

Updated 04/28/17

FEDERAL PROJECT

BIDDING INSTRUCTIONS

FOR ALL PROJECTS:

1. Use pen and ink to complete all paper Bids.
2. As a minimum, the following must be received prior to the time of Bid opening:

For a Paper Bid:

- a) a copy of the Notice to Contractors, b) the completed Acknowledgement of Bid Amendments form, c) the completed Schedule of Items, d) two copies of the completed and signed Contract Offer, Agreement & Award form, e) a Bid Guaranty, (if required), and f) any other certifications or Bid requirements listed in the Bid Documents as due by Bid opening.

For an Electronic Bid:

- a) a completed Bid using Expedite® software and submitted via the Bid Express™ web-based service, b) an electronic Bid Guaranty (if required) or a faxed copy of a Bid Bond (with original to be delivered within 72 hours), and c) any other Certifications or Bid requirements listed in the Bid Documents as due by Bid opening.
3. Include prices for all items in the Schedule of Items (excluding non-selected alternates).
 4. Bid Guaranty acceptable forms are:
 - a) a properly completed and signed Bid Bond on the Department's prescribed form (or on a form that does not contain any significant variations from the Department's form as determined by the Department) for 5% of the Bid Amount or
 - b) an Official Bank Check, Cashier's Check, Certified Check, U.S. Postal Money Order or Negotiable Certificate of Deposit in the amount stated in the Notice to Contractors or
 - c) an electronic bid bond submitted with an electronic bid.
 5. If a paper Bid is to be sent, "FedEx First Overnight" delivery is suggested as the package is delivered directly to the DOT Headquarters Building located at 16 Child Street in Augusta. Other means, such as U.S. Postal Service's Express Mail has proven not to be reliable.

IN ADDITION, FOR FEDERAL AID PROJECTS:

6. Complete the DBE Proposed Utilization form, and submit with your bid. If you are submitting your bid electronically, you must FAX the form to (207) 624-3431. This is a curable defect.

*If you need further information regarding Bid preparation, call the DOT
Contracts Section at (207) 624-3410.*

*For complete bidding requirements, refer to Section 102 of the Maine Department
of Transportation, Standard Specifications, November 2014 Edition.*

NOTICE

The Maine Department of Transportation is attempting to improve the way Bid Amendments/Addendums are handled, and allow for an electronic downloading of bid packages from our website, while continuing to maintain an optional plan holders list.

Prospective bidders, subcontractors or suppliers who wish to download a copy of the bid package and receive a courtesy notification of project specific bid amendments must fill out the on-line plan holder registration form and provide an email address to the MDOT Contracts mailbox at: MDOT.contracts@maine.gov. Each bid package will require a separate request.

Additionally, interested parties will be responsible for reviewing and retrieving the Bid Amendments from our web site, and acknowledging receipt and incorporating those Bid Amendments in their bids using the Acknowledgement of Bid Amendment Form.

The downloading of bid packages from the MDOT website is not the same as providing an electronic bid to the Department. Electronic bids must be submitted via <http://www.BIDX.com>. For information on electronic bidding contact Rebecca Snowden at rebecca.snowden@maine.gov or Diane Barnes at diane.barnes@maine.gov.

NOTICE

For security and other reasons, all Bid Packages which are mailed, shall be provided in double (one envelope inside the other) envelopes. The *Inner Envelope* shall have the following information provided on it:

Bid Enclosed - Do Not Open

PIN:

Town:

Date of Bid Opening:

Name of Contractor with mailing address and telephone number:

In Addition to the usual address information, the *Outer Envelope* should have written or typed on it:

Double Envelope: Bid Enclosed

PIN:

Town:

Date of Bid Opening:

Name of Contractor:

This should not be much of a change for those of you who use Federal Express or similar services.

Hand-carried Bids may be in one envelope as before, and should be marked with the following information:

Bid Enclosed: Do Not Open

PIN:

Town:

Name of Contractor:

October 16, 2001

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
Bid Guaranty-Bid Bond Form

KNOW ALL MEN BY THESE PRESENTS THAT _____

_____, of the City/Town of _____ and State of _____

as Principal, and _____ as Surety, a

Corporation duly organized under the laws of the State of _____ and having a usual place of

Business in _____ and hereby held and firmly bound unto the Treasurer of

the State of Maine in the sum of _____ for payment which Principal and Surety bind

themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

The condition of this obligation is that the Principal has submitted to the Maine Department of

Transportation, hereafter Department, a certain bid, attached hereto and incorporated as a

part herein, to enter into a written contract for the construction of _____

_____ and if the Department shall accept said bid

and the Principal shall execute and deliver a contract in the form attached hereto (properly

completed in accordance with said bid) and shall furnish bonds for this faithful performance of

said contract, and for the payment of all persons performing labor or furnishing material in

connection therewith, and shall in all other respects perform the agreement created by the

acceptance of said bid, then this obligation shall be null and void; otherwise it shall remain in full

force, and effect.

Signed and sealed this _____ day of _____ 20____

WITNESS:

WITNESS

PRINCIPAL:

By _____

By: _____

By: _____

SURETY:

By _____

By: _____

Name of Local Agency: _____

NOTICE

Bidders:

Please use the attached “Request for Information” form when submitting questions concerning specific Contracts that have been advertised for Bid, include additional numbered pages as required. RFI’s may be faxed to 207-624-3431, submitted electronically through the Departments web page of advertised projects by selecting the RFI tab on the project details page or via e-mail to RFI-Contracts.MDOT@maine.gov.

These are the only allowable mechanisms for answering Project specific questions. Maine DOT will not be bound to any answers to Project specific questions received during the Bidding phase through other processes.

When submitting RFIs by Email please follow the same guidelines as stated on the “Request for Information” form and include the word “RFI” along with the Project name and Identification number in the subject line.

RFI No:

Date _____ Time _____

WIN(S): _____ **Town(s):** _____ **Bid Date:** _____

Question(s): _____

Company Name:_____ **Phone:()**_____

Email: _____ **Fax:** (____) _____

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NOTICE

Disadvantaged Business Enterprise Proposed Utilization

The Apparent Low Bidder shall submit the Disadvantaged Business Enterprise Proposed Utilization form with their bid. This is a curable bid defect.

The Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan form contains additional information that is required by USDOT.

The Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan form should be used.

A copy of the new Contractor's Disadvantaged Business Enterprise Proposed Utilization Plan and instructions for completing it are attached.

Note: Questions about DBE firms, or to obtain a printed copy of the DBE Directory, contact The Office of Civil Rights at (207) 624-3066.

MDOTs DBE Directory of Certified firms can also be obtained at <http://www.maine.gov/mdot/civilrights/dbe.htm>

INSTRUCTIONS FOR PREPARING THE MaineDOT CONTRACTOR'S DBE/SUBCONTRACTOR UTILIZATION FORM

The Contractor Shall Extend equal opportunity to MaineDOT certified DBE firms (as listed in MaineDOT's DBE Directory of Certified Businesses) in the selection and utilization of Subcontractors and Suppliers.

SPECIFIC INSTRUCTIONS FOR COMPLETING THE FORM:

Insert Contractor name, the name of the person(s) preparing the form, and that person(s) telephone, fax number and e-mail address.

Calculate and provide percentage of your bid that will be allocated to DBE firms, Federal Project Identification Number, and location of the Project work.

In the columns, name each subcontractor, DBE and non-DBE firm to be used, provide the Unit/Item cost of the work/product to be provided by the subcontractor, give a brief description and the dollar value of the work.

Revised 1/12

FHWA DBE GOAL NOTICE FFY 2016-18
Maine Department of Transportation
Disadvantaged Business Enterprise Program

Notice is hereby given that in accordance with US DOT regulation 49 CFR Part 26, the Maine Department of Transportation has established a DBE Program for disadvantaged business participation in the federal-aid highway and bridge construction program; MaineDOT contracts covered by the program include consulting, construction, supplies, manufacturing, and service contracts.

For FFY 2016-18 (October 1, 2015 through September 30, 2018) MaineDOT has established an annual DBE participation goal of **2.0%** to be achieved through race/gender neutral means. This goal has been approved by the Federal Highway Administration and remains in effect through September 30, 2018. Maine DOT must meet this goal each federal fiscal year. If the goal is not met, MaineDOT must provide a justification for not meeting the goal and provide a plan to ensure the goal is met, which may include contract goals on certain projects that contractors will be required to meet.

MaineDOT asks all contractors, consultants and subcontractors to seek certified DBE firms for projects and to work to meet the determined 2.0% goal without the need to impose contract goals. DBE firms are listed on the MaineDOT website at:

<http://www.maine.gov/mdot/civilrights/dbe/>

Interested parties may view MaineDOT's DBE goal setting methodology also posted on this website. If you have questions regarding this goal or the DBE program you may contact Sherry Tompkins at the Maine Department of Transportation, Civil Rights Office by telephone at (207) 624-3066 or by e-mail at: sherry.tompkins@maine.gov

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**MaineDOT CONTRACTOR'S DBE/SUBCONTRACTOR
PROPOSED UTILIZATION FORM**

All Bidders must furnish this form with their bid on Bid Opening day

Contractor: _____ **Telephone:** _____ **Ext** _____

Contact Person: _____ **Fax:** _____

E-mail: _____

BID DATE: _____

FEDERAL PROJECT PIN # _____ **PROJECT LOCATION:** _____

TOTAL ANTICIPATED DBE ____ % PARTICIPATION FOR THIS CONTRACT

W B E	D B E	Non DBE	Firm Name	Item Number & Description of Work	Quantity	Cost Per Unit/Item	Anticipated \$ Value
Subcontractor Total>							
DBE Total >							

**NOTE: THIS INFORMATION IS USED TO TRACK AND REPORT ANTICIPATED DBE PARTICIPATION IN ALL
FEDERALLY FUNDED MAINE DOT CONTRACTS. THE ANTICIPATED DBE AMOUNT IS VOLUNTARY AND WILL
NOT BECOME A PART OF THE CONTRACTUAL TERMS.**

Equal Opportunity Use:

Form received: ____/____/____ Verified by: _____

FHWA ☐

FTA ☐

FAA ☐

**For a complete list of certified firms and company designation (WBE/DBE) go to
<http://www.maine.gov/mdot>**

Rev. 05/13

Maine Department of Transportation Civil Rights Office

Directory of Certified Disadvantaged Business Enterprises

Listing can be found at:

<http://www.maine.gov/mdot/civilrights/dbe.htm>

For additional information and guidance contact:

Civil Rights Office at (207) 624-3066

It is the responsibility of the Contractor to access the DBE Directory at this site in order to have the most current listing.

Vendor Registration

Prospective Bidders must register as a vendor with the Department of Administrative & Financial Services if the vendor is awarded a contract. Vendors will not be able to receive payment without first being registered. Vendors/Contractors will find information and register through the following link –

<http://www.maine.gov/purchases/venbid/index.shtml>

STATE OF MAINE DEPARTMENT OF TRANSPORTATION NOTICE TO CONTRACTORS

Sealed Bids addressed to the Maine Department of Transportation, Augusta, Maine 04333 and endorsed on the wrapper "Bids for Interstate 95 - Piscataqua River Bridge Wearing Surface Replacement in the town of KITTERY and the New Hampshire city of PORTSMOUTH" will be received from contractors at the Reception Desk, Maine DOT Building, Capitol Street, Augusta, Maine, until 11:00 o'clock A.M. (prevailing time) on December 19, 2018 and at that time and place publicly opened and read. Bids will be accepted from all bidders. The lowest responsive bidder must demonstrate qualifications in accordance with the requirements included in this contract. We now accept electronic bids for those bid packages posted on the bidx.com website. Electronic bids do not have to be accompanied by paper bids. Please note: the Department will accept a facsimile of the bid bond; however, the original bid bond must then be received at the MDOT Contract Section within 72 hours of the bid opening. Until further notice, dual bids (one paper, one electronic) will be accepted, with the paper copy taking precedence.

Description: Maine Federal Aid Project No. AC-IM-1927(000)E, WIN 019270.00

Location: In York County Maine and Rockingham County New Hampshire, Project is Located on Interstate 95 state line over the Piscataqua River.

Scope of Work: Piscataqua River Bridge wearing surface replacement plus other incidental work.

The basis of award will be Section 1 combined with chosen Alternate 1 (Section 2), or Section 1 combined with chosen Alternate 2 (Section 3).

There will be a mandatory pre-bid meeting at 1:00 P.M. on Wednesday, December 5, 2018 in the Kittery Council Chambers.

For general information regarding Bidding and Contracting procedures, contact George Macdougall at (207) 624-3410. Our webpage at <http://www.maine.gov/mdot/contractors/> contains a copy of the Schedule of Items, Plan Holders List, written portions of bid amendments, drawings, bid results and an electronic form for RFI submittal. For Project-specific information fax all questions to **Project Manager Leanne Timberlake** at (207) 624-3431, use electronic RFI form or email questions to RFI-Contracts.MDOT@maine.gov, project name and identification number should be in the subject line. Questions received after 12:00 noon of Monday (or if that Monday is a state holiday, Friday) prior to bid date will not be answered. Bidders shall not contact any other Departmental staff for clarification of Contract provisions, and the Department will not be responsible for any interpretations so obtained. TTY users call Maine Relay 711.

Plans, specifications and bid forms may be seen at the Maine DOT Building in Augusta, Maine and at the Department of Transportation's Regional Office in Scarborough. They may be purchased from the Department between the hours of 8:00 a.m. to 4:30 p.m. by cash, credit card (Visa/Mastercard) or check payable to Treasurer, State of Maine sent to Maine Department of Transportation, Attn.: Mailroom, 16 State House Station, Augusta, Maine 04333-0016. They also may be purchased by telephone at (207) 624-3536 between the hours of 8:00 a.m. to 4:30 p.m. Full size plans \$230.00 (\$242.00 by mail). Half size plans \$115.00 (\$120.00 by mail), Bid Book \$10 (\$13 by mail), Single Sheets \$2, payment in advance, all non-refundable.

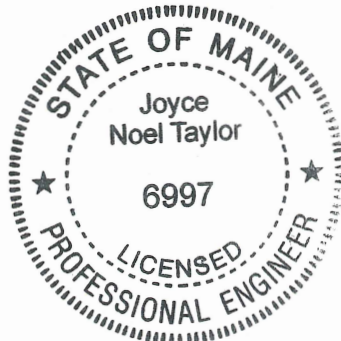
Each Bid must be made upon blank forms provided by the Department and must be accompanied by a bid bond at 5% of the bid amount or an official bank check, cashier's check, certified check, certificate of deposit, or United States postal money order in the amount of \$1,100,000.00 payable to Treasurer, State of Maine as a Bid guarantee. A Contract Performance Surety Bond and a Contract Payment Surety Bond, each in the amount of 100 percent of the Contract price, will be required of the successful Bidder.

This Contract is subject to all applicable Federal Laws. This contract is subject to compliance with the Disadvantaged Business Enterprise program requirements as set forth by the Maine Department of Transportation.

All work shall be governed by "State of Maine, Department of Transportation, Standard Specifications, November 2014 Edition", price \$10 [\$15 by mail], and Standard Details, November 2014 Edition, price \$10 [\$15 by mail]. They also may be purchased by telephone at (207) 624-3536 between the hours of 8:00 a.m. to 4:30 p.m. Standard Detail updates can be found at <http://www.maine.gov/mdot/contractors/publications/>.

The right is hereby reserved to the Maine DOT to reject any or all bids.

Augusta, Maine
November 21, 2018



JOYCE NOEL TAYLOR P.E.
CHIEF ENGINEER

SPECIAL PROVISION 102.7.3
ACKNOWLEDGMENT OF BID AMENDMENTS

With this form, the Bidder acknowledges its responsibility to check for all Amendments to the Bid Package. For each Project under Advertisement, Amendments are located at <http://www.maine.gov/mdot/contractors/> . It is the responsibility of the Bidder to determine if there are Amendments to the Project, to download them, to incorporate them into their Bid Package, and to reference the Amendment number and the date on the form below. The Maine DOT will not post Bid Amendments any later than noon the day before Bid opening without individually notifying all the planholders.

Amendment Number	Date

The Contractor, for itself, its successors and assigns, hereby acknowledges that it has received all of the above referenced Amendments to the Bid Package.

CONTRACTOR

Date

Signature of authorized representative

(Name and Title Printed)

11/20/2018

Maine Department of Transportation

Proposal Schedule of Items

Page 1 of 12

Proposal ID: 019270.00

Project(s): 019270.00

SECTION: 1

NEW HAMPSHIRE APPROACH ROADWAY

Alt Set ID:

Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0010	202.12 REMOVING EXISTING STRUCTURAL CONCRETE	2,540.000 CY	_____	 _____	_____	 _____
0020	202.1211 CONCRETE HAUNCH REMOVAL	32,200.000 LF	_____	 _____	_____	 _____
0030	202.127 REMOVE EXISTING BITUMINOUS PAVEMENT	LUMP SUM	LUMP SUM		_____	 _____
0040	202.1294 REMOVAL OF BRIDGE DRAINAGE SYSTEM	LUMP SUM	LUMP SUM		_____	 _____
0050	202.1295 HYDRO DEMOLITION, PROPERTY OF CONTRACTOR	LUMP SUM	LUMP SUM		_____	 _____
0060	202.13 REMOVING EXISTING RAILINGS (RETAINED BY DEPARTMENT)	7,260.000 LF	_____	 _____	_____	 _____
0070	202.202 REMOVING PAVEMENT SURFACE	76,250.000 SY	_____	 _____	_____	 _____
0080	202.203 PAVEMENT BUTT JOINTS	7,305.000 SY	_____	 _____	_____	 _____
0090	202.205 RUMBLE STRIPS - SHOULDER	16,600.000 LF	_____	 _____	_____	 _____
0100	202.207 RUMBLE STRIPS, FILL	850.000 LF	_____	 _____	_____	 _____
0110	203.20 COMMON EXCAVATION	3,160.000 CY	_____	 _____	_____	 _____
0120	203.24 COMMON BORROW	670.000 CY	_____	 _____	_____	 _____

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Maine Department of Transportation

Proposal Schedule of Items

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Proposal ID: 019270.00

Project(s): 019270.00

SECTION: 1

NEW HAMPSHIRE APPROACH ROADWAY

Alt Set ID:

Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0130	203.25 GRANULAR BORROW	1,150.000 CY				
0140	205.41 RECONSTRUCTION OF EXISTING SHOULDER PLAN QUANTITY	7,000.000 SY				
0150	205.51 WIDENING OF EXISTING SHOULDER - PLAN QUANTITY	3,100.000 SY				
0160	304.10 AGGREGATE SUBBASE COURSE - GRAVEL	380.000 CY				
0170	304.14 AGGREGATE BASE COURSE - TYPE A	260.000 CY				
0180	403.2081 12.5 MM POLYMER MODIFIED HOT MIX ASPHALT	6,000.000 T				
0190	403.2101 9.5 MM POLYMER MODIFIED HMA	5,150.000 T				
0200	403.211 HOT MIX ASPHALT (SHIMMING)	1,500.000 T				
0210	403.213 HOT MIX ASPHALT 12.5 MM BASE	4,050.000 T				
0220	403.2131 12.5 MM POLYMER MODIFIED HMA BASE	8,850.000 T				
0230	409.15 BITUMINOUS TACK COAT - APPLIED	7,850.000 G				
0240	461.131 TEMPORARY PAVEMENT	56.000 T				

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Maine Department of Transportation

Proposal Schedule of Items

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Proposal ID: 019270.00

Project(s): 019270.00

SECTION: 1

NEW HAMPSHIRE APPROACH ROADWAY

Alt Set ID:

Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0250	502.26 STRUCTURAL CONCRETE ROADWAY AND SIDEWALK SLABS ON STEEL BRIDGES	LUMP SUM	LUMP	SUM	_____	_____
0260	502.705 COMPOSITE BRIDGE DRAIN	LUMP SUM	LUMP	SUM	_____	_____
0270	503.12 REINFORCING STEEL, FABRICATED AND DELIVERED	636,000.000 LB	_____	_____	_____	_____
0280	503.13 REINFORCING STEEL, PLACING	636,000.000 LB	_____	_____	_____	_____
0290	504.709 BRIDGE HARDWARE TRUSS SCREEN PANEL	LUMP SUM	LUMP	SUM	_____	_____
0300	504.811 STRUCTURAL STEEL REPAIR	1,900.000 LB	_____	_____	_____	_____
0310	514.06 CURING BOX FOR CONCRETE CYLINDERS	1.000 EA	_____	_____	_____	_____
0320	515.21 PROTECTIVE COATING FOR CONCRETE SURFACES	LUMP SUM	LUMP	SUM	_____	_____
0330	518.51 REPAIR OF UPWARD FACING SURFACES - BELOW REINFORCING STEEL < 8 IN.	20,400.000 SF	_____	_____	_____	_____
0340	518.52 REPAIR OF UPWARD FACING SURFACES >= 8 IN.	11.000 CY	_____	_____	_____	_____
0350	518.60 REPAIR OF VERTICAL SURFACES < 8 IN.	1,450.000 SF	_____	_____	_____	_____

Maine Department of Transportation

Proposal Schedule of Items

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Proposal ID: 019270.00

Project(s): 019270.00

SECTION: 1

NEW HAMPSHIRE APPROACH ROADWAY

Alt Set ID:

Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0360	518.70 REPAIR OF OVERHEAD SURFACES < 8 IN.	770.000 SF				
0370	520.2321 ASPHALTIC CRACK CONTROL JOINT	LUMP SUM		LUMP SUM		
0380	520.245 BRIDGE JOINT MODIFICATION TYPE 5	36.000 EA				
0390	520.261 LONGITUDINAL JOINT SEAL	3,200.000 LF				
0400	521.32 FABRIC TROUGH FOR FINGER JOINT Approach Piers	4.000 EA				
0410	521.32 FABRIC TROUGH FOR FINGER JOINT Approach Spans	18.000 EA				
0420	524.40 PROTECTIVE SHIELD	LUMP SUM		LUMP SUM		
0430	526.301 TEMPORARY CONCRETE BARRIER TYPE I	LUMP SUM		LUMP SUM		
0440	526.307 MOVABLE TEMPORARY CONCRETE BARRIER SYSTEM	LUMP SUM		LUMP SUM		
0450	526.312 PERMANENT CONCRETE BARRIER TYPE II	LUMP SUM		LUMP SUM		
0460	526.331 PERMANENT CONCRETE BARRIER TYPE III B	LUMP SUM		LUMP SUM		

Maine Department of Transportation

Proposal Schedule of Items

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Proposal ID: 019270.00

Project(s): 019270.00

SECTION: 1

NEW HAMPSHIRE APPROACH ROADWAY

Alt Set ID:

Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0470	526.36 MEDIAN BARRIER FIXED OBJECT PROTECTION	165.000 LF	_____	_____	_____	_____
0480	526.50 PRECAST CONCRETE BARRIER MEDIAN	4,440.000 LF	_____	_____	_____	_____
0490	527.33 TRUCK MOUNTED ATTENUATOR	2.000 EA	_____	_____	_____	_____
0500	527.341 WORK ZONE CRASH CUSHIONS, TL-3	3.000 UN	_____	_____	_____	_____
0510	530.25 FIBERGLASS REINFORCED POLYMER GRATING	900.000 SF	_____	_____	_____	_____
0520	603.159 12 INCH CULVERT PIPE OPTION III	63.000 LF	_____	_____	_____	_____
0530	604.09 CATCH BASIN TYPE B1	2.000 EA	_____	_____	_____	_____
0540	604.161 ALTERING CATCH BASIN	5.000 EA	_____	_____	_____	_____
0550	604.164 REBUILDING CATCH BASIN	3.000 EA	_____	_____	_____	_____
0560	604.18 ADJUSTING MANHOLE OR CATCH BASIN TO GRADE	9.000 EA	_____	_____	_____	_____
0570	604.26 CATCH BASIN TYPE B5	10.000 EA	_____	_____	_____	_____
0580	605.105 8" UNDERDRAIN OUTLET	13.000 LF	_____	_____	_____	_____

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 019270.00

Project(s): 019270.00

SECTION: 1

NEW HAMPSHIRE APPROACH ROADWAY

Alt Set ID:

Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0590	606.1301 31" W-BM GR, MID-WAY SPLICE-SGL FACED	3,530.000 LF	_____	_____	_____	_____
0600	606.1305 31" W-BM GR, MID-WAY SPLICE FLARED TERMINAL	3.000 EA	_____	_____	_____	_____
0610	606.1723 BRIDGE TRANSITION - TYPE-2 - COLORCOATED	4.000 EA	_____	_____	_____	_____
0620	606.1724 GUARDRAIL TRANSITION - TYPE 3	1.000 EA	_____	_____	_____	_____
0630	606.277 TERMINAL END - ANCHORED END	2.000 EA	_____	_____	_____	_____
0640	606.352 REFLECTORIZED BEAM GUARDRAIL DELINEATORS	100.000 EA	_____	_____	_____	_____
0650	606.353 REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	8.000 EA	_____	_____	_____	_____
0660	606.356 UNDERDRAIN DELINEATOR POST	2.000 EA	_____	_____	_____	_____
0670	606.362 GUARDRAIL ADJUSTED	1,970.000 LF	_____	_____	_____	_____
0680	606.363 GUARDRAIL REMOVE AND DISPOSE	8,700.000 LF	_____	_____	_____	_____
0690	606.569 REMOVE, MODIFY AND RESET - DOUBLE RAIL	65.000 LF	_____	_____	_____	_____
0700	607.17 CHAIN LINK FENCE - 6 FOOT	700.000 LF	_____	_____	_____	_____

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Proposal ID: 019270.00

Project(s): 019270.00

SECTION: 1

NEW HAMPSHIRE APPROACH ROADWAY

Alt Set ID:

Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0710	608.07 PLAIN CONCRETE SIDEWALK	220.000 SY	_____	 _____	_____	 _____
0720	609.312 SPECIAL CURB TYPE 2	90.000 LF	_____	 _____	_____	 _____
0730	610.08 PLAIN RIPRAP	1,505.000 CY	_____	 _____	_____	 _____
0740	615.07 LOAM	630.000 CY	_____	 _____	_____	 _____
0750	618.14 SEEDING METHOD NUMBER 2	51.000 UN	_____	 _____	_____	 _____
0760	620.58 EROSION CONTROL GEOTEXTILE	420.000 SY	_____	 _____	_____	 _____
0770	620.622 CELLULAR CONFINEMENT SYSTEM	610.000 SY	_____	 _____	_____	 _____
0780	626.222 FRP CONDUIT	14,500.000 LF	_____	 _____	_____	 _____
0790	627.18 12 " SOLID WHITE PAVEMENT MARKING	3,550.000 LF	_____	 _____	_____	 _____
0800	627.1801 12" SOLID WHITE RETROFLECTIVE THERMOPLASTIC PAVE MARK	690.000 LF	_____	 _____	_____	 _____
0810	627.51 6" TEMPORARY PAVEMENT TAPE, YELLOW OR WHITE	6,500.000 LF	_____	 _____	_____	 _____
0820	627.57 12" REMOVABLE BLACK LINE MASKING TAPE	1,350.000 LF	_____	 _____	_____	 _____

Maine Department of Transportation

Proposal Schedule of Items

Page 8 of 12

Proposal ID: 019270.00

Project(s): 019270.00

SECTION: 1

NEW HAMPSHIRE APPROACH ROADWAY

Alt Set ID:

Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0830	627.744 6" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	83,100.000 LF	_____	 _____	_____	 _____
0840	627.7441 6" WHITE RETROFLECTIVE THERMOPLASTIC PAVEMENT MARKING	5,650.000 LF	_____	 _____	_____	 _____
0850	627.77 REMOVING PAVEMENT MARKINGS	130,000.000 SF	_____	 _____	_____	 _____
0860	627.781 TEMPORARY 6 INCH PAINTED PAVEMENT MARKING LINE, WHITE OR YELLOW	400,000.000 LF	_____	 _____	_____	 _____
0870	627.812 TEMP. BI-DIRECTIONAL WHITE DELINEATORS	36,200.000 EA	_____	 _____	_____	 _____
0880	627.94 PREFORMED THERMOPLASTIC PAVEMENT MARKING	805.000 SF	_____	 _____	_____	 _____
0890	627.941 PREFORMED THERMOPLASTIC PAVEMENT MARKING	385.000 SF	_____	 _____	_____	 _____
0900	629.05 HAND LABOR, STRAIGHT TIME	80.000 HR	_____	 _____	_____	 _____
0910	631.10 AIR COMPRESSOR (INCLUDING OPERATOR)	10.000 HR	_____	 _____	_____	 _____
0920	631.11 AIR TOOL (INCLUDING OPERATOR)	10.000 HR	_____	 _____	_____	 _____
0930	631.12 ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	30.000 HR	_____	 _____	_____	 _____

Maine Department of Transportation

Proposal Schedule of Items

Page 9 of 12

Proposal ID: 019270.00

Project(s): 019270.00

SECTION: 1

NEW HAMPSHIRE APPROACH ROADWAY

Alt Set ID:

Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0940	631.172 TRUCK - LARGE (INCLUDING OPERATOR)	5.000 HR				
0950	634.160 HIGHWAY LIGHTING	LUMP SUM		LUMP SUM		
0960	634.210 CONVENTIONAL LIGHT STANDARD	36.000 EA				
0970	639.18 FIELD OFFICE TYPE A	1.000 EA				
0980	643.71 TRAFFIC SIGNAL MODIFICATION I95 NB/ MARKET ST	LUMP SUM		LUMP SUM		
0990	643.71 TRAFFIC SIGNAL MODIFICATION I95 SB/ MARKET ST	LUMP SUM		LUMP SUM		
1000	643.71 TRAFFIC SIGNAL MODIFICATION RT 1 BYPASS/ ALBACORE	LUMP SUM		LUMP SUM		
1010	643.871 WEIGH-IN-MOTION SYSTEM	LUMP SUM		LUMP SUM		
1020	645.103 DEMOUNT GUIDE SIGN	1.000 EA				
1030	645.106 DEMOUNT REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGN	3.000 EA				
1040	645.113 REINSTALL GUIDE SIGN	1.000 EA				

Maine Department of Transportation

Proposal Schedule of Items

Page 10 of 12

Proposal ID: 019270.00

Project(s): 019270.00

SECTION: 1

NEW HAMPSHIRE APPROACH ROADWAY

Alt Set ID:

Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
1050	645.116 REINSTALL REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGN	3.000 EA	_____	 _____	_____	 _____
1060	645.521 HYBRID TRAVEL TIME SIGN INTEGRATION	LUMP SUM	_____	 LUMP SUM	_____	 _____
1070	645.523 TRAVEL TIME DATA	LUMP SUM	_____	 LUMP SUM	_____	 _____
1080	652.30 FLASHING ARROW BOARD	4.000 EA	_____	 _____	_____	 _____
1090	652.312 TYPE III BARRICADE	20.000 EA	_____	 _____	_____	 _____
1100	652.33 DRUM	600.000 EA	_____	 _____	_____	 _____
1110	652.34 CONE	100.000 EA	_____	 _____	_____	 _____
1120	652.35 CONSTRUCTION SIGNS	3,000.000 SF	_____	 _____	_____	 _____
1130	652.361 MAINTENANCE OF TRAFFIC CONTROL DEVICES	LUMP SUM	_____	 LUMP SUM	_____	 _____
1140	652.38 FLAGGER	3,000.000 HR	_____	 _____	_____	 _____
1150	652.381 TRAFFIC OFFICER	640.000 HR	_____	 _____	_____	 _____
1160	652.382 TRAFFIC MONITOR	915.000 CD	_____	 _____	_____	 _____

11/20/2018

Maine Department of Transportation

Proposal Schedule of Items

Page 11 of 12

Proposal ID: 019270.00

Project(s): 019270.00

SECTION: 1

NEW HAMPSHIRE APPROACH ROADWAY

Alt Set ID:

Alt Mbr ID:

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
1170	652.41 PORTABLE CHANGEABLE MESSAGE SIGN	26.000 EA	_____	 _____	_____	 _____
1180	652.451 AUTOMATED TRAILER MOUNTED SPEED LIMIT SIGN	200.000 CD	_____	 _____	_____	 _____
1190	655.511 EMBEDDED GALVANIC ANODE (FROM MANUFACTURER)	16,160.000 EA	_____	 _____	_____	 _____
1200	655.513 EMBEDDED CATHODIC PROTECTION SYSTEM	LUMP SUM	LUMP SUM		_____	 _____
1210	656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LUMP SUM	LUMP SUM		_____	 _____
1220	659.10 MOBILIZATION	LUMP SUM	LUMP SUM		_____	 _____
Section: 1			Total:		_____	 _____

11/20/2018

Maine Department of Transportation

Proposal Schedule of Items

Page 12 of 12

Proposal ID: 019270.00

Project(s): 019270.00

SECTION: 2

NH APPR SPANS HP MEMBRANE TORCH APPL

Alt Set ID: AL

Alt Mbr ID: 1

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
1230	508.1401 HIGH PERFORMANCE WATERPROOFING MEMBRANE, TORCH APPLIED	LUMP SUM		LUMP SUM	_____	_____
Section: 2			Total:		_____	_____

SECTION: 3

NH APPR SPANS HP MEMBRANE SPRAY APPL

Alt Set ID: AL

Alt Mbr ID: 2

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
1240	508.1402 HIGH PERFORMANCE WATERPROOFING MEMBRANE, SPRAY APPLIED	LUMP SUM		LUMP SUM	_____	_____
Section: 3			Total:		_____	_____
			Total Bid:		_____	_____

CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and

_____ a corporation or other legal entity organized under the laws of the State of _____, with its principal place of business located at _____

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, WIN **019270.00**, for the **Piscataqua River Bridge Wearing Surface Replacement** in the town of **Kittery**, County of **York**, Maine and in the city **Portsmouth**, County of **Rockingham**, New Hampshire. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work including construction quality control including inspection, testing and documentation, all required documentation at the conclusion of the project, warranting its work and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before **May 20, 2022**. Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, November 2014 Edition and related Special Provisions.

C. Price.

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is

Section 1 \$ _____

Section 2 \$ _____

Section 3 \$ _____

Performance Bond and Payment Bond each being 100% of the amount awarded under this Contract (see award amount in Section G below).

D. Contract.

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, Standard Specifications, November 2014 Edition, Standard Details November 2014 Edition as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the Standard Specifications November 2014 Edition (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, Standard Specifications November 2014 Edition, Standard Details November 2014 Edition as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of: **WIN 019270.00, Piscataqua River Bridge Wearing Surface Replacement plus other incidental work**, State of Maine, on which bids will be received until the time specified in the “Notice to Contractors” do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached “Schedule of Items”.

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached “Schedule of Items” in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work, not covered by the attached “Schedule of Items”, which may be ordered by the Resident, and to accept as full compensation the amount determined upon a “Force Account” basis as provided in the Standard Specifications, November 2014 Edition, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier’s check, certificate of deposit or U. S. Postal Money Order in the amount given in the “Notice to Contractors”, payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work as stated in Section 107.2 of the Standard Specifications November 2014 Edition and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor’s Disadvantaged Business Enterprise Utilization Plan with their bid.

Fifth: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in

any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

CONTRACTOR

Date

(Signature of Legally Authorized Representative
of the Contractor)

Witness

(Name and Title Printed)

G. Award.

Your offer is hereby accepted for (see checked boxes):

Section 1 ☐

Section 2 ☐

Section 3 ☐

Contract Amount: _____

This award consummates the Contract, and the documents referenced herein.

MAINE DEPARTMENT OF TRANSPORTATION

Date

By: David Bernhardt, Commissioner

Witness

CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and

_____ a corporation or other legal entity organized under the laws of the State of _____, with its principal place of business located at _____

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, WIN **019270.00**, for the **Piscataqua River Bridge Wearing Surface Replacement** in the town of **Kittery**, County of **York**, Maine and in the city **Portsmouth**, County of **Rockingham**, New Hampshire. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work including construction quality control including inspection, testing and documentation, all required documentation at the conclusion of the project, warranting its work and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before **May 20, 2022**. Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, November 2014 Edition and related Special Provisions.

C. Price.

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is

Section 1 \$ _____

Section 2 \$ _____

Section 3 \$ _____

Performance Bond and Payment Bond each being 100% of the amount awarded under this Contract (see award amount in Section G below).

D. Contract.

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, Standard Specifications, November 2014 Edition, Standard Details November 2014 Edition as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the Standard Specifications November 2014 Edition (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, Standard Specifications November 2014 Edition, Standard Details November 2014 Edition as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of: **WIN 019270.00, Piscataqua River Bridge Wearing Surface Replacement plus other incidental work**, State of Maine, on which bids will be received until the time specified in the “Notice to Contractors” do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached “Schedule of Items”.

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached “Schedule of Items” in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work, not covered by the attached “Schedule of Items”, which may be ordered by the Resident, and to accept as full compensation the amount determined upon a “Force Account” basis as provided in the Standard Specifications, November 2014 Edition, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier’s check, certificate of deposit or U. S. Postal Money Order in the amount given in the “Notice to Contractors”, payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work as stated in Section 107.2 of the Standard Specifications November 2014 Edition and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor’s Disadvantaged Business Enterprise Utilization Plan with their bid.

Fifth: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in

any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

CONTRACTOR

Date

(Signature of Legally Authorized Representative
of the Contractor)

Witness

(Name and Title Printed)

G. Award.

Your offer is hereby accepted for (see checked boxes):

Section 1 ☐

Section 2 ☐

Section 3 ☐

Contract Amount: _____

This award consummates the Contract, and the documents referenced herein.

MAINE DEPARTMENT OF TRANSPORTATION

Date

By: David Bernhardt, Commissioner

Witness

CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and

(Name of the firm bidding the job)

a corporation or other legal entity organized under the laws of the State of Maine, with its principal place of business located at **(address of the firm bidding the job)**

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, PIN No. **1224.00**, for the **Hot Mix Asphalt Overlay** in the town/city of **South Nowhere**, County of **Washington**, Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work including construction quality control including inspection, testing and documentation, all required documentation at the conclusion of the project, warranting its work and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before **November 15, 2006**. Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, November 2014 Edition and related Special Provisions.

C. Price.

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is (Place bid here in alphabetical form such as One Hundred and Two dollars and 10 cents)
\$ (repeat bid here in numerical terms, such as \$102.10) Performance Bond and Payment Bond each being 100% of the amount of this Contract.

D. Contract.

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, Standard Specifications, November 2014 Edition, Standard Details November 2014 Edition, Supplemental Specifications, Special Provisions, Contract Agreement, and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the Standard Specifications November 2014 Edition (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, Standard Specifications, November 2014 Edition, Standard Details November 2014 Edition, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of:

PIN 1234.00 South Nowhere, Hot Mix Asphalt Overlay

State of Maine, on which bids will be received until the time specified in the "Notice to Contractors" do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached "Schedule of Items".

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached "Schedule of Items" in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work, not covered by the attached "Schedule of Items", which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the Standard Specifications, November 2014 Edition, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier's check, certificate of deposit or U. S. Postal Money Order in the amount given in the "Notice to Contractors", payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work as stated in Section 107.2 of the Standard Specifications November 2014 Edition and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor's Disadvantaged Business Enterprise Utilization Plan with their bid.

Fifth: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

Date

(Witness Sign Here)
Witness

CONTRACTOR

(Sign Here)
(Signature of Legally Authorized Representative of the Contractor)

(Print Name Here)
(Name and Title Printed)

G. Award.

Your offer is hereby accepted.
documents referenced herein.

This award consummates the Contract, and the

MAINE DEPARTMENT OF TRANSPORTATION

Date

By: David Bernhardt, Commissioner

(Witness)

BOND # _____

CONTRACT PERFORMANCE BOND
(Surety Company Form)

KNOW ALL MEN BY THESE PRESENTS: That _____
_____ **in the State of** _____, as principal,
and.....,
a corporation duly organized under the laws of the State of and having a
usual place of business
as Surety, are held and firmly bound unto the Treasurer of the State of Maine in the sum
of _____ **and 00/100 Dollars (\$** _____ **)**,
to be paid said Treasurer of the State of Maine or his successors in office, for which
payment well and truly to be made, Principal and Surety bind themselves, their heirs,
executors and administrators, successors and assigns, jointly and severally by these
presents.

The condition of this obligation is such that if the Principal designated as Contractor in
the Contract to construct Project Number _____ in the Municipality of
_____ promptly and faithfully performs the Contract, then this
obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the State
of Maine.

Signed and sealed this day of, 20.... .

WITNESSES:

Signature.....
Print Name Legibly

Signature
Print Name Legibly

SURETY ADDRESS:

.....
.....
.....

TELEPHONE.....

SIGNATURES:

CONTRACTOR:

.....
Print Name Legibly

SURETY:

.....
Print Name Legibly

NAME OF LOCAL AGENCY:

ADDRESS
.....
.....

BOND # _____

CONTRACT PAYMENT BOND
(Surety Company Form)

KNOW ALL MEN BY THESE PRESENTS: That _____
_____ **in the State of** _____, as principal,
and.....
a corporation duly organized under the laws of the State of and having a
usual place of business in
as Surety, are held and firmly bound unto the Treasurer of the State of Maine for the use
and benefit of claimants as herein below defined, in the sum of
_____ **and 00/100 Dollars (\$** _____ **)**
for the payment whereof Principal and Surety bind themselves, their heirs, executors and
administrators, successors and assigns, jointly and severally by these presents.

The condition of this obligation is such that if the Principal designated as Contractor in
the Contract to construct Project Number _____ in the Municipality of
_____ promptly satisfies all claims and demands incurred for all
labor and material, used or required by him in connection with the work contemplated by
said Contract, and fully reimburses the obligee for all outlay and expense which the
obligee may incur in making good any default of said Principal, then this obligation shall
be null and void; otherwise it shall remain in full force and effect.

A claimant is defined as one having a direct contract with the Principal or with a
Subcontractor of the Principal for labor, material or both, used or reasonably required for
use in the performance of the contract.

Signed and sealed this day of, 20

WITNESS:

SIGNATURES:

CONTRACTOR:

Signature.....

.....

Print Name Legibly

Print Name Legibly

SURETY:

Signature.....

.....

Print Name Legibly

Print Name Legibly

SURETY ADDRESS:

NAME OF LOCAL AGENCY:

.....

ADDRESS

.....

.....

TELEPHONE

.....



16594
March 6, 2018

Ms. Leanne R. Timberlake, P.E.
Senior Project Manager Bridge Program
Maine Department of Transportation
16 State House Station
Augusta, ME 04333-0016

Dear Ms. Timberlake:

We reviewed the specifications in your letter dated September 28, 2018, to perform bridge repairs for the I-95 Bridge #6330, which spans Piscataqua River, mile 2.9 between Portsmouth, NH and Kittery, ME. We have no objections to the work described in your letter and work over the waterway is authorized, provided the following stipulations including enclosure (1) if applicable, are adhered to: These stipulations are based on the facts you have provided presently; however, additional requirements may be needed if information or conditions not anticipated warrant.

- a. At no time during the work will the waterway be closed to navigation without prior approval from the Coast Guard. You and the contractor are required to maintain close and regular contact with Coast Guard Sector Northern New England to keep them informed of activities over the waterway at (207) 741-5421. Scaffolding will not affect operation of bridge or restrict the navigation channel.
- b. During the progress of work, while the channel is in operation, should any material, machinery or equipment be lost, dumped, thrown overboard, sunk or misplaced which may be dangerous to or obstruct navigation, immediate notice shall be given to the Coast Guard and the object removed with the utmost dispatch. Until removal can be effected, the objects shall be properly marked in order to protect navigation. Notice to the Coast Guard shall give a description and location of any such object and the action taken or being taken to protect navigation.
- c. At least 30 days prior to commencement of any work, we must have for our review, a copy of the construction plans, contractor schedule, preferably depicted in a time line graphic format, and the contractor's daily hours of operation. The construction plan package must include the following: (1) a plan of the entire waterway area in the vicinity of the project; (2) the location of work barges during working and off-hours; (3) a drawing, if applicable, depicting scaffolding or containment used and the location of any reduction of vertical or horizontal clearance. All vertical clearance reductions below low steel or concrete under the bridge as a result of scaffolding must be detailed on the drawings shown in total feet; and (4) emergency 24 hour telephone numbers for responsible individuals for this project.

16594
October 1, 2018

Enclosure (1)

You are responsible for compliance with the requirements of any Federal, state, or local agency that may have jurisdiction over any aspect of the project. Please contact me at the above listed number if you have any questions.

Sincerely,

J. L. Rousseau
Senior Bridge Management Specialist
By direction

Encl: (1) General Construction Requirements
E-Copy: Waterways, Coast Guard Sector Northern New England

Enclosure (1)

U.S. Coast Guard Bridge Administration

GENERAL CONSTRUCTION REQUIREMENTS

1. All bridge closures, or bridge operating schedule changes, must be requested in writing, 30 days in advance, from the First Coast Guard District Bridge Branch Office. No channel restrictions, or vertical clearance reductions may be made without written approval from the above office.
2. Waterway closures/restrictions, barge placement or safety zones must also be requested a **minimum** of 90-days in advance. Please contact USCG Sector Northern New England, 259 High Street, South Portland, ME 04106-2028. Ph: (207) 741-5421.
3. All submissions to the Coast Guard for review and approval must first be approved by the owner of the bridge or their authorized agent. All submission of plans, scope of work, and schedules of operation must be sent to the First Coast Guard District, Bridge Branch Office.
4. At least 30 days prior to commencement of any work, we must have for our review, a copy of the construction plans, contractor schedule, preferably depicted in a time line graphic format, and the contractor's daily hours of operation. The construction plan package must include the following: (1) a plan of the entire waterway area in the vicinity of the project; (2) the location of work barges during working and off-hours; (3) a drawing, if applicable, depicting scaffolding or containment used and the location of any reduction of vertical or horizontal clearance. All vertical clearance reductions below low steel or concrete under the bridge as a result of scaffolding must be detailed on the drawings shown in total feet; and (4) emergency 24 hour telephone numbers for responsible individuals for this project.
5. Scaffolding used under any span of the bridge must be lighted with constant burning red lights every 50 feet and on all corners. The placement of scaffolding must not interfere with the ability of a moveable bridge to open for vessel traffic. Moveable bridges must continue to operate according to their normal schedule unless special drawbridge operation regulation changes have been requested. Warning signs must be posted on both sides of the bridge, visible for a 1-mile range, to warn mariners of the vertical clearance reduction. The signs shall face upstream and downstream so as to draw the mariner's attention to the fact that the clearance has been reduced.
6. All barges placed in the waterway must be lighted with constant burning white lights on all four corners of the barge. The contractor is required to comply with all provisions of the Navigation Rules International-Inland, regarding the use of work barges or floating equipment in the waterway. www.navcen.uscg.gov.
7. Placement of construction barges in the navigable channel shall be done so as to provide a minimum horizontal clearance reduction. Only one navigation channel of a swing bridge may be blocked by work equipment at anytime. Barges must be moved out of the navigable channel after working hours unless approved in writing by the USCG.
8. Barges held in place by anchor lines must be marked by anchor buoys, which should be lighted.

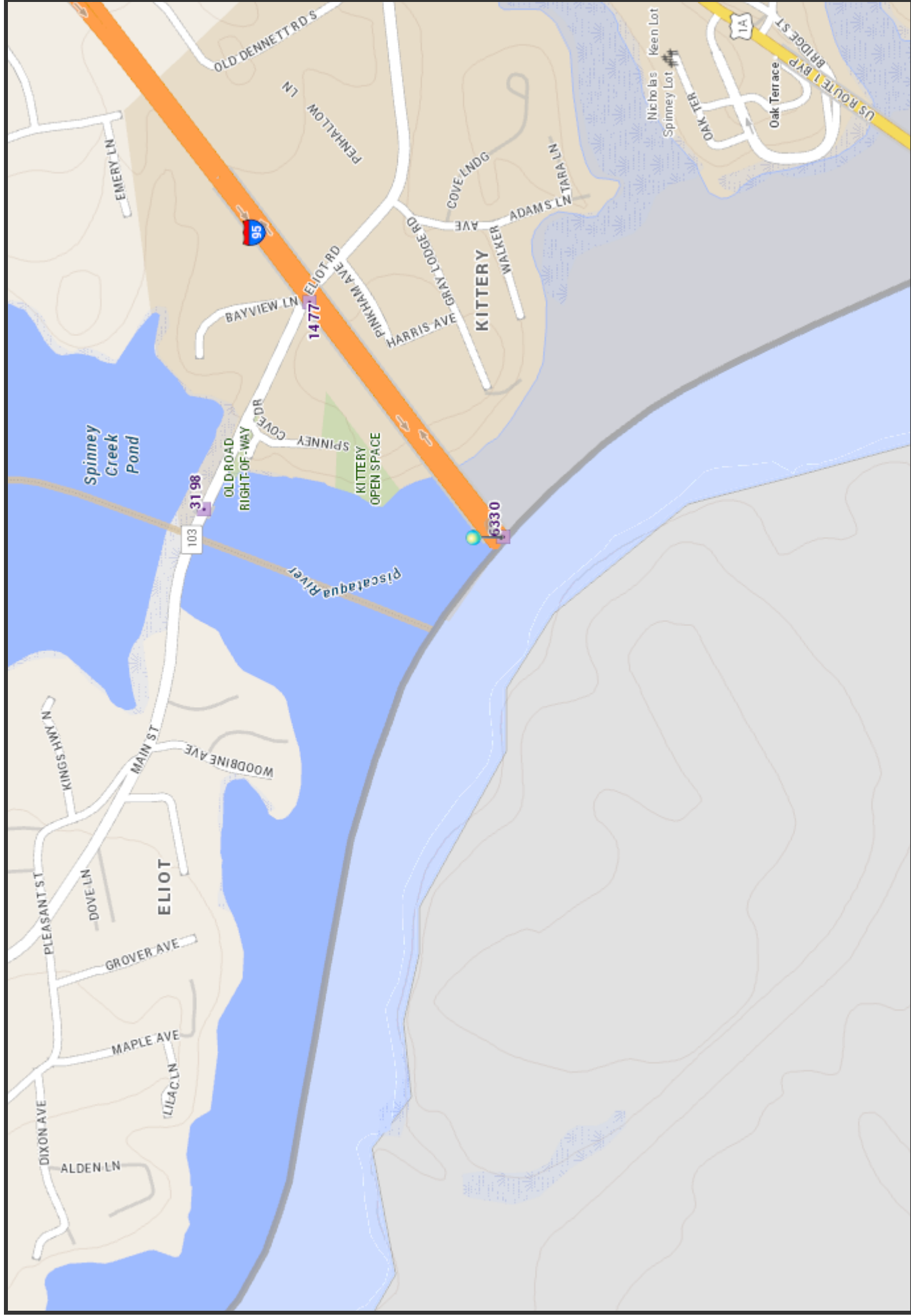
Enclosure (1)

9. The vertical and horizontal clearances through the navigable channel of the completed structure (as-built clearances) shall be certified in writing to this office by a responsible official of the permittee, a licensed surveyor or a registered professional engineer upon completion of bridge work. As built clearances consist of: vertical clearance in the navigational channel measured from mean high and mean low water to the lowest point of the superstructure; horizontal clearance through the navigational channel between piers or fenders measured normal to the axis of the channel. Documentation shall state the horizontal and vertical datum (e.g., NAVD88) used for all measurements. Please contact this office if there are questions regarding the required clearance data for specific bridge types, i.e. fixed or movable.
10. The on-scene contractor must have a VHF-FM marine radio set to the bridge communication channels 16/13 or the designated channel for the bridge. Additional marine radios monitoring the above channels must also be maintained at the main control of any floating equipment or barges on station.
11. Preventive measures must be taken to prevent any hot work, debris, or construction material from entering the waterway. This includes sandblasting material, paint, and any concrete work by-products. Welding and burning must cease upon approach of a vessel and shall not start again until the vessel has passed the bridge.
12. If permanent bridge navigational lighting cannot be maintained operational during any phase of this project, temporary battery/power lights must be installed at the same locations. These temporary lights must be visible for a distance of 2,000 yards on 90% of the nights of the year. Generally, a lamp of (50 candela) will meet these requirements. Plans for temporary lighting shall be submitted to this office for written approval. Deviations from the approved temporary lighting shall be permitted only upon written authorization from this office.
13. All newly constructed bridge piers, or those in the process of demolition, must be lighted with either red or white flashing (60 flashes per minute) lights. All cofferdams used during construction must also be lighted with red or white flashing (60 flashes per minute) on all four corners.
14. Bridge protective fenders shall not be constructed or rebuilt with any metal surfaces on the rubbing face of the fender system. All bolts, spikes, or other metal fastening devices must be countersunk. Metal splicing plates, if used, shall be mounted on back of outer wales.
15. All piles including those previously damaged or broken that are not being used in the new or repaired fender shall be extracted rather than cut off at the mud line. Upon completion of all fender repairs a bottom sweep is required to determine if any piles or debris are present in the waterway. A wire-drag sweep or side-scan sonar is the preferred method.
16. It is the owners' responsibility to ensure that channel depths are not affected by this work. Any material, machinery or equipment lost, dumped, thrown into, or otherwise entering the waterway must be removed immediately. If immediate removal is impractical and the object entering the waterway could possibly obstruct or hazard navigation, the object must be marked immediately to protect navigation and the Coast Guard shall be notified as soon as possible. Such notification shall give the location and type of obstruction and the navigational markings installed.

Enclosure (1)

17. Spillage of oil and hazardous substances is specifically prohibited by Section 311 of the Clean Water Act, as amended. Measures including properly maintaining construction equipment, designating fuel/hazardous substances handling areas to allow spills to be contained before reaching the waterway, instructing personnel not to dispose of oil/hazardous substances into drains or into the waterway directly, and other necessary procedures should be implemented to prevent spillage. If oil/hazardous substances are spilled into the waterway in spite of such planning, the U.S. Coast Guard is to be notified immediately at 800-424-8802. An adequate supply of absorbent material should be readily accessible to soak up any possible spillage pending Coast Guard arrival. The use of chemical dispersing agents and emulsifiers is not authorized without prior, specific, federal approval.
18. The bridge owner/contractor shall provide any and all necessary equipment and personnel to determine the presence of obstructions in the waterway at any time during or following bridge construction or demolition operations.
19. The owner or registered professional engineer shall certify that the waterway depths have not been impaired and that the waterway is clear of materials or debris resulting from bridge construction or demolition.
20. This approval may be revoked and/or civil penalties imposed for failure to ensure that the above listed stipulations are adhered to or if work is determined to hazard or impair navigation.

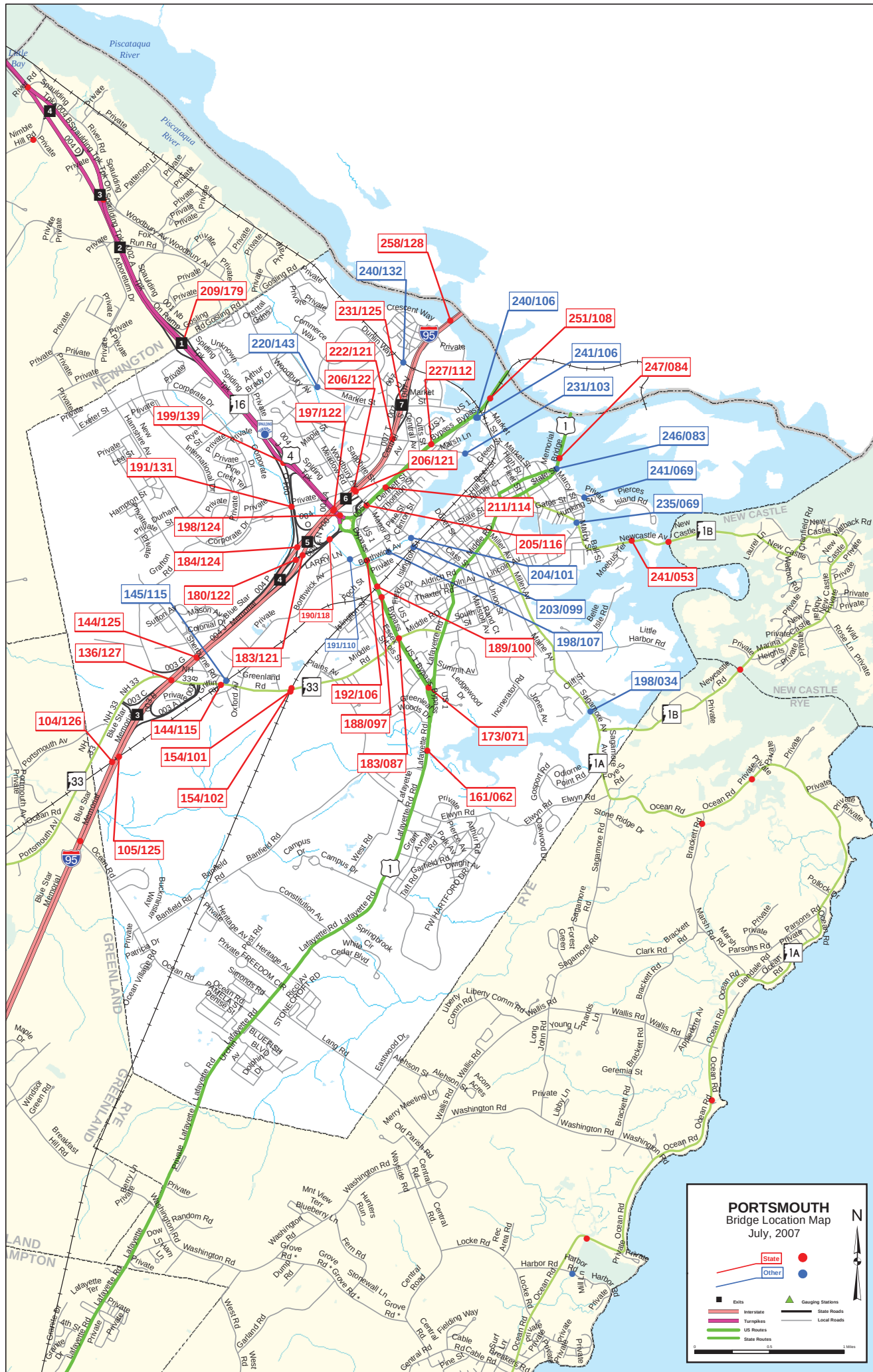
BRIDGE NO. 6330



47 The Maine Department of Transportation provides this publication for information only. Reliance upon this information is at user risk. It is subject to revision and may be incomplete depending upon changing conditions. The Department assumes no liability if injuries or damages result from this information. This map is not intended to support emergency dispatch.

0.2 Miles
1 inch = 0.15 miles

Date: 10/2/2018
Time: 2:45:47 PM



**AGREEMENT REGARDING ENTRY AND WORK ON
MAINE TURNPIKE AUTHORITY LAND
BY MAINE DEPARTMENT OF TRANSPORTATION
AND ITS CONTRACTORS**

Entry and Work by MaineDOT Contractors

Prior to any work or installation of any facility on Maine Turnpike Authority land, a Contractor working for the MaineDOT is required to file application with the Authority for a work permit as specified in a document titled "*Maine Turnpike Authority Work Permit Rules and Guidelines*", last revised February 9, 2011 and attached hereto and made a part hereof.

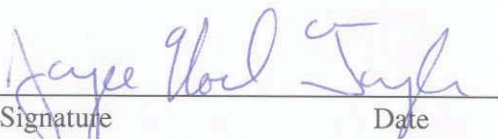
Entry and Work by MaineDOT Employees

Prior to any new work or installation of any facility on Maine Turnpike Authority land, an Employee working for the MaineDOT is required to follow rules as specified in a document titled "*Maine Turnpike Authority Work Permit Rules and Guidelines*", last revised February 9, 2011 and attached hereto and made a part hereof. The MaineDOT is exempt from the follow paragraphs in said document; *Insurance* and *Costs*.

In absence of a specific license of any existing or permanent installation on Maine Turnpike Authority land, the MaineDOT will provide notice to the Authority when self performing maintenance on said installation. If a Contractor is hired to perform maintenance on the existing facility, the paragraph above titled "*Entry and Work by MaineDOT Contractors*" will apply.

The MaineDOT will include language, attached hereto and made part hereof, relating to the above within its contracts when work is to be performed in proximity to Maine Turnpike Authority lands.

MAINE DEPARTMENT OF TRANSPORTATION


Signature _____ Date _____

Director, Bureau of Project DEV.

MAINE TURNPIKE AUTHORITY

 7/29/11
Peter Merfeld, PE _____ Date _____
Chief Operations Officer



MAINE TURNPIKE AUTHORITY

WORK PERMIT RULES AND GUIDELINES

Prior to any work or installation of any facility on **Maine Turnpike Authority** land, a **Municipality, Contractor, or other Person requesting access (Permittee)** is required to file application with the **Authority** for a work permit. Said permit will be issued under the following terms and conditions;

Permittee indemnifies and holds harmless the **Maine Turnpike Authority** from any and all responsibility related to work on the aforesaid property or the presence thereon of **Permittee's** employees and agents. This includes, but is not limited to, any claims, losses damages and expenses (including attorney's fees and litigation costs) that arise from or are related to the presence of **Permittee's** employees or agents on the property. Nothing contained herein is intended to waive the defenses and immunities available to the **Authority** with respect to third parties under the provisions of State or Federal Law including, but not limited to, the defenses and immunities provided under the Maine Tort Claims Act.

Insurance

Prior to any entrance onto the **Authority's** land, **Permittee** will file with the **Authority** certificates of insurance evidencing public liability insurance and workers compensation insurance with such limits as the **Authority** shall require, which in all cases shall be a minimum of one million dollars (\$1,000,000), and the "**Maine Turnpike Authority**" shall be named as an additional insured.

Permittee shall maintain the insurance required by this paragraph with the **Authority** named as an additional insured, for so long as **Permittee's** employees or agents will be accessing **Authority** property whether the access is for construction or for routine maintenance and operation of this or any other installation.

Schedule

Permittee shall notify the **Authority** in advance of its work schedule. The **Authority** must approve of the schedule, including traffic control plan, and may decide to have an Inspector present while the work is being completed. Time of day restrictions may be enforced based on time of year and peak travel flow.

Costs

The **Permittee** shall be responsible for all costs incurred by the **Authority** acting in connection with the review, assessment, and negotiation of, and any necessary investigation into, any matters associated with this permit, including, but not limited to costs of reviewing any materials or documents submitted; any field work done in connection therewith, any dig safe, engineering, survey, personnel costs, or legal fees associated therewith, whether or not the project is ever carried to a successful conclusion. Prepayment of costs may be required at **Authority's** discretion.

Safety

Work Permit Rules and Guidelines

Revised: March 2018

Page 1 of 2



The **Permittee** must abide by all applicable local, state, and federal regulations pertaining to workplace safety, including but not limited to high visibility clothing, signage, and warning lights. Median openings and toll plaza U-turns will not be permitted. Any traffic stoppages will be done with the **Authority's** approval and with State Police participation.

Revocation

The **Authority** further reserves the right to revoke the work permit in the event of a breach of its conditions as well as for any reason whatsoever that, in the sole judgment of the **Authority**, warrants such a revocation.

