ITEM 665
WORK ZONE PAVEMENT MARKINGS

665.1 Description. This Item shall govern for the placement and maintenance of work zone pavement markings of the colors, types and sizes as shown on the plans.

665.2 General. Work zone pavement markings shall consist of short term markings and/or standard pavement markings. All sections of roadways to be opened to traffic shall be marked with short term markings or standard markings, as shown on the plans, at the end of each day’s operation.

Short term markings are required for asphaltic surface treatment projects (e.g. one or two course surface treatments, hot or cold-in-place recycling, etc.), and may also be used prior to an asphalt recycling project for projects located within a floodplain where it is not permissible to raise the roadway elevation, so the existing pavement must be milled down before a recycling process can be implemented.

Work zone pavement markings are also broken down into two types:
- removable work zone pavement markings
- non-removable work zone pavement markings

Removable work zone pavement markings may be any combination of the following:
- raised pavement markers and/or buttons,
- removable prefabricated pavement marking material,
- temporary flexible-reflective roadway marker tabs or
- other materials as approved by the Engineer.

Paint and beads shall not be used for removable markings. Longitudinal lines wider than 4 inches may be simulated by the side-by-side placement of markers to increase the apparent line width in multiples of 4 inches as shown on the Standard Traffic Drawings.

Non-removable work zone pavement markings consist of the following:
- paint and beads,
- non-removable prefabricated pavement marking material.

Non-removable work zone pavement markings are used when the existing section of pavement is to be demolished in the next phase of construction, or if they are being placed as a sealer for a subsequent Permanent Pavement Marking. Otherwise, removable work zone pavement markings are required.

665.3 Materials. Materials used for work zone pavement markings shall be:
- paint and beads,
- raised pavement markers,
- prefabricated pavement marking material,
- temporary flexible-reflective roadway marker tabs or
- other materials as approved by the Engineer.

Unless otherwise shown on the plans, paint shall be water-based. Paint shall conform to Item 676 “Traffic Paint (Water Based)”. Beads shall conform to Item 662 “Glass Reflective Spheres for Traffic Paint”.

Temporary flexible-reflective roadway marker tabs shall be used as short term work zone pavement markings for surface treatments as shown on the Standard Civil Drawings. The tabs shall conform to TxDOT’s DMS-8242, “Temporary Flexible, Reflective Roadway Marker Tabs”.

The Contractor shall be required to use temporary raised pavement markers where application of temporary marking is to be on permanent pavement surfaces. Raised pavement markers and traffic buttons shall conform to the requirements of Item 663 “Traffic Buttons and Pavement Markers”. Unless otherwise shown on the plans, raised pavement markers will not be allowed for words, symbols, and shapes, diagonal or transverse lines.

Unless otherwise shown on the plans, removable work zone pavement markings on final pavement surfaces shall be removable tape conforming to Item 666 “Prefabricated Pavement Markings”.

**665.4 Performance Requirements.** Markings in construction areas shall remain in proper alignment and, when dry, shall be distinctly visible from a minimum distance of 300 feet in daylight conditions and from a minimum of 160 feet when illuminated by automobile low-beam headlights at night. Visibility distances will be determined when viewed from an automobile traveling on the roadway.

The daytime color as well as the nighttime reflected color of the markings shall be distinctly white or yellow as shown on the plans. The markings shall exhibit uniform retroreflective characteristics.

**665.5 Construction Methods.**

1. **Placement and Maintenance.** The Contractor shall exercise diligence in the selection of materials and placement of work zone pavement markings. Work zone pavement markings shall be maintained, in accordance with this Item, by the Contractor and at the expense of the Contractor to the satisfaction of the Engineer.

   Unless otherwise approved in writing by the Engineer, all concrete surfaces shall have standard markings in place prior to opening to traffic.
All asphaltic surface treatment projects which are to be opened to traffic shall be marked with short term pavement markings immediately following placement and final rolling of any course. Short term pavement markings shall consist of temporary flexible-reflective roadway marker tabs spaced as shown on the Standard Traffic drawings.

Short term pavement markings shall be placed in proper alignment with the final location of future standard markings. Any short term pavement markings not in alignment with standard markings shall be removed by the Contractor at the Contractor’s expense.

Standard pavement markings shall be installed in accordance with the TMUTCD and as shown on the plans. Unless otherwise shown on the plans, short term markings shall be removed immediately prior to placement of standard pavement markings.

Asphalt surface treatments shall be marked in accordance with the plans. Unless otherwise shown on the plans, standard pavement markings shall be placed not sooner than 3 days nor later than 2 weeks after the placement of the surface treatment.

2. Marking Removal. Work zone pavement markings placed by the Contractor that conflict with any succeeding work zone markings shall be removed by the Contractor at the Contractor’s expense in accordance with Item 674 “Removing Pavement Striping and Markings”, except for measurement and payment.

Remove all temporary markings with minimal damage to the roadway to the satisfaction of the Engineer.

665.6 Measurement. This Item will be measured by the linear foot of standard marking or short term marking, by each word, shape or symbol, by each temporary flexible-reflective roadway marker tab on surface treatments or by any other unit as shown on the plans. Raised pavement markers used to simulate a stripe shall be measured by the linear foot of simulated stripe (as shown on the Standard Traffic Drawing) or by each raised pavement marker as shown on the plans. Where double stripes are placed, each stripe will be measured separately.

665.7 Payment. The work performed and materials furnished in accordance with this Item and measured as provided under “Measurement” will be paid for at the unit price bid for “Work Zone Pavement Markings (Removable)”, “Work Zone Pavement Markings (Non-removable)” and “Work Zone Pavement Markings (Short Term)” of the width, color and type shown on the plans. This price shall be full compensation for furnishing all materials, labor, tools, equipment and incidentals necessary to place, maintain and remove, when required, the markings, except as shown below.
Removal of permanent markings will be paid for under Item 674 “Removing Pavement Striping and Markings”.

There are line code(s), description(s), and unit(s) for this Item.

NOTE: This Item requires other Standard Specifications

Item 662 “Glass Reflective Spheres for Traffic Paint”
Item 663 “Traffic Buttons and Pavement Markers”
Item 666 “Prefabricated Pavement Markings”
Item 674 “Removing Pavement Striping and Markings”
Item 676 “Traffic Paint (Water Based)”

END OF ITEM 665