January 20, 2012

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. 5 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. General Provisions - Contract Specific

1. Page CS-9(R-2)

   Delete Page CS-9(R-1) in its entirety and replace with Page CS-9(R-2) attached to this Addendum No. 5. Quantities have changed for the "2012 ROADWAYS TO BE STRIPED (PHASE 1 and PHASE 2)".

2. Page CS-10(R-2)

   Delete Page CS-10(R-1) in its entirety and replace with Page CS-10(R-2) attached to this Addendum No. 2. Quantities have changed for the "2013 ROADWAYS TO BE STRIPED (PHASE 3 and SUBSTANTIAL COMPLETION)".

B. Attachments to CS Pages

1. Typical Temporary Traffic Control Plans

   Temporary Traffic Control section now includes two additional plans for Mobile Inspection Operations.

2. Transportation Management Plan

   Delete Page 3 of 4 in its entirety and replace it with Page 3 of 4(R-1) attached to this Addendum No. 5. The additional traffic control plans have been added.

C. Specifications - Job Specific

1. Page JS-i(R-2)

   Delete Page JS-i(R-1) in its entirety and replace with Page JS-i(R-2) attached to this Addendum No. 5. Item code T20.9934, T20.9935 and T20.9936 have been added.

2. Page JS-6(R-2)

   Delete Page JS-6(R-1) in its entirety and replace with Page JS-6(R-2) attached to this Addendum No. 5. Item code T20.9934, T20.9935 and T20.9936 have been added to the spec.

3. Page JS-8(R-2)

   Delete Page JS-8(R-1) in its entirety and replace with Page JS-8(R-2) attached to this Addendum No. 5. The "General" section of "Pavement Marking Inspection Methods and Frequency" has been revised. The "Inspection Schedule and Frequency" section has been revised to allow the contractor to conduct inspections of all newly installed pavement markings at least 14 but not more than 60 calendar days after the installation of the markings.

4. Page JS-9(R-2)

   Delete Page JS-9(R-1) in its entirety and replace it with Page JS-9(R-2) attached to this Addendum No. 5. The "Pavement Marking Performance Requirements" section has been revised.

5. Page JS-12(R-2)

   Delete Page JS-12(R-1) in its entirety and replace with Page JS-12(R-2) attached to this Addendum No. 5. The last sentence of the "Submission of Certifications" has been revised. "Method of Measurement" has been revised.

6. Page JS-13(R-1)

   Delete Page JS-13 in its entirety and replace with Page JS-13(R-1) attached to this Addendum No. 5. The Basis of Payment section has been revised.

D. Clarification

1. Use of Diamond Saw Blades for Gridding

   As indicated in the JS-24(R-1) page of the contract documents, diamond saw blades shall be used wherever friction course is present.

2. Retro-Reflectivity Testing (Inspections)

   The times listed in the Transportation Management Plan (TMP) shall be adhered for the inspection of pavement markings on limited access roadways.

3. DBE Goal

   The DBE goal is zero percent (0%) for this contract.

E. Distribution of Quantities

1. DOQ Index: 1

   Delete DOQ Index: 1 in its entirety and replace with DOQ Index:1(R-1) attached to this Addendum No. 5. Items Code T20.9934, T20.9935, T20.9936 have been added to the table.

2. DOQ Pages 1 through 6

   Delete Pages 1, 2, 4, 5(R-1), and 6 in their entirety and replace with Pages 1(R-1), 2(R-1), 4(R-1), 5 (R-2), and 6(R-1) attached to this Addendum No. 5. Add pages 1a, 4a, and 5a attached to this Addendum No. 5. Quantities for Items Code 928.9901, T20.9903, T20.9904, T20.9905, T20.9911, T20.9915, T20.9917, T20.9918 have been revised.

