

**FLORIDA
DEPARTMENT
OF
TRANSPORTATION**



**STANDARD SPECIFICATIONS
FOR
ROAD AND BRIDGE
CONSTRUCTION
JULY 2022**

These Florida Department of Transportation Standard Specifications for Road and Bridge Construction, July 2022, are hereby approved for application on highway and related construction contracts as referenced in the plans or specifications, and they shall apply as noted and amended by those documents.

Stefanie Maxwell, P.E.
Manager, Program Management Office

I hereby certify that these Standard Specifications were prepared by me or under my responsible charge, compiled from specifications prepared, examined, adopted and implemented by the Florida Department of Transportation in accordance with established procedures, and as approved by the Federal Highway Administration.

This item has been digitally signed and sealed by Daniel Strickland on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Daniel Strickland, P.E.
State Specifications Engineer

SECTION 993 DELINEATORS

993-1 Description.

This section specifies the material requirements for flexible post delineators and barrier delineators.

993-2 Approved Product List.

All flexible post and barrier delineators shall be one of the products listed on the Department's Approved Product List (APL). Manufacturers seeking evaluation of products for inclusion on the APL shall submit an application in accordance with Section 6 and include the following documentation. A separate application must be submitted for each product to be evaluated, showing that the product meets the applicable requirements.

Table 993-1 Submittal Compliance Requirements	
Documentation	Requirements
Installation Instructions	Surface preparation and installation procedures
Label	Displays the name of the manufacturer, Name of product, APL number,
National Testing Product Evaluation Program (NTPEP) Test Report	For flexible post delineators: NTPEP Evaluation of Temporary Traffic Control Devices- Flexible Delineators, for the proposed mounting category
Product Photo	Displays the significant features of the product and product packaging.
Technical Data Sheet	<ul style="list-style-type: none"> a. Uniquely identifies the product, b. Product specifications, c. Installation materials and equipment. d. Surface preparation

993-3 Flexible Post Delineators.

993-3.1 Dimensions: The post shall have a minimum width of 3 inches facing traffic and of such length to generally provide a height of 48 inches above the pavement surface.

993-3.2 Color: The post shall be opaque white. The yellowness index shall not exceed 12 when tested in accordance with ASTM E313. The daytime 45 degrees, 0 degrees luminance factor, Cap Y, shall be a minimum of 70, tested in accordance with ASTM E1347 or ASTM E1164.

993-3.3 Retroreflective Sheeting: The reflective sheeting shall be Types IV, V, or XI and meet the requirements of Section 994. The reflective sheeting shall have a minimum width of 3 inches and have a minimum area of 30 square inches.

993-3.4 Impact Performance: Six of the eight posts shall be capable of returning to a vertical position plus or minus 10 degrees with no delaminating. No post shall split, crack, break, or separate from base. Posts shall be tested and evaluated according to the National Testing Product Evaluation Program (NTPEP) Evaluation of Temporary Traffic Control Devices: Flexible Delineators, for the following categories:

993-3.4.1 Pavement/Surface Mounted: Use the Metropolitan Delineator Applications category for Hot Weather with a minimum of 10 impacts (default testing procedure uses a maximum of 200 impacts).

993-3.4.2 Ground Mounted: Use the Ground Mount Side of Roadway Applications category for Hot Weather (default testing procedure uses a maximum of 10 impacts).

993-4 Barrier Delineators.

993-4.1 General: Barrier delineators 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 the top of wood posts. Barrier delineators for concrete barrier, traffic railings, and vehicular longitudinal channelizing devices (LCDs) shall be designed for mounting to the top of barrier.

993-4.2 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 a minimum of 3 inches wide by 4 inches high. The sheeting shall be installed by the delineator manufacturer. Delineators for use on median barriers must have yellow sheeting on both sides.