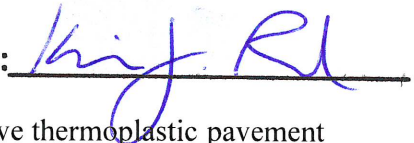


**LOUISIANA  
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT  
SPECIFICATIONS**

**PREFORMED, HEAT-APPLIED, BEADED, RETROREFLECTIVE,  
THERMOPLASTIC PAVEMENT MARKING  
NON-PRE HEATED**

Approved for  
Maintenance Division

**DESCRIPTION:**

By: 

This specification covers preformed heat-applied, beaded, retroreflective thermoplastic pavement markings that will be installed on asphalt or portland cement concrete pavement roadways throughout the state. The preformed material shall be available in white, yellow, red, and blue, as well as symbol and shield designs as specified. Typical installations include but are not limited to stop lines, crosswalk lines, shields, edge lines, hash marks, and gore areas.

**REQUIREMENTS:**

**Composition**

Preformed thermoplastic shall be a minimum of 125 mils thick prior to installation. The material shall be a product that is especially compounded for pavement markings and shall consist of an alkyd based formula with a uniform cross section. Glass beads shall be uniformly distributed to ensure that the full width of the line, symbol or shield is visible at night.

**Physical Characteristics**

Marking material shall have visible heat indicators/markings on the surface of the material such as indentions, perforations or slits. The heat indicators/markings shall fade away signifying the material is properly melted and bonded to the roadway.

**Color**

White preformed thermoplastic must comply with AASHTO M 249 as modified herein and shall be listed as an approved product on the Approved Materials List (AML) for Preformed Heat-Applied Thermo Striping Material.

Yellow preformed thermoplastic must comply with the requirements of ASTM D6628. The type and amount of yellow pigment shall be at the option of the manufacturer, providing all other requirements of this specification are met. However, the pigment for yellow thermoplastic shall be lead free and shall meet the regulatory level of non-hazardous waste as defined by 40 CFR § 261.24 when tested in accordance with EPA Method 1311, Toxicity Characteristics Leaching Procedures.

Pigments used to create each color shall be evenly dispersed throughout the material thickness.

### **Retroreflectivity**

All retroreflectivity readings shall be measured with a geometry of 1.05 degrees observation angle and 88.76 degrees entrance angle as detailed in ASTM E1710. In lieu of measurements, the Department shall determine by visual nighttime inspection that the preformed pavement markings have sufficient reflectance.

### **Softening Point:**

After heating the preformed thermoplastic material and testing in accordance with AASHTO T 250, the material shall have a minimum softening point of 200°F.

### **Skid Resistance**

Preformed thermoplastic markings shall have a minimum initial friction resistance number of 45 BPN when testing in accordance with ASTM E303.

### **Field Performance & Durability**

At the Departments discretion, an initial daytime color and luminance factor (Y%) reading made be run after seven (7) days and within thirty (30) days after installation to verify compliance with ASTM D 6628.

The exposed surface of the material shall be free from tack and shall not be slippery when wet. Material shall not lift from the pavement in freezing weather. Cold ductility of material shall be such as to permit normal movement with the pavement surfaced without chipping or cracking.

The markings shall show no significant deformation, lifting, cracking or other signs of detrimental effects to the performance of the product for one (1) year after installation.

### **Installation**

The preformed thermoplastic markings must be able to be applied to the roadway with a heat source such as a propane torch to bind the material to the road surface; application surface shall not require pre-heating prior to installation. Upon cooling to normal pavement temperature, the material shall be bonded to the surface and capable of resisting deformation by traffic.

### **Shelf Life**

The marking material shall remain as specified for a period of one (1) year after receipt of material. Material that does not meet the requirements of this specification must be replaced, at no charge to the Department, with new material.

### **CERTIFICATION:**

A Certificate of Compliance indicating that the material has been tested in accordance with AASHTO T250, as modified by this specification, and meets the requirements shall be provided to the Department upon request.

A Certificate of Compliance stating that the material provided meets the specified requirements for yellow pigments may be required from the manufacturer.

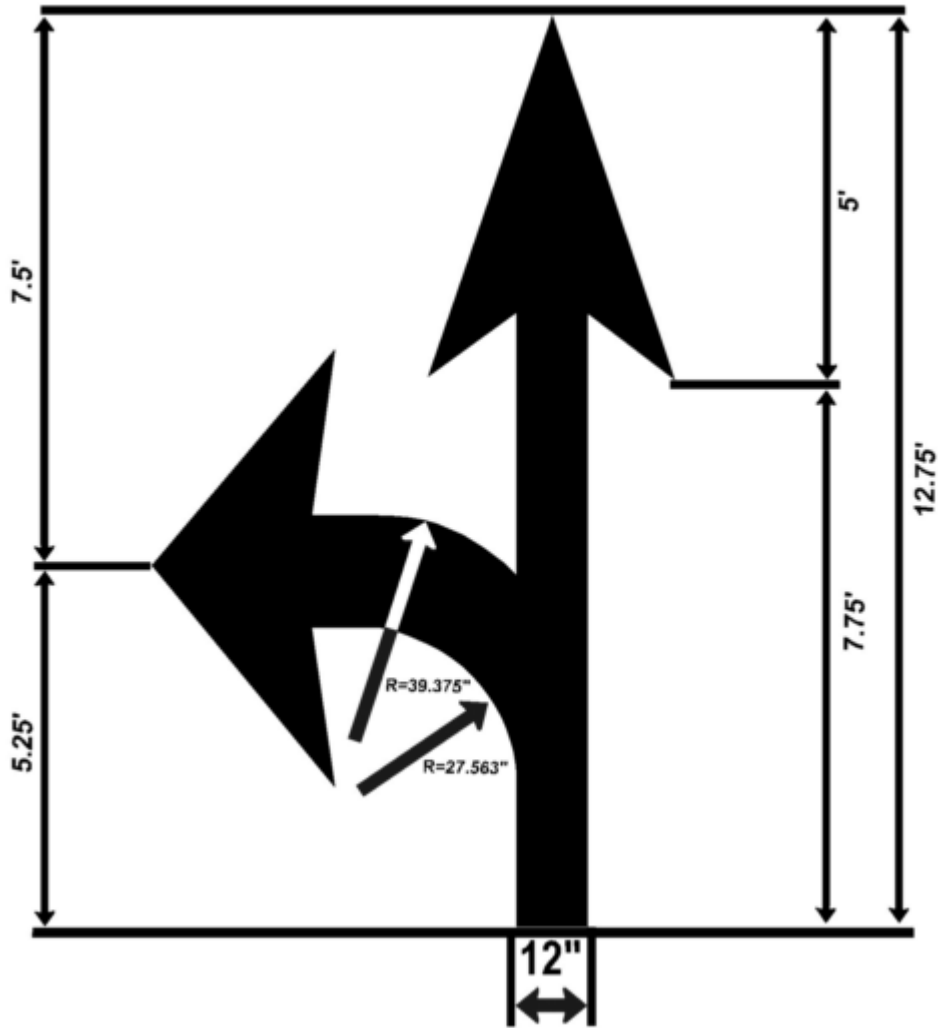
**PACKAGING AND LABELING:**

Preformed thermoplastic pavement marking material shall be packaged in a container/box that it will not adhere to during shipment and storage. Each container/box shall be clearly labeled with the following information:

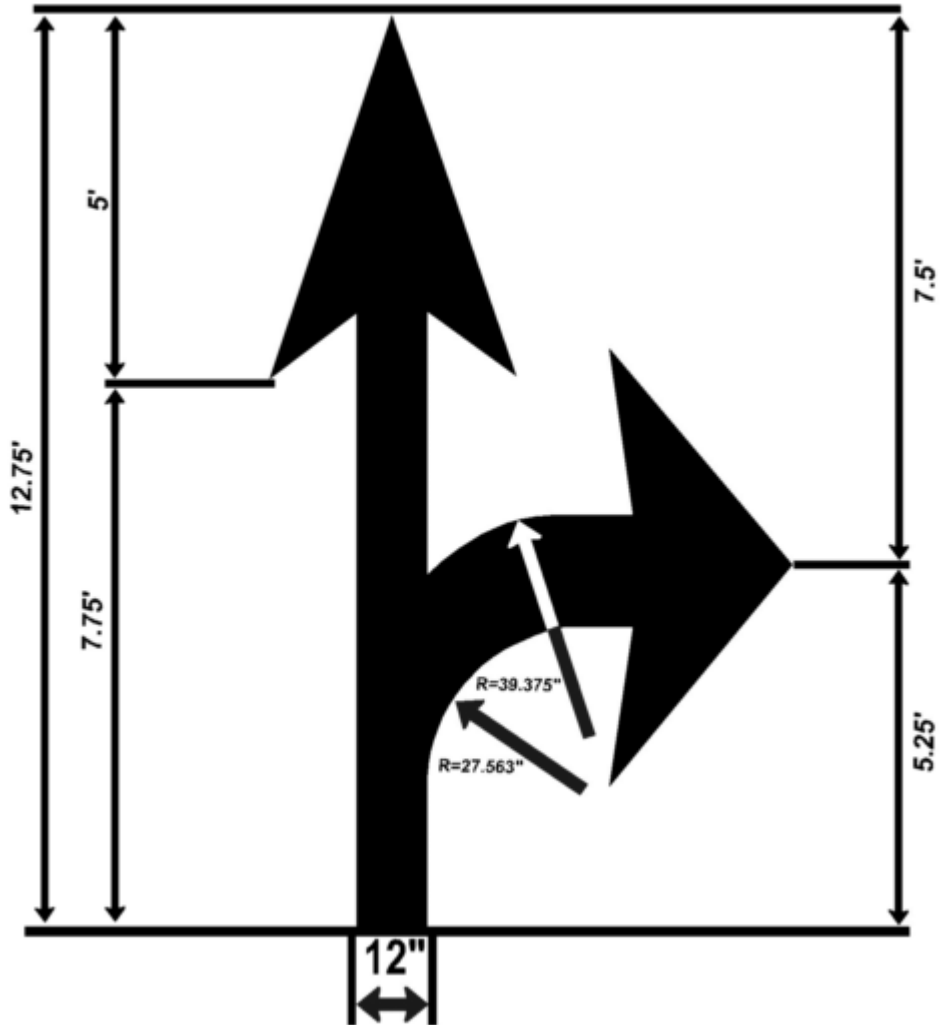
- Color of the material
- Product description (ex. – Up, Left Arrow)
- Manufacturer's name
- Batch number
- Date of Manufacture
- Application requirements
- Type of primer (if applicable)
- Any other pertinent information regarding the material

Each batch manufactured must have its own individual number. Application instructions shall be provided with each batch or material supplied.

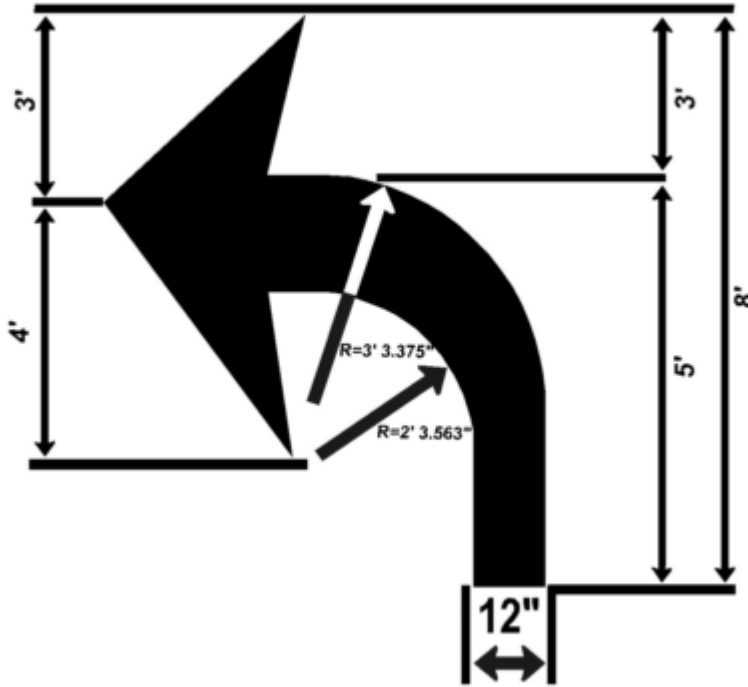
**PRODUCT ID – 12172**  
**UP, LEFT ARROW, 12.75'**



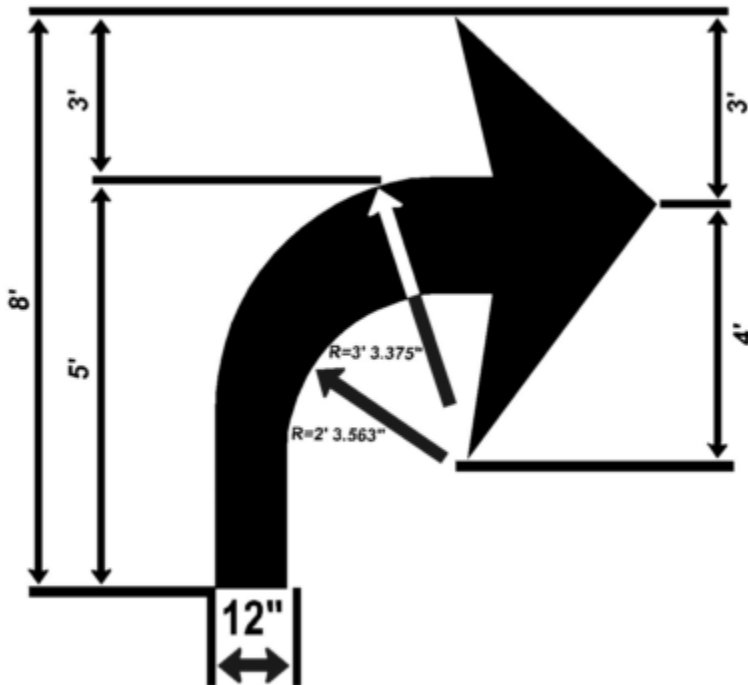
**PRODUCT ID – 12173  
UP, RIGHT ARROW, 12.75'**



