

<p>MODIFIED BY EI 92-031 EFFECTIVE 7/3/92</p> <p>SUPERSEDED BY EI 93-007 EFFECTIVE 11/18/93</p>	<p>ENGINEERING INSTRUCTION</p> <p>NEW YORK STATE DEPARTMENT OF TRANSPORTATION</p>
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<p>APPROVED:</p> <p style="text-align: center;"><i>J R Lambert</i></p> <p><u>J. R. LAMBERT, Deputy Chief Engineer, Fac. Des. Div.</u></p>	<p>Date: <u> 5-8-90 </u></p> <p>Supersedes:</p>

The requirements for Short-Term Pavement Markings, item 619.1501, have been modified by the attached specification. This new specification, item 619.1502, is still called Short-Term Pavement Markings, but differs from item 619.1501 in the following respects:

1. The 14-day time limit for Short-Term Pavement Markings as the only pavement markings in place may now be extended by the Engineer.
2. On top course, if the Contractor is unable to place the final pavement marking paint before nightfall, on contracts with pay item for ReflectORIZED Pavement Marking Paint (Section 640) removable Short Term Pavement Markings at no additional cost to the State, shall be installed before nightfall, offset from the final location.
3. The item number was changed from 619.1501 to 619.1502.

This new specification will be implemented by amendment starting with the letting of June 7, 1990. Designers are requested to include this specification in PS&E submittals at the earliest possible date.

SHORT-TERM PAVEMENT MARKINGS

Subsection 291.3 of the New York State MUTCD, Pavement Delineation, shall no longer be used on State construction contracts. Pavement delineation has been replaced by Short-Term Pavement Markings.

Make the following *changes* to the Standard Specification of January 2, 1985.

Pages 46 & 47 of Addendum No. 1

Under §619-3.06 Pavement Delineation, *delete* all the material.

Under §619-5.12 Other Work, *delete* all the material.

Page 37 of Addendum No. 2

Under §619-1.06 Pavement Delineation *delete* the subsection entirely and *replace* with the following:

"619-1.06 Short-Term Pavement Markings. The Contractor shall furnish, apply and when so ordered, remove short-term pavement markings where shown on the plans, or directed by the Engineer, in accordance with these specifications."

Page 39 of Addendum No. 2

Under §619-2.03 Delineators, Temporary Box Beam Barrier, Temporary Concrete Barrier, Construction Barricades, Lighting for Construction Barricades and Pavement Delineation, *delete* the title and the first paragraph and *replace* with the following:

"619-2.03 Delineators, Temporary Box Beam Barrier, Temporary Concrete Barrier, Construction Barricades, Lighting for Construction Barricades and Short-Term Pavement Markings. Delineators, barricades, lighting for construction barricades, short-term pavement markings, tubular markers and similar materials shall meet the requirements of these specifications and shall be in accordance with the plans, applicable standard sheets and the M.U.T.C.D. No materials or methods which will cause damage to any pavement or paving course that will be retained shall be employed in the removal of pavement markings."

Delete tenth paragraph of this subsection and *replace* with the following:

"Short-term pavement markings shall consist of reflectorized pavement marking paints, removable reflectorized pavement marking tape, non-removable reflectorized pavement marking tape, or removable raised reflectorized pavement markers. Removable reflectorized pavement marking tape and raised reflectorized pavement markers shall be selected from the Department's Approved List of 'Removable Reflectorized Pavement Markings'. Pavement marking paints shall meet the material requirements of Section 640-Reflectorized Pavement Marking Paints. Non-removable pavement marking tape shall be specifically designed for use as a pavement marking and shall be approved by the Engineer prior to application. All line segments shall not be less than four nor greater than six inches in width and the colors shall be as specified in the M.U.T.C.D."

Page 45 of Addendum No. 2

Under §619-3.06 Pavement Delineation *delete* entire Subsection and *replace* with the following:

"619-3.06 Short Term Pavement Markings. The Contractor shall furnish, apply, maintain, and when so ordered, remove short-term pavement markings, where shown in the contract documents or where directed by the Engineer. Any pavement upon which traffic will be maintained shall be properly marked before nightfall or the end of the working day, whichever comes sooner, in accordance with this subsection.

Short-term pavement markings shall be installed and maintained in accordance with the patterns and colors indicated for pavement marking, Parts 260 to 263 of the M.U.T.C.D., or as directed by the Engineer. The following pavement marking patterns shall be installed as short-term pavement markings:

1. Yellow broken lines, partial barrier lines and full barrier lines used to separate opposing traffic flows on two-way roadways.
2. White broken lane lines to separate traffic flows in the same direction on multi-lane highways.

Stop bars, hatch lines and edge lines will not normally be required under short-term pavement markings but may be ordered by the Engineer. Broken lines may be as short as four (4) feet. Short-term pavement markings as described above, will be considered acceptable as the only pavement markings in place for periods normally not longer than fourteen (14) days, unless otherwise extended by the Engineer.

SHORT-TERM PAVEMENT MARKINGS

Within 14 days after paving, or the time period as extended by the Engineer, if the Contractor fails to install either the succeeding pavement course, or the final pavement markings on contracts with pay items for such, the short-term pavement markings shall be supplemented (at no additional expense to the State) with edge lines, ten foot broken lines, stop bars, cross walks and arrows. In the event the project is to remain uncompleted over the winter, other than for staged construction when indicated, the short-term pavement markings shall be supplemented (at no additional expense to the State) by full pavement markings in accordance with the pattern indicated in the plans. If no full pavement marking pattern is given in the plans, the short-term pavement markings shall be supplemented as directed by the Engineer. The pavement markings used to supplement the minimum short-term pavement markings shall be designated as "Temporary Pavement Markings" and use the materials as described below.