Contact

The **Permittee** shall make application to the **Authority** in writing. Said application will include, but is not limited to applicable plan sheets showing scope of work, traffic control plans, schedule, and insurance certificate. Applications may be submitted to:

Maine Turnpike Authority
Right of Way Department
2360 Congress Street
Portland, ME 04102

*For questions or additional information
contact the Right of Way Department at
(207) 871-7771 Ext. 355
bbolduc@maineturnpike.com*

At such time a work permit is issued by the Right of Way Department, the **Permittee** will be directed to the appropriate contact person for the duration of the project.

Dig Safe requests will be made to **Dig Safe** (1-888-DIG-SAFE or 811) and to **DigSmart of Maine** for private utility identification. Proof of utility location must be received prior to the issuance of any work permit that involves earthwork. The dig safe job number is to be provided to:

Benjamin M Bolduc, PLS
Maine Turnpike Authority
2360 Congress Street
Portland, ME 04102
(207) 482-8355
bbolduc@maineturnpike.com

DigSmart of Maine
114 Sawyer Road
Scarborough, ME 04074
(207) 749-7231
www.digsmartofmaine.com

On the Website, go to the *Schedule Work* button to complete DigSmart's electronic request form.



MAINE TURNPIKE AUTHORITY

WORK PERMIT

The **Maine Turnpike Authority** grants permission to _____ (Permittee) to enter upon the property of the Maine Turnpike Authority in _____, Maine as shown on Plans titled “_____” for the purpose of:

Subject to a document titled “Maine Turnpike Authority - Work Permit Rules and Guidelines” and the following conditions:

- 1) **Permittee** indemnifies and holds harmless the **Maine Turnpike Authority** from any and all responsibility related to work on the aforesaid property or the presence thereon of **Permittee’s** employees and agents. This includes, but is not limited to, any claims, losses damages and expenses (including attorney's fees and litigation costs) that arise from or are related to the presence of **Permittee’s** employees or agents on the property. Nothing contained herein is intended to waive the defenses and immunities available to the **Maine Turnpike Authority** with respect to third parties under the provisions of State or Federal Law including, but not limited to, the defenses and immunities provided under the Maine Tort Claims Act.
- 2) Prior to any entrance onto the Authority's land, **Permittee** will file with the **Maine Turnpike Authority** certificates of insurance evidencing public liability insurance and workers compensation insurance with such limits as the **Maine Turnpike Authority** shall require, which in all cases shall be a minimum of one million (\$1,000,000) dollars, and the **Maine Turnpike Authority** shall be named as an additional insured.

Permittee shall maintain the insurance required by this paragraph with the Authority named as an additional insured, for so long as **Permittee’s** employees or agents will be accessing Authority property whether the access is for construction or for routine maintenance and operation of this or any other installation.

- 3) **Permittee** shall notify the Authority in advance of its work schedule. The Authority must approve of the schedule and may decide to be present while the work is being completed. The **Permittee** acknowledges and agrees that the **Permittee** shall be responsible for all costs incurred by the **Maine Turnpike Authority** acting in connection with the review, assessment, and negotiation of, and any necessary investigation into, any matters associated with this permit, including, but not limited to costs of reviewing any materials or documents submitted; any field work done in connection therewith, and any engineering, dig safe, survey, or legal fees associated therewith, whether or not the project is ever carried to a successful conclusion.
- 4) The **Permittee** must abide by all applicable local, state, and federal regulations pertaining to workplace safety, including but not limited to high visibility clothing, signage, and warning lights. Median openings shall not be used.
- 5) The **Maine Turnpike Authority** further reserves the right to revoke this permit in the event of a breach of its conditions as well as for any reason whatsoever that, in the sole judgment of the **Authority**, warrants such a revocation.

Signed;

By:

Stephen R. Tartre, PE
Maine Turnpike Authority

Date

Name

Date

Company Name

Maine Turnpike Authority
Date: January 26, 2011

The following Special Provision pertains to entry onto the Maine Turnpike Authority land by Contractors of the Maine Department of Transportation.

110.3.8 Administrative & General Provisions

A. Additional Insured

The Maine Turnpike Authority shall be named as an additional insured.

105.5.1 General Requirements

Subsection is amended by the addition of the following:

Prior to any work or installation of any facility on Maine Turnpike Authority land, a Contractor (Permittee) working for the Maine Department of Transportation is required to file application with the Authority for a Work Permit. Contractor must abide by the Maine Turnpike Authority agreement with the Maine Department of Transportation regarding Entry onto Maine Turnpike Authority Land by Contractors of the Maine Department of Transportation. All specific operational, safety, and environmental requirements of the Authority for a contractor will be followed.

The installation of construction signs on the Maine Turnpike shall be approved in advance by the Maine Turnpike Authority. The Contractor shall submit plans illustrating construction details and proposed locations. Signs shall be located behind guardrail or outside of the roadside recovery area or shall be installed on break away supports. The Contractor must contact the Maine Turnpike Authority Dig Safe vender to perform Dig Safe for Maine Turnpike Authority owned utilities on Maine Turnpike Authority property. The cost of this service is borne by the contractor.

This Subsection is amended by the addition of the following:

Change of Direction

The Contractor will not be allowed to use the median openings or the toll plaza on the Maine Turnpike to reverse direction unless the opening is located within a passing lane closures on both roadways.

The Contractor will not be allowed to change direction within the Toll Plaza area. The limits of this area extend from the terminals of the median guardrail north and south of the toll plaza.

The Contractor will be assessed a fine every time any employee of the Contractor, Subcontractor or Supplier is observed using a median opening or toll plaza area to change

Maine Turnpike Authority
Date: January 26, 2011

direction on the Maine Turnpike. (The fine will be deducted from monies owed to the Contractor.)

The fines will be levied on a per occurrence basis as follows:

NUMBER OF Occurrences	Fine
First	\$150

For the second occurrence, and any occurrence thereafter, the fine is increased by \$150 per each occurrence. The number of occurrences is not specific to a Contract, an individual or a vehicle, but based solely on the number of times any employee of the Contractor, Subcontractor or Supplier is observed using a median opening anywhere on the Maine Turnpike.

107.4.2 Schedule of Work Required

This Subsection is amended by the addition of the following:

The Contractor shall submit a schedule that shows all work on the Maine Turnpike that is anticipated for the following week. This schedule shall be transmitted to the Resident Engineer by noon Thursday of the preceding week. The Resident Engineer shall transmit this information to the Maine Turnpike Authority. Any lane or shoulder closures are subject to approval by the Maine Turnpike Authority.

The Contractor shall submit a schedule that shows all work within 1500' of the toll plaza and all toll plaza lane closures that are anticipated for the following week. This schedule shall be transmitted to the Resident Engineer by noon Thursday of the preceding week. The Resident Engineer shall transmit this information to the Maine Turnpike Authority.

The following Subsections are added:

107.4.6 Prosecution of Work

The installation of permanent signs on the Maine Turnpike will require a shoulder closure in accordance with the MUTCD (Manual of Uniform Traffic Control Devices).

Maine Turnpike Authority
Date: January 26, 2011

All work within 1500' of the toll plaza shall be coordinated with the Maine Turnpike Authority. Night work may be required to accommodate Turnpike operations. This work is required to be shown on the proposed schedule as noted in Section 107.4.2. The Engineer shall be responsible for coordinating the activities with the Maine Turnpike on site toll supervisor or his designee immediately prior to the operations. Restrictions in contractor operations may be required by the Maine Turnpike Authority.

652 Maintenance of Traffic

Subsection is amended by the addition of the following:

A mounted revolving Amber light or amber strobe light with 360-degree visibility.

General Decision Number: ME180125 01/05/2018 ME125

Superseded General Decision Number: ME20170125

State: Maine

Construction Type: Highway

County: York County in Maine.

HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.35 for calendar year 2018 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.35 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2018. The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/05/2018

SUME2014-044 06/23/2017

	Rates	Fringes
CARPENTER, Includes Form Work....	\$ 18.66	3.46
CEMENT MASON/CONCRETE FINISHER...	\$ 19.83	1.16
ELECTRICIAN.....	\$ 25.21	5.63
HIGHWAY/PARKING LOT STRIPING:		
Laborer.....	\$ 16.27	2.19
INSTALLER - GUARDRAIL.....	\$ 19.98	2.55
IRONWORKER, REINFORCING.....	\$ 21.85	0.00
IRONWORKER, STRUCTURAL.....	\$ 22.78	4.40

LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor.....	\$ 17.53	2.13
LABORER: Common or General.....	\$ 15.11	2.46
LABORER: Epoxy Injector (Concrete).....	\$ 13.43	1.15
LABORER: Wheelman.....	\$ 20.97	5.13
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 20.58	3.81
OPERATOR: Bobcat/Skid Steer/Skid Loader.....	\$ 23.66	0.97
OPERATOR: Broom/Sweeper.....	\$ 19.49	0.00
OPERATOR: Bulldozer.....	\$ 21.71	5.67
OPERATOR: Grader/Blade.....	\$ 27.40	8.13
OPERATOR: Loader.....	\$ 18.91	3.27
OPERATOR: Mechanic.....	\$ 24.71	7.83
OPERATOR: Milling Machine.....	\$ 27.44	6.37
OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 20.17	4.83
OPERATOR: Roller (Earth).....	\$ 16.52	1.66
OPERATOR: Roller Asphalt.....	\$ 19.64	6.09
TRAFFIC CONTROL: Flagger.....	\$ 10.33	0.00
TRAFFIC CONTROL: Laborer-Cones/ Barricades/Barrels - Setter/Mover/Sweeper.....	\$ 17.84	5.91
TRUCK DRIVER: Dump Truck.....	\$ 19.99	4.00

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave
for Federal Contractors applies to all contracts subject to the
Davis-Bacon Act for which the contract is awarded (and any

solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted

because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

General Decision Number: NH180033 01/05/2018 NH33

Superseded General Decision Number: NH20170033

State: New Hampshire

Construction Type: Highway

County: Rockingham County in New Hampshire.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.35 for calendar year 2018 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.35 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2018. The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/05/2018

* SUNH2011-029 08/15/2011

	Rates	Fringes
CARPENTER (Excluding Form Work).....	\$ 23.13	2.51
CARPENTER (Form Work Only).....	\$ 20.57	1.06
ELECTRICIAN.....	\$ 23.22	2.78
INSTALLER - GUARDRAIL.....	\$ 22.29	11.84
IRONWORKER, REINFORCING.....	\$ 18.00	0.00

IRONWORKER, STRUCTURAL.....	\$ 34.45	17.20
LABORER: Blaster Rock.....	\$ 28.38	9.46
LABORER: Common or General.....	\$ 16.99	2.60
LABORER: Flagger.....	\$ 10.42	1.37
LABORER: Highway/Parking Lot Striping.....	\$ 16.77	0.00
LABORER: Landscape.....	\$ 14.65	0.00
LABORER: Pipelayer.....	\$ 18.29	4.33
OPERATOR: Auger.....	\$ 26.07	0.00
OPERATOR: Backhoe.....	\$ 27.72	4.17
OPERATOR: Bobcat/Skid Steer/Skid Loader.....	\$ 19.25	0.00
OPERATOR: Bucket.....	\$ 30.00	0.00
OPERATOR: Bulldozer.....	\$ 24.59	6.11
OPERATOR: Crane.....	\$ 23.95	3.29
OPERATOR: Drill Rig Caissons....	\$ 36.86	19.78
OPERATOR: Excavator.....	\$ 24.72	5.58
OPERATOR: Grader/Blade.....	\$ 25.16	6.97
OPERATOR: Loader.....	\$ 24.10	5.72
OPERATOR: Mechanic.....	\$ 16.92	3.44
OPERATOR: Oiler.....	\$ 29.54	16.15
OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 23.43	0.00
OPERATOR: Roller.....	\$ 22.27	6.57
OPERATOR: Post Driver/Pounder....	\$ 27.24	7.90
TRUCK DRIVER, Includes all axles including Dump Trucks (Excludes Low Bed Trucks).....	\$ 17.59	2.99
TRUCK DRIVER: Low Bed Truck.....	\$ 21.43	6.30

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the

most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination

- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

SPECIAL PROVISION

SECTION 102

BIDDING

(Pre-Bid Meeting)

The following Subsection is added:

102.3.1 Pre-Bid Meeting

A mandatory pre-bid meeting will be held at the Kittery Council Chambers on Wednesday, December 5, 2018. The meeting will be held at 1:00 p.m. within the Kittery town hall located at 200 Rogers Road in Kittery, Maine where the project will be presented to all Bidders. The pre-bid meeting is deemed **mandatory** to ensure that all Bidders fully understand the specifics of the project. Only the General Contractors (GC) who are present at the meeting will be allowed to bid. Subcontractors do not need to be present to provide bids to the GC.

SPECIAL PROVISION
SECTION 103
AWARD AND CONTRACTING
(Post-Bid, Pre-Award Qualifications)

After Bid Opening and as a condition for Award of the Contract, the lowest responsive Bidder must establish they are qualified to conduct the work included in this Contract. A Bidder may establish their qualifications in one of the ways listed below.

1. Bidder shall be prequalified by the Maine Department of Transportation under the Highway and/or Traffic Signals/Lighting category AND include an employee or subcontractor that can demonstrate the requisite experience (to the Department's satisfaction) to be the System Integrator as described in Special Provision 645 and as described in the Post-bid Qualification Submittal requirements below.
2. Bidder shall demonstrate the requisite experience (to the Department's satisfaction) to be the System Integrator as described in Special Provision 645 and as described in the Post-bid Qualification Submittal requirements below, AND include a subcontractor that is prequalified by the Maine Department of Transportation under the Highway and/or Traffic Signals/Lighting category.
3. Bidder shall submit documentation to demonstrate to the Department's satisfaction that the bidder has recent experience with the installation of highway signs on steel beams and concrete foundations, with maintenance of traffic along a freeway corridor, and with the installation of ground mounted dynamic message sign (DMS) panels (not including portable-changeable message signs (PCMS)). The Bidder shall also submit documentation to demonstrate to the Department's satisfaction that the Bidder has experience with the integration of travel time data into a centralized advanced transportation management system (ATMS) and has an employee or a subcontractor who can perform the System Integrator role as described in Special Provision 645 and as described in the Post-bid Qualification Submittal requirements below.

The Department will provide the Bidder with a written Notice of Post-Bid Qualifications requiring the Bidder to provide written documentation presenting evidence of qualifications.

Contractor Requirements

In order to be considered for the award of this contract, the Bidder and key employees and Subcontractors that will be assigned to the Work in this Contract shall demonstrate to the

Department's satisfaction that the Bidder has completed at least one project in the previous five years that included at least three of the critical components of this Work as listed below:

- Fabrication and installation of ground mounted guide signs on steel beams with concrete foundations
- Work performed in live traffic in accordance to the Manual on Uniform Traffic Control Devices (MUTCD)
- Installation and configuration of DMS equipment and hardware (not including PCMS) using vendor software
- Development and execution of intelligent transportation systems (ITS) test plans
- Integration of travel time data application programming interfaces (APIs) into an ATMS
- Integration of field equipment into an ATMS

The Contractor shall maintain current licenses, authorizations, ratings and registrations for the duration of the contract.

The Bidder shall be able to comply with the Contract Requirements, be able to deliver according to the contract schedule, and have a history of satisfactory performance.

The Bidder must have a current, applicable Safety Plan on file with the Department or must submit, prior to Contract award, an acceptable, current Safety Plan or Project and Site Specific Safety Plan to the Department which identifies and addresses job hazards of the expected contract work and complies with all applicable federal, State, and local laws governing safety including all applicable laws and regulations of Occupational Safety and Health Administration (OSHA).

The Bidder may be required to provide any information requested in the "Contractor's Prequalification Application" form adopted by the Department.

Post-bid Qualification Submittals

The Department will notify the Apparent Successful Bidder of the requirements for post-bid, pre-award qualifications and the Bidder shall provide all of the items within seven (7) days of the notice. The Contractor shall submit two copies or an electronic copy of all required submittals to the Department.

The Bidder may be required to submit evidence of compliance with all Contractor Requirements set forth in this Contract.

The Bidder shall be required to submit written documentation setting forth the experience of the Bidder and subcontractor(s) who will be performing the Work specified in the

contract documents, including a description of similar construction projects completed in the last five (5) years that highlight the Bidder's and subcontractors' related experience. Such information shall include:

1. the Company's history and experience of work related specifically to the Scope of Work in this contract;
2. the name of the owner for whom the work was performed;
3. the name and telephone number of a contact person;
4. a description of the work performed by the Bidder or their subcontractor; and
5. the total construction cost of each project, and the value of work performed by the Bidder or their subcontractor.

The Bidder may be required to submit the relevant experience of the key personnel and supervisors who will be performing Work under this contract, their experience and number of years performing work related specifically to the Scope of Work in this contract.

The Bidder's submittal may be required to include a statement describing the personnel and equipment available for the Work and demonstrating that the Bidder is able to deliver according to the contract schedule.

The Bidder's submittal shall include the qualifications, to the Department's satisfaction, that the designated System Integrator has experience working with an ATMS, with travel time data APIs, with DMS configurations, and with ITS equipment testing. An individual who can demonstrate hands-on experience working with the New England Compass ATMS will be considered qualified to be the System Integrator. Southwest Research Institute (SwRI) will be granted automatic qualification as a System Integrator without being required to submit documentation because they were the developer for the ATMS system used in Maine.

If a Bidder has not previously submitted Traffic Control Plans (TCP) and Soil Erosion and Water Pollution Control Plans (SEWPCP) for other Department projects, the Contractor must submit, prior to Contract award, a substantially complete, acceptable, project specific Traffic Control Plan and Soil Erosion and Water Pollution Control Plan.

If the Department has comments regarding the Contractor's TCP or SEWPCP submittal, the Contractor shall implement and address these prior to beginning Work. No review or comment by the Department, or any failure to review or comment, shall absolve the Contractor of its responsibility to develop and implement the safety plan in accordance with the Contract, or to shift any responsibility to the Department.

If the Bidder is to provide any information requested in the "Contractor's Prequalification Application" form adopted by the Department, the Notice of Post-Bid Qualifications shall so state.

If a current, applicable copy of the Contractor's Safety Plan is not on file with the Department, the Contractor must submit, an acceptable, current Contractor's Safety Plan or Project and Site Specific Safety Plan to the Department in accordance with Special Provision Section 105 Safety Plan. The plan shall identify and addresses job hazards of the expected contract work and comply with all applicable federal, State, and local laws governing safety including all applicable laws and regulations of Occupational Safety and Health Administration (OSHA).

Using the Bidder's OSHA 200 & 300 Log and statements provided by applicable insurance, the Bidder may be required to provide its workers' compensation Experience Modification Rate.

Upon receipt of the pre-award submittals, the Department will review the submissions and determine if the submitted evidence or information satisfies the Department requirement that the bidder is qualified to properly carry out the terms of the Contract.

The qualifications submitted will be checked for general conformance with the concept of the project and compliance with the requirements set out in the Contract Documents. This review does not modify the Contractor's duty to comply with the Contract documents.

Bidders shall ensure that all information required herein is submitted. Provision of inaccurate information or failure to provide all completed and required information may result in the Bidder being determined to be "Not Qualified" or disqualified as non-responsive. Within 14 days, the Department will review the project specific safety plan, the Traffic Control Plan and the SEWPCP for completeness, conformity with Federal and State requirements, Contract provisions, applicable laws and regulations of Occupational Safety and Health Administration (OSHA), the current edition of the MUTCD, and Department policy and procedures. The Department reserves the right to communicate in writing with Bidders, if needed, to obtain additions to and/or clarification of information contained in the submittals received. No review or comment by the Department, or any failure to review or comment, shall absolve the Contractor of its responsibility to develop and implement the safety plan, TCP or SEWPCP in accordance with the Contract, or to shift any responsibility to the Department. The Bidder shall have 3 days to submit additions and clarifications. The Bidder will have no additional opportunity to submit or clarify information. The Department will not provide an opportunity for the Bidder to meet to present evidence.

Based on these submissions, the Department will make one of the following determinations:

1. Qualified - The Contractor has satisfied the post-bid, pre-award qualification requirements and demonstrated to the Department's satisfaction that it is responsible, can meet the Contractor Requirements set forth in this contract, and is qualified to perform this type of work.

2. Not Qualified - Bidder is not qualified to properly carry out the terms of the Contract and/or the submission does not meet specifications and accepted standards and is not acceptable, as determined by the Department.

There is no Appeal process and the determination of "Not Qualified" is final. The Department will reject the bid as non-responsive, and the Award process will proceed without the unqualified Bidder.

The Department will notify the Bidder of its determination in writing. If a determination of "Not Qualified" is rendered, the notice will set forth reasons to the extent practical. Such reasons may include the following:

- A. Not meeting contract Contractor Requirements
- B. Insufficient experience with the critical components of the work listed above
- C. Insufficient qualifications for the designated System Integrator
- D. No Safety Plan or Project and Site-Specific Safety Plan or an unacceptable Safety Plan or Project and Site-Specific Safety Plan
- E. Default(s) or termination(s) on past or current Contracts.
- F. Failure to pay or settle all bills for labor, materials or services on past or current Contracts.
- G. Failure to provide Closeout Documentation on past or current Contracts.
- H. Failure to fulfill warranty obligations on past or current Contracts.
- I. Failure to comply with directives of the Department on past or current Contracts.
- J. "Below Standard" performance as determined from the Department's Contractor's Performance Rating process.
- K. Inability of the Contractor to obtain or retain performance or Payment Bonds meeting MDOT requirements.
- L. Failure to accept an Award of a Contract made by the Department to the Contractor.
- M. Making materially false, deceptive, or misleading Statements or omissions, whether or not under oath, regarding a claim on prior Contracts or on the Contractor's Prequalification Application or the Post-Bid Qualifications submittals.

- N. Failure to provide information requested by the Department pursuant to this Special Provision.
- O. Any of the reasons contained in Section 102.02 of the “Rules Regarding Debarment of Contractors”, Maine Department of Transportation Register 17-229, Chapter 102 (October 2, 1985).
- P. Debarment or suspension by any federal, State, or local governmental procurement agency or the Contractor’s Agreement to refrain from Bidding as part of the settlement with any such agencies.
- Q. Other serious misconduct that the Department reasonably determines will substantially and adversely affect the cost, quality or timeliness of Work, or the safety of Workers or the public.

SPECIAL PROVISIONS

SECTION 104

Utilities

UTILITY COORDINATION

The contractor has primary responsibility for coordinating their work with utilities after contract award. The contractor shall communicate directly with the utilities regarding any utility work necessary to maintain the contractor's schedule and prevent project construction delays. The contractor shall notify the resident of any issues.

THE CONTRACTOR SHALL PLAN AND CONDUCT WORK ACCORDINGLY.

MEETING

A Preconstruction Utility Conference, as defined in Subsection 104.4.6 of the Standard Specifications **is** required.

Temporary utility adjustments are **not** anticipated.

Unless otherwise specified, any underground utility facilities shown on the project plans represent approximate locations gathered from available information. The Department cannot certify the level of accuracy of this data. Underground facilities indicated on the topographic sheets (plan views) have been collected from historical records and/or on-site designations provided by the respective utility companies. Underground facilities indicated on the cross-sections have been carried over from the plan view data and may also include further approximations of the elevations (depths) based upon straight-line interpolation from the nearest manholes, gate valves, or test pits.

Any/all adjustments are to be made by the respective utility/railroad unless otherwise specified herein.

Utility working days are Monday through Friday. Times are estimated on the basis of a single crew for each utility. Any times and dates mentioned are **estimates only** and are dependent upon favorable weather, working conditions, and freedom from emergencies. The Contractor shall have no claim against the Department if they are exceeded.

AERIAL

There are communication and power lines that cross and parallel the work zone. These lines do not appear to be a construction issue and no temporary adjustments are proposed. The Contractor is encouraged to visit the site and review these lines to determine construction methods. If the contractor feels any of these overhead lines need to be moved, the Contractor will be responsible for coordination and cost related to any move. All Utilities will need two weeks advance notice, by the contractor, so they may schedule their crews if temporary work is needed.

SUBSURFACE

No subsurface utility conflicts are anticipated within the scope of work planned for this project. Should any arise the utility must be contacted as soon as possible. Any manhole covers that are within the work zone, that need to be adjusted, we be done by the respective utility. Those utilities may request pricing, outside the contract, to make those adjustments. All utilities will need at least 2 weeks advance notice before adjustments are needed.

On the Kittery side, southbound, there is a Weight In Motion device placed within the pavement and behind the existing rail. Because of the shoulder widening in that area this device will need to be moved and reinstalled. The Contact for this item is Charlotte Allran at 441-3058.

NH and Maine DOT's may have underground conduits running in the shoulder of the existing approaches for site lighting. If after the Digsafe process these lines conflict with proposed work, the Contractor shall immediately contact the Resident for guidance on how to proceed.

UNDER BRIDGE

Any utility conduits or pipes suspended under the bridge deck will need to be protected during construction. Contractor cannot attach their staging to any of these facilities. Some of these conduits run underground to the base of bridge piers and then up the pier to the underneath of the bridge. If there is any work to these piers, the Contractor will need to work with the utility not to damage the conduits. **The Contractor is encouraged to visit all the sites, prior to bid, to determine their location.** Any cost related to the protection of these conduits will be considered incidental to the mobilization items.

Fairpoint has a duct system that is under the bridge and needs to be protected. No work to this conduit system or its supports is required unless requested by Fairpoint. Any work to Fairpoints facilities will need to be negotiated between the utility and the contractor and executed outside of the MaineDOT contract. Contact for Fairpoint is David Kestner at 603-433-2119.

CMP and MaineDOT have power conduits under the bridge that needs to be protected unless they are part of the project. Contact for CMP is Wayne Brown at 242-0673.

Comcast has a 4-fiber lines under the bridge under the catwalk that need to be protected. No work to this conduit system or its supports is required unless requested by Comcast. Any work to Comcast facilities will need to be negotiated between the utility and the contractor and executed outside of the MaineDOT contract. The contact for Comcast is Mike Collins at 603-6795695 ex 1037.

RAILROAD

Pan Am Railways (Springfield Terminal Railroad) crosses under the bridge, on the Portsmouth side in two locations. The **Maine DOT** has a PRTS and flagger agreement with **Pan Am Railways** to work under the bridge, over the rails, for a limited period of time with Railroad flagger supervision. The Contractor should take notice of the PRTS document that is within the Special Provision, for work requirements, flagger time and insurance reasons. The Contractor should pay special attention to the allotted flagger man days in the PRTS document. As stated in the document, the flagger man days over the stated amount will be the responsibility of the Contractor to pay. The Contractor, at pre-utility meeting, shall have a detailed plan on how they will be working over and around the rail line. The contact for Pan Am is Shawn Higgins at (978)663-1127.

UTILITY LOCATION MARKINGS

The Contractor will be responsible for maintaining the buried utility location markings following the initial locating by the appropriate utility or their designated representative.

SPECIAL PROVISION
SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES
PARTNERING

Subsection 104.4.1 Partnering is hereby deleted and replaced by the following:

104.4.1 Partnering

A. Definition, Purpose, and Applicability Partnering is a process of voluntary structured communication between the Department, the Contractor, its principal Subcontractors and suppliers, and other Project stakeholders for the purpose of improving efficiency and minimizing Disputes. Partnering, including the establishment of a partnership charter, does not in any way waive, alter, or otherwise affect any provision of the Contract. For a related provision, see Section 111.1.3 - Relationship to Partnering.

Participation in Partnering is mandatory. The associated costs of Partnering will be agreed to mutually and shared equally.

B. Initial Partnering Workshop Representatives of both parties will arrange a facilitated initial Partnering Workshop, which should be held before the start of on-site construction. The Project Manager and/or the Resident and the Superintendent will determine Workshop attendees, the facilitator, agenda, duration, and location. Key Project level supervisory personnel, corporate/State level management personnel, and key Project personnel of the Contractor's principal Subcontractors and suppliers should attend. Project design Engineers, FHWA, local government representatives, environmental regulators, emergency service personnel, Utility Companies, impacted business and/or landowners, and other stakeholders may also be invited to attend. The product of the initial Partnering Workshop will be a partnership charter. This charter will include mutually agreed upon Project goals and communication escalation procedures.

C. Follow-Up Workshops The Contractor and the Department may agree to hold follow-up Partnering Workshops periodically throughout the duration of the Contract.

SPECIAL PROVISION
SECTION 105
GENERAL SCOPE OF WORK
(Limitations of Operations and Penalty)

The Limitations of Operations are as follows:

1. The Contractor shall complete the bridge phasing work as shown on the construction phasing plans. Modifications to the bridge phasing work or associated traffic control will not be permitted unless noted herein or approved by the Resident.
2. The following widths shall apply unless otherwise noted:
 - a. When one lane remains open, that open lane shall be a minimum of 12 feet with two 2-foot shoulders (16-foot clear roadway).
 - b. When two adjacent lanes remain open, the two open lanes shall each be a minimum of 11 feet with 1.5-foot shoulders (25-foot clear roadway).
 - c. When three adjacent lanes remain open, the three open lanes shall each be a minimum of 11 feet with 1.5-foot shoulders (36-foot clear roadway).
3. The Contractor is advised that portions of the work may require relocation of the Movable Temporary Concrete Barrier (MTCB). The Contractor shall provide steel plating or other means acceptable to the Resident to support the MTCB and properly span it over open holes, depressions, or newly placed concrete in the deck.
4. The Contractor shall maintain a minimum roadway width of 42 feet Northbound (a minimum section of a 1.5-foot median shoulder, three (3) 11-foot lanes of traffic, and a 7.5-foot outside shoulder) from the beginning of the project until November 30, 2019, or until the Woodbury Avenue Bridge over U.S. Route 1 Bypass is opened to traffic, whichever comes first.
5. The Contractor shall maintain a minimum of three (3) lanes of traffic during the following periods, termed the "Peak Traffic Periods":
 - a. The Friday 10 days before Memorial Day to June 15:
 - i. Northbound: Fridays and Saturdays
 - ii. Southbound: Saturdays, Sundays, and Memorial Day
 - b. June 16 to the day after Labor Day: both Northbound and Southbound
 - c. Two days after Labor Day to the day after Columbus Day
 - i. Northbound: Fridays and Saturdays
 - ii. Southbound: Saturdays, Sundays, and Columbus Day
 - d. Two days after Columbus Day to the weekend before Thanksgiving
 - i. Southbound: Sundays and Veteran's Day
 - e. Wednesday before Thanksgiving through the Sunday after, both Northbound and Southbound

6. The Contractor shall maintain a minimum of two (2) lanes of traffic in each direction at all other times, except as allowed below.
7. During the times listed in Notes 5 and 6 above, temporary lane closures will be allowed as noted below.

Peak Traffic Periods				
Day of Week	Start time for maintaining a minimum of two (2) lanes of traffic	Start time for maintaining a minimum of one (1) lane of traffic	End time for maintaining a minimum of one (1) lane of traffic	End time for maintaining a minimum of two (2) lanes of traffic
Weekday Nights (Monday through Thursday) (NB)	9:00 PM	11:00 PM	5:00 AM	7:00 AM
Weekday Nights (Monday through Thursday) (SB)	7:00 PM	10:00 PM	4:00 AM	5:00 AM
Friday Nights (NB)	10:00 PM	Not Allowed	NA	7:00 AM
Friday Nights (SB)	8:00 PM	10:00 PM	6:00 AM	7:00 AM
Sunday Nights (NB)	7:00 PM	10:00 PM	5:00 AM	7:00 AM
Sunday Nights (SB)	11:00 PM	Not Allowed	NA	5:00 AM

Non-Peak Traffic Periods		
Day of Week	Start time for maintaining a minimum of one (1) lane of traffic	End time for maintaining a minimum of one (1) lane of traffic
Weekday Nights (Monday through Thursday) (NB)	10:00 PM	6:00 AM
Weekday Nights (Monday through Thursday) (SB)	8:00 PM	5:00 AM
Friday Nights (NB)	10:00 PM	7:00 AM
Friday Nights (SB)	9:00 PM	6:00 AM
Sunday Nights (NB)	9:00 PM	6:00 AM
Sunday Nights (SB)	10:00 PM	5:00 AM

8. The Contractor shall not have any temporary lane closures on Holidays.
9. The Contractor shall not have any temporary lane closures, except for emergency repairs, during the weekends of Memorial Day, Labor Day, and Columbus Day, beginning at 6:00 am the Friday before through the Tuesday after at 8:00 pm.

10. The Contractor shall not have any temporary lane closures, except for emergency repairs, during the following timeframes:
 - a. July 3, 2019, beginning at 6:00 am through July 5, 2019 at 8:00 pm
 - b. July 2, 2020, beginning at 6:00 am through July 6, 2019 at 8:00 pm
 - c. July 2, 2021, beginning at 6:00 am through July 6, 2021 at 8:00 pm
 - d. December 24, 2019, beginning at 6:00 am through December 26, 2019 at 8:00 pm
 - e. December 24, 2020, beginning at 6:00 am through December 27, 2020 at 8:00 pm
11. The Contractor shall not have any temporary lane closures, except for emergency repairs, during the weeks of Thanksgiving beginning at 5:00 am the Wednesday before through the Sunday after at 10:00 pm.
12. Temporary lane closures, if used, shall be one continuous closure.
13. The Permitted Work Days are Monday through Saturday. The working hours shall start Sunday at 7:00 p.m. and run through Saturday at 9:00 p.m. Work can occur behind temporary concrete barrier in work zones at all times except Sundays and Holidays. For the purposes of Permitted Work Days, Sundays are defined as 9:00 p.m. Saturday evening until 7:00 p.m. Sunday evening.
14. The Resident may approve short term complete stoppages, up to 5 minutes, during nighttime work windows. Said stoppages will require proper advanced notification, signage and State Trooper Detail. Nighttime short term complete stoppages will only be allowed when necessary for mobilizing construction materials and equipment.
15. The Contractor shall be assessed a penalty at the rate of Ten Thousand U.S. Dollars (\$10,000) per every 15 minutes for each lane that is closed beyond the times allowed. The fee shall be assessed the full amount starting 1 minute beyond the allowed times above and added cumulatively every 15 minutes thereafter.
16. The Contractor may utilize multiple bridge repair crews and multiple milling/paving crews, as long as applicable sections of the specifications are met and the Resident is given a minimum of 72 hours' notice.
17. Deliveries between 6:00 am and 8:00 pm to work zones protected by barrier will be permitted only if there is no infringement upon mainline traffic and is approved by the Resident.
18. Traffic will be allowed to travel on milled surfaces on the mainline. After 7 calendar days, any milled areas not covered, in need of extra repair or maintenance (see Special Provision 202) shall be repaired to the satisfaction of the Resident. All work, equipment and materials required to make repairs shall be at the Contractor's expense. Failure to adequately maintain milled areas will also result in violation of Special Provision 652. Lanes will need to be matched up each shift. Uneven lanes will not be permitted. The Contractor shall plan and conduct their work accordingly.
19. All temporary pavement ramps for transitioning to milled surfaces and for transitioning from bridge joints to the base pavement on bridge decks (bridges where surface paving will be

completed with highway paving work) shall be tapered at 20 ft. horizontally for every 1 inch vertical change.

20. The Contractor shall not have Interstate through-traffic lanes closer than five (5) feet to the existing aluminum bridge railing.
21. The Contractor is responsible for snow removal within the project limits in accordance with Section 105.4.3 of the MaineDOT Standard Specifications. However, the Agency maintenance forces will assume responsibility to plow snow from the open travel lanes and from shoulders that are not adjacent to temporary barrier or other work-related obstructions (such as drums) within the project limits. The Contractor shall remove snow from shoulders adjacent to temporary barrier or other work-related obstructions (such as drums) and from all portions of the roadway that are closed to traffic as soon as practicable, regardless of winter suspensions.
22. The Contractor shall allow safe access, as determined by the Resident, for emergency vehicle use of all ramps temporarily closed during construction. This access shall include snow removal vehicles.
23. The Contractor shall not have any temporary lane closures (as defined in Note 7), except for emergency repairs, if a storm is anticipated during the temporary lane closure duration. The Resident will make the final decision if a forecasted storm warrants this prohibition, in coordination with MaineDOT, NHDOT, and Maine Turnpike Authority maintenance forces. For every night in which temporary lane closures are so prohibited, the Contractor will receive an extension of 12 hours on the Contract Substantially Complete Date. No extension will be made for this prohibition to the Contract Completion Date.
24. Prior to winter maintenance season (beginning November 1), the Contractor shall arrange a review of this project with MaineDOT's Region 1 (207-885-7000), NHDOT's Bureau of Traffic (Julie Mathews, 603-271-8011), NHDOT's Bureau of Turnpikes (Dix Bailey 603-396-5054), the Maine Turnpike Authority (John Cannell, Director of Highway & Equipment Maintenance, 207-482-8127), the Town of Kittery, and the City of Portsmouth to ensure the roadway is acceptable for winter maintenance.
25. The Contractor shall notify the New Hampshire Traffic Management Center (NHTMC) within 10 minutes of installing the first advanced warning sign for a lane closure or lane blocking event, regardless of the prior approved construction phasing. The Contractor shall also notify the NHTMC within 10 minutes of removal of the last advanced warning sign.

The Resident may approve any refinements to the traffic control plan as appropriate. An additional notification with specific information on the pending change shall be provided to the Resident at least 48 hours in advance of the proposed traffic control change. This work will be subsidiary to Item 652.361 – Maintenance of Traffic Control Devices. No changes in traffic control will be allowed without completing all advanced notification requirements.

The Contractor shall communicate all lane altering events to:

NHTMC Operations Supervisor
Tel. (603-271-6862)

In addition, the Contractor shall notify and provide information regarding traffic control operations to the area emergency services noted below (subsidiary to Item 652.361 –

Maintenance of Traffic Control Devices). Particularly this includes instances such as ramp closures, resetting of granite curb on ramps, and other operations that may block traffic flow temporarily through the work zone:

Emergency Service Contacts:

- 26. a. City of Portsmouth Fire Department (603-427-1515)
- b. Town of Kittery Fire Department (207-439-2262)
- c. New Hampshire State Police Dispatch (603-223-4381)
- d. Maine Turnpike TMC (for Maine State Police & MTA dispatch) (207-871-7701)

SPECIAL PROVISION
SECTION 105
General Scope of Work
(Environmental Requirements)

I. **Peregrine falcons are known to nest on the Piscataqua River Bridge (Br# 6330).** Peregrines are protected by the New Hampshire and Maine State Endangered Species Act and the U.S. Migratory Bird Treaty Act . Peregrine nesting period is approximately February 15-August 1. Once the birds construct a nest, it cannot be disturbed by construction activity and cannot be removed. Nest building activity is primarily in February and March. The contractor shall coordinate with MaineDOT Environmental Office and assist as necessary to preclude birds from nesting on the bridge to allow construction activities between February 15 and August 1.

II. Special Conditions:

1. The contractor shall attend a meeting with the MaineDOT Environmental Office staff no later than January 15 of each calendar year of construction to coordinate nest exclusion from the bridge.
2. The contractor shall assist MaineDOT in nest exclusion by completing activities such as, but not limited to the following:
 - a. Allowing and providing access to areas with peregrine activity within the construction area. Payment for this work shall be considered incidental to related Contract items.
 - b. Providing personnel (for example: to monitor for, and report, peregrine nesting activity or assist with nesting exclusion). Payment for this work shall be considered incidental to related Contract items.
 - c. Providing materials and equipment (for example: to install nesting deterrents or to construct and install a nesting box at an alternate location off the bridge). Payment for this work shall be made at agreed prices or under Force Account.

III. Approvals:

1. Temporary Soil Erosion and Water Pollution Control Plan

SPECIAL PROVISION

SECTION 107

TIME

(Contract Time)

The Contract Completion Date is May 20, 2022.

SPECIAL PROVISION
SECTION 107
TIME
(Incentive/Disincentive)

1. Contract Substantially Complete is defined as follows:
 - a. Median and fascia barrier work is complete including transition barriers, guard rail installations and all attachments, and installation of the longitudinal joint seal.
 - b. All deck repair work is complete and the first course of pavement on the bridge is completely installed with temporary pavement markings.
 - c. All new bridge joints are installed including the permanent joint seal and existing bridge joints modified as required including the troughs and downspouts.
 - d. Bridge drains and downspouts are completely installed.
 - e. Truss hole screening and box strut caps are completely installed.
 - f. Approach work is complete with the exception of milling, overlay, and final striping.
 - g. All temporary concrete traffic barriers have been completely removed from the roadway including the Barrier Transfer Machine.
 - h. Temporary striping is installed in the final striping configuration.
2. The Contract Substantially Complete Date is October 1, 2021.
3. The Contractor will receive an incentive of Seven Thousand U.S. Dollars (\$7,000) per day upon early acceptance of Contract Substantially Complete for each full Calendar Day prior to the Contract Substantially Complete Date specified above. The maximum incentive is Nine Hundred Forty-Five Thousand U.S. Dollars (\$945,000).
4. The Contractor shall pay a disincentive of Three Thousand Five Hundred U.S. Dollars (\$3,500) per Day for each Calendar Day after the specified Contract Substantially Complete date that Contract Substantially Complete is not accepted.
5. The Contractor will receive an incentive of One Hundred Thousand U.S. Dollars (\$100,000) should Contract Substantially Complete be accepted by 6:00 am Friday, May 21, 2021. (**NO EXCUSES** will be entertained for missing this time.)
6. The Contractor will receive an incentive of One Hundred Thousand U.S. Dollars (\$100,000) should Physical Work Complete be accepted within Calendar Year 2021.
7. The Contractor shall pay a disincentive of Seven Thousand U.S. Dollars (\$7,000) per Day for each Calendar Day after May 20, 2022 that Physical Work Complete is not accepted. (**NO EXCUSES** will be entertained for altering this date.)
8. Except for times that the Contractor is required to maintain three lanes of traffic in the northbound direction as defined in Special Provision Section 105, the Contractor will receive an incentive of Seven Thousand U.S. Dollars (\$7,000) for each Friday that three (3) lanes of

traffic in the northbound direction is maintained from 12:00 pm to 10:00 pm, beginning with the first weekend in April 2019.

9. Additionally, except for times that the Contractor is required to maintain three lanes of traffic in the northbound direction as defined in Special Provision Section 105, the Contractor will receive an incentive of Seven Thousand U.S. Dollars (\$7,000) for each of the following ranges of dates that three (3) lanes of traffic in the northbound direction are maintained from 6:00 am to 10:00 pm for every day in each range of dates:
 - a. December 24, 2019 to December 28, 2019 (Tuesday to Saturday of Christmas Week)
 - b. December 31, 2019 to January 4, 2020 (Tuesday to Saturday of New Year's Week)
 - c. President's Day weekends (Friday and Saturday before) of 2020 and 2021
 - d. Weekends (Friday and Saturday) in October and November of 2019 and 2020
 - e. December 24, 2020 to December 27, 2020 (Thursday to Sunday of Christmas Week)
 - f. December 31, 2020 to January 3, 2021 (Thursday to Sunday of New Year's Week)
10. Except for times that the Contractor is required to maintain three lanes of traffic in the southbound direction as defined in Special Provision Section 105, the Contractor will receive an incentive of Seven Thousand U.S. Dollars (\$7,000) for each Sunday that three (3) lanes of traffic in the southbound direction are maintained from 8:00 am to 10:00 pm beginning the first weekend in April 2019.
11. Additionally, except for times that the Contractor is required to maintain three lanes of traffic in the southbound direction as defined in Special Provision Section 105, the Contractor will receive an incentive of Seven Thousand U.S. Dollars (\$7,000) for each of the following ranges of dates that three (3) lanes of traffic in the southbound direction are maintained from 6:00 am to 10:00 pm for every day in the range of dates:
 - a. December 24, 2019 to December 29, 2019 (Tuesday to Sunday of Christmas Week)
 - b. December 31, 2019 to January 5, 2020 (Tuesday to Sunday of New Year's Week)
 - c. President's Day weekends (Sunday and Monday) of 2020 and 2021
 - d. Veteran's Day weekends (Monday) of 2019 and 2020
 - e. December 24, 2020 to December 27, 2020 (Thursday to Sunday of Christmas Week)
 - f. December 31, 2020 to January 3, 2021 (Thursday to Sunday of New Year's Week)
12. The incentives listed in Notes 8 through 11 above shall stop after the Contract has been accepted as Contract Substantially Complete, or 10 days before Memorial Day 2021, whichever is later. The Contractor shall not have lane closures in the times listed in Notes 7 through 10 after the Contract has been accepted as Contract Substantially Complete.
13. After Contract Substantially Complete is accepted, the Contractor shall pay a fee of \$3500 for each Day that the roadway is reduced to two (2) lanes of traffic within the hours of 6:00 am to 10:00 pm.
14. Additional penalties are noted in Special Provision Section 105 Limitations of Operations.

SPECIAL PROVISION
SECTION 202
REMOVING STRUCTURES AND OBSTRUCTIONS
(Concrete Haunch Removal)

202.03 Removing Existing Superstructure, Structural Concrete, Railings, Curbs, Sidewalks and Bridges

The following paragraph is added:

Removing concrete haunches shall consist of removing and disposing of concrete haunches as shown on the plans and shall be accomplished without damage to the portion of the structure to remain. The Contractor shall submit a concrete haunch removal plan to the Resident for approval. The concrete haunch removal plan shall describe the removal procedure and containment methods.

202.07 Method of Measurement.

The following paragraph is added:

Removing concrete haunches will be measured for payment by the linear foot of concrete haunch removed each side of a girder.

202.08 Basis of Payment.

The following paragraphs are added:

Removing concrete haunches will be paid for by the contract unit price per linear foot successfully removed and disposed of. The payment will be full compensation for furnishing all materials, labor, equipment, access, and for all incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
202.1211 Concrete Haunch Removal	Linear Foot

SPECIAL PROVISION
SECTION 202
REMOVING STRUCTURES AND OBSTRUCTIONS
(Bridge Drainage System Removal)

The following subsection is added:

202.051 Removing Bridge Drainage System. The existing closed drainage system that exists below the bridge drains shall be removed and disposed of in their entirety except as noted below. This consists of collection hoppers, drain pipes, and attachment hangers. Care shall be taken to not damage the existing structure to remain. All concrete attachment hangers shall be removed and patched in accordance with Section 518.

The Contractor shall note that the bridge drainage system may contain lead-based paint and shall institute every precaution when working with materials coated with lead-based paint.

Drain pipes that attach to underground systems such as manholes, catch basins, or underdrains shall be removed to one foot below ground level and capped with appropriate watertight seals. These caps shall be of similar material as the pipe.

202.07 Method of Measurement.

The following paragraph is added:

Removing the existing bridge drainage system will be measured by the lump sum.

202.08 Basis of Payment.

The following paragraphs are added:

Removing the existing bridge drainage system will be paid for by the contract lump sum price successfully removed and disposed of. The payment will be full compensation for furnishing all materials, labor, equipment, access, and for all incidentals necessary to complete the work including, but not limited to, repairing damage to existing structure to remain, capping pipes, and disposal of all debris.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
202.1294 Bridge Drainage System Removal	Lump Sum

SPECIAL PROVISION
SECTION 202
REMOVING STRUCTURES AND OBSTRUCTIONS
(Hydro-Demolition)

Description. This work shall consist of removing and disposing of sound and unsound concrete using hydro-demolition to the depth and locations shown on the plans in accordance with these specifications. The work also includes surface milling, water control, shielding, removal and disposal of concrete and debris, any necessary trim work, cleaning and all incidentals needed to prepare the area for new concrete.

Surface Preparation. The Contractor shall surface mill the area a maximum of one (1) inch in depth with a mechanical milling machine capable of accurately and automatically establishing the depth required. If surface milling snags or damages any reinforcing steel, the operation shall be stopped immediately and the depth of removal adjusted accordingly. Any damaged or dislodged reinforcing steel shall be repaired or replaced at the Contractor's expense.

All construction debris or residual materials from the surface milling process shall be completely removed from the bridge deck prior to the commencement of the hydro-demolition.

Equipment. The hydro-demolition equipment shall consist of a water supply system, a high pressure water pumping system, a demolition type unit, and a water and debris containment system. The demolition unit shall be a robotic, computerized, self-propelled unit utilizing a high pressure water jet stream that is capable of removing concrete to the desired depths specified, including the selective removal of all unsound concrete. It shall also be capable of cleaning rust and concrete particles from all exposed reinforcing steel. The resulting concrete surface profile shall be one that is highly rough and bondable.

The water and debris containment system shall be capable of capturing wet and dry debris and standing water. All dust shall be contained.

All water used in conjunction with the hydro-demolition process shall be potable water, except that stream, river or lake water may be used if properly filtered and approved by the Resident prior to use.

Only individuals who have experience on jobs of similar size and type over the past three years shall operate the hydro-demolition equipment.

The demolition unit must provide shielding to ensure containment of all dislodged concrete within the removal area. Flying debris on, adjacent to, and below the work site will not be allowed.

Construction Requirements. Prior to the beginning of hydro-demolition, the Contractor must submit a plan to the Resident for the control and filtering of all water discharged by the operation. All drains, joints, and other locations where discharge water could exit the deck must be blocked, in order to direct runoff to a central collection and filtering location, as designed by the

Contractor. The Contractor shall be responsible for compliance with all environmental laws and regulations regarding the discharge of runoff water into the environment. Specific details shall be provided by the Contractor detailing the method of water and debris collection, filtering, treatment, and legal disposal.

The Contractor is responsible for the disposal of all concrete and debris, and securing any applicable permits which may be required.

The robotic hydro-demolition equipment shall be calibrated on a representative sample of sound deck concrete, as directed by the Resident. The calibration must accomplish the desired surface roughness, profile, and cutting depth as indicated on the contract plans. Water pressure shall be kept to the minimum needed to attain these results. Extreme care shall be taken to not remove more than the depth desired. The operating parameters shall be recorded as follows:

- Calibration Location
- Water Pressure
- Nozzle Size and Type
- Nozzle Travel Speed

All resets of the hydro-demolition equipment shall be calibrated as above.

Clean-up and removal of slurry and rubble from the hydro-demolition shall follow as closely as practicable behind the hydro-demolition process. The cleaned surface shall be free of all debris, loose material, slurry, and cement paste, including the reinforcing steel to remain.

The Contractor shall take steps to prevent damage to existing reinforcing steel and concrete deck to remain. All equipment shall be operated in a manner that does not damage the slab, reinforcing steel or superstructure components. Any damage caused by the Contractor's equipment or negligence shall be repaired at the Contractor's expense. Contamination of the deck by construction equipment or any other source shall be prevented.

Method of Measurement. Hydro-demolition, will be measured for payment by the square yard with no deductions made for areas occupied by bridge drains or bridge joints.

Basis of Payment. The accepted quantity of concrete deck removal by hydro-demolition will be paid for at the contract unit price per square yard for the areas shown on the plans and as directed by the engineer. This price will be considered full compensation for removing and disposing of concrete and debris resulting from this work, including, but not limited to, surface milling, water retention and disposal, materials, equipment and all incidentals necessary to complete the work. If the Contractor elects to use hydrodemolition as the method of concrete removal for other portions of the work, no additional payment for use of hydrodemolition in those areas shall be made.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
202.1295 Hydro-Demolition, Property of Contractor	Square Yard

SPECIAL PROVISION
SECTION 202
REMOVING STRUCTURES AND OBSTRUCTIONS
(Shoulder Rumble Strip)

Description This work shall consist of milling a pattern onto highway shoulders at the spacing, offset, width, and depth shown on the plans. Rumble strips shall not be placed across ramp openings, crossover openings, or bridges.

CONSTRUCTION REQUIREMENTS

Removing Material The bituminous material shall be removed by a cold milling machine capable of removing the pavement to the required depth and width. The machine must be adjustable to grind or plane on various cross-slopes. Salvage and disposal of bituminous material shall be in accordance with Section 203.

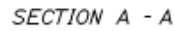
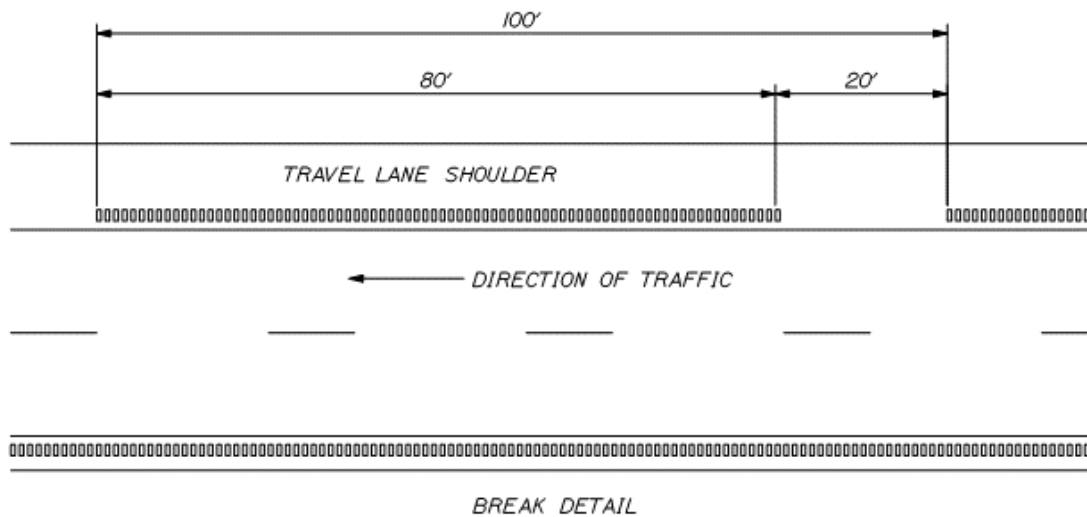
Equipment The equipment shall be a cold milling machine or a cold planing machine specially manufactured for rumble strips. This machine shall be capable of cutting 1200 rumble strips per hour of operation. The Contractor will perform a test section prior to rumble strip installation and at any time as directed by the Resident. The test section will be done to ensure that the machine is capable of milling the rumble strips in accordance with these specifications and the plans.

Method of Measurement Rumble strips will be measured by the linear foot longitudinally along the edge of the travelway. For rumbled strips that are broken at regular intervals to permit emergency stopping on shoulders for motorcycles, the length measured for payment shall include the full running length including the regular breaks. Breaks in rumble strip installation for acceleration lanes, deceleration lanes, and crossovers will not be included in the length measured for payment.

Basis of Payment The accepted quantity of rumble strips will be paid for at the unit price bid per linear foot, which price will be full compensation for removing and salvaging the bituminous material and for any labor, equipment, and incidentals needed to complete this work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
202.205 Rumble Strip – Shoulder	Linear Foot

[illegible]

I. SHOULDER RUMBLE STRIPS SHALL BE PLACED ON THE MEDIAN AND OUTSIDE SHOULDER AS SHOWN IN THE ABOVE DETAIL.

2.ON THE OUTSIDE SHOULDER,THE RUMBLE STRIP PLACEMENT SHALL BE
BROKEN FOR A DISTANCE OF 20 FT FOR EVERY 80 FT PLACED.

SHOULDER RUMBLE STRIP DETAIL - INTERSTATE

SPECIAL PROVISION
SECTION 202
REMOVING STRUCTURES AND OBSTRUCTIONS
(Rumble Strips, Fill)

202.01 Description. This subsection is amended with the addition of the following:

This work shall consist of grinding existing rumble strip locations to a depth of 1-1/2 inches, coating vertical and horizontal surfaces with bituminous tack coat, and installing 1-1/2 inches of hot mix asphalt, 9.5 mm over the entire milled area. Locations and lengths of removal shall be as shown on the Plans or as approved by the Resident.

The following Subsections are added:

202.011 Materials. Grinding shall be done in accordance with Section 202. Bituminous tack coat shall conform to Section 409.

Hot mix asphalt, 9.5 mm shall conform to Section 401.

202.025 General Existing rumble strips are approximately 16 inches long, seven inches wide, 1/2 inch deep, and spaced approximately every five inches.

202.07 Method of Measurement. This subsection is amended with the addition of the following:

Rumble Strips, Fill shall be measured by the linear foot ground, filled, and accepted. Measurement shall be parallel to the baseline.

202.08 Basis of Payment. This subsection is amended with the addition of the following:

Rumble Strips, Fill shall be paid for at the Contract unit price per linear foot which includes all grinding, bituminous tack coat, pavement, equipment and labor necessary to satisfactorily complete the work.

Payment will be made under:

Pay Item

Pay Unit

202.207 Rumble Strips, Fill

Linear Foot

SPECIAL PROVISIONS
SECTION 202
REMOVING STRUCTURES AND OBSTRUCTIONS
(Removing Pavement Surface)

The November 2014 Revision of the Standard Specifications, Section 202-Removing Structures and Obstructions, subsection 202.061-Removing Pavement Surface, has been removed and replaced in its entirety by the following:

202.061 Removing Pavement Surface The equipment for removing the bituminous surface shall be a power operated milling machine or grinder capable of removing bituminous concrete pavement to the required depth, transverse cross slope, and profile grade by the use of an automated grade and slope control system. The controls shall automatically increase or decrease the pavement removal depth as required, and readily maintain desired cross slope, to compensate for surface irregularities in the existing pavement course. The equipment shall be capable of accurately establishing profile grades by referencing from a fixed reference such as a grade wire, or from the existing pavement surface using a 30 foot minimum contact ski (floating beam), or 24 foot non-contact grade control beam.

The Contractor shall locate and remove all objects in the pavement through the work area that would be detrimental to the planing or grinding machine. Any structures or obstructions left within the travel lane or shoulders shall have tapers installed according to Standard Detail 202(01). The finished milled surface will be inspected before being accepted, and any deviations in the profile exceeding 1/2 inch under a 16 foot string line or straightedge placed parallel to the centerline will be corrected. Any deviations in the cross-slope that exceed 3/8 inch under a 10 foot string line or straightedge placed transversely to centerline will be corrected. All corrections will be made with approved methods and materials. Any areas that require corrective measures will be subject to the same acceptance tolerances. Excess material that becomes bonded to the milled surface will be removed to the Resident's satisfaction before the area is accepted.

On highways or expressways with directional traffic, the Contractor will be required to remove the pavement surface on the adjacent sections of travel lane and designated portions of adjacent shoulder before the end of the following calendar day unless the centerline edge is tapered to a 12:1. Failure to remove the centerline vertical edge by milling, using the approved taper, or matching the adjacent course the following day will constitute a traffic control violation unless an excusable delay is granted by the Department. The Contractor will be required to remove the specified pavement course over the full width of the mainline traveled ways prior to opening the sections to weekend or holiday traffic.

On roadways with two-way traffic, the Contractor will be required to remove the specified pavement course over the full width of the mainline traveled ways prior to opening the sections to weekend or holiday traffic.

During any period that a centerline vertical or tapered edge exists, the Contractor will be responsible for installing additional warning signage that clearly defines the centerline vertical or tapered edge and elevation differential hazard, as well as additional centerline delineation such as double RPM application, or temporary painted line. The Traffic Control Plan shall include the additional requirements. All signs and traffic control devices will conform to Section 719.01, and Section 652, and will be installed prior to the work, at a maximum spacing of 0.50 mile for the entire length of the effected roadway section. All additional signing, labor, traffic control devices, or incidentals will not be paid for directly, but will be considered incidental to the appropriate 652 bid items.

When pavement milling operations leave a 2 inch or less exposed vertical face at the edge of the traveled way, RPMs shall be placed on the remaining pavement surface along the vertical edge at 200 foot intervals. Uneven pavement signs shall be placed at a maximum spacing of ½ mile when pavement milling operations leave an exposed vertical face at the edge of travelway.

When pavement milling operations on directional or bi-directional traffic roadways leave an exposed vertical face greater than 2 inches at the edge of the traveled way the edge shall be either;

1. Be tapered to a zero edge by means of milling a 12:1 transition from the edge of traveled way onto the shoulder before opening the lane to traffic. Tapers shall be removed to form a vertical edge prior to the placement of the new pavement course. No additional payment will be made for tapers, or taper removal.
2. Have an additional 2 feet of pavement shall be removed from the shoulder to eliminate the vertical edge at the edge of travelway before opening the lane to traffic. Payment will be made under the pavement removal item.
3. A pavement layer will be placed to reduce the vertical edge to 2 inch or less before opening the lane to traffic.

As a minimum, the use of temporary painted line, or RPMs placed along the edge of traveled way at 200 foot intervals is required. When pavement milling is extended into the shoulder (including milled tapers), appropriate channelization devices shall be placed 2 feet outside the edge of the vertical face at intervals not exceeding 600 feet, and RPMs shall be placed on the remaining pavement surface along the vertical edge at 200 foot intervals. Uneven pavement signs shall be placed at a maximum spacing of ½ mile when any pavement milling operations leaves an exposed uneven pavement surface.

Any areas of concern, such as de-lamination or pot-holing shall be identified on a continuous basis as milling progresses. Proper corrective action will be determined by the Resident and paid for under the appropriate contract items, and if required, completed prior to opening lane to traffic. Any issues that arise **up to** 7 calendar days after being milled will be the responsibility of the MaineDOT unless otherwise noted in Special Provision Section 105 – Limitations Of Operations. Issues that arise after 7 calendar days will be the responsibility of the Contractor unless otherwise noted in Special Provision Section 105 – Limitations Of Operations.

SPECIAL PROVISION
SECTION 401 - HOT MIX ASPHALT PAVEMENT

The Standard Specification 401 – Hot Mix Asphalt Pavement, has been modified with the following revisions. All sections not revised by this Supplemental Specification shall be as outlined in Section 401 of the Standard Specifications.

401.07 Hot Mix Asphalt Plant

401.071 General Requirements HMA plants shall conform to AASHTO M156-97.

a. Truck Scales When the hot mix asphalt is to be weighed on scales meeting the requirements of Section 108 - Payment, the scales shall be inspected and sealed by the State Sealer as often as the Department deems necessary to verify their accuracy.

Plant scales shall be checked prior to the start of the paving season, and each time a plant is moved to a new location. Subsequent checks will be made as determined by the Resident. The Contractor will have at least ten 50 pound masses for scale testing.

b. Additives Additives (WMA, anti-strip, etc.) not directly introduced into the binder at the terminal shall be introduced into the HMA plant per the supplier's recommendations and shall be approved by the Asphalt Pavement Engineer, Pavement Quality Manager, or their authorized representative. The system for introducing additives shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes. Additive introduction systems shall be controlled by a proportioning device to the amount required on the JMF plus or minus 0.1% of the target. Additive introduction systems shall be interlocked with the plant and the recordation (batch tickets or drum recordation) shall display the additive and the weight and percentage added.

c. Stockpiles HMA plants shall have sufficient space for stockpiles, with a minimum of supply for 2 days production of all aggregate products used in MaineDOT approved mix designs currently under production for the facility at all times. A minimum stockpile supply of 100 ton (70 yards) shall be maintained at all times no matter the production rate for the HMA plant. Stockpiles shall be separated and built to minimize segregation.

401.18 Quality Control Method A, B & C The Contractor shall operate in accordance with the approved Quality Control Plan (QCP) to assure a product meeting the contract requirements. The QCP shall meet the requirements of Section 106.6 - Acceptance and this Section. The Contractor shall not begin paving operations until the Department approves the QCP in writing.

