December 20, 2011

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATION
DEPARTMENT OF TRANSPORTATION

RHODE ISLAND CONTRACT NO.2011-CT-080

FEDERAL-AID PROJECT NO. FAP Nos: NHSG-4444(080)

2012-2013 Statewide Pavement Striping – Limited Access

Barrington, Cranston, Cumberland, East Greenwich, East Providence, Exeter, Hopkinton, Jamestown, Johnston, Lincoln, Newport, North Kingstown, North Providence, North Smithfield, Pawtucket, Portsmouth, Providence, Richmond, Smithfield, Tiverton, Warwick, West Greenwich, West Warwick, Westerly

CITY/TOWN OF Statewide

COUNTY OF STATEWIDE

NOTICE TO PROSPECTIVE BIDDERS

ADDENDUM NO. 2 Prospective bidders and all concerned are hereby notified of the following changes in the Plans, Specifications, Proposal and Distribution of Quantities for this contract. These changes shall be incorporated in the Plans, Specifications, Proposal and Distribution of Quantities, and shall become an integral part of the Contract Documents.

A. Contract Date

1. Bid Opening Date

   The bid opening has been changed from "December 21, 2011" to "December 28, 2011".

B. General Provisions - Contract Specific

1. Page CS- i (R-1)

   Delete Page CS-i in it's entirely and replace it with Page CS-i(R-1) attached to this Addendum No.2. Paragraph No. 3 has been removed.

2. Page CS - 1 (R-1)

   Delete Page CS-1 in its entirety and replace with Page CS-1(R-1) attached to this Addendum No. 2. Add in paragraph 2 "Sweepers shall be used in lieu of broom trucks to clean road surface". "Subsection 102.03" has been changed to "Subsection 12.102.03".

3. Page CS - 2 (R-1)

   Delete Page CS-2 in its entirety and replace with Page CS-2(R-1) attached to this Addendum No. 2. The first and fourth paragraph on this page has been revised. Paragraph No. 3 "PERMISSIBLE WORKING HOURS" has been deleted.

4. Page CS - 3 (R-1)

   Delete Page CS-3 in its entirety and replace with Page CS-3(R-1) attached to this Addendum No. 2. Paragraph No. 3 "PERMISSIBLE WORKING HOURS" has been deleted.

5. Page CS - 4 (R-1)

   Delete Page CS-4 in its entirety and replace with Page CS-4(R-1) attached to this Addendum No. 2. Continuation to paragraph No. 3 "PERMISSIBLE WORKING HOURS" has been deleted.

6. Page CS - 5 (R-1)

   Delete Page CS-5 in its entirety and replace with Page CS-6(R-1) attached to this Addendum No. 2. Continuation to paragraph No. 5 "COMPLETION OF WORK ON EACH ROADWAY" has been deleted. Paragraph No. 7 "SUBMISSION OF DETAILED STRIPING SCHEDULE" has been revised. Paragraph No. 9 "MILESTONE AND COMPLETION DATES" has been revised.

7. Page CS - 6 (R-1)

   Delete Page CS-6 in its entirety and replace with Page CS-6(R-1) attached to this Addendum No. 2. The word "OR" has been removed from the last section of paragraph No. 10 "RETROREFLECTION VALUES".

8. Page CS - 7 (R-1)

   Delete Page CS-7 in its entirety and replace with Page CS-7(R-1) attached to this Addendum No. 2. The word "Engineer" has been corrected on paragraph No. 14.

9. Page CS - 9 (R-1)

   Delete Page CS-9 in its entirety and replace with Page CS-9(R-1) attached to this Addendum No. 2. The title "2012-2013 LIMITED ACCESS-PHASE 1" has changed to "2012 ROADWAYS TO BE STRIPED (PHASE 1 and PHASE 2)".

10. Page CS - 10 (R-1)

    Delete Page CS-10 in its entirety and replace with Page CS-10(R-1) attached to this Addendum No. 2. The title "2012-2013 LIMITED ACCESS-PHASE 1" has changed to "2013 ROADWAYS TO BE STRIPED (PHASE 3 and SUBSTANTIAL COMPLETION)".

11. Page CS - 11 (R-1)

    Delete Page CS-11 in its entirety and replace with Page CS-11(R-1) attached to this Addendum No. 2. Paragraph No. 21 "RECESSED PAVEMENT MARKINGS AND REFLECTORS" along with the location map have been revised.

12. Attachments to the CS Pages

    Delete the attached "RECESSED REFLECTOR/GROOVE DETAIL" (1Page) and "RECESSED PAVEMENT MARKINGS DETAIL" (1Page) in their entireties and replace with (1Page) "RECESSED REFLECTOR/GROOVE DETAIL" (R-1) and (1Page) "RECESSED PAVEMENT MARKINGS DETAIL" (R-1). These details have been revised.

C. Transportation Management Plan

1. Transportation Management Plan

   Delete the TMP in its entirety and replace with TMP (R-1) attached to this Addendum No. 2. The TMP has been revised and signed. The attached General Restrictions section "MINIMUM NUMBER OF LANES & SHOULDERS TO REMAIN OPEN TO TRAFFIC" has been modified.

D. Specifications - Job Specific

1. Page JS - i (R-1)

   Delete Page JS-i in its entirety and replace with Page JS-i(R-1) attached to this Addendum No. 2. "Special Requirements for Filed Office", Code: 929.0100 has been added.

2. Page JS - 1 (R-1)

   Delete Page JS-1 in its entirety and replace with Page JS-1(R-1) attached to this Addendum No. 2. Phase completion dates have been revised and Liquidation Damage fees added to Phase 1 and Phase 3.

3. Page JS - 6 (R-1)

   Delete Page JS-6 in its entirety and replace with Page JS-6(R-1) attached to this Addendum No. 2. T.20.03.06 d.1. Grinding has been revised. "All pavement markings removed must be replaced within 3 calendar days and/or before the end of the working week. No roads are to be left without striping over a weekend". The "Establishment of Measurement Lots" has been revised to include "The contractor shall perform QC testing as follows on all materials characteristics listed in the Master Schedule for Project Testing" has been added.

4. Page JS - 8 (R-1)

   Delete Page JS-8 in its entirety and replace with Page JS-8(R-1) attached to this Addendum No. 2. The "Initial Inspection and Certification of Newly Installed Markings" paragraph has been revised. "The Contractor shall conduct an inspection of all newly installed pavement markings at least 14 but not more than 30 calendar days after the installation of the markings". The "Dimensions" paragraph has been revised.

5. Page JS - 9 (R-1)

   Delete Page JS-9 in its entirety and replace with Page JS-9(R-1) attached to this Addendum No. 2. The "Pavement Marking Performance Requirements" section has been revised.

6. Page JS - 12 (R-1)

   Delete Page JS-12 in its entirety and replace with Page JS-12(R-1) attached to this Addendum No. 2. "Mil thickness" has been added to the "Submission of Certifications'" section.

7. Page JS - 16 (R-1)

   Delete Page JS-16 in its entirety and replace with Page JS-16(R-1) attached to this Addendum No. 2. The date in which direction may be given to proceed with "as needed work" has been changed to November 30, 2013.

8. Page JS - 17 (R-1)

   Delete Page JS-17 in its entirety and replace with Page JS-17(R-1) attached to this Addendum No. 2. The following paragraph has been added: "Markings not replaced within 3 calendar days of removal of before the end of the work week will be considered a violation of 937.1000 Maintenance and Protection of Traffic Protection Devices".

9. Page JS - 18 (R-1)

   Delete Page JS-18 in its entirety and replace with Page JS-18(R-1) attached to this Addendum No. 2. "METHOD OF MEASUREMENT" has been revised.

10. Page JS - 21 (R-1)

    Delete Page JS-21 in its entirety and replace with Page JS-21(R-1) attached to this Addendum No. 2. The item code number and title has changed.

11. JS - 23 (R-1), JS - 24 (R-1), and JS - 25

    Delete Page JS-23 and JS-24 in their entirety and replace with Pages JS-23(R-1), JS-24(R-1), and JS-25 attached to this Addendum No. 2. The "RECESSED PAVEMENT MARKINGS: 6" WHITE AND 6" YELLOW" spec has been revised. JS-25 has been added.

12. Page JS - 26 and JS - 27

    "Special Requirements for Field Office", Code: 929.0100 has been added.

E. Distribution of Quantities

1. DOQ Index: 1

   Items Code 929.0100, T20.9925, T20.9928 and T20.9933 have been added to the table.

2. DOQ Pages 5 and 6

   Quantities for Items Code 929.0100, T20.9925, T20.9928 and T20.9933 have been added.

RI Department of Transportation
Chief Engineer

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GENERAL PROVISIONS - CONTRACT SPECIFIC

1. BRIEF SCOPE OF WORK

The work in this Contract includes the installation of new edge line, skip line, gore area, arrow, word, stop line, yield line, crosswalk, and other pavement markings at the same locations of existing markings (hereafter referred to as "replacement" work) and the installation and removal of pavement markings at other locations to be determined by the Department after Contract award (hereafter referred to as "as needed" work), all in conformance with the latest Manual on Uniform Traffic Control Devices and its latest revisions. Also included in this Contract is temporary traffic control on all roadways in conjunction with the striping work, removal of all types of pavement markings, and other incidentals necessary to complete the work in accordance with Contract requirements.

2. SPECIAL NOTICES TO CONTRACTOR

The Contractor is required to install, maintain, and ultimately remove temporary traffic control devices at each work location. All traffic control devices, setups, and activities shall conform to the latest Edition of the Manual on Uniform Traffic Control Devices and the Typical Details – Temporary Traffic Control plans included in the Contract Documents. The minimum size of Changeable Message Signs mounted on shadow and advance warning vehicles shall be 4 feet by 8 feet.

The Contractor's shadow and advance warning vehicles as shown on the Typical Details – Temporary Traffic Control plans shall include a truck mounted changeable message sign that is capable of displaying either a word message or a flashing arrow display. Vehicles with TMAs shall be used as part of the temporary traffic control set up during all long line installation operations unless permission to complete such work without the trucks is granted by the Engineer.

