

Design Standards Letter

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Section/Plan No.: **P903.03**

Subject: **Delineators**

Body

The concept of installing delineators on interstate highways and expressways has recently been approved. The delineators to be used for this purpose will be a flexible design which allows the delineator to absorb numerous vehicular impacts while still remaining erect. These delineators will be installed on the right side of all interstate highways and expressways and will replace the existing steel post-mounted delineators at interchanges.

The attached materials and research special provisions, MR SP-43, MR SP-44, and standard drawing 903.O3AL are provided for your information.

Two types of flexible posts are described in the special provisions. The Type 1 post is cylindrical in shape and has a choice of three anchoring systems. The Type A is a drivable anchor for use in most shoulder-mount installations. The Type B is used for embedment in portland cement or bituminous concrete. The Type C may be bonded to an existing surface. The Type 2 post has only one type of anchoring system limiting its use to installations where the post may be driven directly into the shoulder material, which would include all conditions except for solid rock or rigid pavement. The reason for specifying the two types of posts is for competitive bid purposes and is not related to installation procedures or performance, although the Type 1 post does offer a greater flexibility of mounting alternatives. For the majority of cases, we anticipate that the Type 1 post with a Type A base will be bid against the Type 2 post. Where the delineator post cannot be installed by driving methods, it will be necessary to specify a Type 1 post with either a Type B or Type C base.

It is planned to install these delineators on a "route By route" basis with the first project consisting of Route I-70 from the Kansas state line to the Illinois state line. An early 1990 letting date is anticipated for this project with other routes to follow shortly thereafter.

The plans should be on 8 1/2 x 11 inch sheets and show the basic configuration of the main line and interchanges. A summary of quantities for each color should be included with a breakdown for the quantity require for each interchange and for the main line between interchanges. For this purpose, the interchange limits should be from the beginning of the decelaration ramp to the end of the acceleration ramp. The estimated cost of these delineators installed is approximately \$20.00 each. A "removal of improvement" item should be set up where there are steel post delineators to be replaced with flexible delineators. This cost can be estimated at \$2.50 per post. The job special provisions should include the address of the maintenance building to which the removed steel post delineators should be delivered.

The Division of Construction has agreed to stake the beginning and ending point of each color of delineator for the contractor and to provide spacing information for the points in between. It will not be necessary to provide detailed geometric information on the construction plans, although the Division of Construction will need information such as radii of ramp for their staking operations.

Another aspect of the design is the fact that the posts will serve a dual purpose. Once the posts are installed, the Division of Maintenance and Traffic will apply numerical log points on each delineator to assist law enforcement personnel in logging accidents. The delineators should thus follow the established accident reporting log points. Since these points begin anew at each county line, a post should be installed at each county line and then extend at one-tenth mile increments for the length of the county. The accident logs increase from west to east and from north to south. A copy of the log points as available in the maintenance and traffic office of each district if needed for design purpose.

In certain counties where the delineators and mile markers begin at the exact same location, every tenth delineator and each mile marker should continue to coincide throughout the county. Where this condition exists, the delineator which would normally be installed at the mile marker location should be eliminated.

Good common sense should be used in the design and placement of these delineators. In those cases where it is impractical to place a delineator, such as when the delineator falls on a bridge, retaining wall or a crossroad, the delineators should be eliminated. Also steel post mounted delineators in interchanges shall be removed and not replaced with flexible delineators when they are located closer than 25 feet to the one-tenth mile delineators on the main line of the project. Further, it is not the intent to replace existing button delineators on median concrete barriers.

Please advise if you have questions concerning the above.