The QCP shall address any items that affect the quality of the Hot Mix Asphalt Pavement including, but not limited to, the following:

- a. JMF(s)
- b. Hot mix asphalt plant details
- c. Stockpile Management (to include provisions for how the requirements of 401.071c will be met)
- d. Make and type of paver(s)
- e. Make and type of rollers including weight, weight per inch of steel wheels, and average contact pressure for pneumatic tired rollers
- f. Name of QCP Administrator, and certification number
- g. Name of Process Control Technician(s) and certification number(s)
- h. Name of Quality Control Technicians(s) and certification number(s)
- i. Mixing & transportation including process for ensuring that truck bodies are clean and free of debris or contamination that could adversely affect the finished pavement
- j. Testing Plan
- k. Laydown operations including longitudinal joint construction, procedures for avoiding paving in inclement weather, type of release agent to be used on trucks tools and rollers, compaction of shoulders, tacking of all joints, methods to ensure that segregation is minimized, procedures to determine the maximum rolling and paving speeds based on best engineering practices as well as past experience in achieving the best possible smoothness of the pavement. Solvent based agents developed to strip asphalts from aggregates will not be allowed as release agents.
- l. Examples of Quality Control forms including a daily plant report, daily paving report, and delivery slip template for any plant to be utilized.
- m. Silo management and details (can show storage for use on project of up to 36 hours)
- n. Provisions for varying mix temperature due to extraordinary conditions or production limitations. If a warm-mix technology is utilized, a proposed target production temperature range (not to exceed 50°F) will be provided for each mix design.
- o. Name and responsibilities of the Responsible onsite Paving Supervisor.
- p. Method for calibration/verification of Density Gauge
- q. A note that all testing will be done in accordance with AASHTO and the MaineDOT Policies and Procedures for HMA Sampling and Testing.
- r. A detailed description of RAP processing, stockpiling and introduction into the plant as well as a note detailing conditions under which the percent of RAP will vary from that specified on the JMF.
- s. A detailed procedure outlining when production will be halted due to QC or Acceptance testing results.
- t. A plan to address the change in PGAB source or supplier and the potential co-mingling of differing PGAB's.
- u. A procedure to take immediate possession of acceptance samples once released by MaineDOT and deliver said samples to the designated acceptance laboratory.
- v. Provisions for how the QCP will be communicated to the Contractor's field personnel

The Contractor shall cease paving operations whenever one of the following occurs on a lot in progress:

- a. Method A: The Pay Factor for VMA, Voids @ N_d , Percent PGAB, composite gradation, VFB, fines to effective binder or density using all Acceptance or all Quality Control tests for the current lot is less than 0.85. No ceasing of paving operations shall be required for fines to effective binder if the mean test value is equal to the LSL or USL and $s = 0$.
- b. Method B: The Pay Factor for VMA, Voids @ N_d , Percent PGAB, composite gradation, VFB, fines to effective binder or density using all Acceptance or all Quality Control tests for the current lot is less than 0.90. No ceasing of paving operations shall be required for fines to effective binder if the mean test value is equal to the LSL or USL and $s = 0$.
- c. Method C: The Pay Factor for Percent PGAB, percent passing the nominal maximum sieve, percent passing 2.36 mm sieve, percent passing 0.300 mm sieve, percent passing 0.075 mm sieve or density using all Acceptance or all available Quality Control tests for the current lot is less than 0.85. No ceasing of paving operations shall be required for percent passing the nominal maximum sieve, percent passing 2.36 mm sieve, percent passing 0.300 mm sieve, or percent passing 0.075 mm sieve if the mean test value is equal to the LSL or USL and $s = 0$.
- d. The Coarse Aggregate Angularity or Fine Aggregate Angularity value falls below the requirements of Table 3: Aggregate Consensus Properties Criteria in Section 703.07 for the design traffic level.
- e. Each of the first 2 control tests for a Method A or B lot fall outside the upper or lower limits for VMA, Voids @ N_d , or Percent PGAB; or under Method C, each of the first 2 control tests for the lot fall outside the upper or lower limits for the nominal maximum, 2.36 mm, 0.300 mm or 0.075 mm sieves, or percent PGAB.
- f. The Flat and Elongated Particles value exceeds 10% by ASTM D4791.
- g. There is any visible damage to the aggregate due to over-densification other than on variable depth shim courses.
- h. The Contractor fails to follow the approved QCP.

401.203 Method C Lot Size will be the entire production per JMF for the project, or if so agreed at the Pre-paving Conference, equal lots of up to 4500 tons, with unanticipated over-runs of up to 1500 ton rolled into the last lot. Sublot sizes shall be 750 ton for mixture properties, 500 ton for base or binder densities and 250 ton for surface densities. The minimum number of sublots for mixture properties shall be 4, and the minimum number of sublots for density shall be five.

TABLE 7: METHOD C ACCEPTANCE LIMITS

Property	USL and LSL
Passing 4.75 mm and larger sieves	Target +/-7%
Passing 2.36 mm to 1.18 mm sieves	Target +/-5%
Passing 0.60 mm	Target +/-4%
Passing 0.30 mm to 0.075 mm sieve	Target +/-2%
PGAB Content	Target +/-0.4%
% TMD (In place density)	95.0% +/- 2.5%

Pay Adjustment Method C

The Department will use density, Performance Graded Asphalt Binder content, and the percent passing the nominal maximum, 2.36 mm, 0.300 mm and 0.075 mm sieves for the type of HMA represented in the JMF. If the PGAB content falls below 0.80, then the PGAB pay factor shall be 0.55.

Density: For mixes having a density requirement, the Department will determine a pay factor using Table 7: Method C Acceptance Limits:

$$PA = (\text{density PF} - 1.0)(Q)(P) \times 0.50$$

PGAB Content and Gradation The Department will determine a pay factor using Table 7: Method C Acceptance Limits. The Department will calculate the price adjustment for Mixture Properties as follows:

$$PA = (\% \text{ Passing Nom. Max PF} - 1.0)(Q)(P) \times 0.05 + (\% \text{ passing 2.36 mm PF} - 1.0)(Q)(P) \times 0.05 + (\% \text{ passing 0.30 mm PF} - 1.0)(Q)(P) \times 0.05 + (\% \text{ passing 0.075 mm PF} - 1.0)(Q)(P) \times 0.10 + (\text{PGAB PF} - 1.0)(Q)(P) \times 0.25$$

401.223 Process for Dispute Resolution (Methods A B & C only)

TABLE 10: DISPUTE RESOLUTION VARIANCE LIMITS

PGAB Content	+/-0.4%
G_{mb}	+/-0.030
G_{mm}	+/-0.020
Voids @ N_d	+/-0.8%
VMA	+/-0.8%
Passing 4.75 mm and larger sieves	+/- 4.0%
Passing 2.36 mm to 0.60 mm sieves	+/- 3.0%
Passing 0.30 mm to 0.15	+/- 2.0 %
0.075 mm sieve	+/- 0.8%

SPECIAL PROVISION
DIVISION 400
PAVEMENTS

SECTION 401 - HOT MIX ASPHALT PAVEMENT
(Hot Mix Asphalt Aggregates)

The following subsections of the most current version of Specification 401 – Hot Mix Asphalt Pavements have been revised and amended by the following:

401.01 Description The Contractor shall furnish and place one or more courses of Hot Mix Asphalt Pavement (HMA) on an approved base in accordance with the contract documents and in reasonably close conformity with the lines, grades, thickness, and typical cross sections shown on the plans or established by the Resident. The Department will accept this work under Quality Assurance provisions, in accordance with these specifications and the requirements of Section 106 – Quality, the provisions of AASHTO M 323 except where otherwise noted in sections 401 and 703 of these specifications, and the Maine DOT Policies and Procedures for HMA Sampling and Testing.

401.02 Materials Materials shall meet the requirements specified in Section 700 – Materials, unless otherwise revised in this or other special provisions:

Asphalt Cement	702.01
Aggregates for HMA Pavement	703.07
HMA Mixture Composition	703.09

Aggregates used shall be from an approved source and shall meet the requirements of section 703.07 for 10 to < 30 million ESALs, and as modified by items 1 through 7 listed below.

1. Individual coarse aggregates shall meet a Micro-Deval (AASHTO T 327) value of 14 or less.
2. Individual coarse aggregates shall have a maximum LA Abrasion (AASHTO T96) of 30.
3. Individual fine aggregates shall meet a Fine Micro-Deval (ASTM D7428) of 14 or less.
4. Absorption by AAHSTO T 84 shall be less than 2.0% for fine aggregate blends.
5. Absorption by AAHSTO T 85 shall be less than 2.0% for coarse aggregate blends.
6. Aggregates shall have a minimum sand equivalent of 45, (AASHTO T 176), and the fine aggregate shall be 100% crushed.
7. 95 % of the aggregate shall have at least a single face crushed and 85% shall have 2 or more crushed.
8. Percent by weight of Flat and Elongated particles shall be (5:1 ratio) with 10% maximum.

401.03 Composition of Mixtures The Contractor shall compose the Hot Mix Asphalt Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), and mineral filler if required. HMA shall be designed and tested according to AASHTO R35 and the volumetric criteria in Table 1. The Contractor shall size, uniformly grade, and combine the aggregate fractions in proportions that provide a mixture meeting the grading requirements of the Job Mix Formula (JMF). The JMF target for the percent passing the No. 200 sieve shall not exceed 5%. The Contractor may not use RAP in the HMA mixture at any percentage.

TABLE 1: VOLUMETRIC DESIGN CRITERIA

Design ESAL's (Millions)	Required Density (Percent of G _{mm})			Voids in the Mineral Aggregate (VMA)(Minimum Percent)					Voids Filled with Binder (VFB) (Minimum %)	Fines/Eff. Binder Ratio
				Nominal Maximum Aggregate Size (mm)						
	N _{initial}	N _{design}	N _{max}	25	19	12.5	9.5	4.75		
<0.3	≤91.5	96.0	≤98.0	13.0	14.0	15.0	16.0	16.0	70-80	<u>0.6-0.9</u>
0.3 to <3	≤90.5								65-80	
3 to <10	≤89.0								65-80	
10 to <30										
≥ 30										

Basis of Payment The accepted quantities of hot bituminous pavement will be paid for at the contract unit price per Ton for the bituminous mixtures, including bituminous material.

Method A, Method B, Method C and Method D shall be used for acceptance as specified in Section 401 - Hot Mix Asphalt Pavements. (See Complementary Notes, Section 403 - Hot Bituminous Pavement, for Method location).

Payment will be made under the appropriate mix type as denoted in Special Provision 403.

SPECIAL PROVISION
SECTION 401
HOT MIX ASPHALT PAVEMENT

401 HOT MIX ASPHALT LONGITUDINAL JOINT DENSITY

401.30 Description The Department will measure the pavement density of longitudinal joints constructed between adjoining travel lanes. Core samples shall be tested according to AASHTO T-166. The Department will randomly determine core locations. The Contractor shall cut 6 in diameter cores at no additional cost to the Department by the end of the working day following the day the pavement is placed, and immediately give them to the Department. The cores will be placed in a transport container provided by the Department and transported by the Contractor to the designated MaineDOT Lab as directed by the Department. Pre-testing of the acceptance cores will not be allowed. At the time of sampling, the Contractor and the Department shall mutually determine if a core is damaged. If it is determined that the core(s) is damaged, the Contractor shall cut new core(s) at the same offset and within 3 ft of the initial sample. At the time the core is cut, the Contractor and the Department will mutually determine if saw cutting of the core is needed, and will mark the core at the point where sawing is needed. The core may be saw cut by the Contractor in the Department's presence onsite, or in a MaineDOT Lab by the Department, without disturbing the layer being tested to remove lower layers of Hot Mix Asphalt Pavement, gravel, or RAP. No recuts are allowed at a test location after the core has been tested.

Cores shall be taken directly over the construction joint. Should the notched wedge joint device be used, the cores shall be cut directly over the center of the taper portion of the wedge (approximately centered 3" from the visible joint).

As part of the project specific QCP, the Contractor shall include details as to methods of construction, rolling and compaction efforts, and action plan to adjust methods or equipment should the Quality level fall below 50 percent within limits. The Contractor shall be required to measure the joint density at randomly selected locations with a minimum frequency of one measurement per 750 linear feet. The Contractor shall have the option to cut calibration/verification cores at a rate not to exceed 1 per day.

If the Quality level for density falls below 50 percent within limits, the Contractor shall cease placement operations and submit a corrective action letter to the Department before proceeding with the Lot or before starting a new Lot. The Department will respond and either accept or reject the Contractor's proposed corrective action. If the Department accepts the corrective action, three stratified verification cores will be taken from the first 1500 foot section of centerline constructed for the purpose of evaluating the corrective action. These cores will be in addition to any Acceptance cores that may be designated in this area. The results from these cores shall be combined with the cores from the Lot in progress. Should the combined Quality level for density show an improvement, the Department will accept the corrective action and normal Acceptance sampling frequency shall resume. If an improvement has not been made to the combined Quality level for density, the Contractor shall cease production and submit an additional corrective action letter for consideration.

401.31 Acceptance This method utilizes Quality Level Analysis and pay factor specifications as described in Section 106. For Hot Mix Asphalt Pavement designated for acceptance under Quality Assurance provisions, the Department will sample once per subplot on a statistically random basis, test, and evaluate in accordance with the following Acceptance Criteria:

Lot size will be the entire length of longitudinal joint for the given HMA layer for the project, or equal Lots of a size agreed upon at the Pre-paving conference. The maximum subplot size shall be 2000 linear feet of longitudinal joint for density and the minimum number of sublots for any Lot shall be five. The Lot will be divided up into sublots of equal length. There shall be a separate Lot for each lift of HMA pavement, and Lots shall not be comprised of results from more than one HMA layer.

The Department will determine a pay factor using acceptance limits from Table 1.

TABLE 1: LONGITUDINAL JOINT DENSITY ACCEPTANCE LIMITS

PROPERTY	LSL
% TMD (In-place density)*	91.0

* The Theoretical Maximum Density will be determined from the average of the Gmm values used to determine the percent compaction of the nearest acceptance cores on either side of the Centerline Joint Core from each adjacent mat.

The Department will calculate the Pay Adjustment for Centerline Joint Density as follows:

$$\text{Where } \begin{array}{lcl} \text{PA} & = & (\text{joint density PF} - 1.0)(Q)(P) \times 0.40 \\ \text{PA} & = & \text{Pay Adjustment} \\ \text{Q} & = & \text{Quantity of traveled way pavement represented by PF in tons} \\ \text{P} & = & \text{Contract price per ton} \\ \text{PF} & = & \text{Pay Factor} \end{array}$$

If the joint density Pay Factor is less than 0.88, the Pay Adjustment shall be:

$$\text{PA} = (-0.05)(Q)(P)$$

SPECIAL PROVISION
SECTION 401 - HOT MIX ASPHALT PAVEMENT
(HMA with Fine Micro-Deval Requirement)

The following subsections of the most current version of Specification 401 – Hot Mix Asphalt Pavements have been revised and amended by the following:

401.01 Description The Contractor shall compose Hot Mix Asphalt (HMA) Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), and mineral filler if required. If denoted in Special Provision 403 - Hot Mix Asphalt Pavement, the mixtures shall meet the additional aggregate requirements of this special provision.

401.02 Materials Materials shall meet the requirements specified in Section 700 – Materials, unless otherwise revised in this special provision:

Aggregates for HMA Pavement	703.07
HMA Mixture Composition	703.09

The HMA composite blend, minus any RAP used, shall have a Micro-Deval value of 18.0 or less as determined by AASHTO T327. The HMA composite blend, minus any RAP used, shall have a Fine Micro-Deval value of 14.0 or less as determined by ASTM D7428.

SECTION 401 - HOT MIX ASPHALT PAVEMENT (HMA Hamburg Wheel Tracker Specification – PG70E-28)

401.03 Composition of Mixtures The Contractor shall compose the Hot Mix Asphalt Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), and mineral filler if required. HMA shall be designed and tested according to AASHTO R35 and the volumetric criteria in Table 1. The Contractor shall size, uniformly grade, and combine the aggregate fractions in proportions that provide a mixture meeting the grading requirements of the Job Mix Formula (JMF).

The Contractor shall submit for Department approval a JMF to the Central Laboratory in Bangor for each mixture to be supplied. The Department may approve 1 active design per nominal maximum size, per traffic level, per plant, plus a 9.5mm “fine” mix for shimming and where required, a non-RAP design for bridge decks. The Department shall then have 14 calendar days in which to process a new design before approval, not including time needed for Hamburg Wheel Tracker verification testing. The JMF shall establish a single percentage of aggregate passing each sieve size within the limits shown in section 703.09. The mixture shall be designed and produced, including all production tolerances, to comply with the allowable control points for the particular type of mixture as outlined in 703.09. The JMF shall state the original source, gradation, and percentage to be used of each portion of the aggregate including RAP when utilized, and mineral filler if required. It shall also state the proposed PGAB content, the name and location of the refiner, the supplier, the source of PGAB submitted for approval, the type of PGAB modification if applicable, and the location of the terminal if applicable.

In addition, the Contractor shall provide the following information with the proposed JMF:

- Properly completed JMF indicating all mix properties (Gmm, VMA, VFB, etc.)
- Stockpile Gradation Summary
- Design Aggregate Structure Consensus Property Summary
- Design Aggregate Structure Trial Blend Gradation Plots (0.45 power chart)
- Trial Blend Test Results for at least three different asphalt contents
- Design Aggregate Structure for at least three trial blends
- Test results for the selected aggregate blend at a minimum of three binder contents
- Specific Gravity and temperature/viscosity charts for the PGAB to be used
- Recommended mixing and compaction temperatures from the PGAB supplier
- Material Safety Data Sheets (MSDS) For PGAB
- Asphalt Content vs. Air Voids trial blend curve
- Test report for Contractor’s Verification sample
- Summary of RAP test results (if used), including count, average and standard deviation of binder content and gradation

At the time of JMF submittal, the Contractor shall identify and make available the stockpiles of all proposed aggregates at the plant site. There must be a minimum of 150 ton for stone stockpiles, 75 ton for sand stockpiles, and 50 ton of blend sand before the Department will sample. The Department shall obtain samples for laboratory testing. The Contractor shall also make available to the Department the PGAB proposed for use in the mix in sufficient quantity to test the properties of the asphalt and to produce samples for testing of the mixture.

Before the start of paving, the Contractor shall provide the Department with eight boxes of plant produced HMA. The Contractor shall test its split of the sample and determine if the results meet the requirements of the Department’s written policy for mix design verification (See Maine DOT Policies and Procedures for HMA

Sampling and Testing available at the Central Laboratory in Bangor). If the results are found to be acceptable, the Contractor will forward their results to the Department's Lab, which will test the Department's split of the sample. The results of the two split samples will be compared and shared between the Department and the Contractor. If the HMA meets the requirements for mix design verification, the mixture will be tested for rutting and moisture sensitivity in the Hamburg Wheel Tracker according to AASHTO T324, "Hamburg Wheel-Track Testing of Hot Mix Asphalt (HMA)." The sample will be required to meet the applicable requirements of Table 1A below for approval, depending on the PG binder grade required by the 403 Special Provision. If the sample meets the requirements of Table 1A, an approved JMF will be forwarded to the Contractor and paving may commence. The Department will have five business days from receipt of the sample at the Central Laboratory to process, test, and report the Hamburg Wheel Tracker sample. The first day's production shall be monitored, and the approval may be withdrawn if the mixture exhibits undesirable characteristics such as checking, shoving or displacement.

The Contractor shall be allowed to submit aim changes within 24 hours of receipt of the first Acceptance test result. Should all of the Acceptance samples of a Lot be obtained prior to the receipt of the first Acceptance result, the Department will not allow the aim changes to be applied to that Lot. Adjustments will be allowed of up to 2% on the percent passing the 2.36 mm sieve through the 0.075 mm and 3% on the percent passing the 4.75 mm or larger sieves. Adjustments will be allowed on the %PGAB of up to 0.2%. Adjustments will be allowed on GMM of up to 0.010.

The Contractor shall submit a new JMF for approval each time a change in material source or materials properties is proposed. The same approval process shall be followed. The cold feed percentage of any aggregate may be adjusted up to 10 percentage points from the amount listed on the JMF, however no aggregate listed on the JMF shall be eliminated. The cold feed percentage for RAP may be reduced up to 10 percentage points from the amount listed on the JMF and shall not exceed the percentage of RAP approved in the JMF or for the specific application under any circumstances.

TABLE 1: VOLUMETRIC DESIGN CRITERIA

Design ESAL's (Millions)	Required Density (Percent of G _{mm})			Voids in the Mineral Aggregate (VMA)(Minimum Percent)					Voids Filled with Binder (VFB) (Minimum %)	Fines/Eff. Binder Ratio
				Nominal Maximum Aggregate Size (mm)						
	N _{initial}	N _{design}	N _{max}	25	19	12.5	9.5	4.75		
<0.3	≤91.5	96.0	≤98.0	13.0	14.0	15.0	16.0	16.0	70-80	0.6-1.2
0.3 to <3	≤90.5								65-80	
3 to <10	≤89.0								65-80*	
10 to <30										
> 30										

*For 9.5 mm nominal maximum aggregate size mixtures, the maximum VFB is 82.

*For 4.75 mm nominal maximum aggregate size mixtures, the maximum VFB is 84.

TABLE 1A: HAMBURG WHEEL TRACKER REQUIREMENTS

Specified PG Binder Grade	Test Temperature (°C)	Maximum Rut Depth (mm)	Minimum Number of Passes	Minimum Allowable SIP*
PG 70E-28	50	12.5	20,000	15,000

* As calculated by the most recently published version of the MaineDOT HWT worksheet, which is available online at <http://www.maine.gov/mdot/contractors/publications/>

401.18 Quality Control Method A, B & C The following language has been added to Section 401.18:

The project specific QCP shall address the sampling, transport, and testing of Hamburg Wheel Tracker QC samples and what potential steps will be taken if QC samples do not meet the requirements in Table 1A. The project-specific QCP shall also contain a sample Hamburg Wheel Tracker test report for approval. The Contractor shall sample and test HMA Pavement in the Hamburg Wheel Tracker according to AASHTO T324 in accordance with the following minimum frequencies:

TABLE 2A: MINIMUM QUALITY CONTROL FREQUENCIES

Test or Action	Frequency	Test Method
Hamburg Wheel Tracker	1 per 4,000 ton and at least once per Acceptance Lot	AASHTO T 324

The Contractor shall sample the HMA on the first day of production and test the sample in the Hamburg Wheel Tracker according to AASHTO T324. This sample will not count towards the minimum quality control frequency specified in Table 2A. The Contractor shall submit all Hamburg Wheel Tracker test reports in writing, signed by the appropriate technician and present them to the Department within ten working days of initial sampling, except when otherwise noted in the project specific QCP due to local restrictions. The Contractor shall make the raw Hamburg Wheel Tracker data from QC samples available to the Department upon request. If a QC sample fails to meet the criteria in Table 1A, the Contractor will be required to submit a corrective action letter to the Resident, Materials Engineer, Pavement Quality Manager, and Pavement Quality Engineer by the end of the following working day with the proposed changes to bring the mixture back into compliance. The Department will respond and either accept or reject the Contractor's proposed corrective action by the end of the following working day from when the letter was received.

The Department will sample and test the HMA during production to verify compliance with the Hamburg Wheel Tracker Requirements. If a verification sample fails to meet the criteria in Table 1A, the Contractor will be required to submit a corrective action letter to the Resident, Materials Engineer, Pavement Quality Manager, and Pavement Quality Engineer by the end of the following working day with the proposed changes to bring the mixture back into compliance. The Department will respond and either accept or reject the Contractor's proposed corrective action by the end of the following working day from when the letter was received.

SPECIAL PROVISION
SECTION 401
HOT MIX ASPHALT PAVEMENT
(Material Transfer Vehicle)

Description The hot mix asphalt pavement for all leveling, base, binder and wearing courses shall be transferred to the paver by a material transfer vehicle (MTV) on mainline travelways, shoulders, and ramps as denoted in Special Provision 403 - Hot Mix Asphalt Pavement.

The MTV shall operate as an independent unit not attached to the paver. It shall be a commercially manufactured unit specifically designed to transfer the hot mix from haul trucks to the paver without depositing the mix on the roadway. A separate hopper with a capacity of 14 ton shall be inserted into the regular paver hopper. The MTV or the hopper insert shall be designed so that the mix receives additional internal mixing action either in the MTV unit or the paver hopper.

Basis of Payment The MTV and the hopper insert will not be paid for directly, but will be considered incidental to the related contract pay items.

SPECIAL PROVISION
SECTION 403
HOT MIX ASPHALT

Desc. Of Course	Grad Design.	Item Number	Total Thick	No. Of Layers	Comp. Notes
<u>1" - Mill and Overlay – Bridge Deck & Approaches – As shown on plans</u>					
Wearing	9.5 mm	403.2101	1"	1	6,7,19,20,24,28,29,30
<u>Varies 2"-2½" – Bridge Deck</u>					
Wearing	12.5 mm	403.2081	Varies	1	2,6,7,12,19,24,27,28,30
<u>10" – I-95 Travel Way & Shoulders</u>					
Wearing	12.5 mm	403.2081	1 ½"	1	6,7,15,19,20,23,24,26,27,28,30
Intermediate	12.5 mm	403.2131	1 ½"	1	6,7,15,16,23,27,28,30
Intermediate	12.5 mm	403.213	2 ½"	1	1,6,7,13,15,16,23
Base	12.5 mm	403.213	4 ½"	2	1,6,7,13,15,16,23
<u>5½" – I-95 Median Barrier Areas</u>					
Wearing	12.5 mm	403.2081	1 ½"	1	6,7,19,20,24,26,27,28,30
Intermediate	12.5 mm	403.2131	1 ½"	1	6,7,16,27,28,30
Base	12.5 mm	403.213	2 ½"	1	1,6,7,13,16
<u>2" Mill, Variable Depth Shim, & 1½" Overlay / Variable Depth Shim & 1 ½" Overlay</u>					
<u>I-95 Northbound</u>					
Wearing	12.5 mm	403.2081	1 ½"	1	6,7,19,20,24,26,27,28,30
Shim	9.5 mm	403.211	Varies	1/more	1,2,6,7,11,14,20
<u>Temporary Pavement in Median Areas</u>					
Temporary	12.5 mm	461.131	4"	2	1,31

COMPLEMENTARY NOTES

1. The required PGAB for this mixture will meet a **PG 64-28** grading.
2. The incentive/disincentive provisions for density shall not apply. Rollers shall meet the requirements of this special provision. The use of an oscillating steel roller shall be required to compact all mixtures pavements placed on bridge decks.
6. The design traffic level for mix placed shall be 10 to <30 million ESALS. The design, verification, Quality Control, and Acceptance tests for this mix will be performed at **75 gyrations**.
7. Section 106.6 Acceptance, (1) Method A.
11. The combined aggregate gradation required for this item shall be classified as a 9.5mm "**fine graded**" mixture, (using the Primary Control Sieve control point) as defined in 703.09.
12. The combined aggregate gradation required for this item shall be classified as a 12.5mm "**fine graded**" mixture, (using the Primary Control Sieve control point) as defined in 703.09.
13. A mixture meeting the gradation of 19.0 mm hot mix asphalt may be used at the option of the contractor.
14. The combined aggregate gradation required for this item shall be classified as a 9.5mm Thin Lift Mixture (TLM) mixture, using the Aggregate Gradation Control Points as defined in 703.09.

15. The entire HMA pavement section (consisting of surface and base layers) shall be completed before winter suspension. Any surface or base HMA placed after the seasonal limitations shall be considered temporary and removed and replaced the following construction season. The Department will not be responsible for costs or time related to the placement, removal or replacement of temporary pavement.
16. In areas inaccessible to a standard roller train, compaction of the new Hot Mix Asphalt Pavement will be obtained using a minimal roller train consisting of a **3-5 ton** vibratory roller. Areas less than 2 feet wide shall be compacted with a minimum of a **150 pound** plate compactor. An approved release agent is required to ensure the mixture does not adhere to hand tools, rollers, pavers, and truck bodies. The use of petroleum based fuel oils, or asphalt stripping solvents will not be permitted.
19. The use of a Material Transfer Vehicle (MTV) shall be required on **all mainline travelway and adjacent shoulders that are paved in the same operation** on this layer. See Special Provision 401 – Material Transfer Vehicle for specifics.
20. The Contractor may place the specified HMA pavement course, not to exceed 1 inch compacted depth, over the full single travel lane width, for each production day. If this option is utilized the Contractor will be required to place a matching course of HMA over the adjacent section of travel lane before weekend suspension. For courses greater than 1 inch, but not to exceed 2 inch compacted, the Contractor may place the specified HMA pavement course over the full single travel lane width, for each production day and will be required to place a matching course of HMA over the adjacent section of travel lane before the end of the following calendar day. The Contractor will also be responsible for installing additional warning signage that clearly defines the centerline elevation differential hazard. Unless otherwise addressed in the contract, the Contractor shall install additional centerline delineation such as a double RPM application, or temporary painted line for centerline at the end of each production day. The Traffic Control Plan shall be amended to include this option and the additional requirements. All signs and traffic control devices will conform to Section 719.01, and Section 652, and will be installed prior to the work, at a maximum spacing of 0.50 mile for the entire length of effected roadway section. On roadways with two-way traffic, the Contractor will be required to place the specified course over the full width of the mainline traveled way being paved prior to opening the sections to weekend or holiday traffic. If this option is utilized, all additional signing, labor, traffic control devices, or incidentals will not be paid for directly, will be considered incidental to the appropriate 652 items.
23. The entire roadway (from edge to edge, including shoulders) shall be considered mainline travelway for density testing purposes according to the specified testing method.
24. A tack coat of a RS-1, RS-1h, CRS-1 or CRS-1h, Item #409.15 shall be applied along the longitudinal centerline construction joint, on the horizontal surface immediately adjacent to the construction joint, and in a minimum width of one foot. The rate of application shall be approximately 0.050 to 0.075 G/SY. This application shall be in addition to the normal application of tack coats to the construction joint face and horizontal surfaces prior to placing a new lift.
26. Centerline joint density testing shall be applied to the specified HMA layer. See Special Provision 401 – Hot Mix Asphalt Longitudinal Joint Density for project specifics.
27. See Special Provision 401 – HMA with Fine Micro-Deval Requirement for project specifics.
28. The mixture shall meet the minimum requirements of Special Provision 401 – HMA Hamburg Wheel Tracker Specification.
29. See Special Provision 401 – HMA Aggregate requirements for project specifics.

30. The required PGAB shall be a storage-stable, homogeneous, polymer modified asphalt binder that meets **PG 70E-28** grading requirements in AASHTO M 332. All polymer modified asphalt grades utilized on the Project shall be treated with an approved liquid anti-strip. PG binders shall be treated either at the asphalt source terminal with the required dose rate on the delivery documentation, or at the hot mix asphalt plant utilizing a system integrated with the plants controls that will introduce a minimum 0.50 percent anti-strip by weight of asphalt binder used unless a rate is otherwise recommended by the anti-strip manufacturer. The PGAB and anti-strip blend shall meet the **PG 70E-28** requirements. The Contractor shall provide supporting test data showing the PGAB and anti-strip blend meet the required criteria.
31. See Special Provision 461 – Temporary Pavement for project specifics.

Tack Coat

A tack coat of emulsified asphalt, RS-1, RS-1h, CRS-1 or CRS-1h, Item 409.15 shall be applied to any existing pavement at a rate of approximately 0.030 gal/yd², and on milled pavement approximately 0.05 gal/yd² prior to placing a new course. A fog coat of emulsified asphalt shall be applied between shim /base courses and surface course as well as to any bridge membrane prior to the placement of HMA layers at a rate not to exceed 0.030 gal/yd². Tack used will be paid for at the contract unit price for Item 409.15 Bituminous Tack Coat.

SPECIAL PROVISION
SECTION 461
LIGHT CAPITAL PAVEMENT
(Temporary Pavement)

Description:

This work shall consist of furnishing all labor, materials and equipment, for the manufacturing, installation and removal of all Temporary Pavement in accordance with these specifications, Special Provision 403 Hot Mix Asphalt, and the Plans. Temporary pavement shall meet all mix design requirements of a 12.5 mm surface mix for the top 2 inches, and a 12.5 mm base mix for the remaining 2 inches.

Method of Measurement:

This work will be measured for payment by the Ton, complete in place and accepted.

Basis of Payment:

The work shall be paid for at the contract Ton price for the manufacturing, installation and removal of all Temporary Pavement.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
461.131 Temporary Pavement	Ton

SPECIAL PROVISION
SECTION 502
STRUCTURAL CONCRETE
(QC/QA Acceptance Methods)

CLASS OF CONCRETE	ITEM NUMBER	DESCRIPTION	P	METHOD
A	502.26	Structural Concrete Roadway and Sidewalk Slab on Steel Bridges	400.00	A
A	518.51	Repair of Upward Facing Surfaces Below Reinforcing Steel < 8 inches	-	C
A	518.52	Repair of Upward Facing Surfaces Below Reinforcing Steel > 8 inches	-	C
A	518.60	Repair of Vertical Surfaces < 8 inches	-	C
A	518.70	Repair of Overhead Surfaces < 8 inches	-	C
LP	526.312	Permanent Concrete Barrier Type II Modified	450.00	A
LP	526.331	Permanent Concrete Median Barrier Type IIIb Modified	450.00	A

P values listed above reflect the price per cubic yard (yd³) for all pay adjustment purposes.

SPECIAL PROVISION
SECTION 502
STRUCTURAL CONCRETE
(Composite Bridge Drains)

Description. This work shall consist of fabricating, and delivering composite bridge drains. The composite bridge drains will consist of cast gray iron scuppers with ductile iron grates and FRP (Fiber Reinforced Polymer) downspouts and all associated hardware to install in accordance with the plans and this specification.

Applicable Standards and References. The design and construction of FRP downspouts shall be in accordance with this Methods Specification and the relevant requirements of the following standards and specifications, unless otherwise stipulated in this specification. Standards and specifications specifically cited in the body of the specification establish requirements that shall have precedence over all others. Should the requirements in any reference conflict with those in another, the reference highest on the list shall govern.

Specifications. Work shall be done in general accordance with the following specifications:

- a. AASHTO LRFD Guide Specifications for Design of Concrete-Filled FRP Tubes for Flexural and Axial Members, 2012.
- b. American Composites Manufacturing Association, ACMA Code of Standard Practice, First Edition, 2011.
- c. ISO/IEC Guide 58, Calibration and Testing Laboratory Accreditation Systems - General Requirements for Operation and Recognition.
- d. ISO/IEC 17025 General Requirements for the Competence of testing and Calibration Laboratories.
- e. NBS Voluntary Product Standard PS15-69. Custom Contact-Mold Reinforced Polyester Chemical-Resistant Process Equipment. The Society of the Plastics Industry, Inc., 355 Lexington Ave., N.Y., N.Y. 10017

Standards.

- A.) ASTM D 2584. *Standard Test Method for Ignition Loss of Cured Reinforced Resins.* American Society for Testing and Materials, West Conshohocken, PA.
- B.) ASTM D 3039. *Standard Test Method for Tensile Properties of Polymer Matrix Composite Materials.* American Society for Testing and Materials, West Conshohocken, PA.
- C.) ASTM D 3171. *Standard Test Methods for Constituent Content of Composite Materials.* American Society for Testing and Materials, West Conshohocken, PA.

- D.) ASTM D 4385. *Standard Practice for Classifying Visual Defects in Thermosetting Reinforced Plastic Pultruded Products*. American Society for Testing and Materials, West Conshohocken, PA.
- E.) ASTM D 570. *Test Method for Water Absorption of Plastics*. American Society for Testing and Materials, West Conshohocken, PA.
- F.) ASTM E 1356. *Standard Test Method for Assignment of the Glass Transition Temperatures by Differential Scanning Calorimetry*. American Society for Testing and Materials, West Conshohocken, PA.
- G.) ASTM E 1640. *Standard Test Method for Assignment of the Glass Transition Temperature by Dynamic Mechanical Analysis*. American Society for Testing and Materials, West Conshohocken, PA.
- H.) ASTM C 582. *Standard Specification for Contact-Mold Reinforced Thermosetting Plastic (RTP) Laminates for Corrosion-Resistant Equipment*. American Society for Testing and Materials, West Conshohocken, PA.

Materials. Materials shall conform to the following requirements:

1. The grates shall be vaned, ductile iron bridge drain grates meeting the requirements of ASTM A536 Grade 80-55-OC.
2. The scuppers shall be cast gray iron scuppers meeting the requirements of ASTM A48, Class 35B.
3. FRP downspouts shall meet the requirements of Appendix A.
4. All material and workmanship will meet or exceed the requirements of ASTM.
5. All structural steel used in downspout connection system shall be ASTM A36 steel, hot-dip galvanized.

Construction Requirements.

FRP DOWNSPOUT MANUFACTURERS.

The FRP downspouts shall be supplied by one of the following companies:

1. Kenway Corporation
2. FRP Bridge Drain Pipe-Westfall Company
3. ACO USA

Other Manufacturers/Fabricators may become certified if FRP downspout samples are tested in accordance with the requirements in Appendix A along with meeting the following requirements:

1. Manufacturer/Fabricator of FRP downspout systems/components is required to have a minimum of 3 years of experience in providing FRP composite structural grade products to the general market.

2. Manufacturer needs to provide documentation that personnel involved in manufacture/fabrication hold and maintain American Composites Manufacturers Association (ACMA) certifications in a minimum of two of the following disciplines:
 - a. Open Molding
 - b. Corrosion
 - c. Vacuum Infusion
 - d. Closed Molding
3. Manufacturer/Fabricator has a current year ISO 9001 or other independent certification to ensure that the Manufacturer's process has been independently audited for conformance.

Design Guide for FRP Downspouts.

FRP Downspout Sections and Connections. Bridge deck downspouts shall be constructed using a circular cross section; however other cross sections are allowed with approval of the Fabrication Engineer. Drain sections shall comply with the material requirements set forth in Appendix A and maintain wall thickness of no less than 1/4 inch.

Transitions through Connections and Sections. All transitions and joints to be manufactured through the use of smooth radius molds. Miter joint and edged transitions are not allowed. All internal joint connections are to be smooth and continuous.

Pigmented FRP Composite Drain Components. Pipes, fittings, bodies and all FRP composite drain system components shall be pigmented through the wall. The color used shall be light gray matching the color of concrete. Paint, gel-coat or any other exterior coating shall not be accepted.

Joint Connections. Joints may be welded using manufacturer recommended adhesives in accordance to the adhesive manufacturer's application procedures. Adhesives must be compatible with the FRP resins, applied in a way that ensures complete bonding and liquid tight sealing of the resins, and be compatible with the environmental conditions such as temperature, freeze thaw conditions, and wet alkaline environments.

Shop Drawings/Inspection.

Drawings. The Contractor shall prepare shop detail, erection and other necessary working drawings in accordance with Section 105.7 - Working Drawings. Drawings shall include dimensions and tolerances necessary for manufacture and installation, all hardware, orienting features, anchor details, fastener details, gasket details, cross and longitudinal matching features, joint details, transition details, material lay-up/composition.

Quality Control/Quality Assurance. Within 30 calendar days the Contractor shall submit to the Department a Quality Control Quality Assurance (QCQA) Plan for fabrication of the FRP downspouts. Fabrication shall not commence until the QCQA Plan has been reviewed and approved by the Department.

Notice of Beginning Work. The Contractor shall give the Fabrication Engineer a minimum of two weeks' notice before the beginning of work. No work shall be performed before the Fabrication Engineer has been notified. Before beginning work, a pre-fabrication meeting may be held at the discretion of the Fabrication Engineer or, if requested, by the Contractor.

The Contractor shall advise the Fabrication Engineer of the production schedule and any changes to it. If the Contractor suspends work on a project, the Fabrication Engineer will require 48 hours' notice prior to the resumption of work.

Inspection. Quality Control (Q.C.) is the responsibility of the Contractor. The Quality Control Inspector (Q.C.I.) shall inspect all aspects of the work and shall supervise all nondestructive examination (NDE). The Q.C.I. shall record measurements and test results in a clear and legible manner. The Q.C.I. shall reject materials and workmanship that do not meet contract requirements. The Contractor may perform NDE in addition to the minimum required. The results of all measurements and testing shall be made available to the Quality Assurance Inspector (Q.A.I.).

Quality Assurance (Q.A.) is the prerogative of the Fabrication Engineer. The Q.A.I. will ensure that the Q.C. Department is performing properly, verify documentation, periodically inspect workmanship and witness NDE. Q.A. testing deemed necessary by the Fabrication Engineer in addition to the minimum testing requirements shall be scheduled to minimize interference with the production schedule.

Inspector's Authority. The Q.A.I. will have the authority to reject material or workmanship that does not meet the contract requirements. The acceptance of material or workmanship by the Q.A.I. will not prevent subsequent rejection, if found unacceptable.

Rejections. Rejected material and workmanship shall be corrected or replaced by the Contractor.

Bill of Materials. The Contractor shall provide the Fabrication Engineer with copies of all bills of materials used in the fabrication of the composite bridge drains.

Packaging, Storage and Shipping of Components. Composite bridge drains shall be stored and handled in accordance with the manufacturer's recommendation. The composite bridge drains and all associated hardware and connections shall be stored above the ground and not be allowed to come into contact with seawater, mud, grease, dirt or other deleterious materials that may be present on the job site.

Installation. The Contractor shall install the Composite Bridge Drains in accordance to the manufacturers' installation procedures and in accordance to the Contractor's installation drawings. FRP downspouts will be accurately placed at the locations shown on the Plans or as authorized by the Resident. Any damaged elements shall be repaired or replaced at the Resident's discretion and at no additional cost to the Department.

Method of Measurement. Composite Bridge Drains will be measured for payment by the lump sum, fabricated and delivered. Installation for the drains is incidental to the superstructure concrete item.

Basis of Payment. Composite Bridge Drains will be paid for at the contract lump sum price. Such payment will be full compensation for the fabrication and delivery, including all steel, hardware and incidentals required to complete the work in accordance with the plans and this specification.

Payment will be under:

<u>Pay Item</u>	<u>Pay Unit</u>
502.705 Composite Bridge Drain	Lump Sum

SPECIAL PROVISION
SECTION 502
STRUCTURAL CONCRETE
(Fiber Reinforced Polymer Bridge Drain Components)

APPENDIX A

A.1 Scope

This section specifies the material composition, properties, test requirements and reports that shall be submitted and approved prior to and after product certification of each FRP composite drain component type, e.g. scupper body or pipe component. The manufacturer is responsible for testing using an approved independent lab per section A.5.3. Once certified the approved product may be manufactured with only internal testing provided the manufacturing process and laminate composition do not change. Changes to process and or composition do require additional testing and product certification. The manufacturer shall report the individual test results per section A.5.3. If the strength is less than the required properties certification will not be granted.

A.2 Material/Laminate Composition

A.2.1 Fibers

Fiber sizing and coupling agents shall be compatible with the resin system used to impregnate them.

A.2.2 Matrix Resins

Commercial grades of vinyl ester and epoxy resin systems are permitted provided the finished product meets the material property requirements before and after durability conditioning as set forth in Section A. Styrene is permitted to be added to the polymer resin during processing. Added styrene shall be less than 10 percent by mass of the polymer resin. The amount of styrene, as a mass percentage of the polymer resin, added during processing shall be reported per Section A.5.3.

A.2.3 Fillers and Additives

Commercial grade inorganic fillers such as kaolin clay, calcium carbonate, and alumina tri-hydrate shall not exceed 20 percent by mass of the polymer resin constituent. Commercial grade additives and process-aids, such as release agents, low profile shrink additives, initiators, promoters, hardeners, catalysts, pigments, fire-retardants, and ultra-violet inhibitors are permitted and depend on the processing method. Shrink additives, if used, shall be less than 20 percent by mass of the polymer resin. Commercial grade inorganic or organic non-woven surfacing mats or veils are permitted.

A.2.4 Fiber Content

Fiber content shall be measured by ASTM D 3171 or ASTM D 2584. Fiber content shall be high enough to meet the mechanical property requirements of the FRP system laminate. The manufacturer shall report the fiber content of the end product by volume or by mass in accordance to the method used. If fiber content is not provided by the manufacturer, then the manufacturer

shall provide material data sheets with the weight per unit area of the fiber reinforcement used to manufacture the part.

A.2.5 Glass Transition Temperature

The characteristic value of the glass transition temperature of the composite system, determined in accordance with ASTM E1640, shall be at least 40 degrees Fahrenheit higher than the maximum design temperature, $T_{MaxDesign}$, defined in section 3.12.2.2 of the AASHTO LRFD Guide Specifications for Design of Concrete-Filled FRP Tubes for Flexural and Axial Members, 2012. FRP drain systems may not be used in environments with a service temperature higher than the glass transition temperature of the resin used for their manufacturing.

A.2.6 Longitudinal and Transverse Coefficients of Thermal Expansion (CTE)

The coefficient of Thermal Expansion (CTE) of the tube may vary in the longitudinal and circumferential directions of the component depending on the laminate architecture and type of fibers and resins.

A.3 Mechanical Properties

A.3.1 Tensile Properties

The tensile strength, tensile modulus of elasticity, and ultimate tensile strain shall be determined for both the axial and hoop directions of the tubular components or in transverse and longitudinal directions of inlet bodies, see Section A.5.1 Test Samples. The tensile strength as reported by the manufacturer for product certification shall be measured according to ASTM Test Method D 3039, or other tension test method designed to determine tensile properties of composite laminates at the approved frequency and number of specimens as specified in section A.5.

A.3.4 Compressive Properties

The compressive strength and ultimate compressive strain shall be determined for the longitudinal directions of the tube laminate. The compressive strength and ultimate compressive strains shall be derived from specimens tested in accordance with ASTM Test Method D 6641, or other approved compression test method designed to determine compressive properties of the composite.

A.4 Durability Properties

Material properties shall retain 85% of their baseline values for the material properties listed in Section 2.3 after conditioning for all the durability tests listed below. Durability test methods are adopted from AASHTO Guide Specifications for Design of Bonded FRP Systems for Repair and Strengthening of Concrete Bridge Elements.

Durability property testing is only required for initial product certification and not required for subsequent production orders. The testing is the responsibility of the manufacturer and shall be conducted by an approved independent testing lab per section A.5.2.

A.4.1 Moisture Absorption

Samples will be immersed in distilled water having a temperature of 100 +/-3 degrees Fahrenheit and tested after 1,000 hours of exposure.

A.4.2 Resistance to Alkaline Environment

Samples will be immersed in a saturated solution of calcium hydroxide (pH-11) at ambient temperature of 73 +/-3 degrees Fahrenheit for 1,000 hours prior to testing. The pH level will be monitored and the solution will be maintained as needed.

A.4.3 Alternating Ultraviolet Light and Condensation Humidity

Samples will be conditioned in an apparatus under Cycle I-UV exposure condition according to ASTM G154 Standard Practice. Samples will be tested within two hours after removal from the apparatus.

A.4.4 Freeze-Thaw

Samples will be exposed to 100 repeated cycles of freezing and thawing in an apparatus meeting the requirements of ASTM C666.

A.5 Sampling, Testing & Results.

A.5.1 Test Samples.

The manufacturer is responsible for testing and may use samples in accordance to the test methods and needs of test equipment available. Test coupons may be cut from manufactured products or prepared using identical processes e.g. wet lay-up, vacuum infusion, etc. in a flat sheet, or witness plate, in which test coupons may be cut. Approval of the Fabrication Engineer shall be required for acceptance of test specimens produced by a different manufacturing method. Samples derived from special coupon test sheets shall be taken interior to edge sections 1.5x the width of the required coupon width. Samples shall be prepared from samples oriented with the directions illustrated in Figures 1 and 2 for scupper body and drain pipes. For samples from filament wound pipes, samples shall be constructed over polygon mandrels allowing for flat panels to be removed for test purposes. Each test shall use a quantity of three samples. See Tables A.5.4 for tests, material requirements and sample breakdown.

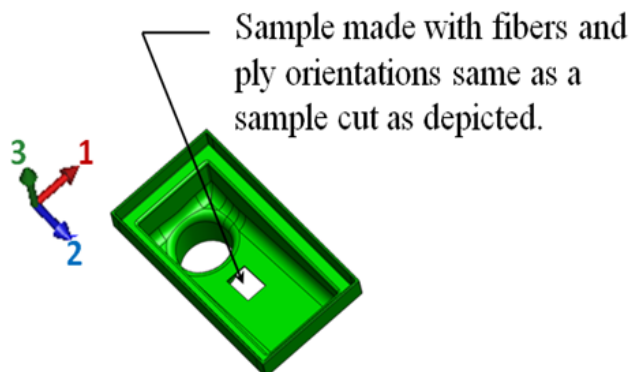


Figure 1.) Scupper Body
Sample Orientations.

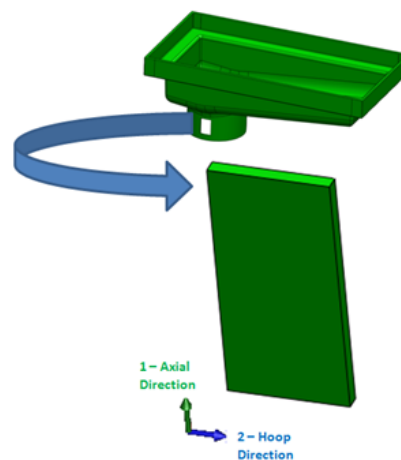


Figure 2.) Drain Pipe
Sample Orientations.

A.5.2 Test Lab Requirements.

All testing of FRP material properties is being conducting in accordance to specified standards. Internal or external testing is to be conducted through laboratory facilities in accordance to ISO/IEC Guide 58, *Calibration and Testing Laboratory Accreditation Systems - General Requirements for Operation and Recognition* and ISO/IEC 17025 *General Requirements for the Competence of testing and Calibration Laboratories* as related by AASHTO document R18 "Recommended Practice for Establishing and Implementing a Quality System for Construction Materials Testing Laboratories."

A.5.3 Production Validation (PV) Testing.

Certification of materials used in FRP drain products must undergo PV testing of the specified material properties before and after environmental conditioning as set forth in Section A.5.4 by an independent lab. PV tests may be conducted internally by the manufacturer for development but are not acceptable for certification. Reported values for the material composition is be recorded and reported by the manufacturer, no independent audit is required.

A.5.4 Production Validation Sample Quantities, Minimum Material Properties and Reported Values

The following data shall be reported for material certification. Note that the tables shown use orientations related to FRP scupper or inlet bodies as set forth in Figure 1 of Section A.5.1, orientation direction 2 as shown in Figure 2 of Section A.5.1 shall be substituted for orientation direction 3 when evaluating tubular sections. The required number of samples have been reduced from ASTM requirements.

Table A.5.4.a PV reported material composition data. (Recorded by the manufacturer during the manufacturing process)

Section No.	Characteristic	Applicable Test Standard	Number of Samples	Tolerance	Reported
A.2.2	Styrene, mass percentage of polymer resin	per tolerance	N/A	10% max	
A.2.3	Inorganic fillers, mass percentage of polymer resin.	per tolerance	N/A	20% max	
	Shrink additives, mass percentage of polymer resin.	per tolerance	N/A	20% max	
A.2.4	Fiber Content	ASTM D3171 or ASTM D2584	3	Sufficient to meet mechanical properties	
A.2.5	Glass Transition Temperature	ASTM E1640	3	> Max Design Temperature	

Table A.5.4.b PV Reported Baseline Mechanical Properties

(Conducted by an independent laboratory. Samples as Manufactured w/o additional conditioning per Section A.3)

Section No.	Direction	Characteristic	Applicable Test Standard	No. of Samples	Minimum Allowable Values	Independent Lab Reported Values			
						Sample 1	Sample 2	Sample 3	Avg Value
A.3.1	1	Tensile Strength	ASTM D3039	3	10000 (psi)				
		Tensile Modulus of Elasticity			800000 (psi)				
		Ultimate Tensile Strain			0.003 in/ in				
	2	Tensile Strength		3	10000 (psi)				
		Tensile Modulus of Elasticity			800000 (psi)				
		Ultimate Tensile Strain			0.003 in/ in				
A.3.4	1	Compressive Strength	ASTM D6641	3	22000 (psi)				
		Ultimate Compressive Strain			0.003 in/ in				
	3	Compressive Strength		3	22000 (psi)				
		Ultimate Compressive Strain			0.003 in/ in				

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Table A.5.4c PV Reported Mechanical Properties after 1000 hr. Moisture Immersion Conditioning per Section A.4.1

(Conducted by an independent laboratory)

Section No.	Direction	Characteristic	Applicable Test Standard	No. of Samples	Minimum Allowable Values	Independent Lab Reported Values			
						Sample 1	Sample 2	Sample 3	Avg Value
A.3.1	1	Tensile Strength	ASTM D3039	3	8500 (psi)				
		Tensile Modulus of Elasticity			680000 (psi)				
		Ultimate Tensile Strain			0.0025 in/in				
	2	Tensile Strength		3	8500 (psi)				
		Tensile Modulus of Elasticity			680000 (psi)				
		Ultimate Tensile Strain			0.0025 in/in				
A.3.4	1	Compressive Strength	ASTM D6641	3	18700 (psi)				
		Ultimate Compressive Strain			0.0025 in/in				
	3	Compressive Strength		3	18700 (psi)				
		Ultimate Compressive Strain			0.0025 in/in				

Table A.5.4d PV Reported Mechanical Properties after 1000 hr. of Alkaline Environment Conditioning per Section A.4.2

(Conducted by an independent laboratory)

Section No.	Direction	Characteristic	Applicable Test Standard	No. of Samples	Minimum Allowable Values	Independent Lab Reported Values			
						Sample 1	Sample 2	Sample 3	Avg Value
A.3.1	1	Tensile Strength	ASTM D3039	3	8500 (psi)				
		Tensile Modulus of Elasticity			680000 (psi)				
		Ultimate Tensile Strain			0.0025 in/in				
	2	Tensile Strength		3	8500 (psi)				
		Tensile Modulus of Elasticity			680000 (psi)				
		Ultimate Tensile Strain			0.0025 in/in				
A.3.4	1	Compressive Strength	ASTM D6641	3	18700 (psi)				
		Ultimate Compressive Strain			0.0025 in/in				
	3	Compressive Strength		3	18700 (psi)				
		Ultimate Compressive Strain			0.0025 in/in				

Table A.5.4e PV Reported Mechanical Properties after UV Light Conditioning per Section A.4.3 (ASTM G154).

(Conducted by an independent laboratory)

Section No.	Direction	Characteristic	Applicable Test Standard	No. of Samples	Minimum Allowable Values	Independent Lab Reported Values			
						Sample 1	Sample 2	Sample 3	Avg Value
A.3.1	1	Tensile Strength	ASTM D3039	3	8500 (psi)				
		Tensile Modulus of Elasticity			680000 (psi)				
		Ultimate Tensile Strain			0.0025 in/in				
	2	Tensile Strength		3	8500 (psi)				
		Tensile Modulus of Elasticity			680000 (psi)				
		Ultimate Tensile Strain			0.0025 in/in				
A.3.4	1	Compressive Strength	ASTM D6641	3	18700 (psi)				
		Ultimate Compressive Strain			0.0025 in/in				
	3	Compressive Strength		3	18700 (psi)				
		Ultimate Compressive Strain			0.0025 in/in				

Table A.5.4f PV Reported Mechanical Properties after 100 Freeze-Thaw Cycle Conditioning per Section A.4.4 (ASTM C666).

(Conducted by an independent laboratory)

Section No.	Direction	Characteristic	Applicable Test Standard	No. of Samples	Minimum Allowable Values	Independent Lab Reported Values			
						Sample 1	Sample 2	Sample 3	Avg Value
A.3.1	1	Tensile Strength	ASTM D3039	3	8500 (psi)				
		Tensile Modulus of Elasticity			680000 (psi)				
		Ultimate Tensile Strain			0.0025 in/in				
	2	Tensile Strength		3	8500 (psi)				
		Tensile Modulus of Elasticity			680000 (psi)				
		Ultimate Tensile Strain			0.0025 in/in				
A.3.4	1	Compressive Strength	ASTM D6641	3	18700 (psi)				
		Ultimate Compressive Strain			0.0025 in/in				
	3	Compressive Strength		3	18700 (psi)				
		Ultimate Compressive Strain			0.0025 in/in				

SPECIAL PROVISION
SECTION 504
STRUCTURAL STEEL
(Bridge Hardware, Truss Screen Panel)

504.01 Description. The following paragraph is added:

This work includes fabricating and installing screen panels as shown on the Plans and described in these Specifications. This work also includes providing the Resident with an acceptable means of access to all portions of the work for the purposes of project inspection and documentation.

504.65 Method of Measurement. This Subsection is amended by the addition of the following:

Bridge Hardware, Truss Screen Panels will be measured for payment as one lump sum fabricated, transported, installed, complete and accepted in place in accordance with the Plans and these Specifications. All hardware will not be paid for separately but will be considered incidental.

504.66 Basis of Payment. This Subsection is amended by the addition of the following:

The accepted quantity of Bridge Hardware, Truss Screen Panel will be paid for at the Contract unit price per lump sum, which payment will be full compensation for all materials, equipment, labor, and incidentals including but not limited to field measurements, framing steel, mesh screen, fasteners, field drilling and tapping, and all tools, equipment and materials necessary to complete the work in accordance with the Plans and these Specifications.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
504.709 Bridge Hardware, Truss Screen Panel	Lump Sum

SPECIAL PROVISION
SECTION 504
STRUCTURAL STEEL
(Structural Steel Repair)

504.01 Description The following paragraphs are added:

This work includes furnishing and installing cap plates on the existing vertical box struts as shown on the Plans and described in these Specifications.

This work also includes providing the Resident with an acceptable means of access to all portions of the work for the purposes of project inspection and documentation.

504.02 Materials The following paragraphs are added:

Plate steel shall meet requirements of ASTM A709 or AASHTO M 270, Grade 36.

Plate steel surfaces shall be cleaned to a minimum SSPC-SP6 in accordance with Special Provision 506.

Shop coating and field touch-up shall be in accordance with Special Provision 506.

All holes shall be drilled full diameter. Flame cutting of holes is not permitted.

504.65 Method of Measurement This Subsection is amended by the addition of the following:

Structural steel will be measured by the pound of plate steel fabricated, transported, erected, and accepted complete and in place in accordance with the Plans and these Specifications. All hardware will not be paid for separately but will be considered incidental to the Structural Steel Repair item.

504.66 Basis of Payment This Subsection is amended by the addition of the following:

The accepted quantity of Structural Steel Repair shall be paid for at the Contract unit price per pound of plate steel, which payment shall be full compensation for all materials, equipment, labor, and incidentals including but not necessarily limited to field measurements, structural steel, fasteners, field drilling operations, existing steel removal, surface preparation, coating, Touch-up, temporary work platforms, and all tools, equipment and materials necessary to complete the work in accordance with the Plans and these Specifications.

Payment will be made under the following pay item:

<u>Pay Item</u>	<u>Pay Unit</u>
504.811 Structural Steel Repair	Pound

SPECIAL PROVISION

SECTION 506

Lead Abatement and Coating Application

ALL REQUIREMENTS IN THIS SPECIFICATION ARE THE RESPONSIBILITY OF THE CONTRACTOR UNLESS NOTED OTHERWISE.

506.01 Description This specification covers the field cleaning of and application of a protective coating system to specific areas of structural steel and finger joints as designated in the Contract Plans or directed by the Resident. The work shall consist of furnishing all supervisory personnel, including competent person(s), labor, tools, equipment, containment, scaffolding, protection of public and private property, Quality Control activities, materials, and incidentals necessary for satisfactory completion of the Work.

506.02 General All existing structural steel requires the complete removal of existing rust, mill scale and coatings which may contain lead and hexavalent chromium, by abrasive blast cleaning or vacuum-shrouded power tool cleaning. It is the responsibility of the Contractor to test the existing coating to determine the toxic metal content and, based on those results, design and implement the appropriate plans for containment, environmental protection, waste disposal and worker safety.

Apply a coating system to the cleaned surfaces. The coating system shall be selected from the Northeast Protective Coating Committee (NEPCOAT) Qualified Products List B. Organic Zinc Rich Primer, Three Coat System. The list may be found through NEPCOAT's web page: <http://www.nepcoat.org>.

Contractors and Subcontractors involved with the removal of lead based paint and the field application and touch-up of the coating systems shall be qualified in accordance with SSPC QUALIFICATION PROCEDURE NO. 1, Standard Procedure for Evaluating Painting Contractors (Field Application to Complex Industrial Structures) and SSPC QUALIFICATION PROCEDURE NO. 2, Standard Procedure for the Qualification of Painting Contractors (Field Removal of Hazardous Coatings from Complex Structures) prior to Bid opening and shall remain qualified throughout the duration of the Contract. Copies of current certificates issued by the Qualifying Agency shall be submitted with the Bid package.

Perform lead abatement in compliance with all applicable federal, state and local regulations, including the current version of 29 CFR 1926, OSHA Construction Industry Health and Safety Standards, and in particular, the OSHA Lead in Construction Standard (29 CFR 1926.62).

Assure that the latest copies of the following documents are on site and available at all times. Applicable parts of the documents are enforceable as part of the Contract:

- SSPC 05-03 Surface Preparation Specifications and Practices
- SSPC VIS 1, Visual Standard for Abrasive Blast Cleaned Steel.
- SSPC VIS 3, Visual Standard for Power and Hand-Tool Cleaned Steel.
- SSPC Guide 6, Guide for Containing Surface Preparation Debris Generated During

Paint Removal.

- SSPC Guide 7, Guide to the Disposal of Lead-Contaminated Surface Preparation Debris.
- Maine Department of Environmental Protection's *Hazardous Waste Management Rules*.
- 40 CFR 60, Appendix A, Method 22, Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Fires.
- 40 CFR Part 50 Appendix B, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere (High-Volume Method).
- 40 CFR Part 50 Appendix G, Reference Method for the Determination of Lead in Suspended Particulate Matter Collected from Ambient Air.
- SSPC Guide 16, Guide to Specifying and Selecting Dust Collectors.
- SSPC Technical Update TU-7, Conducting Ambient Air, Soil, and Water Sampling During Surface Preparation and Paint Disturbance Activities.
- 29 CFR 1926, OSHA Construction Industry Health Standards.
- Maine Department of Environmental Protection's *Hazardous Waste Management Rules*.
- SW 846, Test Methods for Evaluating Solid Waste – Physical/Chemical Methods
- Method 1311, Toxicity Characteristic Leaching Procedure (TCLP)
- Department of Environmental Protection's *Handbook for Hazardous Waste Generators*.

Supply the Resident with the applicable product data sheets and safety data sheets (SDS) before any coating work is performed. Also obtain from the manufacturer written procedures for touch-up including acceptable coating materials. If the coating manufacturer recommends a coating material for touch-up that is different from the coating material chosen by the Contractor, it will be supplied at no additional cost to the Department. Obtain in writing from the coating manufacturer, and provide to the Resident, a chart or table listing minimum and maximum recoat times for the primer and intermediate coat over the expected range of temperatures and relative humidity.

