MICHIGAN

DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

FOR

**PREFABRICATED CURB SYSTEM**

COS:CGB 1 of 3 APPR:CT:CRB:12-03-24

**a. Description.** This work consists of furnishing and installing a prefabricated curb system to demarcate pedestrian crossing and bump-out areas against vehicular/bicycle traffic lanes as specified in this special provision and shown on the plans.

**b. Materials.** The prefabricated curb system consists of three main components: A series of raised separator units, high target value vertical markers, and profile reflectors. Ensure the system is a MASH compliant device. Furnish a letter from the FHWA confirming the selected system is eligible for federal aid reimbursement as a MASH compliant device. The polymer material may be PVC, PE, or a mixture of both or similar polymeric composites. Ensure metal compartments and accessories, used as base for anchoring or attachment, are stainless steel.

1. Raised Separator Units. The raised separator consists of one or both basic units: a separator unit and an end unit. The separator cross section must provide minimal resistance to vehicle tires and be designed to direct the vehicle back onto the intended path. In addition, ensure the separator units are designed to withstand traffic impacts.

A. Ensure raised separator units are a size and weight such that they are individually portable without requiring mechanical means. Ensure the sections are a maximum of 12 inches in width.

B. To increase target value in daylight hours, ensure the entire surface of the separator is colored to conform to the pavement markings that they supplement unless otherwise approved by the Engineer.

C. Ensure the raised separator units can receive a minimum of one reflecting element that conforms flush to the shape of the separator and color of the pavement markings it supplements.

D. Design each individual raised separator unit for the installation of a high target value marker that includes marker panels with a minimum 36 inch height from the ground.

E. Design the raised separator units to allow drainage through the prefabricated curb installation. This may be accomplished by features on the unit itself, or by the recommended spacing of the units on the roadway.

Ensure the raised separator units are interconnected with male and female end pieces that demarcate the terminal points of each run of the separate lanes. Design the raised units to encompass the entire length of lane separation as proposed and detailed on the plans. Do not intermix different types of prefabricated curb systems on the same project.

2. High Target Value Markers. Ensure the type and color of high target value markers to be used on the project are approved by the Engineer prior to installation.

High target value markers are safety yellow in color, and extend a minimum of 36 inches above the roadway. Each high target value marker must furnish a minimum retro-reflective area of 200 square inches facing traffic. Ensure each high target value marker is securely attached to the raised separator unit in a manner that holds the marker in a vertical position and will restore the marker to the vertical position if struck by a vehicle. Ensure the marker is composed of an impact resistant material that consists of retro-reflective surface meeting or exceeding the requirements of *ASTM D4956, Type IV*. Install markers along the length of the separator system on each separator unit, except start and end units, as per manufacturer’s instructions.

3. Profile Reflecting Elements. Furnish reflecting elements to be placed on the separator unit and markings to delineate the profile of the raised separator units at night. Design reflecting elements to adhere to the top and/or sides of the separator units or utilize snap-in arcs. Ensure all raised separator units are equipped with reflecting profile elements visible to all directions of oncoming traffic. The reflective elements must meet reflectivity requirements in *ASTM D4280 Type A or B*, for Raised Pavement Markers.

Select one of the following products, or furnish an approved equal, that match the descriptions and specifications herein, for this project:

Qwick Kurb by Qwick Kurb Inc.

1916 S U.S. Hwy 41

Ruskin, FL 33570

(813) 645-5072

Shur-Curb by Shur-Tite Products

1920 North Weaver Street

Gainesville, TX 76240

(512) 218-9500

Tuff Curb by Impact Recovery Systems

4955 Stout Drive

San Antonio, TX 78219

(800) 736-5256

**c. Construction.** Install the prefabricated curb system in accordance with the manufacturer’s recommendations at the locations proposed and detailed on the plans, or as directed by the Engineer.

1. Surface Preparation. Install the prefabricated curb system on a smooth continuous paved surface. Repair defects such as potholes, uneven joints etc. prior to installation. Do not install the prefabricated curb system over centerline corrugations, shoulder corrugations, or manhole covers. Remove all conflicting pavement markings, raised pavement markers and delineator posts in the location where the prefabricated curb system is to be installed.

2. Raised Separator Units. Begin and end each run of the prefabricated curb system with a tapered end unit, if tapered end units are an option for the system. Interconnect and secure all raised separator units and end units prior to anchoring the system to the roadway.

Use the anchoring option specified in accordance with the manufacturer’s recommended installation procedures or as directed by the Engineer. Use only anchors, hardware and other installation materials recommended by the manufacturer. Install each raised separator unit with the manufacturer recommended number of anchors and/or adhesive. Field conditions may require the installation of additional anchors and/or adhesive as directed by the Engineer. When installing the system on a new bridge deck, the installation method must meet manufacturer’s recommendations and be approved by the Engineer prior to installation.

3. Separator Unit Reflectors. Install reflecting profile elements on each raised separator unit.

4. High Target Value Markers. Install high target value markers in each raised separator units, except start and end units, unless otherwise approved by the Engineer.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit prices using the following pay item:

**Pay Item Pay Unit**

Prefabricated Curb System Foot

**Prefabricated Curb System** will be measured along and parallel to the centerline of the prefabricated curb system, and includes all material (i.e., prefabricated curb units, male and female end pieces, high target markers, reflectors, and all related items necessary for proper installation) costs for furnishing and installing the prefabricated curb system as proposed and detailed on the plans.