RI Department of Transportation
Chief Engineer

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	"TO" EACH	"Route 6 & 195 Shield" EACH	"CURVE AHEAD" 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	0	0	0
Interstate 295 & Ramps	Interstate 95 to Massachusetts State Line	Warwick, West Warwick, Cranston, Johnston, Smithfield, Lincoln, Cumberland	YES*	450,218	376,000	80,000	0	40	18	29	24	0	0	0	1	0	0	0	0	0	0	0
Interstate 95 & Ramps	**Connecticut State Line to 890 ft. south of bridge 321 58601 and 910 ft. south of bridge 58621, Northbound and Southbound respectively.**	East Greenwich, Warwick, West Warwick	YES	310,543	270,480	60,000	0	22	12	28	26	4	0	0	0	0	0	0	0	0	1	0
Interstate 95 Recessed Pavement Markers and Recessed Reflectorized Markers	**From 890 ft. south of bridge 58601 and 910 ft. south of bridge 58621, Northbound and Southbound respectively** to Interstate 295	Hopkinton, Richmond, Exeter, West Greenwich	YES	184,457	179,520	0	0	0	0	0	0	0	0	0	0	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	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	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	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	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	0	0	0
		PHASE 1 TOTAL:		1,383,218	1,195,000	228,000	834	117	69	90	82	7	4	2	1	0	0	0	0	0	1	0

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

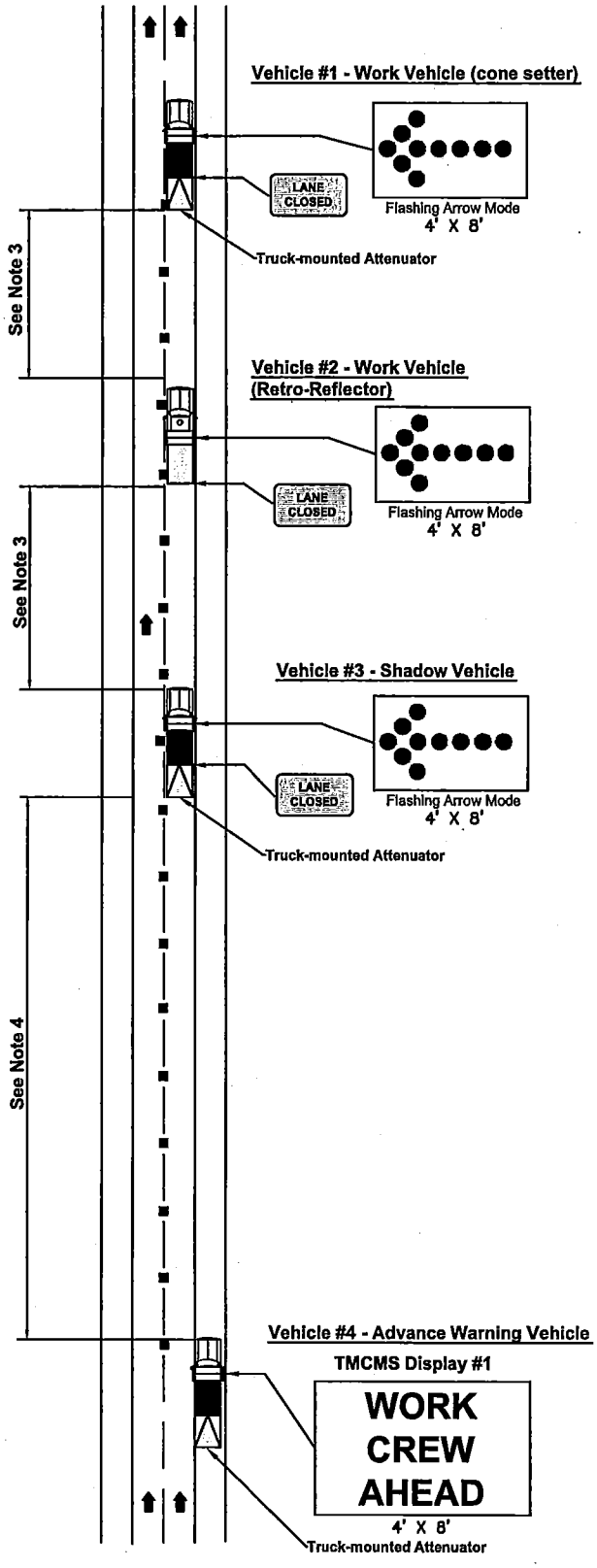
2013 ROADWAYS TO BE STRIPED (PHASE 3 and SUBSTANTIAL COMPLETION)