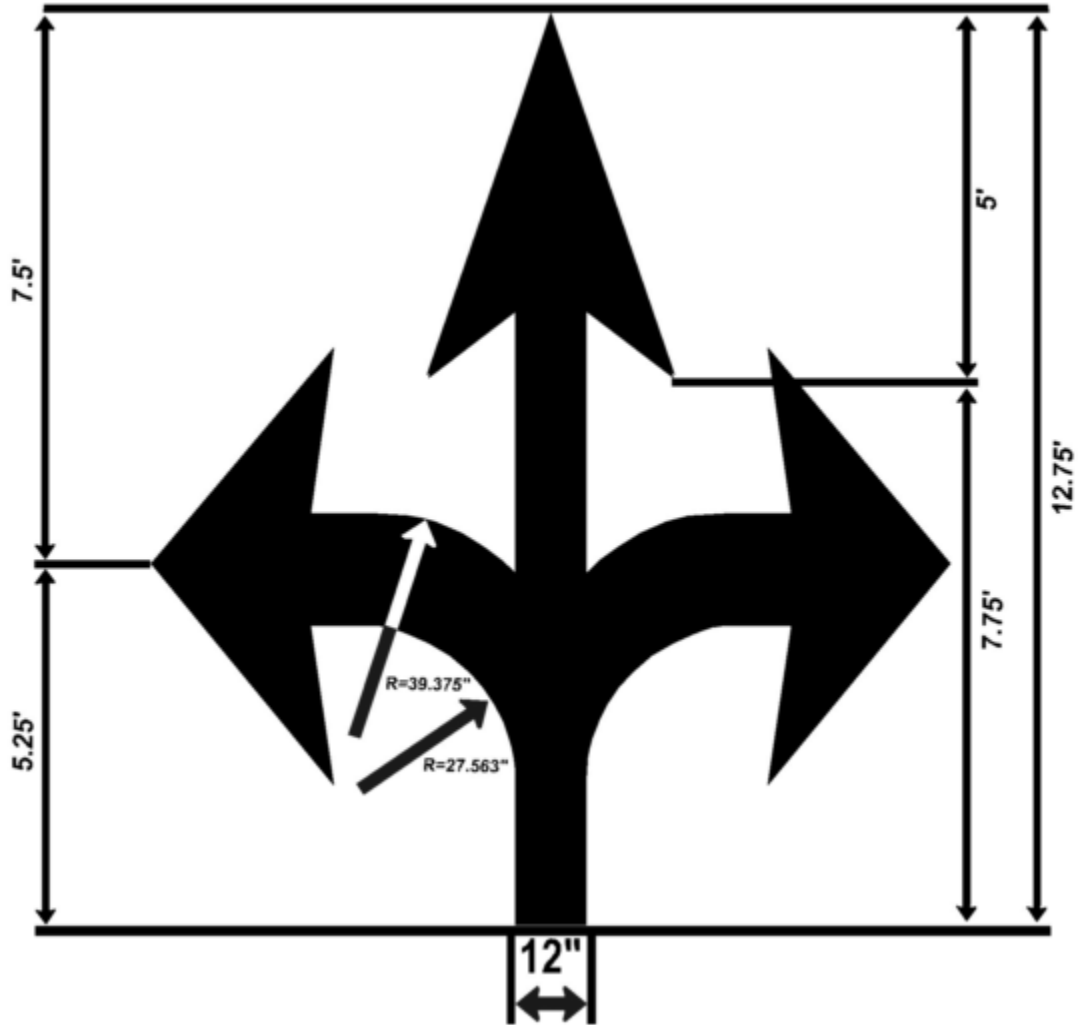
**PRODUCT ID – 12174  
CURVE, LEFT ARROW, 8'**



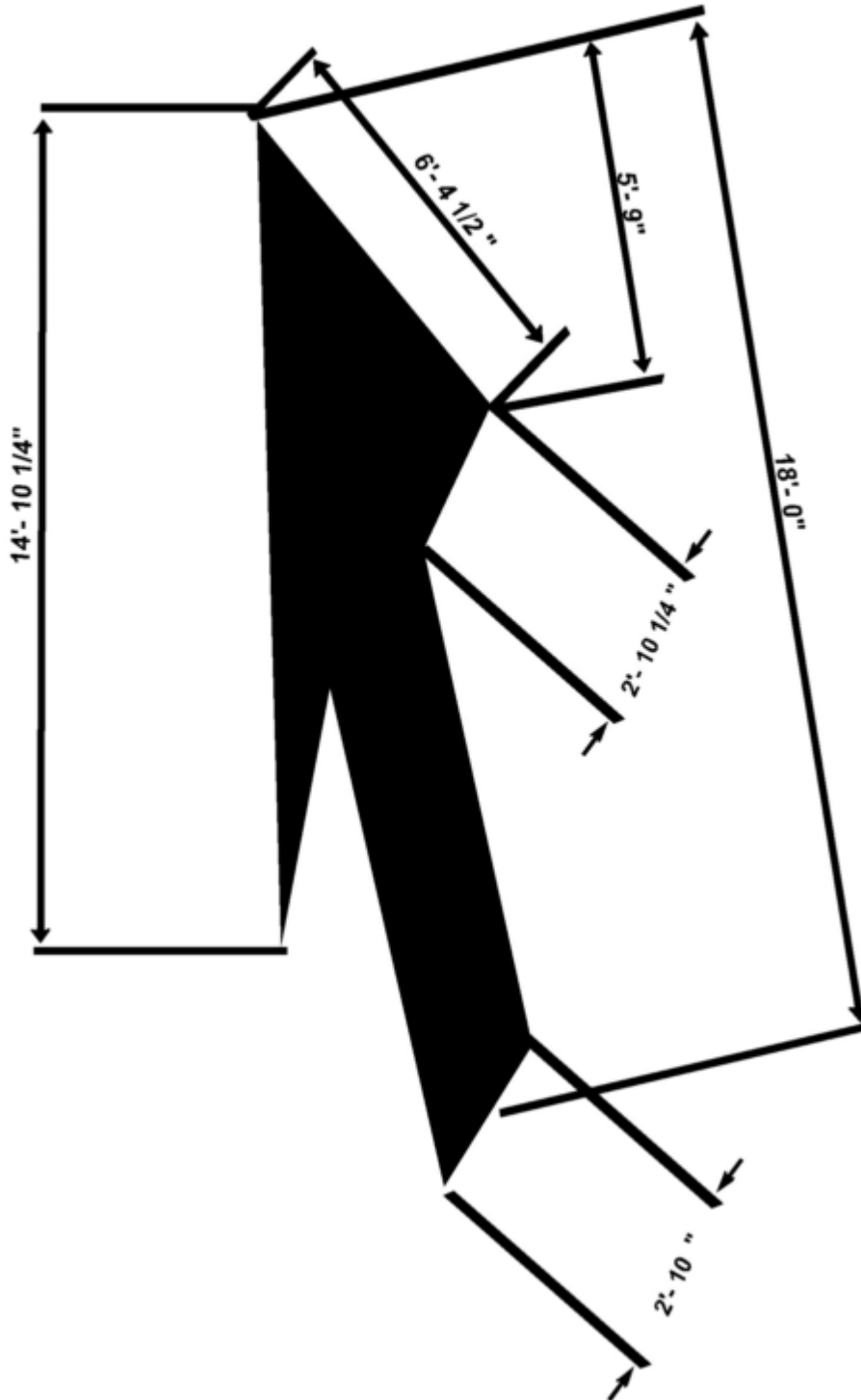
**PRODUCT ID – 12175  
CURVE, RIGHT ARROW, 8'**