All handwork (installation/removal of crosswalks, words, symbols, etc.) at any one location (e.g., one approach to an intersection) shall be completed during one operation or work shift.

Broom trucks shall not be used to clean the road surface prior to the application of pavement markings. Sweepers shall be used in lieu of broom trucks to clean road surface.

When installing a broken lane line, traffic cones shall be positioned on the line at a spacing of no greater than every other skip line segment in an effort to discourage road users from crossing the lane line before the markings have thoroughly set.

The quantities listed in Paragraph 19 – Limits of Work & Estimated Quantities provide a reasonable estimate of the actual quantities of replacement work to be completed by the Contractor under this Contract. However, the Department reserves the right to decrease and/or increase the quantities at any time, all in accordance with Subsection 12.102.03 of the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, 2004 Edition.

The Contractor shall coordinate with the Engineer before beginning work on any roadway.

The Department reserves the right to schedule all work to its own priorities. In the event of a change in Departmental striping priorities, the Engineer will notify the Contractor (via electronic or written communication) of the desired work schedule. Upon receipt of notification from the Engineer of the desired work, the Contractor must respond to notice of work within twenty-four (24) hours unless permission to begin the work at a later time is granted by the Engineer. The holiday work schedule restrictions indicated in the Transportation Management Plan (TMP) will be taken into consideration.

The Engineer may inspect the Contractor's equipment and personnel prior to the award of this Contract.

The Contractor shall submit on the job material samples to the Department at the frequency specified by the Engineer.

The Contractor's attention is called to the milestone dates for the completion of all pavement marking replacement work included in this Contract, as specified in Paragraph 9 – Milestone and Completion Dates as well as JS-1(Code 12.108.1000).

The Contractor's pavement striping equipment shall include truck-mounted footage counters for each type of line applied and truck-mounted sensors for the determination of pavement surface and ambient air temperatures during marking application.

All markings installed by the Contractor that are determined by the Engineer to be defective and not in conformance with the Contract Specifications shall be repaired by the Contractor at no additional cost to the State. Repair methods shall be detailed and submitted for approval to the Engineer prior to corrective action. The Contractor shall begin repairs within one (1) week of being notified by the Engineer of the defective markings.

The Contractor's foreman/supervisor on site during pavement marking installation work shall be qualified by the epoxy resin pavement marking manufacturer to install the manufacturer's epoxy resin pavement markings. The Contractor shall submit a copy of the letter(s) from the manufacturer indicating such foreman/supervisor qualification to the Engineer for review and approval prior to the start of work.

4. AS NEEDED WORK

During the duration of the Contract the Department will identify locations where as needed work (additional pavement marking installation and/or removal work separate from existing marking replacement work) is to be completed by the Contractor. Such locations will be limited to all State owned and/or maintained paved areas (including freeways and expressways) in any of the thirty-nine (39) cities and towns across the State.

The Engineer will submit to the Contractor one or more plans describing each location where the as needed work is to be completed. The amount and extent of the work shown on the plans may vary considerably depending upon the nature of the improvement, but in all cases will only include installation and/or removal of pavement markings that are in accordance with the standard marking types and designs illustrated in the Manual on Uniform Traffic Control Devices, latest Edition.

Direction to proceed with as needed work may be given by the Engineer at any time. It is to be expected that such direction will be given at random intervals throughout the Contract duration. Upon each directive to complete as needed work, the Contractor and the Engineer shall mutually agree to a date on or before which the work shall be completed. For details concerning payment of as needed work, see Job Specific Specification As Needed Striping Installation and Removal Work – Force Account.

Unless otherwise directed by the Engineer, the same permissible working hour and completion of work stipulations included elsewhere in these Contract Specific General Provisions shall apply for all as needed work.

5. COMPLETION OF WORK ON EACH ROADWAY

At the beginning of each workday, the Contractor shall contact the Engineer before starting work to inform him of the nature and location(s) of the work that will be performed on that day. If the Contractor must cancel or modify his scheduled work plan for any reason, he shall contact the Engineer a minimum of four (4) hours prior to the scheduled work start time so that the appropriate cancellations can be made by the State.

Once the Contractor has begun replacement work on any of the roadway sections listed in Paragraph 19 – Limits of Work & Estimated Quantities of these Contract Specific General Provisions, all replacement work on that roadway section shall be completed before beginning work on another roadway section, unless permission to deviate from this requirement is granted by the Engineer.

6. STRIPING QUANTITY VERIFICATION FORM

The Contractor shall fill out a Striping Quantity Verification Form during and/or at the end of each work shift and, at least once a week, submit to the Engineer for approval. The Contractor shall take care in ensuring that the forms are filled out completely and correctly for each section of roadway included in this Contract. A blank version of the form is provided on the following page. The Engineer will supply the Contractor with a copy of a blank form before the start of work activities.

Multiple forms should be used for any given work shift if the number of roadways where striping work is completed exceeds the number of roadways provided on one form. The Contractor shall not write in the spaces entitled "TOTALS" on the form.

The costs for making copies and for the filling out of the forms on this project will be paid for under the unit prices bid for all pavement marking items.

7. SUBMISSION OF DETAILED STRIPING SCHEDULE

The Contractor shall submit a schedule "Level C" in accordance with Standard Provision 12.108.03. The schedule shall conform to all requirements as stated in the contract documents.

8. STRIPING OF RAMPS

The striping of on/off ramps shall extend to the gutter line of the intersecting secondary roadway and shall include any edge line, stop line, yield line, crosswalk, word, and arrow pavement markings within the limits of the ramp. No markings are to be placed on the adjacent roadway.

9. MILESTONE AND COMPLETION DATES

The following milestone dates for the completion of replacement work have been established as part of this Contract:

- PHASE 1: All Phase 1 work shall be completed by September 30, 2012 for long line work only, and October 31, 2012 for all other work.
- PHASE 2: All Phase 2 work shall be completed by September 30, 2013 for long line work only, and SUBSTANTIAL completion date is October 31, 2013 for all remaining work. Failure to comply with these milestone dates will subject the Contractor to Liquidated

Damages, in accordance with Section 108 of the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction 2004 Edition, for each day after the milestone date has passed until the appropriate work has been completed.

10. RETROREFLECTION VALUES

A minimum retroreflection value of 350 mcd/lum/m^2 for white and 225 mcd/lum/m^2 for yellow for all installed epoxy resin pavement markings shall be required to receive compensation at 100% of the Contract unit price. The epoxy resin marking retroreflection values corresponding to compensation are as follows:

Retroreflection Values:

Minimum 350 / 225 (white / yellow) ----------100 % Contract unit price.
Minimum 330 / 205 (white / yellow) ---------- 90 % Contract unit price.
Minimum 310 / 185 (white / yellow) ---------- 80 % Contract unit price.
Minimum 300 / 175 (white / yellow) ---------- 75 % Contract unit price.
Below 300 / 175 (white / yellow) ---------- 0 % Contract unit price.

For the purpose of verifying reflectivity values for the above minimum pavement schedule, a CONTRACTOR QUALITY CONTROL TESTING RETROREFLECTIVITY PAVEMENT MARKINGS form shall be used and submitted to the resident engineer within thirty (30) days of the installation date for payment.

11. TRANSPORTATION MANAGEMENT PLAN

Included as an appendix to these Contract Specific General Provisions is the Transportation Management Plan (TMP) for this project. The TMP lays out the set of coordinated transportation management strategies that have been, are being, and/or will be used to manage the work zone safety and mobility impacts of this project. In the event of a discrepancy between information in the TMP and information elsewhere in the Contract Documents, the former shall govern.

The Contractor's attention is called to the Compilation of Approved Specifications Supplement No. 8 for Part 100, General Requirements and Covenants, which describes the requirements for the Contractor's designation of a TMP Implementation Manager for the project and the requirements for the training of all Contractor and Subcontractor personnel involved in the implementation of the TMP.

The Department's latest Training Guidelines for Personnel Responsible for Work Zone Safety & Mobility are available at *http://www.dot.ri.gov/humanresources/index.asp* under the "Training" section.

12. CROSSWALK CROSSHATCHING

Crosswalk crosshatching (white diagonal lines installed between transverse crosswalk lines at a 45-degree angle to the line of the crosswalk) shall not be installed within a crosswalk across

any approach to a traffic signal or any approach controlled by a STOP or YIELD sign. At each location where a crosswalk with crosshatching exists at such an intersection, the Contractor shall remove all crosswalk markings and install new transverse crosswalk lines only (the crosshatching shall not be replaced).

13. YIELD LINE INSTALLATION

The Contractor shall install white epoxy resin yield line pavement markings at each location where YIELD sign(s) are installed at intersections on each of the roadways listed in Paragraph 19 – Limits of Work & Estimated Quantities. While the quantities and locations of some yield lines are included in Paragraph 19 – Limits of Work & Estimated Quantities, there are other locations not listed in the tables where new yield lines must be installed for compliance with the above.

Where yield line pavement markings are not currently installed at the locations noted above, the Contractor shall install each new yield line in accordance with the following criteria:

- The installation of yield line markings shall be in accordance with the Manual on Uniform Traffic Control Devices, 2009 Edition, except that each of the individual yield line triangles installed at each yield line location shall have a base of 24" and a height of 36", as shown in the Typical Details – Pavement Markings section of the Contract Documents.

- Where crosswalks are absent from a yield-controlled approach, yield lines should be placed at the location of the YIELD sign(s), but shall not be placed more than thirty (30) feet nor less than four (4) feet from the nearest edge of the intersecting traveled way.

- Where crosswalks are present on a yield-controlled approach, yield lines should be placed at the location of the YIELD sign(s), but shall not be placed more than thirty (30) feet from the nearest edge of the intersecting traveled way, nor less than four (4) feet in advance of the crosswalk (or the nearest edge of the intersecting traveled way).

14. POLICE COMPENSATION

It will be the responsibility of the RIDOT Engineer to retain the services of the State and/or local police with cruisers for traffic control and protection for this project. The Contractor will not be required to bid on, or compensate for, the services of the State and local police.

