



Florida Department of Transportation

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MEMORANDUM

DATE: November 24, 2015

TO: Specification Review Distribution List

FROM: Daniel Scheer, P.E., State Specifications Engineer

SUBJECT: Proposed Specification: **4070200 Three-Sided Precast Concrete Culvert.**

In accordance with Specification Development Procedures, we are sending you a copy of a proposed specification change.

The changes are proposed by Charles Boyd of the State Structures Design Office to incorporate specification language for stainless steel and FRP reinforcing and prestressing strand into the Standard Specifications.

Please share this proposal with others within your responsibility. Review comments are due within four weeks and should be sent to Mail Station 75 or online at <http://www2.dot.state.fl.us/ProgramManagement/Development/IndustryReview.aspx> . Comments received after **December 22, 2015**, may not be considered. Your input is encouraged.

DS/ot
Attachment

**THREE-SIDED PRECAST CONCRETE CULVERT.
(REV 11-6-15)**

ARTICLE 407-2 is deleted and the following substituted:

407-2 Materials.

Ensure that the materials used for the construction of precast culverts have certification statements from each source, showing that they meet the applicable requirements of the following:

Portland Cement Concrete	Section 346
Reinforcing <i>Steel for Concrete</i>	Section 415
Precast Concrete Drainage Products	Section 449
Riprap	Section 530
Coarse Aggregate*	Section 901
Fine Aggregate*	Section 902
Curing Materials	Section 925
Materials for Concrete Repair	Section 930
Non-Shrink Grout	Section 934
Geotextile Fabrics	Section 985

*The gradation requirements of aggregates are not applicable when using dry-cast concrete.

ARTICLE 407-6 is deleted and the following substituted:

407-6 Other Elements of a Precast Culvert System.

Extend reinforcing from precast sections to provide adequate splice lengths or utilize a mechanical rebar splicing system (*steel reinforcing only*) listed on the Department's Approved Product List (APL) for securing reinforcing dowels for cast-in-place headwalls and wingwalls. Precast headwalls, wingwalls and culvert footings are permitted. Precast culvert footings must span a minimum of three culvert units and provide shear connections between adjacent units with keyed joints or cast-in-place closure sections. Precast footings under wingwalls are not permitted.

Submit all connection details for precast elements to the Engineer for approval. All mechanical connections must be galvanized in accordance with 962-7 or Type 316 (UNS S31600) stainless steel, except in extremely aggressive environments only Type 316L (UNS 31603) stainless steel is permitted for welded connections and Type 316 stainless steel for non-welded shapes and fasteners.

Unless otherwise addressed in the Plans, bedding material and compaction requirements for wingwalls and toe walls shall be the same as required for the footing in 407-12, except that the granular material may be placed to the inside edge of the toe wall.

All requirements of Section 400 and Section 415 apply to the fabrication of cast-in-place elements.-

SUBARTICLE 407-7.4.7 is deleted and the following substituted:

407-7.4.7 Area of Reinforcement: Provide the area of reinforcement as indicated in the Plans or approved shop drawings as a minimum. If welded wire reinforcement is utilized in lieu of mild steel reinforcement, the provisions of 415-6 shall apply. Reinforcing steel areas greater than specified in the shop drawings will be acceptable when the reinforcing spacing is equal or less than specified in the shop drawings. *Substitution of mild steel or welded wire reinforcement for ~~F~~fiber ~~R~~reinforced ~~P~~polymer (FRP) reinforcing, or vice versa, is not permitted.*