**PRODUCT ID – 12176**  
**UP, LEFT, RIGHT ARROW, 12.75'**

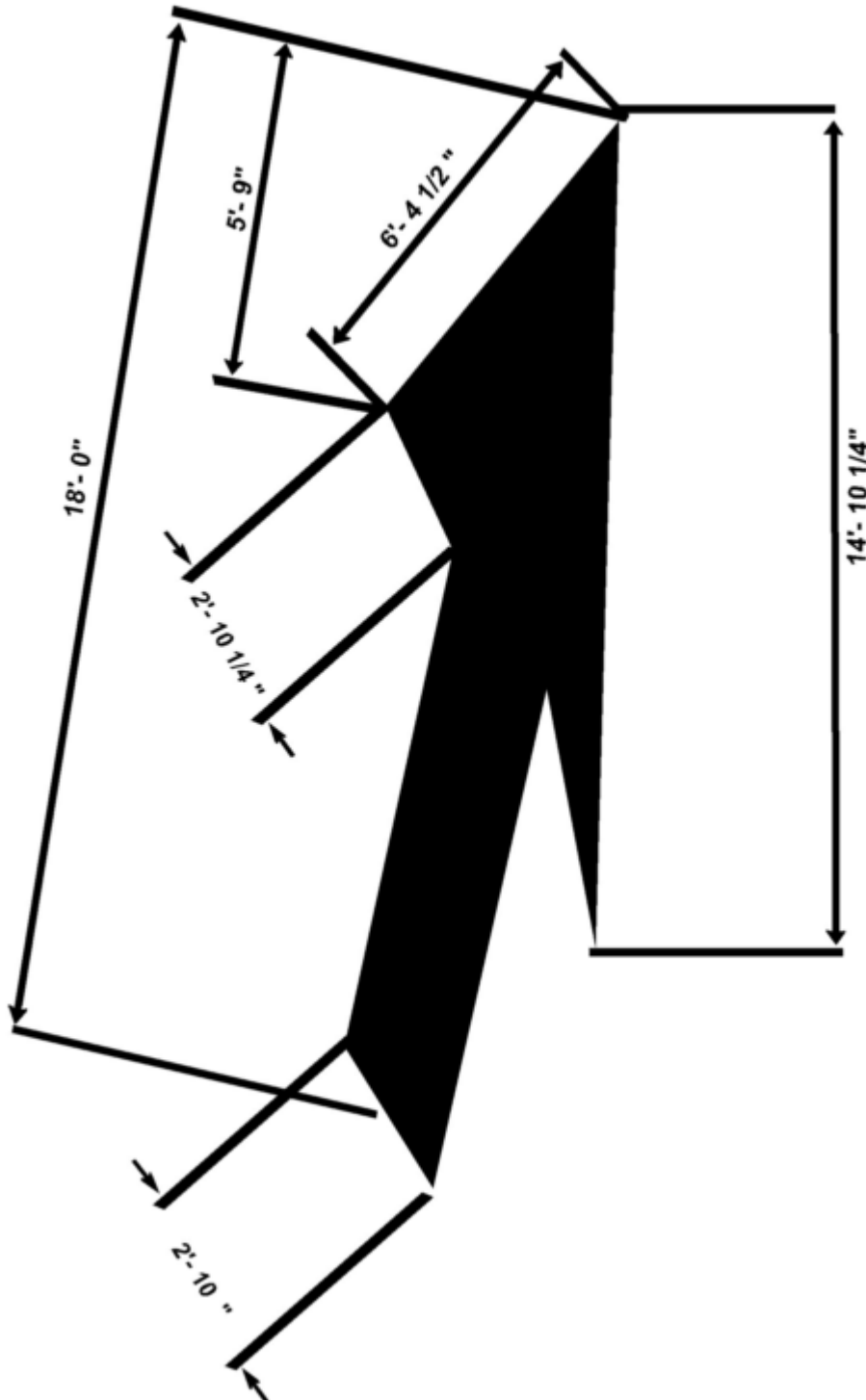


**PRODUCT ID – 12177**  
**LANE REDUCTION ARROW LEFT**

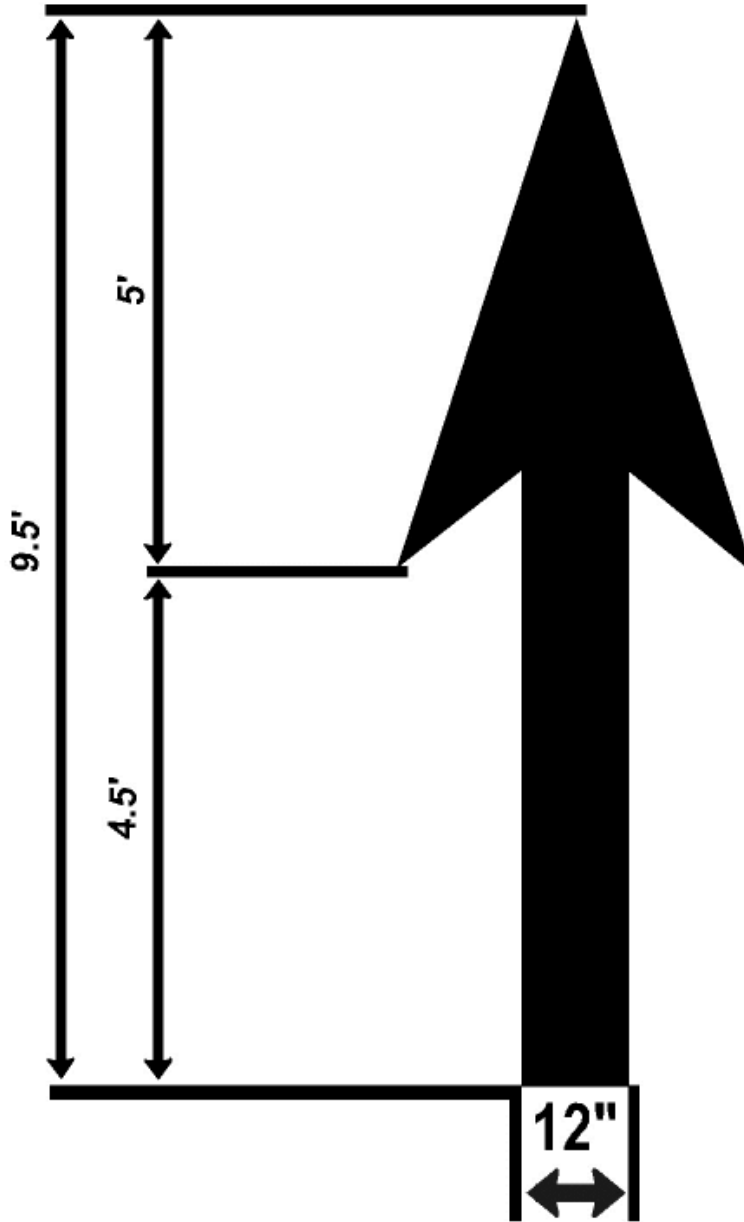




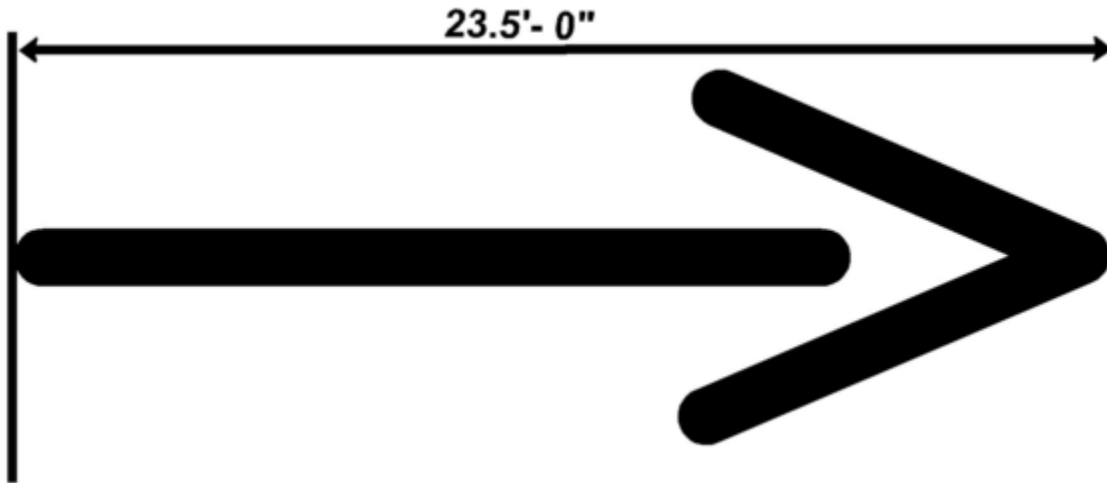
**PRODUCT ID – 12178**  
**LANE REDUCTION ARROW RIGHT**



**PRODUCT ID – 12179  
STRAIGHT ARROW, 9.5'**



**PRODUCT ID – 12180**  
**STRAIGHT ARROW, WRONG WAY/RAMP, 23.5'**



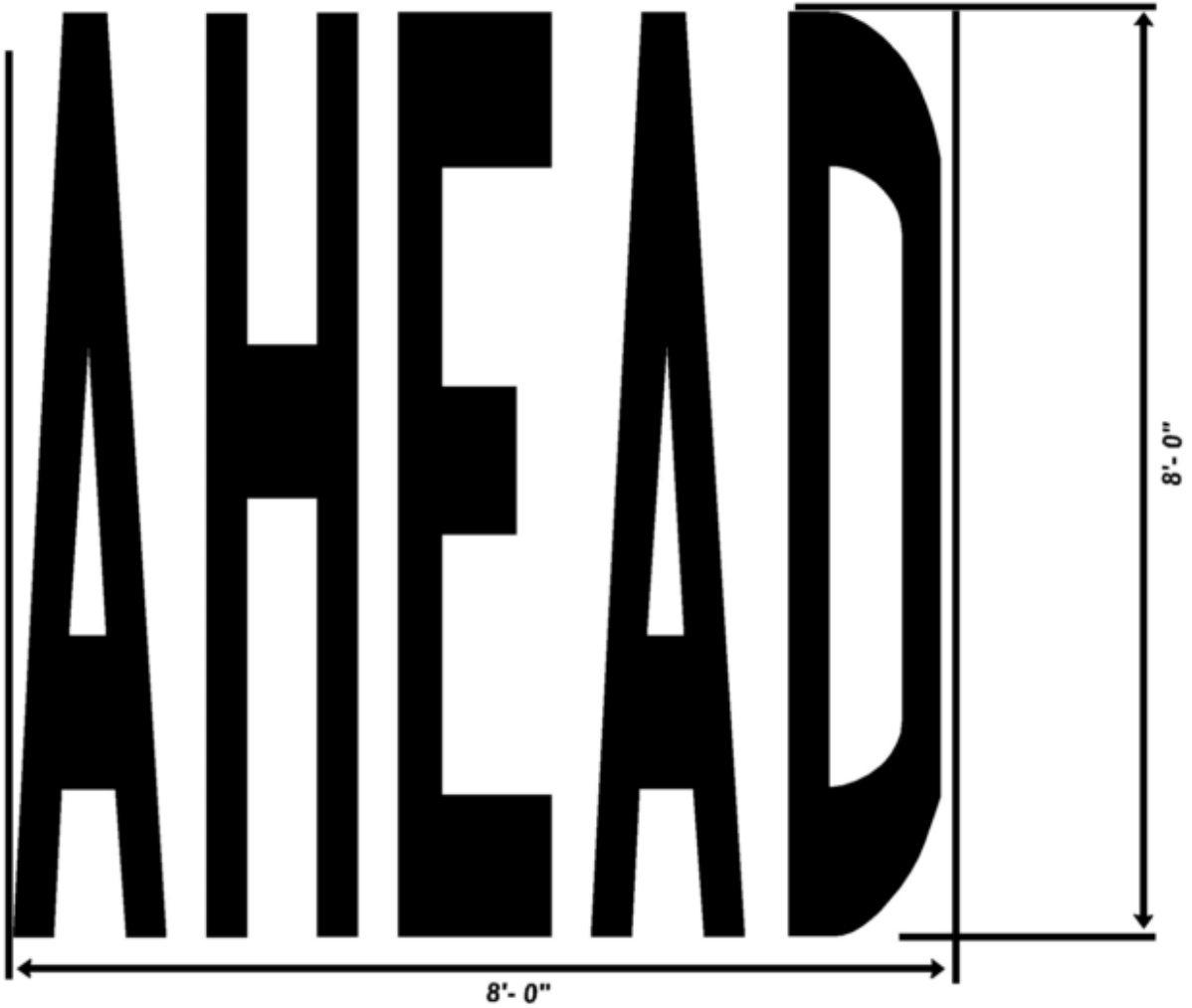
**PRODUCT ID – 12181**  
**TRIANGLE MARKING, YIELD LINE, 1'-0" X 1'-6"**



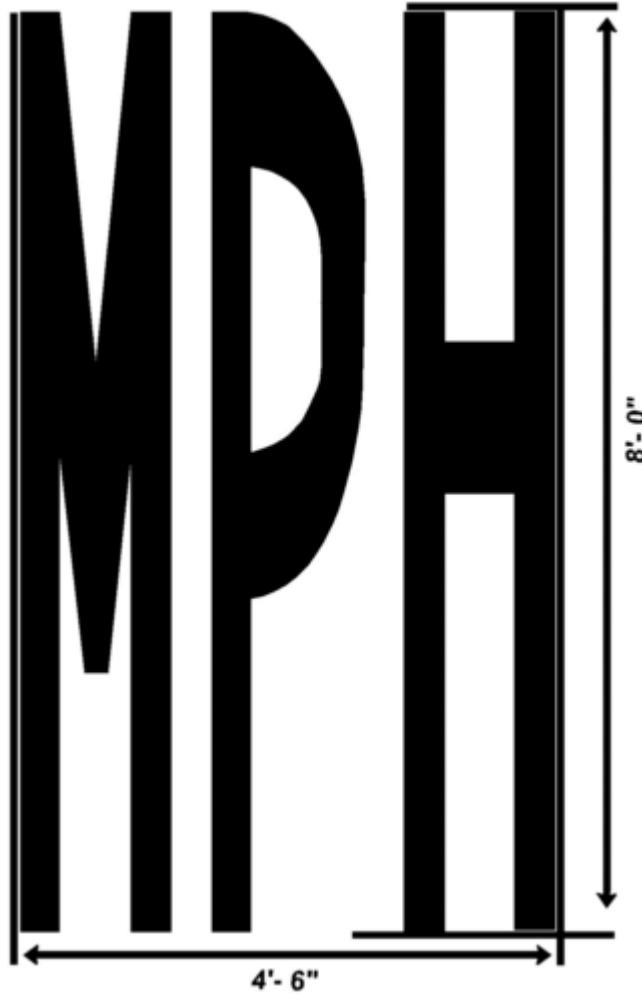
**PRODUCT ID – 12182**  
**TRIANGLE MARKING, YIELD LINE, 2' X 3'**



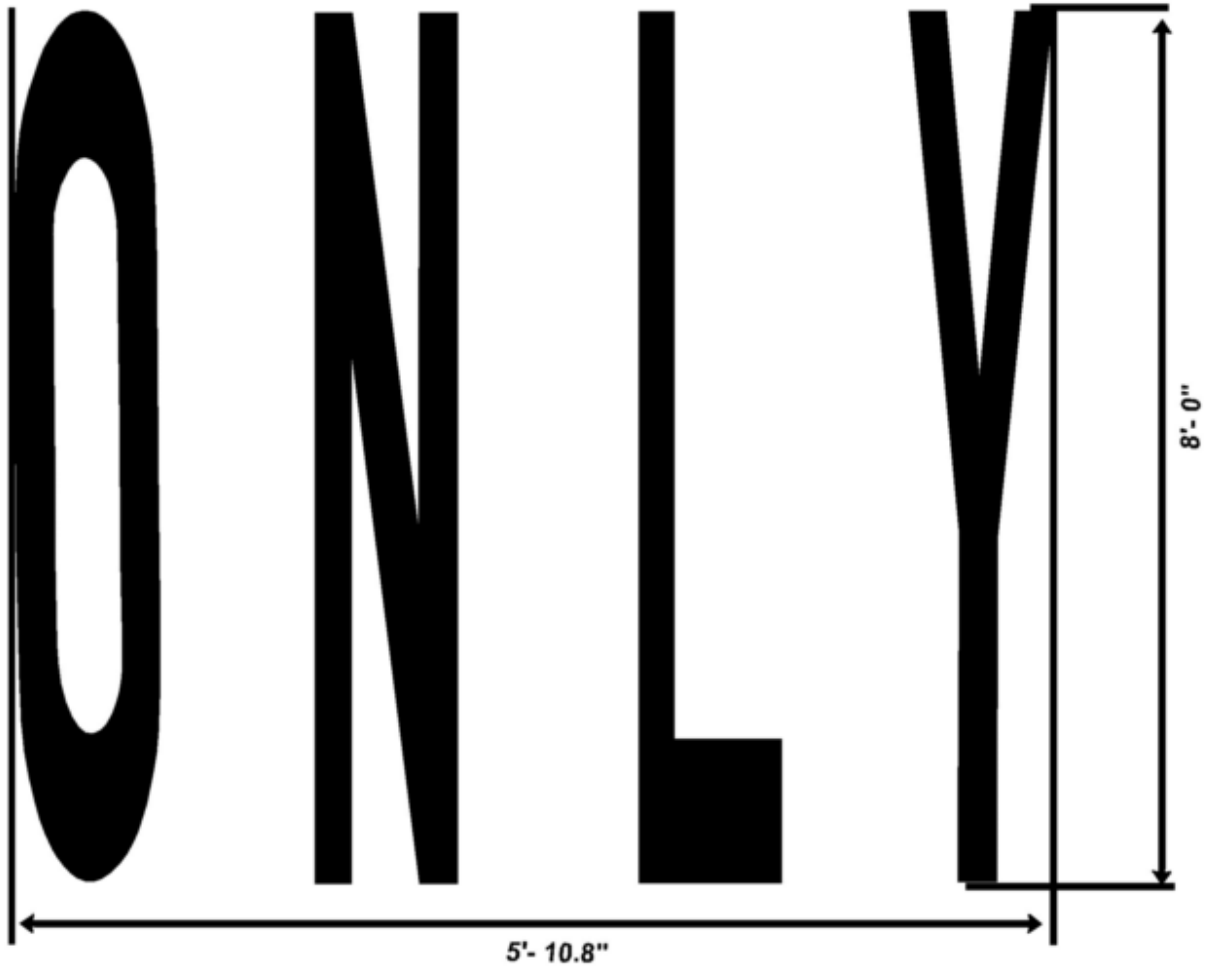
**PRODUCT ID – 12183**  
**AHEAD MARKING, 8' X 8'**



