



Florida Department of Transportation

JEB BUSH
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

JOSÉ ABREU
SECRETARY

MEMORANDUM

DATE: April 4, 2005

TO: Specification Review Distribution List

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

SUBJECT: Proposed Specifications Change: 4300410 - Pipe Culverts and Storm Sewers-Laying Pipe

In accordance with Specification Development Procedures, we are sending you a copy of a proposed specification change to Section 430.

This change was proposed by Jerome Taylor of the State Drainage Office to expand the pipe joint watertight requirements of 5 psi to include cross drains and storm drains.

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 to my attention via e-mail at SP965DB or duane.brautigam@dot.state.fl.us. Comments received after May 2, 2005 may not be considered. Your input is encouraged.

DFB/jf

Attachment

COMMENTS:

Submitted by:

Phone #:

**PIPE CULVERTS AND STORM SEWERS-LAYING PIPE.
(REV 3-25-05)**

SUBARTICLE 430-4.1 Pages 391 and 392) is deleted and the following substituted:

430-4.1 General: Lay all pipe, true to the lines and grades given, with hubs upgrade and tongue end fully entered into the hub. When pipe with quadrant reinforcement or circular pipe with elliptical reinforcement is used, install the pipe in a position such that the manufacturer's marks designating "top" and "bottom" of the pipe are not more than five degrees from the vertical plane through the longitudinal axis of the pipe. Do not allow departure from and return to plan alignment and grade to exceed 1/16 inch per foot [5 mm per meter] of nominal pipe length, with a total of not more than 1 inch [25 mm] departure from theoretical line and grade. Take up and relay any pipe that is not in true alignment or which shows any settlement after laying at no additional expense to the Department.

Do not use concrete pipe with lift holes except round pipe which has a inside diameter in excess of 54 inches [1,350 mm] or any elliptical pipe.

Repair lift holes, if present, by use of a hand-placed, stiff, non-shrink, 1-to-1 mortar of cement and fine sand, after first washing out the hole with water. Completely fill the void created by the lift hole with mortar. Cover the repaired area with a 24 by 24 inches [600 by 600 mm] piece of filter fabric secured to the pipe. Use a Class D filter fabric meeting the requirements shown on Design Standards, Index 199.

Secure the filter fabric to the pipe using a method that holds the fabric in place until the backfill is placed and compacted. Use a grout mixtures, mastics, or strapping devices to secure the fabric to the pipe.

Furnish and install a filter fabric jacket around all pipe joints and the joint between the pipe and the structure in accordance with Design Standards, Index Nos. 201 and 280. Use fabric meeting the physical requirements of Type 3 specified on the Design Standards, Index 199. The fabric shall extend a minimum of 12 inches [300 mm] beyond each side of the joint or both edges of the coupling band, if a coupling band is used. The fabric shall have a minimum width of 24 inches [600 mm], and a length sufficient to provide a minimum overlap of 24 inches [600 mm]. Secure the filter fabric jacket against the outside of the pipe by metal or plastic strapping or by other methods approved by the Engineer.

Meet the following minimum joint standards:

Pipe Application	Minimum Standard
Cross Drains	Soil Water-tight
Storm Drains	Soil Water-tight
Gutter Drain	Water-tight
Side Drains	Soil-tight

The test for a soil tight joint allows up to 0.1 gallon [0.4 liter] of water leakage at a sustained pressure of 2 PSI [13.79 kPa]. The water tight joint criteria allows no leakage at all for a sustained pressure of 5 PSI [34.47 kPa], unless a higher pressure rating is required in the plans. Conduct test for joint integrity, for one hour.

~~Soil tight joints must be watertight to 2 psi [13.8 kPa]. Water tight joints must be water tight to 5 psi [34.5 kPa] unless a higher pressure rating is required in the plans.~~