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	"TO" EACH	"Route 6 & 195 Shield" EACH	"CURVE AHEAD" EACH
Henderson Bridge & Ramps	Waterman Street / Angell Street to North Broadway (in East Providence)	Providence, East Providence	YES	24,470	20,000	5,000	0	0	0	0	2	0	0	0	0	3	16	2	2	0	0	0
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	0	0	0
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	4	4	20
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	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	0	0	0
Route 114 & Ramps (East Shore Expressway)	Interstate 195 to Route 103 (County Rd.)	East Providence, Barrington	YES	82,000	71,000	14,572	0	10	6	3	8	0	0	4	0	0	0	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	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	0		0
Route 146 & Ramps	Interstate 95 to Massachusetts State Line	Providence, North Providence, Lincoln, North Smithfield	YES	382,000	225,000	50,200	0	40	20	17	16	3	0	0	0	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	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	0	0	0
		PHASE 2 TOTAL:		1,528,335	1,137,200	271,772	748	211	117	90	98	9	0	4	0	5	16	2	12	4	4	20
		CONTRACT TOTAL:		2,911,553	2,332,200	499,772	1,582	328	186	180	180	16	4	6	1	5	16	2	12	4	5	20

ADDENDUM NO. 5

NOTES:

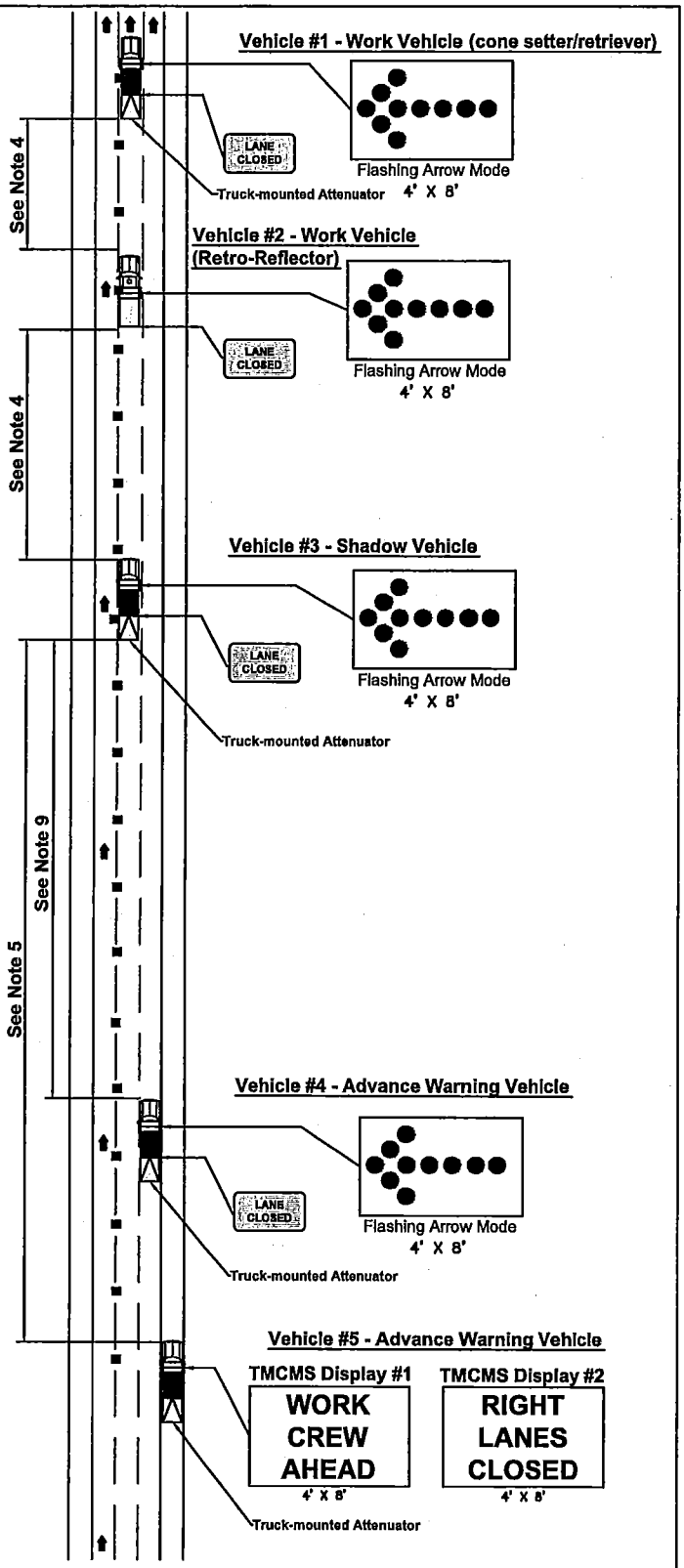
1. THESE PLANS ARE APPROPRIATE FOR RETRO REFLECTIVITY TESTING OF PAVEMENT MARKING ON EXTERIOR LANES OF MULTI–LANE HIGHWAYS, WHERE CONING IS REQUIRED TO DELINEATE THE CLOSURE.