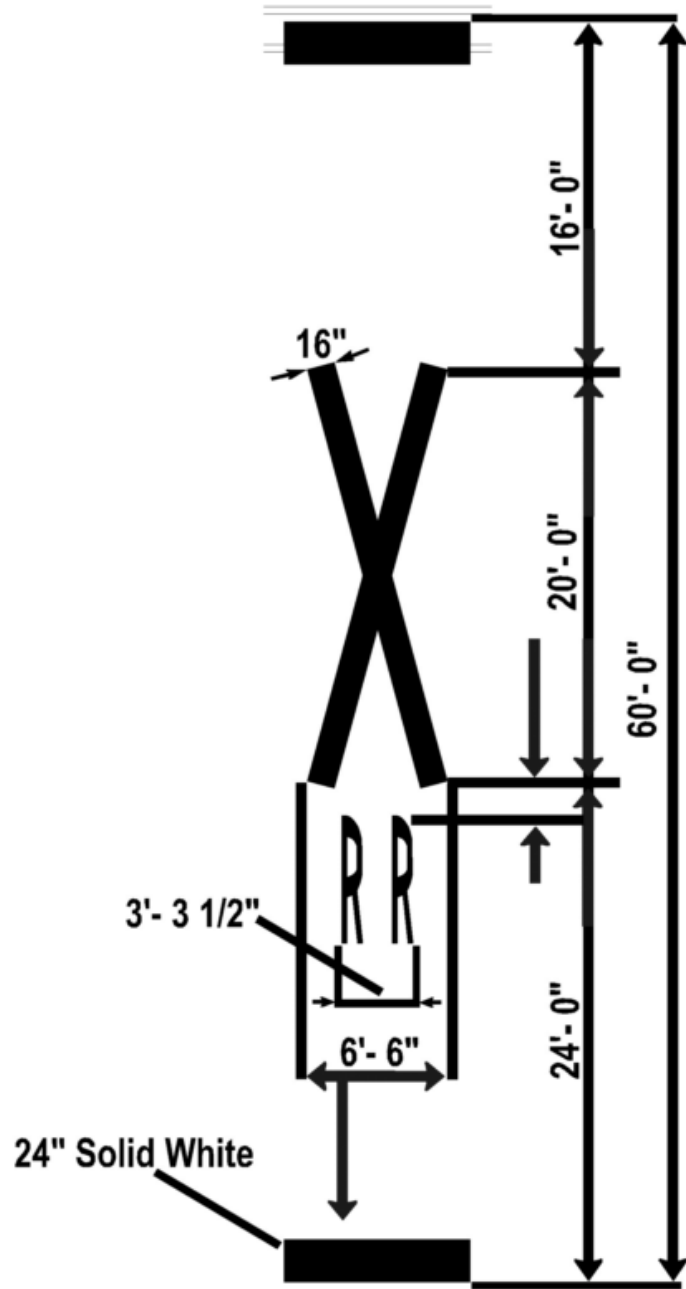
**PRODUCT ID – 12184**  
**MPH MARKING, 4'-6" X 8'**



**PRODUCT ID – 12185**  
**ONLY MARKING, 5'-10.8" X 8'**

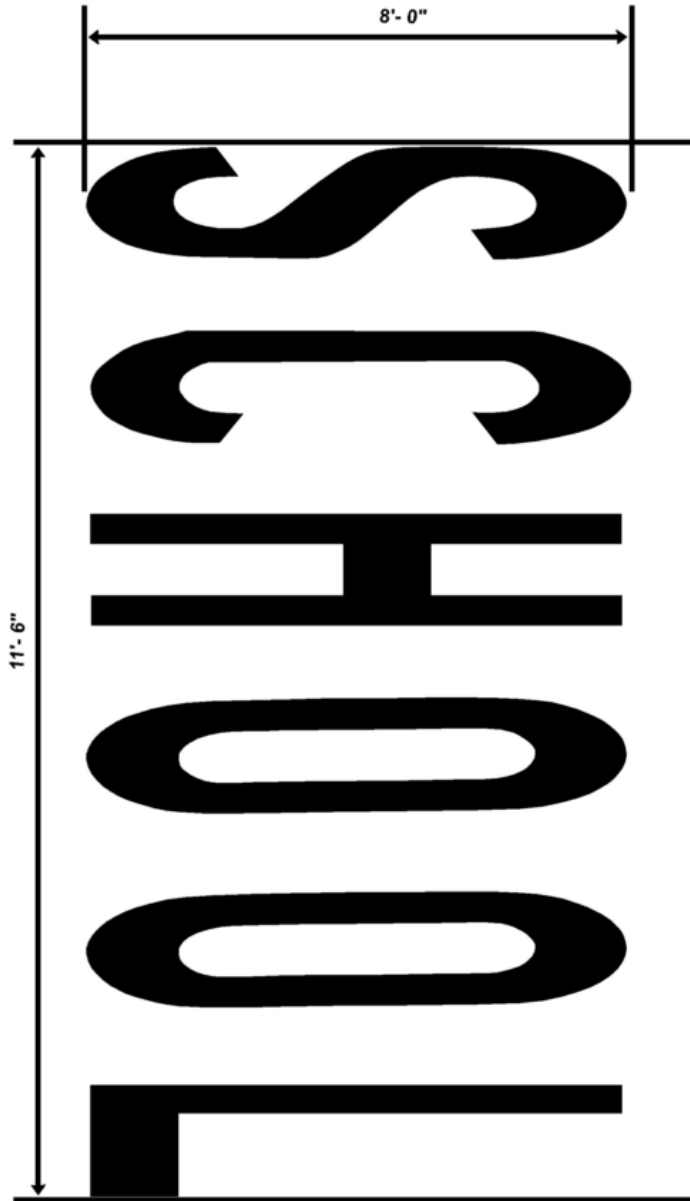


**PRODUCT ID – 12186  
RAILROAD MARKING KIT, 60'**

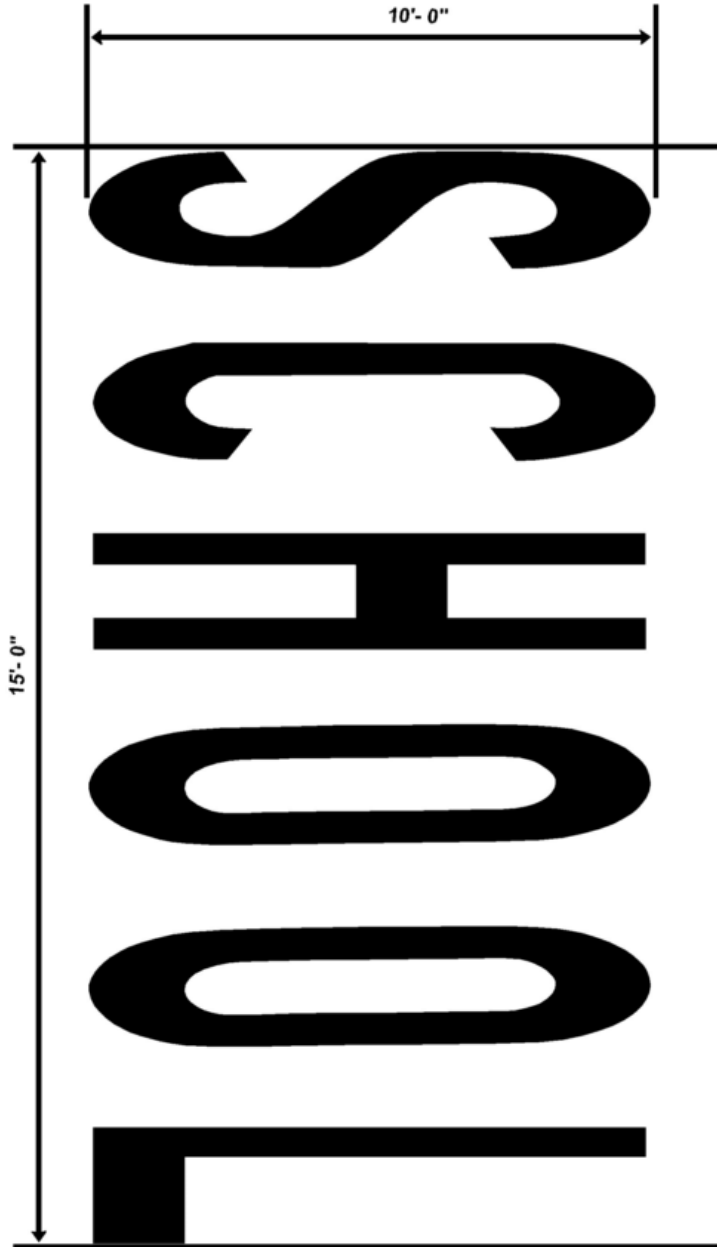




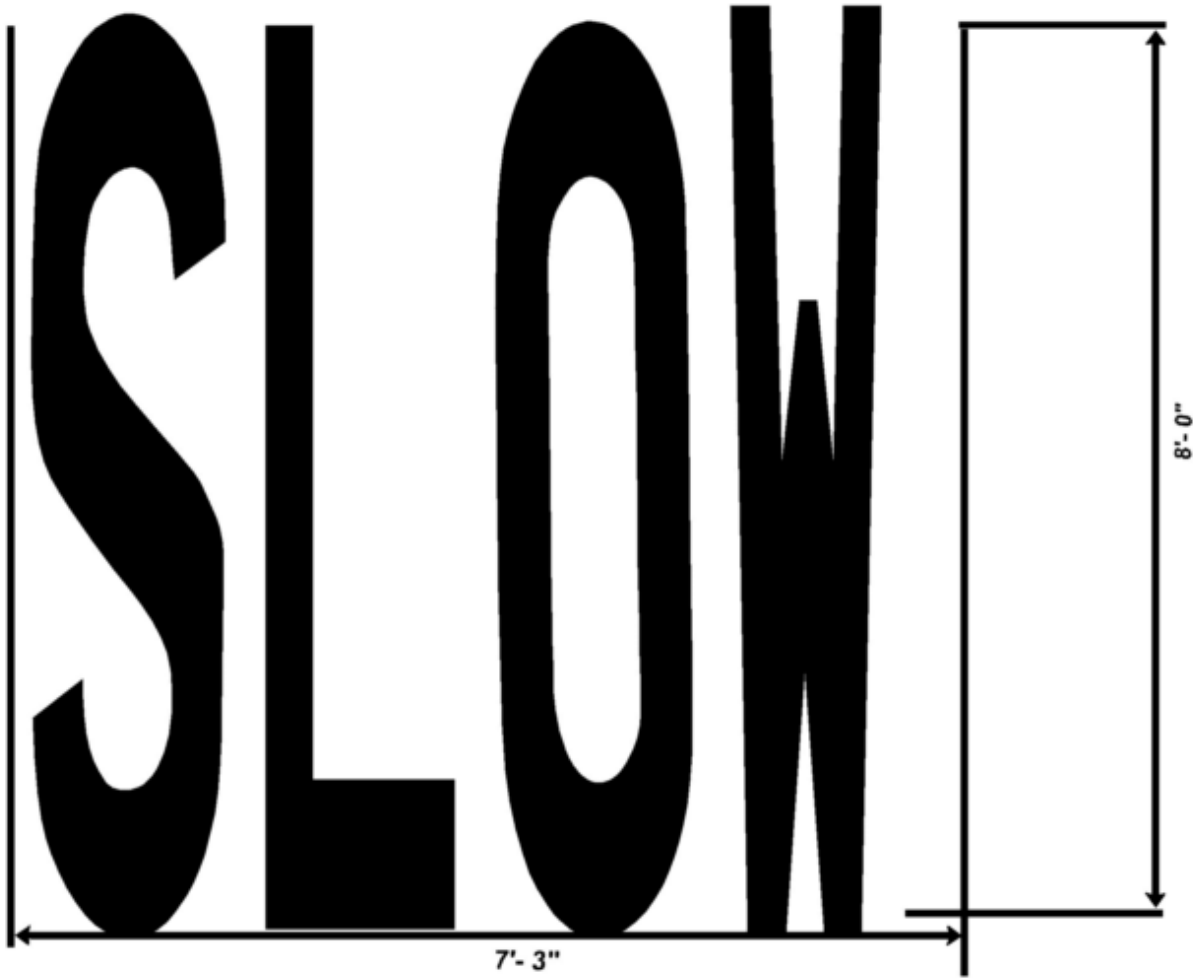
**PRODUCT ID – 12187**  
**SCHOOL MARKING, 8' X 11'-6"**



