

993 OBJECT MARKERS AND DELINEATORS.

(REV 7-8-10) (FA 7-16-10) (1-11)

SUBARTICLE 993-1.4 (Page 975) is deleted and the following substituted:

993-1.4 Posts: The marker posts shall be of steel or aluminum as shown in the Design Standards or plans. Steel posts shall be 2.5 lb/ft. flanged U-Channel . The U-channel posts shall meet the mechanical requirements of ASTM A 499, Grade 60. Provide U-channel posts that have been galvanized after fabrication in accordance with ASTM A 123 and have a smooth uniform finish free from defects affecting strength, durability and appearance. For each U-channel, punch or drill 3/8 inch diameter holes on 1 inch centers through the center of the post, starting approximately 1 inch from the top and extending the full length of the post. Punching or drilling operations shall be completed prior to galvanization. The weight per foot of a manufacturer's U-channel size shall not vary more than plus or minus 3.5% of its specified weight per foot. Machine-straighten the U-channel to a tolerance of 0.4% of the length. U-channel posts shall be listed on the QPL. Round aluminum posts shall meet the requirements of Index 11860.

Use attachment hardware (nuts, bolts, clamps, brackets, braces, etc.) of aluminum or galvanized steel.

SUBARTICLE 993-2-2 (Page 975) is deleted and the following substituted:

993-2.2 Flexible Post Delineators:

993-2.2.1 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.

993-2.2.2 Color: The post shall be opaque white. The yellowness index shall not exceed 12 when tested in accordance with ASTM D 1925 or ASTM E 313. The daylight 45 degree, 0 degree luminous directional reflectance shall be a minimum of 70 when tested in accordance with ASTM E 1347.

993- 2.2.3 Retroreflective Sheeting: The reflective sheeting shall be Types III, IV, V or VII 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.

993-2.2.4 Impact Performance: Posts shall be tested and evaluated according to the National Testing Product Evaluation Program (NTPEP) Project Work Plan for Field Evaluation of Flexible Surface Mounted Delineator Posts. A temperature of 65°F or greater may be used in lieu of the NTPEP temperature requirements. Posts shall be capable of returning to a vertical position plus or minus 5 degrees with no delaminating, and one post may list no more than 10 degrees. No post shall split, crack, break, or separate from base.

SUBARTICLE 993-2.3.1 (Page 975) is deleted and the following substituted:

993-2.3.1 Posts: The posts shall meet the requirements of 993-1.4, except the steel delineator post shall be 1.1 lb/ft.