

ORIGINATION FORM

Date: June 4, 2014

Originator: Chester A. Henson, P.E.

Contact Information: chester.henson@dot.state.fl.us

Specification Title: **Object Markers and Delineators**

Specification Section, Article, or Subarticle Number: **Section 993-2.6 and 2.7**

Why does the existing language need to be changed? The number of managed lane projects being proposed with delineators separating the managed lanes from the general use lanes is significant. Previous specifications were project specific and acceptance was based on project review of product testing. There is a need to standardize the specifications and provide QPL approval for these type of delineators.

Summary of the changes: An additional category of delineators has been added for managed lane delineator applications. The high performance delineators in this section are not intended for this type of application.

Are these changes applicable to all Department jobs? Yes

If not, what are the restrictions?

Will these changes result in an increase or decrease in project costs? No

If yes, what is the estimated change in costs?

With who have you discussed these changes? District managed lane personnel, Construction, Specifications and QPL office.

What other offices will be impacted by these changes? None

Are changes needed to the PPM, Design Standards, SDG, CPAM or other manual? No

Are all references to external publications current? Yes

If not, what references need to be updated (please include changes in the redline)?

Is a Design Bulletin, Construction Memo, or Estimates Bulletin needed? Estimates Bulletin is needed.

Contact the State Specifications Office for assistance in completing this form.

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ANANTH PRASAD, P.E.
SECRETARY

MEMORANDUM

DATE: June 11, 2014

TO: Specification Review Distribution List

FROM: Daniel Scheer, P.E., State Specifications Engineer

SUBJECT: Proposed Specification: **9930206 Object Markers and Delineators.**

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

This change was proposed by Chester Henson of the State Roadway Design Office to add express lane delineators.

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 online at

<http://www2.dot.state.fl.us/SpecificationsEstimates/Development/IndustryReview.aspx> .

Comments received after **July 9, 2014**, may not be considered. Your input is encouraged.

DS/dt
Attachment

OBJECT MARKERS AND DELINEATORS.

(REV 6-45-14)

SUBARTICLE 993-2.6 is deleted and the following substituted:

993-2.6 Barrier Express Lane Delineators:

993-2.6.1 Dimensions: *The delineator shall have a height of 36 inches above the pavement surface and have a minimum dimension of 2 inches.*

993-2.6.2 Post Base: *The base shall be manufactured to accommodate the replacement of the post without tools. The base shall be capable of withstanding 100- vehicle impacts without damage or failure.*

993-2.6.3 Color: *The plastic post shall be white or orange. For white delineators, the yellowness index shall not exceed 12 when tested in accordance with ASTM D1925 or ASTM E313. The daylight 45 degree, 0 degree luminous directional reflectance shall be a minimum of 70 when tested in accordance with ASTM E1347 or ASTM E1164.*

993-2.6.4 Retroreflective Sheeting: *The reflective sheeting shall be Type V abrasion resistant sheeting and meet the requirements of Section 994. The reflective sheeting shall have a minimum omni directional area of 30 square inches.*

993-2.6.5 Impact Performance: *The post, installed according to manufacturer's recommendations, shall be capable of returning to a vertical position plus or minus 5 degrees with no delaminating after receiving 100- vehicle impacts when tested according to National Testing Product Evaluation Program (NTPEP). The NTPEP requirement of one-half of the hits at 32°F is waived. All hits shall be at 65°F or greater. For acceptance purposes there shall be no post failures and no more than two posts may list between 5°degrees and 10°degrees after receiving 100- vehicle impacts. Impact testing must be performed by a recognized delineator testing facility that is listed on the FHWA Laboratories Accredited to Crash Test Roadside Safety Hardware, http://safety.fhwa.dot.gov/roadway_dept/policy_guide/road_hardware/laboratories/ or any testing facility that is approved by the State Roadway Design Engineer. ~~Approved testing facilities include Texas Transportation Institute, E-Tech Testing Services or other laboratories approved by the Department.~~*

993-2.67 Barrier Delineators:

993-2.67.1 General: Barrier delineators for use on guardrail, concrete barrier and traffic railing shall consist of retroreflective sheeting permanently adhered to 0.090 inch minimum thick body. The body shall have a flexible hinge which allows the reflector to fold down and spring back to an upright position after impact. Barrier delineators for guardrail shall be designed for mounting to the web of steel posts or designed for mounting to wood posts. Barrier delineators for concrete barrier wall and traffic railings shall be designed for mounting to the top of the barrier wall.

993-2.67.2 Retroreflective Sheeting: The sheeting for barrier delineators shall be Type IV or XI meeting the requirements of Section 994. The sheeting shall be yellow or white, depending on the locations of use for each. The dimensions of the retroreflective sheeting shall be 3 inches wide by 4 inches high. The sheeting shall be installed by the delineator manufacturer.