



## Florida Department of Transportation

RICK SCOTT  
GOVERNOR

605 Suwannee Street  
Tallahassee, FL 32399-0450

ANANTH PRASAD, P.E.  
SECRETARY

December 5, 2011

Monica Gourdine  
Program Operations Engineer  
Federal Highway Administration  
545 John Knox Road, Suite 200  
Tallahassee, Florida 32303

Re: Office of Design, Specifications  
Section **400**  
Proposed Specification: **4000200 Concrete Structures.**

Dear Ms. Gourdine:

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

These changes are proposed by Andre Pavlov of the State Structures Design Office to no longer require weep holes in box culverts, to require a continuous underdrain for all box culverts, and to clarify weep hole grating and backfill requirements for abutments and retaining walls. If needed, weep holes in box culverts will be detailed in the plans.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via Email to SP965RP or rudy.powell@dot.state.fl.us.

If you have any questions relating to this specification change, please call Rudy Powell, State Specifications Engineer at 414-4280.

Sincerely,

Rudy Powell, Jr., P.E.  
State Specifications Engineer

RP/cah

Attachment

cc: Calvin Johnson, Chief Civil Litigation  
Florida Transportation Builders' Assoc.  
State Construction Engineer

**CONCRETE STRUCTURES.**(REV ~~912-522-11~~)

ARTICLE 400-2 (Page 373) is deleted and the following substituted:

**400-2 Materials.**

Meet the following requirements:

Concrete .....	Sections 346 and 347
Penetrant Sealer .....	Section 413
High Molecular Weight Methacrylate (HMWM)** .....	Section 413
Reinforcing Steel .....	Section 415
Water.....	Section 923
Curing Materials* .....	Section 925
Epoxy Bonding Compounds** .....	Sections 926 and 937
Joint Materials** .....	Section 932
Bearing Pads .....	Section 932
Non-Shrink Grout** .....	Section 934
Class 5 Applied Finish Coatings** .....	Section 975
Galvanizing Compound** .....	Section 562
Dowel Bar Assembly** .....	Section 931
<i>Filter Fabric.....</i>	<i>Section 985</i>

\*The Engineer will allow clean sand and sawdust for certain curing, when and as specified.

\*\*Use products listed on the Department's Qualified Products List (QPL).

ARTICLE 400-6 (Page 385) is deleted and the following substituted:

**400-6 *Underdrain and Weep Holes.***Provide weep holes in all abutments; *and* retaining walls.;

*Provide a continuous underdrain for box culverts in accordance with Design Standards Index No. 289. ~~When shown in the Plans, provide weep holes for and culverts symmetrically on each side over 5 feet in height.~~* Provide weep holes that are at least 3 inches in diameter and not more than 10 feet apart. ~~but do not place any weep holes under the area to be occupied by the base or pavement.~~ Place the outlet ends of the weep holes just above the ground line in front of abutments and retaining walls. ~~In culverts, place weep holes approximately 6 inches above the interior top of the floor slab.~~ Cover the ~~inside ends~~ *exterior openings* of all weep holes with *galvanized* wire mesh and at ~~minimum of least 2 cubic feet<sup>3</sup>~~ *minimum of least 2 cubic feet<sup>3</sup>* of clean, broken stone or gravel *wrapped in Type D 3 filter fabric*, ~~so placed as to allow free drainage but at the same time prevent the fill from washing through.~~ ~~out. From approximately 6 inches below the bottom of the inside ends of the weep holes, carry a column of clean, broken stone or gravel at least 1 ft<sup>2</sup> up against the back of the wall to the surface of the original ground.~~

**CONCRETE STRUCTURES.**

**(REV 12-5-11)**

ARTICLE 400-2 (Page 373) is deleted and the following substituted:

**400-2 Materials.**

Meet the following requirements:

- Concrete ..... Sections 346 and 347
- Penetrant Sealer .....Section 413
- High Molecular Weight Methacrylate (HMWM)\*\*  
..... Section 413
- Reinforcing Steel .....Section 415
- Water.....Section 923
- Curing Materials\* .....Section 925
- Epoxy Bonding Compounds\*\* ..... Sections 926 and 937
- Joint Materials\*\* .....Section 932
- Bearing Pads .....Section 932
- Non-Shrink Grout\*\* .....Section 934
- Class 5 Applied Finish Coatings\*\* .....Section 975
- Galvanizing Compound\*\* .....Section 562
- Dowel Bar Assembly\*\* .....Section 931
- Filter Fabric.....Section 985

\*The Engineer will allow clean sand and sawdust for certain curing, when and as specified.

\*\*Use products listed on the Department’s Qualified Products List (QPL).

ARTICLE 400-6 (Page 385) is deleted and the following substituted:

**400-6 Underdrain and Weep Holes.**

Provide weep holes in all abutments and retaining walls.

Provide a continuous underdrain for box culverts in accordance with Design Standards Index No. 289. Provide weep holes that are at least 3 inches in diameter and not more than 10 feet apart. Place the outlet ends of the weep holes just above the ground line in front of abutments and retaining walls. Cover the exterior openings of all weep holes with galvanized wire mesh and a minimum of 2 cubic feet of clean, broken stone or gravel wrapped in Type D 3 filter fabric, to allow free drainage but prevent the fill from washing through.