2. ALL VEHICLES USED FOR THESE OPERATIONS SHALL BE EQUIPPED WITH HIGH INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE WARNING LIGHTS WITH 360 DEGREE VISIBILITY. THESE WARNING LIGHTS SHALL BE ACTIVATED DURING THE WORK.
3. THE DISTANCES BETWEEN THE SHADOW VEHICLE AND THE CONE SETTER / CONE RETRIEVER WORK VEHICLE AND BETWEEN THE CONE SETTER WORK VEHICLE AND THE RETRO REFLECTOR WORK VEHICLE SHALL BE BASED ON THE CONDITIONS EXISTING AT THE TIME AND LOCATION OF WORK, USING THE GUIDELINES PROVIDED IN CHAPTER 9 OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) ROADSIDE DESIGN GUIDE, LATEST EDITION.
4. THE DISTANCE BETWEEN THE ADVANCE WARNING VEHICLE AND THE S SHADOW VEHICLE SHALL BE VARIED AS THE WORK OPERATION PROCEEDS SO THAT APPROACHING MOTORISTS ARE GIVEN ADEQUATE ADVANCE WARNING OF THE WORK ACTIVITY AHEAD.
5. CONES SHOULD GENERALLY BE PLACED AT EVERY OTHER BROKEN LANE LINE MARKING. CLOSER SPACING MAY BE USED IF NEEDED.
6. FOR WORK IN THE LEFT–MOST LANE OF A MULTI–LANE HIGHWAY, A SET–UP SIMILAR TO THAT SHOWN SHALL BE USED, WITH THE TRUCK–MOUNTED CHANGEABLE MESSAGE SIGN AND FLASHING ARROW PANEL DISPLAYS REVISED TO INDICATE THE LEFT LANE CLOSURE AND, ON UNDIVIDED MULTI–LANE HIGHWAYS, ADDITIONAL ADVANCE WARNING TRAFFIC CONTROL DEVICES ADDED TO ALERT TRAFFIC APPROACHING THE WORK OPERATION FROM THE OPPOSITE DIRECTION.
7. THE WARNING SIGNS SHOWN ON VEHICLES ARE EXAMPLES AND MAY BE REPLACED WITH OTHER TYPES, SIZES, AND/OR SHAPES OF WARNING SIGNS OR OMITTED WHERE ADVANCE PERMISSION IS GRANTED BY THE ENGINEER.
8. THE CONE SETTLER/RETRIVER SHALL TURN AROUND AND RETURN TO RETRIEVE THE CONES ONCE THE TESTING IS COMPLETE AT A SPECIFIC LOCATION AND THE EQUIPMENT READY TO MOVE TO THE NEXT LOCATION.



