STATEWIDE IMPLEMENTATION OF INTELLELLIGENT TRANSPORTATION SYSTEMS (ITS)

INTERSTATE 95 & INTERSTATE 295
Saco to Farmingdale

TRAVEL TIME SIGNS

MaineDOT WIN: 023767.04

2018

Updated 04/28/17

FEDERAL PROJECT

BIDDING INSTRUCTIONS

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 Agreement, Offer & Award form,
e) a Bid Guaranty,
f) the completed Contractor Information Sheet, and
g) 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.

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 $25,000, 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 $25,000, or
   c) an electronic bid bond submitted with an electronic bid.

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

   Bid Enclosed - Do Not Open
   WIN:
   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
   WIN:
   Town:
   Date of Bid Opening:
   Name of Contractor:

If a paper Bid is to be sent express, "FedEx First Overnight" delivery is suggested as the package is delivered directly to the DOT Headquarters Building, Mailroom, in Augusta located at 24 Child Street in Augusta. Other means, such as U.S. Postal's Service Express Mail has proven not to be reliable. If a paper bid is to be mailed, the mailing address is Maine Department of Transportation, 16 State House Station, Augusta, ME 04333-0016.

If a paper Bid is to be hand carried, deliver directly to the Reception Desk using the "Public Entrance" which is located on the Capitol Street side of the DOT Headquarters Building in Augusta. http://www.maine.gov/mdot/mainedotdirections.htm. Hand-carried Bids may be in one envelope, and should be marked with the following information:

Bid Enclosed: Do Not Open
WIN:
Town:
Date of Bid Opening:
Name of Contractor:

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.

April 28, 2017
Supersedes November 05, 2014

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.

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, executers, 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:

_____

_____

_____

PRINCIPAL:

By_____

By:_____

By:_____

WITNESS

_____

_____

_____

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.

State of Maine
Department of Transportation

RFI No: _____

REQUEST FOR INFORMATION

Date _____ Time _____

Information Requested for:

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

Question(s):_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Request by:

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

Email: _____ Fax: (_____)_____

Complete this form and fax to 207-624-3431, Attn: Project Manager (name listed on the "Notice to Contractors"), or Email questions to RFI-Contracts.MDOT@maine.gov, Please include the word "RFI" along with the Project Name and Identification Number in the Subject line, or electronically by using the RFI Tab located on the Individual Projects Detail page.

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

.

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

WBE	DBE	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/civilrights/

Rev. 01/15

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

CONTRACTOR INFORMATION

Contractor Name: _____

Mailing Address: _____

Vendor Customer Number: _____

Contact Information (Primary Contact): _____

Phone: _____ Cell Phone: _____

Fax: _____

Email: _____

Mailing Address (if different from above): _____

_____

The company has the following organizational structure:

☐ Sole Proprietorship **☐ Limited Liability Company**

☐ Partnership **☐ Joint Venture**

☐ Corporation **☐ Other: _____**

_____ _____

(Date) **(Signature)**

_____

(Name and Title Printed)

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 the **Implementation of Intelligent Transportation System (ITS), Travel Time Signs**" 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 June 6, 2018 and at that time and place publicly opened and read. Bids will be accepted from all bidders. The lowest responsive bidder must successfully complete the project specific Post-Bid, Pre-Award Qualifications to be considered for the award of 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.** The lowest responsive bidder must demonstrate successful completion of projects of similar size and scope to be considered for the award of this contract.

Description: Maine Federal Aid Project No. 2376704 WIN No. 23767.04

Location: Interstate 95 (Maine Turnpike) and Interstate 295 (Saco, Scarborough, Falmouth, Cumberland, Freeport, Topsham and Farmingdale)

Outline of Work: Installation, configuration, operation, testing, and two-year operations and maintenance for a hybrid travel time sign system along I-95 and I-295 and other incidental work.

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 **Gail Iler/Steve Hunnewell** 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 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.

Bid Documents, plans, specifications and bid forms can be viewed and obtained digitally at no cost at http://www.maine.gov/mdot/contractors/. Plans, specifications and bid forms may be seen at the Maine DOT Building in Augusta, Maine and at the Department of Transportation's Regional Offices in August and 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 $19 (22.50 by mail). Half size plans $9.50($11.75 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 $25,000 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.

