

## ORIGINATION FORM

### THE INFORMATION BELOW IS TO BE PROVIDED BY THE ORIGINATOR

(The person who receives or originates the issue and needs to forward the issue for action.)

Modify Specification \_\_\_\_\_945\_\_\_\_\_.  
Section/File number

New Section \_\_\_\_\_.  
Section number

**Subject:** Corrugated Aluminum-Alloy Culverts and Underdrains

**Origination date:** March 7, 2005

**Originator:** Jerome D. Taylor

**Office/Phone:** State Drainage Office/414-4355

**Email address/** Jerome.taylor@dot.state.fl.us

**Userid:**

**Problem statement:** Requirement for Cross Drain and Storm Drain, soil tight pipe joints to be water tight to 2 psi [13.8 kPa], needs to be changed to 5 psi [34.5 KPa]. (Rabbit trail fix for Section 430 Change)

**Information source:** State Drainage Engineer and Department staff recommends this change.

**Background data:** When joints are water tight to 5 psi, chances of trench backfill infiltration would be nonesuch.

**Recommended**

**Usage Note:** Jobs with pipe.

**Desired  
implementation**

**date:** Beginning with the January 2006 letting.



# Florida Department of Transportation

JEB BUSH  
GOVERNOR

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JOSÉ ABREU  
SECRETARY

## MEMORANDUM

**DATE:** April , 2005

**TO:** Specification Review Distribution List

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

**SUBJECT: Proposed Specifications Change: 9450100 - Corrugated Aluminum-Alloy Culvert and Underdrains**

In accordance with Specification Development Procedures, we are sending you a copy of a proposed specification change to Section 945.

This change was proposed by Jerome Taylor of the State Drainage Office to update this Section due to the modification of Section 430.

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:

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Submitted by:

Phone #:

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**CORRUGATED ALUMINUM-ALLOY CULVERTS AND UNDERDRAINS.  
(REV 3-25-05)**

ARTICLE 945-1 (Pages 854-856) is deleted and the following substituted:

**945-1 Corrugated Aluminum-Alloy Culverts and Underdrains.**

Aluminum-alloy culvert pipe and underdrains shall meet the requirements of AASHTO M 196 [AASHTO M 196M] and the additional provisions contained herein. Except for underdrain, corrugated aluminum pipe including pipe arch shall be fabricated with helical corrugations with a minimum of two annular corrugations formed into each end of each pipe to accommodate a coupling band. Annular fabrication is not permitted unless specifically called for in the plans or specifications. Provide certification of the actual mean diameter of pipe shipped to the project. Include in the certification the minimum and maximum diameters used to certify the actual mean diameter. The certification shall be attested to by a person having legal authority to bind the manufacturing company.

For Sidedrains, unless shown otherwise in the plans the minimum thickness of the metal shall be as specified below.

NON SI UNITS		
TABLE I		
THICKNESS OF METAL FOR SIDEDRAIN PIPE		
Nominal Diameter or Equivalent (inches)	Sheet Gauge No.	Mean Thickness of Metal (inches)
6	18	0.048
8	16	0.060
10	16	0.060
12	16	0.060
15	16	0.060
18	16	0.060
21	16	0.060
24	16	0.060
30	14	0.075
36	14	0.075
42	12	0.105
48	12	0.105
54	12	0.105
60	10	0.135
66	10	0.135
72 and over	8	0.164

SI UNITS	
TABLE I	
THICKNESS OF METAL FOR SIDEDRAIN PIPE	
Nominal Diameter or Equivalent (mm)	Mean Thickness of Metal (mm)
150	1.22

SI UNITS	
TABLE I	
THICKNESS OF METAL FOR SIDEDRAIN PIPE	
Nominal Diameter or Equivalent (mm)	Mean Thickness of Metal (mm)
200	1.52
250	1.52
300	1.52
375	1.52
450	1.52
525	1.52
600	1.52
750	1.91
900	1.91
1,050	2.67
1,200	2.67
1,350	2.67
1,500	3.43
1,650	3.43
1,800 and over	4.17

Where bituminous coated aluminum pipe is specified the bituminous coating shall meet the requirements as specified for corrugated steel pipe in 943-5. Bituminous coated and paved aluminum pipe shall meet the additional requirements specified in 943-6 and 943-7, as applicable.

Class IV pipe shall not be used.

When rubber gaskets are to be installed in the pipe joint, the gasket shall be the sole element relied on to maintain a tight joint. Test pipe joints at the plant hydrostatically using test methods in ASTM D 3212 [ASTM D 3212M]. ~~Soil tight joints must be watertight to 2 psi [13.8 kPa]. Watertight Pipe joints must be watertight to 5 psi [34.5 kPa] unless a higher pressure rating is required in the plans.~~ *in accordance with 430-4.*