15. LIMITATIONS ON CLEANING AND SWEEPING OF PAVEMENT

The Contractor shall note that the Department is scheduled to conduct its own statewide pavement cleaning and sweeping operations on all State roadways following the winter shutdown periods in 2012 and 2013.

An item for the cleaning and sweeping of pavement has been included in this Contract to

19. LIMIT OF WORK & ESTIMATED QUANTITIES

2012 ROADWAYS TO BE STRIPED (PHASE 1 and PHASE 2)

ROADWAY	LIMITS	MUNICIPALITY	REMOVAL REQUIRED?	6" White LF	6" Yellow LF	12" White LF	12" Yellow LF	RI Std. 20.1.0 Arrows EACH	RI Std. 20.1.0 "ONLY" EACH	Bi-Direction Arrow EACH	Yield Line EACH	Lane Reduction Arrow EACH	"30 MPH" / "40 MPH" EACH	"STOP AHEAD" EACH	"BUMP" EACH	"YIELD" EACH	Bike Lane Detail EACH	"BIKE X-ING" EACH	"EXIT ONLY" EACH
Airport Connector & Ramps	Interstate 95 to T.F. Green Airport	Warwick	YES	25,000	22,000	5,000	0	6	6	0	3	0	0	0	0	0	0	0	0
Interstate 295 & Ramps	Interstate 95 to Massachusetts State Line	Warwick, West Warwick, Cranston, Johnston, Smithfield, Lincoln, Cumberland	YES*	450,000	376,000	80,000	0	40	18	29	24	0	0	0	1	0	0	0	0
Interstate 95 & Ramps	Connecticut State Line to Interstate 295 **(Recessed Pavement Markings and Recessed Refectorized Markers to be installed on I-95 North and South, from the Connecticut State Line to 890 ft. south of bridge 58601 and 910 ft. south of bridge 58621 in West Greenwich).**	Hopkinton, Richmond, Exeter, West Greenwich, East Greenwich, Warwick, West Warwick	YES	495,000	450,000	60,000	0	22	12	28	26	4	0	0	0	0	0	0	0
Route 24 & Ramps	Route 114 to Massachusetts State Line	Tiverton, Portsmouth	YES	127,000	112,000	22,000	0	15	8	16	9	0	0	0	0	0	0	0	0
Route 37 & Ramps	U.S. Route 1 to Natick Ave.	Warwick, Cranston	YES	86,000	77,000	20,000	0	10	8	12	9	3	4	2	0	0	0	0	0
Route 6/10 Connector & Ramps	U.S. Route 6 to Interstate 95 Ramps	Providence	YES	40,000	33,000	10,000	0	10	9	2	4	0	0	0	0	0	0	0	0
Route 99 & Ramps	Route 146 to Route 122 (Mendon Rd.)	Lincoln, Cumberland	YES	60,000	50,000	8,000	0	6	4	1	1	0	0	0	0	0	0	0	0
U.S. Route 6 & Ramps	Interstate 295 to Route 10	Johnston, Providence	YES*	100,000	75,000	23,000	834	8	4	2	6	0	0	0	0	0	0	0	0
		PHASE 1 TOTAL:		1,383,000	1,195,000	228,000	834	117	69	90	82	7	4	2	1	0	0	0	0

* The Contractor shall coordinate with the Engineer regarding limits of existing-to-remain inlaid tape markings prior to beginning removal operations.

2013 ROADWAYS TO BE STRIPED (PHASE 3 and SUBSTANTIAL COMPLETION)

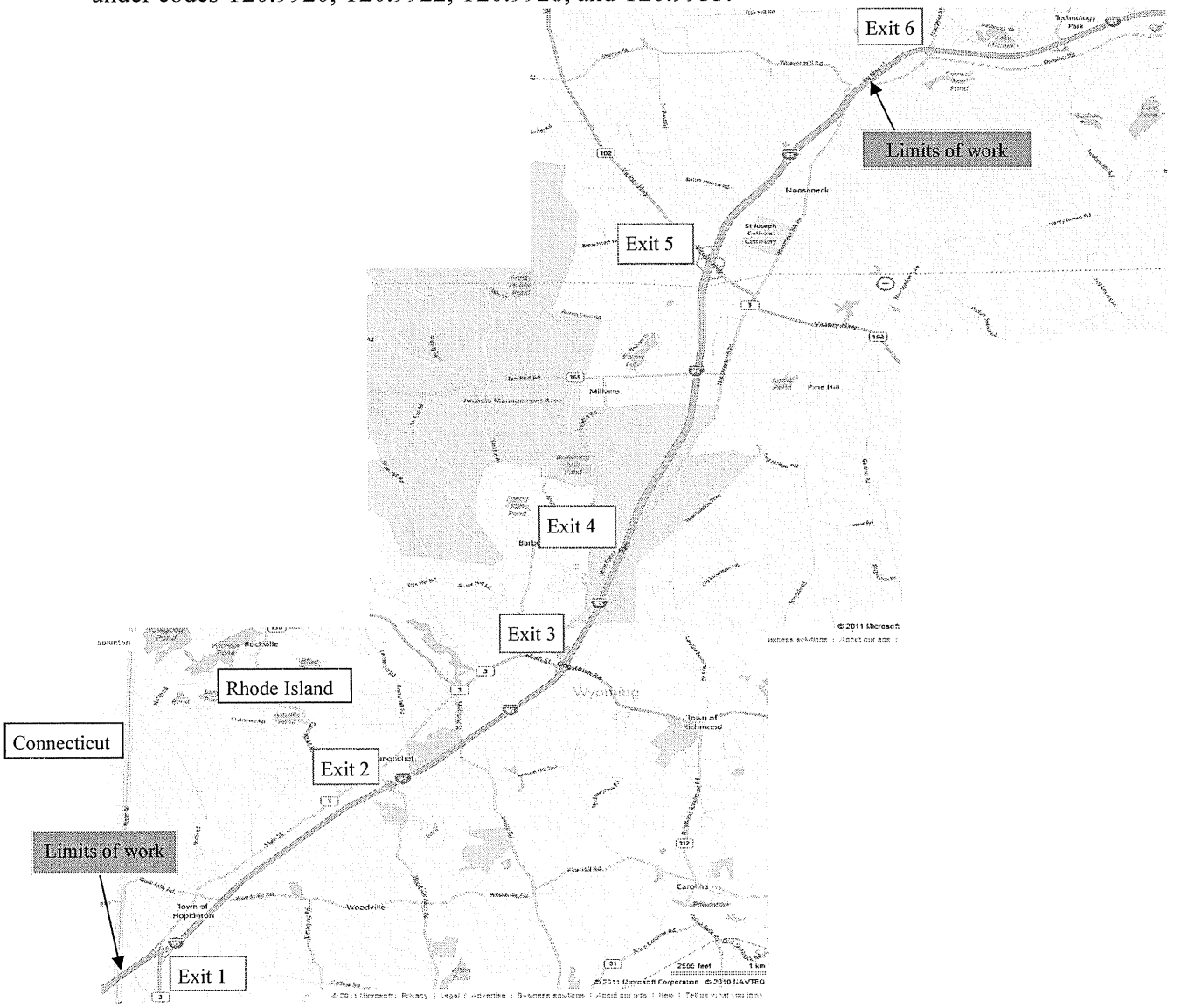
ROADWAY	LIMITS	MUNICIPALITY	REMOVAL REQUIRED?	6" White LF	6" Yellow LF	12" White LF	12" Yellow LF	RI Std. 20.1.0 Arrows EACH	RI Std. 20.1.0 "ONLY" EACH	Bi-Direction Arrow EACH	Yield Line EACH	Lane Reduction Arrow EACH	"30 MPH" / "40 MPH" EACH	"STOP AHEAD" EACH	"BUMP" EACH	"YIELD" EACH	Bike Lane Detail EACH	"BIKE X-ING" EACH	"EXIT ONLY" EACH
Henderson Bridge & Ramps	Waterman Street / Angell Street to North Broadway (in East Providence)	Providence, East Providence	YES	24,000	20,000	5,000	0	0	0	0	2	0	0	0	0	3	16	1	2
Interstate 195 & Ramps	Interstate 95 to Massachusetts State Line	Providence, East Providence	YES	92,500	60,100	25,000	0	23	14	10	10	0	0	0	0	0	0	0	4
Interstate 95 & Ramps	Interstate 295 to Massachusetts State Line	Warwick, Cranston, Providence, Pawtucket	YES	400,000	300,000	92,000	0	50	25	30	20	3	0	0	0	1	0	0	6
Relocated Route 403 & Ramps	Route 4 to Commerce Park Road	East Greenwich, North Kingstown	YES	85,000	66,000	13,000	0	4	0	8	5	0	0	0	0	0	0	0	0
Route 10 & Ramps	Park Ave. to U.S. Route 6	Cranston, Providence	YES	85,000	75,000	18,000	0	10	6	5	6	0	0	0	0	1	0	0	0
Route 114 & Ramps (East Shore Expressway)	Interstate 195 to Route 103 (County Rd.)	East Providence, Barrington	YES	82,000	71,000	13,000	0	10	6	3	8	0	0	2	0	0	0	0	0
Route 138 & Ramps	U.S. Route 1 to Newport (Pell) Bridge	North Kingstown, Jamestown	YES	131,000	115,000	12,000	0	4	4	5	6	0	0	0	0	0	0	0	0
Route 138 & Ramps	Newport (Pell) Bridge to Admiral Kalbfus Rd.	Newport	YES	15,000	13,000	3,000	328	2	2	2	5	0	0	0	0	0	0	0	0
Route 146 & Ramps	Interstate 95 to Massachusetts State Line	Providence, North Providence, Lincoln, North Smithfield	YES	382,000	225,000	50,000	0	40	20	17	16	3	0	0	0	0	0	0	0
Route 4 & Ramps	U.S. Route 1 to Interstate 95	East Greenwich, North Kingstown	YES	167,365	128,100	27,000	0	53	30	6	10	3	0	0	0	0	0	0	0
Route 78 & Ramps	Connecticut State Line to U.S. Route 1	Westerly	YES	64,000	64,000	12,000	420	15	10	4	10	0	0	0	0	0	0	0	0
		PHASE 2 TOTAL:		1,457,865	1,137,200	270,000	748	211	117	90	98	9	0	2	0	5	16	2	12
		CONTRACT TOTAL:		2,840,865	2,332,200	498,000	1,582	328	186	180	180	16	4	4	1	5	16	2	12