The primer color and the blasted steel shall be contrasting colors and the primer and intermediate color shall be contrasting colors. Stripe coating shall be a contrasting color to the previous coat. The finish topcoat color shall be green and match the following Federal Standard 595C, light green, color number: **14272**.

506.03 Quality Control The Contractor is responsible for all aspects of the quality of the Work, including labor, equipment, materials, incidentals, processes, construction methods and Quality Control. Quality Control (QC) is the planned and specified actions or operations necessary to produce an end product that Conforms to the requirements of the Contract and includes inspections and testing for process control to the extent determined necessary by the Contractor. All costs associated with QC activities shall be considered incidental to related Pay Items.

506.031 Submittals The Schedule of Work shall be in conformance with Standard Specification Section 107.4, Scheduling of Work, unless there is a Special Provision which supersedes the Standard Specification.

All Plans and submittals from the Contractor will be reviewed by the Department in accordance with Section 105.7, Working Drawings, of the Standard Specifications.

506.032 Quality Control Qualifications Provide QC personnel trained and certified by: The National Association of Corrosion Engineers (NACE) – International: Coating Inspector Program Level 1 (minimum); SSPC BCI Coatings Inspection Training and Certification for the Bridge Industry (Level I without certification), or Level II; or other training that is acceptable to the Department. If the Contractor's QC personnel do not follow and enforce the approved Quality Control Plan, the Resident may require the Contractor to retain the services of an independent, third party certified NACE/SSPC BCI inspector for the remainder of the Project, at no additional cost to the Department. If the Resident determines that the Contractor is not performing the QC function properly, the Resident will issue the Contractor a verbal warning. The second time the Resident finds that the QC function is being improperly performed, for the same reason, the Contractor will be given a written warning. The third time the Resident finds that the QC function is being improperly performed, for the same reason, the Contractor will be required to retain the services of a third party NACE/SSPC BCI certified inspector, at no additional cost to the Department. Discovery by the Department of a pattern of rework for the same items would be considered improper performance of the QC function.

506.033 Quality Control Plan Submit a QC Plan to the Department for review at least 21 days prior to the beginning of any removal of paint. The QC plan shall include: The names of all the Contractor's on-site representatives, including the NACE/SSPC BCI certified inspector, who will be responsible for the inspection and the acceptance of the Contractor's work; the definition of hold points, from pre-surface preparation inspection to final inspection; the format and submittal process for daily work reports and coating/DFT reports; and the process for rework.

Develop a Job Control Record (JCR) to systematically organize all reports, tests, test locations, test results, Non-Conformance Reports, final acceptance and other documents deemed necessary by the Resident.

Record the following in the JCR as applicable:

- Daily inspection reports including location of the work, personnel and equipment.
- Surface preparation - cleanliness and anchor profile.
- Environmental conditions – ambient temperature, surface temperature, relative humidity, dew point.
- Condition of the containment
- Coating batch and/or lot number, date of manufacture and shelf life.
- Mixing/thinning
- Dry Film Thickness (DFT) for each coat.
- Cure data-time/temperature/relative humidity.
- Final inspection and acceptance.
- All other job documentation generated by the Contractor.

Submit the format for the JCR and sample forms to the Resident for review prior to beginning application of protective coating.

Violation of the QC Plan may result in a suspension of work. If the Department orders a suspension, in writing, work shall not resume until the Contractor provides a plan, which is acceptable to the Department, describing how compliance will be restored and maintained. A

suspension resulting from the Contractor's failure to adhere to the QC Plan shall be considered an Inexcusable Delay.

506.034 Surface Preparation/Coating Plan Provide written procedures (preparation plan) for the surface preparation, the remediation of soluble salts, and coating application and repair. The plan shall include a description of the equipment that will be used for surface preparation and coating. The plan shall also identify the type and brand name of abrasive proposed for use; provide Safety Data Sheets (SDS) for proposed abrasive. Also include the surface preparation methods and materials to be used in "sensitive areas", e.g. areas in close proximity to galvanized members, bearings, utility hangers, & utilities, etc. If any of the areas that are determined to be sensitive by the Department are damaged due to surface preparation practices, the Contractor will be responsible for the repair of all damage at no additional cost to the Department. It is recommended that the Contractor explore alternative surface preparation methods for these "sensitive areas", such as vacuum shrouded power tool cleaning and the use of impregnated sponge and other less aggressive blast media. The Contractor shall receive approval from the Department before performing any removal methods when working in "sensitive areas".

The preparation plan shall identify the methods of protection or work isolation procedures that will be followed to protect surrounding structures, concrete surfaces, equipment, galvanized bridge deck members, utility cables, etc. and property from exposure to surface preparation and paint debris. The Contractor is responsible for any damage caused by surface preparation.

All grease, oil, chlorides, salts and any other foreign matter must be removed prior to removal of any existing paint.

506.035 Containment Plan Provide a containment plan to the Department for review. Do not begin the erection of containment system(s), or paint disturbance activities until review by the Department has been completed and approved.

Prepare detailed drawings and structural analysis stamped by a Professional Engineer (PE) licensed in the State of Maine. Install the containment in accordance with the drawings stamped by the Contractor's PE. Do not begin surface preparation until the Contractor's PE has field verified the proper installation of the containment system(s). Perform all surface preparation and painting in the approved containment system, conforming to the latest SSPC Guide 6, Guide for Containing Surface Preparation Debris Generated During Paint Removal Operations, for the specified level of cleaning, as applicable.

The Contractor is responsible for ensuring the containment meets all OSHA, federal and state regulations. Throughout the entire Project, work shall only be conducted within approved containment enclosures. The plan shall be sufficiently detailed to show conformance with the requirements of SSPC Guide 6, Class 1A containment specifications. The Containment Plan shall also describe, in detail, the Contractor's methods of protecting galvanized bridge members, existing utilities, etc. The Contractor shall be responsible for all damage incurred. The Containment Plan shall include the following information and requirements, at a minimum:

- A. Detailed drawings and structural analysis, prepared and stamped by a PE licensed in the State of Maine.

- B. Detailed design calculations stamped by a PE licensed in the State of Maine for the Contractor's operation including all construction loads applied to the structure. The design shall use the latest editions of the AASHTO LRFD Bridge Design Specifications with HL-93 Live Load. The applied loads from the proposed paint containment system (enclosures, work platforms, collected waste product, equipment, etc.) shall not exceed the allowable resistance of any bridge member.
- C. The Contractor shall determine the wind speed above which damage to the existing structure(s) will result from wind loading on the containment system. If actual wind speeds exceed this design wind speed, the Contractor shall immediately make provisions to properly relieve the containment wind loading. The process for relieving the wind loading shall not release any of the lead paint waste. The Contractor may redesign/reconfigure the containment enclosure(s) or suspend operations until the actual wind speeds fall to levels below the design wind speed. Any release of pollutants from the containment enclosure(s), in excess of applicable state or federal limits, to the surrounding environment due to containment failure will result in the immediate suspension of work. Prior to resuming work, the Contractor shall take appropriate actions to abate the discharge and obtain the Department's concurrence on a plan of action to prevent reoccurrence. The time and costs associated with any delays and clean-up, modifications, and rebuilding of the containment enclosure(s) resulting from wind damage or associated with any actions required to prevent any reoccurrence of release of pollutants caused by wind loads shall be borne by the Contractor. Any delays due to the suspension of work or due to containment failure, as the result of wind loads, shall be considered Inexcusable Delays. The Contractor shall monitor and document actual wind speeds on the existing structure(s), as appropriate, to ensure the safety of the existing structure(s); the cost of all wind monitoring shall be incidental to related Contract Pay Items.
- D. A plan for staging, installing, moving, and removing the containment and the methods of attachment that will be used. Attachment points to main framing members only (main girders, floorbeams, truss members may be allowed with prior approval from the Resident) will be allowed. The plan shall include the methods of access that will be provided to work areas inside containment, locations of safety lines, locations of containment entryways, etc. When the containment system is installed over navigable water, the containment system must comply with U.S. Coast Guard requirements.
- E. Detailed plans for lighting the inside of the containment for surface preparation, painting, and inspection. Provide work area illumination as follows:

Work Area Illumination Requirements in Foot Candles		
Description of Work	Minimum	Recommended
General Work Area Illumination	10	20
Surface Preparation and Coating Application	20	50
Inspection	50	200

Provide a light meter that measures illumination in foot candles. Failure to provide at least the minimum illumination will be considered denial of access to the work and may result in rejection of the work by the Resident.

- F. Detailed plans for maintaining the environmental conditions required during coating application and curing, including monitoring, measuring and documenting environmental conditions.
- G. Detailed plans for the collection and removal of accidental spills or discharges.
- H. Technical data sheets, specification sheets and any other information needed to thoroughly describe the containment plan, materials, and containment and ventilation equipment proposed for use. Only use containment materials that are flame resistant.

506.036 Environmental Protection Plan Thirty days prior to the initiation of on site work, submit to the Department for review and acceptance an Environmental Protection Plan that establishes programs for the monitoring activities that will be undertaken on the Project. The plan shall reference and utilize the applicable sampling procedures established in the most recent version of SSPC-TU 7. This plan shall include written programs to address the following:

- A. *Regulated Area Monitoring and Maintenance.* For establishing and maintaining regulated areas around activities which could generate airborne emissions of lead or other toxic metals.
- B. *High Volume Ambient Air Monitoring.* The Contractor shall contract with an independent environmental monitoring firm to conduct high volume ambient air monitoring for TSP-lead to assure compliance with this item and any applicable state and local regulations. Have the monitoring begin at least 48 hours prior to any abrasive blasting, for a baseline. Procedures for the monitoring which confirm that the monitoring equipment is properly calibrated, sited, and operated; filters are properly handled and transported; the laboratory analysis is performed correctly; and that all monitoring, calculations, documentation, and forms will be provided directly to the Department by the monitoring firm, with copies to the Contractor. Prior to any sampling, the Contractor shall clearly identify proposed monitor locations, including what corrective action will be implemented immediately, in the event of unacceptable results.
- C. *Ground (Soil) Evaluations.* For inspection of the ground and soil prior to commencement and upon completion of the Work to assure that the ground has not been negatively impacted by Project activities. This shall include the bridge site and the areas used to store equipment and waste. Contract with an independent environmental monitoring firm, staffed with a Maine Certified Geologist, to conduct sampling and analysis of the soil to determine whether it has been impacted by Project activities.

The ground (soil) will be considered to have been impacted by project activities based on the analysis as described below:

1. Visible paint chips, spent abrasive, or debris are present on the ground.

2. If the geometric mean pre-project level is less than or equal to 200 ppm (totals) and an increase in the post-geometric mean total content of 100 ppm or more occurs, or

If the geometric mean pre-project level is greater than 200 ppm and the post-geometric mean concentration exceeds the pre-project geometric mean plus two standard deviations, or increases in the post-geometric mean level of 100 ppm occurs, whichever is greater.

3. If the laboratory analysis or visual assessments show the soil to have been impacted by project activities, as directed by and at no additional cost to the Department, conduct the necessary cleanup or remediation.

The plan shall clearly identify proposed soil sampling locations and define the corrective action(s) that will be taken in the event of unacceptable results. Further information on the procedures that the Contractor will use to meet the requirements for closure of the hazardous waste storage areas as defined by MDEP regulations in Chapter 851, shall also be included. All monitoring calculations, documentation, and forms will be provided directly to the Department by the monitoring firm.

- D. *Water/Sediment Evaluations.* For visual inspection of the water and sediment along the river banks prior to commencement and upon completion of the Work to assure that the water and sediment along the river banks are not negatively impacted by Project activities. The visual inspection shall be completed by the Contractor with a representative of the Department. The inspection shall include photo documentation of existing water/sediment conditions.
- E. *Remediation of Ground (Soil), Water, and Sediment.* In the event that post-Project inspection, sampling or analysis show unacceptable results, outline what steps will be taken to accomplish the necessary clean-up or remediation of the ground (soil), water, and sediment along the river banks, as appropriate, to satisfy all applicable regulatory agencies. Any clean up measures shall be at no additional cost to the Department.
- F. *Final Cleaning/Clearance Evaluations.* Procedures and methods that will be used to conduct and document final Project clean-up, and final visual cleanliness inspections and evaluations. This process is to assure that the Project area and surrounding equipment, structures, soil, water, and sediment along the river banks have not been negatively impacted by Project activities.
- G. *Laboratory Qualifications.* Provide the name of the laboratory and/or firm that will be used for analysis of regulated area exposure monitoring, worker exposure monitoring, high volume ambient air monitoring and waste and soil samples, as required. Provide documentation that this firm is American Industrial Hygiene Association (AIHA) accredited for metals analysis, and has successfully participated (previous 12 months at a minimum) in the AIHA ELPAT program.
- H. *Worker Protection Compliance Program.* A Project-specific compliance program, prepared under the direction of, and signed and sealed by, a Certified Industrial Hygienist (CIH), for the protection of workers from lead, in accordance with 29 CFR 1926.62, and other toxic metals in the paint. Include the name, experience, and

qualifications of the competent person who will be making routine inspections of Project activities to ensure compliance with the program. If Subcontractors are operating under a separate program, include the program with the submittals.

506.037 Pre-Production Meeting Coordinate a pre-production meeting with the Department's Resident at least two weeks prior to the beginning of the removal of the existing coating. Provide two weeks notice to the Department prior to the meeting. The meeting agenda will include procedures to be used for all lead abatement, the coating application, the inspection hold points, the responsibilities and documentation methods of each party involved, all safety methods to be used, contingency plans, and all other areas relating to the adequate completion of the painting of this Contract, including coordination with the U.S. Coast Guard, when applicable. Present at this pre-production meeting shall be all parties directly involved in the lead abatement, paint application, and inspection of this Project including the Department, the Contractor and any Subcontractors, all Quality Control personnel, coating technical representatives, U.S. Coast Guard representatives, the Department's hazardous waste representative, a representative from the Contractor's hazardous waste transporter and any additional stakeholders who may have a direct impact on the completion of this Project. The Contractor shall be responsible for ensuring that all applicable personnel working directly, or indirectly, for the Contractor be present at this meeting.

506.04 Quality Assurance The Department will perform Quality Assurance (QA). QA may be accomplished by reviewing QC reports provided by the Contractor, by performing random inspections of work previously inspected by the Contractor and/or by randomly accompanying the Contractor's inspector during QC inspections and testing.

Provide the Department with the opportunity to perform QA inspections of the Work at the following hold points, as a minimum:

- A. Prior to start of work.
- B. Immediately following surface preparation.
- C. Immediately prior to application of the first coat.
- D. Prior to application of additional coats.
- E. After final coat is applied and cured.
- F. Any time the relative humidity is at, or above, 85% and the steel temperature is not 5 degrees above the dew point.

QA inspections are the prerogative of the Department. As such, the Department may, or may not, choose to perform inspections at hold points. Consequently, if any QA inspections performed at hold points result in no rework being identified or, if no QA inspections are performed at any hold points, this does not constitute Acceptance of the Work by the Department. If the Department discovers Unacceptable Work at any time prior to Final Acceptance, the Contractor shall repair, replace, or otherwise bring the Unacceptable Work into conformance with the Contract, at no additional cost to the Department. Refer to Standard Specification Section 107.9, Project Closeout, for procedures leading up to Final Acceptance.

Facilitate QA as required, by providing ample notice to the Department of availability for QA (minimum of ½ hour notice), adequate time for QA and by providing access to the work, along with all necessary safety equipment needed by the Department to perform the QA. For final inspection an aerial lift shall be provided.

Provide all of the inspection and testing equipment needed to verify the quality of the surface preparation and coating process, including, but not limited to mirrors, flashlights and wet film thickness gauges. This equipment shall be made available for use by the Department at all times. All equipment shall be properly maintained and kept in working order by the Contractor.

Provide access and railing in compliance with OSHA standards for representatives of the Department to all work locations where cleaning or coating application may be in progress, for the purpose of QA. The Contractor is also responsible for providing adequate lighting for QA purposes, at no additional cost to the Department.

If the Contractor is dissatisfied in any way with the Department's management of its QA program, the Contractor shall bring this issue immediately to the attention of the Resident or, at the latest, to the next scheduled Progress Meeting.

506.05 Protective Measures During surface preparation and field painting of the existing structural steel, provide adequate safety measures for the protection of the public and surrounding area against damage due to paint drippings, paint spatter, over-spray, falling objects, etc. The Contractor is fully responsible for property damage or personal injury which may result from operations incidental to surface preparation of the structural steel and the field application of the coating system. The coating system shall be protected at all times during application and curing to prevent contamination caused by construction or traffic activities. No coating material shall be stored on the bridge structure, or under the bridge structure.

506.06 Surface Preparation Chloride and salts should be expected to be present, especially at corrosion sites. The Maximum chloride threshold allowed is 7ug/cm^2 . Test for chlorides and soluble salts using a Bresle Test kit, or equal, as approved by the Resident. After initial blast if chlorides are too high reduce chlorides and soluble salts to acceptable levels by waterjetting, solvent cleaning or other methods acceptable to the Resident prior to coating application and primer.

Test for soluble salts at all locations where painting will occur or as directed by the Resident. If after the initial testing has been done, it appears that no unacceptable levels of chlorides and soluble salts are present, the Resident may require a diminished number of tests. The Resident is not obligated to require less testing.

Remove all oil and grease present on bare steel or rusted surfaces in accordance with SSPC-SP 1, solvent cleaning, before blast cleaning.

The abrasive blast media shall meet the requirements of *SSPC-AB 1, AB 2 or AB 3*. The anchor profile shall be angular and meet the requirements of the coating manufacturer's published data sheet.

Abrasive blast clean the steel in accordance with *SSPC-SP 10, Near-White Blast Cleaning* except that inaccessible areas and sensitive areas as designated by the Resident shall be cleaned in accordance with *SSPC-SP 11, Power Tool Cleaning to Bare Metal*. After abrasive blast cleaning visually inspect the substrate for fins, tears, delaminations and other unacceptable discontinuities. Remove unacceptable discontinuities with a grinder or other suitable power tool. Reblast the affected area(s) to develop an acceptable anchor profile. The Contractor may propose an alternative method of developing an acceptable anchor profile on repair areas to the Resident.

Exercise care to avoid any nicking or gouging of the steel during rust removal. Nicks and gouges are cause for a suspension of activities until appropriate adjustments are made to prevent a reoccurrence. Repair damage to steel caused by surface preparation.

Measure the anchor profile of the substrate on every plane of each beam or girder to be painted. Record the location and results in the JCR. Label the replica tape (location, profile, etc) and affix the tape to the JCR. Provide copies to the Resident.

Double blow down or vacuum residual dust on the blasted substrate. Solvent clean any visible contamination that may result from handling, inspection or other activities that may inadvertently leave contaminants on the surface of the steel.

The allowable time between abrasive blast cleaning and primer application shall not exceed the Manufacturer's Product Data Sheet or 12 hours, whichever is less. If rust-back occurs, re-blast the entire prepared substrate prior to application of primer.

Newly fabricated steel members shall be cleaned in accordance with SSPC-SP 10.

Use *SSPC-VIS.1* for abrasive blast cleaned substrate and *SSPC-VIS.3* for hand or power tool cleaned substrate to determine acceptable surface cleanliness.

Measure the anchor profile in accordance with ASTM D 4417 Method C (replica tape). If the anchor profile fails to meet the minimum requirements, re-blast the substrate until the minimum required anchor profile is achieved. If the anchor profile exceeds the maximum allowed, generate a Non Conformance Report (NCR) describing the condition of the substrate and a proposed solution and submit it to the Resident for review.

If compressed air is used for abrasive blast cleaning, perform a blotter test ASTM D 4285 at the beginning of each shift and at any time requested by the QAI. Notify the QAI prior to performing the test so that the QA Inspector can witness the test.

506.061 Pre-Production Surface Preparation Test Sections Prepare test sections prior to production surface preparation. Prepare at least one test section for each specified degree of surface preparation. Test sections should be at least 1 square meter in size and include representative surfaces such as riveted and bolted connections. Prepare the test section surface preparation using the same equipment, materials and procedures that will be used for the duration of the Project. Perform the test cleaning in locations approved by the Department.

SSPC-VIS 1 and SSPC-VIS 3 photographic standards, as applicable, will be used by the Department to determine the level of cleanliness achieved. Do not proceed with production surface preparation activities until the Department agrees that the test section conforms to the applicable cleanliness requirements. The agreed upon test areas shall be masked off and left unpainted until the completion of the Project and will be used for calibration of gauges by both Department and Contractors personnel. A desiccant filled masking paper shall be used, all at no additional cost to the Department.

506.062 Removal of Existing Debris Remove and properly dispose of accumulated winter sand/salt, bird droppings, dirt, grease, and debris from all areas to be prepared and painted prior to undertaking any paint removal or surface preparation operations.

506.063 Sharp Edges and Steel Defects Remove by grinding all fins, tears, slivers, scabs, laminations, etc., that are present on any steel member, or that become apparent during the blasting operation. Re-blast areas that have been ground to achieve the specified profile. Immediately report to the Department any cracks or significant metal loss found in the structural steel.

506.064 Removal of Pack Rust Remove all rust scale on any surface and loose pack rust that has formed between structural members. Remove tight pack rust until the highest point is a minimum of 3 mm (1/8 inch) below the surface of the surrounding steel.

Exercise care to avoid any nicking or gouging of the steel during rust removal. Nicks and gouges are cause for a suspension of activities until appropriate adjustments are made to prevent a reoccurrence. Damage to steel by the Contractor shall be repaired by the Contractor as approved by, and at no cost to, the Department and no additional time will be added.

506.065 Compressed Air Cleanliness Provide compressed air that is free from moisture and oil contamination. Conduct a white blotter test in accordance with ASTM D 4285 to verify the cleanliness of the compressed air. Conduct the test at least once per shift for each compressor system. Sufficient freedom from oil and moisture is confirmed if soiling or discoloration is not visible on the paper.

If air contamination is identified, suspend operations and make adjustments as necessary to achieve clean, dry air.

506.07 Mixing Thoroughly mix the coating according to the manufacturer's recommendations. Thinning, if necessary shall be per the manufacturer's recommendations.

506.08 Conditions for Coating Apply and cure all coatings in accordance with the manufacturer's recommendations. Provide digital data recorders that measure and record temperature and relative humidity during the curing period for all coatings. Provide a minimum of two data recorders, which shall be placed in the immediate vicinity of the curing operation, and shall also provide the Department with the software necessary to download the recorded data. The data recorders shall measure and record the temperature and relative humidity during the entire curing cycle. No subsequent coating shall be applied until the Contractor demonstrates that the curing has met the requirements of the manufacturer's product data sheets.

506.09 Paint Application Caulk all gaps between abutting surfaces and at areas of pack rust that cannot be removed, as between the intermediate and top coat. Apply caulking between the bearing plates and the concrete piers. Provide the name, generic type, technical data sheets, and application instructions for the material to the Resident. Provide written concurrence from the coating manufacturer that the caulking is compatible for use with the coating.

Measure the environmental conditions in the immediate vicinity of the piece(s) being coated during the coating operation and the entire cure period. Provide two data loggers capable of measuring ambient humidity and temperature. The data loggers shall come with software that can download the data onto a computer. Print the data. The data will become part of the JCR. Place the data loggers in the immediate vicinity of the coating operation during the entire application and curing cycle. The data will be used by the Resident to determine that the cure/recoat time

requirements for each coat have been met. Failure to comply will result in the coating being cured for the maximum time necessary to assure adequate cure as determined by the Resident.

Apply each coat in a neat and workmanlike manner. Apply the coating inside the approved containment. Apply the coating smoothly and uniformly without film defects, in conformance with these specifications and applicable provisions of *SSPC-PA 1, Shop, Field and Maintenance Coatin of Metals*. Correct skips, thin areas or other deficiencies before each succeeding coat is applied. The surface of the paint receiving additional coating shall be free from dust, grease, oil or any other contaminant that would prevent bonding.

Measure the DFT of each coat with a Type 2 Electronic Gauge in accordance with *SSPC-PA 2, Procedure for Determining Conformance to Dry Coating Thickness Requirements*. Record the following:

- Gauge type/manufacturer/model
- Serial number
- Coat/shim used for calibration (e.g. Primer Coat/5 mil. Shim, etc.)
- Measurements/spot average/location
- Cure time
- Non-conforming areas and determination for correction

Brushes, when used shall be of good quality so as not to leave bristles in the coating and have sufficient body and length of bristle to spread the coating in a uniform flow. Rollers, when used, shall be of a type which will not leave a stippled texture or roller particles on the coated surface.

Inform the Resident prior to mixing and thinning all coating. Record the batch and lot numbers of the coating, the type and amount of thinner used, the time and pot life of the coating in the JCR.

Mix and add thinner in conformance with the Manufacturer's Product Data Sheet. Measure the thinner with a graduated cup or other measuring device. Mix the paint using the method, equipment and for the amount of time recommended by the coating manufacturer. Coating that is not mixed and thinned in accordance with the Manufacturer's Product Data Sheet will be rejected.

Stripe coat the substrate with primer in accordance with *SSPC-PA 1, Section 7.3*. The stripe coat is to be applied to edges, welds, outside corners, bolt heads/threads and crevices as directed by the Resident. The stripe coat shall be brush and/or roller applied. Spray application of the stripe coat is only allowed upon prior approval of the Resident. If spray application is approved, the stripe coat shall be subsequently worked into the surfaces by brush and/ or roller. Whenever possible apply the stripe coat prior to application of the primer coat, however, in order to save the blast the Contractor may apply the stripe coat after the application of primer with the prior concurrence of the Resident. The resident may allow the contractor to stripe coat with the Intermediat coat on a case by case baisas. Failure to notify the Resident will render the work Non-Conforming Work.

Measure and record the DFT readings in the JCR. Document that minimum cure time has been achieved in the JCR. Include the data logger printout. Maintain environmental conditions to assure acceptable cure time between coats and after the top coat is applied. Coating that has been improperly cured will be rejected, removed and re-coated. The Resident will determine that the coating has been properly cured based on QC tests, measurements and documentation.

Identify areas on Non-Conformance and generate a Non-Conformance Report (NCR). Present the NCR to the Resident with a proposed repair. Examples of Non-Conformance are, but not limited to:

- Overspray
- Sags, drips, runs
- Thin coating
- Excessive film build
- Orange peel, mud cracking
- Blisters
- Surface contamination
- Discontinuities that may be reasonably expected to cause premature coating failure

Repair damaged coating or defectively applied coating (runs, sags, skips, misses, etc.). Remove the affected coating layers and reapply. If all coating layers are damaged or defective, remove all coating layers to the specified degree of cleanliness. Feather the edges of the remaining coating to create a smooth transition from the repaired area to the remaining coating. Reapply all affected coating layers.

506.10 Samples for Testing The Department may require random coating material samples from the Contractor. If necessary, the samples will be sent to an independent certified laboratory to obtain infrared spectra to check the formulation compared to that on the approved coatings list. Sampling and testing shall be at no additional cost to the Department. If the material fails the independent lab analysis, the Contractor shall remove and replace the coating to the Contract specified conditions, at no additional cost to the Department.

506.11 Waste Management. The Contractor shall collect, store and dispose of all hazardous, special and solid waste in compliance with relevant Federal, State and local laws and requirements. Special and hazardous wastes generated at each bridge shall be combined and managed together. The project will be considered as one waste generation site. The procedures used for management and disposal of lead paint and related waste shall conform to the latest requirements of Steel Structures Painting Council Guide 7, Guide for the Disposal of Lead-Contaminated Surface Preparation Debris. The Contractor shall have a copy of this guide available on site at all times. The Contractor shall also have a copy of the Maine Department of Environmental Protection's (DEP's) Handbook for Hazardous Waste Generators and a copy of the State of Maine Hazardous Waste Management Rules, 06-096 CMR Chapters 850-857, on site at all times. Thirty days prior to generating any waste, the Contractor shall submit their Waste Management Plan which shall include the Spill Prevention Control and Countermeasure Plan (SPCCP), to the Department for review and comment. Work shall not proceed until the Department has reviewed and approved this plan.

The Department has Large Quantity Generator (LQG) hazardous waste status for all hazardous waste activities associated with this Contract, as defined by DEP in the Handbook for Hazardous Waste Generators. All waste generated as part of this initiative shall be stored and managed under one dedicated Environmental Protection Agency (EPA) waste identification number. The Contractor shall perform all work on behalf of the Department and comply with all Federal, State and local regulations.

The Contractor shall establish one hazardous waste storage area for this project. All hazardous waste shall be managed in US DOT approved containers and stored in an approved locking security structure which has a firm, impervious, floor surface and secondary containment that is either 110% of the largest container or 20% of all containers, whichever is larger. All waste containers must be labeled with the words "Hazardous Waste", the hazard (e.g., Toxic, flammable, etc.), the start date, full date, site location and generator information. The lockable security structure must be labeled "Danger-Unauthorized Personnel Keep Out" and shall be locked at all times when not being accessed. Waste containers in the waste storage security area must be inspected each operating day and a log must be maintained by the Contractor, and provided to the Department at the end of the Project. The Contractor shall store and manage all hazardous waste, in conformance with MDEP regulations as detailed in Chapters 850 – 857 and EPA regulations as defined in 40 CFR 260 – 268. All hazardous wastes are limited to an on-site storage time of 90 days based on the date of initial accumulation.

The Contractor shall test paint debris (including waste paint, personal protective equipment, gray water and spent solvents) to determine the appropriate disposal options. A minimum of Four composite sample representative of each waste type must be collected and tested for Toxicity Characteristic Leaching Process (TCLP), constituents in accordance with the procedures outlined in EPA SW846 Method 1311. The Department must be notified at least one week in advance of the date of sampling activities and provided with the proposed protocol for sample collection. The Department shall witness the sampling. Chain-of-custody must be adhered to for sample removal. Certified TCLP test results shall be provided to the Department upon receipt by the Contractor.

The Contractor shall inform the Department at least one week in advance of planned date(s) for removal of hazardous waste from the job site. The EPA ID number for the project will be provided by the Department prior to the first shipment of waste. The Contractor shall secure a MaineDOT pre-approved transporter licensed by the MDEP for transportation of hazardous waste. Preparation of all necessary transportation forms is the responsibility of the Contractor. The Hazardous Waste Manifest must be approved and signed by the Department. A six part, pre-numbered Uniform Hazardous Waste Manifest (EPA Form 8700-22) shall be prepared when shipping hazardous waste. The appropriate original sheets of the multi-part hazardous waste manifest must be provided to the Department and must be sent to the Department's Director of Safety and Compliance, Office of Safety and Compliance, State House Station #16, Augusta, Maine, 04333-0016.

The Contractor shall select a Treatment, Storage or Disposal (TSD) facility as soon as the waste has been tested and the results are known. The Contractor will submit the selected TDS for MaineDOT approval. Following approval by MaineDOT, the Contractor shall obtain approval for acceptance of the waste from the selected facility prior to transport.

Hazardous/special paint debris and other waste shall not be placed or accumulated on unprotected ground or released to waters of the State. Work areas shall be adequately shielded at all times to prevent dispersion of debris by wind or rain. All of the Contractor's equipment and storage areas used for the handling and storage of hazardous waste and hazardous materials shall have impervious tarps placed under them. Any evidence of improper storage and handling shall be cause for immediate suspension of work in progress, and work will not be allowed until corrective actions are taken. Emergency procedures to be taken in the event of a release of hazardous/special waste or hazardous matter to the environment shall be part of the Contractor's

Spill Prevention, Control and Countermeasures Plan that is required as part of the Contractor's Waste Management Plan and by the Department's Supplemental Specifications and Supplemental Standard Details for Construction, Section 656.3.4, f. Spill Prevention.

The Contractor shall have Aid Agreements with the local fire department, police department, hospital and hazardous waste spill responder. Copies of these agreements shall be provided to the department prior to generating any waste, in conformance with the DEP Rules, Chapter 851, Section 13, Part C (7)(c)(ii) and 40 CFR 264.37.

Failure of the Contractor to comply with this section shall result in the following:

- First finding of non-conformity shall be a written warning which will include deadline for compliance.
- Second finding of non-conformity shall be documented in writing, and all operations by the Contractor, except those needed to restore compliance, will be immediately suspended, until full compliance has been restored.
- Third and subsequent findings of non-conformity will be documented in writing and all operations shall be immediately suspended, except those needed to restore compliance, until full compliance has been fully restored, and the Contractor assessed a penalty of \$10,000.00 per incident. If the Contractor fails to restore the Project into compliance, additional fines shall be assessed.

All penalties assessed shall be in addition to any fines assessed by DEP/EPA for failing to comply with the Federal, State, or local regulations. The Contractor shall not be granted additional time for suspensions of work due to noncompliance.

506.111 Visible Emission Observations

A. Visible Emission Assessments

1. Conduct visible emissions assessments as defined in this Section and in accordance with 40 CFR 60, Appendix A, Method 22. This assessment is based on total visible emissions regardless of the opacity of the emission. SSPC Technical Update No. 7 provides guidance on conducting visible emission assessments.
2. Conduct the visible emissions assessments to account for all locations where emissions of lead dust might be generated, including but not limited to, the containment or work area, dust collection and waste recovery equipment as applicable, and waste containerizing areas.
3. In addition to assessing airborne emissions, conduct visual inspections for releases or spills of dust and debris that have become deposited on surrounding property, structures, equipment or vehicles.
4. State and local regulations regarding visible emissions:
 - a) Note that State of Maine regulations regarding visible emissions, as well as any local requirements, are in addition to, but not in lieu of, the requirements of this Section.

B. Acceptance Criteria for Visible Emissions Assessments

1. For surface preparation activities, visible emissions in excess of SSPC Guide 6, Level 1 (1% of the workday) are unacceptable. This amounts to a maximum duration of 4 minutes and 48 seconds in an 8-hour workday, or 36 seconds per hour. This criterion applies to scattered, random emissions of short duration. Sustained emissions (e.g., 1 minute or longer) from a given location, regardless of the total length of emissions for the workday, are unacceptable. Immediately shut down the emission-producing operation, change work practices, extend the ground coverings, modify the containment, or take other appropriate corrective action to prevent similar releases from occurring in the future.
2. Visible emissions in excess of the above criteria are cause for immediate shutdown. Immediately stop the applicable operations if these criteria are violated. Correct and repair the deficiencies causing the emission, and undertake clean up with HEPA vacuums.
3. Violations of any high volume ambient air monitoring acceptance criteria is cause for immediate project shut down and the initiation of corrective action, even if the visible emissions results are acceptable.

C. Frequency and Location of Emissions Assessments

1. Conduct the specialized assessments as described in this Section at least four times (for a minimum of fifteen minutes each) during each shift in which paint disturbance operations are underway. Document all observations even if visible emissions are not observed.
2. Perform casual observations of emissions on an ongoing basis.

D. Assessment and Correction of Spills or Releases

1. Conduct all activities so that spills or releases of paint chips or spent abrasive do not occur.
2. On a daily basis, visually inspect the site for releases of dust, paint chips, and spent abrasive outside of the work area that have become deposited on surrounding property, structures, equipment, or vehicles and on the unprotected ground or in areas where rain water could carry the debris outside of the work area.
3. Clean up all visible paint chips and debris on a daily basis at the end of each shift, or more frequently if directed by the Department. Conduct the cleaning by manually removing paint chips or by HEPA vacuuming.
4. When releases are observed, in addition to cleaning the debris, immediately shut down the emission-producing operations, change work practices, extend the ground coverings, modify the containment, or take other appropriate corrective action to prevent similar releases from occurring in the future. Do not resume operations until the corrective measures have been inspected and approved by the Department.

E. Reporting of Visible Emissions and Releases

1. Document all visible emission observations and all cases where work has been halted due to unacceptable visible emissions or releases, the cleanup activities invoked, and

the corrective action taken to avoid reoccurrence. Provide a report to the Department within 48 hours of the occurrence.

2. Maintain the results of the assessments in a log at the site. Identify the frequency of observations made, the methods of observation utilized, the name of the observer(s), and documentation completed. Include and summarize the documentation prepared for work stoppages due to unacceptable visible emissions or releases. Make the log available to the Department for review upon request.

506.112 High Volume Ambient Air Monitoring All ambient air monitoring shall be performed by the Contractor according to EPA regulations 40 CFR Part 50 Appendix B, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere (High-Volume Method), and 40 CFR Part 50 Appendix G, Reference Method for the Determination of Lead in Suspended Particulate Matter Collected from Ambient Air.

- A. Conduct daily high volume ambient air monitoring for TSP-Lead during any dust producing operations (i.e., abrasive blast cleaning, containment movement, and/or vacuuming spent abrasive) to confirm that emissions do not impact the public.
- B. Conduct ambient air monitoring at a minimum of three locations per jobsite or as directed by the Resident. The Contractor shall provide the monitors, and all necessary calibration and support equipment, power to operate the units, security (or arrangements to remove and replace the monitors daily), filters, and flow chart recorders. Provide operational high volume ambient air monitors for the duration of the project to account for each of the monitoring locations. Dust producing activities will not be permitted to begin if monitoring locations are not supported by the required number of monitors. Therefore, several back up monitors are recommended.
- C. High volume ambient air sample results will be compared to the acceptance criteria of 1.5 micrograms per cubic meter over a 90-day period. Utilize the formulae of SSPC Guide 6 to extrapolate the acceptance criteria to an adjusted daily allowable concentration.
- D. In the event that the TSP-Lead air monitoring results exceed the acceptance criteria on any one day of blasting, the Contractor shall suspend dust producing operations (e.g., paint removal and/or clean-up) and implement appropriate corrective action to control emissions.
- E. Document all cases when work has been suspended due to emissions exceeding the ambient air monitoring criteria.
- F. Background samples shall be collected for two days prior to the start of work while no dust producing operations are underway. The background monitoring shall be conducted on one weekday and one weekend day. The background monitoring shall coincide with the anticipated working hours for the paint removal operations, but shall last for a minimum of 8 hours each day.
- G. Calibrate the monitors according to the manufacturer's written instructions upon mobilization to the site, following any repairs or maintenance to the units, and quarterly.
- H. Filters shall be placed in monitors prior to start of dust-producing operations and the filters removed upon completion of dust producing activities for that day. Advise the Department

in advance when the filters will be removed and replaced. The monitor operator shall record the following information, at a minimum, on field data and laboratory chain-of-custody forms (or equivalent):

1. Monitor location and serial number
 2. Flow rate, supported by flow charts
 3. Start, stop times and duration of monitoring
 4. Work activities and location of work during the monitoring period
 5. Wind direction/speed
- I. Ambient Air Monitoring Results. The laboratory shall provide the results directly to the Department with a copy to the Contractor within 3 days of the sampling. The results shall include:
1. Monitor identification and location
 2. Work location and activities performed during monitoring period
 3. Monitor flow rate, duration, and volume of air sampled
 4. Laboratory methods used for filter digestion / analysis
 5. Sample results for the actual duration of monitoring
 6. Sample results expressed in micrograms per cubic meter of air
 7. Comparison of the results with the the adjusted daily allowable concentration indicating whether the emissions are compliant
 8. Field data and chain-of-custody records used to derive results

506.113 Regulated Areas Physically demarcated regulated area(s) shall be established around exposure producing operations at the OSHA Action Level for the toxic metal(s) present in the coating being removed or the abrasive being used. The Contractor shall provide all required protective clothing and equipment for personnel entering into a regulated area. Unprotected street clothing is not permitted within the regulated areas. Conduct air sampling at the boundaries of the regulated area for lead and any other toxic metals that may be present in the coating being removed or abrasive being used. Use a minimum of two low flow pumps located at points on the perimeter of the regulated area, one upwind and one downwind from the work area. Until monitoring results are available, establish the regulated area a minimum of 15 feet from any equipment or operations that might generate airborne emissions of toxic metals. If the monitoring confirms that emissions at the boundary do not exceed the OSHA Action Level as an 8-hour Time Weighted Average, discontinue monitoring. If the monitoring results exceed the OSHA Action Level, modify work practices and the containment to provide better controls over the emissions and repeat the monitoring until results are below the OSHA Action Level. Additional monitoring is not required unless directed by the Department, or if visible emissions occur or if there are changes to the work practices or equipment being used in the regulated area. Verify that cassettes are analyzed by an American Industrial Hygiene Association (AIHA) laboratory accredited for metals analysis. Have the laboratory provide results within 72 hours of the field sampling.

506.12 Method of Measurement

Surface Preparation of Existing Structural, Field Painting of Existing and New Structural Steel, Containment and Pollution Control Measures, and Disposal of Special Waste or Hazardous

Waste materials shall **NOT** be measured separately for payment, but shall be incidental to related contract items.

SPECIAL PROVISION
SECTION 508
WATERPROOFING MEMBRANE
(High Performance Waterproofing Membrane)

508.09 Basis of Payment. The following pay items are added:

<u>Pay Item</u>		<u>Pay Unit</u>
508.1401	High Performance Waterproofing Membrane, Torch Applied	Lump Sum
508.1402	High Performance Waterproofing Membrane, Spray Applied	Lump Sum

SPECIAL PROVISION
SECTION 520
EXPANSION DEVICES – NON-MODULAR
(Asphaltic Crack Control Joint)

520.01 Description

This work consists of furnishing and installing Asphaltic Crack Control Joint systems at the locations shown on the Plans, in accordance with these Specifications, and as directed by the Resident. This work shall include furnishing, installation, and removal of all bond breaking materials used to prevent asphalt pavement layers from adhering to waterproofing membrane, all temporary header(s) installed with the intent to form the Asphaltic Crack Control Joint channel, and all preparation required for the installation of the Asphaltic Crack Control Joint.

520.02 Submittals

Prior to construction, the Contractor shall submit the following to the Resident for review and approval:

(a) Complete and detailed Shop Drawings of the Asphaltic Crack Control Joint system. Shop Drawings shall include information covering materials, their properties, installation procedures, storage and handling requirements, and Safety Data Sheets.

(b) Certified test reports of the asphaltic binder, and the plastic compound.

(c) Certificate of Compliance for aggregate.

520.03 Materials

A system from MaineDOT's Qualified Products List for Expansion Devices – Non-Modular (Asphaltic Plug Joints) shall be used.

520.04 Installation

The Asphaltic Crack Control Joint system shall be installed in accordance with the manufacturer's latest instructions and this specification.

The installation shall be as indicated on the Plans. It shall not be installed when ambient or substrate temperatures are below 40°F, when rain is imminent, or as directed by the Resident. The area shall be free of dirt, dust, moisture, petroleum, or solvents that might contaminate the joint materials or reduce the bond of the joint system to the substrate or vertical faces. The use of compressed air and heat may be required to dry the area before installing the joint system.

The asphalt pavement layers shall be removed to the required dimensions shown on the plans. The asphalt pavement shall be sawcut to a depth that will not damage the waterproofing membrane, but permit the removal of the asphalt pavement layer. The pavement layer shall be removed in a manner that will not damage the waterproofing membrane. Bond breakers such as

interlayers and fabrics, or temporary header(s), may be used with new hot mix asphalt placements to avoid unnecessary sawcuts and protect the waterproofing membrane from damage. The method of attaching temporary header(s) to the concrete deck shall be approved by the Resident. The use of a temporary header shall not be allowed if it will need to be anchored into a precast prestressed concrete member. Should a concrete levelling course be required before installing the bridging plates, and the membrane layer is removed in the process, it shall be replaced before the Asphaltic Crack Control Joint system is installed. Vertical surfaces of the asphalt pavement layers shall be cleaned to remove all water, dust, or other contaminates.

Unless otherwise specified by the Asphaltic Crack Control Joint system manufacturer, liquid asphalt binder meeting the requirements of a 64-28 or 58-28 PGAB shall be used to coat the membrane and bridging plate surfaces.

The binder shall be heated to 350°F to 410°F, or a safe temperature as recommended by manufacturer. Heating kettles shall be equipped with continuous agitation system, temperature controller, calibrated thermometer, and double steel jacket with an oil layer in between, to prevent scorching of the binder. During application, the temperature of the binder shall be maintained at a minimum of 350°F, but not greater than 410°F. It shall be poured and leveled into the expansion joint openings until overfilled, and the excess binder spread over the area covered by the bridging plates.

Liquid asphalt binder shall be poured and leveled over the adjacent membrane surfaces in a manner that ensures full coverage. Areas with excessive application, such as pooling of liquid, should be removed or dispersed along the joint area.

Asphaltic Crack Control Joint system aggregate shall be heated in a rotating drum mixer to a minimum of 350°F but not greater than 410°F, or as recommended by the manufacturer. The thermoplastic polymeric modified asphalt binder shall be added to the mixer to pre-coat the aggregates.

Coated aggregate shall be placed into blockouts in layers as recommended by the manufacturer. Blockouts shall be overfilled with coated aggregate as required to compensate for compaction. Equipment for compaction shall be as recommended by the manufacturer. Additional thermoplastic polymeric modified asphalt binder shall be screeded over the compacted joint to fill all surface voids.

Top dressing aggregate shall be applied per the manufacturer's recommendation.

Plastic compound shall be used for repairing overcuts in bituminous concrete. Cleaning, mixing, and application shall be in conformance to the manufacturer's instructions.

Vehicular traffic may pass over finished joints two-hours after compaction, or as recommended by the manufacturer.

520.05 Method of Measurement

The Asphaltic Crack Control Joint system will be measured by the lump sum as shown on the Plans. Preparation of surfaces for the proposed joint system including cutting, grinding, and cleaning will not be measured separately for payment, but shall be incidental to the Asphaltic Crack Control Joint.

520.06 Basis of Payment

The Asphaltic Crack Control Joint system will be paid for at the Contract lump sum price, which price shall include all labor, materials, equipment, and incidentals required for furnishing and installing the Asphaltic Crack Control Joint system as shown on the Plans, in accordance with these Specifications, and as directed by the Resident. Payment shall also include all work required to repair the concrete deck where anchors were used with a temporary header, and all patching needed for the waterproofing membrane.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
520.2321 Expansion Device - Asphaltic Crack Control Joint	Lump Sum

SPECIAL PROVISION
SECTION 520
EXPANSION DEVICES
(Bridge Joint Modifications)

Description

This work shall consist of removal, adjustment, repair, modification, and replacement of bridge joints, as indicated on the plans and in accordance with Special Provisions and Standard Specifications. The joint and seals shall be the type indicated on the plans and shall meet the material, fabrication, and construction requirements of the relevant Standard Specifications and Special Provisions.

Unless otherwise defined on the plans, joint replacements shall be the full width of the bridge, including curbs and sidewalks.

Materials

All structural concrete removed shall be replaced with Class LP concrete meeting the requirements of Standard Specifications Section 502. As an alternative to the standard Class LP concrete, the Contractor may propose the use of an accelerated Class LP concrete. Acceptable methods for rapid strength gain shall include, but are not limited to, additional cementitious content, non-chloride chemical accelerators, Type III Portland Cement, and heated mix water and aggregates. Trial batches shall be performed and submitted to the Department indicating a minimum of 4000 PSI compressive strength in 24 hours.

The materials furnished, and equipment and installation procedures used, shall be in strict accordance with the manufacturer's/supplier's published product data and installation guidelines. Product data, installation guidelines, test data and reports, and material certifications shall be submitted for review and approval.

Construction Requirements

All angles, joint extrusions, gland seals, and compression seals shall be approved by the Resident before materials are ordered.

Shop drawings shall be submitted for approval for all replacement joints and joint systems. The Contractor shall construct the joint to the dimensions shown on the plans and as approved by the manufacturer.

Where applicable, the Contractor shall cut a neat line for the substrate blackout per the dimensions indicated on the plans and standard details. The Contractor shall sand blast the substrate, blow it clean with dry oil-free compressed air, and thoroughly dry the substrate prior to placing joint material. Care shall be taken where reinforcing steel is uncovered not to damage the steel or its bond to the surrounding concrete. All existing reinforcing steel exposed by the joint and concrete removal shall be cleaned by sandblasting, or by other means approved by the Resident. Prior to casting the new concrete the Contractor shall apply a concrete bonding agent from the Department's Qualified Products List. Bonding grout meeting the requirements of Standard Specifications Subsection 518.02 may be substituted with the approval of the Resident.

All transverse reinforcing steel shall be continuous across the length of the joint. The Contractor shall provide approved reinforcing steel coupler bars at all construction joints.

The Contractor shall install the joint or joint system according to the manufacturer's recommendations. The installers shall have a factory trained lead person(s) onsite during the joint installation, or the approved manufacturer/supplier shall provide a qualified technical representative(s) to supervise the Contractor's personnel in the proper methods of installation of the joint system. The resumes of the factory trained lead person(s) and/or manufacturer's qualified technical representative(s) shall be submitted for review and acceptance.

Construction joints in the joint armor or the steel extrusions shall be fully welded at each construction joint required by phasing.

No loading shall be placed on new joint concrete until the concrete has reached the specified design strength.

A temporary seal(s) shall be installed prior to the start of the winter maintenance period for all joint assemblies or portions thereof that will be in place throughout the winter. All temporary seals shall be removed and joint openings and substructure shall be cleaned prior to installing the final seal.

Upon completion of all expansion device work, the temporary compression seal shall be removed and replaced in one continuous length for each expansion device installed. The exposed ends of this final compression seal shall be sealed with appropriately shaped pieces of foam rubber, bonded in place with sealant as described in Section 714.04, Sealant, of the Standard Specifications, or a bonding agent approved by the Resident.

The removal, adjustment, modification and replacement of bridge joints shall be done in a manner that accommodates maintenance of traffic requirements and shall be coordinated with the highway paving.

Temporary Structures and Approaches

In work zones where the roadway is opened up to traffic during non-work hours the Contractor shall include in their Traffic Control Plan details for how the roadway surfaces will be made acceptable for vehicular traffic if the joint is not complete. Depending on the work completed during the work hours the Contractor shall shim, plate, ramp, or mat the joint or deck areas being repaired prior to opening the roadway(s) to vehicular traffic, and shall design, construct, and maintain in good condition all temporary structures required for the satisfactory maintenance of vehicular traffic.

Temporary structures shall be recessed flush with the adjacent roadways or ramped transversely and longitudinally per Standard Detail 202(01). Barricades, warning signs, lights and other traffic control devices shall be provided in accordance with the Contract and the approved Traffic Control Plan. All temporary structures and approaches shall be constructed in accordance with the plans submitted by the Contractor. Materials used for all temporary

structures and approaches shall conform to the detailed plans and specifications submitted by the Contractor.

Temporary structures shall be designed and sealed by a Professional Engineer, licensed in accordance with the laws of the State of Maine. The Contractor shall submit the design computations and detailed plans of the temporary structures to the Resident prior to beginning construction of the temporary structures. If the Department requires changes to temporary structures plans or computations, based on Contract requirements, then the Contractor shall implement the changes at no additional cost to the Department.

Temporary structures shall be designed in accordance with the AASHTO Standard Specifications for Highway Bridges, 17th Edition (2002), or the current edition of AASHTO LRFD Bridge Design Specifications, except as noted herein. Designs shall use an HS25 truck live load, for ASD and LFD, or the HL-93 Maine Modified live load for LRFD designs. The design speed of the temporary structures shall not be less than the construction area posted speed limit, or the advisory speed limit, as applicable, unless otherwise indicated in the Contract. Provisions shall be made for a skid resistant wearing surface throughout the period of time the temporary structure is open to public travel for vehicular traffic.

The Department shall have no obligation to review or comment on any design, construction, maintenance or removal of temporary structures and approaches. No review or comment by the Department, or any lack of review or comment by the Department, shall not relieve the Contractor of its responsibility to properly design, construct, maintain in good condition, and remove the temporary structures and approaches in accordance with the Contract, nor shall no review or comment by the Department, or any lack of review or comment by the Department shift any responsibility to the Department. The Contractor shall be responsible for all damages resulting from the failure of temporary structures or approaches.

The temporary structures and support members shall be fastened or anchored so that all contact surfaces with adjacent supporting members bear continuously. Immediate corrective action shall be taken by the Contractor to remedy any condition in the structure that results in objectionable or distractive noise levels, or results in the decking becoming loose, when subject to traffic loads.

The Contractor shall be responsible for normal maintenance. Should any part, or all, of the temporary structures and approaches be damaged or destroyed by any cause, prior to, or after, opening the temporary structures and approaches to traffic, it shall be repaired or replaced by the Contractor without additional compensation.

The Contractor shall remove all temporary structures entirely at the end of the project.

Method of Measurement

Bridge Joint Modification Type5 will be measured by each unit, complete in place and accepted for the type(s) identified on the plans and described in this specification. Each unit will be defined from the centerline median barrier to its associated end in the fascia barrier, thus northbound and southbound joints are counted separately.

Providing factory trained lead persons and/or manufacturer/supplier technical representatives, where specified, will not be measured separately but shall be incidental to the Bridge Joint Modification pay items.

Temporary structures and approaches will not be measured separately but shall be incidental to the relevant Bridge Joint Modification pay item.

Basis of Payment

The accepted quantity of Bridge Joint Modification Type 5 will be paid for at the contract unit price per each. Payment will be full compensation for furnishing and installing all materials, labor, equipment, and incidentals necessary to complete the work, including removing, disposing, and installing structural concrete and steel; drilling and grouting; adjusting and cleaning existing joint materials and reinforcing steel; fabricating and installing new reinforcing steel; fabricating and installing new joint material and new seals, including temporary seals; welding; phasing the joint installation; salvaging existing electrical conduit; and temporary structures and supports, as required.

Traffic control devices used in conjunction with the temporary structures and approaches will be paid in accordance with the applicable Contract items.

Payment will be made under:

	<u>Pay Item</u>	<u>Pay Unit</u>
520.245	Bridge Joint Modifications Type 5	Each

SPECIAL PROVISION
SECTION 520
EXPANSION DEVICES – NON-MODULAR
(Longitudinal Joint Seal)

520.01 Description.

The following paragraph is added:

This work shall also consist of furnishing and installing a joint seal in the median barrier as shown on the plans or as directed by the Resident.

520.02 Materials.

The following paragraphs are added:

The joint seal shall be one of the following or an approved equal and be capable of bonding to new concrete:

- EMSEAL Bridge Expansion Joint System BEJS, manufactured by EMSEAL Joint Systems, LTD., 25 Bridle Lane, Westborough, MA.
- WaboFS Bridge Seal, manufactured by Watson Bowman Acme Corp., 95 Pineview Drive, Amherst, NY.

520.07 Method of Measurement.

The following paragraph is added:

Longitudinal joint seal will be measured by the linear foot installed and accepted.

520.08 Basis of Payment.

The following paragraphs are added:

The accepted quantity of longitudinal joint seal will be paid for at the Contract unit price per linear foot, which shall be full compensation for all work, materials and incidentals to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
520.261 Longitudinal Joint Seal	Linear Foot

SPECIAL PROVISION
SECTION 521
FINGER JOINT AND FABRIC TROUGH/FABRIC CURTAIN
(Fabric Trough)

526.05 Basis of Payment.

The following paragraphs are added:

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
521.32	Fabric Trough for Finger Joint (Anchor Piers)	Each
521.32	Fabric Trough for Finger Joint (Approach Spans)	Each

SPECIAL PROVISION
SECTION 524
TEMPORARY STRUCTURAL SUPPORTS
(Protective Shielding)

524.01 Description

The following paragraph is added:

This work shall also consist of furnishing all labor, equipment and materials required to provide protection for the public during demolition and construction. This protection shall include, but not necessarily be limited to, protective shielding of existing structures during demolition work, concrete removal, and installation of temporary deck support over rail lines, active maintenance yard, roadway lanes and shoulders, and waterways, on all existing structures.

The following Subsections are added:

524.031 Protective Shielding Design

Prior to the start of work, the Contractor shall submit working drawings for review and comment indicating the sizes and dimensions of protective shielding. The proposed methods of protective shielding, including connections and fasteners, shall be in accordance with the following criteria:

The protective shielding shall be designed for safely supporting all construction and dead loads, but not less than 100 pounds per square foot with a load duration of seven (7) days. Protective shielding shall be stiff enough to limit deflection to 1/2 inch under maximum loads and to be tightly sealed at all joints. The protective shielding shall be placed on the tops of the bottom flanges of the steel girders, with edges and laps made tight to protect facilities below from dust, debris and falling objects.

524.041 Protective Shielding Erection and Removal

No portion of the protective shielding installed over a roadway shall project below a plane connecting the bottoms of the bottom flanges of the steel stringers or concrete I-girders. During demolition operations, the protective shielding shall be covered with sheet plastic made tight at edges and laps to prevent water used in the operation from falling onto the facilities under the bridge.

The protective shielding on existing and new structures shall extend horizontally three feet beyond the fascia lines and vertically to a point one foot minimum above the top of parapet or railing. The shielding shall also extend 10 feet beyond the facilities below, unless otherwise noted on the Plans or as approved by the Resident.

Shielding shall be approved and installed prior to the start of any demolition work and shall remain in position during all demolition work. Shielding shall also be approved and installed prior to the start of any deck forming and shall remain in position during all deck work, including joint

repair or replacement. The shielding shall be relocated or removed only as approved by the Resident.

Construction sequences may require protective shielding material to be removed, stored and then reinstalled by the Contractor. Any shielding which is damaged during this removal and reinstallation shall be replaced by the Contractor at no additional cost.

524.05 Method of Measurement

This subsection is replaced in its entirety with the following:

Protective Shielding will be measured by the lump sum and will include the design, fabrication, erection, operation, maintenance, and removal. Temporary works used by the Contractor for their convenience will not be measured for payment. The work associated with removal and reinstallation of existing highway appurtenances (e.g. guardrails, sign supports, etc.) to facilitate the erection of temporary structural supports will not be measured for payment, but will be considered incidental to the Protective Shielding Pay Item.

524.06 Basis of Payment

This subsection is removed and replaced with the following:

Protective Shielding will be paid for at the contract lump sum price which price shall be full compensation for all materials, equipment, labor and incidentals necessary for the design, erection, maintenance, and dismantling of the protective shielding in accordance with these specifications.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
524.40 Protective Shielding	Lump Sum

SPECIAL PROVISION
SECTION 526
CONCRETE BARRIER
(Moveable Temporary Concrete Barrier)

Description. This work shall consist of furnishing, installing, operating, maintaining, disassembling, and final removal of precast moveable temporary concrete barrier (MTCB). Precast moveable temporary concrete barrier is defined as barrier able to be moved by a barrier transfer machine (BTM) not extending into oncoming traffic while the barrier units are not disconnected but are moved in one continuous length.

This work shall also consist of furnishing, operating and maintaining the BTM including fueling, lubrication, necessary hardware and spare parts as required by manufacturer.

Materials. All materials shall conform to the following material specification:

- Concrete shall be Class A concrete in accordance with Section 502 Structural Concrete of the Standard Specifications.
- Reinforcing Bars shall meet the requirements of Section 503, Reinforcing Steel of the Standard Specifications.
- Steel Hinges, rods, and structural steel shall meet the strength requirements of ASTM A36.
- Bolts and hardware shall meet the requirements of Section 713.02, High Strength Bolts of the Standard Specifications.
- Hinge Pin: AISI 4140 or 4142.

Each barrier section shall have the following minimum dimensions: 32 inches high, 18 inches wide at the base, and 30 inches long and be made of precast structural concrete with a minimum compressive strength of 4000 psi. Details for the MTCB shall conform to the shop drawings furnished by the manufacturer. The barrier sections shall be acceptable to the Resident in regard to there being no evidence of structural damage, spalling or cracking, that sections meet typical cross sectional dimensions shown in the manufacturer's shop drawings. The connecting hardware shall be black (not galvanized or painted) and the condition of connections and connecting hardware is subject to approval by the Resident.

Equipment. The BTM shall be self-propelled capable of transferring the MTCB laterally a minimum distance of 4 feet and a maximum distance of 18 feet at speeds up to 5 miles per hour. The transfer vehicle must be able to pick up and move continuous lengths of the MTCB to the offsets and dimensions shown on the plans. The transfer vehicle shall not extend into traffic during transfer of the MTCB.

Construction. The MTCB shall be fabricated and installed in accordance with the manufacturer's shop drawings and in accordance with the details shown on the plans. Damaged units shall be replaced immediately. MTCB damaged in the process of handling or placing shall be repaired or replaced immediately as directed by the Resident and shall be at the Contractor's

expense, including hardware damaged or lost in the process of handling, placing, removing or resetting.

The Contractor shall provide manufacturer-trained operators and maintenance crews to ensure trouble-free operational status of the barrier transfer machine (BTM) at all times. The BTM shall be kept in good repairs at all times. The Contractor shall expedite repairs necessitated by malfunction of or damage to the transfer vehicle (BTM). Maintenance shall include all periodic cleaning of the vehicle along with the repair of damage to the vehicle.

When the MTCB and BTM are no longer required on the project, they shall be removed from the project site.

Method of Measurement. Moveable Temporary Concrete Barrier will be measured for payment by the lump sum. Lump sum measurement will include verification of installation and removal of all MTCB and BTM required by the plans for the Contractor's operations.

Basis of Payment. The accepted quantities of MTCB will be paid for at the Contract lump sum price. Such payment will be full compensation for furnishing, installing, maintaining and removing the barrier, including hardware assemblies, barrier markers and adhesives, making all connections and manipulating the barrier as shown on the plans or as directed by the Resident; furnishing, operating, and maintaining the BTM, and all incidentals necessary to complete the work. This payment will also include all MTCB resetting, whether Contractor initiated or Resident requested.

The work zone crash cushion attenuator applied as an end treatment to the MTCB shall be paid for under a separate item. Manipulation of the work zone crash cushion attenuator shall be incidental to the manipulation of the MTCB.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
526.307 Moveable Temporary Concrete Barrier	Lump Sum

SPECIAL PROVISION

SECTION 526

CONCRETE BARRIER

(Temporary Concrete Barrier Type I)

526.01 Description

The following paragraphs are added:

The barrier shall have attachments allowing individual sections to be connected into a continuous barrier.

The work also includes supplying connecting pins and furnishing, installing, and mounting and maintaining retro-reflective delineators and barrier markers, per Subsection 526.02 and 526.03.

526.02 Materials

The following paragraphs are added:

- f. Delineators shall be bi-directional with a minimum effective reflective area of eight square inches as approved by the Resident. The reflectors shall be methyl methacrylate and the housing of acrylonitrile butadiene styrene. Color shall be in accordance with the MUTCD.
- g. Temporary barrier markers shall be "Big Dog" barrier markers manufactured by Custom Products Corporation, or approved equal. Markers shall be bi-directional with a minimum effective reflective area of 96 square inches (48 square inches each side) as approved by the Resident. The reflectors shall meet MUTCD reflectivity requirements and shall be orange in color.

526.021 Acceptance

The Resident shall have the authority to accept or reject all Temporary Concrete Barrier Type I used on the Project that does not meet the requirements of this specification

526.03 Construction Requirements

The following paragraphs are added:

The Contractor shall move and place barrier-utilizing methods that will not damage the barrier. Barrier that is damaged by the Contractor by failing to use proper methods shall be replaced by the Contractor at no additional cost to the Department.

