

ORIGINATION FORM
Proposed Revisions to the Specifications
(Please provide all information - incomplete forms will be returned)

Date: _____ **Office:** _____
Originator: _____ **Specification Section:** _____
Telephone: _____ **Article/Subarticle:** _____
Email: _____ **Associated Section(s) Revisions:** _____

Will the proposed revision require changes to the following Publications:

Publication	Yes	No	Office Staff Contacted	Date
Standard Plans Index				
Traffic Engineering Manual				
FDOT Design Manual				
Construction Project Administration Manual				
Basis of Estimate/Pay Items				
Structures Design Guidelines				
Approved Product List				
Materials Manual				
Maintenance Specs				

Will this revision necessitate any of the following:

Design Bulletin Construction (DCE Memo) Estimates Bulletin Materials Bulletin

Have all references to internal and external publications in this Section been verified for accuracy?

Synopsis: Summarize the changes:

Justification: Why does the existing language need to be changed?

Do the changes affect either of the following types of specifications (Hover over type to go to site.):

Special Provisions Developmental Specifications

List Specifications Affected: (ex. SP3270301, Dev330TL, Dev334TL etc.)

Contact the State Specifications Office for assistance completing this form.

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- 1. Are changes in line with promoting and making meaningful progress on improving safety, enhancing mobility, inspiring innovation, and fostering talent; explain how?**

- 2. What financial impact does the change have; project cost, pay item structure, or consultant fees?**

- 3. What impacts does the change have on production or construction schedules?**

- 4. How does this change improve efficiency or quality?**

- 5. Which FDOT offices does the change impact?**

- 6. What is the impact to districts with this change?**

- 7. Does the change shift risk and to who?**

- 8. Provide summary and resolution of any outstanding comments from the districts or industry.**

- 9. What is the communication plan?**

- 10. What is the schedule for implementation?**

OPTIONAL DRAINAGE PRODUCTS AND REPAIR SYSTEMS

(REV 6-22-23)

SUBARTICLE 948-2.3.2 is expanded by the following:

948-2.3.2 Additional Requirements for Class II (100-Year Design Service Life), Type S HDPE Pipe: Class II HDPE pipe shall meet the requirements in Table 948-1 in addition to those in 948-2.3. Perforations will not be allowed. Manufacturers may only use ground Class II HDPE pipe for reworked plastic.

948-2.3.2.1 Requirements for Use in Structures with Resilient Connectors: Use gasketed corrugated pipe sleeve adapters to completely seal to and cover the pipe corrugations. Corrugated pipe sleeve adapters shall be an elongated bell with a smooth outer wall, manufactured at a minimum of 12-inches in length and inserted over the double gasketed corrugations. The sleeve adapters shall be manufactured from polypropylene resin compounds in accordance with ASTM F2881. Upon installation, the connection with the resilient connector shall meet the requirements of ASTM F2510.

SUBARTICLE 948-7.2 is expanded by the following:

948-7.2 Additional Requirements for Class II (100-Year Design Service Life) PP Pipe: Meet the requirements in Table 948-3 in addition to those in 948-7.1. Manufacturers may only use ground Class II PP for reworked plastic.

948-7.2.1 Requirements for Use in Structures with Resilient Connectors: For PP pipe 24 inches and less in diameter, use gasketed corrugated pipe sleeve adapters to completely seal to and cover the pipe corrugations. Corrugated pipe sleeve adapters shall be an elongated bell with a smooth outer wall, manufactured at a minimum of 12-inches in length and inserted over the double gasketed corrugations. The sleeve adapters shall be manufactured from polypropylene resin compounds in accordance with ASTM F2881. Upon installation, the connection with the resilient connector shall meet the requirements of ASTM F2510.

For PP pipe 30 inches or greater in diameter, use at least one section of AASHTO M330-Class II Type D (triple wall) pipe at the pipe to structure connection.

Table 948-3 Stress Crack Resistance			
Pipe Location	Test Method	Test Conditions	Requirement
Pipe Liner	FM 5-572, Procedure A	10% Igepal solution at 50°C and 600 psi applied stress, 5 replicates	Average failure time of the pipe liner shall be ≥100 hours, no single value shall be less than 71 hours. ⁽¹⁾
Oxidation Resistance			
Pipe Location	Test Method	Test Conditions	Requirement
Pipe Liner and/or Crown ⁽²⁾	OIT Test (ASTM D3895)	2 replicates (to determine initial OIT value) on the as manufactured (not incubated) pipe.	25.0 minutes, minimum
Pipe Liner and/or Crown ⁽²⁾	Incubation test FM 5-574 and OIT test (ASTM D3895)	Three samples for incubation of 264 days at 85°C ⁽³⁾ . One OIT test per each sample	Average of 3.0 minutes ⁽⁴⁾ (no values shall be less than 2.0 minutes)
Pipe Liner and/or Crown ⁽²⁾	MI test (ASTM D1238 at 230°C/2.16Kg)	2 replicates on the as manufactured (not incubated) pipe.	< 1.5 g/10 minutes
Pipe Liner and/or Crown ⁽²⁾	Incubation test FM 5-574 and MI test (ASTM D1238 at 230°C/2.16Kg)	2 replicates on the three aged sampled after incubation of 264 days at 85°C ⁽³⁾	MI Retained Value ⁽⁴⁾⁽⁵⁾⁽⁶⁾ shall be greater than 80% and less than 120%.

Note: FM = Florida Method of Test.

(1) If due to sample size this test cannot be completed on the liner then testing shall be conducted on a molded plaque sample.

Samples can be removed if test time exceeds 100 hours without failure.

(2) OIT and MI tests on the crown are required when resin used in the corrugation is different than that of the liner.

(3) The incubation temperature and duration can also be 192 days at 90°C or 140 days at 95°C.

(4) The tests for incubated and "as-manufactured" pipe samples shall be performed by the same lab, same operator, the same testing device, and in the same day.

(5) Within each replicate set of tests, the discrepancy range shall be within 9%. If an out-of-range discrepancy occurs, repeat the two MI tests on the same pipe sample. If insufficient material is available, a repeat of one test is acceptable.

(6) The MI retained value is determined using the average MI value of incubated sample divided by the average MI value of as-manufactured pipe sample.