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TEMPORARY CONCRETE BARRIER, TYPE C REFLECTORS

EXISTING APPLICATION

Illinois Department of Transportation Standard 704001-08 Temporary Concrete Barrier includes a detail for Type C Barrier Wall Reflector locations. Per article 782.04 (c) of the Standard Specifications for Road and Bridge Construction the Type C reflectors shall be installed using an adhesive.

NATURE OF PROBLEM

The adhesion of the plastic to the concrete is not being maintained and the reflectors are coming off the barrier wall. (This is most likely due to multiple factors including variable site weather conditions, material surface temperatures and moistures, material surface textures, etc.) This release “coming off” happens at variable time frames but almost always after the temporary barrier wall is subjected to the new traffic configuration. Once in this configuration the re-application becomes very hazardous for personnel and the motoring public.

PROPOSED CHANGE

Phoenix Corporation has developed and fabricated an alternate attachment method for the Type C reflectors. The reflectors are held in place via a device slid over the top of the barrier wall. See exhibit A.

The device is composed of 1/8” x 2” flat steel cut to a length of 24” and bent to accommodate the configuration of the concrete barrier wall. See exhibit B for mill test report. The device is painted in a color to closely match and blend with the concrete. The plastic type C reflectors are attached to the steel bracket with 3/16” rivets.

The device configured with the appropriate reflector is snugly fit over the top of the wall.

DEVELOPMENT

Phoenix Corporation has been in the transportation construction industry for 30 years. Phoenix services include supply and installation of Temporary Concrete Barrier. We currently own approximately 10 miles of Illinois F shape concrete wall and have utilized it in countless locations throughout Illinois on various projects.

Through these multiple endeavors it became apparent that a solution for attaching the reflectors which prevents them from coming off was needed to prevent the extremely hazardous situation of re-attaching them.

Multiple options and ideas were considered, and some applied such as varying adhesive brands and type, addition of tape, etc. with minimal improvement or success.

In Spring of 2018 this necessity to protect Phoenix employees along with the traveling public was addressed. Phoenix’s Vice President, Matthew Decap designed and fabricated the previously described attachment device.