Concrete barrier placed at roadway low points shall be shimmed on 1" by 2" by 2' long wood planks to allow drainage to pass under the barrier. In addition, the Resident may direct the Contractor to shim the concrete barrier at other locations to provide for proper roadway drainage. All labor, material, and equipment necessary to shim the barrier will not be measured separately for payment, but shall be incidental to the Concrete Barrier.

The removal of concrete barrier from adjacent to the travel lane may be conducted without a lane closure if it is accomplished in accordance with the following requirements:

1. Barrier is removed from the trailing end and the workers and equipment involved in the operation are always behind the barrier. No workers or equipment shall enter the travel lane.
2. Barrier shall be dragged away from the travel lane to at least a 30-degree angle by the use of a cable.
3. Barrier shall be lifted no more than six inches while within 10 feet of the travel lane.

Retro-Reflective Delineators shall be mounted as follows:

1. One on the traffic side of every barrier used in a taper.
2. One on the traffic side of every other barrier at regularly spaced intervals and locations.
3. Delineators shall be installed on both sides of the barrier if barrier is used to separate opposing traffic.
4. Delineators shall be physically adhered so as to withstand the force of throw from a snow plow.
5. If more than 25% of delineators in any 50 foot section of barrier fall off for any reason, the Contractor will be responsible for reinstalling all the delineators in that run at that their own cost.
6. Contractor is required to submit the installation method for review and approval to the Resident.

Temporary barrier markers shall be mounted as follows:

1. One on top of each barrier.
2. Delineators shall be physically adhered so as to withstand the force of throw from a snow plow.
3. If more than 25% of delineators in any 50 foot section of barrier fall off for any reason, the Contractor will be responsible for reinstalling all the delineators in that run at their own cost.
4. Contractor is required to submit the installation method for review and approval to the Resident.

SPECIAL PROVISION
SECTION 526
CONCRETE BARRIER
(Single Slope Barrier)

526.02 Materials.

The following paragraph is added after paragraph 2:

Concrete for precast barriers shall also meet the requirements of Standard Specification Subsection 712.061 Structural Precast Units.

At the Contractor's option, the final precast concrete barrier piece, if an odd length (less than the standard 20'-0"), may be cast in place. All requirements for permanent concrete barrier shall apply to this cast-in-place section. This cast-in-place section, if used, will be paid for at the contract unit price for the precast concrete barrier it is replacing.

526.05 Basis of Payment.

The following paragraphs are added:

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
526.312 Permanent Concrete Barrier, Type II Modified	Lump Sum
526.331 Permanent Concrete Barrier, Type IIIb Modified	Lump Sum
526.36 Median Barrier Fixed Object Protection	Linear Foot
526.50 Precast Concrete Barrier, Median	Linear Foot

SPECIAL PROVISION
SECTION 527
ENERGY ABSORBING UNIT
(Truck Mounted Attenuator)

Description: This work consists of furnishing, maintaining and deploying a truck mounted attenuator (TMA) and a shadow or barrier truck in accordance with this specification and as directed. A Truck Mounted Attenuator must comply with NCHRP Report 350.

Materials: The energy absorbing system shall be from the Department's Qualified Product List (QPL). The TMA shall be mounted in accordance with the manufactures specifications to a truck with a gross vehicle weight of at least 10,000 pounds.

Installation: The chart below identifies the distance from the work zone or hazard where the TMA shall be deployed. If the work zone is within a marked lane closure, the barrier truck distances shall apply and if the work is mobile, then shadow truck distances shall apply. When used as a barrier, the barrier truck shall be parked in low gear with brakes applied and the front wheels turned away from the work zone and the adjacent traffic lane. For placement details, reference the Manual of Uniform Traffic Control Devices (MUTCD).

Weight of Truck	Barrier Truck Distance from Work Zone of Hazard	Shadow Truck Distance from Work Vehicle or Work Zone
10,000 lbs	250 ft	300 ft
15,000 lbs	200 ft	250 ft
>24,000 lbs	150 ft	200 ft

Method of Measurement: Truck mounted attenuator will be measured by the unit furnished.

Basis of Payment: The accepted quantity of truck mounted attenuator will be paid for at the contract unit price each which includes furnishing and all costs of attaching to and retrofitting of a truck on which The TMA will be deployed. Daily maintenance and deployment of the TMA, including the cost of the truck, shall be considered incidental.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
527.331 Truck Mounted Attenuator	Each

SPECIAL PROVISION
SECTION 527
ENERGY ABSORBING UNIT
(Work Zone Crash Cushion)

527.01 Description

The first paragraph is deleted in its entirety and replaced with the following:

The Contractor shall furnish and install work zone crash cushions where shown on the Plans, as specified herein, in Special Provision 652, or as approved by the Resident. Work zone crash cushions are required at each exposed end of moveable temporary concrete barrier, temporary concrete barrier, and guardrail.

The exposed end of the concrete barrier within 30 feet of the mainline travel lane shall be protected at all times. Barrier shall not be reset until after the work zone crash cushion(s) has been set to protect the exposed end of the barrier.

527.02 Materials

The following paragraph is added:

Only work zone crash cushions meeting the NCHRP Report 350 TL-3 crash test requirements may be used on the interstate and local roadways with posted speeds of 45 MPH or greater. Work zone crash cushions meeting the NCHRP Report 350 TL-2 crash test requirements may be used on local roadways with posted speeds of 40 MPH or less. The Contractor shall provide the Resident with documentation of the proposed work zone crash cushion's NCHRP Report 350 Crash Test Results prior to installation at the jobsite.

Work zone crash cushions used with the moveable temporary concrete barrier (MTCB) shall be designed to be moved with the MTCB in the same operation for all setups of the MTCB.

Work zone crash cushions in operation during the colder months in the fall, winter and spring shall be filled with a material treated to prevent freezing. The Contractor will provide certification that this treated material, if spilled, will not be harmful to workers or to the environment.

527.03 Construction Requirements

The following is added to the end of the first paragraph:

The design speeds for work zone crash cushions shall be 45 mph for local road and 70 mph for interstate roadways unless otherwise noted on the Plans.

527.05 Basis of Payment

Payment will be made under:

Pay Item

Pay Unit

527.341 Work Zone Crash Cushions – TL-3

Unit

SPECIAL PROVISION
SECTION 530
(FRP Grating)

Description. This work shall consist of fabricating, delivering, and installing sections of catwalk and stair tread. The catwalk and stair tread will consist of FRP (Fiber Reinforced Polymer) grating and all associated hardware to install in accordance with the plans and this specification.

Applicable Standards and References. The design and construction of FRP catwalk and stair tread grating shall be in accordance with this Specification and the relevant requirements of the following standards and specifications, unless otherwise stipulated in this specification. Standards and specifications specifically cited in the body of the specification establish requirements that shall have precedence over all others. Should the requirements in any reference conflict with those in another, the reference highest on the list shall govern.

Specifications. Work shall be done in general accordance with the following specifications:

- a. AASHTO LRFD Guide Specifications for Design of Concrete-Filled FRP Tubes for Flexural and Axial Members, 2012.
- b. American Composites Manufacturing Association, ACMA Code of Standard Practice, First Edition, 2011.
- c. ISO/IEC Guide 58, Calibration and Testing Laboratory Accreditation Systems - General Requirements for Operation and Recognition.
- d. ISO/IEC 17025 General Requirements for the Competence of testing and Calibration Laboratories.
- e. NBS Voluntary Product Standard PS15-69. Custom Contact-Mold Reinforced Polyester Chemical-Resistant Process Equipment. The Society of the Plastics Industry, Inc., 355 Lexington Ave., N.Y., N.Y. 10017

Standards.

- A.) ASTM D 2584. *Standard Test Method for Ignition Loss of Cured Reinforced Resins.* American Society for Testing and Materials, West Conshohocken, PA.
- B.) ASTM D 3039. *Standard Test Method for Tensile Properties of Polymer Matrix Composite Materials.* American Society for Testing and Materials, West Conshohocken, PA.
- C.) ASTM D 3171. *Standard Test Methods for Constituent Content of Composite Materials.* American Society for Testing and Materials, West Conshohocken, PA.
- D.) ASTM D 4385. *Standard Practice for Classifying Visual Defects in Thermosetting Reinforced Plastic Pultruded Products.* American Society for Testing and Materials, West Conshohocken, PA.

- E.) ASTM D 570. *Test Method for Water Absorption of Plastics*. American Society for Testing and Materials, West Conshohocken, PA.
- F.) ASTM E 1356. *Standard Test Method for Assignment of the Glass Transition Temperatures by Differential Scanning Calorimetry*. American Society for Testing and Materials, West Conshohocken, PA.
- G.) ASTM E 1640. *Standard Test Method for Assignment of the Glass Transition Temperature by Dynamic Mechanical Analysis*. American Society for Testing and Materials, West Conshohocken, PA.
- H.) ASTM C 582. *Standard Specification for Contact-Mold Reinforced Thermosetting Plastic (RTP) Laminates for Corrosion-Resistant Equipment*. American Society for Testing and Materials, West Conshohocken, PA.

Materials. Materials shall conform to the following requirements:

- 1. FRP catwalk and stair tread grating shall meet the requirements of Appendix A in Special Provision Section 502 Composite Bridge Drains.
- 2. All structural steel used in the catwalk and stair tread system shall be ASTM A36 steel, hot-dip galvanized.

Manufacturer/Fabricator Requirements.

- 1. Manufacturer/Fabricator of FRP grating is required to have a minimum of 3 years of experience in providing FRP products to the general market.
- 2. Manufacturer needs to provide documentation that personnel involved in manufacture/fabrication hold and maintain American Composites Manufacturers Association (ACMA) certifications in a minimum of two of the following disciplines:
 - a. Open Molding
 - b. Corrosion
 - c. Vacuum Infusion
 - d. Closed Molding
- 3. Manufacturer/Fabricator has a current year ISO 9001 or other independent certification to ensure that the Manufacturer's process has been independently audited for conformance.

Design Guide for FRP Grating.

Pigmented FRP Grating. All FRP grating shall be pigmented through the wall. The color used shall be light or medium gray and shall be approved by the Resident. Paint, gel-coat or any other exterior coating shall not be accepted.

Joint Connections. Joints may be welded using manufacturer recommended adhesives in accordance to the adhesive manufacturer's application procedures. Adhesives must be compatible with the FRP resins, applied in a way that ensures complete bonding and liquid tight sealing of the

resins, and be compatible with the environmental conditions such as temperature, freeze thaw conditions, and wet alkaline environments.

Shop Drawings/Inspection.

Drawings. The Contractor shall prepare shop detail, erection and other necessary working drawings in accordance with Section 105.7 - Working Drawings. Drawings shall include dimensions and tolerances necessary for manufacture and installation, all hardware, orienting features, anchor details, fastener details, gasket details, cross and longitudinal matching features, joint details, transition details, material lay-up/composition.

Packaging, Storage and Shipping of Components. FRP grating shall be stored and handled in accordance with the manufacturer's recommendation. The grating and all associated hardware and connections shall be stored above the ground and not be allowed to come into contact with seawater, mud, grease, dirt or other deleterious materials that may be present on the job site.

Installation. The Contractor shall install the FRP grating in accordance to the manufacturer's installation procedures and in accordance to the Contractor's installation drawings. FRP grating will be accurately placed at the locations shown on the Plans or as authorized by the Resident. Any damaged grating shall be repaired or replaced at the Resident's discretion and at no additional cost to the Department.

Method of Measurement. FRP Grating will be measured by the square foot, fabricated, delivered, and installed.

Basis of Payment. FRP Grating will be paid for at the contract unit price per square foot installed. Such payment will be full compensation for the fabrication, delivery, and installation including all steel, hardware and incidentals required to complete the work in accordance with the plans and this specification. Removal of the existing catwalk sections and stair treads will be considered incidental to this work.

Payment will be under:

<u>Pay Item</u>	<u>Pay Unit</u>
530.25 FRP Grating	Square Foot

SPECIAL PROVISION
SECTION 604
Manholes, Inlets, and Catch Basins

604.02 Materials

This section is amended by deleting the last paragraph and adding the following:

Catch Basin Frames and Grates shall be as outlined below and be manufactured by EJ Company of Brockton, Massachusetts or an approved equal and shall meet or exceed the AASHTO M306 Loading Requirements.

Catch Basin Frames shall be manufactured by EJ Company of Brockton, Massachusetts (or an approved equal) with the following product numbers:

5521Z - 8 Inch Frame Product Number 00552111
5546Z – 6 Inch Frame Product Number 00554611
5544Z - 4 Inch Frame Product Number 00554411

Catch Basin Frames shall be 8” frames unless otherwise specified by the plans or approved by the resident.

Catch Basin Grates shall be a square holed grate as manufactured by EJ Company of Brockton, Massachusetts (or an approved equal) with the following product number:

5520M5 Grate Product Number 00552060

If a cascade catch basin grate is specified on the plans then it shall be manufactured by EJ Company of Brockton, Massachusetts (or an approved equal) with the following product numbers depending on the direction of flow:

5520M8 Product Number 00552084 or 5520M8 Product Number 00552085

SPECIAL PROVISION
SECTION 605
UNDERDRAIN

This section is amended by the addition of the following:

605.07 Basis of Payment.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
605.105 8 Inch Underdrain Type B	Linear Foot

SPECIAL PROVISION
SECTION 606
GUARDRAIL

This section is amended by the addition of the following:

606.09 Basis of Payment.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
606.1301	31" W-Beam Guardrail - Mid-Way Splice (Steel Post, 8" Offset Blocks, Single Faced)	Linear Foot
606.1305	31" W-Beam Guardrail - Mid-Way Splice Flared Terminal (31" Height)	Each
606.363	Guardrail Remove and Dispose	Linear Foot
606.569	Remove, Modify, and Reset, Double Rail	Linear Foot

SPECIAL PROVISION
SECTION 606
GUARDRAIL
(Bridge Transition- Type III)
(Bridge Transition- Type III, Modified)

606.01 Description. The following sentence is added:

This work shall consist of furnishing and installing Type III Bridge Transitions and Type III, Modified Bridge Transitions at bridge endposts as shown in the Contract Documents.

The following Subsection is added:

606.071 Guardrail Attachments at Bridges

Bridge transition - Type III, and Bridge Transition - Type III, Modified shall be used at bridge endpost locations as shown on the plans.

606.08 Method of Measurement. The following paragraphs are added:

Bridge transition - Type III will be measured by each unit of the type specified, installed and accepted.

Bridge Transition- Type III, Modified will be measured by each unit of the type specified, installed and accepted.

606.09 Basis of Payment. The following paragraphs are added:

Bridge Transition - Type III, and Type III, Modified, will be paid for at the Contract unit price each complete in place and shall be full compensation for furnishing all labor, equipment and materials necessary to complete the work consisting of, but not necessarily limited to, the following: furnishing and installing guardrail, modifications to concrete end wall to accept terminal anchor, one terminal connector, including terminal connector anchorage and all other detailed accessories; furnishing and installing all required posts, rails, offset brackets, back-up plates, nuts, bolts, washers, and all other items necessary to make for a complete installation as shown on the Plans or as approved by the Resident.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
606.1723 Bridge Transition - Type III	Each
606.1724 Bridge Transition - Type III, Modified	Each

SPECIAL PROVISION
SECTION 606
GUARDRAIL
(Terminal End – Anchored End)

606.01 Description

The following sentence is added:

This work shall consist of furnishing and installing Terminal End – Anchored End end treatments in accordance with these Specifications, the AASHTO-AGC-ARBTA Joint Committee Task Force 13 Report: A Guide to Standardized Highway Barrier Hardware, dated May 1995; and in reasonably close conformity with the lines and grades as shown on the Plans or as approved by the Resident.

606.02 Materials

The following sentences are added:

The guardrail elements shall be per the Components' List found on Sheet No. 2 of 2 of Drawing SEW02a – Trailing End Terminal – Foundation Tube Option in the Task Force 13 Report noted above and/or as noted in the Contract Documents.

The following Subsection is added:

606.042 Terminal End - Anchored End

Installation of the Terminal End – Anchored End shall be in strict accordance with the AASHTO-AGC-ARBTA Joint Committee Task Force 13 Report and the Details on Sheet No. 1 of 2 of Drawing SEW02a – Trailing End Terminal – Foundation Tube Option.

Height of installation of Terminal End – Anchored End units shall be 27.5-inches to the top of rail, transitioning to the standard height of 30-inches over a 25-foot length of Type 3d rail located immediately after the last post of the Anchored End unit.

The reveal on the soil tube for the Anchored End units shall not exceed 3.5-inches. If site grading is required to achieve the required rail height and soil tube reveal height, then such work will be incidental to the installation of the Anchored End units

606.08 Method of Measurement

The second paragraph is amended by the addition of: "Terminal End - Anchored End," after the words "NCHRP 350 end treatments,".

606.09 Basis of Payment

The second paragraph is amended by the addition of: "Terminal End - Anchored End," after the words "NCHRP 350 end treatments,".

Payment will be made under:

Pay Item

Pay Unit

606.277 Terminal End - Anchored End

Each

SPECIAL PROVISION

SECTION 606

GUARDRAIL

(Reflectorized Beam Guardrail Delineator)

606.01 Description

The following paragraphs are added:

Reflectorized beam guardrail delineators shall be installed on existing guardrail to remain in place, on guardrail noted to be removed, modified and reset (single and/or double rail) and on new guardrail, at all locations where the edge of travel lanes is shifted within 6'-0" of guardrail (with spacings as described below), or as approved by the Resident. The delineators shall be installed prior to traffic being shifted closer to the identified guardrail run. The color for the reflective sheeting shall be silver (white) when installed on the outside shoulder and yellow when installed on the inside shoulder.

Reflectorized beam guardrail delineators shall be mounted as follows:

1. Delineators on guardrail adjacent to a shifted detour should be spaced every other guardrail post and located at the bolt in the valley of the guardrail beam.
2. On existing steel bridge rail, the delineators shall be mechanically attached towards the top, every 10 feet, and bottom, every 20 feet. Delineators shall also be mechanically attached in a similar pattern to concrete endposts that are 10 feet or longer.
3. If more than 25% of delineators in any 50 feet of guardrail, bridge rail, or endposts fall off for any reason, the Contractor will be responsible for reinstalling all delineators in that run at that their own cost.
4. In no instance shall delineators be installed on guardrail which deviates substantially from the alignment (horizontal or vertical) of the roadway or which is located more than eight feet from the edge of pavement.
5. On Tangents, mount delineators every 62.5-feet or every 10th post.
6. On Curves, mount delineators every 31.25-feet or every 5th post.

Exceptions and/or modifications will only be made with the approval of the Resident.

Contractor is required to submit installation method for review and approval to the Resident.

606.02 Materials

The fourth paragraph is deleted and replaced with the following:

The reflectorized beam guardrail delineators shall be fabricated from galvanized steel.

Reflective sheeting shall meet the requirements of Subsection 719.01, Reflective Sheeting – minimum ASTM Type XI; 3M™ Diamond Grade™ DG³ Reflective Sheeting Series 4000 or approved equal.

606.08 Method of Measurement

The following paragraph is added:

Reflectorized Beam Guardrail Delineators will be measured by each unit of the kind specified and installed. Maintenance and replacement of delineators will not be measured separately for payment unless otherwise approved by the Resident.

606.09 Basis of Payment

The second and third sentences in the first paragraph are deleted and replaced with the following:

Reflectorized Beam Guardrail Delineators will be paid for at the Contract unit price each when installed on existing guardrail, complete in place, which price shall be full payment for furnishing and installing all components and for all incidentals necessary to complete the installation. Reflectorized Beam Guardrail Delineators will not be paid for on new guardrail.

Payment will be made under:

Pay Item

Pay Unit

606.352 Reflectorized Beam Guardrail Delineator

Each

SPECIAL PROVISION
SECTION 609
CURB
(Concrete Curb Type 2)

609.01 Description

The following sentences are added:

This work shall consist of furnishing and installing Concrete Curb Type 2 in accordance with these Specifications and in reasonably close conformity with the lines, grades and locations as shown on the Plans or as approved by the Resident.

This work shall also consist of all excavation and backfill necessary to install the proposed curb as shown on the Plans.

609.02 Materials

The following sentence is added:

Backfill shall be Aggregate Subbase Course Gravel Type D in conformance with Subsection 304.02 Aggregate of the Standard Specifications.

609.19 Method of Measurement

The following sentences are added:

Concrete Curb Type 2 shall be measured by the linear foot along the front face of the curb at the elevation of the finished grade, complete in place and accepted.

Excavation and backfill associated with curb installation shall be incidental to Item 609.312, Special Curb, Type 2.

609.10 Basis of Payment

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
609.312 Special Curb, Type 2	Linear Foot

SPECIAL PROVISION
SECTION 620
GEOTEXTILES
(Cellular Confinement System)

620.01 Description

The following paragraph is added:

This work shall also include designing, furnishing and installing a proprietary cellular confinement system on slopes steeper than 2H:1V at the locations shown on the Plans or designated by the Resident.

The cellular confinement system shall consist of a slope stabilization geotextile on which a four (4) inch deep (minimum) geocell material will be installed and which may be expanded to form a three dimensional cellular confinement system which resembles the appearance of a large honeycomb. This geocell material shall be anchored to the slope, filled with loam and seed and covered with erosion control blanket to form a stable slope protection system.

The work shall also include having the manufacturer provide a qualified field representative on site at the start of construction to ensure the cellular confinement system is installed in accordance with the Contract Documents.

620.02 Materials

The following is added:

Slope stabilization geotextile shall be GEOWEB - GW30V Cellular Confinement System as manufactured by Presto Geosystems, PO Box 2399, Appleton, Wisconsin 54912 2399. Toll Free (800) 548 3424. Phone (920) 738 1328. Fax (920) 738 1222.E Mail info@prestogeo.com. Website www.prestogeo.com or approved equal.

Stake anchors shall be #4 reinforcing steel (minimum), 24" long (minimum) with molded, high-strength polyethylene end caps installed on the exposed rebar ends.

Keys shall be constructed of polyethylene and provide a high strength connection to connect the cellular confinement system together at each interleaf and end to end connection.

Infill material shall be loam meeting the requirements of Standard Specifications Section 615 with a Soil Conservation Service texture of loam, sandy loam or silty loam. Topsoil shall be neither excessively acidic nor alkaline; and shall be free of any foreign material. Clays and silts are not acceptable infill material.

The Contractor shall submit shop drawings and installation instructions for review by the Resident.

620.03 Placement

The following paragraphs are added:

Prepare subgrade and install cellular confinement system in accordance with Manufacturer's recommendations.

Excavate or fill foundation soils so top of installed cellular confinement system is flush with or slightly lower than adjacent terrain or final grade as indicated on the drawings or as directed by the Resident.

Install the cellular confinement system in accordance with the approved shop drawings and the manufacturer's published recommendations. The stake anchors and keys shall be installed in a grid pattern provided by the manufacturer and approved by the Resident.

Place specified infill in expanded cells with suitable material handling equipment. Limit the drop height to a maximum of 3 feet to avoid damage or displacement of the cell walls. Fill the cellular confinement system sections from the crest of the slope to toe or in accordance with Resident's direction. Evenly spread infill and tamp into place.

Fill the anchorage trench with the specified material and compact as required by the Contract Documents.?

Seed, and install erosion control fabric, secured per the Manufacturer's instructions, immediately after placement of the loam fill materials

620.08 Shipment, Storage, Protection, and Repair of Fabric

The following is added:

The manufacturer's recommendation for cellular confinement system installation, staking, and placement of loam shall be strictly followed so the cellular confinement system is not damaged. The operation of construction vehicles over the installed cellular confinement system will not be permitted.

620.09 Method of Measurement

The following is added:

The quantity of cellular confinement system will be measured by the number of square yards of surface area satisfactorily covered and accepted.

Common excavation and fill materials to obtain subgrade for the cellular confinement system will be measured for payment under their respective pay items. Proper preparation of the subgrade to accept the cellular confinement system will not be measured separately but will be incidental to Item 620.622 Cellular Confinement System.

Stabilization Geotextile for the cellular confinement system will not be measured separately but will be incidental to Item 620.622 Cellular Confinement System. No additional compensation will be allowed for any additional labor, material or equipment required to place this material in the cellular confinement system in accordance with the manufacturer's recommendation.

Loam, seed, and erosion control blanket will be measured for payment under their individual pay items. No additional compensation will be allowed for any additional labor, material or equipment required to place these materials in the cellular confinement system in accordance with the manufacturer's recommendation.

620.10 Basis of Payment

The following is added:

Cellular confinement system will be paid for at the contract unit price per square yard. Such payment shall be full compensation for proper preparation of the subgrade to accept the cellular confinement system; and for designing, furnishing and placing the cellular confinement system, and required stake anchors and keys.

Payment will be made under:

<u>Pay Item</u>	<u>Pat Unit</u>
620.622 Cellular Confinement System	Square Yard

SPECIAL PROVISION
SECTION 626
(FRP Conduit)

This section is amended by the addition of the following:

626.02 General

FRP Conduit and FRP Support Hangars shall be manufactured by Champion Fiberglass, Inc. or approved equal.

626.05 Basis of Payment

The accepted quantity for FRP Conduit shall include the cost of junction boxes, support hangar assemblies, pull wire, fittings, cleaning and all labor, engineering, materials, equipment, and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
626.222	FRP Conduit	Linear Foot

SPECIAL PROVISION
SECTION 627
PAVEMENT MARKINGS
(Retroreflective Thermoplastic Pavement Marking)

627.01 Description

The following sentence is added:

This work shall consist of furnishing and placing white retroreflective thermoplastic pavement markings at locations shown on the plans or as ordered.

627.02 Materials

The following paragraphs are added:

Preformed Thermoplastic:

Preformed thermoplastic material shall be composed of a resin resistant to degradation by motor fuels, lubricants etc. In conjunction with aggregates, pigments, binders, and glass beads which have been factory produced as a finished product. The thermoplastic material shall conform to AASHTO M249 with the exception of the relevant differences due to the material being supplied in a preformed state such as during time and flowability tests.

Preformed thermoplastic material shall have factory applied surface beads in addition to the intermixed beads at a rate of 10 pounds per 100 square feet of markings. It also shall contain a minimum of thirty percent (30%) intermixed graded glass beads by weight.

The surface, with properly applied and embedded surface beads, shall provide a minimum resistance value of 45 PN when tested according to ASTM E 303.

The material shall be applied at a thickness of 80 mils.

Extruded:

Thermoplastic material shall be homogeneously composed of pigment, filler, resins and glass beads. The pre-mix glass beads shall be uniformly distributed throughout the entire thickness of material. The material, when applied in accordance with the manufacturer's recommended procedures, shall be capable of resisting deformation by traffic. The material shall be tested in accordance with AASHTO T250 requirements.

The binder shall be either alkyd or hydrocarbon conforming to AASHTO M249. If an alkyd thermoplastic is used, the binder shall consist of synthetic resins, at least one of which is solid at room temperature and high-boiling point plasticizers. At least 1/3 of the binder compositions shall be a maleic-modified glycerol ester resin and shall be at least 10% by weight of the total composition.

Thermoplastic material shall not deteriorate by contact with sodium chloride, calcium chloride or other chemicals used to prevent roadway ice. The material shall also not deteriorate because of the oil content of pavement materials or from oil droppings or other effects of traffic.

Material, when formed into pavement markings, shall be readily renewable by placing an overlay of the same material directly over the old markings. The new material shall bond itself to the old markings in such a manner that no splitting or separation takes place.

627.04 General

The following paragraphs are added:

The Contractor shall establish the base line points at 50 ft. intervals on curves and 100 ft. intervals on tangent sections throughout the length of pavement to be marked under this section from the Department provided control points. All other pavement markings shall be applied according to the physical pavement layout provided. The Contractor shall provide the pavement marking layout on the final wearing course pavement to the Engineer at least 3 working days prior to installation of the permanent pavement markings unless otherwise permitted.

Whenever existing pavement marking patterns are to be obscured and later restored, the Contractor shall take detailed measurements of all existing pavement markings to permit the Contractor to accurately prepare drawings to reproduce those patterns. Reproduced markings shall be placed in the correct location laterally to reflect the intended lane and shoulder widths as specified in the Contract or as directed. The Contractor shall also perform a good quality videotape survey showing all pavement markings in each direction of travel with appropriate audio description of location and direction. The drawings and videotape shall be submitted to the Engineer prior to obscuring any pavement markings on the project.

The Contract Administrator shall be notified of the day and time of the pavement markings application a minimum of 48 hours prior to the application unless otherwise approved. This notification must be acknowledged. No payment will be made for materials placed without proper notification.

Thermoplastic pavement markings shall be applied in one pass at the width specified; preformed retroreflective pavement marking tape and thermoplastic shall be applied at the full width specified.

Newly applied pavement markings shall be protected from traffic until the material has cured. The method of protection shall not constitute a hazard to the traveling public. As a minimum, when striping two-way roadways, an escort vehicle shall precede and another shall follow the pavement marking truck. On one-way divided roadways, at least two escort vehicles shall

follow the truck to protect pavement markings from traffic. Additional escort vehicles may be required on multi-lane roadways. Damage to any markings as a result of tracking shall be repaired by the Contractor at no cost to the Department.

The use of pavement markings other than in their final location on wearing course will only be permitted if the marking material is designed to be removed without the use of heat, solvent, grinding or blast treatment, and leaves no visible scar on the surface.

The Contractor shall furnish and have available for the Engineer's use a pavement temperature gauge.

All clean up and disposal of solvents, residue, and the like shall be the responsibility of the Contractor and shall be performed in accordance with all applicable federal, state and local regulations.

Retroreflective Thermoplastic Pavement Marking:

Thermoplastic pavement markings shall be applied to the road surface in a molten state by screed/extrusion method with a surface application of glass beads.

All equipment used to apply thermoplastic pavement markings shall be constructed to provide continuous uniform heating at temperatures exceeding 400 °F during mixing and agitation of the material. Equipment used for longitudinal lines shall be mounted on a truck having a minimum gross vehicle weight of 14,000 lb. and shall have the capability of placing double lines up to 4" in width or single lines up to 12" in width in one pass. The equipment shall operate so that all mixing and conveying parts, including the line dispensing device, maintains the material at the required plastic temperature. The use of pans, aprons or similar appliances which the dispenser overruns will not be permitted. The striping machine shall be equipped with an automatic stripe controller having skip-line capability to place broken lines in accordance with Section 627.04 and the [NHDOT Standard Plans](#), and a glass bead dispenser located immediately behind the material dispenser. All equipment shall be kept in good operating condition.

A special kettle shall be provided for uniformly melting and heating the thermoplastic material. The kettle shall be equipped with an automatic thermostat control device and material thermometer for positive temperature control and to prevent overheating or under heating of the material. The heating kettle and application equipment shall meet the requirements of the National Fire Underwriters, the National Fire Protection Association and state and local authorities.

Immediately before applying the thermoplastic to the pavement, the Contractor shall ensure the surface is dry and entirely free from dirt, sand, grease, oil, or other matter which would prevent effective adhesion of the thermoplastic material to the pavement. When recommended by the manufacturer of the thermoplastic material, a primer/sealer shall be applied to the pavement surface prior to the application of the thermoplastic material. The primer shall be void of solvent and water prior to the thermoplastic application.

Thermoplastic pavement marking materials shall not be applied when air and/or pavement surface temperatures are below 50 °F, or when the surface of the pavement contains any evidence of moisture.

Thermoplastic material shall be applied to the pavement at a thickness of 125 mils.

Glass beads shall be evenly applied to the surface of the completed marking at a rate of 10 pounds per 100 square feet of markings. Glass beads shall be applied by pressurized or mechanical drop methods.

Preformed Thermoplastic:

Preformed thermoplastic pavement markings shall be a resilient white thermoplastic product with uniformly distributed glass beads throughout the entire cross sectional area. The markings shall be resistant to the detrimental effects of motor fuels, lubricants, hydraulic fluids etc. The markings can be used for stop lines, legends, symbols, and crosswalks, and shall be capable of being affixed to bituminous concrete pavements by the use of the normal heat of a propane torch.

The markings shall be capable of conforming to pavement contours, breaks and faults through the action of traffic at normal pavement temperatures. The markings shall have resealing characteristics, such that they are capable of fusing with themselves and previously applied thermoplastic when heated with the torch.

The marking must be able to be applied on pavement with a surface temperature down to 40 °F without any preheating of the pavement to a specific temperature.

627.09 Method of Measurements

The following paragraphs are added:

Retroreflective thermoplastic pavement marking lines of the type and width specified will be measured by the linear foot, to the nearest foot of length of marking applied and will not include gaps.

627.10 Basis of Payment

The following paragraphs are added:

The accepted quantities of retroreflective pavement marking lines of the type and width specified will be paid for at the Contract unit price per linear foot complete in place.

Payment will be made under:

Pay Item

Pay Unit

627.1801	12" Solid White Retroreflective Thermoplastic Pavement Marking	Linear Foot
627.7441	6" White Retroreflective Thermoplastic Pavement Marking	Linear Foot

SPECIAL PROVISION
SECTION 627
PAVEMENT MARKINGS
(Removable Pavement Marking Tape)

Section 627 of the Standard Specifications is amended by the addition of the following:

627.01 Description

Preformed removable pavement marking tape shall be applied at locations shown on the Plans by mechanical or manual methods. Mechanical applications shall be suitable for all markings. Manual applications shall normally be used for transverse lines, symbols, and legends. Follow manufacturer's recommendations for equipment operation and maintenance, and product applications.

Black line masking tape shall be wider than the colored line it is intended to mask.

Preformed pavement marking tape shall be stored and applied as directed by the manufacturer. The Contractor shall provide a copy of the manufacturer's storage and application recommendations and the manufacturer's certificate of compliance to the Resident upon delivery of the material to the project. The certificate shall include the process, batch, or lot number(s) and corresponding date(s) of manufacture.

627.02 Materials

A. Temporary Pavement Tape – Removable pavement marking tape shall consist of polymeric backing materials with a retroreflective surface. The Contractor shall ensure that the underside of the tape is pre-coated with a pressure-sensitive adhesive to bond the tape to the roadway surface and is capable of withstanding traffic immediately after installation and for the duration of the intended service. The Contractor shall use a primer only if recommended by the manufacturer.

Tape shall have a minimum skid resistance of 35 British petroleum number (BPN) when tested according to ASTM E 303. The Contractor shall not use lead-based pigment in traffic tape. Temporary Pavement Marking Tape shall conform to the requirements specified in the table below:

Requirements for Temporary Pavement Tape		
Property	White	Yellow
Minimum Specific Luminance (mcd/sq fc candelas) ASTM 4581 ¹	500	300
Minimum Tensile Stress (psi) ² ASTM D 538	4D	4D
FED-STD-595B Color Chip No.	3777B	3353B

1. Use an entrance angle of 88.76' and an observation angle of 1.05"

2. Perform tensile stress testing with a testing speed of 6 inches per minute

Tape shall be capable of being removed manually, intact or in large pieces, without the use of solvents, burning, grinding, or blasting and without damage to the underlying surface.

B. Removable Black Line Masking Tape - Black line masking tape shall be black in color, non-retroreflective, and a plant polymer material. The color shall conform to FED-STD-595B color chip No. 37030. Masking tape shall not produce a sheen under day, night, or wet conditions. Masking tape shall be capable of masking the underlying stripes so that they do not reflect through. Masking tape shall have a minimum skid resistance of 30 BPN when tested according to ASTM E 303. The underside of the tape shall be pre-coated with a pressure-sensitive adhesive to bond the tape to the roadway surface and shall be capable of withstanding traffic immediately after installation and for the duration of the intended service.

The masking tape shall be capable of being removed manually, intact or in large pieces, at temperatures above 40°F, without the use of solvents, burning, grinding, or blasting and without damage to the underlying surface.

Material shall be delivered to the project in original containers. Each container shall be clearly marked to indicate the color of the material, a specific description of the contents, and the process batch or lot numbers.

Material found to be discolored or damaged in any way or material manufactured more than one year prior to installation shall not be used.

627.09 Method of Measurement

Retroreflective temporary pavement marking lines of the type and width specified will be measured by the linear foot, to the nearest foot of length of marking applied and removed.

627.10 Basis of Payment

The accepted quantities of temporary pavement tape will be paid for at the Contract unit price per linear foot. Separate payment will not be made for the removal of removable pavement marking tape.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
627.51 6 Inch Temporary Pavement Tape, Yellow or White	Linear Foot
627.57 12 Inch Removable Black Line Masking Tape	Linear Foot

SPECIAL PROVISION
SECTION 627
PAVEMENT MARKINGS
(Temporary Raised Pavement Markers)

627.01 Description

The following sentence is added:

This work shall consist of furnishing, placing and removing temporary raised pavement markers at locations as shown on the Plans or as directed by the Resident.

627.02 Materials

The second paragraph is deleted and replaced with the following:

The temporary raised pavement markers shall be white or yellow one way markers (Type Tom W-1, Y-1, Grade WZ) as distributed by Davidson Plastics Co. (DAPCO), Kent, WA, or an approved equal. Colors shall conform to 2009 MUTCD requirements.

627.04 General

The following sentences are added:

Temporary raised pavement markers shall be used to delineate travel lanes (BWLL) after placement of the surface course (HMA 12.5 mm).

Temporary raised pavement marker that lose reflectivity, becomes broken, dislodged or missing during the life of the Contract shall be replaced by the Contractor at no additional cost to the Department.

The spacing and number of temporary pavement markers installed as edge lines shall be the same as shown for the BWLL on the Plans for Temporary Pavement Marking.

627.09 Method of Measurement

The following sentence is added:

Temporary Raised Pavement Markers will be measured by each unit, complete in place, maintained and accepted.

627.10 Basis of Payment

The following paragraphs are added:

The accepted quantity of Temporary Raised Pavement Markers white and/or yellow will be paid for at the Contract price each. This price shall include all labor and materials to furnish, install, maintain, and remove the markers.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
627.812 Temporary Raised Pavement Markers	Each

SPECIAL PROVISION
SECTION 627
PAVEMENT MARKINGS

(Pavement Marking Tape)
(Pavement Marking Tape – Dotted White Lane Line, 6-inch Width)

627.01 Description

The following sentence is added:

This work shall consist of furnishing and placing reflective pavement marking tape in conformity with the Plans, as specified herein and as directed by the Resident.

The pavement marking tape shall be installed at all locations.

627.02 Materials

The following paragraphs are added:

For the Broken White Lane Line (BWLL), Pavement Marking Tape shall be 3M Stamark™ High Performance Tape Series 380AW – High Performance pavement marking tape, color- white, six (6) inch width, as manufactured by 3M of St. Paul, Minnesota, or approved equal.

For the Dotted White Lane Line (DWLL), Pavement Marking Tape shall be 3M Stamark™ High Performance Tape Series 380I ES – High Performance pavement marking tape, color- white, six (6) inch wide and twelve (12) inch wide, as manufactured by 3M of St. Paul, Minnesota, or approved equal.

627.04 General

The following paragraphs are added:

The tape shall be used as a supplemental broken white lane line. The tape shall be installed between the painted Broken White Lane Line (BWLL) spaced eighty (80) foot center to center as shown on the Plans. The length of the tape shall be three (3) feet.

The tape shall also be used to mark a Dotted White Lane Line (DWLL) and shall be installed on parallel deceleration and acceleration lanes at locations as noted in the Plans. On deceleration lanes, the tape shall be installed from the beginning of the full width deceleration lane and shall extend to the theoretical gore markings. On acceleration lanes, the DWLL shall extend from the theoretical gore markings to a point one-half of the total length of the acceleration lane (including the lane taper length). Layout data is noted on the Plans. Dotted White Lane Line tape shall be three (3) foot in length and shall be spaced nine (9) feet apart. Spacing from the Solid White Lane Line (SWLL) or the Theoretical Gore Markings shall be nine (9) feet.

627.05 Preparation of Surface

The following paragraph is added:

The Contractor shall mill a groove in the pavement for each tape length to be placed (“in-and-out” pattern). Continuous grooving for installation of the tape shall not be allowed. The groove length shall be the required tape length plus 12 inches on both ends. Tape length spacing shall be as shown on the plans. The groove width for inlaid tape pavement marking shall be the pavement marking width plus 1 inch, with a tolerance of $\pm \frac{1}{4}$ inch. The groove shall have a uniform depth of 150 Mils (± 20 Mils). Groove position shall be a minimum of 2 inches from the edge of the pavement marking to the longitudinal pavement joint. The bottom of the groove shall have a smooth, flat finished surface. The use of gang stacked Diamond cutting blades is required for asphalt pavement surfaces. The spacers between blade cuts shall be such that there will be less than a 10 mil rise in the finished groove between the blades.

Grooves shall be clean, dry and free of laitance, oil, dirt, grease, paint or other foreign contaminants. The Contractor shall prevent traffic from traversing the grooves, and re-clean grooves, as necessary, prior to application of the primer and pavement marking tape. Depth plates shall be provided by the contractor to assure that desired groove depth is achieved.

Reference is made to 3M Information Folder 5.18 Grooving Applications, May 2011, “Application Guidelines for Pavement Marking in Grooved Pavement Surfaces.”

627.09 Method of Measurements

The following paragraph is added:

The quantity of Pavement Marking Tape measured for payment will be the linear feet of tape in place and accepted. The measurement will not include the gaps.

627.10 Basis of Payment

The following paragraphs are added:

The accepted quantity of pavement marking tape will be paid for at the Contract unit price per linear foot which price shall include all material, pavement grooving, equipment, labor and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
627.94 Pavement Marking Tape	Linear Foot
627.941 Pavement Marking Tape – Dotted White Lane Line, 6-inch Width	Linear Foot

Highway Lighting Quality Control Checklist

Subsection 634.09 Field Testing

Project Pin # _____

Location (if multiple services, please be specific)- _____

Grounding Electrode Resistance at service _____

Number of Circuits _____

Hand-Off-Auto Switch? _____

Circuit #1

Open Circuit Resistance- (Ohm out both hot legs at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Megger Test- (Meg out both hot legs to ground at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Current draw- (during normal operation)

Leg #1

Leg #2

Operating Voltage at last pole _____

Circuit #2

Open Circuit Resistance- (Ohm out both hot legs at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Megger Test- (Meg out both hot legs to ground at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Current draw- (during normal operation)

Leg #1

Leg #2

Operating Voltage at last pole _____

I, _____, certify that this work was done in accordance with subsection 643.14 and current NEC _____ guidelines, and when tested, was functioning as intended. (YEAR)

Electrician's Signature _____

Electrician's License # _____

Highway Lighting Quality Control Checklist

Subsection 634.09 Field Testing

Project Pin # _____

Location (if multiple services, please be specific)- _____

Grounding Electrode Resistance at service _____

Number of Circuits _____

Hand-Off-Auto Switch? _____

Circuit #3

Open Circuit Resistance- (Ohm out both hot legs at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Megger Test- (Meg out both hot legs to ground at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Current draw- (during normal operation)

Leg #1

Leg #2

Operating Voltage at last pole _____

Circuit #4

Open Circuit Resistance- (Ohm out both hot legs at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Megger Test- (Meg out both hot legs to ground at the cabinet while they are shorted together at the last pole and the fuse holders are disconnected at each pole) _____

Current draw- (during normal operation)

Leg #1

Leg #2

Operating Voltage at last pole _____

I, _____, certify that this work was done in accordance with subsection 643.14 and current NEC _____ guidelines, and when tested, was functioning as intended.
(YEAR)

Electrician's Signature _____

Electrician's License # _____

Traffic Signal Quality Control Checklist

Subsection 643.14 Field Testing

Project Pin # _____

Grounding Electrode Resistance at service _____

ID tags on loop amps / detector cards? _____

Location _____

Street Approach	_____
Loop #	_____ Resistance _____
Phase #	_____ Meg to ground _____
L,C, or R Lane	_____ Amount of bondo covering loop _____
Pulse or Presence	_____

Street Approach	_____
Loop #	_____ Resistance _____
Phase #	_____ Meg to ground _____
L,C, or R Lane	_____ Amount of bondo covering loop _____
Pulse or Presence	_____

Street Approach	_____
Loop #	_____ Resistance _____
Phase #	_____ Meg to ground _____
L,C, or R Lane	_____ Amount of bondo covering loop _____
Pulse or Presence	_____

I, _____, certify that this work was done in accordance
with subsection 643.14 and current NEC _____ guidelines, and
(YEAR)
when tested, was functioning as intended.

Electrician's Signature _____

Electrician's License # _____

**SPECIAL PROVISION
SECTION 639
ENGINEERING FACILITIES
(Additional Office Space)**

639.03 General

The following Paragraphs are added:

The Project field office specified for this Contract shall be modified to include the following in addition to the requirements of the Standard Specifications:

The Contractor shall provide office space to accommodate three (3) Department staff fully equipped with the following:

- Floor Area (outside dimension) 10'x12'
- One (1) Office Desk with ergonomic swivel chair (5-way adjustable)
- One (1) folding chair
- One (1) lighting unit
- One (1) Waste basket
- Two (2) electric wall outlets with surge protectors
- One (1) each telephone line and data line
- One (1) four-drawer vertical filing cabinet
- One (1) 3'x4' bookcase with adjustable shelves

The Contractor shall provide conference room space with a 3'x12' conference table with ten (10) chairs. The conference room will also have a telephone line and data line.

639.10 Method of Measurement

The additional space, equipment, and material listed above will not be measured separately for payment but will be considered incidental to the Field Office Pay Item.

SPECIAL PROVISION
SECTION 643
(Weigh-in-Motion System)

Description. This work shall consist of furnishing and installing a Weigh-in-Motion (WIM) system, as shown in the attached standard detail. The piezoelectric axle sensors must be Class I piezo Quartz axle sensors and must provide an output capable of use for the purpose of ASTM Type II weigh-in-motion data collection. Two 2 meter quartz sensors shall be supplied per lane. All sensors shall be supplied with sufficient grout and associated hardware for proper installation. Any temperature compensation device required by the piezoelectric sensor itself must be supplied and installed at no additional cost to insure proper operation and correct data collection. The sensor constant sensitivity repeatability shall be +/- 7%. Working temperature range shall be -15 degrees F to 160 degrees F (-25 C to 70 C). The sensor shall provide a consistent voltage output signal when a vehicle axle makes multiple passes over it, and shall have shielded transmission cable attached. The Shielded Transmission Cable shall be a coaxial cable. The length of each wheel path sensor length shall be 2 meters.

Materials.

Contractor will be asked to supply and install the following items under this specification:

- (1) 20 foot long, pressure treated 6 inch by 6 inch post 720.12
- (1) unpainted aluminum M cabinet (H 51" x W 30" x D 18") no police door required.
- (2) 80 watt solar panels
- Approximately 200 feet of 1.5 inch PVC conduit 715.03
- (1) vehicle rated junction box (with positively attached lid) 626.11
- (2) Piezoelectric axle sensors per lane (6 lanes in Kittery)
- (2) IMSA loop ducts per lane 718.04

MaineDOT will supply and contractor shall install:

Rack mounted control unit by Electronic Control Measure (ECM)

Construction Requirements

Cabinet:

- Cabinet mounting post shall be installed 6 feet in the ground and drilled to the TS 350 breakaway standard
- Solar panels shall be installed at 60 degrees from horizontal, facing true south

Sensor:

- Lead in saw cuts to be 2 inches deep by 3/8 inch wide
- Prior to installing sealant, wires to be held in bottom of saw cut by Styrofoam backer rod.
- Loops are to be centered in the lane, 6 feet by 6 feet with 4 turns of wire in IMSA loop duct.
- Loop lead-in wires from controller box are to be twisted, and routed separately to each loop for each travel lane.

- The sensors supplied shall be 2 meter quartz sensors by Kistler Corp of 75 John Glenn Drive, Amherst, NY. Sensors will not require any temperature compensation.
- Sensor wires will not be routed with loop wires. Sensor wires will also be separated from other sensor wires. This will minimize damage to sensor wires when one set needs replacement and another does not.
- Trailing edge of loop to trailing edge of loop to be 12 feet.
- Sensors to be located 13 inches downstream of trailing edge of loop.
- After sensor grout hardens, the grout/sensor surface will be ground to be level with pavement.
- **Furthest sensor/loop's lead-in will not pass in front of nearest sensor array.**
- Leading edge to leading edge of sensor to be 12 feet.
- Center line sensor must be located in advance of shoulder sensor according to travel direction.
- Installation should resemble the configuration labeled "Six-Lane Divided Highway".
- If new conduit is required to connect cabinet and pull box, cutting of existing pavement to install conduit will not be allowed. New conduit shall be installed by directional drilling only.

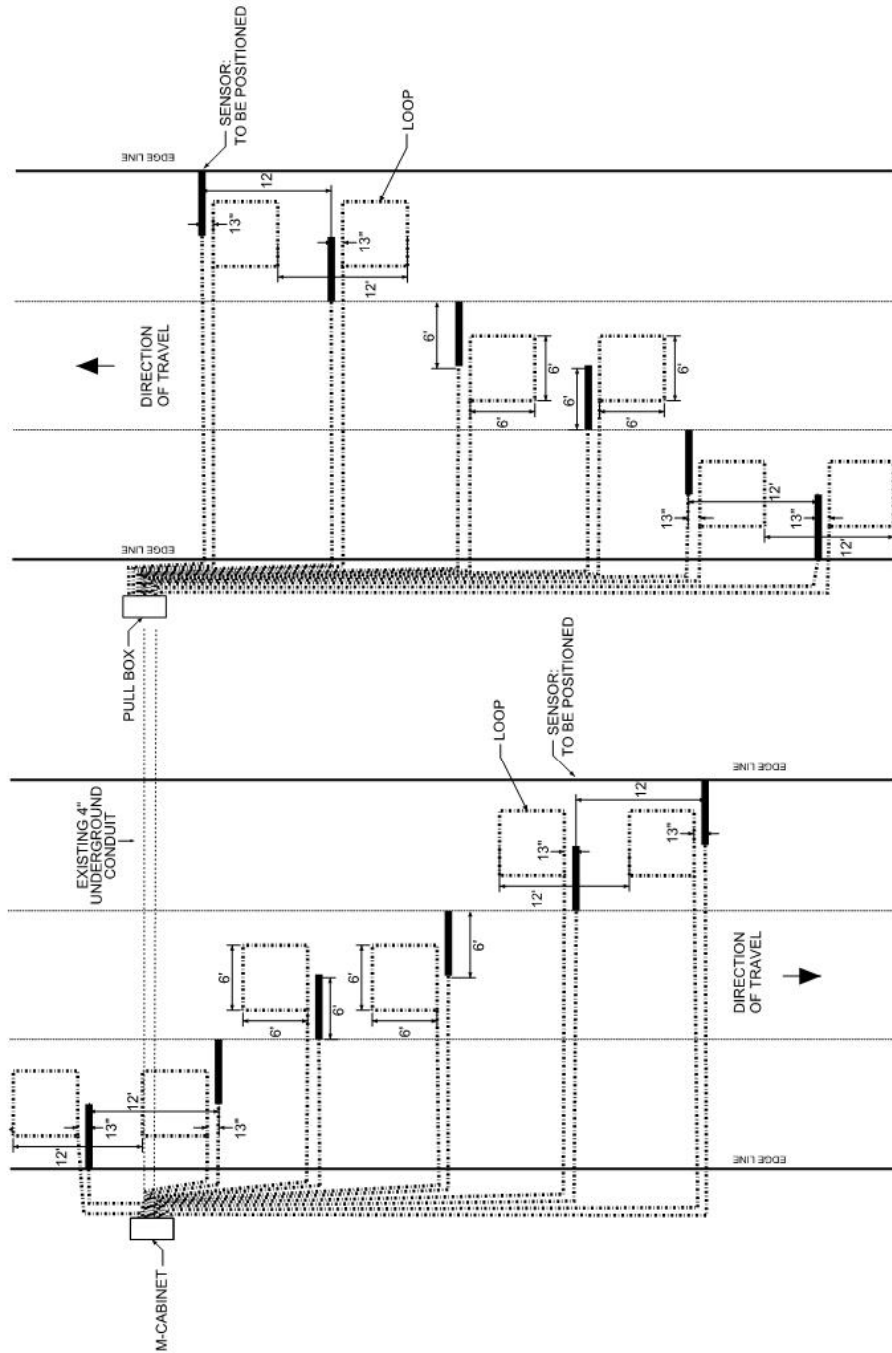
MaineDOT staff to mark location during construction. Contact Ron Cote, MaineDOT WIM Program Coordinator, at ron.cote@maine.gov or via phone at (207) 446-2305 at least 72 hours prior to installation to coordinate.

Method of Measurement. Weigh-In-Motion System will be measured for payment by the lump sum complete in place and accepted.

Basis of Payment. Weigh-In-Motion System will be paid for at the Contract lump sum price, which will be full compensation for furnishing and installing all equipment and associated hardware and incidentals to complete the work as specified. Directional drilling, if required, will not be paid for separately but will be considered incidental.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
643.871 Weigh-In-Motion System	Lump Sum



C. ALLRAN

DETAILER

2018/08/13

KITTERY
INTERSTATE 95

WIN 19270.00

WEIGH IN MOTION

SHEET NUMBER

1

OF 1

SPECIAL PROVISION
SECTION 645
HIGHWAY SIGNING
(Travel Time Sign Integration)

Description: The Contractor shall provide a System Integrator to integrate the hybrid travel time signs into the MaineDOT Advanced Transportation Management System (ATMS) known as New England Compass (Compass ATMS) developed by the Southwest Research Institute (SwRI). The System Integrator shall be responsible for configuring the system components, integrating the Travel Time Data into Compass ATMS, developing the protocols to provide the travel time messages and for all testing of the system prior to final approval.

This item shall consist of the successful integration of all system components (data, firmware, software, and hardware) into the Compass ATMS. This item shall include all required creations, additions, and modifications to the graphics subsystem, data base, and communications necessary to complete the integration of the hybrid travel time signs into the Compass ATMS.

This item shall also consist of all testing of the system components in isolation as well as within the system to ensure the system meets the functional requirements identified in these Specifications.

General: The Contractor shall provide the qualifications of the System Integrator to the Department. If the System Integrator will be SwRI, no qualifications submittal will be required as SwRI was the original developer of Compass ATMS. All work associated with system integration shall be under the direct supervision of the System Integrator. The System Integrator shall demonstrate working knowledge of the Compass ATMS and have experience working with the Dynamic Message Sign (DMS) hardware installed on this project. The System Integrator shall also have experience working with data application programming interfaces (APIs).

The Contractor shall submit written documentation setting forth their experience with the Work specified, including a description of similar construction projects completed in the last five (5) years that highlight the Contractor's or subcontractor's related experience. Such information shall include:

1. the Company's history and experience of work related specifically to the scope of this specification;
2. the name of the owner for whom the work was performed including the name and telephone number of a contact person;
3. a description of work performed by the Contractor or subcontractor; and
4. the total construction cost of each project, and the value of work performed by the Contractor or subcontractor.

Integration shall be accomplished with minimal interruption to the existing MaineDOT and NHDOT Traffic Management Centers (TMC) operations. Any required downtime of the Compass ATMS shall be approved by the Resident at least seven (7) days in advance. The System Integrator should develop a test environment to demonstrate the system operations prior to going live with the deployed hybrid travel time signs.

The System Integrator shall produce computer representations of each hybrid travel time sign within a system map (GIS or other approved mapping system) for the purposes of system monitoring and operations. The computer representations shall provide display of the DMS messages posted to the DMS components as well as a dashboard that indicates the data that has established the message.

The System Integrator shall prepare standard Compass ATMS reports to be displayed on the dashboard. These reports shall include the following:

- Travel Time and Speed Table
- Segment Travel Time Line
- Segment Travel Time Detail
- Suspect Data
- Total Volume by Direction (by Segment)
- Traffic Flow
- Travel Time Status

Operations: The Contractor shall install, configure, integrate and test the hybrid travel time sign system. The hybrid travel time sign system shall provide travel time messaging providing the travel times along I-95 and Route 1 Bypass indicated on the Plans.

A. Travel Time Message Signs

Travel time message signs shall display the approximate travel time in minutes for each interchange indicated on the sign. The sign should have a refresh rate of at least once every 30 seconds but shall not change messages more often than once per minute.

Testing: The System Integrator shall be responsible for conducting all phases of the Acceptance Testing. Acceptance Testing shall include the development of a test plan for approval by the Resident, executing the test plans and submitting test reports at the completion of each testing phase. A qualified representative of the DMS manufacturer shall be present for the Acceptance Testing to troubleshoot issues immediately and correct any technical malfunctions that may occur.

A testing schedule shall be coordinated with the Resident. Test plans shall be submitted a minimum of 28 days prior to the proposed initiation of testing. No formal testing may occur prior to having an approved test plan; however, the Contractor is strongly encouraged to conduct pre-testing activities prior to the formal testing to troubleshoot problems early. Testing shall be scheduled only on weekdays which are official working days for

MaineDOT. The Contractor shall provide a minimum of seven (7) days notice for every test to be conducted.

The System Integrator shall conduct the testing in accordance with the approved test plans in the presence of the Resident and a representative of MaineDOT who will be responsible for operating the system.

The test plans shall exercise and verify compliance with all functional requirements of the hybrid travel time sign system ultimately leading to a fully installed, functional, and integrated system. The following tests shall require a test plan and can be found here:

<https://www.nh.gov/dot/business/contractors.htm>

- ITS Test Plan – All Sites
- CCTV
- DMS
- MVDS
- VSL
- Central Control Test

In addition to the tests that require a test plan, the System Integrator shall also be responsible for conducting the Operational Acceptance Test. Successful completion of all testing shall be considered Substantial Completion for the installation and initiate the start of the Warranty and Maintenance period.

A. Central Control Test

The Central Control Test shall be performed after successful completion of both of the Subsystem Tests, and approval by the Resident. Central Control Testing shall be conducted from the MaineDOT and NHDOT TMC using the modem connections exercised in the Subsystem Tests. Testing will be conducted through the Compass ATMS using the integrated travel time data.

At a minimum, testing shall include:

- 1) Verification that all cables, monitors, switches, software, data, and ancillary equipment has been installed, is operational and integrated with Compass ATMS.
- 2) Verify that Compass ATMS can ping all IP addresses within the system.
- 3) Exercise the DMS signs to show manual messages
- 4) Exercise the DMS signs to show automated messages selected based on the travel time data.
- 5) Verify the system display matches the field display.

- 6) Verify that all Compass ATMS screens added to the ATMS system, or modified, as part of the project work are displaying correctly.

B. Operational Acceptance Test

A thirty (30) day Operational Acceptance Test Period will be required for all DMS components on the project. The Operational Acceptance Test Period shall commence upon successful completion of the Central Control testing and shall run for thirty (30) days, consecutive. The Operational Acceptance Test shall demonstrate that all the DMS components, travel time message systems and communications systems are properly installed, are free from problems, exhibit stable and reliable performance, communicate reliably with MaineDOT's and NHDOT's TMC and comply with the Contract Documents. MaineDOT will operate the system during the Operational Acceptance Test Period and report any failures to the Contractor. The Contractor shall maintain and make available to the Resident on a weekly basis a log of all activities, including significant events, failures and corrective actions.

In the event of a failure, MaineDOT will report the nature of the problem to the Contractor for immediate corrective action. If the failure is minor, at the Resident's sole discretion, the Operational Acceptance Test Period may be suspended during the remediation and resumed upon completion of the correction. If the Resident indicates the failure to be more than minor, the failure shall be corrected and the test shall then be restarted for another thirty (30) days. No testing period pause (i.e. suspension) shall be permitted within the last seven days of the test period; any failures in the last seven days of the test period shall require a full restart of the test period.

Upon successful completion of the Operational Acceptance Test Period, MaineDOT will issue written notice of final approval. The date of the approval shall coincide with the beginning of the Warranty and Maintenance Period.

Method of Measurement: Travel Time Sign Integration will be measured by the lump sum.

Basis of Payment: Travel Time Sign Integration will be paid for at the contract lump sum price. Such payment will be full compensation for integration of the hybrid travel time sign system into the Compass ATMS, configuration of the hybrid travel time sign system, developing test plans, executing approved test plans, conducting the operational acceptance test, and for all incidentals, tools, labor, equipment, and transportation necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
645.521 Travel Time Sign Integration	LS

SPECIAL PROVISION
SECTION 645
HIGHWAY SIGNING
(Travel Time Data)

Description: The Contractor shall purchase and integrate real-time travel time data into the MaineDOT Advanced Transportation Management System (ATMS) known as New England Compass (Compass). For reference, it is noted that the Compass ATMS was developed for MaineDOT by Southwest Research Institute (SwRI) as part of a Tri-State collaborative development for Maine, New Hampshire, and Vermont.

General: The Contractor shall purchase a renewable contract for the supply of travel time data via an application program interface (API) feed for a minimum period of three (3) years beginning within three weeks after contract award.

The travel time data shall be obtained from a vendor pre-approved by the I-95 Corridor Coalition through their Vehicle Probe Project (VPP). See the Coalition's website for a list of approved travel time data vendors.

<http://i95coalition.org/projects/vehicle-probe-project/>

The Contractor is encouraged to consider the purchase of the travel time data directly from the I-95 Corridor Coalition through their member services for the member discount rates (the State of Maine is a member).

The Contractor shall procure the following:

- Real time speed and travel time data
 - Includes mean travel time, speed, average travel speed for a given hour and day of the week, and general reference speeds for each reporting segment.
 - Absence of real-time and travel time for a reporting segment shall indicate low flow or unavailable data
 - Files shall be stamped to enable interfaced systems to determine when/if systematic file availability issues arise
- Segment Speed/Travel Time Data API
- Map Tile API
- Traffic API
- Virtual Sensor (speed at a point) API

The route segments to be provided are shown on the plans. Actual locations of PCMS will be determined by the resident. Routes are located on:

- I-95 northbound
- I-95 southbound
- Route 236 eastbound

- Route 236 westbound
- Market Street
- Route 1 Bypass from Exit 4 (NH) to Exit 2 (ME)
- US Route 1

The Contractor shall ensure that the API is compatible with the Compass ATMS. The System Integrator shall be responsible for integrating the travel time data into the hybrid travel time sign system. Therefore, the Contractor's selection of a System Integrator shall include experience with the Compass ATMS as well as the selected API. The Contractor is encouraged to consider using SwRI as the System Integrator based on their experience with both Compass ATMS and several APIs.

The Contractor shall provide independent validation of the travel time data through the system integration and testing phase. If the data is purchased through the I-95 Corridor Coalition, the Contractor may also obtain the independent validation through the Coalition.

Method of Measurement: Travel Time Data will be measured for payment by the lump sum for data supplied, integrated, and continuously provided for the three-year period.