Removable tape and raised markers can be used as short-term pavement markings for solid and broken lines on any pavement course. However, on the final pavement surface, these shall be offset, if possible, from the location of the final mark in order to prevent interference with the adhesion of the final mark.

Pavement marking paint can be used as short-term pavement markings for solid and broken lines on all underlying pavement courses (ie base, binder, leveling and shim). On top course, or final pavement surface, paint may only be used if the final marking pattern is known prior to paving, and the contract does not contain durable markings (ie thermoplastic or epoxy marks). Where paint is used on the final pavement surface, it shall be applied before nightfall in the final location. If the Contractor is unable to place the final pavement marking paint before nightfall on contracts with pay items for Reflectorized Pavement Marking Paints (Section 640), then removable short-term pavement markings shall be installed before nightfall offset from the final location at no additional cost to the State.

Non-removable tape may be used as short-term pavement markings only for broken lines on underlying pavement courses. Non-removable tape will not be allowed to mark barrier lines on any pavement course.

If paint is used for short-term pavement markings, it shall be applied in accordance with the requirements of Section 640, Reflectorized Pavement Marking Paints. If tape is used, it shall be applied to a clean, dry pavement in accordance with the manufacturer's recommendations. Tape shall conform to the shape of, and adhere to the surface upon which it is applied. If raised marker units are used, they shall be of a color in accordance with the M.U.T.C.D. A raised marker unit spaced every five feet may be used as a substitute for a solid line. Three raised marker units, evenly spaced 24 inches apart, may be used as a substitute for a four foot long broken line. Four raised marker units, evenly spaced 40 inches apart, may be used as a substitute for a ten foot long broken line.

Any markings, including raised markers, that fail to adhere to the pavement, become abraded, dislodged by snowplowing, or in the opinion of the Engineer become ineffective in any manner during the 'period of use' shall be replaced by the Contractor at no additional expense to the State. The 'period of use' shall be defined as the time from when the short-term pavement markings are first applied to the time when the markings are either paved over, the project's final markings are applied, or contract acceptance, whichever is first. After their period of use, short-term pavement markings, and temporary markings added to supplement short-term pavement markings shall be removed from the pavement by the Contractor, if ordered by the Engineer, as described in Section 635 Cleaning and Preparation of Pavement Surfaces.

In the event of sudden, unforeseen precipitation or other extraordinary situations, Do Not Pass signs may be used in lieu of short-term pavement markings for up to three consecutive calendar days on two or three lane, two-way, roadways under the following conditions:

1. The signs meet the requirements of Section 214.2 of the NYSDOT MUTCD and spaced not more than 1,000 feet apart.
2. The signs shall be supplemented with delineators and/or plastic drums spaced as directed by the Engineer, but not more than 200 feet apart and meeting the requirements of Section 291.2 of the NYSDOT MUTCD and §619-3.01G. of the Standard Specifications, respectively.
3. No payment will be made for the installation of Do Not Pass signs, delineators and plastic drums when necessitated by the Contractor's failure to place short-term pavement markings.

SHORT-TERM PAVEMENT MARKINGS

Page 48 of Addendum No. 2

Under §619-4.08 Pavement Delineation *delete* the subsection and *replace* with the following:

“619-4.08 Short-Term Pavement Markings. Short-term pavement markings will be measured in linear feet along the center line of the pavement stripe and shall be based on a 4 inch wide stripe. Measurement for striping with a plan width greater than the basic 4 inches, as shown on the plans or as directed by the Engineer, will be made by the following method:

$$\frac{\text{Plan Width of Striping (inches) x Linear Feet}}{4 \text{ (inches)}}$$

No payment will be made for the number of linear feet of skips in the broken line.

If raised marker units are used, reimbursement will be made as if the substituted line were in place. For example, for 3 raised marker units substituted for a 4 foot long broken line, reimbursement will be made for 4 linear feet.”

Page 49 of Addendum No. 2

Under §619-5 Basis of Payment, General *delete* the phrase “pavement delineation” in the first and fourth paragraphs and *replace* with “short-term pavement markings”.

Page 51 of Addendum No. 2

Under §619-5.08 Pavement Delineation. *Delete* the subsection and *replace* with the following:

“619-5.08 Short-Term Pavement Markings. The unit price bid shall include the cost of furnishing all labor, material and equipment necessary to apply, maintain and remove short-term pavement markings when so ordered. A separate payment will be made each time short-term pavement markings are first applied on a pavement course in accordance with the contract requirements. No payment will be made for the application, maintenance and removal of ‘temporary pavement markings’ required after 14 days, or for short-term pavement marking necessitated by the Contractors failure to place the final pavement marking paint before nightfall.

No payment will be made for the installation of Do Not Pass signs, delineators and plastic drums when necessitated by the Contractor’s failure to place short-term pavement markings.”

Page 52 of Addendum No. 2

Under §619-5.12 Other Work. In the second paragraph *delete* the second sentence.

Under *Payment will be made under: delete*

“619.15 Pavement Delineation Linear Foot” and *replace* with

“619.1502 Short-term Pavement Markings Linear Foot”