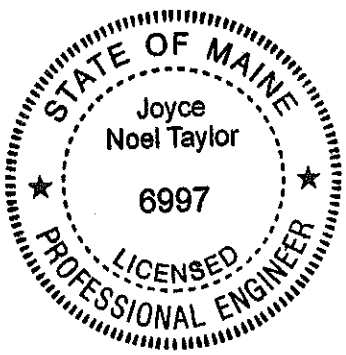
All work shall be governed by "State of Maine, Department of Transportation, Standard Specifications, November 2014 Edition", price $10 [$15 by mail], and Standard Details, November 2014 Edition, price $10 [$15 by mail]. They also may be purchased by telephone at (207) 624-3536 between the hours of 8:00 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
May 16, 2018

Joyce Noel Taylor

JOYCE NOEL TAYLOR, P. E.
CHIEF ENGINEER



NOTICE

All bids for Federal Projects **shall** be accompanied by the DBE Proposed Utilization form. If you are submitting an electronic bid, the DBE Utilization Form may be faxed to 207-624-3431. Failure to submit the form with the bid will be considered a curable defect.

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 023767.04 **Project(s):** 023767.04

SECTION: 1 PROJECT ITEMS

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	201.12 SELECTIVE CLEARING AND THINNING	0.100 AC				
0020	206.061 STRUCTURAL EARTH EXCAVATION - DRAINAGE AND MINOR STRUCTURES, BELOW GRADE	3.500 CY				
0030	527.33 TRUCK MOUNTED ATTENUATOR	2.000 EA				
0040	619.12 MULCH	15.000 UN				
0050	626.11 PRECAST CONCRETE JUNCTION BOX	26.000 EA				
0060	626.21 METALLIC CONDUIT	325.000 LF				
0070	626.22 NON-METALLIC CONDUIT	4,250.000 LF				
0080	626.251 NON-METALLIC UNDER PAVEMENT CONDUIT (SCHEDULE 80 OR GREATER RATING)	70.000 LF				
0090	626.32 24 INCH FOUNDATION	2.000 EA				
0100	626.332 30 INCH DIAMATER GREATER THAN 8 FEET LONG & 36 INCH DIAMETER, 42 INCH DIAMETER FOUNDATION	69.000 CY				
0110	629.05 HAND LABOR, STRAIGHT TIME	40.000 HR				

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 023767.04 **Project(s):** 023767.04

SECTION: 1 PROJECT ITEMS

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars	 Cents	Bid Amount Dollars	 Cents
0120	645.103 DEMOUNT GUIDE SIGN	2.000 EA				
0130	645.108 DEMOUNT POLE	4.000 EA				
0140	645.162 BREAKAWAY DEVICES MULTI-POLE	11.000 EA				
0150	645.251 ROADSIDE GUIDE SIGNS, TYPE I	2,479.000 SF				
0160	645.289 STEEL H-BEAM POLES	16,275.000 LB				
0170	645.301 DEMOUNTABLE REFLECTORIZED DELINEATOR, SINGLE	18.000 EA				
0180	645.52 HYBRID TRAVEL TIME SIGN: (GM I-295 MM 10.42_N)	LUMP SUM	LUMP SUM			
0190	645.52 HYBRID TRAVEL TIME SIGN: (GM I-295 MM 14.19_S)	LUMP SUM	LUMP SUM			
0200	645.52 HYBRID TRAVEL TIME SIGN: (GM I-295 MM 18.13_N)	LUMP SUM	LUMP SUM			
0210	645.52 HYBRID TRAVEL TIME SIGN: (GM I-295 MM 19.79_S_	LUMP SUM	LUMP SUM			
0220	645.52 HYBRID TRAVEL TIME SIGN: (GM I-295 MM 30.17_S)	LUMP SUM	LUMP SUM			

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 023767.04 **Project(s):** 023767.04

SECTION: 1 PROJECT ITEMS

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars Cents	Bid Amount Dollars Cents
0230	645.52 HYBRID TRAVEL TIME SIGN: (GM I-95 MM 106.00_S)	LUMP SUM	LUMP SUM	_____.____
0240	645.52 HYBRID TRAVEL TIME SIGN: (GM I-95 MM 38.28_N)	LUMP SUM	LUMP SUM	_____.____
0250	645.52 HYBRID TRAVEL TIME SIGN: (GM I-95 MM 40.01_N)	LUMP SUM	LUMP SUM	_____.____
0260	645.521 HYBRID TRAVEL TIME SIGN INTEGRATION	LUMP SUM	LUMP SUM	_____.____
0270	645.522 HYBRID TRAVEL TIME SIGN WARRANTY AND MAINTENANCE	LUMP SUM	LUMP SUM	_____.____
0280	645.523 TRAVEL TIME DATA	LUMP SUM	LUMP SUM	_____.____
0290	652.30 FLASHING ARROW BOARD	1.000 EA	_____.____	_____.____
0300	652.33 DRUM	60.000 EA	_____.____	_____.____
0310	652.35 CONSTRUCTION SIGNS	758.000 SF	_____.____	_____.____
0320	652.361 MAINTENANCE OF TRAFFIC CONTROL DEVICES	LUMP SUM	LUMP SUM	_____.____
0330	652.41 PORTABLE CHANGEABLE MESSAGE SIGN	2.000 EA	_____.____	_____.____