RHODE ISLAND DEPARTMENT OF TRANSPORTATION TYPICAL TEMPORARY TRAFFIC CONTROL PLAN	———	MOBILE INSPECTION OPERATION ON EXTERIOR LANE OF MULTI-LANE HIGHWAY NOT TO SCALE DATE: 01-13-2012

NOTES:

1. THESE PLANS ARE APPROPRIATE FOR RETRO REFLECTIVITY RESTING OF PAVEMENT MARKING ON INTERIOR LANES OF MULTI-LANE HIGHWAYS, WHERE CONING IS REQUIRED TO DELINEATE THE CLOSURE.
2. ALL VEHICLES USED FOR THESE OPERATIONS SHALL BE EQUIPPED WITH HIGH INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE WARNING LIGHTS WITH 360 DEGREE VISIBILITY. THESE WARNING LIGHTS SHALL BE ACTIVATED DURING THE WORK.
3. THE WARNING SIGNS SHOWN ON VEHICLES ARE EXAMPLES AND MAY BE REPLACED WITH OTHER TYPES, SIZES, AND/OR SHAPES OF WARNING SIGNS OR OMITTED WHERE ADVANCE PERMISSION IS GRANTED BY THE ENGINEER.
4. THE DISTANCES BETWEEN THE SHADOW VEHICLE AND THE CONE SETTER / CONE RETRIEVER WORK VEHICLE AND BETWEEN THE CONE SETTER WORK VEHICLE AND THE RETRO REFLECTOR WORK VEHICLE SHALL BE BASED ON THE CONDITIONS EXISTING AT THE TIME AND LOCATION OF WORK, USING THE GUIDELINES PROVIDED IN CHAPTER 9 OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) ROADSIDE DESIGN GUIDE, LATEST EDITION.
5. THE LENGTHS OF THE TAPERS FORMED BY THE MOVING VEHICLES SHALL BE BASED ON GUIDANCE PROVIDED IN PART 6 OF THE MUTCD, LATEST EDITION. ADVANCE WARNING VEHICLES SHALL AT ALL TIMES BE POSITIONED SO THAT APPROACHING MOTORISTS ARE GIVEN ADEQUATE ADVANCE WARNING OF THE LANE CLOSURES AND WORK ACTIVITIES AHEAD.
6. CONES SHOULD GENERALLY BE PLACED AT EVERY OTHER BROKEN LANE LINE MARKING. CLOSER SPACING MAY BE USED IF NEEDED.
7. BASED ON THE TRAFFIC CONDITIONS EXISTING AT THE TIME AND LOCATION OF WORK, THE ENGINEER MAY REQUIRE THAT ADDITIONAL ADVANCE WARNING VEHICLES BE USED AND/OR MAY ALLOW SPECIFIC ADVANCE WARNING VEHICLES TO BE ELIMINATED FROM THE SET-UP.
8. FOR WORK IN THE LEFT-MOST LANES OF A MULTI-LANE HIGHWAY, A SET-UP SIMILAR TO THAT SHOWN SHALL BE USED, WITH THE TRUCK-MOUNTED CHANGEABLE MESSAGE SIGN AND FLASHING ARROW PANEL DISPLAYS REVISED TO INDICATE THE LEFT LANE CLOSURE AND, ON UNDIVIDED MULTI-LANE HIGHWAYS, ADDITIONAL ADVANCE WARNING TRAFFIC CONTROL DEVICES ADDED TO ALERT TRAFFIC APPROACHING THE WORK OPERATION FROM THE OPPOSITE DIRECTION.
9. THE DISTANCE BETWEEN THE ADVANCE WARNING VEHICLE AND THE SHADOW VEHICLE SHALL BE VARIED AS THE WORK OPERATION PROCEEDS SO THAT APPROACHING MOTORISTS ARE GIVEN ADEQUATE ADVANCE WARNING OF THE WORK ACTIVITY AHEAD.
10. THE CONE SETTLER/RETRIVER SHALL TURN AROUND AND RETURN TO RETRIEVE THE CONES ONCE THE TESTING IS COMPLETE AT A SPECIFIC LOCATION AND THE EQUIPMENT READY TO MOVE TO THE NEXT LOCATION.



RHODE ISLAND DEPARTMENT OF TRANSPORTATION TYPICAL TEMPORARY TRAFFIC CONTROL PLAN	———	MOBILE INSPECTION OPERATION ON INTERIOR LANE OF MULTI-LANE HIGHWAY NOT TO SCALE DATE: 01-13-2012

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
Mobile Operation - Interior Lane Of Multi-lane Highway		X
Mobile Operation - Exterior Lane Of Multi-lane Highway		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.

INDEX

SPECIFICATIONS – JOB SPECIFIC

CODE	TITLE	PAGE
12.108.1000	Prosecution and Progress	JS-1
928.9901	Truck-Mounted Attenuator with CMS	JS-2
931.9901	Cleaning and Sweeping Pavement for Statewide Striping	JS-5
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, **T20.9934, T20.9935, T20.9936**	Epoxy Resin Pavement Markings	JS-6
T20.9922	As Needed Striping Installation and Removal Work – Force Account	JS-14
937.1000	Maintenance and Movement of Traffic Protective Devices	JS-17
922.9901	Temporary Traffic Control Devices	JS-18
T20.9913	Remove Existing Inlaid Tape Skip Line Pavement Markings	JS-20
T20.9920, T20.9922	Reflectorized Pavement Marker (Slotted in pavement) White And Reflectorized Pavement Marker (Slotted in pavement) Yellow	JS-21
T209928, T20.9933	Recessed Pavement Markings: 6" White and 4" Yellow	JS-23
929.0100	Special Requirements for Field Office	JS-25