Basis of Payment: Travel Time Data will be paid for as three partial payments according to the following schedule:

- With a payment receipt indicating payment for the first year of data, the Contractor will receive payment for 35 percent of the lump sum price for Travel Time Data.
- Upon successful integration of the API, the Contractor will receive payment for 15 percent of the lump sum price for Travel Time Data.
- With a payment receipt indicating payment for the second year of data, and upon approval of the Central Control Testing, the Contractor will receive payment for 20 percent of the lump sum price for Travel Time Data.
- With a payment receipt indicating payment for the third year of data, and upon approval of the Central Control Testing, the Contractor will receive payment for the remainder of the lump sum price for Travel Time Data based on the schedule of uptime below. If the Contractor fails to make corrections to bring the Work Zone Intelligent Transportation System, or any malfunctioning components, back online within the 24-hour period, no payment shall be made from the time of initial notification until the system is brought back on-line. In addition, pro-rated monthly payment for devices will be based on the total device uptime percentage reported by NHDOT's ATMS.
 - Pro-rated payment will only be applied to devices reported to have a total uptime of less than 95% for the month.
 - Devices with a reported uptime of less than 95% for the month will be paid at a rate equal to the total uptime percentage for that month.
 - If the uptime percentage for any components of the Work Zone Intelligent Transportation System is less than 75% for the month, the Contractor shall forfeit payment for the entire month.

- o Pro-rated monthly payments shall apply to Work Zone ITS Operational Cost items, Work Zone ITS device items, or both, at the determination of the Engineer, based on the reported cause of the malfunction or downtime.
- o No payment shall be made for devices removed from the site beyond the date of notification by the Engineer.

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Payment will be made under:

<u>Pay Item</u>		<u>Pay Unit</u>
645.523	Travel Time Data	LS

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC
(Automated Speed Limit Sign)

652.1 Description

This special provision provides for furnishing, operating, and maintaining an Automated Trailer Mounted Radar Speed Limit Sign for project use. The Contractor shall furnish, operate, and maintain the Automated Trailer Mounted Radar Speed Limit Signs during the project operations.

652.1.1 Instruction and maintenance manuals shall be provided.

652.2 Materials

Automated Trailer Mounted Speed Limit Sign

Trailer mounted speed limit signs shall be self-contained units including sign assembly, flashing lights, directional radar to measure speed limits, a regulatory speed limit sign, a construction sign stating “Work Zone Speed Limit When Flashing” and power supply specifically constructed to operate as a trailer-mounted sign. The preferred color of the unit shall be “construction orange”.

Signs

Base material for the regulatory speed limit signs shall be weather proof, rigid substrate specifically manufactured for highway signing and meet the retro-reflective sheeting application requirements of the sheeting manufacturer.

Sign text shall consist of the letters, digits and symbols either applied by stick-on or silk screen, to conform to the dimensions and designs indicated in the Contract, MUTCD and/or FHWA Standard Highway Signs. The materials and methods shall be in accordance with standard commercial processes.

The regulatory sign should have changeable speed limit numbers.

“Work Zone” construction signs shall be mounted on the trailer unit above and below the regulatory speed limit sign. (see Appendix). The “When Flashing” construction sign shall be added to the trailer.

Signs and secondary signs shall follow the MUTCD for minimum mounting heights.

Power supply

The power supply shall be either full battery power with solar panel charging (capable of maintaining a charged battery level) and 135 ampere, 12 volt deep cycle batteries, or diesel powered generator with a fuel capacity sufficient for 10 hours of continuous operation.

Flashing Lights

Each unit shall be equipped with two mono-directional flashing lights, placed in accordance with the MUTCD, with amber lenses and reflectors, which are visible through a range of 120 degrees when viewed facing the sign. The lights, either strobe, halogen, or incandescent lamps, shall be visible for a minimum distance of one mile under daylight conditions and shall have a minimum flash rate of 40 flashes per minute. An "On" indicator light shall be mounted on the back of the signs, which is visible for at least 500 feet to provide confirmation that the flashing lights are operating.

Radar

The directional radar shall monitor approaching traffic only. The radar shall be capable of measuring speeds from 5 to 70 MPH at a distance of up to 1500 feet and shall have a high speed cut off thresh hold.

CONSTRUCTION REQUIREMENTS

652.3.2 Responsibility of the Contractor

The Contractor shall furnish the Automated Trailer Mounted Speed Limit Sign as described in this Special Provision for this project.

All existing speed limit signs, which conflict with the construction zone trailer mounted speed limit signs shall be covered completely during the operation of the flashing lights. These signs shall be immediately uncovered when the use of the flashing lights is discontinued.

Automated Trailer Mounted Speed Limit Signs shall be used only during the Contractor's actual work hours, unless specifically authorized by the Engineer.

The Resident will record the actual time and location for the signs on a daily basis when the Automated Trailer Mounted Speed Limit Signs are in use.

Automated Trailer Mounted Speed Limit Signs shall be located as shown on the plans.

Automated Trailer Mounted Speed Limit Signs shall be delineated with retro-reflective temporary traffic control devices while in use and shall also be delineated by affixing a retro-reflective material directly on the trailer.

Upon delivery of the Automated Trailer Mounted Speed Limit Sign and before acceptance by the Department, the Contractor shall have a representative of the manufacturer review the condition and notify the Resident in writing, of all deficiencies noted.

The Contractor shall arrange to have all necessary repairs performed at no cost to the Department.

To avoid impairing driver vision, the Contractor shall dim the lighted speed limit readings by 50 percent during nighttime use, and restore full power lighting during daytime operation.

652.7 Method of Measurement

Automated Trailer Mounted Speed Limit Sign shall be measured for payment by the calendar day for each calendar day that the unit is used on a travel lane or shoulder on the project, as approved by the Resident, and shall include the Trailer, Radar Speed Limit Sign, flashing beacon amber lights, regulatory speed limit sign, "Work Zone Speed Limit When Flashing" construction sign, fuel, necessary maintenance, and all checking of Radar Speed Limit Signs by manufacturer. Also included are all project moves including the transporting and delivery of the unit.

652.8 Basis of Payment

The Automated Trailer Mounted Speed Limit Sign(s) will be paid for at the Contract unit price per calendar day. This price shall include all costs associated with the use of the Automated Trailer Mounted Speed Limit Sign.

Payment will be made under:

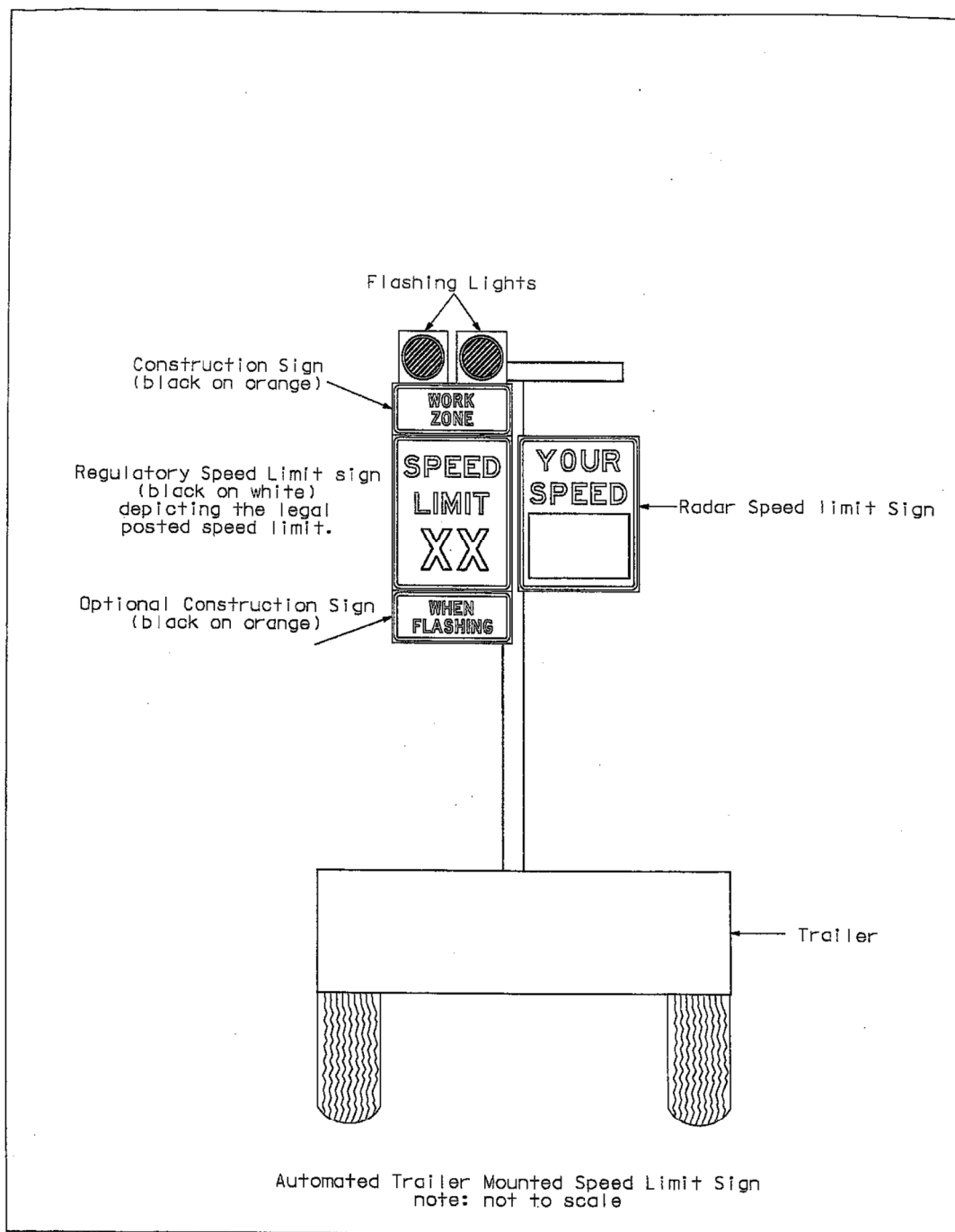
Pay Item

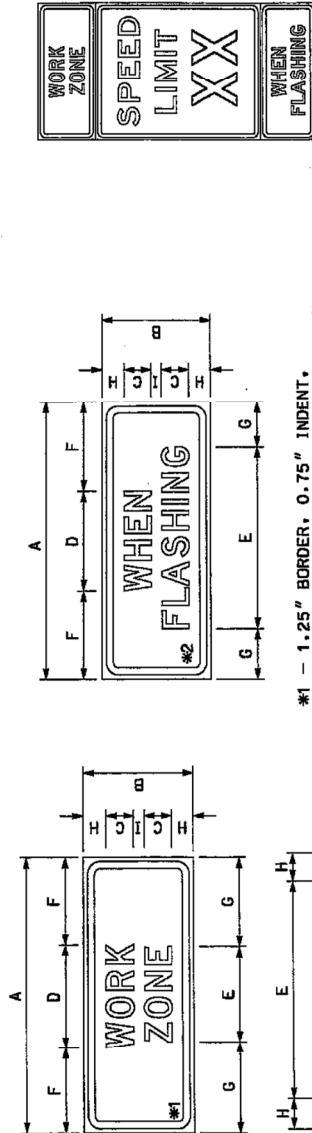
Pay Unit

652.451	Automated Trailer Mounted Speed Limit Sign	Calendar Day
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Section 652 Appendix

Automated Trailer Mounted Speed Limit Sign





#1 - 1.25" BORDER, 0.75" INDENT.
BLACK ON ORANGE; BB GRADE PLYWOOD SIGN
#2 - 1.25" BORDER, 0.75" INDENT.
BLACK ON WHITE; BB GRADE PLYWOOD SIGN
#3 - 1.25" BORDER, 0.75" INDENT.
BLACK ON WHITE; BB GRADE PLYWOOD SIGN

DIMENSIONS (inches)/LETTER FONTS												
A	B	C	D	E	F	G	H	I	J	K	L	
#1	48	20	50	18 1/8	16 5/8	14 7/8	15 5/8	4	2	N/A	N/A	N/A
#2	48	20	50	17 1/4	31 3/8	15 1/2	8 1/4	4	2	N/A	N/A	N/A
#3	48	60	8E	16E	38 1/4	29 1/4	29 1/2	4 7/8	9 3/8	9 1/4	8	6

CONSTRUCTION SIGN/REGULATORY SIGNS

TRAILER MOUNTED CONSTRUCTION ZONE
SPEED LIMIT SIGN

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC
(Delineators)

652.1 Description

The following sentence is added:

The work also includes furnishing, installing, mounting, maintaining and removing retro-reflective delineators on existing and proposed permanent concrete barrier in accordance with this Special Provision or as directed by the Resident.

652.2.4 Other Devices

The following paragraph is added:

Delineators shall be bi-directional with a minimum effective reflective area of eight square inches as approved by the Resident. The reflectors shall be methyl methacrylate and the housing of acrylonitrile butadiene styrene. Color shall be in accordance with the MUTCD.

652.3.5 Installation of Traffic Control Devices

The following paragraphs are added:

Retro-Reflective Delineators shall be mounted as follows:

1. Where travel lanes are shifted within 2 feet of the permanent concrete barrier, Retro-Reflective Delineators shall be mounted every 20 feet on the traffic side of the concrete barrier, using regularly spaced intervals and locations.
2. Delineators shall be physically adhered so as to withstand the force of throw from a snow plow.
3. If more than 1 delineator in any 100 foot length of barrier falls off for any reason, the Contractor will be responsible for reinstalling all the delineators in that run at their own cost.
4. Contractor is required to submit the installation method for review and approval to the Resident.
5. Retro-Reflective Delineators shall be removed to the satisfaction of the Resident when the traffic control phase requiring their usage is completed.

652.7 Method of Measurement

The following paragraph is added:

Retro-Reflective Delineators will not be measured separately for payment, but will be considered incidental to related Contract items under Section 652.

**SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC
(Drums)**

652.2.4 Other Devices

Paragraph 3 of this Subsection is deleted in its entirety and replaced with the following:

Drums shall be made of plastic and shall meet the applicable requirements of MUTCD. The retroreflective sheeting on the drums shall be six (6) inches wide and meet the requirements of ASTM D4956 Type VI and AASHTO M268.

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC

652.1 Description. This subsection is amended by the addition of the following:

All traffic control shall be in accordance with the maintenance of traffic and construction phasing plans in the Contract Documents. The Contractor shall submit Traffic Control Plans for lane closures to install the work zone traffic control and complete the highway preservation work. Submittals shall meet the requirements of Subsection 652.3.3 Submittal of Traffic Control Plan (TCP).

The Contractor shall furnish all signs noted herein and noted on the Sign Summary Sheets. The Contractor shall furnish all sign posts, sign post breakaways and fasteners required to erect and maintain the signs.

652.2.2 Signs. This subsection is amended by the addition of the following:

The minimum required construction signing is shown on the Sign Summary Sheets.

652.2.5 Portable Changeable Message Sign. This first sentence in the sixth paragraph shall be replaced with the following sentences:

PCMS units shall be capable of being programmed by a remote computer via a data (IP over Cell) cellular modem connection. It shall also have GPS location capability by adding on a GPS device capable of providing GPS location remotely.

652.3.3 Submittal of Traffic Control Plan. This Subsection is amended by the addition of the following:

The Department has prepared Maintenance of Traffic Plans for the work zone for the Contractor to implement to complete the Project. The Contractor may include these plans as a portion of the Traffic Control Plan submittal.

652.3.3.f. Notification Procedure. This subsection is amended by the addition of the following:

The Contractor shall provide a schedule of anticipated lane closures to the Resident on a weekly basis, and provide a minimum notice of 72 hours of proposed changes to the lane closures. The Contractor shall provide a 4 hour notice to the emergency dispatchers for both the Town of Kittery and the City of Portsmouth for all temporary lane closures. The Contractor shall meet all required notifications listed in Special Provision 105 Limitations of Operations.

652.3.4 General. The fourth and fifth paragraphs of this subsection are deleted and replaced with the following:

The Contractor, his/her Subcontractors and employees shall conduct all work in a safe and professional manner as it relates to the traveling public (i.e. not adversely disrupting the flow of traffic in an unsafe manner when exiting or entering a lane closure or crossover, no negative verbal or physical gestures).

Channelization. Channelization devices shall include the following:

Flashing Arrow Boards

Drums (**In lane closures, The Contractor shall place 3 drums across a closed lane every 1500'**)

Channelization devices shall be installed and maintained at the spacing determined by the MUTCD to delineate travel lanes through the project. Drums shall be placed in the closed lane at a maximum spacing of 2 x speed limit.

Existing emergency access crossovers shall not be used by the Contractor, Subcontractors and employees to change direction, store materials, park vehicles or equipment, or for any other purpose, at any time, unless explicitly allowed in the Contract Documents. Existing emergency access crossovers shall be closed within the project limits, utilizing drums at all times during phased bridge construction, and at times when lane closures are in place. Existing emergency access crossovers shall not be blocked in a manner that prevents normal use by MaineDOT maintenance, Maine Turnpike Authority maintenance, or State Police forces.

652.3.6 Traffic Control. Temporary lane closures shall not be set up until work in the area is to be performed and must be removed when no work is being performed. The work zone minimum travel lane widths are shown on the Plans and stated in Special Provision 105 Limitations of Operations. The Contractor shall provide the minimum roadway width stated (face of drum to face of drum; face of drum to toe of concrete barrier) during a temporary lane closure.

All construction work shall be confined to the temporary lane closures or long term lane closures, and be closed to traffic.

Slow moving construction equipment may travel the closed lane for short distances. **ALL** vehicles shall be oriented with the flow of traffic unless otherwise authorized by the Resident.

Any vehicle using LED Lights shall have them angled as to not impede or disrupt normal traffic flow at any time as determined by the Resident. Vehicles unable to manipulate these devices shall be removed from the project immediately.

All trucking shall be done in the lane open to traffic.

No equipment or vehicles of the Contractor, Subcontractor or employees engaged in work on this Contract, shall be parked or stopped on lanes carrying traffic, or on lanes or shoulders adjacent to lanes carrying traffic, at any time.

The Contractor shall keep all paved areas of the roadway as clear as possible at all times. The Contractor's personnel and equipment shall avoid crossing traffic lanes whenever possible.

Existing pavement markings at centerline in the taper to the lane closure shall be removed or covered over with an approved paint or tape beginning at the first drum in the taper in overnight lane closures.

See the General Notes sheet in the Construction Plans for additional requirements for temporary pavement marking lines.

Temporary pavement markings shall be placed from the existing lane edge line through the length of the taper in overnight lane closures (highway milling and pavement work only).

Placing all temporary pavement marking lines or markers will be paid under Items 627.51 6 Inch Temporary Pavement Tape, 627.781 Temporary 6 Inch Painted Pavement Marking Line, and 627.812 Temporary Raised Pavement Markers.

Contractor shall place Temporary 6 Inch Painted Pavement Marking Line, White or Yellow on all milled mainline surfaces prior to opening the lane up to traffic. These lines shall be paid under Item 627.781.

Temporary Lane Lines and Edge Lines. Temporary painted/taped edge lines and lane lines shall be marked each day on all new pavement to be used by traffic. The temporary lines shall conform to the standard marking patterns used for permanent markings and will be paid for under Section 627. Failure to apply temporary lines daily will result in suspension of paving until temporary markings are applied to all previously placed pavement.

Roadside Recovery Area The Contractor shall not temporarily store material nor park equipment within 15 feet of the edge of the established travel lanes without a lane or shoulder closure.

No long term storage of equipment or material will be allowed within 30 feet of the edge of the established travel lanes. Short term storage of equipment or material less than 30 feet from the edge of the established travel lanes must be approved by the Department and shall be clearly marked by **drums and cones**. Short term storage shall be defined as less than 12 hours.

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC
(Traffic Coordinator)
(Traffic Monitor)

Description. This Subsection is amended by the addition of the following:

The Contractor shall assign a Traffic Coordinator to the Project who shall coordinate all traffic control on the Project and work with the Project Superintendent and Resident to ensure safe and efficient set up, maintenance and removal of the traffic control layouts and devices for the duration of the project.

The Contractor shall provide full time Traffic Monitor(s) to the Project who shall continuously observe and patrol the traffic setups to ensure traffic is flowing as anticipated, and all traffic control devices (PCMS, signs, arrow boards, drums, cones, Type III barrier, etc.) are in the correct locations and functioning properly.

The following Subsection is added:

652.3.4.1 Traffic Coordinator. The Contractor shall submit to the Resident for approval the name of the Traffic Coordinator to be assigned to the Project. The submission shall include the qualifications, certifications and experience of the proposed Traffic Coordinator. The proposed Traffic Coordinator shall have a minimum of two years experience in the set up and removal of Interstate traffic control work zones.

The Traffic Coordinator duties shall include, but are not limited to:

- a) Developing in conjunction with the Resident and project superintendent a traffic control program for the day's work activities that will facilitate traffic in a safe and efficient manner.
- b) Ensuring all traffic control implements (signs, arrow boards, barrels, portable changeable message signs, concrete barrier, work zone crash cushions, etc.) are on-site or readily available, and required subcontractors are available, so the traffic program can be implemented effectively.
- c) Directing the safe and effective set up and removal of all signing implements to least impact the traveling motorist.
- d) Reviewing and understanding the Project maintenance of traffic plans.
- e) Demonstrating a working knowledge of construction signing and traffic control requirements in conformance with the latest issued Manual on Uniform Traffic Control Devices.
- f) The Contractor shall supplement the traffic control plan with a daily plan, which includes schedules for utilizing traffic coordinators and flaggers. This plan shall be submitted daily and agreed upon cooperatively with the Resident.

- g) During all rain events, monitor any ponding water in the shoulders and immediately alert the Resident if standing water exceeds the painted edge line into the travel lane.

The Traffic Coordinator may participate in the setup, maintenance and removal of traffic control layouts and devices throughout the project.

The Traffic Coordinator may be assigned as the Traffic Monitor(s) when not involved in the setup, maintenance and removal of traffic control layouts and devices; performing other project related tasks as required.

The Traffic Coordinator shall provide the Department the names and cell phone numbers of the persons assigned as Traffic Coordinator, Traffic Control Personnel and Traffic Monitor for all time periods a minimum of 48 hours prior to the shift duty.

The following Subsection is added:

652.3.4.2 Traffic Control Personnel. The Contractor shall submit a list of traffic control personnel assigned to the project including qualifications, certifications and experience.

Traffic control personnel shall have experience in the set up and removal of Interstate traffic control work zones; shall have been trained and be able to demonstrate a working knowledge of construction signing and traffic control requirements in conformance with the latest issued Manual on Uniform Traffic Control Devices; and shall be able to demonstrate an understanding of the Project maintenance of traffic plans.

The following Subsection is added:

652.3.4.3 Traffic Monitor. The Traffic Monitor(s) shall provide at least hourly monitoring (24-hours/seven days a week) when Project traffic control devices are in place (including non-work hours) to monitor and report traffic issues and to advise the Traffic Coordinator of damaged, displaced or non-functioning traffic control devices (arrow boards, portable changeable message signs, barrels, signs, etc.).

The Traffic Monitor shall report any and all disabled motorists, accidents or other unusual occurrences to the Resident or his representative, the Maine or New Hampshire State Police as applicable, or the Department's communication dispatcher throughout the duration of any and all lane closures. The traffic monitor shall also coordinate with the Turnpike Authority's communication dispatcher if required.

The Traffic Monitor shall once daily inspect the Contractor's traffic control on the local roads in Kittery and Portsmouth to ensure the correct signs and Portable changeable message signs, are in place, are not damaged or disturbed, and/or are operating properly.

The Contractor shall provide the Traffic Monitor(s) a dedicated patrol vehicle for traffic monitoring and project patrol.

The dedicated patrol vehicle(s) shall meet the following requirements:

- a) Be in good mechanical condition, clean and presentable at all times.
- b) Be equipped with a cellular phone capable of communicating with the Resident, the Superintendent, the traffic coordinator or his representative, the State Police (City/Town police) or the Turnpike Authority's communication dispatcher.
- c) Be equipped with a mounted revolving amber light or amber strobe light capable of 360-degree visibility to meet all lighting requirements.
- d) Be equipped with a light bar ("Arrowstik" arrow board).

The Traffic Monitor may not participate in the setup, maintenance and removal of traffic control layouts and devices throughout the project, except in emergency situations, or as approved by the Resident.

The Traffic Monitor may make minor adjustments in the setup and perform emergency maintenance on traffic control devices throughout the project, if required.

The Traffic Monitor shall be able to remotely change the messages on the Portable changeable message signs, so the Portable changeable message signs, provide current information to the public traveling to or through the work zone.

The Traffic Monitor shall once daily inspect the Contractor's traffic control on the local roads in Kittery and Portsmouth to ensure the correct signs and Portable changeable message signs, are in place, are not damaged or disturbed, and/or are operating properly.

The Traffic Monitor shall be responsible for all required notifications listed in Special Provision 105 Limitations of Operations

The following Subsection is amended by the addition of the following:

652.3.6 Traffic Control. All vehicles used during the installation and removal of traffic control devices, including lane closures, shall be equipped with a vehicle-mounted Arrowstik, model AS-10/ or AS/847, as manufactured by:

Public Safety Equipment, Inc.
10986 North Warson Road
St. Louis, MO 63114-2029

or an approved equal as determined by the Resident. The arrow board shall be capable of displaying a left arrow, right arrow, double arrow, and a light bar.

If the proper maintenance of traffic and proper provisions for traffic control are not being provided by the Contractor, the Department reserves the right to assume maintenance of the traffic control and deduct the cost from any money due or to become due under the Contract. The

Department also reserves the right to suspend all work until the Contractor provides the proper maintenance of traffic and provisions for traffic control to the satisfaction of the Resident.

Method of Measurement. The following sentences are added:

The vehicle mounted “Arrowstik” arrow boards, mounted on trucks used for installation and removal of lane closures and the Traffic Monitor’s dedicated patrol vehicle, will not be measured separately for payment, but shall be incidental to Item 652.36.

The Contractor’s dedicated traffic employees, including Traffic Coordinator(s) and traffic control personnel, will not be measured separately for payment, but shall be incidental to Item 652.36, Maintenance of Traffic Control Devices.

The Traffic Monitor will be measured by the calendar day for each calendar day that the Contractor furnished the Traffic Monitor and dedicated patrol vehicle 24/7 as specified herein. The Traffic Monitor’s dedicated patrol vehicle(s) with cellular phone(s) will be not be measured separately, but shall be incidental to the Traffic Monitor pay item.

The contract unit price per calendar day for the Traffic Monitor shall be full payment for each day for such monitoring, encompassing all areas of the contract, regardless of whether or not the work areas or projects are geographically separated.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
652.382 Traffic Monitor	Calendar Day

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC
(Traffic Officers)

652.4.1 Traffic Officers Add the following:

This work shall adhere to the following situations:

- 1.) When roadway closures are required.
- 2.) When work being done at or around a signalized intersection necessitates that the signal be put on flash or shut off and traffic directed by traffic officers.
- 3.) As directed by the Resident.
- 4.) State Police shall be required for use on the Interstate.
- 5.) Local Police shall be used off the Interstate system.

General. The Contractor shall make requests for uniformed police officers a minimum of 48 hours in advance.

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC

Approaches. Approach signing shall include the following signs at a minimum. Field conditions may warrant the use of additional signs as determined by the Resident..

Road Work Next X* Miles
Road Work 500 Feet (Ahead)
End Road Work

Work Areas. At each work site, signs and channelizing devices shall be used as directed by the Resident.

Signs include:

Road Work xxxx¹.
One Lane Road Ahead
Flagger Sign

Other typical signs include:

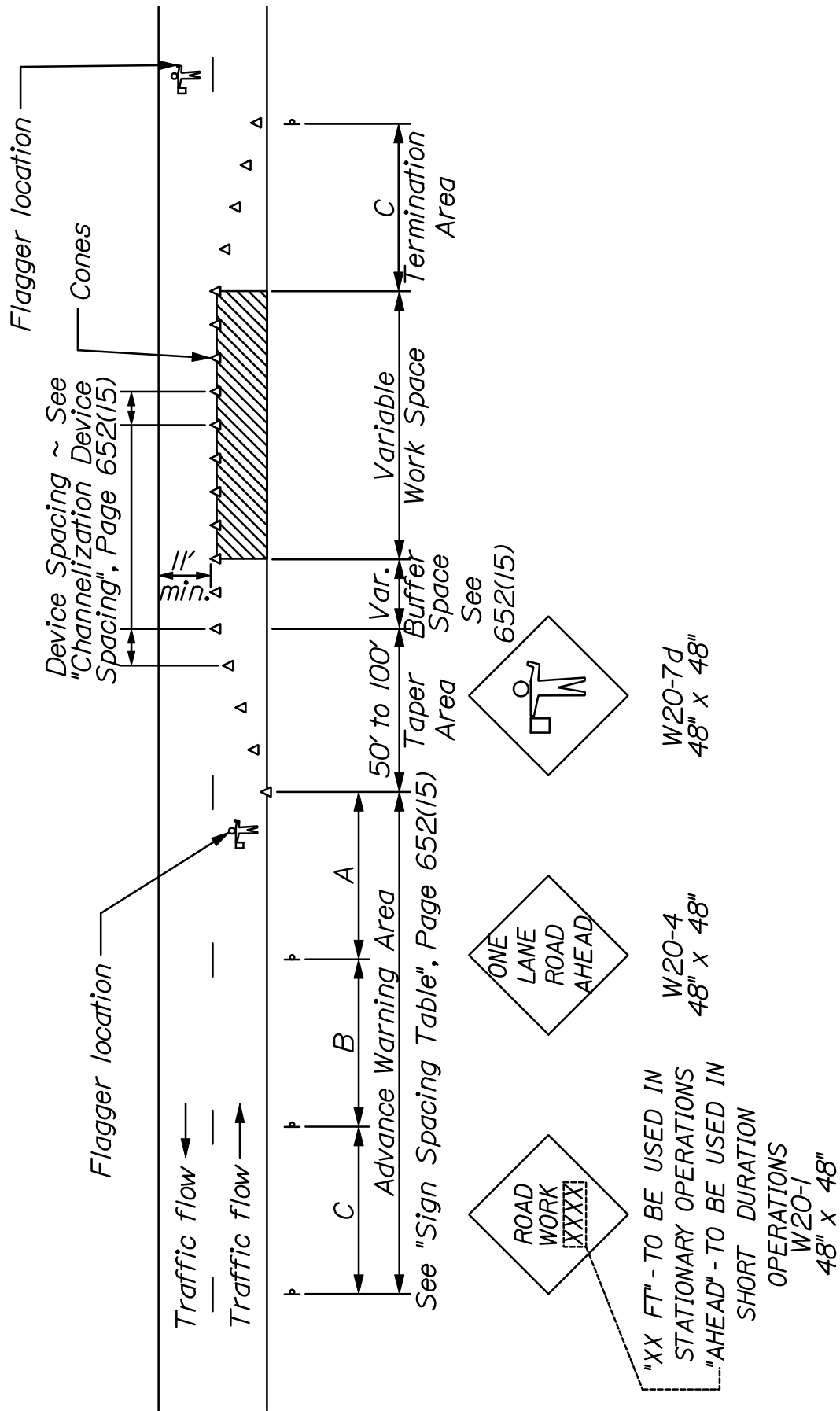
Be Prepared to Stop
Low Shoulder
Bump
Pavement Ends

The above lists of Approach signs and Work Area signs are representative of the contract requirements. Other sign legends may be required.

The Contractor shall conduct their operations in such a manner that the roadway will not be restricted to one lane for more than 2,500 feet at each work area. To encourage quality paving in warm-weather conditions, the length can be extended to 4,000 feet depending on the traffic impacts. Where more than one work area restricts traffic to one lane operation, these work areas shall be separated by at least 1 mile of two way operation.

Temporary Centerline A temporary centerline shall be placed each day on all new pavement to be used by traffic. The temporary centerline, when specified of reflectorized traffic paint, shall conform to the standard marking patterns used for permanent markings. Failure to apply a temporary centerline daily will result in a Traffic Control Violation and suspension of paving operations until temporary markers are applied to all previously placed pavement.

¹ “Road Work Ahead” to be used in short duration operations and “Road Work xx feet” to be used in stationary operations as directed by the Resident.



~ TYPICAL APPLICATION: TWO -WAY, TWO LANE ROADWAY,
CLOSING ONE LANE USING FLAGGERS ~

* Formulas for L are as follows:

For speed limits of 40 mph or less:

$$L = \frac{WS^2}{60}$$

For speed limits of 45 mph or greater:

$$L = WS$$

* Formulas for L are as follows:

A minimum of 5 channelization devices shall be used in the taper.

TYPE OF TAPER	TAPER LENGTH (L)*
Merging Taper	at least L
Shifting Taper	at least 0.5 L
Shoulder Taper	at least 0.33 L
One-Lane, Two-Way Traffic Taper	100 ft maximum
Downstream Taper	100 ft per lane

CHANNELIZATION DEVICE SPACING

The spacing of channelization devices shall not exceed a distance in feet equal to 1.0 times the speed limit in mph when used for taper channelization, and a distance in feet of 2.0 times the speed limit in mph when used for tangent channelization.

GENERAL NOTES;

1. Final placement of signs and devices may be changed to fit field conditions as approved by the Resident.

2. Maintain same number of lanes for a shifting taper.

3. Shoulder taper allowed when a minimum of 10 feet can be open from centerline for lane.

SIGN SPACING TABLE			
Road Type	Distance Between Signs**		
	A	B	C
Urban 30 mph or less	100	100	100
Urban 35 mph and greater	350	350	350
Rural	500	500	500
Expressway / Urban Parkway	1000	1500	2640

**Distances are shown in feet.

SUGGESTED BUFFER ZONE LENGTHS

Speed (mph)	Length (feet)	Speed (mph)	Length (feet)
20	115	40	325
25	155	45	360
30	200	50	425
35	250	55	495

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC
(Traffic Control Devices)

652.2.4 Other Devices

Add the following: “STOP / SLOW paddles shall also incorporate either white or red flashing lights on the STOP face and white or yellow on the SLOW face of the paddle.

Flashing lights on the STOP / SLOW paddle shall have a flash rate of at least 50, but not more than 60, flashes per minute.

Lighted paddles must conform to one of the options identified in the 2009 version of the MUTCD part 6E.03.”

SPECIAL PROVISION
SECTION 655
ELECTRICAL WORK
(Embedded Galvanic Anode)

Description. This work shall consist of furnishing and installing embedded galvanic anodes in concrete repairs to provide localized protection.

Materials.

Embedded galvanic anodes shall be Anode Type 1A Class C with the following nominal dimensions: 4.3 in. long by 2.2 in. wide by 1.2 in. deep (110 mm x 55 mm x 30 mm). The anodes shall be pre-manufactured with a nominal 160 grams of zinc in compliance with ASTM B418 Type II cast around a pair of uncoated, non-galvanized steel tie wires and encased in a highly alkaline cementitious shell with a pH of 14 or greater.

The galvanic anodes shall be alkali-activated and shall contain no intentionally added chloride, bromide or other constituents that are corrosive to reinforcing steel as per ACI 562-13. Anode units shall be supplied with integral unsplined wires for directly tying to the reinforcing steel.

Embedded galvanic anodes shall be one of the following:

Vector Galvashield XP4
BASF MasterProtect 8150CP
Euclid – Sentinel-Gold
Approved Equal

Deliver, store, and handle all materials in accordance with manufacturer's instructions. Anode units shall be stored in dry conditions in the original unopened containers in a manner to avoid exposure to extremes of temperature and humidity. Anodes that get damp may be compromised. Contractor will only receive payment for accepted anodes. Rejected anodes will become the property of the Contractor. Resident will determine which anodes are acceptable.

Alternate materials shall be submitted to the Resident for approval at least 30 days prior to installation. Approved request shall include samples, complete performance data, certification from independent testing laboratory regarding conformity with the specifications and list of completed successful installations, with phone number of responsible person to contact, to enable accurate appraisal of the system. The Contractor shall not install substitute material unless prior notification and approval is obtained in writing from the Resident.

Construction Requirements.

Concrete Removal

- A. Remove loose or delaminated concrete.

- B. Undercut all exposed reinforcing steel by removing concrete from the full circumference of the steel as per ICRI R310.1R. The minimum clearance between the concrete substrate and reinforcing steel shall be $\frac{3}{4}$ inch or $\frac{1}{4}$ inch larger than the top size aggregate in the repair material, whichever is greater.
- C. Concrete removal shall continue along the reinforcing steel until no further delamination, cracking, or significant rebar corrosion exists and the reinforcing steel is well bonded to the surrounding concrete as per ICRI R310.1R.

Cleaning and Repair of Reinforcing Steel

- A. Clean exposed reinforcing steel of rust, mortar, etc. to provide sufficient electrical connection and mechanical bond.
- B. If significant reduction in the cross section of the reinforcing steel has occurred, replace or install supplemental reinforcement as directed by the engineer of record.
- C. Secure loose reinforcing steel by tying tightly to other bars with steel tie wire.
- D. Verify electrical continuity of all reinforcing steel, including supplemental steel, as described below.
- E. If the reinforcing steel is to receive a barrier coating, do not coat the reinforcing steel within 1 in. of the anode and do not apply coating to any surface of the anode or the steel tie wires.

Edge and Surface Conditioning of Concrete

- A. Concrete patches shall be square or rectangular in shape with squared corners per ICRI Guideline 310.1R-2008.
- B. Saw cut the patch boundary $\frac{1}{2}$ inch deep or less if required to avoid cutting reinforcing steel.
- C. Create a clean, sound substrate by removing bond-inhibiting materials from the concrete substrate by high pressure water blasting or abrasive blasting.

Galvanic Anode Installation

- A. Install anode units and repair material immediately following preparation and cleaning of the steel reinforcement.
- B. Galvanic anodes shall be installed in a grid pattern throughout the entire repair area at a maximum spacing of 12 in.

- C. Place the galvanic anodes as close as possible to the patch edge while still providing sufficient clearance between anodes and substrate to allow the repair material to fully encase the anode with a minimum concrete or mortar cover over the anode of 1 in. If necessary, increase the size of the repair cavity to accommodate the anodes.
 - a. If less than 1 in. of concrete cover is expected, place anode beneath the bar and secure to clean reinforcing steel.
- D. The tie wires shall be wrapped around the cleaned reinforcing steel at least one full turn in opposite directions and then twisted tight to create a secure electrical connection and allow no anode movement during concrete placement.
- E. Electrical Continuity
 - a. Confirm electrical connection between anode tie wire and reinforcing steel by measuring DC resistance (ohm Ω) or DC potential (mV) with a multi-meter.
 - b. Electrical connection is acceptable if the DC resistance measured with the multi-meter is 1 Ω or less or the DC potential is 1 mV or less.
 - c. Confirm electrical continuity of the exposed reinforcing steel within the repair area. If necessary, electrical continuity shall be established by tying discontinuous steel to continuous steel using steel tie wire.
 - d. Electrical continuity between test areas is acceptable if the DC resistance measured with multi-meter is 1 Ω or less or the potential is 1 mV or less.
- F. Manufacturer Corrosion Technician
 - a. The contractor will enlist and pay for a technical representative employed by the galvanic anode manufacturer to provide training and on-site technical assistance during the initial installation of the galvanic anodes. The technical representative shall be a NACE-qualified corrosion technician (Cathodic Protection Technician–CP2 or higher).
 - b. The qualified corrosion technician shall have verifiable experience in the installation and testing of embedded galvanic protection systems for reinforced concrete structures.
 - c. The contractor shall coordinate its work with the designated corrosion technician to allow for site support during project startup and initial anode installation. The corrosion technician shall provide contractor training and support for development of application procedures, verification of electrical continuity, and project documentation.

Concrete or Mortar Replacement

- G. If the repair procedures require the concrete surface to be saturated with water, do not damage the anode nor allow the anode units to be soaked for greater than 20 minutes.
- H. Complete the repair with the repair material, taking care not to damage, loosen or leave voids around the anode.

Method of Measurement. Embedded Galvanic Anodes will be measure for payment by the unit for each galvanic anode satisfactorily embedded and accepted.

Basis of Payment. Embedded Galvanic Anodes will be paid for at the contract unit price each, which price shall be full compensation for furnishing and installing anodes, including materials, equipment, labor and incidentals necessary to complete the work. Concrete repair material and reinforcing steel will be paid for under separate items.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
655.511 Embedded Galvanic Anode	Each

SPECIAL PROVISION
SECTION 655
ELECTRICAL WORK
(Embedded Cathodic Protection System)

655.01 Description: The work under this section shall consist of supply, installation, and quality control services for an alkali-activated zinc embedded galvanic corrosion protection system. The work includes preparation of submittal documents, verification and correction of electrical continuity, and making low voltage electrical connections between the anodes and the reinforcing steel as shown on the drawings. The objective of the corrosion protection system is to prevent corrosion of the existing reinforcing steel in concrete deck. The corrosion protection system is to be installed in the new concrete deck overhangs, median, and expansion joints. The embedded galvanic anode system shall have sufficient mass of sacrificial metal to produce galvanic current for twenty (20) years.

655.02 References:

- A. ACI 222R (2001) Protection of Metals in Concrete Against Corrosion
- B. ASTM B6 Standard Specification for Zinc
- C. ASTM B69 (2001) Standard Specification for Rolled Zinc
- D. ASTM B418 Standard Specification for Cast and Wrought Galvanic Zinc Anodes
- E. SSPC-10 (1994) Near-White Blast Cleaning

655.03 Materials: Distributed galvanic units shall be alkali-activated zinc with nominal exterior dimensions of 1 3/4" diameter. The distributed anode unit shall consist of 1.2 lb/ft of zinc per lineal meter of anode. The zinc anode shall be manufactured in compliance with ASTM B 418 Type II (Z13000) and ASTM B69 Rolled Special High Grade Zinc (Z13004) using zinc in compliance with ASTM B6 Special High Grade (Z13001) with iron content less than 15 ppm. The zinc shall be alkali-activated with a pH greater than 14. The anode unit shall contain no constituents that are corrosive to reinforcing steel as per ACI 222R such as chlorides, bromides, or other halides. The anode unit shall be supplied with a minimum of two lead wires of sufficient length to make connections between anodes and the reinforcing steel.

The galvanic corrosion protection shall consist of anodes up to 7.5 feet in length tied continuously along the interface of the parent concrete. The anode units are connected immediately beneath and to the existing reinforcing steel as indicated on drawings with a minimum of 1 inches of clear concrete cover over the anode units. A maximum space of 6 inches should be allowed between ends of anodes.

Electrical connections between the galvanic anodes and the reinforcing steel shall be completed using uncoated steel wire and stainless steel split bolt fasteners where applicable. Any copper wire to steel wire connections must be isolated from the concrete using medium or heavy-walled adhesive-lined heat shrink tubing or 100% coated with epoxy.

655.04 Submittals: The Contractor shall submit cathodic protection specialist qualifications, installation shop drawings and product data for the galvanic anode system and monitoring instrumentation complete with fasteners intended for use on the project. The basis of design galvanic anode system is the Galvanode DAS distributed anode system supplied by Vector Corrosion Technologies, or approved equal.

Shop drawings showing the quantity of anodes in located in each section of concrete deck, typical galvanic corrosion protection system installation details, such as distributed anode installation locations, type and location of anode standoff spacers, and reinforcing connections shall be prepared by the Contractor and submitted for approval prior to any field installations.

The galvanic anode submittal shall include verification of the following information:

- A. The zinc anode is alkali-activated with a pH of 14 or greater.
- B. Calculations prepared by a NACE certified cathodic protection specialist showing the anode system delivers sufficient zinc to provide galvanic corrosion protection to the existing interior face reinforcing steel for a minimum of 20 years at a current density of at least 0.5 mA/square foot of steel surface area. The mass of zinc provided shall be at least 25% greater than the theoretical mass calculated based on Faradays law.
- C. The anode unit does not contain any corrosive constituents detrimental to reinforcing steel, e.g. chloride, sulfate, bromide, etc.
- D. Proven track record of the anode technology showing satisfactory field performance with a minimum of three projects of similar size and application.
- E. Independent third party evaluation of the anode technology, e.g. Hitec, Concrete Innovations Appraisal Service, BRE, etc.

655.05 Quality Control: Contractor shall enlist the services of a Cathodic Protection Specialist (CPS) certified by NACE International with a minimum of five (5) years of documented experience in the design and installation of cathodic protection systems for reinforced concrete. CPS qualifications submittal shall include his/her education, licensure, certifications, and a project reference list for the last five years. The project reference list shall include the project name, location, description, name of owner or client, and owner contact information (address, email, phone number).

The contractor shall coordinate its work schedule with the designated Cathodic Protection Specialist to allow for site support during project startup and initial anode installation.

The CPS shall be responsible for:

- A. Preparing anode calculations and review of shop drawings for compliance with design;
- B. Verification of reinforcing steel electrical continuity and electrical continuity corrections;
- C. Training workmen and DOT personnel on the anode installation process;
- D. Installation of the anode monitoring instrumentation;
- E. Preparing as-built revisions to the anode installation shop drawings;
- F. Preparing a letter report certifying that the system is installed in accordance with the plans and specifications.

655.06 Surface Preparation: Remove all concrete to the extents detailed on the plans. Thoroughly clean concrete surface by abrasive blasting, water blasting or similar approved methods to remove all oil, grease, dirt, loose concrete, and any other material that would prevent proper bonding prior to installing the galvanic anode system. Sandblast exposed reinforcing steel surfaces to SSPC-SP6 Commercial Blast Cleaning / NACE No. 3 before installing the galvanic anode system.

655.07 Electrical Continuity: The existing reinforcing steel shall be confirmed to be electrically continuous prior to anode installation. The CPS shall confirm electrical continuity of the reinforcing steel by conducting tests using a high impedance voltmeter. A difference between two test locations greater than 1 mV or 1 ohm shall be considered discontinuous. Any discontinuous steel may be corrected by resistance welding a solid steel wire or small diameter bars to adjacent continuous steel. Continuity corrections shall be verified by the CPS.

Electrical continuity between the reinforcing steel and galvanic anode system, and within the galvanic anode system, shall be confirmed by the CPS prior to form installation.

655.08 Method of Measurement: Embedded Cathodic Protection System will be measured for payment as one lump sum.

655.09 Basis of Payment: All associated labor, materials, tools and equipment necessary to complete the cathodic protection system shall be included in the lump sum cost.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
655.513 Embedded Cathodic Protection System	Lump Sum

**MaineDOT DBE Project Attainment Target (PAT)
for this Project is .051 %**

The MaineDOT seeks to meet the specified annual Disadvantaged Business Enterprise (DBE) usage goal set out by 49 CFR 26.45 through the efforts of contractors seeking to employ qualified DBE subcontractors. We seek to meet this goal by race neutral means and do not, at this time, use contract specific requirements for each project. We do however, understand the capacity of Maine's DBE community and the unique characteristics a project may have that would differ from the broad annual goal.

Taking this into consideration, the MaineDOT will review each project and develop an anticipated attainment or Project Attainment Target (PAT) based on several factors that are project specific. Those factors include:

- ☐ Scope of Work
- ☐ DBE availability according to Specification Item
- ☐ Geographic location
- ☐ DBE capacity

This PAT is developed to assist contractors to better understand the DBE participation that the MaineDOT can reasonably expect for a specific project. The PAT is NOT a mandate but an assessment of the DBE opportunities that this project could meet or exceed. MaineDOT anticipates that each contractor will make the best effort to reach or exceed the PAT for this project.

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PROTECTION OF RAILROAD TRAFFIC AND STRUCTURES SPECIAL PROVISIONS

1. GENERAL REQUIREMENTS

Part of the work required by the Contract will be performed within a railroad right of way and/or adjacent to the tracks, telephone, telegraph, signal and electric supply lines of a railroad or railroads. The Contractor agrees to perform all such work in compliance with all of the terms of this Special Provision and all safety rules, regulations, or standards applicable to the Railroad. The Contractor shall be fully responsible for all damages arising from his failure to comply with the requirements of this Special Provision. The Contractor shall be deemed to have included all costs in the unit prices of the Schedule of Prices and the Proposal.

2. AMOUNT OF RAILROAD WORK

The estimated amount of work to be done within (25 feet) of the track of Springfield Terminal Railroad is 1 % of the contract.

3. NUMBER OF TRAINS AND TRAIN SPEED

The Contractor is notified that a maximum speed of (10 mph) will be considered as prevailing for the operation of trains of the Railroad at this project and that the approximate number of trains per day at this project is 2.

4. PRIORITY OF RAILROAD OPERATIONS

The train movements of the Railroad, and its lessees, and licensees shall have absolute priority over the performance of the Construction Project within the railroad right of way. The Contractor hereby agrees that the hours and times of work within the Railroad right of way must be coordinated through the Railroad and that such hours and times are subject to change without prior notice to the Contractor, unless other prior arrangements have been made through the Railroad.

5. AUTHORITY OF RAILROAD TO STOP WORK

If the Contractor fails to comply with the safety terms of this Special Provision, or if the Chief Engineer of the Railroad determines that the Contractor is using unsafe practices that threaten the safety of rail traffic, rail workers, or the general public, the Railroad shall have the right to immediately order the Contractor to cease work and vacate the Railroad's property. The Railroad agrees to confirm any cessation of work in writing by

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delivering to the Department's Construction Manager a completed Stop Work Order form attached as Exhibit A within 24 hours of giving any such order.

6. ENTRY UPON RAILROAD PROPERTY

The Railroad hereby agrees to permit the Contractor, together with their subcontractors, suppliers, consultants and engineers (the "Contractor"), to enter upon the Railroad property for the purpose of performing the Construction Project, PROVIDED THAT the Contractor complies with all of the terms of this Special Provision and all safety requirements and directions of the Chief Engineer of the Railroad, or his authorized representative (the "Railroad's Chief Engineer").

7. NOTICE REQUIRED BEFORE ENTRY

The Contractor shall give written notice to the Railroad's Chief Engineer at least 7 calendar day(s) in advance of the time it proposes to do work within the limits of the Railroad right-of-way or perform operations that may create a Hazard as specified by this Special Provision. The Contractor shall give such notice regardless of whether the work may also be within the limits of a public highway.

8. HAZARDS

The Contractor shall assess to its own satisfaction hazards which may be caused by its operations. At a minimum, the Contractor agrees that the following shall constitute Hazards.

An operating track shall be considered fouled and subject to hazard when any object is brought nearer than (5 feet) to the gauge line of the near rail of the track.

A signal line or communication line shall be considered fouled and subject to hazard when any object is brought nearer than (4 feet) to any wire or cable.

An electric supply line shall be considered fouled and subject to hazard when any object is brought nearer than (10 feet) to any wire of the line.

Cranes, trucks, power shovels or any other equipment shall be considered as fouling and subjecting to hazard a track, signal line, communication or electric supply line when working in such position that failure of equipment, with or without load, could foul the track, signal line, communication or electric supply line.

Railroad operation will be considered subject to hazard when explosives are used in the vicinity of railroad premises, or during the driving or pulling of sheeting for any footing adjacent to a track, or when erecting structural steel adjacent to a track, or when performing work under, across or adjacent to a track, or when operations involve

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swinging booms or chutes that could in any way come nearer then (**15** feet) to the gauge line of the near rail of the track, or when erection or removal of staging, false work or forms fouls a track or wire line.

None of the operations specified as a Hazard above shall be carried on during the approach or passing of a train or without permission from the Railroad's Chief Engineer and the presence of a railroad inspector/flagman, unless other prior arrangements have been made through the Railroad.

9. MINIMUM CLEARANCES

During the construction of staging, false work or forms, the Contractor shall at all times maintain a minimum vertical clearance of (**22.5** feet) above the top of high rail and a minimum side clearance of (**10** feet) from the gauge line of the near rail where track is tangent. Additional side clearance must be maintained where track is on a curve.

10. WORK PLAN SUBMITTAL AND APPROVAL

The Contractor shall submit in writing to the Railroad's Chief Engineer or duly authorized representative, and the Department's Railroad Property Manager or his appointed representative, at least **30** calendar day(s) in advance of the start of the project, an outline of his plan for work within the Railroad right of way including contemplated method(s) of construction. This plan must meet with the approval of the Railroad's Chief Engineer and the Department's Railroad Property Manager in every respect. If the Contractor contemplates the use of "on the track equipment", it should so state and obtain from the Railroad the conditions pertaining to such operations. All Railroad costs included in this operation will be borne by the Contractor. In a like manner, any of the Contractor's equipment or material on cars for this project shall be handled in conformance with existing traffic rules with all costs borne by the Contractor.

Prior to submitting their Proposal, the Contractor shall have ascertained from the Railroad and from the Department's Railroad Property Manager or his appointed representative, all information relating to its requirements and regulations and all costs in connection with compliance thereto.

11. EXCAVATIONS

Before excavation for footings adjacent to tracks and/or within the Railroad's right-of-way may commence, whether or not also within the limits of a public highway, plans and calculations for such excavations, prepared by a Professional Engineer authorized to practice in Maine, shall be submitted to the Railroad's Chief Engineer for review and approval. Unless other prior arrangements have been made, the Railroad's Chief Engineer shall have **2** week(s) to perform such review and approval and issue a written

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permission to proceed with the excavation. No excavation shall proceed without such permission.

At a minimum, excavations must utilize proper bracing, shoring, sheeting or other support as determined by the Railroad's Chief Engineer, to support the tracks with railroad traffic. Open excavation shall be suitably planked over when construction operations are not in progress. No excavation work shall be performed by the Contractor within the limits of the Railroad right of way, whether or not also within the limits of a public highway, until the Contractor has ascertained from the Chief Engineer of the Railroad the location of any wires, conduits, pipes, cables or other railroad facilities below the surface of the ground. Damage to any such facilities caused by the failure of the Contractor to ascertain the location of such facilities or by failure to use due care to avoid injury to such facilities shall be at the expense of the Contractor.

12. EQUIPMENT

Equipment of the Contractor shall be in such condition so as to prevent failure that would cause delay in the operation of trains or damage to railroad facilities. Equipment shall not be placed or put in operation adjacent to a track without first obtaining permission of the Railroad. The Railroad agrees that such permission shall not be unreasonably withheld.

13. RAILROAD SERVICES - GENERALLY

When work is to be performed within the Railroad's right-of-way, the Railroad shall provide the services, equipment and materials provided in this Special Provision including, but not limited to, engineering, flagging, inspection, signal protection and/or relocation, and restoration or replacement of the Railroad's track structure or ballast. Further, if the Railroad's Chief Engineer determines that the Contractor's operations do not comply with all of the safety requirements of this Special Provision and all safety requirements and directions of said Chief Engineer, the Railroad will employ the necessary qualified employees to protect its trains and other facilities. The Contractor shall pay to the Railroad the cost for performing all Railroad Services unless said costs are to be paid by the Department as specified in this Special Provision.

14. INSPECTION / FLAGGING

The Railroad shall furnish and assign all inspectors / flaggers for general inspection purposes of general protection of railroad property and operations during construction as the Railroad's Chief Engineer determines are necessary to preserve safety.

(a) Responsibility for Cost. The Department will bear the cost of flagging or inspection (including travel time) or any combination thereof up to **20** man days of said flagging or inspection. If, in the opinion of the Railroad's Chief Engineer, further

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services of a flagger or inspector will be required due to the operations of the Contractor, the services will be furnished and the cost thereof (salary, expenses, insurance, taxes and vacation allowance, etc.) shall be paid to the Railroad by the Department, and will be recovered by the Department from the Contractor.

(b) Terms. The minimum hours per day for the Railroad employees engaged in inspection flagging services shall be eight (8) hours. Time at rates for straight time, overtime or for deadheading starts in accordance with established practices in effect in the territory in which the project is located. Information as to these practices should be obtained from the Railroad's Chief Engineer.

The Contractor shall notify the Railroad's Chief Engineer and the Chief Engineer of the Department in writing 7 calendar day(s) before beginning, resuming or suspending work within (25 feet) of the track, so that an inspector may be provided or removed in accordance with the requirements of this Special Provision. An inspector may be removed upon 3 calendar day(s) notice. Failure to give notice of intent to suspend work shall be cause of charge to the Contractor the cost of inspection during the period when work is suspended.

(c) Estimated Cost. The following is an estimate of the cost per day of inspection/flagging necessary for this project. The rates shown include all overhead charges, travel time, deadheading and personal expenses.

Date of estimate 2/11/2018

Estimated daily rate for eight (8) consecutive hours Monday-Friday (straight time):
\$341.00

Estimated daily rate for eight (8) consecutive hours Saturday, Sunday, Holiday (overtime):
\$512.00

Estimated rate for hours worked in excess of eight (8) hours in any one day: **\$64.00/hour**

Rates charged will be those in effect at the time of the performing the inspection/flagging which may be different than the rates used at the date of the Estimate. The Railroad agrees to notify the Department if rates used to calculate the above estimates change before the date of bids are received for this Contract.

(d) Definitions.

Man day (M.D.) - eight (8) consecutive hours or any portion thereof.

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Overtime - Each additional hour or fraction thereof consecutive to and beyond the standard man day will count as 3/16 of a man day.

Standard Man day - Eight (8) consecutive hour, Monday - Friday between the hours of 7 a.m. to 3:30 p.m. unless otherwise noted and agreed to by all parties.

Travel Time - Time required by flagger and/or inspector to commute between his or her point of headquarters to the project site. This time shall not be charged in determining available man days.

15. OTHER CONTRACTOR RESPONSIBILITIES

The restoring and resurfacing of tracks, if disturbed due to Contractor's operations, shall be at the expense of the Contractor.

Any other changes made or services furnished by the Railroad as a result of the Contractor will be at the Contractor's expense.

16. EXTRA-CONTRACT SERVICES

Temporary and permanent changes of tracks and telephone, signal and electric supply lines made necessary by or to clear the permanent work of the Contractor as shown on the construction plans and included in the Railroad force account as recollectable from the State will be made or caused to be made by the Railroad without expense to the Contractor.

17. INDEMNIFICATION

Where work is being performed over, under, across or adjacent to Railroad premises, the Contractor shall defend, indemnify and save harmless the Railroad and the Maine Department of Transportation from and against any and all loss, cost, damage, claims, suits, demands, or liability for damages for personal injury including death and for damage to property, which may arise from or out of the operations conducted under his contract, occurring by reason of any act or omission of the Contractor, his agents, servants or employees, or by reason of any act or omission of any subcontractor, his agents, servants or employees.

18. INSURANCE

In addition to any other forms of insurance or bonds required under the terms of the Contract, the Contractor will be required to procure and maintain, at its sole cost and expense, the following insurance coverages naming the Railroad as an insured.

Town: **Kittery**
Route: **Route I-95**
WIN: **19270.00**
Date: **11/13/18**

(a) Railroad Protective Liability Insurance with limits not less than **\$2Million** per single occurrence and **\$6Million** per aggregate total occurrences.

(b) Comprehensive General Liability Insurance protecting against liability from bodily injury or property damage arising out of the Construction Project with limits of not less than **\$2Million** per single occurrence and **\$6Million** per aggregate total occurrences.

(c) Workers Compensation and Occupational Disease Insurance, as required by law.

(d) Automobile Liability Insurance covering all motor vehicles used about or in connection with the Construction Project.

If any part of the work is sublet, these insurance coverages shall be provided by or on behalf of the subcontractors to cover their operations

Each policy shall carry an endorsement covering the “save harmless” clause in favor of the Railroad and the Maine Department of Transportation, as set forth in the paragraph, “Responsibility for Damage Claims”.

If blasting is to be done in the vicinity of the Railroad, the insurance policies shall include such coverage.

The policies shall be in force before any work is done on the project and shall remain in effect until all work required to be performed under the terms of the contract is satisfactorily completed as evidenced by the formal acceptance by the State and the Railroad.

Before any work is done on the project, the Department of Transportation and the Railroad's Chief Engineer shall be furnished certificates of each policy. Further, the original policy of the Comprehensive General Liability Insurance and the Railroad Protective Liability Insurance shall be furnished to the Railroad's Chief Engineer and a duplicate shall be furnished to the Department of Transportation.

The policy or policies of the Railroad's protective public liability and property damage liability shall be written by a Company authorized to do business in the State of Maine, and shall be signed by the President and Secretary of the Insurance Company and shall be countersigned by an authorized representative of the Company.

19. ROADWAY WORKER SAFETY REGULATION

Notice to all Contractors/Subcontractors and individuals must be aware of the Federal Roadway Worker Safety Regulation, CFR 49, Part 214(c). They may be required to comply with this regulation. Any requirements for them to comply will be discussed at the pre-construction utility meeting.

Town: **Kittery**
Route: **Route I-95**
WIN: **19270.00**
Date: **11/13/18**

EXHIBIT A
ORIGINAL TO CONTRACTOR

MDOT/RAILROAD STOP WORK ORDER

Section A - Contractor	Town
	DOT Railroad Project #
Railroad Name	Location
	Notice #
DESCRIPTION OF SAFETY HAZARD/REASON FOR ORDER	
Standard Violated	RAC (Risk Assessment Code)
	N/R
Railroad Official (Flagger/Inspector) Name	Date
Signature	
SECTION B - ACTION TAKEN:	

cc: MDOT - R.E. or Inspector
MDOT - Utility Section
MDOT - Construction Division
Railroad - Chief Engineer

Town: **Kittery**
Route: **Route I-95**
WIN: **19270.00**
Date: **11/13/18**

1. **Risk Assessment.** Each identified/validated hazard shall be assigned a Risk Assessment Code (RAC) by the Safety Office. The RAC represents the degree of risk associated with the deficiency and combines the elements of hazard severity and mishap probability. The RAC is derived as follows:

a. **Hazard Severity.** The hazard severity is an assessment of the worst potential consequence: Defined by degree of injury, occupational illness, or property damage, which is likely to occur as a result of a deficiency. Hazard severity categories shall be assigned by roman numeral according to the following criteria.

(1) **Category I - Catastrophic:** The hazard may cause death or loss of a facility.

(2) **Category II - Critical:** May cause severe injury, severe occupational illness, or major property damage.

(3) **Category III - Marginal:** May cause minor injury, minor occupational illness, or minor property damage.

(4) **Category IV - Negligible:** Probably would not affect personnel safety or health, but is nevertheless in violation of a NAVOSH standard.

b. **Mishap Probability.** The mishap probability is the probability that a hazard will result in a mishap, based on an assessment of such factors as location, exposure in terms of cycles or hours of operation, and affected population. Mishap probability shall be assigned an Arabic letter according to the following criteria:

(1) Sub-category A - Likely to occur immediately or within a short period of time.

(2) Sub-category B - Probably will occur in time.

(3) Sub-category C - May occur in time.

(4) Sub-category D - Unlikely to occur.

c. **Risk Assessment Code.** The RAC is an expression of risk which combines the elements of hazard severity and mishap probability. Using the matrix shown below, the RAC is expressed as a single Arabic number that can be used to help determine hazard abatement priorities.