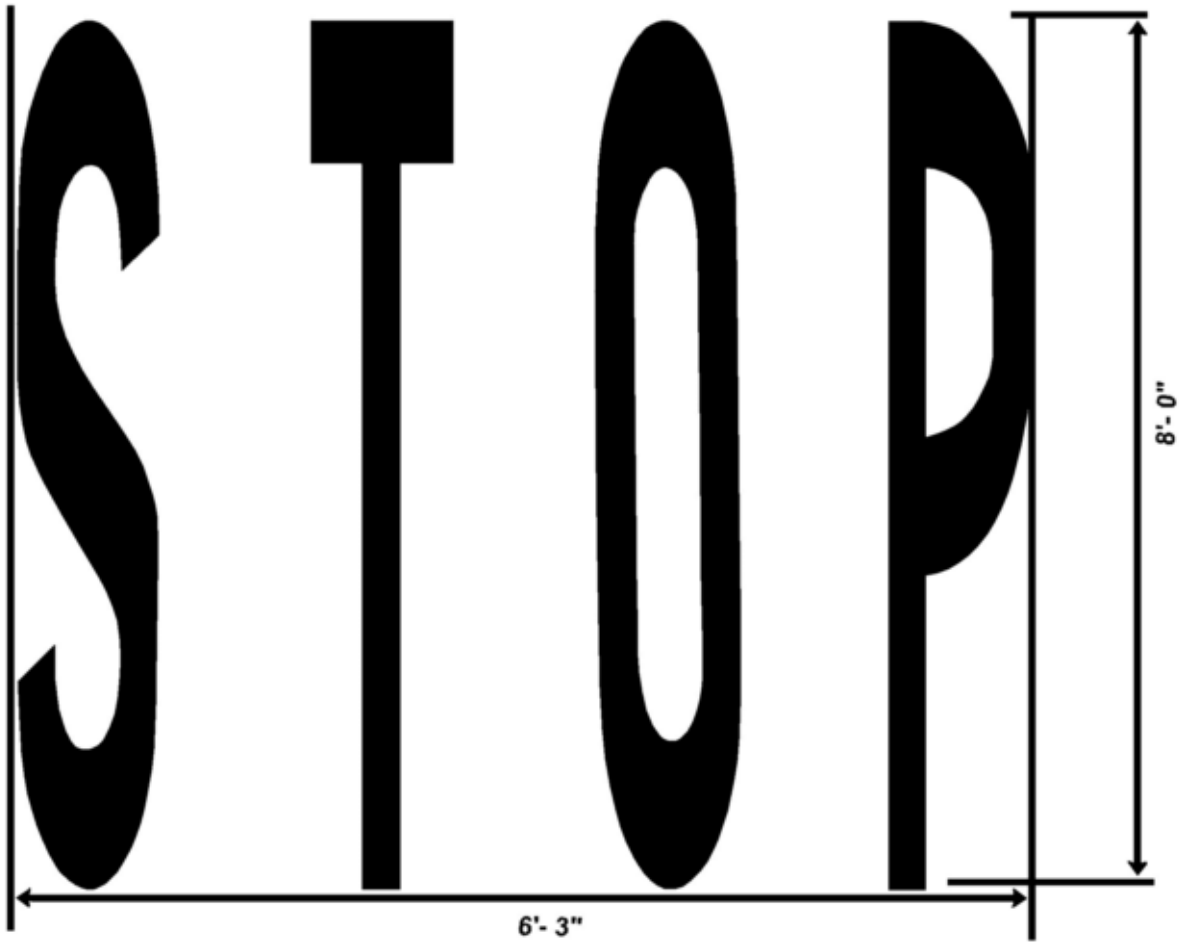
**PRODUCT ID – 12188**  
**SCHOOL MARKING, 10' X 15'**



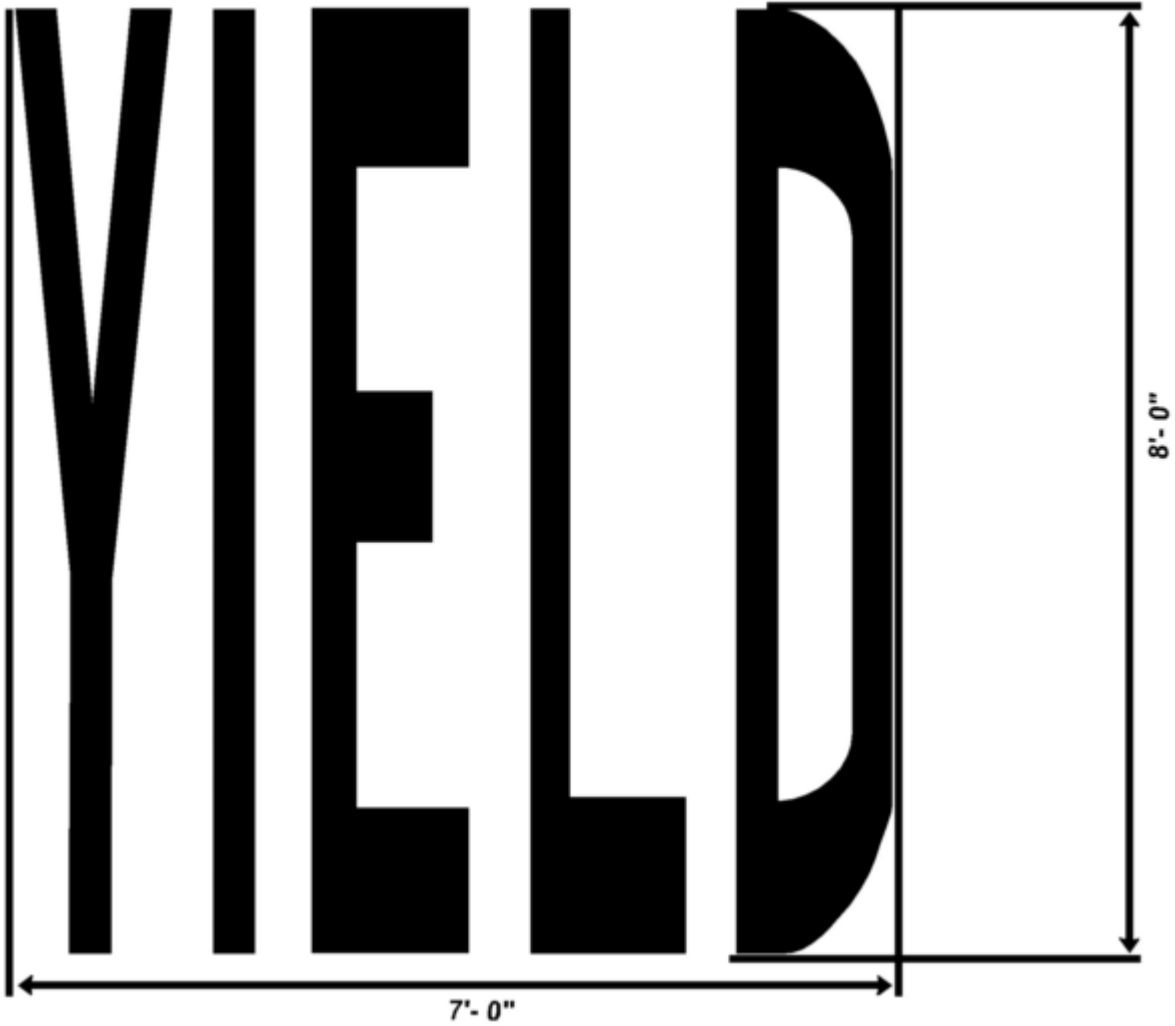
**PRODUCT ID – 12189**  
**SLOW MARKING, 7'-3" X 8'**



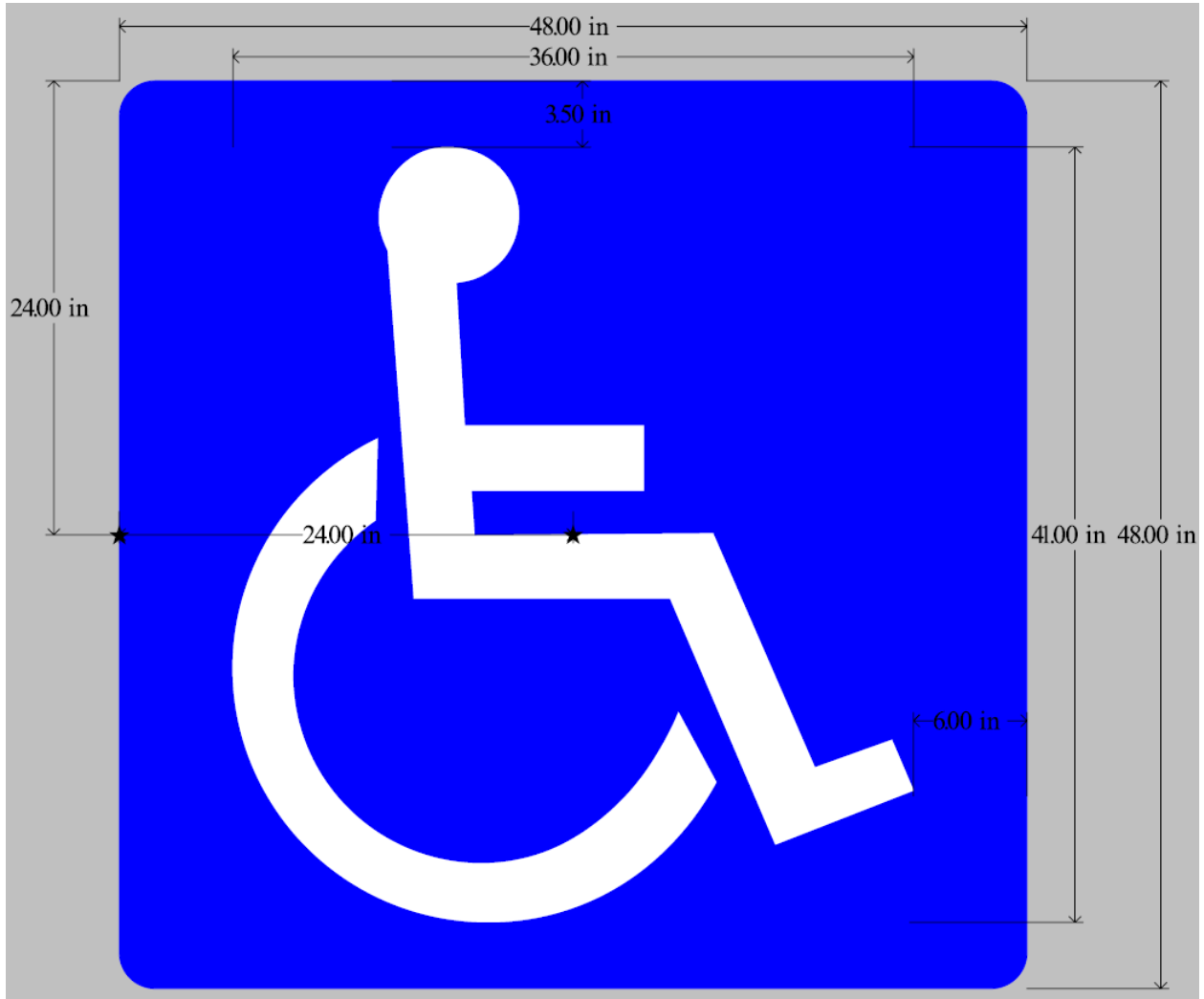
**PRODUCT ID – 12190**  
**STOP MARKING, 6'-3" X 8'**



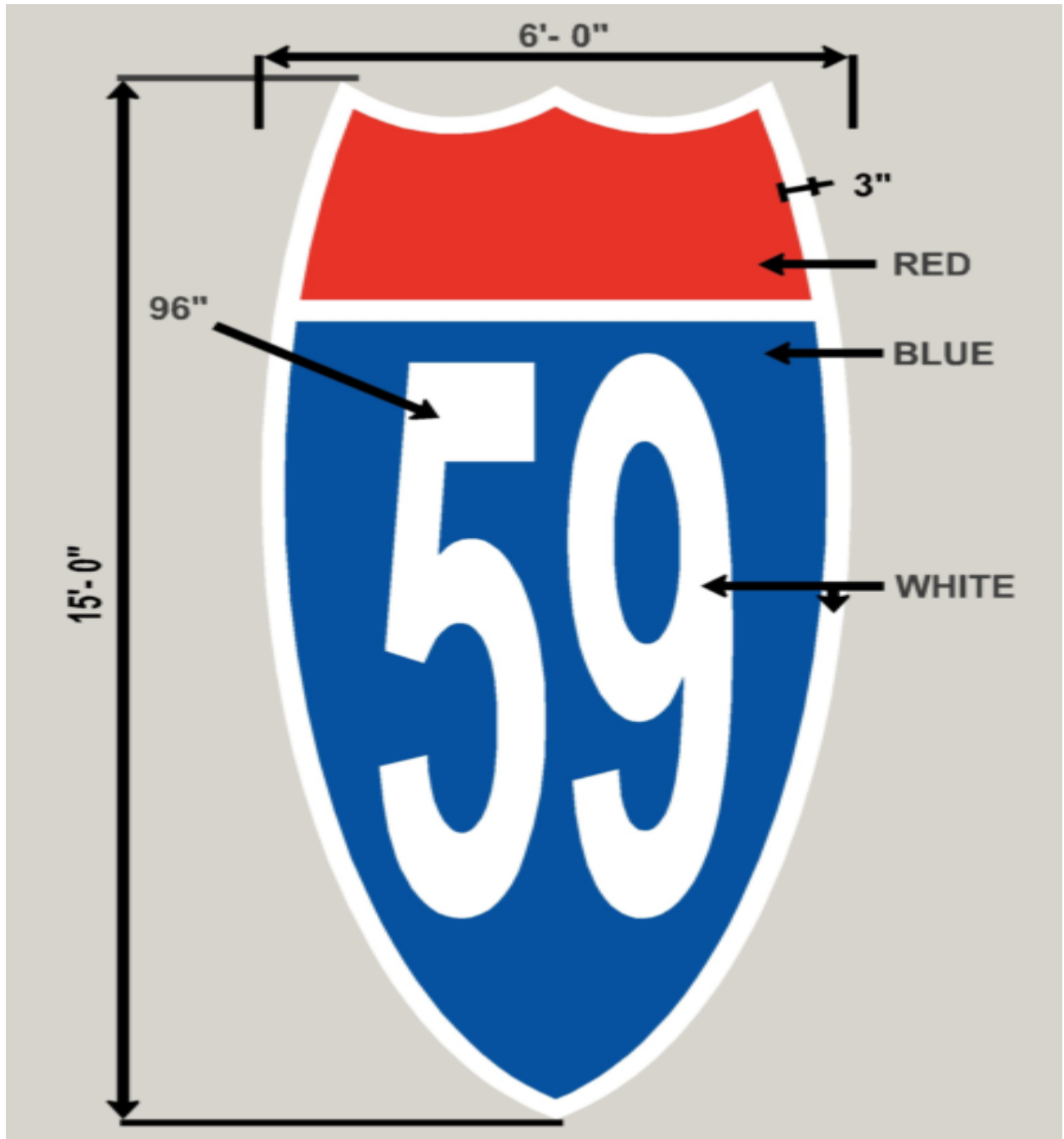
**PRODUCT ID – 12191**  
**YIELD MARKING, 7' X 8'**