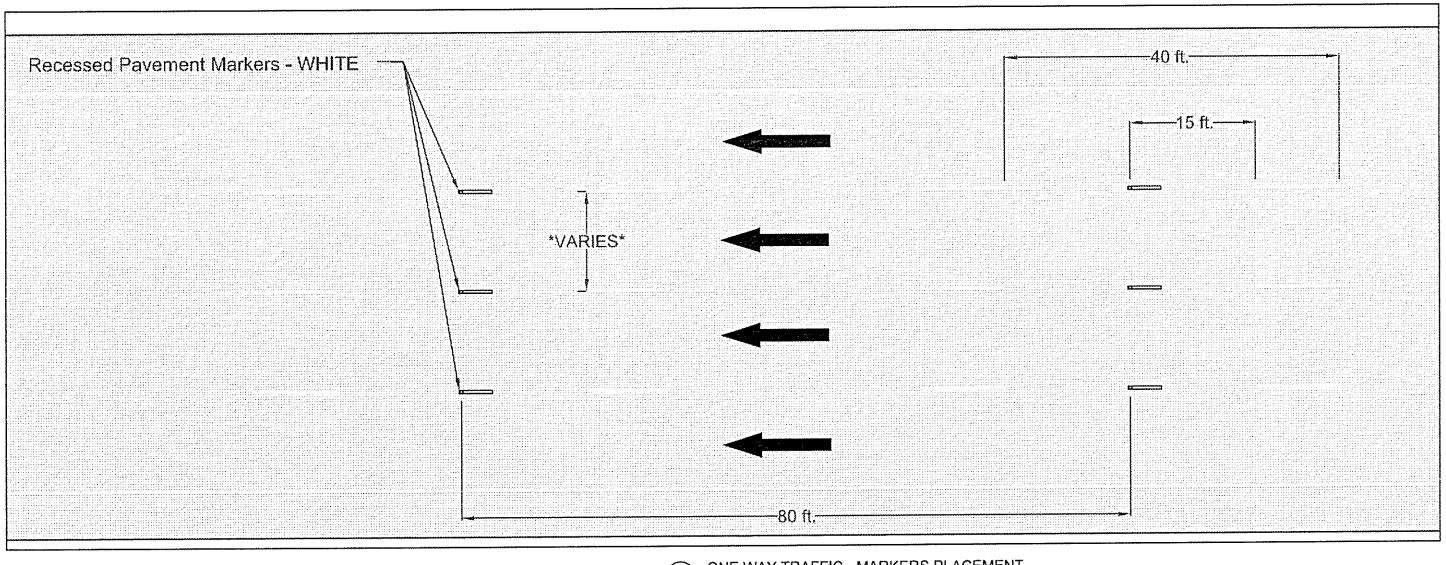
20. SUBCONTRACTING

For work performed by a subcontractor, the subcontractor shall be subject to the reporting requirements as set forth for the prime contractor under the provisions of Section 12 of the RI DOA Procurement Regulations. The Contractor shall accept as full payment therefore, an amount equal to the actual cost to the Contractor of such work performed by the subcontractor as determined by the Engineer, plus 10 percent of said cost.

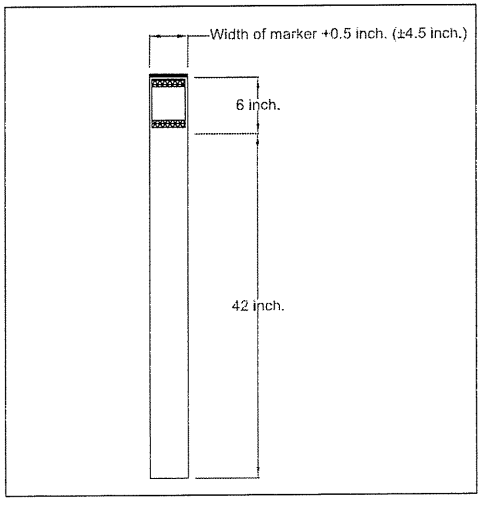
21. RECESSED PAVEMENT MARKINGS AND REFLECTORS

The Contractor is required to install recessed pavement markings and reflectorized pavement markers at two test locations in the field. The two test locations are as follows: -1 - A 17 mile segment of I-95 North beginning at the Connecticut State Line ending 890 ft. south of Rhode Island Bridge 58601 joint in West Greenwich. -2- A 17 mile segment of I-95 South beginning at the Connecticut State Line and ending 910 ft. south of Rhode Island Bridge 58621 joint in West Greenwich. Refer to the map below for location and limits of the two test sites. The work to be done under these items is outlined in the Job Specific pages under codes T20.9920, T20.9922, T20.9928, and T20.9933.

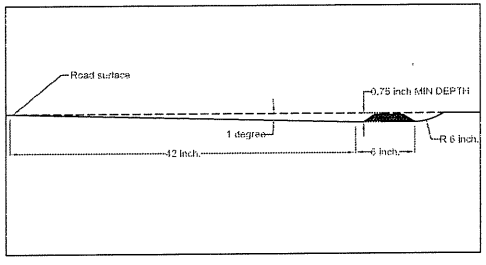




1 ONE WAY TRAFFIC - MARKERS PLACEMENT
PLAN



3 ONE WAY MARKER DETAIL
PLAN



4 ONE WAY MARKER DETAIL
SECTION

REVISIONS		
NO.	DATE	BY

STATE OF RHODE ISLAND
DEPARTMENT OF TRANSPORTATION
TWO CAPITOL HILL
PROVIDENCE, RI 02903-1124
(401) 222-2023

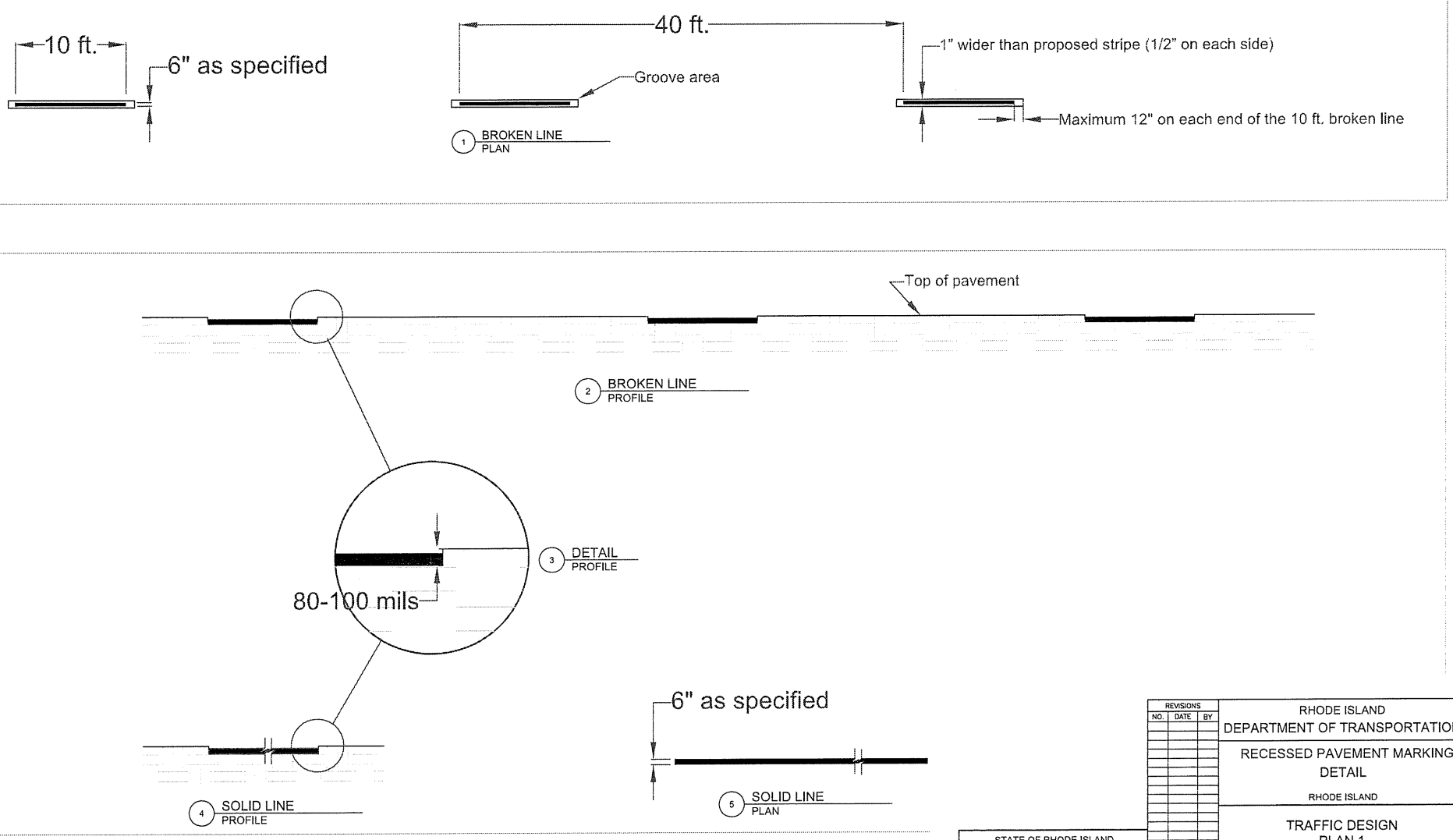
RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

RECESSED REFLECTORS/GROOVE DETAIL

RHODE ISLAND

TRAFFIC DESIGN
PLAN 2

CHECKED BY JCM DATE 12/15/11 SCALE NTS



STATE OF RHODE ISLAND
DEPARTMENT OF TRANSPORTATION
TWO CAPITOL HILL
PROVIDENCE, RI 02903-1124
(401) 222-2023

REVISIONS		
NO.	DATE	BY

RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

RECESSED PAVEMENT MARKINGS
DETAIL

RHODE ISLAND

TRAFFIC DESIGN
PLAN 1

CHECKED BY JCM DATE 12/15/11 SCALE NTS

LEVEL 3 TRANSPORTATION MANAGEMENT PLAN

Project Name: **2012-2013 Statewide Pavement Striping - Limited Access**
RI Design Contract No(s): **N/A**
RI Construction Contract No(s): **2011-CT-080**

Submission: **FINAL** Date: **11/18/2011**

PROJECT INFORMATION

Brief Project Description: This project includes the installation and removal of pavement markings on the Limited Access Highways and Ramps listed in the contract documents, all in conformance with the latest Manual on Uniform Traffic Control Devices and its latest revisions. Pavement marking installation and removal trucks and hand carts, pavement sweepers and debris collection vehicles, and shadow and advance warning vehicles will all be used within the roadway limits.