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, T20.9934, T20.9935, T20.9936

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 will perform random and/or periodic spot checks of the pavement marking LOTS. The Contractor shall provide temporary traffic control for RIDOT retroreflectivity acceptance testing operations. The Transportation Management Plan for this project shall be adhered to by the Contractor for the evaluation of retroreflectivity acceptance testing operations. RIDOT estimates approximately 50 working days of retroreflectivity acceptance testing operations. The Engineer will notify the Contractor a minimum of twenty-four (24) hours prior to the commencement of such expected operations.

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 60 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 adjavent 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 and ultra sonic meter 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 receipt of Test 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

b.) "Each": For each of the following types of marking items:

- Railroad Crossing Symbol
- Pedestrian Symbol
- Disabled Person Symbol
- "X-ING" word
- "YIELD" word
- Yield Line (inclusive of multiple yield line triangles placed side by side at one location)
- Bike Symbol
- Arrow - Straight, Left, Right, or Combined
- "Speed Humps Ahead" word
- "SLOW" word
- "PED X-ING ADHEAD" word

BASIS OF PAYMENT: "Epoxy Resin Pavement Markings" will be paid for at their respective contract unit prices per Lump Sum (LS) or for each (EACH) 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. Such price shall constitute full compensation for movement of the Contractor's personnel and work equipment to and from the work sites, removal of existing markings, cleaning of pavement, furnishing, layout, and application of the marking material, partitioning the roadways and facilities upon which pavement markings are installed into LOTS, performing inspections of markings in said LOTS 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.

With the exception of RIDOT traffic control items explicitly listed in the proposal, all costs associated with pavement marking installation certifications and inspections will not be paid for separately, but shall be considered an incidental obligation of the Contractor and distributed among the contract unit prices for pavement markings items. Traffic control items for RIDOT pavement marking inspections will be measured separately and paid under the applicable item in the Proposal.

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

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923.0200	FLUORESCENT TRAFFIC CONES STANDARD 26.1.0	1
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Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
001	914.5010	**FLAGPERSONS**	MHRS			
		PROJECT WIDE				
		PROJECT WIDE		500.00	0021	01
		Item 914.5010 Total:		**500.00**		
002	914.5020	**FLAGPERSONS - OVERTIME**	MHRS			
		PROJECT WIDE				
		PROJECT WIDE		250.00	0021	01
		Item 914.5020 Total:		**250.00**		
003	922.0100	**TEMPORARY CONSTRUCTION SIGNS STANDARD 29.1.0 AND 27.1.1**	SF			
		STATEWIDE				
		STATEWIDE		200.00	0021	01
		Item 922.0100 Total:		**200.00**		
004	923.0200	**FLUORESCENT TRAFFIC CONES STANDARD 26.1.0**	EACH			
		STATEWIDE				
		STATEWIDE		500.00	0021	01
		Item 923.0200 Total:		**500.00**		
005	928.9901	**TRAFFIC CONTROL TRUCK WITH TRUCK MOUNTED ATTENUATOR AND CHANGEABLE MESSAGE SIGN**	PDAY			
		PROJECT WIDE				
		PROJECT WIDE		440.00	0021	01
		RIDOT PAVEMENT MARKING		100.00	0021	01
		INSPECTIONS (TESTING)				
		Item 928.9901 Total:		**540.00**		
006	931.9901	**CLEANING AND SWEEPING PAVEMENT FOR STATEWIDE STRIPING**	PDAY			

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Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
006	931.9901 Cont.	PROJECT WIDE				
		WHERE DIRECTED BY ENGINEER		40.00	0021	01