	Mishap Probability					RAC
		A	B	C	D	1 - Critical
Hazard Severity	I	1	1	2	3	2 - Serious
	II	1	2	3	4	3 - Moderate
	III	2	3	4	5	4 - Minor
	IV	3	4	5	5	5 - Negligible

STANDARD DETAIL UPDATES

Standard Details and Standard Detail updates are available at:
<http://maine.gov/mdot/contractors/publications/standarddetail/>

<u>Detail #</u>	<u>Description</u>	<u>Revision Date</u>
501(02)	Pipe Pile Splice	3/05/2015
501(03)	H – Pile Splice	3/05/2015
504(07)	Diaphragm & Cross Frame Notes	10/13/2015
504(10)	Drip Bar Details	9/06/2017
505(01)	Shear Connectors	10/24/2016
507(13)	Steel Bridge Railing	6/03/2015
507(14)	Steel Bridge Railing	6/03/2015
507(31)	Barrier – Mounted Steel Bridge	8/06/2015
526(02)	Temporary Concrete Barrier	2/01/2015
526(02)	Temporary Concrete Barrier	2/01/2018
609(9)	Concrete Slip Form Curb	5/06/2018
626(07)	Conduit Trench for Traffic Signals, Highway Signing and Lighting	5/17/2018
645(06)	H-Beam Posts Highway Signing	1/09/2018
652(06)	Construction Signs	10/24/2016
652(12)	Construction Traffic Control	10/24/2016
802(05)	Roadway Culvert End Slope Treatment	1/03/2017

SUPPLEMENTAL SPECIFICATIONS
(Corrections, Additions, & Revisions to Standard Specifications - November 2014)

SECTION 101
CONTRACT INTERPRETATION

101.1 Abbreviations Revise the definition of AWP to “**American Wood Protection Association**”.

101.2 Definitions

Page 1-5 – Remove the definition of Bridge in its entirety and replace with:

“Bridge A structure that is erected over a depression or an obstruction, such as water, a highway or a railway, and has an opening measured along the centerline of the Roadway of more than 20 feet between: The faces of abutments; spring line of arches; extreme ends of openings of box culverts, pipes or pipe arches; or the extreme ends of openings for multiple box culverts, pipes or pipe arches.”

Page 1-12 – Remove the definition of Large Culvert in its entirety and replace with:

“Large Culvert Any structure not defined as a Culvert or Bridge that provides a drainage or non-drainage opening under the Roadway or Approaches to the Roadway, with an opening that is 5 feet but less than 10 feet.”

Remove the definition of Minor Span in its entirety and replace with:

“Minor Span Same definition as Bridge, except having an opening of between 10 feet and 20 feet, inclusive.”

SECTION 103
AWARD AND CONTRACTING

Amend this Section by adding the following:

“103.1a Tie Bids - In the case where two responsive bids from responsible bidders are equal monetarily, the Department shall determine the apparent low bidder by flipping a coin. The coin shall have sides clearly marked as heads and tails. The contractor whose first letter in their official company name that comes first in the alphabet shall be heads.

If there are three bids, each bidder will flip the coin and the bidder with the odd toss will be the winner. (i.e. if the results are two heads and a tails, the bidder who had tails is the winner). For a three way tie, bidders may flip their own coin or have the Contracts Engineer flip for them.

The coin flip will occur at the next bid opening by the Contracts and Specifications Engineer or a designee. The tied bidders may attend the coin flip in person or watch on the internet as they choose.”

In 103.3.2 Notice of Determination Revise this section by removing sections A – M and replacing with the following A - K:

(A) Default(s) or termination(s) on past or current Contracts.

**(B) Failure on past or current Contracts to pay or settle all bills for labor, Materials or services;
to comply with directives of the Department, to fulfill warranty obligations, or to provide Closeout Documentation.**

(C) "Below Standard" performance as determined from the Department's Contractor's Performance Rating process.

(D) Insufficient bonding capability or Inability of the Contractor to obtain or retain performance or Payment Bonds meeting MDOT requirements, or a pattern of unsupported Claims.

(E) Failure to accept an Award of a Contract made by the Department.

(F) Failure to provide information requested by the Department in a timely manner.

(G) Debarment, suspension or a denial of prequalification or 'award of contract' by any federal, State, or local governmental procurement agency or the Contractor's Agreement to refrain from Bidding as part of the settlement with any such agencies or any of the reasons contained in Section 102.02 of the "Rules Regarding Debarment of Contractors", Maine Department of Transportation Register 17-229, Chapter 102 (October 2, 1985).

(H) Failure to demonstrate ability to do work to the satisfaction and at the sole discretion of the Department.

(I) Number of personnel working directly for the Contractor with applicable knowledge and experience is significantly below industry standards.

(J) Safety Record, Environmental Record, Civil Rights or Equal Opportunity Record significantly below industry standards.

(K) Serious misconduct that the Department reasonably determines will substantially and adversely affect the cost, quality or timeliness of Work, or the safety of Workers or the public, any deceptive, evasive or fraudulent statements or omissions contained in the Application, made or omitted at any interview or hearing, or otherwise made to or omitted from the Department; or any other substantial deficiencies in experience or conduct that are clearly below industry standards and that clearly demonstrate in the sole discretion of the Department, that the Contractor is "Not Qualified".

SECTION 104

GENERAL RIGHTS AND RESPONSIBILITIES

This Section shall be amended by adding the following two sub-sections:

104.3.8.1 Electronic Payroll Submission On federally funded projects the prime contractor, all subcontractors, and lower-tier subcontractors will submit their certified payrolls electronically utilizing the Elations system. There is no charge to the contracting community for the use of this service. The submission of paper payrolls will not be allowed or accepted. Additional information can be found at <http://www.maine.gov/mdot/contractors/> under the “Bidder Info” go to “Electronic Payroll System.”

104.3.8.2 Payment Tracking On federally funded projects the prime contractor and all subcontractors and lower-tier subcontractors will track and confirm the delivery and receipt of all payments through the Elation System

104.4.10 Coordination of Road Closure / Bridge Closure / Bridge Width Restrictions

Revise the last sentence by adding a period after ‘Resident’; remove the “and” after Resident; and adding “**not covered by Pay Items**” between ‘costs’ and ‘will’. So that the last paragraph reads “**All Newspaper notices, radio announcements and any notifications will be subject to the approval of the Resident. All costs not covered by Pay Items will be considered incidental to the Contract.**”.

104.5.5 Prompt Payment of Subcontractors Add the following paragraph to this subsection:

C. Payment Tracking Federal Projects On federally funded projects, the prime contractor, subcontractors and lower-tier subcontractors will track and confirm the delivery and receipt of all payments through the Elation System. They will be responsible for entering all payments to all sub and lower tier contractors. MaineDOT will run a query monthly to ensure that contractors are complying and generate an e-mail to contractors who have not responded to confirm receipt of MaineDOT payment or contractor payment to lower tier subcontractors.

SECTION 105

GENERAL SCOPE OF WORK

105.2.5 Compliance with Health and Safety Laws Remove the second paragraph of this subsection in its entirety and replace with:

“For related provisions, see Sections 105.2.3 – Project Specific Emergency Planning, 105.3 – Traffic Control and Management and 105.4 – Maintenance of work.”

105.4.5 Special Detours Remove this subsection in its entirety and replace with:

“105.4.5 Maintenance of Existing Structures When a new Bridge or Minor Span is being installed on a new alignment and the existing structure is to remain in service, the Department will maintain the existing structure and the portions of the roadway required for maintaining traffic until such time that the new structure is opened to traffic and the existing structure is taken out of service. A similar situation exists when a new Bridge or Minor Span is being installed on the same alignment as the existing structure, requiring a temporary detour to be installed by the Contractor per Section 510, Special Detours, prior to removal of the existing structure. In this case, the Department will maintain the existing structure and the portions of the existing roadway required for maintaining traffic until such time that either the temporary detour is opened to traffic or the Contractor begins any work on the existing structure, including, but not limited to, repairs, modifications, moving, demolition or removal. In either case, once the new structure or temporary detour is opened to traffic, or the Contractor begins any work on the existing structure, the Contractor shall be solely responsible for all maintenance of the existing structure and the portions of the existing approaches that lie outside the new roadway or the temporary detour, respectively. This specification is not intended to supersede Standard Specification Section 104.3.11, Responsibility for Property of Others.”

105.6.2.4 Department Verification Add the following to the end of the first sentence: **“or other approved method, such as reference staking, to allow the Department to independently verify the accuracy of the work, as approved by the Department.”**

SECTION 106 **QUALITY**

106.3.4 Storage Revise this Section by adding the following sentence after the first sentence: **“Materials shall not be stored under or in close proximity to Highway Structures unless the Contractor receives written permission from the Resident.”**

106.4.1 General - In the first sentence, remove “When required by Special Provision,” and replace with **“When required elsewhere in the Contract,”**

Revise Subsection C by replacing the last sentence with the following:

Approval of both standard and project specific QCPs shall be as outlined in paragraph B above, with the exception that the initial 14 day review period for standard plans will begin on March 1, and that the supplemental project specific QCP for the project shall be submitted a minimum of 14 days prior to any related work being performed with an initial review period of 7 days.

SECTION 107 **TIME**

107.7.2 SCHEDULE OF LIQUIDATED DAMAGES

Revise this section by removing the numbers in the chart and replace with the following:

Original Contract Amount		Per Diem Amount of Liquidated Damages	
From More Than	To and Including	Calendar Day	
\$ 0	to \$ 100,000.00		\$250.00
\$ 100,000.00	to \$ 250,000.00		\$500.00
\$ 250,000.00	to \$ 500,000.00		\$650.00
\$ 500,000.00	to \$1,000,000.00		\$800.00
\$1,000,000.00	to \$2,000,000.00		\$1,000.00
\$2,000,000.00	to \$4,000,000.00		\$1,200.00
\$4,000,000.00	and More		\$2,100.00

SECTION 108 **PAYMENT**

108.3 Retainage - Remove the paragraph beginning with “ The Contractor may withdraw...” in its entirety.

108.4.1 Price Adjustment for Hot Mix Asphalt:

Remove this section in its entirety and replace with the following

For all contracts with hot mix asphalt in excess of 500 tons total, a price adjustment for performance graded binder will be made for the following pay items:

Item 403.102	Hot Mix Asphalt – Special Areas
Item 403.206	Hot Mix Asphalt - 25 mm
Item 403.207	Hot Mix Asphalt - 19 mm
Item 403.2071	Hot Mix Asphalt - 19 mm (Polymer Modified)
Item 403.2072	Hot Mix Asphalt - 19 mm (Asphalt Rich Base)
Item 403.208	Hot Mix Asphalt - 12.5 mm
Item 403.2081	Hot Mix Asphalt - 12.5 mm (Polymer Modified)
Item 403.209	Hot Mix Asphalt - 9.5 mm (sidewalks, drives, & incidentals)
Item 403.210	Hot Mix Asphalt - 9.5 mm
Item 403.2101	Hot Mix Asphalt - 9.5 mm (Polymer Modified)
Item 403.2102	Hot Mix Asphalt - 9.5 mm (Asphalt Rich Base)

Item 403.2104	Hot Mix Asphalt - 9.5 mm (Thin Lift Surface Treatment)
Item 403.21041	Hot Mix Asphalt - 9.5 mm (Polymer Modified Thin Lift Surface Treatment)
Item 403.211	Hot Mix Asphalt – Shim
Item 403.2111	Hot Mix Asphalt – Shim (Polymer Modified)
Item 403.212	Hot Mix Asphalt - 4.75 mm (Shim)
Item 403.213	Hot Mix Asphalt - 12.5 mm (base and intermediate course)
Item 403.2131	Hot Mix Asphalt - 12.5 mm (base and intermediate course Polymer Modified)
Item 403.2132	Hot Mix Asphalt - 12.5 mm (Asphalt Rich Base and intermediate course)
Item 403.214	Hot Mix Asphalt - 4.75 mm (Surface)
Item 403.235	Hot Mix Asphalt (High Performance Rubberized HMA)
Item 403.301	Hot Mix Asphalt (Asphalt Rubber Gap-Graded)
Item 404.70	Colored Hot Mix Asphalt – 9.5mm (Surface)
Item 404.72	Colored Hot Mix Asphalt – 9.5mm (Islands, sidewalks, & incidentals)
Item 461.13	Light Capital Pavement
Item 461.210	9.5 mm HMA - Paver Placed Surface
Item 462.30	Ultra-Thin Bonded Wearing Course
Item 462.301	Polymer Modified Ultra-Thin Bonded Wearing Course

Price adjustments will be based on the variance in costs for the performance graded binder component of hot mix asphalt. They will be determined as follows:

The quantity of hot mix asphalt for each pay item will be multiplied by the performance graded binder percentages given in the table below times the difference in price between the base price and the period price of asphalt cement. Adjustments will be made upward or downward, as prices increase or decrease.

Item 403.102–6.2%
Item 403.206–4.8%
Item 403.207–5.2%
Item 403.2071–5.2%
Item 403.2072–5.8%
Item 403.208–5.6%
Item 403.2081–5.6%
Item 403.209–6.2%
Item 403.210–6.2%
Item 403.2101–6.2%
Item 403.2102–6.8%
Item 403.2104–6.2%
Item 403.21041–6.2%
Item 403.211–6.2%
Item 403.2111–6.2%
Item 403.212–6.8%
Item 403.213–5.6%
Item 403.2131–5.6%

Item 403.2132–6.2%
Item 403.214–6.8%
Item 403.235–5.5%
Item 403.301–6.2%
Item 404.70–6.2%
Item 404.72–6.2%
Item 461.13–6.5%
Item 461.210 – 6.4%
Item 462.30–0.0021 tons/SY
Item 462.301–0.0021 tons/SY

Hot Mix Asphalt: The quantity of hot mix asphalt will be determined from the quantity shown on the progress estimate for each pay period.

Base Price: The base price of performance graded binder to be used is the price per standard ton current with the bid opening date. This price is determined by using the average New England Selling Price (Excluding the Connecticut market area), as listed in the Asphalt Weekly Monitor.

Period Price: The period price of performance graded binder will be determined by the Department by using the average New England Selling Price (Excluding the Connecticut market area), listed in the Asphalt Weekly Monitor current with the paving date. The maximum Period Price for paving after the adjusted Contract Completion Date will be the Period Price on the adjusted Contract Completion Date.

SECTION 109 **CHANGES**

109.5.1 Definitions - Types of Delays

Delete Paragraph 'A' in its entirety and replace with:

"A. Excusable Delay Except as expressly provided otherwise by this Contract, an "Excusable Delay" is a Delay to the Critical Path that is directly and solely caused by (1) a weather related Event of such an unusually severe nature that a Federal Emergency Disaster is declared. The Contractor will only be entitled to an adjustment of time if the Project falls within the geographic boundaries prescribed under the disaster declaration. or (2) a flooding event at the effected location of the Project that results in a Q25 headwater elevation, or greater, but less than a Q50 headwater elevation. Theoretical headwater elevations will be determined by the Department; actual headwater elevations will be determined by the Contractor and verified by the Department or (3) An Uncontrollable Event."

SECTION 110 **INDEMNIFICATION, BONDING AND INSURANCE**

110.3.9 Administrative & General Provisions

B. Defense of Claims Amend this section by adding the following sentence to the end:
“The Contractor’s insurer shall name the Department of Transportation as a released party (Releasee”) on any release or settlement agreement for settled claims.”

APPENDIX A TO DIVISION 100

Remove Section D in its entirety as this is now covered in Section 105.10 EQUAL OPPORTUNITY AND CIVIL RIGHTS.

SECTION 203
EXCAVATION AND EMBANKMENT

203.02 Materials

At the bottom of page 2-12, add as the first item in the list:

Crushed Stone, ¾ inch 703.13

203.042 Rock Excavation and Blasting

On page 2-16, add the word **“No”** to the third sentence in Section 5 Submittals, Subsection V, 1 so that it reads:

“No blasting products will be allowed on the job site if the date codes are missing.”

203.09 Preparation of Embankment Area Revise the first sentence of the second paragraph so that it reads:

“When fill material is placed against existing slopes or previously placed fill, the interface shall be continuously benched by excavating steps of sufficient width to permit operations of placing and compacting the additional material.”

SECTION 304
AGGREGATE BASE AND SUBBASE COURSE

304.02 – Aggregate Add the following sentence before the sentence starting with “When designated on the plans...”: **“Aggregate Base Course – Type C will be capped with 2” of millings or Untreated Aggregate Surface Course – Type B. Payment for this material will be made under 304.16”**

Revise the sentence beginning “When designated on the Plans, Type E...” by removing “When designated on the Plans,” so it reads **“Type E subbase may be used 9 inches below and lower beneath the pavement.”**

SECTION 307
FULL DEPTH RECYCLED PAVEMENT

Remove this Section in its entirety and replace with:

SECTION 307
FULL DEPTH RECYCLING
(UNTREATED OR TREATED WITH EMULSIFIED ASPHALT STABILIZER)

307.01 Description This work shall consist of pulverizing a portion of the existing roadway structure into a homogenous mass, adding an emulsified asphalt stabilizer (if required) to the depth of the pulverized material specified in the contract, placing and compacting this material to the lines, grades, and dimensions shown on the plans or established by the Resident.

MATERIALS

307.02 Pulverized Material Pulverized material shall consist of the existing asphalt pavement layers and one inch or more as specified of the underlying gravel, pulverized and blended into a homogenous mass. Pulverized material will be processed to 100% passing a 2 inch square mesh sieve.

307.021 New Aggregate and Additional Recycled Material New aggregate, if required by the contract, shall meet the requirements of Subsection 703.10 - Aggregate for Untreated Surface Course and Leveling Course, Type A. Aggregate Subbase Course Gravel Type D processed to 100 percent passing a 2 inch square mesh sieve and meeting the requirements of 703.06 – Aggregate for Base and Subbase may be used in areas requiring depths greater than 2 inches. New aggregate, will be measured and paid for under the appropriate item.

Recycled material, if required, shall consist of salvaged asphalt material from the project or from off-site stockpiles that has been processed before use to 100 percent passing a 2 inch square mesh sieve. Recycled material shall be conditionally accepted at the source by the Resident. It shall be free of winter sand, granular fill, construction debris, or other materials not generally considered asphalt pavement.

Recycled material generated and salvaged from the project shall be used within the roadway limits to the extent it is available as described in 307.09. No additional payment will be made for material salvaged from the project.

Recycled material supplied from off-site stockpiles shall be paid for as described in the contract, or by contract modification.

307.022 Emulsified Asphalt Stabilizer. If required, the emulsified asphalt stabilizer shall be grade MS-2, MS-4, SS-1, or CSS-1 meeting the requirements of Subsection 702.04 Emulsified Asphalt.

307.023 Water Water shall be clean and free from deleterious concentrations of acids, alkalis, salts or other organic or chemical substances.

307.024 Portland Cement If required, Portland Cement shall be Type I or II meeting the requirements of AASHTO M85.

307.025 Hydrated Lime If required, Hydrated Lime shall meet the requirements of AASHTO M216.

EQUIPMENT

307.03 Pulverizer The pulverizer shall be a self-propelled machine, specifically manufactured for full-depth recycling work and capable of reducing the required existing materials to a size that will pass a 2 inch square mesh sieve. The machine shall be equipped with standard automatic depth controls and must maintain a consistent cutting depth and width. The machine also shall be equipped with a gauge to show depth of material being processed.

307.04 Liquid Mixer Unit or Distributor. If treatment of the recycled layer with emulsified asphalt is required by the contract, a liquid mixing unit or distributor shall be used to introduce the emulsified asphalt stabilizer into the pulverized material. The mixing unit shall contain a liquid distribution and mixing system which has been specifically manufactured for full-depth recycling work, capable of mixing the pulverized material with an evenly metered distribution of emulsified asphalt into a homogeneous mixture, to the depth and width required.

The mixing unit shall be designed, equipped, maintained, and operated so that emulsified asphalt stabilizer at constant temperature may be applied uniformly on variable widths of pulverized material up to 6 feet at readily determined and controlled rates from 0.01 to 1.06 gal/yd² with uniform pressure and with an allowable variation from any specified rate not to exceed 0.01 gal/ yd². Mixing units shall include a tachometer, pressure gages, and accurate volume measuring devices or a calibrated tank and a thermometer for measuring temperatures of tank contents.

307.041 Cement or Lime Spreader If required by the contract, spreading of the Portland Cement or Hydrated Lime shall be done with a spreader truck designed to spread dry particulate (such as Portland Cement or Lime) or other approved means to insure a uniform distribution across the roadway and minimize fugitive dust. Pneumatic application, including through a slotted pipe, will not be permitted. Other systems that have been developed include fog systems, vacuum systems, etc. Slurry applications may also be accepted. The Department reserves the right to accept or reject the method of spreading cement. The Contractor shall provide a method for verifying that the correct amount of cement is being applied.

307.05 Placement Equipment Placement of the Full Depth recycled material to the required slope and grade shall be done with an approved highway grader or by another method approved by the Resident.

307.06 Rollers The full depth recycled material shall be rolled with a vibratory pad foot roller, a vibratory steel drum soil compactor and a pneumatic tire roller. The pad foot roller drum shall have a minimum of 112 tamping feet 3 inches in height, a minimum contact area per foot of 17 inch², and a minimum width of 84 inches. The vibratory steel drum roller shall have a

minimum 84 inch width single drum. The pneumatic tire roller shall meet the requirements of Section 401.10 and the minimum allowable tire pressure shall be 85 psi.

MIX DESIGN

If treatment of the recycled layer with emulsified asphalt is required by the contract, the Department will supply a mix design for the emulsified asphalt stabilized material based on test results from pavement and soil analysis taken to the design depth. The Department will provide the following information prior to construction:

1. Percent of emulsified asphalt to be used.
2. Quantity of lime or cement to be added.
3. Optimum moisture content for proper compaction.
4. Additional aggregate (if required).

After a test strip has been completed or as the work progresses, it may be necessary for the Resident to make necessary adjustments to the mix design. Changes to compensation will be in accordance with the Mix Design Special Provision.

CONSTRUCTION REQUIREMENTS

307.06 Pulverizing The entire depth of existing pavement shall be pulverized together with 1 inch or more of the underlying gravel into a homogenous mass. All pulverizing shall be done with equipment that will provide a homogenous mass of pulverized material, processed in-place, which will pass a 2 inch square mesh sieve.

307.07 Weather Limitations Full depth recycled work shall be performed when;

- A. Recycling operations will be allowed between May 15th and September 15th inclusive in Zone 1 - Areas north of US Route 2 from Gilead to Bangor and north of Route 9 from Bangor to Calais. Recycling will be allowed between May 1st and September 30th inclusive in Zone 2 - Areas south of Zone 1 including the US Route 2 and Route 9 boundaries.
- B. The atmospheric temperature, as determined by an approved thermometer placed in the shade at the recycling location, is 50°F and rising.
- C. When there is no standing water on the surface.
- D. During generally dry conditions, or when weather conditions are such that proper pulverizing, mixing, grading, finishing and curing can be obtained using proper procedures, and when compaction can be accomplished as determined by the Resident.
- E. When the surface is not frozen and when overnight temperatures are expected to be above 32°F.
- F. Wind conditions are such that the spreading of lime or cement on the roadway ahead of the recycling machine will not adversely affect the operation.

307.08 Surface Tolerance The complete surface of the Full Depth Recycled course shall be shaped and maintained to a tolerance, above or below the required cross sectional shape, of $\frac{3}{8}$ inch.

307.09 Full Depth Recycling Procedure New aggregate or recycled material meeting the requirements of Section 307.021 - New Aggregate and Additional Recycled Material, shall be added as necessary to restore cross-slope and/or grade before pulverizing. Locations will be shown on the plans or described in the construction notes. The Resident may add other locations while construction of the project is in progress. The Contractor will use recycled material to the extent it is available, in lieu of new aggregate. The material shall then be pulverized, processed, and blended into a homogeneous mass passing a 2 inch square mesh sieve. Material found not pulverized down to a 2 inch size will be required to be reprocessed by the recycler with successive passes until approved by the Resident.

Should the Contractor be required to add new aggregate or recycled material to restore cross-slope and/or grade after the initial pulverizing process, those areas will require re-processing to blend into a homogenous mass passing a 2 in square mesh sieve.

Sufficient water shall be added during the recycling process to maintain optimum moisture for compaction.

The resultant material from the initial pulverizing processes shall be graded and compacted to the cross-slope and profile shown on the plans or as directed by the Resident. The Contractor will also be responsible for re-establishing the existing profile grade. The completed surface of the full depth recycled course shall be shaped and maintained to a tolerance, above or below the required cross sectional shape, of $\frac{3}{8}$ inch. Areas not meeting this tolerance will be repaired as described in Section 307.091. The initial pulverizing process density requirements will be the same as Section 307.101 unless otherwise directed by the Resident.

Additives, if required, shall be introduced following completion of the initial pulverizing and blending process. Emulsified asphalt stabilizer shall be incorporated into the top of the processed material as specified in section 307.04 to the depth specified in the contract by use of the liquid mixer unit or a distributor, at the rate specified in the mix design. The emulsified asphalt shall then be uniformly blended into a homogeneous mass until an apparent uniform distribution has occurred. The rate of application may be adjusted as necessary by the Resident. Cement or lime shall be introduced as described in section 307.041. The resultant material shall be graded and compacted to the cross-slope and profile shown on the plans or as directed by the Resident. The Contractor will also be responsible for re-establishing the existing profile grade.

After final compaction, the roadway surface shall be treated with a light application of water, and rolled with pneumatic-tired rollers to create a close-knit texture. The finished layer shall be free from:

- A. Surface laminations.
- B. Segregation of fine and coarse aggregate.
- C. Corrugations, centerline differential, potholes, or any other defects that may adversely

affect the performance of the layer, or any layers to be placed upon it. The Contractor shall protect and maintain the recycled layer until a lift of pavement is applied. Any damage or defects in the layer shall be repaired immediately. An even and uniform surface shall be maintained. The recycled surface shall be swept prior to hot mix asphalt overlay placement.

307.091 Repairs Repairs and maintenance of the recycled layers, resulting from damage caused by traffic, weather or environmental conditions, or resulting from damage caused by the Contractor's operations or equipment, shall be completed at no additional cost to the Department.

For recycled layers stabilized with emulsified asphalt, low areas will be repaired using a hot mix asphalt shim. Areas up to 1 inch high can be repaired by milling or shimming with hot mix asphalt. Areas greater than 1 inch high will be repaired using a hot mix asphalt shim. All repair work will be done with the Resident's approval at the Contractor's expense.

TESTING REQUIREMENTS

307.10 Quality Control The Contractor shall operate in accordance with the approved Quality Control Plan (QCP) to assure a product meeting the contract requirements. The QCP shall meet the requirements of Section 106.4 - Quality Control and this Section. The Contractor shall not begin recycling operations until the Department approves the QCP in writing. Prior to performing any recycling process, the Department and the Contractor shall hold a Pre-recycle conference to discuss the recycling schedule, type and amount of equipment to be used, sequence of operations, and traffic control. A copy of the QC random numbers to be used on the project shall be provided to the Resident. All field supervisors including the responsible onsite recycling process supervisor shall attend this meeting.

The QCP shall address any items that affect the quality of the Recycling Process including, but not limited to, the following:

- A. Sources for all materials, including New Aggregate and Additional Recycled Material.
- B. Make and type of rollers including weight, weight per inch of steel wheels, and average contact pressure for pneumatic tired rollers.
- C. Testing Plan.
- D. Recycling operations including recycling speed, methods to ensure that segregation is minimized, grading and compacting operations.
- E. Methods for protecting the finished product from damage and procedures for any necessary corrective action.
- F. Method of grade checks.
- G. Examples of Quality Control forms.
- H. Name, responsibilities, and qualifications of the Responsible onsite Recycling Supervisor experienced and knowledgeable with the process.
- I. A note that all testing will be done in accordance with AASHTO and MDOT/ACM procedures.

The Project Superintendent shall be named in the QCP, and the responsibilities for successful implementation of the QCP shall be outlined.

The Contractor shall sample, test, and evaluate the full depth reclamation process in accordance with the following minimum frequencies:

MINIMUM QUALITY CONTROL FREQUENCIES

Test or Action	Frequency	Test Method
Density	1 per 1000 feet / lane	AASHTO T 310
Air Temperature	4 per day at even intervals	
Surface Temperature	At the beginning and end of each days operation	
Yield of all materials (Daily yield, yield since last test, and total project yield.)	1 per 1000 ft/lane	

The Department may view any QC test and request a QC test at any time. The Contractor shall submit all QC test reports and summaries in writing, signed by the appropriate technician, to the Department's onsite representative by 1:00 P.M. on the next working day, except when otherwise noted in the QCP due to local restrictions. The Contractor shall make all test results, including randomly sampled densities, available to the Department onsite.

The Contractor shall cease recycling operations whenever one of the following occurs:

- A. The Contractor fails to follow the approved QCP.
- B. The Contractor fails to achieve 98 percent density after corrective action has been taken.
- C. The finished product is visually defective, as determined by the Resident.
- D. The computed yield differs from the mix design by 10 percent or more.

Recycling operations shall not resume until the Department approves the corrective action to be taken.

307.101 Test Strip The contractor shall assemble all items of equipment for the recycling operation on the first day of the recycling work. The Contractor shall construct a test strip for the project at a location approved by the Resident. The Responsible onsite Recycling Supervisor will work with Department personnel to determine the suitability of the mixed material, moisture control within the mixed material, and compaction and surface finish. The test strip section is required to:

- A. Demonstrate that the equipment and processes can produce recycled layers to meet the requirements specified in these special provisions.
- B. Determine the effect on the gradation of the recycled material by varying the forward speed of the recycling machine and the rotation rate of the milling drum.

- C. Determine the optimum moisture necessary to achieve proper compaction of the recycled layer.
- D. Determine the sequence and manner of rolling necessary to obtain the compaction requirements and establish a target density. The Contractor and the Department will both conduct testing with their respective gauges at this time.

The test strip shall be at least 300 feet in length of a full lane-width (or a half-road width). Full recycling production will not start until a passing test strip has been accomplished. If a test strip fails to meet the requirements of this specification, the Contractor will be required to repair or replace the test strip to the satisfaction of the Resident. Any repairs, replacement, or duplication of the test strip will be at the Contractor's expense.

After the test strip has been pulverized, and the roadway brought to proper shape, the Contractor shall add water until it is determined that optimum moisture has been obtained. The test strip shall then be rolled using the specified compaction equipment as directed until the density readings show an increase in dry density of less than 1 pcf for the final four roller passes of each roller. The Contractor and Department will each determine a target density using their respective gauges by performing several additional density tests and averaging them. The average of these tests will be used as the target density of the recycled material for QC and Acceptance purposes.

Following completion of the test strip, compaction of the material shall continue until a density of not less than 98 percent of the test strip target density has been achieved for the full width and depth of the layer. During the construction and compaction of the Full Depth Recycled base, should three consecutive Acceptance test results for density fail to meet a minimum of 95 percent of the target density, or exceed 102 percent of target density, a new test strip shall be constructed.

ACCEPTANCE TEST FREQUENCY

Property	Frequency	Test Method
In-place Density	1 per 2000 ft / lane	AASHTO T 310

307.102 Curing. No new pavement shall be placed on the full depth recycled pavement until curing has reduced the moisture content to 1 percent or less by total weight of the mixture, or a curing period of 4 days has elapsed, whichever comes first.

307.11 Method of Measurement Full Depth Recycled Pavement (Untreated or Treated with Emulsified Asphalt Stabilizer) will be measured by the square yard.

307.12 Basis of Payment The accepted quantity of Full Depth Recycled Asphalt Pavement (Untreated or Treated with Emulsified Asphalt Stabilizer) will be paid for at the contract unit price per square yard, complete in-place which price will be full compensation for furnishing all equipment, materials and labor for pulverizing, blending, placing, grading, compacting, and for all incidentals necessary to complete the work.

The addition of materials to restore profile grade and/or cross-slope in areas shown on the plans or described in the construction notes will be paid separately under designated pay items within the contract. No additional payment will be made for materials salvaged from the project.

Payments will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
307.331 Full Depth Recycled Pavement (Untreated)	Square Yard
307.332 Full Depth Recycled Pavement (with Emulsified Asphalt Stabilizer) 5 in. depth	Square Yard
307.333 Full Depth Recycled Pavement (with Emulsified Asphalt Stabilizer) 6 in. depth	Square Yard

SECTION 411 **UNTREATED AGGREGATE SURFACE COURSE**

411.02 – Aggregate Add the following to the end of the first sentence: “- Type A”

SECTION 501 **FOUNDATION PILES**

501.05 – Method of Measurement

b. **Piles Furnished** – After the second sentence, add the sentence “**Measurement will not include any pile tips**”.

c. **Piles in Place** – Add the sentence to the end of the second paragraph, “**Measurement will include the pile tips**”.

d. **Pile Tips** – Add the words “**on the Pile**” to the end of the sentence.

SECTION 502 **STRUCTURAL CONCRETE**

502.05 Composition and Proportioning

Replace Table 1 with

TABLE 1

Concrete CLASS	Minimum Compressive Strength (PSI)	Permeability as indicated by Surface Resistivity (KOhm-cm)	Entrained Air (%)		Notes
			LSL	USL	
S	3,000	LSL N/A	N/A	N/A	4,5
A	4,000	14	6.0	9.0	1,4,5
P	-----	-----	5.5	7.5	1,2,3,4
LP	5,000	17	6.0	9.0	1,4,5
Fill	3,000	N/A	6.0	9.0	4,5

In the list of information submitted by the contractor for a mix design:

Item J Replace “Target Coulomb Value.” with “Target KOhm-cm Value.”

Note #1 - Remove, “...**Standard Specification Section 711.05, Protective Coating for Concrete Surfaces, and per the manufacturer’s recommendations, at no additional cost to the Department.**” and replace with, “...**Standard Specification Section 515, Protective Coating for Concrete Surfaces, at no additional cost to the Department.**”

502.1703 Acceptance Methods A and B

In the paragraph that starts with “The Department will take Acceptance...” Remove the word chloride from chloride permeability in the last sentence.

Replace the paragraph starting with “Rapid Chloride Permeability specimens...” With the following:

“Surface Resistivity specimens will be tested by the Department in accordance with AASHTO TP-95 at an age $\geq$ 56 days. Four 4 inch x 8 inch cylinders will be cast per subplot placed. The average of three concrete specimens per subplot will constitute a test result and this average will be used to determine the permeability for pay adjustment computations.”

502.1706 Acceptance Method C

Remove in its entirety and Replace with:

502.1706 Acceptance Method C The Department will determine the acceptability of the concrete through Acceptance testing. Acceptance tests will include compressive strength, air content and permeability. Method C concrete not meeting the requirements listed in Table 1 shall be removed and replaced at no cost to the Department. At the Department's sole discretion, material not meeting requirements may be left in place and paid for at a reduced price as described in Section 502.195.

502.1707 Resolution of Disputed Acceptance Test Results
Section B

Remove "Rapid Chloride" from the section heading.
In paragraph 4 replace T-277 with TP-95

502.192 Pay Adjustment for Chloride Permeability

Remove "Chloride" from the heading and from the first sentence.

Replace the sentence that starts with "values greater than..." and replace with "values less than 10 KOhms-cm for Class A concrete or 11 KOhms-cm for Class LP concrete shall be subject to rejection and replacement, at no additional cost to the Department."

502.194 Pay Adjustments for Compressive Strength, Chloride Permeability and Air Content, Methods A and B

Remove the word "Chloride" from the section heading and from the equation for CPF.

502.195 Pay Adjustment Method C

In Table 6: Method C Pay Reductions (page 5-53)
Under "Entrained Air" for "Class Fill", in the first line,
change from "< 4.0 (Removal)" to "< **4.5 (Removal)**"

In Table 6: Method C PAY REDUCTIONS, revise the Chloride Permeability section by removing it in its entirety and replacing it with:

Surface Resistivity {Permeability in Kohm-cms and Pay Reduction per CY}			
15-16 (\$50)	13 (\$25)	N/A	N/A
13-14 (\$75)	12(\$50)	N/A	N/A
12 (\$100)	11 (\$75)	N/A	N/A
11 (\$125)	10 (\$100)	N/A	N/A
< 11 (Removal)	< 10 (Removal)	N/A	N/A

SECTION 503 **REINFORCING STEEL**

503.06 Placing and Fastening Revise this Subsection by removing, in its entirety, the paragraph which begins, “Stainless steel reinforcement shall not be tied to any other type of reinforcement.....”

SECTION 504 **STRUCTURAL STEEL**

504.26 Welding Remove the second paragraph beginning with “The range of heat....” in its entirety.

504.29 Welding ASTM A 709 HPS 70W Steel. Remove the third paragraph beginning with “Make Weld runoff tabs...” in its entirety.

SECTION 510 **SPECIAL DETOURS**

510.032 Geometric and Approach Design a. Horizontal alignment
The third paragraph of this section is revised to read as follows:

“The roadway width shall be increased on curved portions of the Special Detour to account for the off tracking characteristics of WB-62 vehicle in accordance with **the AASHTO publication A Policy On Geometric Design of Highways and Streets (the Green Book), chapter 3 table entitled Design Widths of Pavements for Turning Roadways.**”

SECTION 527 **ENERGY ABSORBING UNIT**

527.02 Materials This section is revised to read as follows.

527.02 Materials Work Zone Crash Cushions must comply with NCHRP Report 350. Work Zone Crash Cushions shall be selected from MaineDOT’s Qualified Products List of Crash Cushions / Impact Attenuators, or an approved equal.

SECTION 534 **PRECAST STRUCTURAL CONCRETE**

534.14 Process Control Test Cylinders
Revise this subsection to read:

“534.14 Acceptance and Quality Control Testing of Concrete Refer to Section 712.061.”

SECTION 535

PRECAST, PRESTRESSED CONCRETE SUPERSTRUCTURE

Section 535.08 – Quality Assurance

Revise the second paragraph to read:

“The QAI will perform acceptance sampling and testing and will witness or review documentation, workmanship and testing to assure the Work is being performed in accordance with the Contract Documents.”

Section 535.15 - Process Control Test Cylinders

Revise the first paragraph to read:

“535.15 Acceptance and Quality Control Testing of Concrete Acceptance of structural precast/prestressed units, for each day’s production, will be determined by the Department, based on compliance with this specification and satisfactory concrete testing results. At least once per week, the QAI will make 2 concrete cylinders (6 cylinders when the Contract includes permeability requirements) for use by the Department; cylinders shall be standard cured in accordance with AASHTO T23 (ASTM C31). The QAI will perform entrained air content and slump flow testing, determine water-cement ratio and determine temperature of the sampled concrete at the time of cylinder casting. All testing equipment required by the QAI to perform this testing shall be provided in accordance with Standard Specification Section 502.041, Testing Equipment. In addition, the Contractor shall provide a slump cone meeting the requirements of AASHTO T 119. Providing and maintaining testing and curing equipment shall be considered incidental to the work and no additional payment will be made.”

Insert the following as the second paragraph of Section 535.15:

“Quality Control concrete test cylinders shall be made for each day’s cast and each form bed used. Cylinders tested to determine strand release strength and design strength shall be field cured in accordance with AASHTO T23 (ASTM C31). 28 day cylinders shall be standard cured. Record unit identification, entrained air content, water-cement ratio, slump flow and temperature of the sampled concrete at the time of cylinder casting.”

SECTION 604

MANHOLES, INLETS CATCH BASINS

604.04 Adjusting Catch Basins and Manholes,

Add the following paragraph to the end of 604.04 b:

The Department will allow the use of metal ring inserts set into the manhole top frame or composite risers placed beneath the manhole frame to adjust manhole slope and grade for paving projects. The use of metal ring inserts shall be in accordance with 604.04 d. Ring Insert Requirements. The use of composite risers shall be in accordance with 604.04 e. Composite Riser Requirements.

Add the following paragraph after the first paragraph of 604.04 c:

The Department will allow the use of metal ring inserts set into the manhole top frame or composite risers placed beneath the manhole frame to adjust manhole slope and grade for paving projects. The use of metal ring inserts shall be in accordance with 604.04 d. Ring Insert Requirements. The use of composite risers shall be in accordance with 604.04 e. Composite Riser Requirements.

Add the following sections to 604.04:

d. Ring Insert Requirements Ring inserts to adjust manhole top frame slope and grade will be allowed in accordance with the following requirements:

1) Materials

- i. All ring inserts must be made of iron. *Multiple ring inserts will not be allowed.* The single ring insert may be any height up to a maximum of 2 inches tall.**
- ii. Ring inserts shall not be welded to the manhole frame to prevent brittle failure of the cast iron frame.**
- iii. Ring inserts shall be fastened to the manhole frame using liquid steel-filled epoxy such as Loctite Fixmaster Steel Liquid or equivalent. The epoxy shall be installed in accordance with the manufacturer's recommendations.**

2) Where Ring Inserts May/May Not Be Used

- i. MaineDOT will allow the use of a single manhole ring insert to raise manholes on state and state-aid highways.**
- ii. *Manhole ring inserts may not be used along state and state-aid highway sections where the speed limit is 40 miles per hour or more.* The standard brick and mortar or flat composite risers beneath the manhole frame must be used at these locations.**

3) Construction Requirements For The Use of Iron Manhole Ring Inserts

- i. Wherever iron ring inserts are used to raise manhole top elevations, the rings shall be fastened to the existing manhole frame using liquid steel-filled epoxy. The liquid steel-filled epoxy shall be placed evenly around the entire manhole frame before placing the ring insert. *Unbonded ring inserts will not be allowed.* If the manufacturer's recommended construction practices result in loose or unacceptable manhole cover restraint, standard brick and mortar or flat composite risers beneath the manhole frame must be used at these locations.

e. Composite Riser Requirements Flat or beveled, doughnut-shaped, composite risers placed beneath the manhole frame to adjust slope and grade are allowed. The composite riser shall be fastened to both the top of the concrete cone and bottom of the manhole frame with the manufacturer's recommended epoxy. Composite risers may be used at all locations on state and state-aid highways under any legal speed limit without restriction.

SECTION 606 **GUARDRAIL**

606.09 Basis of Payment Amend the first sentence of the eighth paragraph of this subsection by removing the word "meter" and replace it with "linear foot".

SECTION 608 **SIDEWALKS**

608.021 Sidewalk Materials Revise this section by removing the second paragraph which begins with "Portland cement concrete shall..." in its entirety and replace with "**Portland cement concrete shall be Class A and meet the requirements of Section 502, Structural Concrete.**"

SECTION 609 **CURB**

609.03 Vertical Stone Curb, Terminal Section and Transition Sections and Portland Cement Concrete Curb, Terminal Sections and Transition Sections

Amend this section by adding the following paragraph to the end of it:

"The Contractor may elect to substitute concrete to backfill Stone Curbing or Stone Edging at their option. If the concrete backfill option is elected, the following is added to Standard Specification 609 – Curb"

609.02 Materials Amend this section by adding the following to it:

Portland cement and Portland Pozzolan Cement	701.01
Water	701.02
Fine Aggregate for Concrete	703.01
Coarse Aggregate for Concrete	703.02

The Contractor shall submit a concrete mix design for the Portland Cement Concrete to the Resident, with a minimum designed compressive strength of 4000 psi Class A concrete.

609.10 Basis of Payment Revise by changing the fifth paragraph which begins with “There will be no separate payment...” this section by removing the word “cement” and replacing it with “**concrete fill, mortar**”.

SECTION 619 **MULCH**

619.07 Basis of Payment Amend this section by adding the words “; **Bark Mulch and Erosion Control Mix will be paid for by the Cubic Yard;**” into the first sentence so that it reads:

“The accepted areas mulched will be paid for at the contract price per unit; **Bark Mulch and Erosion Control Mix will be paid for by the Cubic Yard;** which shall be full compensation for furnishing and spreading the hay or straw and mulch binder, cellulose fiber mulch, bark mulch or erosion control mix.

Revise the second sentence by removing “ **for pay item 619.1201**” So that it reads:

“When Mulch is measured in Bales, each bale will be paid for at 60% of the contract price per Unit”.

Revise this section by removing all pay items and replace them with the following:

619.12 Mulch	Unit
619.13 Bark Mulch	Cubic Yard
619.14 Erosion Control Mix	Cubic Yard

SECTION 621 **LANDSCAPING**

621.0002 Materials - General

In the list of items change “Organic Humus” to “**Humus**”.

621.0019 Plant Pits and Beds

c Class A Planting

In the third paragraph beginning with “ The plant pit...” change “½ inch” to “**1 inch**”

SECTION 626
FOUNDATIONS, CONDUIT AND JUNCTION BOXES FOR HIGHWAY
SIGNING, LIGHTING AND SIGNALS

626.02 General Amend the Material list by adding the following to the list:

Gravel Borrow	703.20
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Revise the Material List by removing:

Prewired Conduit	715.04
Metallic Junction and Fuse Box	715.05

626.021 Miscellaneous Material Amend this section by adding the following to the end of it:

“All concrete for concrete encasement of conduit shall be Fill Class concrete in accordance with the applicable requirements of Section 502 – Structural Concrete.”

Amend the third paragraph that begins with “If grouting is necessary...” by adding “**included on the Qualified Product List and**” after the word “material”.

626.03 General Amend this section by adding the following section to the end of it

“626.0301 Electrical Supply Lines and Service Connections The following requirements shall apply to Electric Supply Lines and Service Connections feeding traffic signalization equipment control boxes and lighting breaker boxes.

Whenever possible, the meter and breaker panel feeding traffic signal control boxes or lighting control boxes shall be constructed within 30 feet of the service drop pole.

All underground service connections that are constructed in trenches and carrying Secondary Utility Power to a MaineDOT meter and breaker panel, or, directly to MaineDOT traffic signalization control cabinets or lighting breaker boxes shall be in Rigid Metal Conduit or concrete encased PVC conduit.

Where trenchless technologies are employed to install the service connection conduit, Schedule 120 PVC conduit shall be used for the trenchless bore section of conduit. In addition, concrete encasement shall be used for any PVC conduit placed in trench sections and carrying Secondary Utility Power more than 10 feet before or after the limits of the trenchless bore conduit.

The construction practices described above shall be used for service connections up to a maximum of 600 feet. There may be rare exceptional cases where the service connection must exceed 600 feet. In these cases, the power companies may require primary power be run over 600 feet for the purpose of power consumption and dependable service. These cases will be evaluated on a case-by-case basis for alternate power feed methods and/or the need for steel or concrete encased conduit.”

626.031 Conduit Revise this section by removing the second paragraph which begins with “Trenches for conduits...” and replace it with the following:

“Trenches for conduits shall be excavated to a width that will permit proper installation of the conduit and to a minimum depth of 3 feet below finish grade as measured from the top of the conduit. If deeper depths are required, the conduit shall be installed at the depth shown on the plans or as directed. Conduit shall not interfere with poles, guardrail posts, sign foundations or other objects.”

Amend the third paragraph which begins with “All junction or pull boxes...” by adding “**concrete, in accordance with the applicable requirements of Section 502 – Structural Concrete,**” after Class LP.

Revise the fifth paragraph which begins with “After the trench has been...” by adding the following to the end of it:

“Where concrete encasement is required around the conduit, backfilling with approved material may begin adjacent to and above the encased conduit no sooner than 24 hours after concrete placement.”

Remove the following:

“All underground conduit shall be placed to at least the depth shown on the plans and shall not interfere with poles, guardrail posts, sign foundations or other objects.”

Revise the paragraph beginning with “All conduit ends shall...” by removing “Prewired Conduit shall be sealed during construction to prevent entry of moisture, dirt, or rocks.”

626.033 Polyvinylchloride Conduit Installation Amend the first paragraph of this section which begins with “Polyvinylchloride conduit and High Density...” by adding the following to the end of it:

“In addition, PVC conduit used for Electrical Supply Lines and Services constructed as underground service connections in trenches and carrying Secondary Utility Power to a MaineDOT meter and breaker panel, or, directly to MaineDOT traffic signalization control cabinets or lighting breaker boxes shall be concrete encased. When trenchless technologies are used to install PVC conduit, concrete encasement shall not be required.

Concrete encasement shall consist of a minimum of 4 inches of concrete above, below and on both sides of the conduit that shall have a minimum compressive strength of 3000 psi and a maximum aggregate size of 1-inch (Fill Class concrete). The concrete encasement may be backfilled no sooner than 24 hours after placement. “

“NON-METALLIC UNDER PAVEMENT CONDUIT INSTALLATION

Where noted on the drawings, non-metallic under pavement conduit of schedule 80 or greater rating shall be provided to facilitate conduit crossing of the existing highway and ramps without disruption to the existing highway and ramp pavement surface. The non-metallic under pavement conduit shall be hydraulically jacked or directional bored below the highway and ramp at a depth of not less than (36 inches). Under pavement conduit shall extend for a distance of (10 feet) beyond the highway or ramp edge at each side.”

Amend the sixth paragraph which begins with “Where PVC conduit runs are...” by changing “3 inch minimum bedding” to “**6 inch minimum bedding**”.

626.034 Concrete Foundations

Revise this section by removing the third paragraph which begins with “In the absence of Design Requirements...” in its entirety and replace with the following:

“In the absence of design requirements being provided on the plans, the Contractor shall prepare and submit the foundation design(s) to the Department for review. The Contractor may propose an alternate shallow spread footing or drilled shaft configuration/design than that set forth on the drawings. Design shall be in accordance with AASHTO LRFD Specifications for Structural Supports for Highway Sign, Luminaires and Traffic Signals, current edition; AASHTO LRFD Bridge Design Specifications, current edition; and FHWA-NHI-10-016 Drilled Shafts, Construction Procedures and Design Methods, current edition. Where conflicting requirements occur, the more stringent requirements shall govern. In addition to other design requirements, foundation design shall account for Torsion for which a minimum Factor of Safety equal to 1.2 shall be achieved. In evaluating axial capacity and torsional resistance in cohesionless soils, load transfer coefficient or side resistance coefficient (beta, β) will be used in accordance with Subsection 13.3.5.1 of FHWA-NHI-10-016, with beta determined in accordance with Equations 13-13 and 13-11 for silty sands to sandy silts (with varying amounts of gravel). The design criteria for the resistance of drilled shaft and spread footing foundations against overturning, sliding and bearing capacity failure shall meet the requirements of Section 4 of AASHTO LRFD Bridge Design Specifications, current edition. The structural design of foundations shall meet the requirements of AASHTO LRFD Bridge Design Specifications, current edition. The Contractor shall submit to the Department for review, three (3) copies of detailed plans and calculations of the proposed design. Design shall be prepared and sealed by a Professional Engineer licensed in the State of Maine. Construction of foundation(s) shall not commence until the Department has reviewed the foundation design.”

On Page 6-85, add the following paragraph before the paragraph beginning with “Drilled shafts shall not be...”.

“ No foundation design will be required for 18- and 24-inch diameter foundations for structures less than 30-feet tall and with no projecting arms. A foundation design prepared by a Professional Engineer licensed in accordance with the laws of the State of Maine will be required for all other foundations Precast foundations will be permitted for 18 and 24-inch diameter foundations for structures less than 30-feet tall and with no projecting arms. Where precast foundations are permitted flowable concrete fill shall be used as backfill in the annular space, and placed from the bottom up. Construction of precast foundations shall conform to the Standard Details and all requirements of Section 712.061 except that the concrete shall have a minimum permeability of 17 kOhm-cm and the use of calcium nitrite will not be required. “

On Page 6-86, Revise the paragraph beginning with “Concrete for drilled shafts...” so that a portion of it reads as follows:

“....The Contractor shall provide temporary dewatering of excavations for foundations such that concrete is placed in the dry. Concrete for drilled shafts shall be placed in accordance with Section 502.10 as temporary casing is withdrawn to prevent debris from contaminating the foundation and to ensure concrete is cast against the surrounding soil. Concrete for drilled shafts and spread footings shall be Class LP in accordance with Section 502 - Structural Concrete. Precast foundations will not be permitted except as specified above in this Section. Backfill for spread footing foundations shall be Gravel Borrow meeting the requirements of Section 703.20 - Gravel Borrow.....”

626.05 Basis of Payment Amend this section by removing the following paragraphs:

The one which starts with “Payment will be made for the total number of linear feet of prewired conduit...”

The one which starts with “Prewired conduit within the foundations...”

Amend this subsection by adding the following paragraph and Pay Items:

“Payment will be made for the total number of linear feet of under pavement conduit actually furnished, installed and accepted at the contract price per linear foot. This price shall include the cost of: furnishing and installing the conduit; excavating; furnishing special backfilling materials, pull wire, fittings, grounding and bonding; test cleaning interiors of conduits and all materials, labor, equipment and incidentals necessary to complete the work.”

Pay Item	PayUnit
626.221 Non-metallic Conduit, Concrete Encased	Linear Foot
626.251 Non-Metallic Under pavement Conduit (Schedule 80 or greater rating)	Linear Foot

Remove the following Pay Items:

626.23	Prewired Conduit Secondary Wiring	Linear Foot
626.24	Prewired Conduit Primary Wiring	Linear Foot

SECTION 627

PAVEMENT MARKINGS

Revise this section by removing it in its entirety and replacing with the following:

627.01 Description This work shall consist of furnishing and placing reflectorized pavement lines and markings, removing pavement lines and markings, and furnishing and applying reflectorized paint to curbing in reasonably close conformity with the plans and as designated.

627.02 Materials Materials shall conform to the requirements specified in the following Sections of Division 700 - Materials.

Pavement Marking Paint	708.03
Reflectorized Plastic Pavement Marking	712.05

Temporary Bi-directional Yellow Delineators shall be Temporary Object Markers (T.O.M.) as manufactured by the Davidson Plastic Company, 18726 East Valley Highway, Kent, WA 98031 or an approved equal.

627.04 General All pavement lines and markings shall be applied in accordance with the latest edition of Manual on Uniform Traffic Control Devices.

Longitudinal lines placed on tangent roadway segments shall be straight and true. Longitudinal lines placed on curves shall be continuous smoothly curved lines consistent with the roadway alignment. All pavement markings placed shall meet the tolerance limits shown on the plans.

Unless otherwise shown on the plans, non-interstate lines shall be 4 inches wide and broken lines shall consist of alternate 10 foot painted line segments and 30 foot gaps. On controlled access divided highways and on the interstate system lines shall be 6 inches wide and broken lines shall consist of alternate 15 foot painted line segments and 25 foot gaps. Width tolerance shall be +/- 1/4 inch.

Temporary pavement marking lines, defined in Special Provision Section 652, Maintenance of Traffic, Temporary Centerline, will be applied as many times as necessary to properly delineate traffic lanes for the safe passage of traffic. Bi-directional delineators may be used in place of temporary lines, except where specified otherwise in Special Provision 652 Maintenance of Traffic, Temporary Centerline. Delineators will be applied at 40 foot intervals.

In overnight lane closure areas that are not to be overlaid, temporary plastic lines or raised pavement markers shall be used through the length of the taper.

Newly painted lines, markings and curb shall be protected from traffic by the use of cones, stationary vehicles or other approved methods until the paint is dry.

627.05 Preparation of Surface Immediately before applying the pavement marking paint to the pavement or curb, the surface shall be dry and entirely free from dirt, grease, oil, or other foreign matter.

Surface preparation for application of plastic markings shall conform to the manufacturer's recommendations.

627.06 Application Prior to applying paint for final pavement lines, the Contractor shall perform a test for paint thickness by furnishing and placing a piece of smooth, clean metal with an area of at least 144 in² in the path of the striping truck. The striping truck shall be passed over the piece of metal, painting the surface as it passes, without applying beads. The result of this test will be used to determine the pressure setting and speed of the truck when applying paint to obtain the specified thickness. Additional paint thickness testing may be required on the final paint markings. The wet thickness of paint without beads on final pavement lines shall be a minimum of 16 mils.

On other final pavement markings and on curb, where the paint is applied by hand painting or spraying, application shall be in two uniform covering coats, each at least 10 mils thick. Before the second coat of paint has dried, the glass beads shall be applied by a pressure system that will force the glass beads onto the undried paint as uniformly as possible.

Glass beads shall be applied to the final and temporary pavement lines, marking and curb at a sufficient rate and in sufficient quantity to assure complete and uniform coverage of hand painted surfaces and achieve proper reflectivity.

Permanent and temporary white lines and markings shall have a minimum final reflectivity value of 250 millicandelas per square meter per lux (mcd/m²/lux) and permanent and temporary yellow lines and markings shall have a minimum final reflectivity value of 150 millicandelas per square meter per lux (mcd/m²/lux), as measured by the Department. Measurements taken to determine reflectivity shall be done within 4 weeks after final placement.

If the final reflectivity values are less than the described minimums, the Contractor shall repaint those areas not meeting required reflectivity at no cost to the Department. If the final reflectivity values are less than the described minimums after the second attempt, the Contractor will submit in writing a plan of action to meet the reflectivity minimums prior to continuing any work. Once the plan has been reviewed and approved by the Department, the Contractor shall re apply at no cost to the Department.

Temporary painted lines and markings shall be applied as specified for permanent painted lines, except that the thickness shall be a minimum of 16 mils.

Temporary pliant polymer marking material shall be used for temporary markings on the final pavement and on pavements not to be resurfaced when such pavement markings do not conform to the final pavement markings pattern.

The plastic final pavement lines and markings shall be applied in accordance with the manufacturer's recommendations by the inlay method of application.

627.07 Establishment Period Inlaid plastic pavement lines and marking material furnished and installed under this contract for final pavement markings shall still be subject to a six-month period of establishment.

The period of establishment shall commence as soon as the plastic pavement lines and markings are complete and in place and shall continue for six months. At the end of the establishment period, a minimum of 95% of the plastic pavement lines and markings shall still be in place to be acceptable.

If less than 95% of the plastic pavement lines and markings are in place after six months, the Contractor shall replace all unsatisfactory plastic pavement lines and markings on the project without additional payment. Plastic pavement lines and markings designated for replacement shall be installed according to these specifications, unless otherwise directed. Plastic pavement lines and markings replaced at the end of the six month establishment period will not be subject to a further establishment period.

627.08 Removing Lines and Markings When it is necessary to remove pavement lines and markings, it shall be done by high pressure water, grinding or other approved acceptable means. The method chosen must be capable of completely eradicating the existing line or marking without excessive damage to the pavement. Burning and the use of solvents to remove temporary markings from final pavement or from existing pavement not to be resurfaced will not be permitted.

627.09 Method of Measurement The quantity of pavement marking lines identified in the contract as a plan quantity pay item, the measurement of payment will be the number of feet shown in the Schedule of Items. This quantity will be considered final and no adjustments will be made except when changes resulting in increases or decreases are made by the Resident.

The accepted quantity of temporary or permanent pavement marking lines when identified in the contract as a linear foot item shall be measured and paid for at the contract unit price per linear foot for the total amount applied and accepted.

Double yellow centerline, broken or solid, will be considered one line for measurement purposes. The measurement of broken lines will include the gaps when painted and will not include the gaps when plastic. Double Yellow Centerline, broken or solid shall not be paid through intersections or side roads and will be paid for the actual length of painted line.

Broken white lines will include the gaps when painted and will not include the gaps when plastic inlaid pavement lines are applied. Yellow or white solid edge lines and will not be paid through intersections or side roads and will be measured by the actual length of painted line.

Temporary pavement marking lines shall not be paid through intersections or side roads and will be measured per linear foot of actual length of painted and accepted.

Reflectorized curb will be measured or computed by the square foot of curb surface actually painted and reflectorized.

The accepted quantity of removing existing pavement markings will be measured by the square foot.

Temporary Bi-directional Yellow Delineators will be measured by each unit, complete in place, maintained, and accepted.

627.10 Basis of Payment The accepted quantity of pavement marking lines identified in the contract as a plan quantity pay item will be paid for at the contract unit price for plan quantity. No adjustment will be made to the quantity for payment, except as described 627.09 Method of Measurement

The quantity of permanent or temporary pavement marking lines identified in the contract paid by the linear foot will be measured for payment as described under section 627.09 Method of Measurement.

All other permanent pavement markings will be paid for at the contract unit price per square foot in accordance with 627.09 Method of Measurement.

If allowed by Special Provision, the Contractor may utilize Temporary Bi-Directional Yellow and White (as required) Delineators. When utilized, payment will be made as temporary pavement marking lines, measured and paid at the contract unit price per linear foot. Such payment will include as many applications as required and removal.

Payment for final plastic pavement lines and markings will be made in two parts. The first payment of 75% will be made when plastic pavement lines and markings are placed. The payment of the remaining 25% will be made at the end of the establishment period for all plastic line and pavement markings accepted.

The accepted quantity of any pavement marking lines will be paid for at the contract unit price and will include as many applications as required and removal when required.

The accepted quantity of Temporary Bi-directional Yellow Delineators will be paid for at the contract unit price.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
627.18 12 inch Solid White Pavement Marking Line	Linear Foot
627.711 White or Yellow Pavement Marking Line - Plan Quantity	Linear Foot
627.733 4" White or Yellow Painted Pavement Marking Line	Linear Foot
627.744 6" White or Yellow Painted Pavement Marking Line	Linear Foot
627.75 White or Yellow Pavement & Curb Marking	Square Foot
627.77 Removing Existing Pavement Marking	Square Foot
627.78 Temporary 4" Painted Pavement Marking Line, White or Yellow	Linear Foot
627.781 Temporary 6" Painted Pavement Marking Line, White or Yellow	Linear Foot
627.407 Reflectorized Plastic, White or Yellow Pavement Marking	Square Foot
627.4071 Reflectorized Plastic, White or Yellow Pavement	Linear Foot
Marking Line - Plan Quantity	
627.811 Temporary Bi-directional Yellow Delineators	Each

SECTION 639

ENGINEERING FACILITIES

Revise this section by removing this section in its entirety and replace with the following:

639.01 Description This work shall consist of providing, erecting, lighting, equipping and maintaining buildings to be solely used by the Resident and other assigned Department representatives as a field office. Upon completion of the work, the buildings and equipment shall remain the property of the Contractor.

639.02 Materials Materials for buildings shall be of good quality customarily used in standard frame house or office trailer construction.

639.03 General The building of the type called for shall be provided before the start of work, and shall remain until work is completed and accepted, unless earlier removal is authorized. The location shall be approved by the Resident and should be adjacent or virtually adjacent to the Project.

A fire extinguisher shall be provided in each building or office trailer for electrical and chemical fires and effective on all solvents used in the building.

Walls, roof, floor, windows, and doors shall be tightly constructed to the required area.

Furnishings shall be supplied as called for. Doors shall be equipped with locks and all keys shall be in the possession of the Resident. Windows shall be equipped with latches so they may be locked on the inside. Window screens and screen doors shall be supplied when necessary. Adequate desk and desk space shall be provided. If a portable table is supplied, it should be adjustable to accommodate the various heights of employees. A 5-way adjustable office chair shall be provided in the quantities listed.

639.04 Field Offices Field Offices are designated Type A, Type B, or Type C. Buildings, including trailers, may be provided if they substantially equal or exceed the following requirements. Air conditioning, appropriate to the building size, shall be provided in all field offices.

The walls, roof, and floor of the building shall be completely insulated with a minimum insulation value of R-15. Office trailers shall be either new or in very good used condition. The interior walls shall be covered with suitable wall paneling. The entire office trailer shall be for the exclusive use of the Resident. The office trailer shall be winterized and completely enclosed at the bottom, if the trailer will be used in cold weather.

Other types of buildings and facilities may be furnished of equal or better quality.

A public work area will be provided in the field office that shall be designed and constructed so that individuals with disabilities can approach, enter, and exit this area.

At least one accessible route to the field office shall be provided from accessible parking. The accessible route shall comply with the Americans with Disabilities Act Accessibility Guidelines (ADAAG) and this specification.