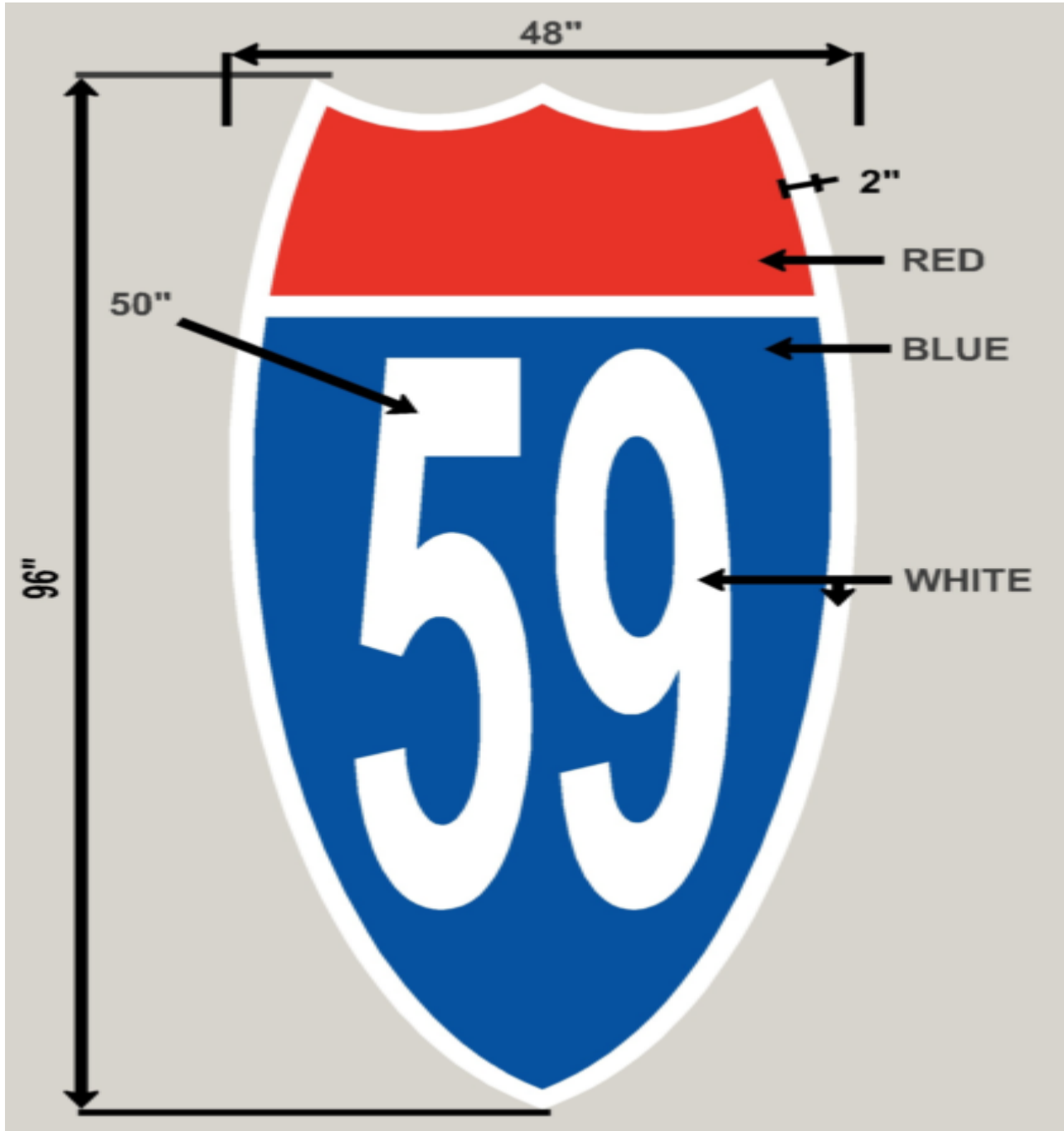
**PRODUCT ID – 54940**  
**HANDICAP MARKING, 48" X 48"**



