).

If you have any questions relating to this specification change, please call me at 414-4130.

Sincerely,

Signature on file

Daniel Scheer, P.E.  
State Specifications Engineer

DS/dt

Attachment

cc: Florida Transportation Builders' Assoc.  
State Construction Engineer

**RETAINING WALL SYSTEMS.**(REV ~~6-4157-21~~-15)

SUBARTICLE 548-8.5 is deleted and the following substituted:

**548-8.5 Backfill Placement:**

**548-8.5.1 Compacted Select and Coarse Aggregate Backfill:** A LOT is defined as a single lift of finished embankment not to exceed 500 feet in length or cumulative length of continuous, interconnected walls. Backfill within three feet from the panels and backfill beyond three feet from the panels are separate LOTs. Overlapping retaining wall volumes may be considered one LOT, excluding the three feet width behind the panels. Strips up to eight feet wide between two retaining wall volumes constructed with the same material in one operation may be considered as one LOT with the retaining wall volumes. Isolated compaction operations will be considered as separate LOTs. For multiple phase construction, a LOT will not extend beyond the limits of the phase. When bridge abutments on spread footings are shown in the Plans, the material within three feet behind the wall face and within the limits defined in 548-9.4.2 are considered as separate LOTs.

Place the backfill closely following the erection of each course of precast components or soil reinforcement layers and spread by moving the machinery parallel to the wall face. Do not allow equipment heavier than eight tons closer than three feet behind the wall face. Place backfill in a manner to avoid any damage or disturbance to the wall materials or misalignment of the facing materials. Remove and replace any wall materials which become damaged or disturbed during backfill placement at no cost to the Department, or correct as directed by the Engineer. Remove and reconstruct any misalignment or distortion of the wall facing due to placement of backfill outside the limits of this specification at no cost to the Department.

Perform all coarse aggregate compaction operations using a vibratory compactor (roller or plate compactor) with an operating weight of at least 600 pounds and which produces a centrifugal force of not less than 7,500 pounds. Sheepsfoot, grid rollers or other types of equipment employing a foot are not allowed for any backfill type. Achieve compaction of all backfill types within three feet of the back of the wall face using a power operated roller or plate weighing less than 1,000 pounds. At a distance greater than three feet from the back of the wall, a vibratory roller may be used, provided that the frequency and amplitude combined with bulk weight of the roller has performed satisfactorily at a trial section of the same type of wall. For select backfill, a smooth wheel or rubber tire roller is considered adequate. Ensure that the maximum lift thickness after compaction does not exceed six inches. Decrease the lift thickness if necessary, to obtain specified density.

Ensure all transitions from coarse aggregate backfill to select backfill occur at least six inches above and below any layers of backfill reinforcement. Place a separation geotextile in accordance with 548-2.5.4 between the coarse aggregate backfill and select backfill and embankment.

Perform backfill compaction in a way that the compactor moves in a direction parallel to the wall face and proceeds from a distance not less than three feet behind the wall face toward the end of the soil reinforcement element.

When placing select backfill, ensure that the moisture content of the backfill material prior to and during compaction is uniformly distributed throughout each layer

of material. Use backfill material having a placement moisture content at the dry side of the optimum moisture content. To achieve the required compaction moisture content, use water that meets the requirements of Section 923. ~~Do not use saltwater.~~ Do not transport excessively moist backfill materials to the site for any reason. ~~The Engineer will determine the optimum moisture content in accordance with FM 51-521T180~~ determine the optimum moisture content in accordance with the test method used to determine maximum density in 548-9.

At the end of each day's operation, shape the last level of backfill to permit runoff of rainwater away from the wall face or provide a positive means of controlling runoff away from the wall such as temporary pipe, etc.

**548-8.5.2 Flowable Fill:** Metallic wall components (including metallic soil reinforcements) must not be in partial contact with the flowable fill. If the metallic components contact the flowable fill, the metallic components must be completely encapsulated by the flowable fill.

**RETAINING WALL SYSTEMS.****(REV 7-21-15)**

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Perform all coarse aggregate compaction operations using a vibratory compactor (roller or plate compactor) with an operating weight of at least 600 pounds and which produces a centrifugal force of not less than 7,500 pounds. Sheepsfoot, grid rollers or other types of equipment employing a foot are not allowed for any backfill type. Achieve compaction of all backfill types within three feet of the back of the wall face using a power operated roller or plate weighing less than 1,000 pounds. At a distance greater than three feet from the back of the wall, a vibratory roller may be used, provided that the frequency and amplitude combined with bulk weight of the roller has performed satisfactorily at a trial section of the same type of wall. For select backfill, a smooth wheel or rubber tire roller is considered adequate. Ensure that the maximum lift thickness after compaction does not exceed six inches. Decrease the lift thickness if necessary, to obtain specified density.

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of material. Use backfill material having a placement moisture content at the dry side of the optimum moisture content. To achieve the required compaction moisture content, use water that meets the requirements of Section 923. Do not transport excessively moist backfill materials to the site for any reason. Determine the optimum moisture content in accordance with the test method used to determine maximum density in 548-9.

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