



## Florida Department of Transportation

RICK SCOTT  
GOVERNOR

605 Suwannee Street  
Tallahassee, FL 32399-0450

ANANTH PRASAD  
SECRETARY

### STRUCTURES DESIGN BULLETIN 12-11 ROADWAY DESIGN BULLETIN 12-15

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TO: District Directors of Production, District Directors of Operations, District Design Engineers, District Structures Design Engineers, District Construction Engineers, and District Traffic Operations Engineers

FROM: Robert V. Robertson, P. E., State Structures Design Engineer  
Frank Sullivan, P.E., Roadway Design Administrator

COPIES: Tom Byron, Duane Brautigam, David Sadler, Tim Lattner, Mark Wilson, Charles Boyd, Chris Richter (FHWA), Jeffrey Ger (FHWA)

SUBJECT: Developmental Design Standards Index D477, Thrie-Beam Panel Retrofit (Concrete Handrail)

This *Design Bulletin* introduces the new *Developmental Design Standards (DDS)* Index D477, Thrie-Beam Panel Retrofit (Concrete Handrail), with its *Instructions for Developmental Design Standards (IDDS)*. These documents are available for viewing on the *Developmental Design Standards* website: <http://www.dot.state.fl.us/rddesign/DS/Dev.shtm>

### COMMENTARY

This *DDS* is applicable for use in retrofitting existing Post and Beam Concrete Handrails (bridge mounted traffic railings) as listed in its *IDDS*, located on bridges along roadways with design speeds of 45 mph or less and where the existing traffic railing is structurally sound and free of major cracks or spalls. Other similar Post and Beam Concrete Handrails not listed in the *IDDS*, must be deemed appropriate for this application by the Structures Design Office. This *DDS* is not applicable for use in retrofitting Post and Beam Concrete Handrails having discontinuous top rails.

The use of this *DDS* may be ideal for use on bridges having applicable existing traffic railings as described above and that have been selected to be improved within the scope of Resurfacing, Restoration and Rehabilitation (RRR) projects.

This *DDS* differs from *Design Standards*, Indexes 470 thru 476 in that the existing traffic railing stays in place and the retrofit 10 Gauge Thrie-Beam panels are bolted directly to the existing railing.

The addition of this Thrie-Beam panel increases the strength and expected crash performance of the applicable traffic railings.

Two recent in-house design projects have successfully implemented similar Thrie-Beam panel retrofits. This *DDS* will standardize this specific retrofit, thereby eliminating the need for project specific designs while allowing the Structures Design Office to control and monitor its use. If/When this *DDS* is integrated into the *Design Standards*, guidelines will be incorporated into the *Plans Preparation Manual, Volume 1*, Chapter 25.4 and the *Structures Design Guidelines*, Section 6.7.4 accordingly. In the interim, follow the guidance contained within the *IDDS*.

### **IMPLEMENTATION**

*DDS*, Index D477 is available for use on applicable current and future bridge railing retrofit projects with approval from the Structures Design Office and concurrence by the District Structures Design Engineer. Follow the “Developmental Design Standards - Usage Process” as outlined in the [Structures Design Bulletin C10-03](#).

### **CONTACT**

If you have any questions, please contact:

Gevin J. McDaniel, P.E.  
Senior Structures Design Engineer  
Florida Department of Transportation  
605 Suwannee Street, MS 33  
Tallahassee, FL 32399-0450  
Phone (850)-414-4284  
[Gevin.McDaniel@dot.state.fl.us](mailto:Gevin.McDaniel@dot.state.fl.us)

RVR/GJM/va