**PRODUCT ID – 12208**  
**INTERSTATE SHIELD, 6' X 15'**  
**INTERSTATE PAVEMENT**

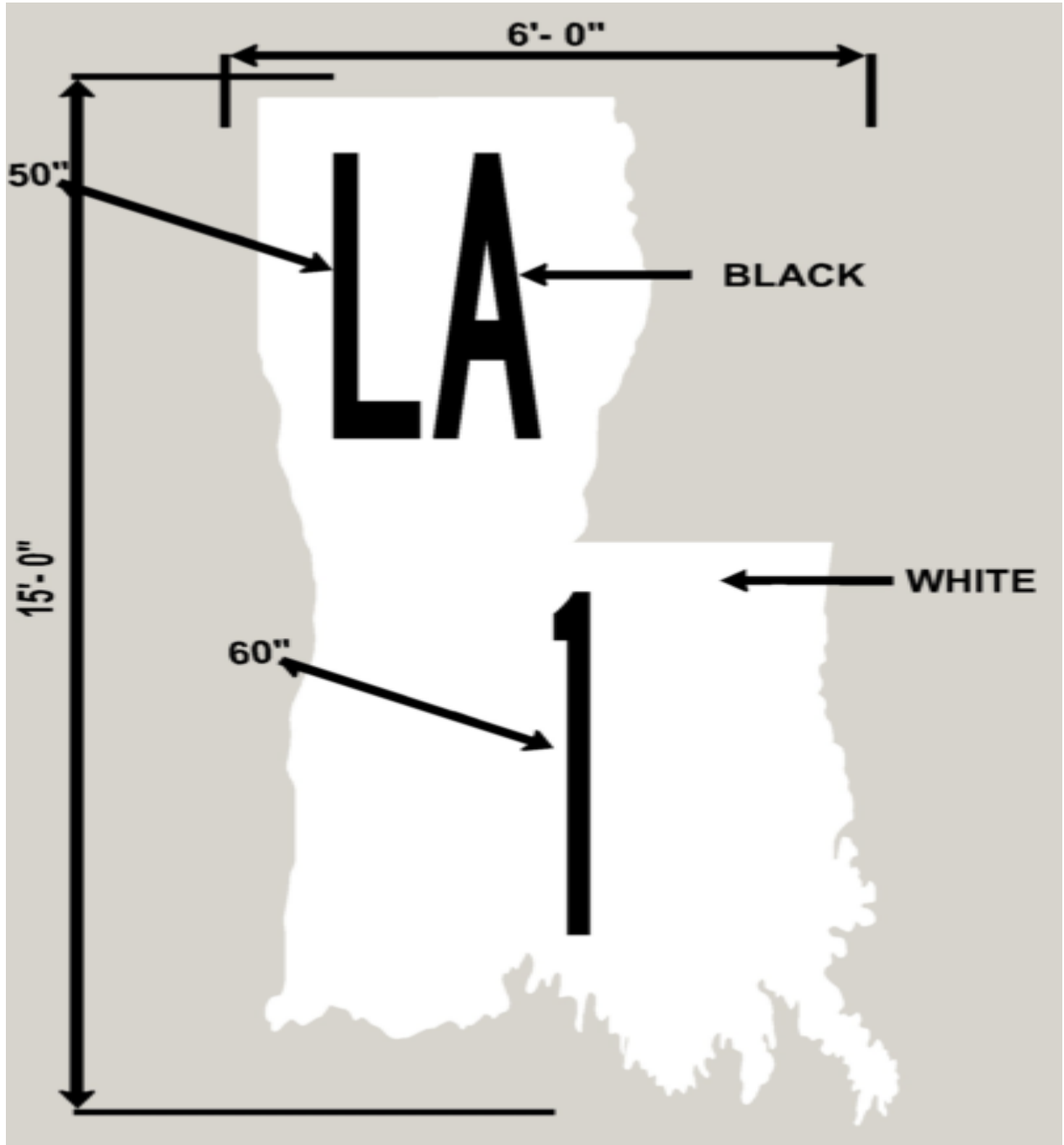


**PRODUCT ID – 12210**  
**INTERSTATE SHIELD, 48" X 96"**  
**NON-INTERSTATE PAVEMENT**

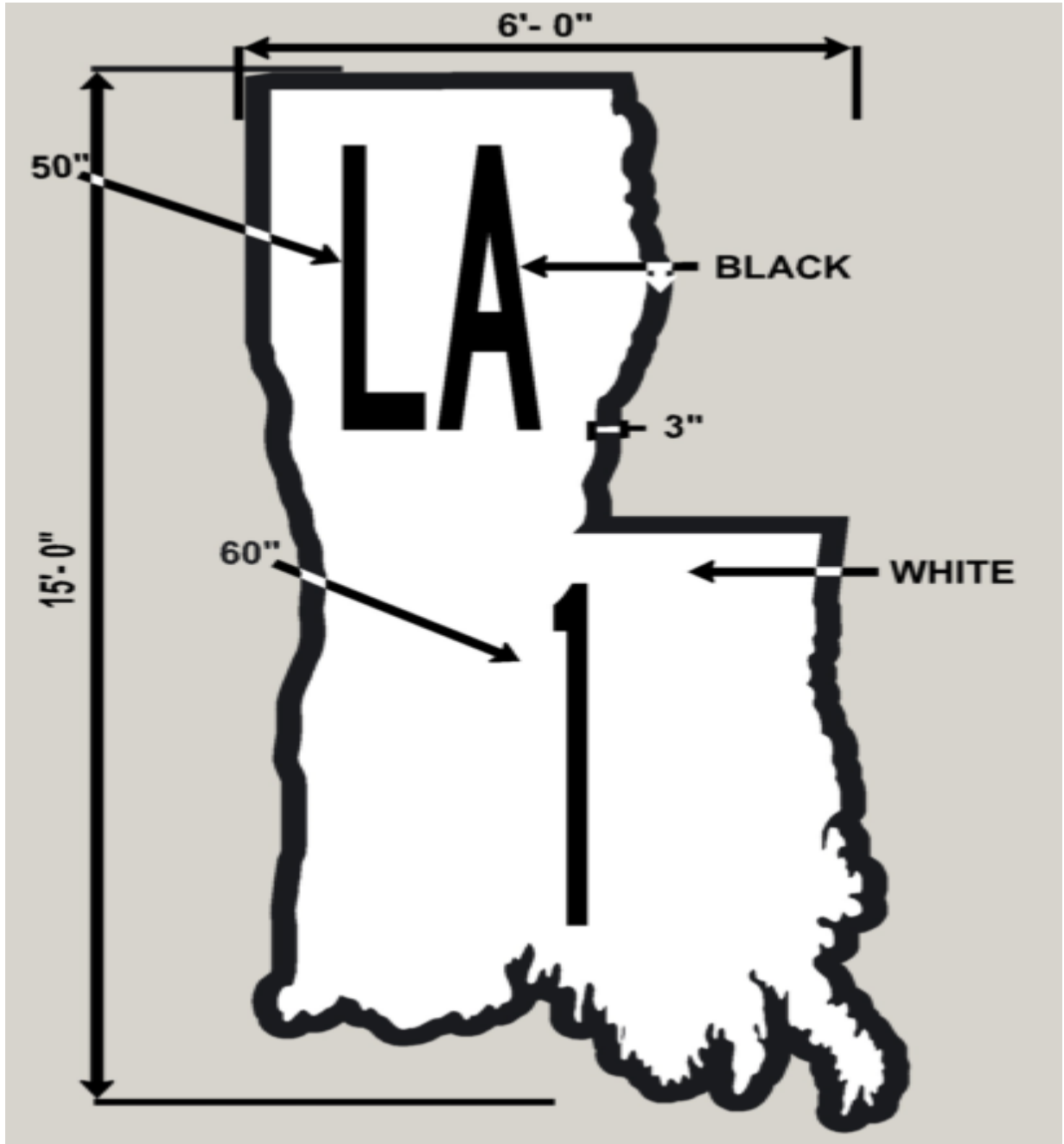




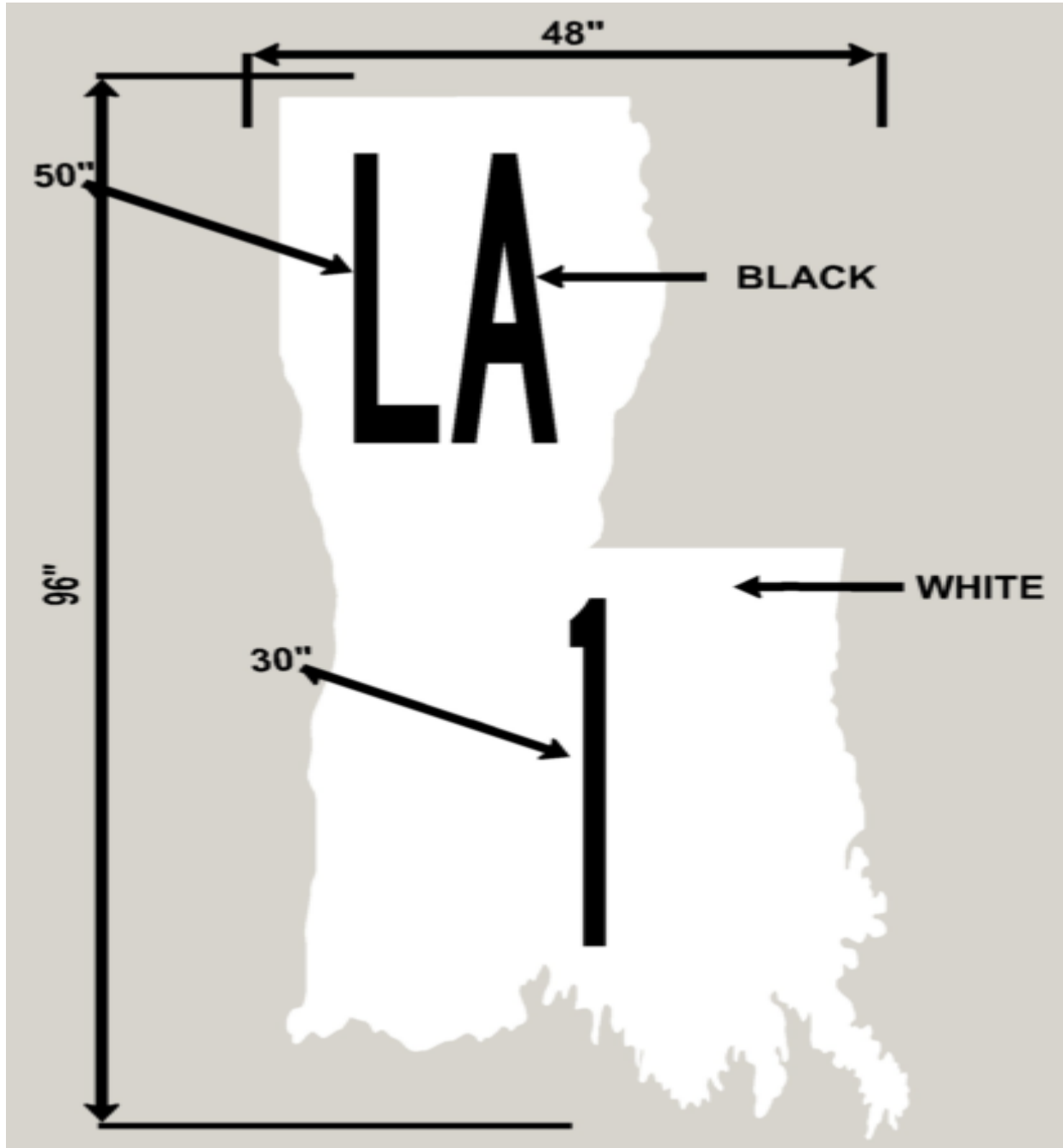
**PRODUCT ID – 12212**  
**LA SHIELD, 6' X 12'**  
**INTERSTATE DARK PAVEMENT**



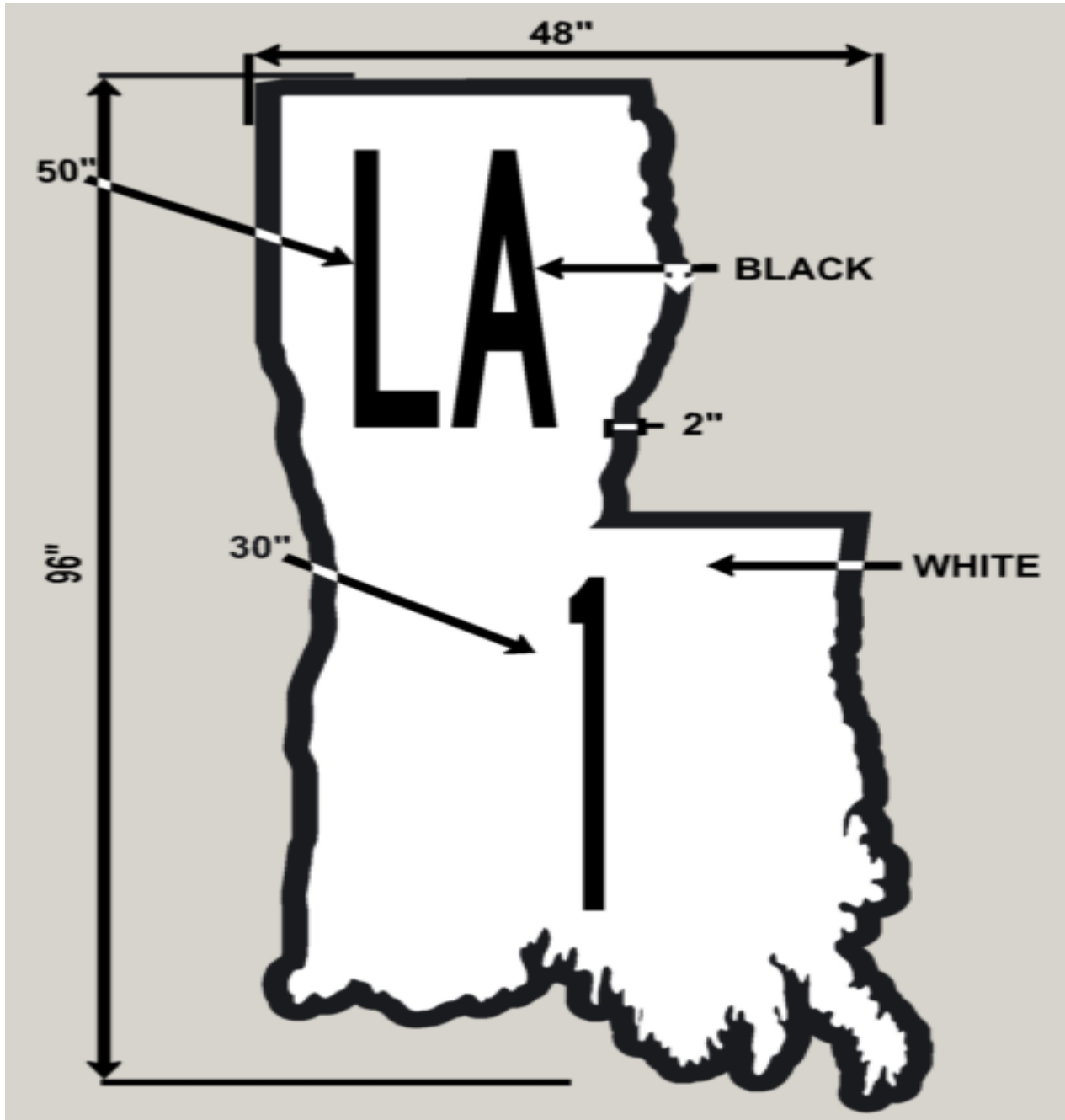
**PRODUCT ID – 12213**  
**LA SHIELD, 6' X 15'**  
**INTERSTATE LIGHT PAVEMENT**



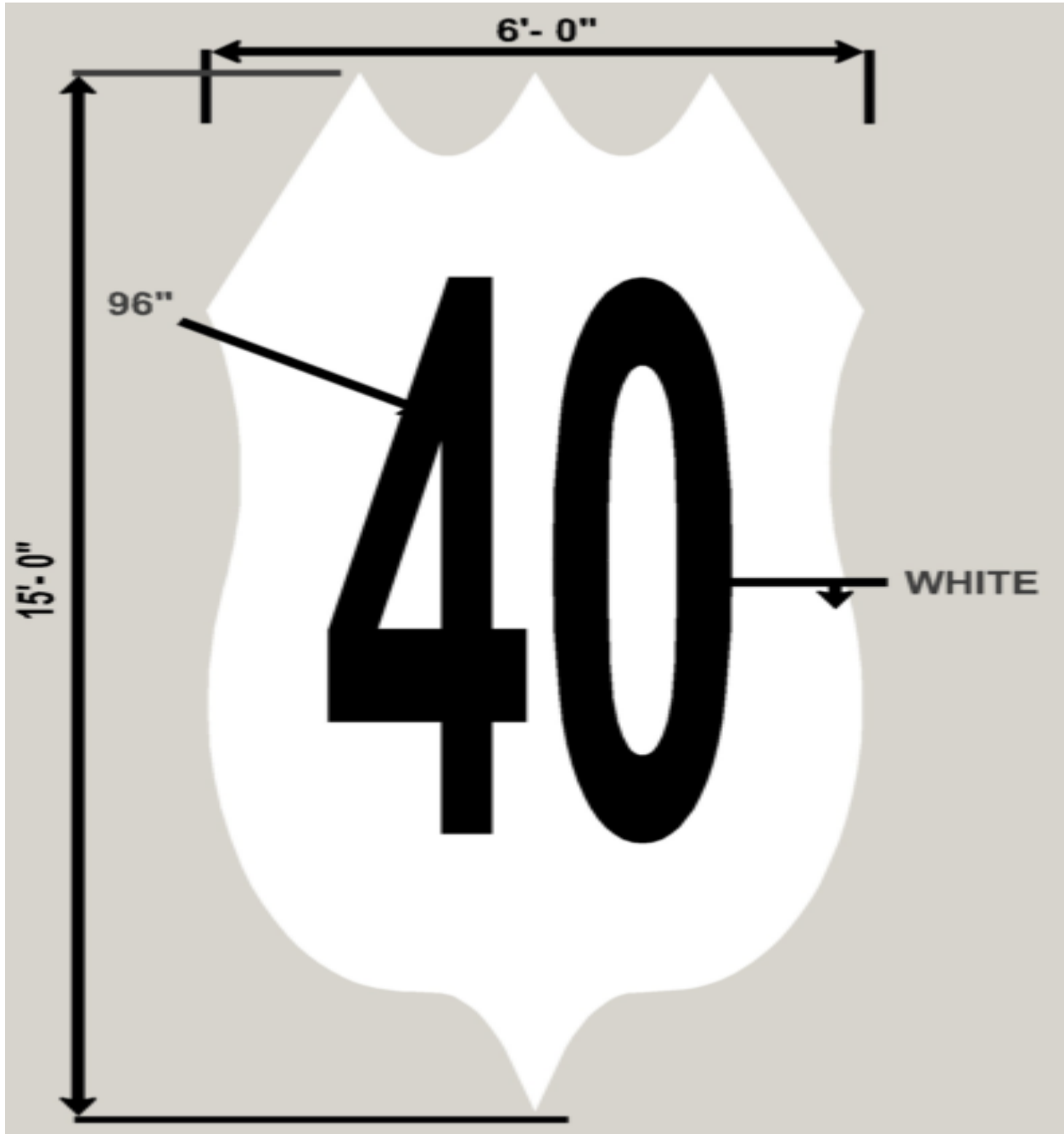
**PRODUCT ID – 12214**  
**LA SHIELD, 48" X 96"**  
**NON-INTERSTATE DARK PAVEMENT**