The minimum clear width of an accessible route shall be 36 inches except at doors. The least possible slope shall be used for an accessible route. An accessible route with a running slope greater than 1:20 shall be considered a ramp. Maximum ramp slope is 1:12. The maximum rise for any run of a ramp shall be 30 inches and the minimum clear width shall be 36 inches. Nowhere shall the cross slope of an accessible route exceed 1:50. Changes in level up to ¼ inch may be vertical and without edge treatment. Changes in level between ¼ inch and ½ inch shall be beveled with a slope no greater than 1:2. Ramp floor surfaces shall be stable, firm, and slip-resistant.

Ground floor surfaces along accessible routes and in accessible rooms and spaces including floors, walks, ramps, stairs, and curb ramps, shall be stable, firm, and slip-resistant.

The main door to the public work area shall have a minimum clear opening of 32 inches with the door opened 90 degrees, measured between the face of door and the opposite stop. Minimum maneuvering clearances at doors shall be provided. The floor or ground area within the required clearances shall be level and clear.

The handle and other operating devices on accessible doors shall have a shape that is easy to grasp with one hand and does not require tight grasping. Lever-operated mechanisms push type mechanisms, and U-shaped handles are acceptable designs. Hardware required for accessible door passage shall be mounted no higher than 48 inches above finished floor.

A minimum of 3 parking spaces will be supplied for Class B & C Field Offices and 6 for Class A. One wheelchair accessible parking space shall be located on the shortest accessible route of travel from adjacent parking to an accessible entrance.

Level landings shall be provided at bottom and top of each run. The landing shall be at least as wide as the ramp run leading to it with a minimum length of 60 inches.

If a ramp run has a rise greater than 6 inches or a horizontal projection greater than 72 inches, then it shall have handrails on both sides. Handrails shall have the following features:

- 1) Handrails shall be provided along both sides of ramp segments. The inside handrail on switchback ramps shall always be continuous.**
- 2) If handrails are not continuous, they shall extend at least 12 inches beyond the top and bottom of the ramp segment and shall be parallel with the floor or ground surface.**
- 3) The clear space between the handrail and the wall shall be 1½ inch.**
- 4) Gripping surfaces shall be continuous.**
- 5) Top of handrail gripping surfaces shall be mounted between 34 and 38 inches above ramp surfaces.**

- 6) Ends of handrails shall be either rounded or returned smoothly to floor, wall, or post.
- 7) Handrails shall not rotate within their fittings.
- 8) The diameter or width of the gripping surfaces of a handrail shall be 1¼ to 1½ inch, or the shape shall provide an equivalent gripping surface.

Firm and sturdy steps shall also be provided with 7 inch maximum riser and 11 inch minimum depth, and at least one handrail extending from the top of the steps to a minimum 12 inches beyond the bottom of the steps.

The Contractor will make reasonable effort(s) to provide wheelchair accessible toilet facilities when "portable" facilities are provided.

The Contractor shall provide wheelchair accessible toilet facilities when flush type facilities, that is, those with running water, are provided; and the Contractor shall provide wheelchair accessible portable facilities, if used, when the contract duration exceeds two continuous construction seasons.

In addition to the facilities previously specified in this subsection, each field office shall meet the following minimum requirements:

<u>Description</u>	<u>Quantity</u>		
	<u>Type A</u>	<u>Type B</u>	<u>Type C</u>
Floor Area (Outside Dimension) - ft ²	312	220	125
Inside Wall Height – feet	7	7	7
Window Area - ft ²	55	35	35
Drafting Table Surface Area - ft ²	15	15	15
Drafting Stools - each	2	1	1
Office Desks - each	2	1	1
Ergonomic Swivel Chairs -ea (5-way adjustable)	3	2	2
Folding Chairs - each	3	2	2
Lighting Units - each	4	2	2
Electric Wall Outlets - each	6	4	3
Power Strip Surge Protectors - each	3	2	1
Wall Closets - each	1	1	1
Plan Rack for minimum of 6 sets of plans	1	1	0
Toilet Facility	1	1	1
Wastebaskets - each	2	2	1

All windows shall be provided with shades or blinds.

The toilet facility shall be for the exclusive use of State personnel. If requested, the Contractor will supply a lock to ensure exclusive use.

The Resident will have the option to reject any furniture or supplies provided to the field office based on general condition.

One hundred ten volt, 60 cycle, continuous electric service shall be supplied for lighting and 15 amp duplex wall outlets. Lighting shall consist of florescent light units with rapid start bulbs or LED shop style lights located over the work areas for a minimum of 50 foot candles overall. At least one external light source will be provided.

Drafting surfaces shall be 40 inches above the floor and have shelves beneath. Shelves for plans and rolls shall also be furnished overhead. Drafting stools shall be approximately 28 inches high.

Desks shall be single or double pedestal standard office type, and shall be in addition to “built-in” type desks in the office trailer.

Field offices shall be furnished with one four-drawer letter size metal filing cabinet.

Wall closets shall be 21 inches wide, 15 inches deep, and at least 4 feet high.

Each office shall be furnished with a broom, dustpan, sweeping compound, trash bags, and with cleaning material for cleaning glass. If the field office is carpeted, then a vacuum cleaner will be provided. The contractor will be responsible for disposing of trash from the field office.

The Contractor shall provide a fully functional wireless desktop copier/scanner/printer, capable of copying field books, for the Resident’s use during the project. All maintenance and supplies, except paper, shall be the responsibility of the Contractor.

The Contractor shall provide bottled water and a microwave for the duration of the project. All maintenance and supplies shall be the responsibility of the Contractor. Alternate source of water, such as a water cooler, may be provided as approved by resident.

The Contractor shall provide a 4 cubic-foot refrigerator in the field office for the duration of the project.

Each office shall be furnished with a 10-person general-purpose first aid kit. The first aid kit shall be periodically inspected and refilled as necessary.

639.08 Heat Heat appropriate to the building size shall be supplied by the Contractor to maintain an acceptable room temperature during occupancy.

639.091 Broadband Connection The contractor will supply one computer broadband connection, modem lease and router. The router shall have wireless access and be 802.11n or newer capable. The type of connection supplied will be contingent upon the availability of services (i.e. DSL or Cable Broadband). It shall be the contractor's option to provide dynamic or static IP addresses through the service. The selected service will have a minimum download connection of 5.0 Mbps and 1.0 Mbps upload. The contractor shall be responsible for the installation charges and all reinstallation charges following suspended periods. Monthly service and maintenance charges shall be billed by the Internet Service Provider (ISP) directly to the contractor.

639.10 Method of Measurement Field office will be measured by the unit or lump sum for each building provided, equipped and maintained satisfactorily.

639.11 Basis of Payment The accepted quantity of field office will be paid for at the contract unit price each or lump sum which payment shall be full compensation for furnishing until contract completion, erecting, equipping, maintaining, furnishing electricity, heating, installing and maintaining toilet facilities and if necessary removing the buildings or office trailers.

Payment for these items will be made in 3 parts; the first payment of ½ to be made after the Contractor has supplied the building or office trailer and it has been approved. The remaining payments shall be made at intervals as follows:

A second payment of ¼ shall be made when one-half of the anticipated work has been completed.

The final payment of the remaining ¼ shall be made upon completion of the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
639.18 Field Office, Type A	Each
639.19 Field Office, Type B	Each
639.20 Field Office, Type C	Each

SECTION 652

MAINTENANCE OF TRAFFIC

652.2.4 Other Devices Revise this Section by removing the following paragraph:

“ STOP/SLOW paddles shall be the primary and preferred hand held signaling device. Flags shall be limited to Emergencies. The paddle shall have an octagonal shape and be at least 18 inches wide with letters at least 6 inches high and should be fabricated from semi-rigid material”

And replace with these two paragraphs

“Flaggers shall use a STOP / SLOW hand held paddle as the primary and preferred hand signaling device. Use of flags shall be limited to emergency situations.

STOP / SLOW paddles shall have high intensity prismatic retro reflective sheeting Type XI, have an octagonal shape on a rigid handle and shall be at least 18 inches wide with letters at least 6 inches high and shall be constructed from light semi-rigid material. The STOP (R1-1) face shall have white letters and a white border on a red background. The SLOW (W20-8) face shall have black letters and a black border on an orange background. Paddles in existing stock meeting the current specification (Type VII, Type VIII, or Type IX) may be utilized until the end of the service life or until 12/31/18. All new paddles must meet the Type XI requirements.”

652.3.3 Submittal of Traffic Control Plan On page 6-148, note f, in the last sentence revise the “105.2.2” to “105.2.3” so that the last sentence reads, **“For a related provision, see Section 105.2.3 – Project Specific Emergency Planning.”**

652.3.4 General Revise the eighth paragraph by removing “Earth Berm” and replace it with **“Concrete Barrier”**.

Amend this section by adding the following paragraph before the paragraph beginning with “Special Detours and temporary structures...”:

“A temporary ramp shall be constructed with HMA at the ends of the roadway section paved or milled each day. The use of millings or RAP will not be allowed, but cold patch may be temporarily utilized until HMA plants are open for the season. The maximum ramp change in elevation shall not exceed 4” vertical. For Interstate Highways or roadways with speed limits equaling or exceeding 50 mph; temporary ramps shall be constructed at a length of eight feet per inch of transition depth. For roadways with speed limits less than 50 mph and greater than 25 mph, temporary ramps shall be constructed at a length of four feet per inch of transition depth. For roadways with speed limits 25 mph or less, temporary ramps shall be constructed at a length of two feet per inch of transition depth. Materials, placement, maintenance, and removal shall be incidental to contract items.”

652.4 Flaggers Revise this section by removing the first paragraph, and replace it with the following”

“The Contractor shall furnish flaggers as required by the TCP or as otherwise specified by the Resident. All flaggers must have successfully completed a flagger test approved by the Department and administered by a Department-approved Flagger-Certifier. All flaggers must carry an official certification card with them at all times while flagging.

For daytime conditions, flaggers shall wear a top (vest, shirt or jacket) that is orange, yellow, yellow-green, or fluorescent versions of these colors meeting ANSI 107-2004, Class 2 or Class 3, along with a hardhat with 360 ° retro-reflectivity.

For nighttime conditions, flaggers shall wear all Class 3 apparel, meeting ANSI 107-2004, including a Class 3 top (vest, shirt or jacket) and a Class E bottom (pants or coveralls), shall be worn along with a hardhat with 360 ° retro-reflectivity and shall be visible at a minimum distance of 1000 ft. Flagger stations must be illuminated in nighttime conditions to assure visibility and will be specifically addressed in detail in the Contractor's TCP".

652.41 TRAFFIC OFFICERS

Revise this subsection so that the subsection number and title is

"652.4.1 TRAFFIC OFFICERS "

SECTION 656

TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL

656.5.2 If No Pay Item Add the following to the end of the first paragraph:

"Failure by the Contractor to follow Standard Specification or Special Provision - Section 656 will result in a violation letter and a reduction in payment as shown in the schedule list in 656.5.1. The Department's Resident or any other representative of The Department reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Department shall not be held responsible for any delay in the work due to any suspension under this item."

SECTION 660

ON-THE-JOB TRAINING

660.06 Method of Measurement

Remove the first sentence in its entirety and replace with **" The OJT item will be measured by the number of OJT hours by a trainee who has successfully completed an approved training program."**

660.07 Basis of payment to the Contractor

Remove the last word in the first sentence so that the first sentence reads " The OJT shall be paid for once successfully completed at the contract unit price per **hour**."

Payment will be made under

Change the Pay Item from "660.22" to **"660.21"** and change the Pay Unit from "Each" to **"Hour"**.

SECTION 672

PRECAST CONCRETE BLOCK GRAVITY WALL

672.035 Backfill Material– Revise this section by adding the following after the second paragraph:
Backfill materials shall meet the criteria in the following table.

<u>Base Polymer</u>	<u>Property</u>	<u>Criteria</u>	<u>Test Method</u>
Polyester (PET)	pH	3 < pH < 9	AASHTO T-289
Polyolefin (PP & HDPE)	pH	pH > 3	AASHTO T-289

672.04 Design Requirements – Revise this section by replacing items 2 and 3 in the second paragraph with the following:

2. FHWA-NHI-10-024 and FHWA-NHI-10-025, Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes, Volumes I and II, current edition.
3. FHWA-NHI-09-087 Corrosion/Degradation of Soil Reinforcements for Mechanically Stabilized Earth Walls and Reinforced Soil Slopes, current edition.

SECTION 673 **WETCAST SMALL LANDSCAPE BLOCK WALL**

673.035 Backfill Material – Revise this section by adding the following after the second paragraph:

Backfill materials shall meet the criteria in the following table.

<u>Base Polymer</u>	<u>Property</u>	<u>Criteria</u>	<u>Test Method</u>
Polyester (PET)	pH	3 < pH < 9	AASHTO T-289
Polyolefin (PP & HDPE)	pH	pH > 3	AASHTO T-289

673.04 Design Requirements – Revise this section by replacing items 2 and 3 in the second paragraph with the following:

2. FHWA-NHI-10-024 and FHWA-NHI-10-025, Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes, Volumes I and II, current edition.
3. FHWA-NHI-09-087 Corrosion/Degradation of Soil Reinforcements for Mechanically Stabilized Earth Walls and Reinforced Soil Slopes, current edition

SECTION 674

PREFABRICATED CONCRETE MODULAR GRAVITY WALL

674.02 Materials

Amend this section by adding the following after “Concrete Units:” and before the paragraph beginning with “Tolerances”.

Concrete shall be Class P. The concrete shall contain a minimum of 5.5 gallons per cubic yard of calcium nitrite solution.

The minimum permeability of the concrete as indicated by Surface Resistivity shall be 17 KOhm-cm.

Defects Defects which may cause rejection of precast units include, but are not limited to, the following:

Any discontinuity (crack, rock pocket, etc.) of the concrete which could allow moisture to reach the reinforcing steel.

Rock pockets or honeycomb over 6 square inches in area or over 1 inch deep.

Edge or corner breakage exceeding 12 inches in length or 1 inch in depth.

Any other defect that clearly and substantially impacts the quality, durability, or maintainability of the structure, as determined by the Fabrication Engineer.

Repair honeycombing, ragged or irregular edges and other non-structural or cosmetic defects using a patching material from the MaineDOT Qualified Products List (QPL). The repair, including preparation of the repair area, mixing and application and curing of the patching material, shall be in accordance with the manufacturer's product data sheet. Corners that are not exposed in the final product may be ground smooth with no further repair necessary if the depth of the defect does not exceed 1/2 inch. Remove form ties and other hardware to a depth of not less than 1 inch from the face of the concrete and patch the holes using a patching material from the MaineDOT QPL.

Repair structural defects only with the approval of the Fabrication Engineer. Submit a nonconformance report (NCR) to the Fabrication Engineer with a proposed repair procedure. Do not perform structural repairs without an NCR that has been reviewed by the Fabrication Engineer. Structural defects include, but are not be limited to, exposed reinforcing steel or strand, cracks in bearing areas, through cracks and cracks 0.013 inch in width that extend more than 12 inches in length in any direction. Give the QAI adequate notice prior to beginning any structural repairs.

SECTION 677

MECHANICALLY STABILIZED EARTH RETAINING WALL

677.03 Design Requirements – Revise this section by replacing items 6, 7 and 8 in the second paragraph with the following:

6. FHWA-NHI-10-024, Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes, Volumes I, current edition.
7. FHWA-NHI-10-025, Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes, Volumes II, current edition.
8. FHWA-NHI-09-087 Corrosion/Degradation of Soil Reinforcements for Mechanically Stabilized Earth Walls and Reinforced Soil Slopes, current edition

On page 6 - 203 change “636.041” to “677.041”

Amend 677.042 Precast Panel Tolerances and Surface Finish by the addition of the following:

Defects Defects which may cause rejection of precast units include, but are not limited to, the following:

Any discontinuity (crack, rock pocket, etc.) of the concrete which could allow moisture to reach the reinforcing steel.

Rock pockets or honeycomb over 6 square inches in area or over 1 inch deep.

Edge or corner breakage exceeding 12 inches in length or 1 inch in depth.

Any other defect that clearly and substantially impacts the quality, durability, or maintainability of the structure, as determined by the Fabrication Engineer.

Repair honeycombing, ragged or irregular edges and other non-structural or cosmetic defects using a patching material from the MaineDOT Qualified Products List (QPL). The repair, including preparation of the repair area, mixing and application and curing of the patching material, shall be in accordance with the manufacturer's product data sheet. Corners that are not exposed in the final product may be ground smooth with no further repair necessary if the depth of the defect does not exceed 1/2 inch. Remove form ties and other hardware to a depth of not less than 1 inch from the face of the concrete and patch the holes using a patching material from the MaineDOT QPL.

Repair structural defects only with the approval of the Fabrication Engineer. Submit a nonconformance report (NCR) to the Fabrication Engineer with a proposed repair procedure. Do not perform structural repairs without an NCR that has been reviewed by the Fabrication Engineer. Structural defects include, but are not be limited to, exposed reinforcing steel or strand, cracks in bearing areas, through cracks and cracks 0.013 inch in width that extend more than 12 inches in length in any direction. Give the QAI adequate notice prior to beginning any structural repairs.

SECTION 702

BITUMINOUS MATERIAL

702.01 Asphalt Cement - Remove this section in its entirety and replace with the following:
Performance-Graded Asphalt Binder (PGAB) that has not been modified with polymer shall

conform to the requirements of AASHTO M 320. Polymer modified binder shall meet the requirements of AASHTO M 332 (including Appendix X1), except that the percent difference in nonrecoverable creep compliance, J_{nr} , shall not be enforced. Performance-Graded Asphalt Binder shall not contain re-refined engine oil bottoms (REOB).

The Contractor shall arrange for the Supplier to furnish the following items to the Department's Asphalt Pavement Engineer:

- a. A Quality Control Plan that conforms to the requirements of AASHTO R 26 "Certifying Suppliers of Performance-Graded Asphalt Binders" and
- b. A CERTIFICATE OF ANALYSIS for all asphalt materials furnished for use on the project. The Certificate shall include the actual test results of the material in storage from which the shipments are being made. Certificates shall be supplied for each lot, batch, or blend of each type and grade of material. A new certificate shall be issued at least every 30 days or upon receiving or manufacture of a new material. The original of each Certificate of Analysis shall be mailed to the Department's Asphalt Pavement Engineer.

The Contractor shall give the supplier sufficient notice of orders to permit testing and certification. Material not certified will not be accepted for use.

Deliveries of asphalt materials shall be accompanied by a Bill of Lading containing the information required under Section 108.1.3 f. The Bill of Lading shall include the applicable certificate number and shall include a printed or stamped statement such as the following: "THIS IS TO CERTIFY THAT THE ASPHALT MATERIAL REPRESENTED BY THIS LOADING INVOICE CONFORMS TO THE SPECIFICATIONS OF THE PURCHASER FOR THE MATERIAL TYPE AND GRADE STATED THEREON."

In the event an intermediate hauler of the asphalt material is involved, a copy of their own delivery slip shall be furnished, as well as a copy of the supplier's loading invoice. The hauler's delivery slip and the supplier's loading invoice shall be cross-referenced by use of their respective serial numbers.

All non-bituminous components added to the binder prior to the sampling point for binder certification shall be included on the asphalt binder Certificate of Analysis identifying their presence. All non-bituminous components added after the certification sampling point and prior to transport shall be included on the Bill of Lading. All non-bituminous components added to the binder at the HMA plant shall be identified on the mix plant documentation and accompanied by test results and certification showing the effect of the additives introduced, if any.

702.04 Emulsified Asphalt

Revise this Section by removing the first paragraph in its entirety and replace with the following:

Emulsified Asphalt shall conform to the requirements of AASHTO M 140. Cationic emulsified asphalt shall conform to the requirements of AASHTO M 208. Anionic emulsified asphalt Grade RS-1h shall conform to the requirements in the following table:

Type	Rapid-Setting	
Grade	RS-1h	
Tests on Emulsions	min	max
Viscosity, Saybolt Furol at 25°C SFS	20	100
Storage Stability test, 24-h, % ^A	-	1.0
Demulsibility, 35 ml, 0.02 N CaCl ₂ , %	60	-
Sieve Test, % ^A	-	0.10
Residue by distillation, %	55	-
Tests on Residue from Distillation Test	min	max
Penetration, 25°C 100g, 5 s	40	90
Ductility, 25°C 5 cm/min, cm	40	-
Solubility in trichloroethylene or n-propyl bromide, %	97.5	-

^A This requirement is waived if successful application of material has been achieved in the field.

SECTION 703 **AGGREGATES**

703.01 Fine Aggregate for Concrete Replace the second paragraph with the following:

“All fine aggregate shall be free from injurious amounts of organic impurities. Should the fine aggregate, when subjected to the colorimetric test for organic impurities, AASHTO T 21, produce a color darker than organic plate number 3, the fine aggregate shall be rejected.”

703.0201 Alkali Silica Reactive Aggregates. Remove this section in its entirety and replace with the following:

All coarse and fine aggregates proposed for use in concrete shall be tested for Alkali Silica Reactivity (ASR) potential under AASHTO T 303 (ASTM C 1260), Accelerated Detection of Potentially Deleterious Expansion of Mortar Bars Due to Alkali-Silica Reaction, prior to being accepted for use. Acceptance will be based on testing performed by an accredited independent lab submitted to the Department. Aggregate submittals will be required on a 5-year cycle, unless the source or character of the aggregate in question has changed within 5 years from the last test date.

As per AASHTO T 303 (ASTM C 1260): Use of a particular coarse or fine aggregate will be allowed with no restrictions when the mortar bars made with this aggregate expand less than or equal to 0.10 percent at 30 days from casting. Use of a particular coarse or fine aggregate will be classified as potentially reactive when the mortar bars made with this aggregate expand greater than 0.10 percent at 30 days from casting. Use of this aggregate will only be allowed with the use of cement-pozzolan blends and/or chemical admixtures that result in mortar bar expansion of less than 0.10 percent at 30 days from casting as tested under ASTM C 1567.

Acceptable pozzolans and chemical admixtures that may be used when an aggregate is classified as potentially reactive include, but are not limited to the following:

Class F Coal Fly Ash meeting the requirements of AASHTO M 295.

Ground Granulated Blast Furnace Slag (Grade 100 or 120) meeting the requirements of AASHTO M 302.

Densified Silica Fume meeting the requirements of AASHTO M 307.

Lithium based admixtures

Metakaolin

Pozzolans or chemical admixtures required to offset the effects of potentially reactive aggregates will be incorporated into the concrete at no additional cost to the Department.

703.06 Aggregate for Base and Subbase - Remove the first two paragraphs in their entirety and replace with these:

“The following shall apply to Sections (a.) and (c.) below. The material shall have a Micro-Deval value of 25.0 or less as determined by AASHTO T 327. If the Micro-Deval value exceeds 25.0, the Washington State Degradation DOT Test Method T113, Method of Test for Determination of Degradation Value (January 2009 version) shall be performed, except that the test shall be performed on the portion of the sample that passes the ½ in sieve and is retained on the No. 10 sieve. If the material has a Washington Degradation value of less than 15, the material shall be rejected.

The material used in Section (b.) below shall have a Micro-Deval value of 25.0 or less as determined by AASHTO T 327. If the Micro-Deval value exceeds 25.0 the material may be used if it does not exceed 25 percent loss on AASHTO T 96, Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine. “

703.081 RAP for Asphalt Pavement

Remove this section in its entirety and replace with the following:

703.081 RAP for Asphalt Pavement Recycled Asphalt Pavement (RAP) may be introduced into hot-mix asphalt pavement at percentages approved by the Department according to the MaineDOT Policies and Procedures for HMA Sampling and Testing.

If approved by the Department, the Contractor shall provide documentation stating the source, test results for average residual asphalt content, and stockpile gradations showing RAP materials have been sized to meet the maximum aggregate size requirements of each mix designation. The Department will obtain samples for verification and approval prior to its use.

The maximum allowable percent of RAP shall be determined by the asphalt content, the percent passing the 0.075 mm sieve, the ratio between the percent passing the 0.075 mm sieve and the asphalt content, and Coarse Micro-Deval loss values as tested by the Department. The maximum percentage of RAP allowable shall be the lowest percentage as determined according to Table 4 below:

Table 4: Maximum Percent RAP According to Test Results

Classification	Maximum RAP Percentage Allowed	Asphalt content standard deviation	Percent passing 0.075 mm sieve standard deviation	Percent passing 0.075 mm sieve / asphalt content ratio	Residual aggregate M-D loss value
Class III	10%	≤ 1.0	N/A	≤ 4.0	≤ 18
Class II	20%	≤ 0.5	≤ 1.0	≤ 2.8	
Class I	30%	≤ 0.3	≤ 0.5	≤ 1.8	

The Department will monitor RAP asphalt content and gradation during production by testing samples from the stockpile at approximately 15,000 T intervals (in terms of mix production). The allowable variance limits (from the numerical average values used for mix designs) for this testing are determined based upon the maximum allowable RAP percentage, and are shown below in Table 5.

Table 5: RAP Verification Limits

Classification	Asphalt content (compared to aim)	Percent passing 0.075 mm sieve (compared to aim)
Class III	± 1.5	± 2.0
Class II	± 1.0	± 1.5
Class I	± 0.5	± 0.7

For specification purposes, RAP will be categorized as follows:

Class III – A maximum of 10.0 percent of Class III RAP may be used in any base, intermediate base, surface, or shim mixture. A maximum of 20.0 percent of Class III RAP may be used in hand-placed mixes for item 403.209.

Class II – A maximum of 20.0 percent Class II RAP in any base, binder, surface, or shim course.

Class I – A maximum of 20.0 percent Class I RAP may be used in any base, intermediate base, surface, or shim mixture without requiring a change to the specified asphalt binder. A maximum of 30.0 percent Class I RAP may be used in in any base or intermediate base mixture provided that a PG 58-28 asphalt binder is used. A maximum of 30.0 percent Class I RAP may be used in any surface or shim mixture provided that PG 58-34 or 52-34 asphalt binder is used. Mixtures exceeding 20.0 percent Class I RAP must be evaluated and approved by the Department.

The Contractor may use up to two different RAP sources in any one mix design. The total RAP percentage of the mix shall not exceed the maximum allowed for the highest classification RAP source used (i.e. if a Class I & Class III used, total RAP must not exceed 30.0%). The blended RAP material must meet all the requirements of the classification for which the RAP is entered (i.e. 10% Class III with 20% Class I, blend must meet Class I criteria). The Department may take belt cuts of the blended RAP to verify the material meets these requirements. If the Contractor elects to use more than one RAP source in a design, the Contractor shall provide an acceptable point of sampling blended RAP material from the feed belt.

In the event that RAP source or properties change, the Contractor shall notify the Department of the change and submit new documentation stating the new source or properties a minimum of 72 hours prior to the change to allow for obtaining new samples and approval.

703.19 Granular Borrow

Remove the gradation requirements table, and replace with the following:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	Material for Underwater Backfill	Material for Embankment Construction
6 inch	100	
No. 40	0-70	0-70
No. 200	0-7.0	0-20.0

703.33 Stone Ballast - In the third paragraph, remove the words “less than” before 2.60 and add the words “or greater” after 2.60.

SECTION 708

PAINTS AND PRESERVATIVES

708.05 Timber Preservative Revise this section by removing it in its entirety and replacing with:
“Timber preservatives shall conform to the requirements of AASHTO M 133 and AWWA Standard U1. All preservatives shall meet the requirements of the US EPA regulations under the Federal Insecticide, Fungicide and Rodenticide Act.”

SECTION 709

REINFORCING STEEL AND WELDED STEEL WIRE FABRIC

709.01 Reinforcing Steel Revise this section by removing the sentence starting with “The chemical composition...” in the third paragraph and replace it with the following:
“The chemical composition shall conform to one of the types listed in Table 2 of ASTM A955 or UNS S32304 Duplex.”

SECTION 710

FENCE AND GUARDRAIL

710.07 Guardrail Posts Amend subsection ‘a’ by removing the words “white oak”, “cedar”, “tamarack”, “maple”, “beech”, “birch” and “red oak” from the first sentence. Also in the first sentence, place an “or” between “pine” and “eastern hemlock”. In the second sentence remove the words “well seasoned”. Remove the sentence beginning with “Wood posts and offset brackets...” and replace it with: **“Wood posts and offset brackets shall be preservative treated in accordance with the requirements of AASHTO M 133 and AWWA U1, UC4A Commodity Specification A: Sawn Products.”**

SECTION 712

MISCELLANEOUS HIGHWAY MATERIAL

712.061- Structural Precast Concrete Units

Under the heading, Quality Control and Quality Assurance, revise the fourth paragraph to read:

“Acceptance is the prerogative of the Department. The Department will conduct Quality Assurance (QA) in accordance with Standard Specification Subsection 106.5. Testing deemed necessary by the Department that is in addition to the minimum testing requirements will be scheduled to minimize interference with the production schedule. The QAI will perform acceptance sampling and testing and will witness or review documentation, workmanship and testing to assure the Work is being performed in accordance with the Contract Documents.”

Under the heading, Concrete Testing, revise the first paragraph to read as the following two paragraphs:

“Concrete Testing Acceptance of structural precast units, for each day’s production, will be determined by the Department, based on compliance with this specification and satisfactory concrete testing results.

At least once per week, the QAI will make 2 concrete cylinders (6 cylinders when the Contract includes permeability requirements) for use by the Department; cylinders shall be standard cured in accordance with AASHTO T23 (ASTM C31). The QAI will perform entrained air content and slump flow testing, determine water-cement ratio and determine temperature of the sampled concrete at the time of cylinder casting. All testing equipment required by the QAI to perform this testing shall be in accordance with Standard Specification Section 502.041, Testing Equipment. In addition, the Contractor shall provide a slump cone meeting the requirements of AASHTO T 119. Providing and maintaining testing and curing equipment shall be considered incidental to the work and no additional payment will be made.

Quality Control test cylinders shall be made and tested in accordance with the following standards:

AASHTO T 22 (ASTM C39) Test Method for Compressive Strength of Cylindrical Concrete Specimens

AASHTO T23 (ASTM C31) Practice for Making and Curing Concrete Test Specimens in Field

AASHTO T141 (ASTM C172) Practice for Sampling Freshly Mixed Concrete

AASHTO T152 (ASTM C231) Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method

AASHTO T196 (ASTM C173) Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method

ASTM C1064 Test Method for Temperature of Freshly mixed Portland Cement Concrete

ASTM C1611 Standard Test Method for Slump Flow of Self-Consolidating Concrete”

Under the heading, Concrete Testing, delete the paragraph that begins:

“At least once per week, the Contractor shall make 2 concrete cylinders.....for use by the Department.....”

SECTION 713

STRUCTURAL STEEL AND RELATED MATERIAL

Section 713.01- Structural Steel Revise this Section by removing the sentence:

“ Impact test sampling and testing procedures shall be in accordance with AASHTO T.”

And replace it with: **“Impact test sampling and testing procedures shall be in accordance with AASHTO T 243 M/T 243 and AASHTO T 244.”**

SECTION 717

ROADSIDE IMPROVEMENT MATERIAL

717.02 Agricultural Ground Limestone

In the table after the third paragraph which starts with “Liquid lime...” change the Specification for Nitrogen (N) from “15.5 percent of which 1% is from ammoniac nitrogen and 14.5 /5 is from Nitrate Nitrogen” to read **“15.5 % of which 1% is from Ammoniacal Nitrogen and 14.5 % is from Nitrate Nitrogen”**

717.061 Erosion Control Blankets Revise this section by removing it in its entirety and replacing it with the following:

“717.061 Erosion Control Blankets Shall consist of a machine produced rolled blanket of biodegradable fibers, evenly distributed over the entire area of blanket, of a consistent thickness, sewn into a biodegradable mesh on the top and bottom surface using a cotton blend thread. The blanket shall remain in place when subject to shear stress of 1.55 lb/ft². The blanket shall remain intact until grass is established. The blanket shall be a product currently listed on the department’s Qualified Products List (QPL) of Erosion Control Products. See Section 618.10 - Seeding, Maintenance and Acceptance.”

SECTION 720

STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS

720.10 Wood Utility Pole Amend the first sentence in this section by adding “, **Red Pine**” after “Douglas Fir”.

Replace the paragraph beginning with “Wood Utility poles...” with:

“Wood Utility poles shall be pressure treated, after fabrication in accordance with AASHTO Specifications M 133 and AWP A U1, UC4B, Commodity Specification D: Poles.”

720.12 Wood Sign Posts Remove the first sentence and replace with **“Wood sign posts shall be rectangular, straight and sound timber, cut from live growing native spruce, red pine, hemlock or cedar trees, free from loose knots or other structurally weakening defects of importance, such as shake or holes or heart rot.”**

Remove the paragraph beginning with “When pressure treated sign posts are called for on the plans ...” with **“When pressure treated sign posts are called for on the plans, the wood shall be Yellow Pine, Number 2 or better, or the species listed above. The pressure treated wood shall meet AASHTO M 133 and AWP A Standard U1, UC4A, Commodity Specification A: Sawn Products.”**

APPENDIX A TO DIVISION 100

SECTION 1 - BIDDING PROVISIONS

A. Federally Required Certifications By signing and delivering a Bid, the Bidder certifies as provided in all certifications set forth in this Appendix A - Federal Contract Provisions Supplement including:

- Certification Regarding No Kickbacks to Procure Contract as provided on this page 1 below.
- Certification Regarding Non-collusion as provided on page 1 below.
- Certification Regarding Non-segregated Facilities as provided by FHWA Form 1273, section III set forth on page 21 below.
- "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion" as provided by FHWA Form 1273, section XI set forth on page 32 below.
- "Certification Regarding Use of Contract Funds for Lobbying" as provided by FHWA Form 1273, section XII set forth on page 35 below.

Unless otherwise provided below, the term "Bidder", for the purposes of these certifications, includes the Bidder, its principals, and the person(s) signing the Bid. Upon execution of the Contract, the Bidder (then called the Contractor) will again make all the certifications indicated in this paragraph above.

CERTIFICATION REGARDING NO KICKBACKS TO PROCURE CONTRACT Except expressly stated by the Bidder on sheets submitted with the Bid (if any), the Bidder hereby certifies, to the best of its knowledge and belief, that it has not:

(A) employed or retained for a commission, percentage, brokerage, contingent fee, or other consideration, any firm or person (other than a bona fide employee working solely for me) to solicit or secure this contract;

(B) agreed, as an express or implied condition for obtaining this contract, to employ or retain the services of any firm or person in connection with carrying out the contract, or;

(C) paid, or agreed to pay, to any firm, organization, or person (other than a bona fide employee working solely for me) any fee, contribution, donation, or consideration of any kind for, or in connection with, procuring or carrying out the contract;

By signing and submitting a Bid, the Bidder acknowledges that this certification is to be furnished to the Maine Department of Transportation and the Federal Highway Administration, U.S. Department of Transportation in connection with this contract in anticipation of federal aid highway funds and is subject to applicable state and federal laws, both criminal and civil.

CERTIFICATION REGARDING NONCOLLUSION Under penalty of perjury as provided by federal law (28 U.S.C. §1746), the Bidder hereby certifies, to the best of its knowledge and belief, that:

the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with the Contract.

For a related provisions, see Section 102.7.2 (C) of the Standard Specifications - "Effects of Signing and Delivery of Bids" - "Certifications", Section 3 of this Appendix A entitled "Other Federal Requirements" including section XI - "Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion" and section XII. - "Certification Regarding Use of Contract Funds for Lobbying."

B. Bid Rigging Hotline To report bid rigging activities call: **1-800-424-9071**

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

SECTION 2 - FEDERAL EEO AND CIVIL RIGHTS REQUIREMENTS

Unless expressly otherwise provided in the Bid Documents, the provisions contained in this Section 2 of this "Federal Contract Provisions Supplement" are hereby incorporated into the Bid Documents and Contract.

A. Nondiscrimination & Civil Rights - Title VI The Contractor and its subcontractors shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the Department deems appropriate. The Contractor and subcontractors shall comply with Title VI of the Civil Rights Act of 1964, as amended, and with all State of Maine and other Federal Civil Rights laws.

For related provisions, see Subsection B - "Nondiscrimination and Affirmative Action - Executive Order 11246" of this Section 2 and Section 3 - Other Federal Requirements of this "Federal Contract Provisions Supplement" including section II - "Nondiscrimination" of the "Required Contract Provisions, Federal Aid Construction Contracts", FHWA-1273.

B. Nondiscrimination and Affirmative Action - Executive Order 11246 Pursuant to Executive Order 11246, which was issued by President Johnson in 1965 and amended in 1967 and 1978, this Contract provides as follows.

The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its efforts to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

Ensure and maintain a working environment free of harassment, intimidations, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all forepersons, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its union have employment opportunities available, and to maintain a record of the organization's responses.

Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.

Provide immediate written notification to the Department's Civil Rights Office when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Design-Builder's efforts to meet its obligations.

Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under B above.

Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligation; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Forepersons, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractor's and Subcontractors with whom the Contractor does or anticipates doing business.

Direct its recruitment efforts, both orally and written to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above describing the openings, screenings, procedures, and test to be used in the selection process.

Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth, both on the site and in other areas of a Contractor's workforce.

Validate all tests and other selection requirements.

Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

Ensure that all facilities and company activities are non segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction Contractor's and suppliers, including circulation of solicitations to minority and female Contractor associations and other business associations.

Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

C. Goals for Employment of Women and Minorities Per Executive Order 11246, craft tradesperson goals are 6.9% women and .5% minorities employed. However, goals may be adjusted upward at the mutual agreement of the Contractor and the Department. Calculation of these percentages shall not include On-the-Job Training Program trainees, and shall not include clerical or field clerk position employees.

For a more complete presentation of requirements for such Goals, see the federally required document "Goals for Employment of Females and Minorities" set forth in the next 6 pages below.

Start of GOALS FOR EMPLOYMENT OF FEMALES AND MINORITIES
Federally Required Contract Document

§60-4.2 Solicitations

- (d) The following notice shall be included in, and shall be part of, all solicitations for offers and bids on all Federal and federally assisted construction contracts or subcontracts in excess of \$10,000 to be performed in geographical areas designated by the Director pursuant to §60-4.6 of this part (see 41 CFR 60-4.2(a)):

Notice of Requirement for Affirmative Action to Ensure Equal Opportunity (Executive Order 11246)

1. The Offeror's or bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

<u>Goals for female participation in each trade</u>	6.9%
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Goals for minority participation for each trade

Maine

001 Bangor, ME	0.8%
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Non-SMSA Counties (Aroostook, Hancock, Penobscot, Piscataquis, Waldo, Washington)

002 Portland-Lewiston, ME

SMSA Counties: 4243 Lewiston-Auburn, ME (Androscoggin)	0.5%
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6403 Portland, ME (Cumberland, Sagadahoc)	0.6%
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Non-SMSA Counties:
(Franklin, Kennebec, Knox, Lincoln, Oxford, Somerset, York)

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non federally involved construction.

The contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be in violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer identification number of the subcontractor, estimated dollar amount of the subcontract; estimated started and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in this Notice, and in the Contract resulting from this solicitation, the "covered area" is (insert description of the geographical areas where the contract is to be performed giving the state, county and city, if any).

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

1. As used in these specifications:
 - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
 - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department form 941;
 - d. "Minority" includes:

- (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of the North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3. If the contractor, is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors for Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7 a. through p. of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical areas where the work is being performed. Goals are published periodically in the Federal Register in notice form and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specific.
5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant, thereto.

6. In order for the non working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as expensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, when possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b. Establish and maintain a current list of minority and female recruitment sources provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organization's responses.
 - c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment sources or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.
 - d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
 - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources complied under 7b above.

- f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- i. Direct its recruitment, efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing prior to the date for the acceptance of applications for apprenticeship or the openings, screening procedures, and tests to be used in the selection process.
- j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on site and in other areas of a Contractor's work force.
- k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
- l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

- n. Ensure that all facilities and company activities are non segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitation to minority and female contractor associations and other business associations.
 - p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7 a through p.). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7 a through p. of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.
9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, specific minority group of women is underutilized.)
10. The Contractor shall not use the goals and timetables or affirmative action even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if standards to discriminate against any person because of race, color, religion, sex, or national origin.
11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementation regulations by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.6.
14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g. mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and location at which the work was performed. Records be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

End of GOALS FOR EMPLOYMENT OF FEMALES AND MINORITIES
Federally Required Contract Document

D. Section '**D Disadvantaged Business Enterprise (DBE) Requirements**' is removed in its entirety. The DBE material is in:

Section 105.10 EQUAL OPPORTUNITY AND CIVIL RIGHTS.

SECTION 3 - OTHER FEDERAL REQUIREMENTS

Unless expressly otherwise provided in the Bid Documents, the provisions contained in this Section 3 of this "Federal Contract Provisions Supplement" are hereby incorporated into the Bid Documents and Contract.

A. Buy America

If the cost of products purchased for permanent use in this project which are manufactured of steel, iron or the application of any coating to products of these materials exceeds 0.1 percent of the contract amount, or \$2,500.00, whichever is greater, the products shall have been manufactured and the coating applied in the United States. The coating materials are not subject to this clause, only the application of the coating. In computing that amount, only the cost of the product and coating application cost will be included.

Ore, for the manufacture of steel or iron, may be from outside the United States; however, all other manufacturing processes of steel or iron must be in the United States to qualify as having been manufactured in the United States.

United States includes the 50 United States and any place subject to the jurisdiction thereof.

Products of steel include, but are not limited to, such products as structural steel, piles, guardrail, steel culverts, reinforcing steel, structural plate and steel supports for signs, luminaries and signals.

Products of iron include, but are not limited to, such products as cast iron grates.

Application of coatings include, but are not limited to, such applications as epoxy, galvanized and paint.

To assure compliance with this section, the Contractor shall submit a certification letter on its letterhead to the Department stating the following:

“This is to certify that products made of steel, iron or the application of any coating to products of these materials whose costs are in excess of \$2,500.00 or 0.1 percent of the original contract amount, whichever is greater, were manufactured and the coating, if one was required, was applied in the United States.”

B. Materials

a. Convict Produced Materials References: 23 U.S.C. 114(b)(2), 23 CFR 635.417

Applicability: FHWA's prohibition against the use of convict material only applies to Federal-aid highways. Materials produced after July 1, 1991, by convict labor may only be incorporated in a Federal-aid highway construction project if: 1) such materials have been produced by convicts who are on parole, supervised release, or probation from a prison; or 2) such material has been produced in a qualified prison facility, e.g., prison industry, with the amount produced during any 12-month period, for use in Federal-aid projects, not exceeding the amount produced, for such use, during the 12-month period ending July 1, 1987.

Materials obtained from prison facilities (e.g., prison industries) are subject to the same requirements for Federal-aid participation that are imposed upon materials acquired from other sources. Materials manufactured or produced by convict labor will be given no preferential treatment.

The preferred method of obtaining materials for a project is through normal contracting procedures which require the contractor to furnish all materials to be incorporated in the work. The contractor selects the source, public or private, from which the materials are to be obtained (23 CFR 635.407). Prison industries are prohibited from bidding on projects directly (23 CFR 635.112e), but may act as material supplier to construction contractors.

Prison materials may also be approved as State-furnished material. However, since public agencies may not bid in competition with private firms, direct acquisition of materials from a

prison industry for use as State-furnished material is subject to a public interest finding with the Division Administrator's concurrence (23 CFR 635.407d). Selection of materials produced by convict labor as State-furnished materials for mandatory use should be cleared prior to the submittal of the Plans Specifications & Estimates (PS&E).

b. Patented/Proprietary Products References: 23 U.S.C. 112, 23 CFR 635.411

FHWA will not participate, directly or indirectly, in payment for any premium or royalty on any patented or proprietary material, specification, or process specifically set forth in the plans and specifications for a project, unless:

- the item is purchased or obtained through competitive bidding with equally suitable unpatented items,
- the STA certifies either that the proprietary or patented item is essential for synchronization with the existing highway facilities or that no equally suitable alternative exists, or
- the item is used for research or for a special type of construction on relatively short sections of road for experimental purposes. States should follow FHWA's procedures for "Construction Projects Incorporating Experimental Features" (expmmt.htm) for the submittal of work plans and evaluations.

The primary purpose of the policy is to have competition in selection of materials and allow for development of new materials and products. The policy further permits materials and products that are judged equal may be bid under generic specifications. If only patented or proprietary products are acceptable, they shall be bid as alternatives with all, or at least a reasonable number of, acceptable materials or products listed; and the Division Administrator may approve a single source if it can be found that its utilization is in the public interest.

Trade names are generally the key to identifying patented or proprietary materials. Trade name examples include 3M, Corten, etc. Generally, products identified by their brand or trade name are not to be specified without an "or equal" phrase, and, if trade names are used, all, or at least a reasonable number of acceptable "equal" materials or products should be listed. The licensing of several suppliers to produce a product does not change the fact that it is a single product and should not be specified to the exclusion of other equally suitable products.

c. State Preference References: 23 U.S.C. 112, 23 CFR 635.409

Materials produced within Maine shall not be favored to the exclusion of comparable materials produced outside of Maine. State preference clauses give particular advantage to the designated source and thus restrict competition. Therefore, State preference provisions shall not be used on any Federal-aid construction projects.

This policy also applies to State preference actions against materials of foreign origin, except as otherwise permitted by Federal law. Thus, States cannot give preference to in-State material sources over foreign material sources. Under the Buy America provisions, the States are

permitted to expand the Buy America restrictions provided that the STA is legally authorized under State law to impose more stringent requirements.

d. State Owned/Furnished/Designated Materials References: 23 U.S.C. 112, 23 CFR 635.407

Current FHWA policy requires that the contractor must furnish all materials to be incorporated in the work, and the contractor shall be permitted to select the sources from which the materials are to be obtained. Exceptions to this requirement may be made when there is a definite finding, by MaineDOT and concurred in by Federal Highway Administration's (FHWA) Division Administrator, that it is in the public interest to require the contractor to use materials furnished by the MaineDOT or from sources designated by MaineDOT. The exception policy can best be understood by separating State-furnished materials into the categories of manufactured materials and local natural materials.

Manufactured Materials When the use of State-furnished manufactured materials is approved based on a public interest finding, such use must be made mandatory. The optional use of State-furnished manufactured materials is in violation of our policy prohibiting public agencies from competing with private firms. Manufactured materials to be furnished by MaineDOT must be acquired through competitive bidding, unless there is a public interest finding for another method, and concurred in by FHWA's Division Administrator.

Local Natural Materials When MaineDOT owns or controls a local natural materials source such as a borrow pit or a stockpile of salvaged pavement material, etc., the materials may be designated for either optional or mandatory use; however, mandatory use will require a public interest finding (PIF) and FHWA's Division Administrator's concurrence.

In order to permit prospective bidders to properly prepare their bids, the location, cost, and any conditions to be met for obtaining materials that are made available to the contractor shall be stated in the bidding documents.

Mandatory Disposal Sites Normally, the disposal site for surplus excavated materials is to be of the contractor's choosing; although, an optional site(s) may be shown in the contract provisions. A mandatory site shall be specified when there is a finding by MaineDOT, with the concurrence of the Division Administrator, that such placement is the most economical or that the environment would be substantially enhanced without excessive cost. Discussion of the mandatory use of a disposal site in the environmental document may serve as the basis for the public interest finding.

Summarizing FHWA policy for the mandatory use of borrow or disposal sites:

- mandatory use of either requires a public interest finding and FHWA's Division Administrator's concurrence,
- mandatory use of either may be based on environmental consideration where the environment will be substantially enhanced without excessive additional cost, and
- where the use is based on environmental considerations, the discussion in the environmental document may be used as the basis for the public interest finding.

Factors to justify a public interest finding should include such items as cost effectiveness, system integrity, and local shortages of material.

C. Standard FHWA Contract Provisions - FHWA 1273

Unless expressly otherwise provided in the Bid Documents, the following “Required Contract Provisions, Federal Aid Construction Contracts”, FHWA-1273, are hereby incorporated into the Bid Documents and Contract.

Cargo Preference Act : Contractor and Subcontractor Clauses. “Use of United States-flag vessels: The contractor agrees—“(1) To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.”(2) To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.”(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.”(Reorganization Plans No. 21 of 1950 (64 Stat. 1273) and No. 7 of 1961 (75 Stat. 840) as amended by Pub. L. 91-469 (84 Stat. 1036) and Department of Commerce Organization Order 10-8 (38 FR 19707, July 23, 1973)) [42 FR 57126, Nov. 1, 1977]

The Cargo Preference Act requirements apply to materials or equipment that are acquired for a specific Federal-aid highway project. In general, the requirements are not applicable to goods or materials that come into inventories independent of an FHWA funded-contract. For example, the requirements would not apply to shipments of Portland cement, asphalt cement, or aggregates, as industry suppliers and contractors use these materials to replenish existing inventories. In general, most of the materials used for highway construction originate from existing inventories and are not acquired solely for a specific Federal-aid project. However, if materials or equipment are acquired solely for a Federal-aid project, then the Cargo Preference Act requirements apply.”

Start of FHWA 1273 REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS (As revised through May 1, 2012)

FHWA-1273 -- Revised May 1, 2012

**REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS**

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment,

termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

- a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.
- b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.
- c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability.

The following procedures shall be followed:

- a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.
- b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.
- c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.
- d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women.

Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even

though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (ii) The classification is utilized in the area by the construction industry; and
- (iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act),

daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the “Statement of Compliance” required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a

different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

- (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
- (2) the prime contractor remains responsible for the quality of the work of the leased employees;
- (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
- (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

- a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
- c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--
Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR
APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL
ACCESS ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

- a. To the extent that qualified persons regularly residing in the area are not available.
- b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.
- c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

End of FHWA 1273

The United States Department of Transportation (USDOT)

FHWA STANDARD TITLE VI/NONDISCRIMINATION ASSURANCES

DOT Order No. 1050.2A

The Maine Department of Transportation (herein referred to as the "Recipient"), **HEREBY AGREES THAT**, as a condition to receiving any Federal financial assistance from the U.S. Department of Transportation (DOT), through The Federal Highway Administration (FHWA), is subject to and will comply with the following:

Statutory/Regulatory Authorities

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin);
- 49 C.F.R. Part 21 (entitled *Nondiscrimination In Federally-Assisted Programs Of The Department Of Transportation—Effectuation Of Title VI Of The Civil Rights Act Of 1964*);
- 28 C.F.R. section 50.3 (U.S. Department of Justice Guidelines for Enforcement of Title VI of the Civil Rights Act of 1964);

FHWA may include additional Statutory/Regulatory Authorities here.

The preceding statutory and regulatory cites hereinafter are referred to as the "Acts" and "Regulations," respectively.

General Assurances

In accordance with the Acts, the Regulations, and other pertinent directives, circulars, policy, memoranda, and/or guidance, the Recipient hereby gives assurance that it will promptly take any measures necessary to ensure that:

No person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity," for which the Recipient receives Federal financial assistance from DOT, including FHWA..

The Civil Rights Restoration Act of 1987 clarified the original intent of Congress, with respect to Title VI and other Nondiscrimination requirements (The Age Discrimination Act of 1975, and Section 504 of the Rehabilitation Act of 1973), by restoring the broad, institutional-wide scope and coverage of these nondiscrimination statutes and requirements to include all programs and activities of the Recipient, so long as any portion of the program is Federally assisted.

FHWA may include additional General Assurances in this section, or reference an addendum here.

Specific Assurances

More specifically, and without limiting the above general Assurance, the Recipient agrees with and gives the following Assurances with respect to its federally assisted programs:

1. The Recipient agrees that each "activity," "facility," or "program," as defined in §§ 21.23 (b) and 21.23 (e) of 49 C.F.R. § 21 will be (with regard to an "activity") facilitated, or will be (with regard to a "facility") operated, or will be (with regard to a "program") conducted in compliance with all requirements imposed by, or pursuant to the Acts and the Regulations.
2. The Recipient will insert the following notification in all solicitations for bids, Requests For Proposals for work, or material subject to the Acts and the Regulations made in connection with all Federal Highway Programs and, in adapted form, in all proposals for negotiated agreements regardless of funding source:

The (Agency), in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively insure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

3. The Recipient will insert the clauses of Appendix A and E of this Assurance in every contract or agreement subject to the Acts and the Regulations.
4. The Recipient will insert the clauses of Appendix B of this Assurance, as a covenant running with the land, in any deed from the United States effecting or recording a transfer of real property, structures, use, or improvements thereon or interest therein to a Recipient.
5. That where the Recipient receives Federal financial assistance to construct a facility, or part of a facility, the Assurance will extend to the entire facility and facilities operated in connection therewith.
6. That where the Recipient receives Federal financial assistance in the form, or for the acquisition of real property or an interest in real property, the Assurance will extend to rights to space on, over, or under such property.
7. That the Recipient will include the clauses set forth in Appendix C and Appendix D of this Assurance, as a covenant running with the land, in any future deeds, leases, licenses, permits, or similar instruments entered into by the Recipient with other parties:
 - a. for the subsequent transfer of real property acquired or improved under the applicable activity, project, or program; and
 - b. for the construction or use of, or access to, space on, over, or under real property acquired or improved under the applicable activity, project, or program.
8. That this Assurance obligates the Recipient for the period during which Federal financial assistance is extended to the program, except where the Federal financial assistance is to provide, or is in the form of, personal property, or real property, or interest therein, or structures or improvements thereon, in which case the Assurance obligates the Recipient, or any transferee for the longer of the following periods:

- a. the period during which the property is used for a purpose for which the Federal financial assistance is extended, or for another purpose involving the provision of similar services or benefits; or
 - b. the period during which the Recipient retains ownership or possession of the property.
9. The Recipient will provide for such methods of administration for the program as are found by the Secretary of Transportation or the official to whom he/she delegates specific authority to give reasonable guarantee that it, other recipients, sub-recipients, sub-grantees, contractors, subcontractors, consultants, transferees, successors in interest, and other participants of Federal financial assistance under such program will comply with all requirements imposed or pursuant to the Acts, the Regulations, and this Assurance.
10. The Recipient agrees that the United States has a right to seek judicial enforcement with regard to any matter arising under the Acts, the Regulations, and this Assurance.

FHWA may include additional Specific Assurances in this section.

By signing this ASSURANCE, Maine Department of Transportation also agrees to comply (and require any subrecipients, sub-grantees, contractors, successors, transferees, and/or assignees to comply) with all applicable provisions governing the FHWA access to records, accounts, documents, information, facilities, and staff. You also recognize that you must comply with any program or compliance reviews, and/or complaint investigations conducted by FHWA. You must keep records, reports, and submit the material for review upon request to FHWA, or their designees in a timely, complete, and accurate way. Additionally, you must comply with all other reporting, data collection, and evaluation requirements, as prescribed by law or detailed in program guidance.

Maine Department of Transportation gives this ASSURANCE in consideration of and for obtaining any Federal grants, loans, contracts, agreements, property, and/or discounts, or other Federal-aid and Federal financial assistance extended after the date hereof to the recipients by the U.S. Department of Transportation. This ASSURANCE is binding on Maine Department of Transportation, other recipients, sub-recipients, sub-grantees, contractors, subcontractors and their subcontractors', transferees, successors in interest, and any other participants in it programs. . The person(s) signing below is authorized to sign this ASSURANCE on behalf of the Recipient.

Name of Recipient: Maine Department of Transportation



David Bernhardt, Commissioner

DATED: 9/18/14

APPENDIX A

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees as follows:

1. **Compliance with Regulations:** The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Nondiscrimination in Federally-assisted programs of the U.S. Department of Transportation, **Federal Highway Administration**, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Nondiscrimination:** The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations as set forth in Appendix E, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.
3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor’s obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.
4. **Information and Reports:** The contractor will provide all information and reports required by the Acts, the Regulations and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the **Federal Highway Administration**, to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the **Federal Highway Administration**, as appropriate, and will set forth what efforts it has made to obtain the information.
5. **Sanctions for Noncompliance:** In the event of a contractor’s noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the **Federal Highway Administration**, may determine to be appropriate, including, but not limited to:
 - a. withholding payments to the contractor under the contract until the contractor complies; and/or
 - b. cancelling, terminating, or suspending a contract, in whole or in part.

Incorporation of Provisions: The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the **Federal Highway Administration**, may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

(APPENDIX C TO MAINEDOT TITLE VI ASSURANCE)

FEDERAL HIGHWAY ADMINISTRATION ASSISTED PROGRAMS

The following clauses shall be included in all deeds, licenses, leases, permits, or similar instruments entered into

by the Maine Department of Transportation pursuant to the provisions of Assurance 7(a).

The (grantee, licensee, lessee, permittee, etc., as appropriate) for herself/himself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree [in the case of deeds and leases add "as a covenant running with the land"] that in the event facilities are constructed, maintained, or otherwise operated on the said property described in this (deed, license, lease, permit, etc.) for a purpose for which a Department of Transportation program or activity is extended or for another purpose involving the provision of similar services or benefits, the (grantee, licensee lessee, permittee, etc.) shall maintain and operate such facilities and services in compliance with all other requirements imposed pursuant to Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination of Federally-Assisted Programs of the Department of Transportation - Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations may be amended.

[Include in licenses, leases, permits, etc.]*

That in the event of breach of any of the above nondiscrimination covenants, Maine Department of Transportation shall have the right to terminate the [license, lease, permit, etc.] and to re-enter and repossess said land and the facilities thereon, and hold the same as if said [licenses, lease, permit, etc.] had never been made or issued.

[Include in deeds]*

That in the event of breach of any of the above nondiscrimination covenants, Maine Department of Transportation shall have the right to re-enter said lands and facilities thereon, and the above described lands and facilities shall thereupon revert to and vest in and become the absolute property of Maine Department of Transportation and its assigns.

The following shall be included in all deeds, licenses, leases, permits, or similar agreements entered into by Maine Department of Transportation pursuant to the provisions of Assurance 7(b).

The (grantee, licensee, lessee, permittee, etc., as appropriate) for herself/himself, his/her personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree (in case of deeds, and leases add "as a covenant running with the land") that (1) no person on the grounds of race, color, or national origin shall be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over or under such land and the furnishing services thereon, no person on the grounds of race, color, or national origin shall be excluded from the participation in, be denied the benefits of, or be otherwise subjected to discrimination, and (3) that the (grantee, licensee, lessee, permittee, etc.) shall use the premises in compliance with all other requirements imposed by or pursuant to Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-Assisted Programs of the Department of Transportation - Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations may be amended.

[Include in licenses, leases, permits, etc.]*

That in the event of breach of any of the above nondiscrimination covenants, Maine Department of Transportation shall have the right to terminate the [license, lease, permit, etc.] and to re-enter and repossess said land and the facilities thereon, and hold the same as if said [license, lease, permit, etc.] had never been made or issued.

[Include in deeds]*

That in the event of breach of any of the above nondiscrimination covenants, Maine Department of Transportation shall have the right to re-enter said land and facilities thereon, and the above described lands and facilities shall thereupon revert to and vest in and become the absolute property of Maine Department of Transportation and its assigns.

* Reverter clause and related language to be used only when it is determined that such a clause is necessary in order to effectuate the purpose of Title VI of the Civil Rights Act of 1964.

APPENDIX D

CLAUSES FOR CONSTRUCTION/USE/ACCESS TO REAL PROPERTY ACQUIRED UNDER THE ACTIVITY, FACILITY OR PROGRAM

The following clauses will be included in deeds, licenses, permits, or similar instruments/agreements entered into by The Maine Department of Transportation pursuant to the provisions of Assurance 7(b):

- A. The (grantee, licensee, permittee, etc., as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree (in the case of deeds and leases add, “as a covenant running with the land”) that (1) no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over, or under such land, and the furnishing of services thereon, no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or otherwise be subjected to discriminations, (3) that the (grantee, licensees, lessee, permittee, etc.) will use the premises in compliance with all other requirements imposed by or pursuant to the Acts and Regulations, as amended, set forth in this Assurance.
- B. With respect to (licenses, leases, permits, etc.), in the event of breach of any of the above Non-discrimination covenants, (**The Maine Department of Transportation**) will have the right to terminate the (license, permit, etc., as appropriate) and to enter or re-enter and repossess said land and the facilities thereon, and hold the same as if said (license, permit, etc., as appropriate) had never been made or issued.*
- C. With respect to deeds, in the event of breach of any of the above Non-discrimination covenants, (**The Maine Department of Transportation**) will there upon revert to and vest in and become the absolute property of (**The Maine Department of Transportation**) and its assigns.*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

APPENDIX E

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the “contractor”) agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. §2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. §4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. §324 *et seq.*), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. §794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. §6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 U.S.C. §471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. Parts 37 and 38;
- The Federal Aviation Administration’s Non-discrimination statute (49 U.S.C. §47123) (prohibits discrimination on the basis of race, color, national origin and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating of sex in education programs or activities (20 U.S.C. 1681 *et seq.*).



Environmental Summary Sheet

WIN: 19270.00

Date Submitted: 11/16/18

Town: Kittery-Portsmouth

CPD Team Leader: Kristen Chamberlain

ENV Field Contact: Val Derosier

NEPA Complete: 11/16/18-Programmatic Categorical Exclusion 771.117 (c) 27 & 28

☒ Section 106
Programmatic Exemption (PA-E)

☒ Section 4(f) and 6(f)
Section 4(f)
Review Complete -No use
Section 6(f)
Not Applicable

☒ **Maine Department of Inland Fisheries and Wildlife & Migratory Bird Treaty Act**
Peregrine falcons are known to nest on the Bridge. Peregrines are protected by the Maine State Endangered Species Act and the U.S. Migratory Bird Treaty Act. Peregrine nesting period is approximately February 15-June 1. Once the birds construct a nest, it cannot be disturbed by construction activity and cannot be removed. Nest building activity is primarily in February and March. The contractor will need to coordinate with MaineDOT Environmental Office and assist as necessary to preclude birds from nesting on the bridge to allow construction activities between February 15 and June 1. **See Special Provision 105.**

☒ Section 7

Species of Concern: Shortnose sturgeon & Atlantic sturgeon- No Effect
Comments/References: No in-water work proposed.

Species of Concern: Northern Long-Eared Bat-Not Likely to Adversely Affect
Comments/References: Streamlined 4(d) Consultation completed (2018 MaineDOT Bridge Batch)

☒ Essential Fish Habitat
No Effect-No in-water work

☒ Maine Department of Conservation/Public Lands, Submerged Land Lease
Not Applicable

☒ Maine Land Use Regulation Commission
Not applicable

☒ Maine Department of Environmental Protection
Exempt from Permitting

☒ Army Corps of Engineers, Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act.
No jurisdiction

☒ Stormwater Review
N/A

☒ Special Provisions Required		
Special Provision 105-Timing of Work Restriction	N/A ☐	Applicable ☒
Special Provision 656-Minor Soil Disturbance	N/A ☒	Applicable ☐
Standard Specification 656-Erosion Control Plan	N/A ☐	Applicable ☒
Special Provision 203-Dredge Spec	N/A ☒	Applicable ☐
General Note for Hazardous Waste	N/A ☒	Applicable ☐
Special Provision 203-Hazardous Waste	N/A ☒	Applicable ☐
Special Provision 105.9	N/A ☒	Applicable ☐

*All permits and approvals based on plans/scope as of: 10/18/18