General Work Limits: State Limited Access Highways and Ramps listed in the contract documents within the municipalities of Barrington, Cranston, Cumberland, East Greenwich, East Providence, Exeter, Hopkinton, Jamestown, Johnston, Lincoln, Newport, North Kingstown, North Providence, North Smithfield, Pawtucket, Portsmouth, Providence, Richmond, Smithfield, Tiverton, Warwick, West Greenwich, West Warwick, Westerly. Short-duration lane closures will be implemented, via either mobile operations (for long line installation/removal) or stationary operations (for word, symbol, stop line, etc. installation/removal).

WORK ZONE LOCATIONS

ROADWAY NAME or INTERSECTION	FROM	TO	APPROX. LENGTH
All State roadways in South region of State	See Limits of Work Tables in CS Pages		150 mi.

General Project Schedule*: Work is expected to begin in Spring 2012, and will take place in two separate phases (Phase 1 and Phase 2).

Phase 1 (2012) includes pavement marking work in the following muncipalities:

Cranston	Johnston	Smithfield
Cumberland	Lincoln	Tiverton
East Greenwich	Portsmouth	Warwick
Exeter	Providence	West Greenwich
Hopkinton	Richmond	West Warwick

Phase 2 (2013) includes pavement marking work in the following municipalities:

Barrington	Lincoln	Pawtucket
Cranston	Newport	Providence
East Greenwich	North Kingstown	Warwick
East Providence	North Providence	Westerly
Jamestown	North Smithfield	

ADDENDUM NO. 2

*The information in this section is not intended to and shall not supersede the approved schedule and milestone/completion dates for the project.

TRAFFIC-RELATED WORK RESTRICTIONS

General Restrictions: See the attached General Restrictions Table "MINIMUM NUMBER OF LANES & SHOULDERS TO REMAIN OPEN TO TRAFFIC"

Holiday Restrictions: No lane and/or shoulder closures allowed after 1:00 PM on the Friday preceding a holiday weekend.
Holiday-specific lane and shoulder closure restrictions are as follows:

2012 Holiday Work Schedule

*EASTER SUNDAY
-No lane and/or shoulder closures allowed on Saturday and/or Sunday.

NEW YEAR'S DAY, INDEPENDENCE DAY, †VETERANS DAY, & CHRISTMAS DAY
-No lane and/or shoulder closures allowed after 1:00 PM on the day before the holiday.
-No lane and/or shoulder closures allowed on the holiday.

DR. MARTIN LUTHER KING JR. DAY, MEMORIAL DAY, †VICTORY DAY, LABOR DAY, & COLUMBUS DAY
-No lane and/or shoulder closures allowed on Saturday, Sunday, and/or Monday.

ELECTION DAY
-No lane and/or shoulder closures allowed on Election Day.

*THANKSGIVING DAY
-No lane and/or shoulder closures allowed after 1:00 PM on the Wednesday precedeing Thanksgiving Day.
-No lane and/or shoulder closures allowed on Thanksgiving Day.
-No lane and/or shoulder closures allowed on Friday, Saturday, and/or Sunday.

2013 Holiday Work Schedule

*EASTER SUNDAY
-No lane and/or shoulder closures allowed on Saturday and/or Sunday.

NEW YEAR'S DAY, INDEPENDENCE DAY, †VETERANS DAY, & CHRISTMAS DAY
-No lane and/or shoulder closures allowed after 1:00 PM on the day before the holiday.
-No lane and/or shoulder closures allowed on the holiday.

DR. MARTIN LUTHER KING JR. DAY, MEMORIAL DAY, †VICTORY DAY, LABOR DAY, & COLUMBUS DAY
-No lane and/or shoulder closures allowed on Saturday, Sunday, and/or Monday.

*THANKSGIVING DAY
-No lane and/or shoulder closures allowed after 1:00 PM on the Wednesday precedeing the holiday.
-No lane and/or shoulder closures allowed on the holiday.
-No lane and/or shoulder closures allowed on Friday, Saturday, and/or Sunday.

* Note: Lane and/or shoulder closures may be implemented after 7:00 PM on Sunday
†Note: Lane and/or shoulder closures may be implemented after 7:00 PM on Monday

TEMPORARY TRAFFIC CONTROL PLANS

These RIDOT- and/or Designer-Developed TTC Plans will be used during the work on this project

RIDOT TYPICAL TTC PLANS	Included in: TMP	Included in: Plan Set
☐ Mobile Operation		
☐ Work Beyond the Shoulder		
☐ Shoulder Closure - Two Lane Road		
☐ Shoulder Closure - Limited Access		
☐ 1-Side Lane Shift - Two Lane Road		
☐ 2-Side Lane Shift - Two Lane Road		
☐ Lane Shift - Limited Access		
☐ Lane Closure - Two Lane Road		
☐ Lane Closure - Four Lane Road		
☐ Lane Closure - Limited Access		
☐ Double Lane Closure - Limited Access		

DESIGNER-DEVELOPED TTC PLANS	Included in: TMP	Included in: Plan Set
Mobile Operation on Shoulder of Multi-Lane Highway		X
Mobile Striping Op. on Ext. Lane of Multi-Lane Hwy 1		X
Mobile Striping Op. on Ext. Lane of Multi-Lane Hwy 2		X
Mobile Striping Op. on Two-Lane Two-Way Hwy		X
Short-Duration Striping Operation in Hwy Turn Lane		X
Short-Duration Striping Op. in Thru Ln of Mult-Ln Hwy		X

PUBLIC INFORMATION PLAN

These strategies will be used to provide information concerning the project to road users and the community

SELECTED STRATEGIES	RESPONSIBILITIES / REQUIREMENTS / SPECIAL CONSIDERATIONS
RIDOT travel advisories news releases	RIDOT TMP Imp. Mngr. to send RIDOT notification form to Communications min. 48 hrs. in advance of restrictions.
RIDOT travel advisories web site	RIDOT TMP Imp. Mngr. to send RIDOT notification form to Communications min. 48 hrs. in advance of restrictions.
RIDOT 511 traveler information system	RIDOT TMP Imp. Mngr. to send RIDOT notification form to RIDOT TMC min. 48 hrs. in advance of restrictions.
Changeable message signs (CMS)	Truck-mounted CMS to be used where called for on Temporary Traffic Control Plans.

TRANSPORTATION OPERATIONS PLAN

These strategies will be used to provide improved transportation operations/safety within project work zones

SELECTED STRATEGIES	RESPONSIBILITIES / REQUIREMENTS / SPECIAL CONSIDERATIONS
Crash attenuators	Truck-mounted attenuators to be used on all shadow and advance warning vehicles.
Warning lights	All vehicles used during the work to be equipped with high intensity rotating, flashing, oscillating or strobe warning lights with 360 degree visibility.

PERFORMANCE MONITORING, CHANGES TO TMP, & CONTINGENCIES

The **Contractor's TMP Implementation Manager (if identified below)** is responsible for keeping the portion of the project being used by public traffic in a condition that (1) safely and adequately accommodates such traffic and (2) is in accordance with the Traffic-Related Work Restrictions, the Temporary Traffic Control Plans, and where appropriate, the other transportation management strategies identified above. The **RIDOT TMP Implementation Manager** or his/her responsible designee should (1) inspect the project work zones at initial setup, at the start of each subsequent work day, and just prior to extended breaks in the work (e.g., weekends) for conformance with the Temporary Traffic Control Plans, the *ATSSA Quality Guidelines for Temporary Traffic Control Devices and Features*, and where applicable, the other transportation management strategies identified above and (2) document all work zone-related feedback and complaints that are received from the public.

If at any time (1) a significant deviation from any of the strategies included in the TMP (e.g., the use of an alternate construction sequence) is desired by one or more members of the project implementation team, (2) field observations and/or data suggest that impacts to road users are or will be unacceptable, or (3) one or more performance requirements established in the TMP are not being met in the field, the RIDOT TMP Implementation Manager shall report the situation to his/her supervisor or Division/Section/Unit manager. The supervisor / manager will coordinate with the State Traffic Engineer, the Deputy Chief Engineer, the TMP Implementation Manager(s), the Chief Engineer, and/or other interested parties as appropriate and/or necessary to consider and determine whether revised and/or alternate strategies should be implemented in an effort to lessen the adverse safety and/or mobility impacts of the project. If the supervisor / manager deems that strategy changes should be implemented, the changes shall be documented in a revised version of the TMP and the Deputy Chief Engineer, the State Traffic Engineer, and the Chief Engineer must approve of the revised TMP prior to their implementation.

If a significant deviation from any of the strategies included in the TMP is requested by the Contractor, unless directed otherwise by the RIDOT the Contractor is responsible for preparing and submitting to the RIDOT TMP Implementation Manager appropriate documentation (e.g., design calculations, analysis reports, Temporary Traffic Control Plans, etc.) showing that the requested change(s) are (1) feasible and (2) expected to result in safety and mobility impacts that are no more adverse than the impacts resulting from the strategies already included in the latest approved TMP. The RIDOT will review and consider the submittal(s) as described in the preceding paragraph and will determine whether the changes should be implemented. If the requested changes are approved by the RIDOT, unless otherwise directed by the RIDOT the Contractor shall prepare and submit to the RIDOT TMP Implementation Manager a revised version of the latest approved TMP in both printed and electronic (Microsoft® Excel) format that documents all of the approved changes. Work to implement the changes shall not begin until the Deputy Chief Engineer, the State Traffic Engineer, and the Chief Engineer have approved of the revised TMP.