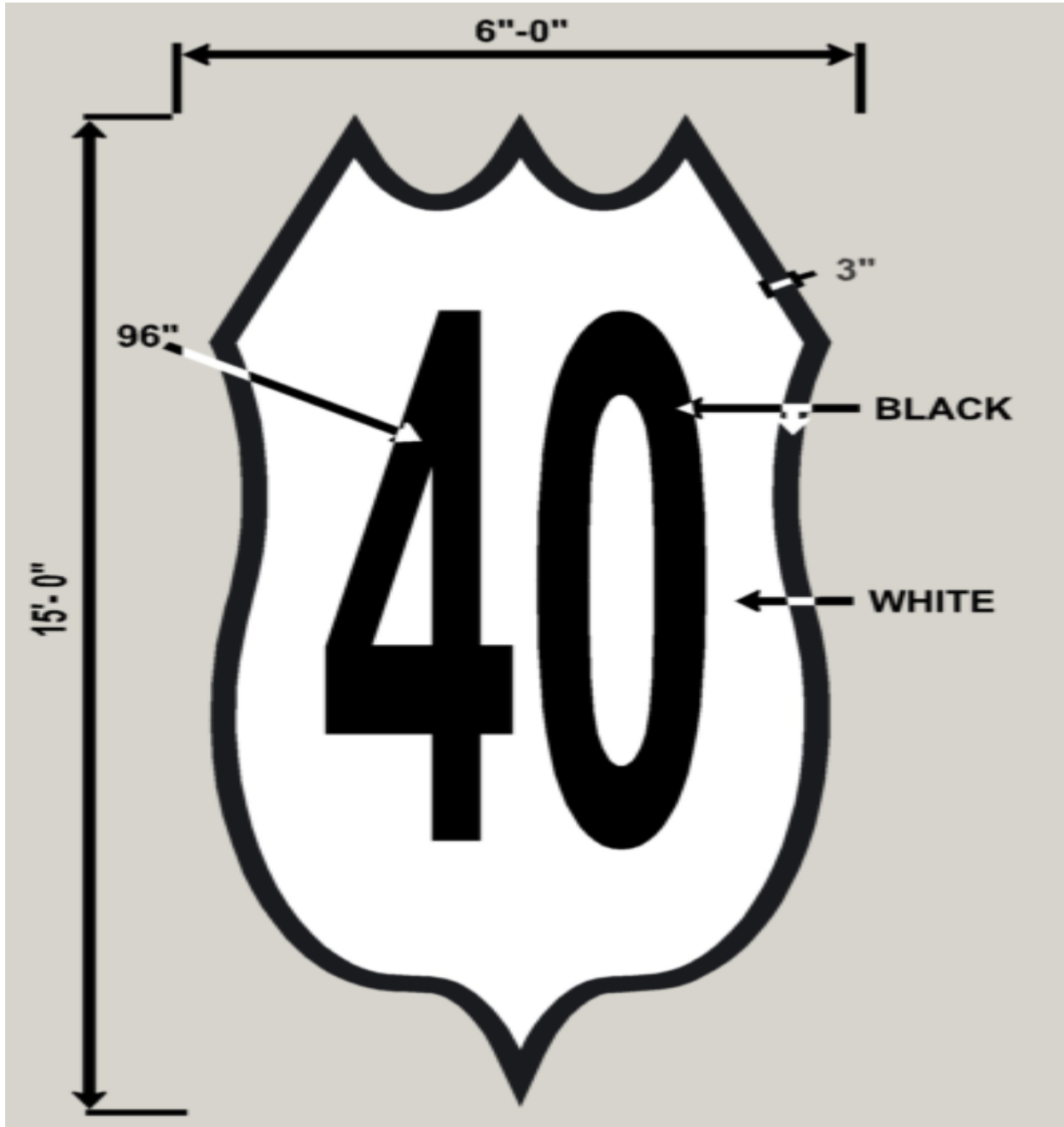
**PRODUCT ID – 12215**  
**LA SHIELD, 48" X 96"**  
**NON-INTERSTATE LIGHT PAVEMENT**



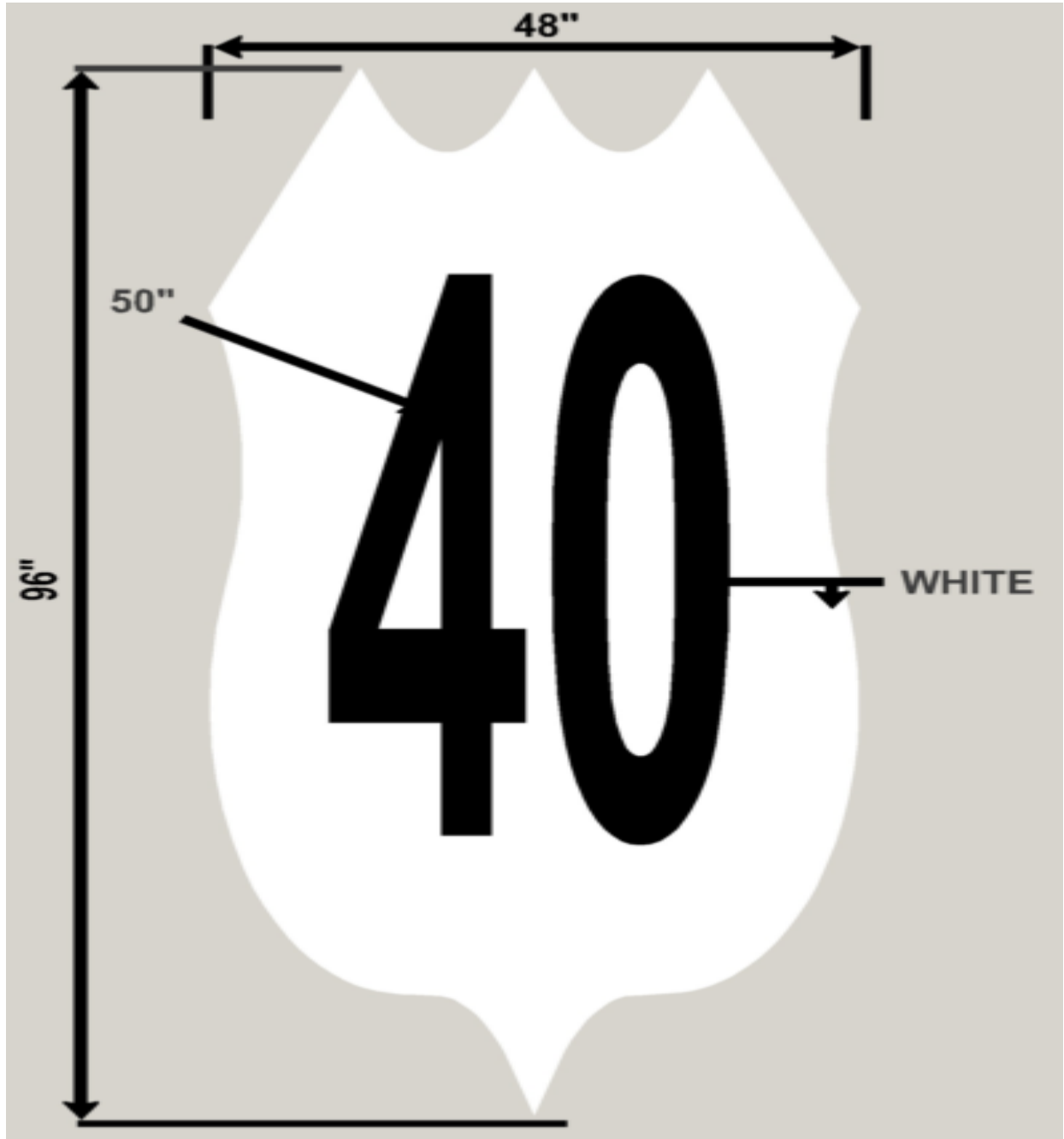
**PRODUCT ID – 12216  
US SHIELD, 6' X 15'  
INTERSTATE DARK PAVEMENT**



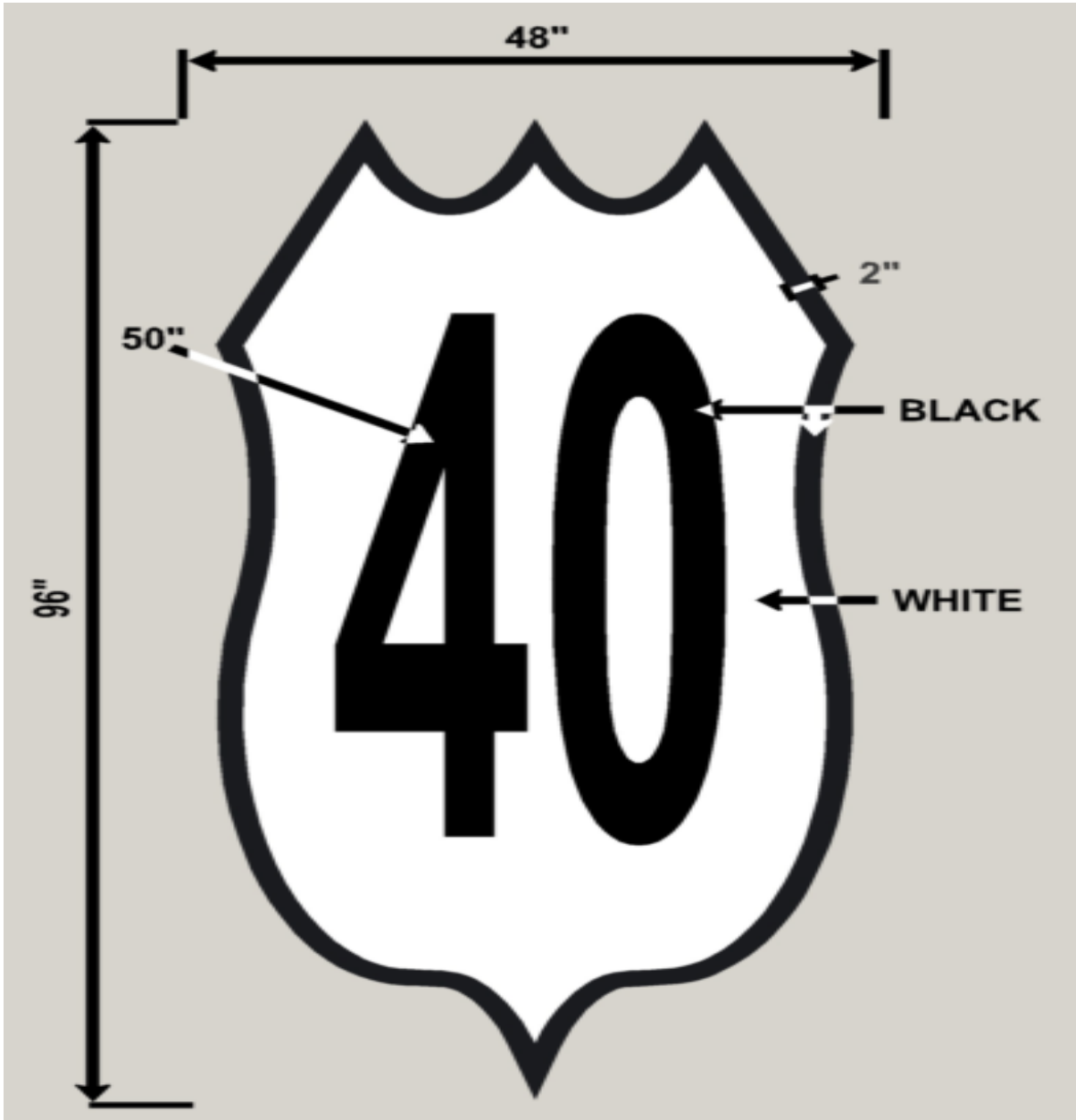
**PRODUCT ID – 12217**  
**US SHIELD, 6' X 15'**  
**INTERSTATE LIGHT PAVEMENT**



**PRODUCT ID – 12218**  
**US SHIELD, 48" X 96"**  
**NON-INTERSTATE DARK PAVEMENT**

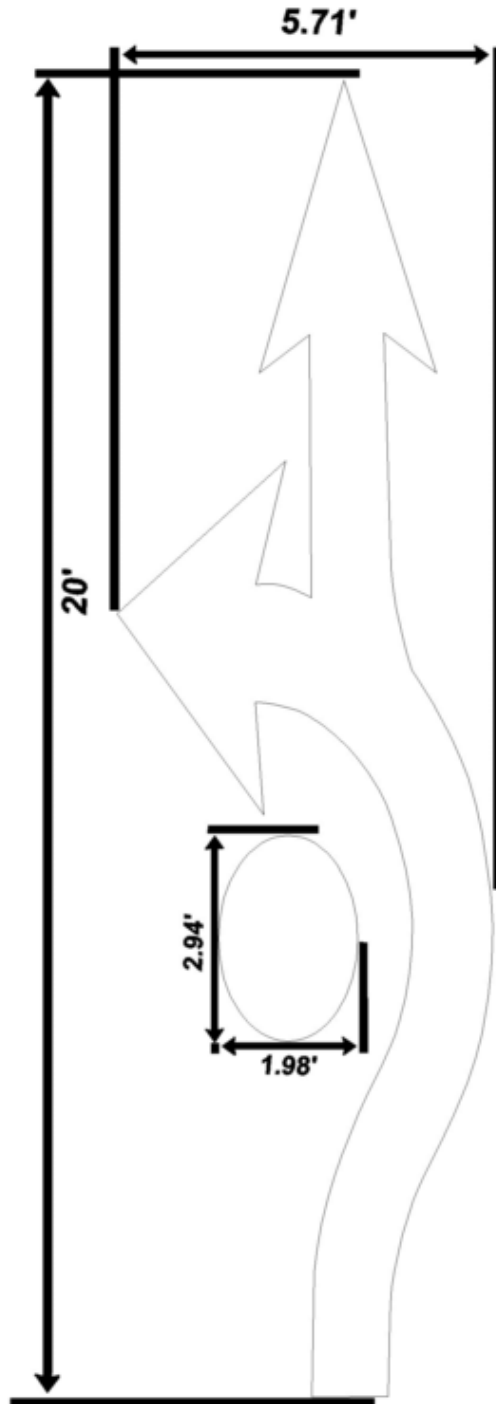


**PRODUCT ID – 12219**  
**US SHIELD, 48" X 96"**  
**NON-INTERSTATE LIGHT PAVEMENT**





**PRODUCT ID – 51270**  
**ROUNDAABOUT FISH-HOOK STRAIGHT/LEFT, 20'**



**PRODUCT ID – 51271**  
**ROUNDAABOUT FISH-HOOK STRAIGHT, 20'**

