

**STATE****OF****TENNESSEE**

October 17, 2019  
(Rev. 6-30-20)  
(Rev. 6-23-21)  
(Rev. 3-30-22)

January 1, 2021

**SPECIAL PROVISION****REGARDING****CONTRAST PAVEMENT MARKINGS****Description**

This work shall consist of the placement of a Contrast Pavement Marking system and/or Contrast Pavement Shadow Marking on concrete surfaces and meet current Standard Specifications except as noted in this Provision.

For new installation of pavement markings on multi-lane concrete roadways, bridges, and ramps, the Contrast Pavement Marking System shall consist of either a white and black or yellow and black pavement marking, (see Details 716CPM-1, 2, 3, 5 & 6) and the Contrast Pavement Shadow Marking shall consist of a black spray thermoplastic pavement marking. (see Details 716CPM-4 & 5) The Contrast Pavement Marking system shall be used for the edge lines and dotted lines only and the Contrast Pavement Shadow Marking shall be used for the lane lines only.

For new installation of pavement markings on 2 lane concrete roadways, bridges, and ramps, the Contrast Pavement Marking System shall consist of either a white and black or yellow and black pavement marking, (see Details 716CPM-1, 2, 3, & 6). The Contrast Pavement Marking system shall be used for all lines.

To enhance existing pavement markings on multi-lane concrete roadways, bridges, and ramps, the Contrast Pavement Shadow Marking shall consist of a black spray thermoplastic pavement marking. (see Details 716CPM-4 & 7) The Contrast Pavement Shadow Marking shall be used as an addition to the existing lane lines only.

**Materials**

Provide materials that are specified as follows:

**A. Thermoplastic Pavement Marking**

1. White and Yellow thermoplastic pavement marking material shall meet requirements of **919.01** for the screed extrusion or ribbon dispenser methods.
2. Black contrast thermoplastic pavement marking material shall conform to material requirements in **919.01** for screed extrusion or ribbon dispenser methods or **919.02** for

the spray method. The black contrast thermoplastic pavement shadow marking material shall conform to the material requirements in **919.02** for the spray method. The material requirements should be met with the following exceptions:

- a. No Intermix glass beads.
  - b. Calcium carbonate shall be 95% pure.
  - c. The percent of pigment shall be based on the manufacturer's recommendations. When applied, the black pigment must produce a completely opaque black pavement marking and 70 hrs. of weatherometer exposure in accordance with ASTM G 155 using Exposure Cycle 1 with a quartz inner filter glass and Type "S" Borosilicate outer filter glass. The black material shall be a colorfast and anti-skid material to form the pavement marking.
3. The thermoplastic material for contrast pavement marking systems shall provide white and black, or yellow and black thermoplastic as matching systems from the same manufacturer.

#### **B. Alternate Contrast Pavement Markings**

An alternate to contrast thermoplastic pavement marking material shall be selected from the Department's Qualified Products List 1: Section B, Preformed Plastic Pavement Markings with a thickness of 90 mils minimum or List 1: Section C.2, Preformed Contrast Tape with a thickness of 80 mils minimum.

#### **C. Certification**

1. Furnish a manufacturer's certification to the Engineer for each lot furnished, certifying that the material supplied conforms to all requirements specified.
2. The certification shall include or have attached typical results of all required tests and the requirements it represents.

#### **Construction Requirements**

Apply the Contrast Pavement Marking system and/or Contrast Pavement Shadow Marking according to the manufacturer's recommendations and specified in **716.03**. Apply to concrete surfaces with the proper application temperatures and after surface preparation as recommended by the material manufacturer.

Do not apply Contrast Pavement Marking to existing or new concrete surfaces unless the ambient air temperature and the temperature of the concrete pavement is 50°F and rising.

To ensure optimum adhesion of the thermoplastic pavement marking material to concrete surfaces, apply a binder sealer material as recommended by the manufacturer.

For new installations of contrast pavement marking on existing concrete surfaces, the existing pavement marking material, thermoplastic or tape, shall be removed by methods in **712.05** or as indicated in the plans and paid as Removal of Pavement Marking (Line).

**A. Two Pass Application**

1. Apply the black thermoplastic pavement marking material to the concrete surface at a thickness of 40 mils according to the manufacturer’s recommendations.
2. Apply the white or yellow thermoplastic pavement marking material by the extruded or ribbon dispensed methods on top of the black thermoplastic pavement marking at a thickness of 100 mils according to the manufacturer’s recommendations and Standard Specifications. The white or yellow pavement marking will be applied on top of the black pavement marking to create the Contrast Pavement Marking System with a total thickness of 140 mils.

**Detail: 716CPM-1 Contrast Pavement Marking, Two-Pass Application**



**B. One Pass Application**

Apply the White or yellow thermoplastic pavement marking material with black contrast thermoplastic pavement marking material simultaneously by the extruded or ribbon dispensed methods at a thickness of 110 mils according to the manufacture’s recommendations.

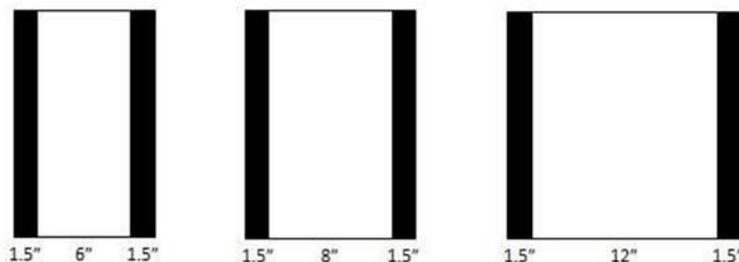
**Detail: 716CPM-2 Contrast Pavement Marking, One-Pass Application**



**C. Alternate Contrast Pavement Markings**

Apply the QPL approved Preformed Tape or Preformed Thermoplastic to the concrete surfaces according to manufacturer’s recommendations and as specified in **716.06**.