When unexpected events (e.g., crashes, inclement weather, unforeseen traffic demands, etc.) occur in a project work zone where one or more lanes are closed, the RIDOT TMP Implementation Manager or his/her responsible designee should (1) determine whether or not the lane closure(s) can/should be removed in order to improve traffic operations and/or minimize delays and (2) if deemed appropriate, take action to remove the lane closure(s).

Other Requirements:

TMP APPROVALS

All approvals must be obtained prior to start of work

DEPUTY CHIEF ENGINEER	STATE TRAFFIC ENGINEER	CHIEF ENGINEER
Signature: Frank Corrao, P.E.	Signature Robert Rocchio, P.E.	Signature: Kazem Farhoumand, P.E.
Date:	Date 12/14/11	Date: 12/19/11

Revision #	Initials	Date

Revision #	Initials	Date

Revision #	Initials	Date

TMP IMPLEMENTATION MANAGERS

Project managers with the primary responsibility & authority for implementation of this TMP

RIDOT	CONTRACTOR (if contract work)
Name:	Name:
Title:	Title:
Unit:	Company/Unit:
Office Phone:	Office Phone:
Mobile Phone:	Mobile Phone:
E-Mail:	E-Mail:

Attachment to TMP for RIC 2011-CT-080

Location	MINIMUM NUMBER OF LANES & SHOULDERS TO REMAIN OPEN TO TRAFFIC[1,2]								
	Time of Day		Day of Week						
	From	To	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
All State Limited Access Highways and Ramps listed in the contract documents	0:00:00	6:00:00	ALL	1 L	1 L	1 L	1 L	1 L	ALL
	6:00:00	20:00:00	ALL	ALL	ALL	ALL	ALL	ALL	ALL
	20:00:00	0:00:00	1 L	1 L	1 L	1 L	1 L	ALL	ALL

LEGEND

ALL	All travel lanes and shoulders shall remain open to traffic
1 L	A minimum of one 11-foot wide travel lane in each direction shall remain open to traffic

NOTES

1 The set-up and break-down of temporary traffic control devices within a traveled way or shoulder shall be construed as a closure of that traveled way or shoulder.

2 The provisions noted herein shall not free the Contractor from his responsibility to conduct all work in such a manner that assures the least possible obstruction to traffic.

INDEX

SPECIFICATIONS – JOB SPECIFIC

JOB SPECIFIC

CODE 12.108.1000 – Prosecution and Progress

In accordance with **Section 12.108.08, Failure to Complete on Time, Para. A., Phased and Interim Completion** the following defines the Phase and Interim Completion Dates and Associated Liquidated Damages:

1. Phase 1 Completion Long Line work for 2012 roadways: September 30, 2012

   Liquidated Damages: $1,500.00 per calendar day

2. Phase 2: All remaining work shall be completed for phase 2 of 2012 roadways by October 31, 2012. Completion will be the point at which all replacement work within the phase is complete such that it can be safely and effectively used by the public, and to the satisfaction of the Engineer.

   Liquidated Damages: $1,500.00 per calendar day

3. Phase 3 Completion Long Line work for 2013 roadways: September 30, 2013

   Liquidated Damages: $1,500.00 per calendar day

4. Substantial Completion: All remaining work shall be completed for Substantial Completion of 2013 roadways by October 31, 2013. Completion will be the point at which all replacement work within the phase is complete such that it can be safely and effectively used by the public, and to the satisfaction of the Engineer.

   Liquidated Damages: $1,500.00 per calendar day

5. Project Substantial Completion: October 31, 2013

   All Contract work shall be completed as defined by **Section 12.101.71**.

   Liquidated Damages: $1,500.00 per calendar day

JOB SPECIFIC

CODES T20.2020, T20.2022, T20.9903, T20.9904, T20.9905, T20.9906, T20.9907, T20.9908, T20.9909, T20.9910, T20.9911, T20.9912, T20.9913, T20.9914, T20.9915, T20.9916, T20.9917, T20.9918, T20.9919

EPOXY RESIN PAVEMENT MARKINGS

DESCRIPTION: This work consists of furnishing and applying reflectorized, two-component, hot-spray applied epoxy resin pavement marking material on asphaltic and Portland cement concrete pavement surfaces. Upon curing, it produces an adherent reflectorized stripe of specified thickness and width capable of resisting wear from traffic. This work also includes the removal of existing epoxy resin pavement markings by grinding prior to the installation of new epoxy resin material. This work also includes certified testing reports for all pavement markings placed on all roadways. All work shall be performed in accordance with these Specifications, Section T.20 of the Rhode Island Standard Specifications for Road and Bridge Construction, 2004 Edition with latest revisions, and the Contract Documents.

MATERIALS: Materials shall conform to Section M.17 – Pavement Markings of the Rhode Island Standard Specifications for Road and Bridge Construction, 2004 Edition with latest revisions, with the following exceptions:

CONSTRUCTION METHODS: Construction Methods shall conform to Section T.20 – Pavement Markings of the Rhode Island Standard Specifications for Road and Bridge Construction, 2004 Edition with latest revisions, with the following exceptions:

Delete **Subsection T.20.03.6 d. 1. Grinding** on page T-45 and T-46 of the Rhode Island Standard Specifications for Road and Bridge Construction, 2004 Edition in its entirety and replace it with the following:

T.20.03.06 d. 1. Grinding. All existing pavement marking material (including binder and beads) situated above the level plane of the top substrate surface shall be removed by grinding. Existing marking material embedded in pavement cavities below the level plane of the top surface course pavement binder shall not be removed by the grinding operation unless otherwise directed by the Engineer. The method shall not damage the surface and have no more than a moderate color and/or texture change. The grinding truck shall be equipped with a vacuum and dust collector that is 99.99 percent efficient in removing particles no bigger than 0.5 microns. All pavement markings removed must be replaced within 3 calendar days and/or before the end of the working week. No roads are to be left without striping over a weekend. Removal is at no extra cost. A sweeper with the capacity to pick up grindings simultaneously with the removal operation is required.

Establishment of Measurement Lots

The contractor shall perform QC testing as follows on all materials characteristics listed in the Master Schedule for Project Testing. For the purposes of certifying that pavement markings are installed in accordance with contract requirements, each of the roadways and facilities upon which pavement markings are installed shall be divided into distinct measurement areas by the Contractor. A measurement area (LOT) is hereby defined as a section of roadway or facility within which

The Contractor shall furnish and implement appropriate temporary traffic controls during all inspection and certification work described in this specification. All temporary traffic control shall be in accordance with the provisions of the Transportation Management Plan for the project.

RIDOT reserves the right to perform random and/or periodic spot checks of the pavement marking LOTS within fifty (50) days of installation. RIDOT may request Traffic Control to be performed by the contractor for these analyses. This Traffic Control as requested is at no additional cost to the State.

In the event RIDOT and QC retroreflectivity readings vary using the 30 meter retroreflectivity instrument in accordance with ASTM E 1710 "Test Method for Measurement of Retroreflective Pavement Marking Materials with CEN-Prescribed Geometry Using a Portable Retroreflectometer" and certified personnel, RIDOT results shall govern.

Inspection Schedule and Frequency

The Contractor shall be responsible for developing and managing an overall inspection program to ensure that all pavement markings are inspected and installed in accordance with the stipulations of this section.

Initial Inspection and Certification of Newly Installed Markings:

The Contractor shall conduct an inspection of all newly installed pavement markings at least 14 but not more than 30 calendar days after the installation of the markings.
Also at the time of placement of said striping the contractor shall use a 4 inch by 8 inch aluminum tab taken in the field at the time of striping for each test area and forwarded to the striping Resident Engineer for his inspection. These tabs will be well cured and labeled from their locations.

Exceptions to the Standard Inspection and Certification Schedule:
RIDOT may request that the Contractor conduct additional or more frequent inspections of retroreflectivity than described in these specifications in one or more specific LOTs if it is determined that the retroreflectivity of the markings within the LOT are determined to be deficient, as defined in the *Pavement Marking Performance Requirements – Retroreflectivity* section of these specifications.

Inspection Methods and Procedures

Dimensions:
For each type of longitudinal line marking, the Contractor shall measure the width and height (depth) of the marking at one set of each applied marking per lane mile within each Lot. The dimensions (both width and height) of each type of longitudinal marking to be reported for each overall LOT shall be greater than 28 mils (difference between top of adjacent pavement and top of marking).

Also the contractor shall provide the engineer with field sample tabs of each longitudinal line striped for centerline and edge line on each roadway. These tabs will be well cured and labeled from their locations.

Retroreflectivity:

The photometric quality of markings to be evaluated by the Contractor is the coefficient of retroreflected luminance (R_L) and shall be expressed as millicandelas per square meter per lux ($mcd/m^2/lx$). For each type of longitudinal line marking, the Contractor shall evaluate the retroreflectivity with a RIDOT approved hand held portable retroreflectometer unit with 30 meter CEN geometry similar to LTL unit by Delta Light or equal in accordance with ASTM E1710 and the frequencies and evaluation per ASTM D 6359.

Pavement Marking Performance Requirements

Dimensions

The reported width of each type of longitudinal line marking within each LOT shall differ no more than

4 inch ± 1/4 inch
6 inch ± 1/4 inch
10 inches and above ± 1/2 inch

- Lateral deviation shall not exceed one inch in 100 feet.
- Length of ten-foot skip markings shall not deviate more than 3 inches.

The reported height (thickness) of all pavement markings within each LOT shall test a minimum 28 mil composite dry applied thickness as determined to be the difference between the surface of the pavement and top of pavement marking using calipers or micrometer at 3 random locations per lane mile.

Each type of longitudinal marking in a LOT with a recorded width that differs more than ¼-inch, and any pavement marking type in a LOT with a recorded height of less than 28 mils, shall be deemed deficient, and the Contractor shall replace the markings with new acceptable markings at no additional cost to RIDOT.