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006	931.9901 Cont.	**Item 931.9901 Total:**		**40.00**		
007	T20.2020	**EPOXY RESIN PAVEMENT ARROW - STRAIGHT, LEFT, RIGHT, OR COMBINED STANDARD 20.1.0**	**EACH**			
		PROJECT WIDE				
		PROJECT WIDE		319.00	0021	01
		Item T20.2020 Total:		**319.00**		
008	T20.2022	**EPOXY RESIN PAVEMENT MARKING WORD "ONLY" STANDARD 20.1.0**	**EACH**			
		PROJECT WIDE				
		PROJECT WIDE		186.00	0021	01
		Item T20.2022 Total:		**186.00**		
009	T20.9903	**6 INCH EPOXY RESIN PAVEMENT MARKINGS WHITE**	**HLF**			
		PROJECT WIDE				
		PROJECT WIDE		29,115.53	0021	01
		Item T20.9903 Total:		**29,115.53**		
010	T20.9904	**6 INCH EPOXY RESIN PAVEMENT MARKINGS YELLOW**	**HLF**			
		PROJECT WIDE				
		PROJECT WIDE		2,332.00	0021	01
		Item T20.9904 Total:		**2,332.00**		
011	T20.9905	**12 INCH EPOXY RESIN PAVEMENT MARKINGS WHITE**	**HLF**			
		PROJECT WIDE				
		PROJECT WIDE		499,772.00	0021	01
		Item T20.9905 Total:		**499,772.00**		

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Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
017	T20.9911 Cont.	ROUTE 114		2.00	0021	01
		RT 114		2.00	0021	01
		ROUTE 37				
		WESTBOUND		2.00	0021	01
		Item T20.9911 Total:		**6.00**		
018	T20.9912	**EPOXY RESIN PAVEMENT MARKING WORD "BUMP"**	**EACH**			
		I-295 NORTHBOUND				
		REST AREA		1.00	0021	01
		Item T20.9912 Total:		**1.00**		
019	T20.9913	**REMOVE EXISTING INLAID TAPE SKIP LINE PAVEMENT MARKINGS**	**HLF**			
		PROJECT WIDE				
		INTERSTATE 295 & RAMPS		660.00	0021	01
		U.S. ROUTE 6 & RAMPS		190.00	0021	01
		Item T20.9913 Total:		**850.00**		
020	T20.9914	**AS NEEDED STRIPING INSTALLATION AND REMOVAL WORK - FORCE ACCOUNT**	**EACH**			
		STATEWIDE				
		STATEWIDE		65,000.00	0021	01
		Item T20.9914 Total:		**65,000.00**		
021	T20.9915	**EPOXY RESIN PAVEMENT MARKING WORD "YIELD"**	**EACH**			
		HENDERSON BRIDGE				
		HENDERSON BRG		2.00	0021	01
		HENDERSON BRIDGE		1.00	0021	01
		ROUTE 10				
		ROUTE 10		1.00	0021	01
		ROUTE 114				

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Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
021	T20.9915 Cont.	ROUTE 114		1.00	0021	01
		Item T20.9915 Total:		**5.00**		

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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 BRG		1.00	0021	01
		HENDERSON BRIDGE		1.00	0021	01
		Item T20.9917 Total:		**2.00**		
023	T20.9918	**EPOXY RESIN PAVEMENT MARKING WORD SET "EXIT ONLY"**	**EACH**			
		HENDERSON BRIDGE				
		HENDERSON BRG		11.00	0021	01
		HENDERSON BRIDGE		1.00	0021	01
		Item T20.9918 Total:		**12.00**		
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	0021	01
		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"**	**HLF**			

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Item No.	Item Code	Description	UM	Qty.	Pay Code	Seq. No.
027	T20.9928 Cont.	YELLOW				
		STATEWIDE				

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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**		
029	T20.9934	**EPOXY RESIN PAVEMENT MARKINGS - "CURVE AHEAD"**	**EACH**			
		I-95 PAWTUCKET AND PROVIDENCE				
		S-CURVES, SMITHFIELD AVE		20.00	0021	01
		CURVE AND THURBERS AVE CURVE				
		Item T20.9934 Total:		**20.00**		
030	T20.9935	**ROUTE 6 AND I-195 SHIELD**	**EACH**			
		PROVIDENCE				
		I-95 @ EXIT 22A-B-C		4.00	0021	01
		I-95 N TO I-195 E		1.00	0021	01
		Item T20.9935 Total:		**5.00**		
031	T20.9936	**EPOXY RESIN PAVEMENT MARKING WORD "TO"**	**ACRE**			
		I-95 TO RT. 6				
		I-95 TO RT. 6		4.00	0021	01
		Item T20.9936 Total:		**4.00**		