**Detail: 716CPM-3 Contrast Pavement Marking, A, B, & C**



**D. Contrast Pavement Shadow Marking**

Apply the black thermoplastic pavement shadow marking material to the concrete surface at a thickness of 60 mils as an addition to the existing lane lines according to Detail: 716CPM-3 & 5 and meeting the manufacturer’s recommendations.

**Detail: 716CPM-4 Contrast Pavement Shadow Marking, D**



**Traffic Control**

1. Traffic control shall be completed in accordance with the plans and/or contract documents.
2. All traffic control operations shall apply with the MUTCD at a minimum. Any changes must be approved by the engineer.

**Method Of Measurement**

The Department will measure the length of each of these markings, complete in place and accepted, as listed in the bid schedule, along the center of each line. Only the marked line will be measured for payment.

The Department will measure the pavement marking words and symbols complete in place and accepted, by each for these markings.

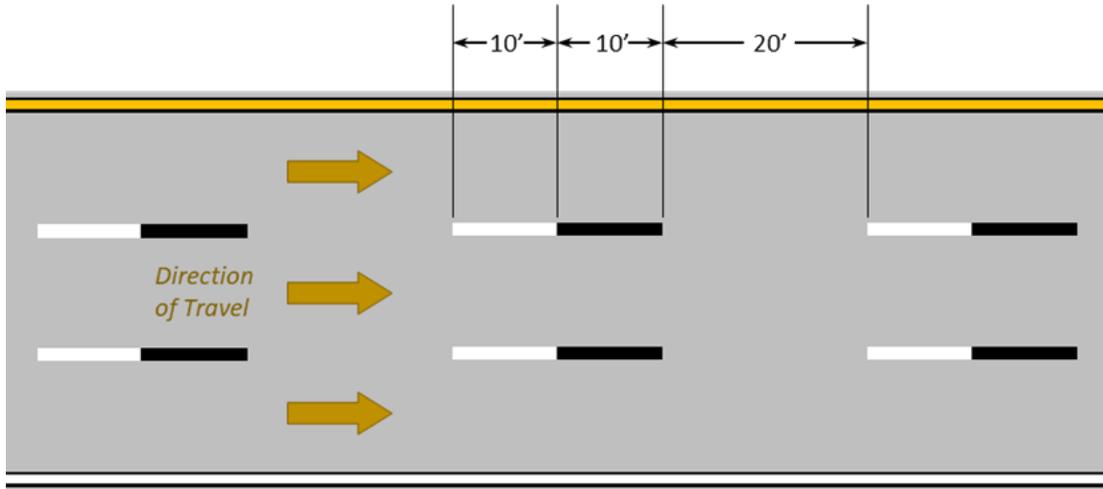
**Basis Of Payment**

The Department will pay for accepted quantities, complete in place, at the contract prices as follows:

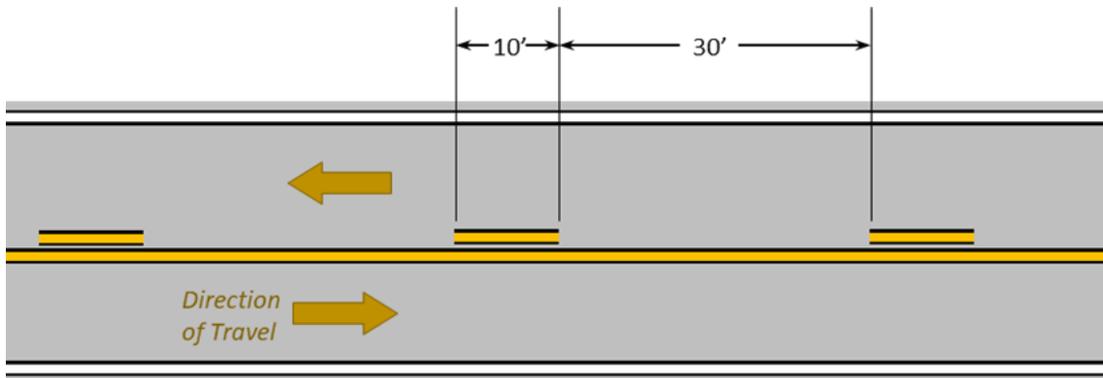
<b>Item No.</b>	<b>Description</b>	<b>Unit</b>
716-09.86	CONTRAST PAVEMENT MARKING 6 INCH	LINEAR MILE
716-09.88	CONTRAST PAVEMENT MARKING 8 INCH	LINEAR MILE
716-09.89	CONTRAST PAVEMENT MARKING 12 INCH	LINEAR FEET
716-09.90	CONTRAST PAVEMENT MARKING 6 INCH DOTTED	LINEAR FEET
716-09.87	CONTRAST PAVEMENT MARKING, WORDS, AND SYMBOLS	EACH
716-09.94	CONTRAST PAVEMENT SHADOW MARKING 6 INCH	LINEAR MILE
716-09.95	CONTRAST PAVEMENT SHADOW MARKING 8 INCH	LINEAR MILE

Such payment is full compensation for preparation, layout, materials, labor, equipment, tools, royalties, and all other incidentals necessary to complete the work.

**Detail: 716CPM-5: Contrast Pavement and Shadow Marking Multi-Lanes**



**Detail: 716CPM-6: Contrast Pavement Marking 2 Lanes**



**Detail: 716CPM-7: Contrast Pavement Shadow Marking Multi-Lanes**