Retroreflectivity

The reported retro reflectivity of each type of pavement marking in each LOT shall be greater than or equal to the minimum requirements as specified in Table 4 below for the type of roadway facility, monitoring event, and color of marking indicated and will be paid for in accordance with the schedule shown.

Submission of Certifications

Following the installation and inspection of markings within each LOT, a certification signed by the Contractor shall be submitted to the Engineer stating that all such markings within each LOT have been installed in accordance with the contract performance requirements, The Contractor will not be paid for any pavement marking installation work until a signed certification is received and approved by the Engineer.

Each certification submitted to the Engineer shall indicate the following:

- LOT number and limits
- Roadway/Facility name
- Route number or numbers (if applicable)
- Travel direction (if applicable)
- Pavement marking material and glass bead testing
- Substrate (pavement) surface type
- Date, time, and weather conditions present during which each lot was installed
- Date, time, and weather conditions present during which each inspection was completed
- Complete set of retroreflectivity, dimensional, mil thickness, color, and other measurements that were collected
- Depth of recesses (if applicable)

The inspection and certification results for each LOT with new pavement markings installed shall be submitted with in 30 calendar days to RIDOT, in both print and electronic data formats as prescribed. The notarized certificate of compliance from the material manufacturer shall be provided to RIDOT at the same time as the results of the testing and certification.
Payments to the contractor will be based on Testing certifications.

METHOD OF MEASUREMENT: "Epoxy Resin Pavement Markings" will be measured by one of the following units, each as actually placed in accordance with the Plans and/or as directed by the Engineer:

a.) "Lump Sum" (LS): For each of the following types and widths of markings:

- 4" – White
- 4" – Yellow
- 6" – White
- 12" – White
- 12" – Yellow

T.20.03.06 d. 1. Grinding. All existing pavement marking material (including binder and beads) situated above the level plane of the top surface course pavement binder shall be removed by grinding. Existing marking material that is embedded in pavement cavities below the level plane of the top surface course pavement binder shall not be removed by the grinding operation unless otherwise directed by the Engineer. The method shall not damage the surface in any way and have no more than a moderate color and/or texture change. The grinding truck must be capable of removing 80,000 linear feet of 6-inch line per day; and must be equipped with a vacuum and dust collector that is 99.99 percent efficient in removing particles no bigger than 0.5 microns. All pavement markings removed must be replaced in a timely manner. Removal is at no extra cost. A sweeper with the capacity to pick up grindings simultaneously with the removal operation is required.

The Engineer will submit to the Contractor, at random intervals throughout the contract duration, one or more plans describing additional pavement marking installation and/or removal work that is not already included in the contract (hereafter referred to as "as needed work"). Direction to proceed with the as needed work at each location may be given by the Engineer at any time. Upon each directive to proceed with as needed work, the Contractor and the Engineer shall mutually agree to a date on or before which the work shall be completed.

All as needed work shall be completed in a timely manner and in accordance with the permissible working hour and completion of work stipulations included in the Contract-Specific General Provisions, unless permission to deviate from these restrictions is granted in advance by the Engineer.

The time period within which direction may be given to proceed with as needed work will end upon notification of the Contractor by the Engineer (when the remaining funds for this item are not sufficient to pay for additional work) or on November 30, 2013, whichever occurs first.

METHOD OF MEASUREMENT: "As Needed Striping Installation and Removal Work – Force Account" will be measured for payment based on the itemized statements of the cost of the work as submitted by the Contractor, all in accordance with Section 109.04 DIFFERING SITE CONDITIONS, CHANGES, EXTRA WORK AND FORCE ACCOUNT WORK of the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, 2004 Edition with latest revisions.

BASIS OF PAYMENT: This work will be paid for on a Force Account Basis to be compensated as described in Section 109.04 DIFFERING SITE CONDITIONS, CHANGES, EXTRA WORK AND FORCE ACCOUNT WORK of the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, 2004 Edition with latest revisions. Such payments shall constitute full compensation for all labor, equipment, tools, and other incidentals required to complete the work, including mobilization and all temporary traffic control devices, setups, and breakdowns necessary to protect the workers and traffic at all times in conformance with the MUTCD and its latest revisions.

JOB SPECIFIC

CODE 937.1000 – MAINTENANCE AND MOVEMENT OF TRAFFIC PROTECTIVE DEVICES

DESCRIPTION: Subsection 937.05.2; Failure to Comply, of the Standard Specifications, requires that a daily charge be deducted from monies due to the Contactor for failure to satisfactorily maintain traffic control devices.

Markings not replaced within 3 calendar days of removal of before the end of the work week will be considered a violation of 937.1000 Maintenance and Protection of Traffic Protection Devices.

The charge for this Contract will be $ 1,000.00 per day.

JOB SPECIFIC

CODE 922.9901

TEMPORARY TRAFFIC CONTROL DEVICES

DESCRIPTION: This work consists of providing, operating, and maintaining fluorescent traffic cones, temporary construction signs, shadow and advance warning vehicles with truck mounted attenuators with truck mounted changeable message signs, and all other temporary traffic control devices at the locations indicated on the Typical Details – Temporary Traffic Control plans or as directed by the Engineer, all in accordance with the Manual on Uniform Traffic Control Devices, latest edition with all revisions.

MATERIALS: Materials shall conform to the Rhode Island Standards Specifications for Road and Bridge Construction, 2004 Edition with latest revisions and the latest edition of the Manual on Uniform Traffic Control Devices, latest edition with all revisions.

CONSTRUCTION METHODS: All work shall be completed in conformance with the Rhode Island Standards Specifications for Road and Bridge Construction, 2004 Edition with latest revisions and the latest edition of the Manual on Uniform Traffic Control Devices, latest edition with all revisions.

METHOD OF MEASUREMENT: This work does not require a separate measurement for payment and shall be incidental to the contract.

BASIS OF PAYMENT:

Payment for Full Compliance. "Temporary Traffic Control Devices" will be paid for at the contract lump sum price as listed in the Proposal. The price so-stated constitutes full and complete compensation for all labor, materials, and equipment, including furnishing, installing, and operating all temporary traffic control devices, removing the devices from their initial locations, handling, maintaining, transporting, and relocating said devices to storage or to subsequent intermediate locations at which they are to be used for traffic control, ultimate removal of said devices from their final locations, and all other incidentals required to finish the work, complete and accepted by the Engineer. Monthly progress payments under this item will be made at a rate determined by dividing the contract lump sum price by the number of months allocated for completion of the contract. Said number of months shall be equal to the difference between the contract completion date and the date of the Notice to Proceed. Payment for authorized contract time extensions will be made at the calculated monthly rate as defined above. If the contract is completed prior to the authorized completion date, the final monthly payment will consist of the remaining balance of the contract lump sum price. No payment will be made for unauthorized contract time extensions.

JOB SPECIFIC

CODES T20.9925

REFLECTORIZED PAVEMENT MARKER (SLOTTED IN PAVEMENT) WHITE

DESCRIPTION: The work to be done under this item shall consist of furnishing and installing one-way white and one-way yellow reflectorized pavement markers (slotted in pavement) in accordance with the typical plans.

MATERIALS: Reflectorized pavement markers shall be 3M Series 290, Avery Dennison Lifelite Model 948 BW, Ray-O-Lite Model 200 or an approved equivalent.

CONSTRUCTION METHODS: The work shall include cutting the tapered pavement slot to the dimensions shown on the typical details for the reflectorized pavement markers, application of the manufacturer's recommended epoxy adhesive, and placing the reflectorized pavement marker in the proper position within the slot so that the reflective face is visible and perpendicular to oncoming traffic, and so that the top of the reflectorized pavement markers is set 1/8inch below the top of the adjacent pavement.

Unless directed by the Engineer, reflectorized pavement markers shall not be laid directly over a longitudinal crack or joint. Reflectorized pavement markers shall be centered in the gap between dashed line segments and the finished line of the markers shall be straight. The lateral deviation on any 10 ft line shall not exceed 1 in.

Skip Line Application

- Reflectorized pavement markers shall be installed in line with the broken white lanes lines (skip lines) at the midway point between skip lines at 80 foot intervals on the mainline (between every other gap).

All Other Application

- The edge of a reflectorized pavement marker shall be offset, in the direction of approaching traffic, a distance of 2 in. from the edge of pavement, a longitudinal crack or joint, or a solid lane line. Reflectorized pavement markers shall be installed along solid yellow lines and white lane lines at 80 foot intervals.
- When supplementing double yellow markings, pairs or reflectorized pavement markers shall be placed in pairs outside of the two lines at 80 foot intervals.

Surface preparation and installation shall be strictly in accordance with the manufacturer's instructions. Reflectorized pavement markers shall not be installed along right-hand edge lines or within 100' of the center line of intersections.

JOB SPECIFIC

CODES T20.9928 AND T20.9933

RECESSED PAVEMENT MARKINGS: 6" WHITE AND 6" YELLOW

DESCRIPTION: This work shall consist of furnishing and installing a three bead drop application consisting of glass beads and ceramic reflective elements as part of a multiple component, retroreflective traffic monitoring system. Also this work shall consist of spraying a two part hot sprayed applied Epoxy resin in a 80-100 mil groove on existing pavement. This system in accordance with provisions and in reasonably close conformance to the dimensions and lines shown on then plans and along with Section T.20 of the Rhode Island Standard Specifications for Road and Bridge Construction, 2004 Edition with latest revisions, and the Contract Documents.

MATERIALS: Materials shall conform to Section M.17 – Pavement Markings of the Rhode Island Standard Specifications for Road and Bridge Construction, 2004 Edition with latest revisions.

This specification describes the glass and ceramic elements used to reflectorize in epoxy pavement marking binder material at a thickness of 20 mils. Where friction course is present the thickness is increased to 25 mils.

