

## **DETECTABLE WARNINGS FOR PROPOSED CURB RAMPS:**

(6-15-10) (Rev 8-16-11)

R8 R126

### **Description**

Construct detectable warnings consisting of integrated raised truncated domes on proposed concrete curb ramps in accordance with the *2006 Standard Specifications*, plan details, the requirements of the *28 CFR Part 36 ADA Standards for Accessible Design* and this provision.

### **Materials**

Detectable warning for proposed curb ramps shall consist of integrated raised truncated domes. The description, size and spacing shall conform to Section 848 of the *Standard Specifications*.

Use material for detectable warning systems as shown herein. Material and coating specifications must be stated in the Manufacturers Type 3 Certification and all Detectable Warning systems must be on the NCDOT Approved Product List for Curb Ramps.

Install detectable warnings created from one of the following materials: precast concrete blocks or bricks, clay paving brick, gray or ductile iron castings, mild steel, stainless steel, and engineered plastics, rubber or composite tile. Only one material type for detectable warning will be permitted per project, unless otherwise approved by the Engineer.

- (A) **Detectable Warnings shall** consist of a base with integrated raised truncated domes, and **when constructed of precast concrete** they shall conform to the material requirements of Article 848-2 of the *Standard Specifications*.
- (B) **Detectable Warnings shall** consist of a base with integrated raised truncated domes, and **may be comprised of other materials including, but not limited, to clay paving brick, gray iron or ductile iron castings, mild steel, stainless steel, and engineered plastics, rubber or composite tile**, which are cast into the concrete of the curb ramps. The material shall have an integral color throughout the thickness of the material. The detectable warning shall include fasteners or anchors for attachment in the concrete and shall be furnished as a system from the manufacturer.

Prior to installation, the Contractor shall submit to the Engineer assembling instructions from the manufacturer for each type of system used in accordance with Article 105-2 of the *Standard Specifications*. The system shall be furnished as a kit containing all consumable materials and consumable tools, required for the application. They shall be capable of being affixed to or anchored in the concrete curb ramp, including green concrete (concrete that has set but not appreciably hardened). The system shall be solvent free and contain no volatile organic compounds (VOC). The static coefficient of friction shall be 0.8 or greater when measured on top of the truncated domes and when measured between the domes in accordance with ASTM C1028 (dry and wet). The system shall be resistant to deterioration due to exposure to sunlight, water, salt or adverse weather conditions and impervious to degradation by motor fuels, lubricants and antifreeze.

- (C) When steel or gray iron or ductile iron casting products are provided, only products that meet the requirements of Article 106-1(B) of the *Standard Specifications* may be used. Submit to the Engineer a Type 6 Certification, catalog cuts and installation procedures at least 30 days prior to installation for all.

### **Construction Methods**

- (A) Prior to placing detectable warnings in proposed concrete curb ramps, adjust the existing subgrade to the proper grade and in accordance with Article 848-3 of the *Standard Specifications*.
- (B) Install all detectable warning in proposed concrete curb ramps in accordance with the manufacturer's recommendations.

### **Measurement and Payment**

Detectable Warnings installed for construction of proposed curb ramps will not be paid for separately. Such payment will be included in the price bid for *Concrete Curb Ramps*.