The binder material shall be applied in a liquid state by methods as called out in the specifications and immediately followed by application of bonded ceramic elements and glass beads. This consists of a mixture of Type II (large beads), Type I (small beads), and elements containing microcrystalline ceramic elements (wet/night). The microcrystalline ceramic elements shall be clear or yellow tinted as required and shall have a minimum index of refraction of 2.40 when tested using the liquid oil immersion method. The resulting traffic marking system shall produce a stripe of specified thickness, length, and width that is retroreflective in dry and wet conditions and capable of resisting deformation by traffic. 3M Series A W wet elements wet E white ceramic elements or approved equal shall be used for white stripes. 3M Series A W wet elements wet E yellow ceramic elements or approved equal shall be used for yellow stripes.

CONSTRUCTION METHODS: Construction Methods shall conform to Section T.20 – Pavement Markings of the Rhode Island Standard Specifications for Road and Bridge Construction, 2004 Edition with latest revisions, with the following exceptions:

Delete **Subsection T.20.03.6 d. 1. Grinding** on page T-45 and T-46 of the Rhode Island Standard Specifications for Road and Bridge Construction, 2004 Edition in its entirety and replace it with the following:

T.20.03.06 d. 1. Grinding. Contractor shall install a groove in the existing pavement at a depth of 80-100 mils in thickness as shown on the Plans. The grooving shall be 1 inch wider than the proposed stripe (1/2" on each side) and of sufficient length (maximum 12" each end) when addressing skips or broken lines. All ramps or gore areas shall be excluded. All existing pavement marking material (including binder and beads) shall be removed as part of this grinding operation. The grinding truck shall be equipped with a vacuum and dust collector that is 99.99 percent efficient in removing particles no bigger than 0.5 microns. All pavement markings removed must be replaced in 3 working calendar days or before the end of the work week. A sweeper with the capacity to pick up grindings simultaneously with the removal operation is required.

The beads shall be applied in the following order and rates: The first drop shall be the microcrystalline ceramic elements (7 pounds per gallon) followed by Type II (large beads)(7 pounds per gallon) and lastly Type I (small beads)(10 pounds per gallon) at a rate of ten (10) lbs per gallon.

EQUIPMENT: The grinding equipment shall consist of a free-flow cutting or grinding head to provide a consistent groove depth over irregular pavement surfaces. The grinder or cutter head shall be equipped with diamond saw blades, steel star cutters and/or carbide tipped star cutter. Diamond saw blades shall be used wherever friction course is present. The final pavement surface shall be free of ridges.

METHOD OF MEASUREMENT: "Recessed Pavement Markings" will be measured by the following units, each as actually placed in accordance with the Plans and/or as directed by the Engineer:

"Linear Feet" (LF): For each of the following types and widths of markings:

- 6" – White
- 4" – Yellow

BASIS OF PAYMENT: "Recessed Pavement Markings" will be paid for at their respective contract unit prices per Linear Feet (LF) for each type or types, as listed in the proposal complete in place and accepted, with consideration of the minimum retroreflection compensation criteria provided below. Price shall constitute full compensation for movement of the Contractor's personnel and work equipment to and from the work sites, installation of grooves in pavement, cleaning of pavement, furnishing, layout, and application of the marking material in the grooves, copying and completion of striping quantity verification forms, performing inspections of such markings to check for compliance with the performance-based requirements of the contract, submitting certifications of such compliance to RIDOT, repairing and/or installing new pavement markings to replace all markings within said lots that are determined to be non-compliant with the performance requirements, and for all labor, equipment, tools, materials, and incidentals necessary to complete the work to the satisfaction of the Engineer.

Pavement marking installation certifications will not be paid for separately, but shall be considered an incidental obligation of the Contractor, with all costs of said inspections and certifications distributed among the contract unit prices for pavement marking items.

Retroreflection Values (measured 3-7 days post placement):

Minimum 400 / 300 (white / yellow) ---------- 100 % contract unit price

929.1000

FIELD OFFICES AND MATERIALS LABORATORY

DESCRIPTION. The items of computer equipment and software to be provided for this Contract in accordance with **Para. c. of Subsection 929.03.5; Special Requirements for Field Office,** of the RI Standard Specifications for Road and Bridge Construction, 2004 Edition, consist of the following

1. One (1) InkJet color printer capable of printing standard and custom paper sizes from 3 by 5 inches to 11 by 17 inches. Print quality shall be 1200 by 1200 dpi minimum resolution for black and white printing and 4800 X 1200 optimized dpi for color printing. It shall be capable of printing up to 20 ppm (black and white) and up to 15 ppm (color).

2. One (1) laser printer capable of printing standard and custom paper sizes from 3 by 5 inches to 11 by 17 inches. Print quality shall be 1200 by 1200 dpi minimum resolution and have a minimum of 64 MB RAM.

3. Two (2) new PC laptop computers with an i3-2.1GHz processor (minimum); 250 GB (5400 rpm) hard drive (minimum); 15" LCD screen (minimum); 4 GB of RAM (minimum); 10/100 network interface card; CD-RW/DVD drive; wireless network card, broadband internet access (3Mbps nominal connection speed) and Internet Service Provider, 9 cell primary battery, two AC/DC power adaptors, extra 9 cell battery, and carrying bag. Installed software shall include: Microsoft Windows 7 (32 or 64 bit) with the latest service packs and security updates, Microsoft Office Professional (2010 version) with latest service packs, Adobe Acrobat Professional 9.0 (or better), AutoCAD 2012 (or better), and Symantec Endpoint Protection 12.1 with subscription support for the life of the project. All installation CDs, licenses, registration codes and user manuals/documentation shall be provided to the Engineer.

4. Two (2) Docking Stations with a minimum of the following: 1 Ethernet RJ-45 port, 4 USB 2.0 ports, VGA, display port, DVI-D, two (2) 101 key enhanced keyboards, two (2) optical mouse with scroll wheel, and two (2) 21" Wide Screen Flat Panel LCD screens (minimum).

5. One (1) 500 GB External Hard Drive.

6. One (1) approved facsimile machine meeting the following minimum standards: desktop transceiver; automatic fax/tel switch with only one phone line needed; 10 page document feeder; 9600 bps modem speed with automatic fallback; answering machine interface; 20 location capacity; one-touch dial with 16 locations; PSTN line connection; monitor speaker; 16 character LCD size; local copy function; status/error indicators; transmit and receive confirmation reports; no more than 15 pounds in weight; 120V-60 HZ power requirement; built-in handset; image control resolution of 200 x 100 ipi at standard, 200 x 200 ipi at fine, and 200 x 400 ipi at super-fine; 16 level gray scale; automatic redial 2 times at 3 minute intervals and 128 KB memory capacity. The Contractor shall provide a separate phone line for the facsimile machine.

7. One (1) desktop copying machine with an automatic document feeder, or a compatible machine approved by the Engineer.

8. Two (2) 10.0 megapixel digital cameras with wide-angle 5X internal optical zoom and 2.5 inch LCD screen. The camera shall be dustproof, waterproof to 13 feet (4 meters), and coldproof to 14°F.

9. The computer equipment and software, cameras and hard drive shall become property of the State after the Contract Completion.

10. Dust shields and a security cabinet capable of physically containing all hardware, software, and accessories.

11. Surge Protectors for all the above equipment.

12. The Contractor shall provide maintenance and supplies for the life of the project. Supplies for both new and existing field office equipment shall include but, are not limited to, 3.5" DSHD floppy disks, CD-R disks with jewel cases, DVD-R disks with jewel cases, CD storage case, toner, inks, all paper, etc. All supplies shall be provided with the original installation of the computer equipment and as required, as soon as possible after notification by the Resident Engineer.

13. On delivery of computer equipment to a field office, the Resident Engineer must contact the **(DoIT)** Service Desk Service@DoIT.ri.gov to arrange for State Inventory. The resident engineer must provide the detail spec. of the computer equipment, location of the field site and the completion date of the project. The Resident Engineer must also contact the service desk Service@DoIT.ri.gov at the end of the project to pull the computer equipment into DOT State inventory or if the computer equipment needs to move from one location to another.

Table of Contents - Distribution of Quantities

Project Name - 2012-2013 Statewide Pavement Striping - Limited Access
Estimate Name - Addendum No. 2
R.I. Contract No. - 2011-CT-080
FAP Nos: NHSG-4444(080)

Distribution of Quantities

Project Name - 2012-2013 Statewide Pavement Striping - Limited Access
Estimate Name - Addendum No. 2
R.I. Contract No. - 2011-CT-080
FAP Nos: NHSG-4444(080)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
022	T20.9917	**EPOXY RESIN PAVEMENT MARKING WORD SET "BIKE X-ING"**	EACH			
		HENDERSON BRIDGE				
		HENDERSON BRIDGE		1.00	0021	01
		Item T20.9917 Total:		**1.00**		
023	T20.9918	**EPOXY RESIN PAVEMENT MARKING WORD SET "EXIT ONLY"**	EACH			
		HENDERSON BRIDGE				
		HENDERSON BRIDGE		1.00	0021	01
		Item T20.9918 Total:		**1.00**		
024	T20.9919	**EPOXY RESIN STRIPING FOR BIKE LANE DETAIL**	EACH			
		HENDERSON BRIDGE				
		HENDERSON BRIDGE		16.00	0021	01
		Item T20.9919 Total:		**16.00**		
025	929.0100	**FIELD OFFICES 240 SQUARE FOOT MINIMUM**	PMO			
		STATEWIDE				
		STATEWIDE		24.00		
		Item 929.0100 Total:		**24.00**		
026	T20.9925	**REFLECTORIZED PAVEMENT MARKERS-WHITE**	EACH			
		STATEWIDE				
		STATEWIDE		2,470.00	0021	01
		Item T20.9925 Total:		**2,470.00**		
027	T20.9928	**RECESSED PAVEMENT MARKINGS - 6" YELLOW**	HLF			
		STATEWIDE				

Distribution of Quantities

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FAP Nos: NHSG-4444(080)

Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
027	T20.9928 Cont.	STATEWIDE		1,795.20	0021	01
		Item T20.9928 Total:		**1,795.20**		
028	T20.9933	**RECESSED PAVEMENT MARKINGS - 6" WHITE**	HLF			
		STATEWIDE				
		STATEWIDE		1,844.57	0021	01
		Item T20.9933 Total:		**1,844.57**		