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 023767.04 **Project(s):** 023767.04

SECTION: 1 PROJECT ITEMS

Alt Set ID: **Alt Mbr ID:**

Contractor: _____

Proposal Line Number	Item ID / Description	Approximate Quantity and Units	Unit Price Dollars	Unit Price Cents	Bid Amount Dollars	Bid Amount Cents
0340	656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LUMP SUM	LUMP SUM		_____	. ____
0350	659.10 MOBILIZATION	LUMP SUM	LUMP SUM		_____	. ____
	Section: 1		**Total:**		_____	. ____
			Total Bid:		_____	. ____

_____ _____ _____

(Print Respondent's Name and Title) *Signature* *Date*

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 **_____(Contractor)** 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 023767.04 for the Implementation of ITS, Travel Time Signs, Interstate 95 and Interstate 295, Saco to Farmingdale**, in the counties of York, Cumberland, Sagadahoc and Kennebec, in 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, 2018.** 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 _____

_____

$_____ 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 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 the 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 023767.04 for the Implementation of ITS, Travel Time Signs, Interstate 95 and Interstate 295, Saco to Farmingdale,

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. 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 **(Contractor)**
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 023767.04 for the Implementation of ITS, Travel Time Signs, Interstate 95 and Interstate 295, Saco to Farmingdale**, in the counties of York, Cumberland, Sagadahoc and Kennebec, in 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, 2018.** 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 _____

_____

$_____ 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 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 the 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 023767.04 for the Implementation of ITS, Travel Time Signs, Interstate 95 and Interstate 295, Saco to Farmingdale,

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. 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.

CONTRACTOR

_____	**(Sign Here)**
Date	(Signature of Legally Authorized Representative of the Contractor)
____(**Witness Sign Here)**	**(Print Name Here)**
Witness	(Name and Title Printed)

G. Award.

Your offer is hereby accepted. This award consummates the Contract, and the documents referenced herein.

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:	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.....	.....…….....

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	…….....….....

General Decision Number: ME180113 04/06/2018 ME113

Superseded General Decision Number: ME20170113

State: Maine

Construction Type: Highway

County: Kennebec 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
1	03/16/2018
2	04/06/2018

* ENGI0004-005 04/01/2018

	Rates	Fringes
POWER EQUIPMENT OPERATOR: Grader/Blade, Milling Machine, Paver (Asphalt, Aggregate, and Concrete), Roller Asphalt	$ 22.61	12.50

SUME2014-032 06/23/2017

	Rates	Fringes
CARPENTER, Includes Form Work	$ 18.34	2.84
HIGHWAY/PARKING LOT STRIPING: Laborer	$ 14.80	1.27
IRONWORKER, REINFORCING	$ 16.27	0.00
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and		

Distributor	$ 15.06	2.72
LABORER: Common or General	$ 14.02	2.16
LABORER: Landscape	$ 18.69	2.70
LABORER: Wheelman	$ 15.64	4.29
OPERATOR: Backhoe/Excavator/Trackhoe	$ 19.52	5.15
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 21.98	4.85
OPERATOR: Broom/Sweeper	$ 19.09	5.20
OPERATOR: Bulldozer	$ 17.30	3.50
OPERATOR: Loader	$ 18.59	5.53
OPERATOR: Mechanic	$ 21.91	8.55
OPERATOR: Screed	$ 19.43	4.90
OPERATOR: Roller (Earth)	$ 16.43	3.40
TRAFFIC CONTROL: Flagger	$ 9.38	0.00
TRAFFIC CONTROL: Laborer-Cones/ Barricades/Barrels - Setter/Mover/Sweeper	$ 17.47	4.80
TRUCK DRIVER: Dump Truck	$ 14.32	5.81
TRUCK DRIVER: TackTruck	$ 20.18	7.75

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

==========

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.

==========

END OF GENERAL DECISION

General Decision Number: ME180122 01/05/2018 ME122

Superseded General Decision Number: ME20170122

State: Maine

Construction Type: Highway

County: Cumberland 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

SUME2014-041 06/23/2017

	Rates	Fringes
CARPENTER, Includes Form Work	$ 18.95	3.23
CEMENT MASON/CONCRETE FINISHER	$ 19.27	1.13
ELECTRICIAN	$ 26.40	6.66
HIGHWAY/PARKING LOT STRIPING: Laborer	$ 15.53	2.04
INSTALLER - GUARDRAIL	$ 19.98	2.55
IRONWORKER, REINFORCING	$ 21.85	0.00
IRONWORKER, STRUCTURAL	$ 22.33	4.50
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 17.44	2.07
LABORER: Common or General	$ 15.29	2.08

LABORER: Epoxy Injector (Concrete)	$ 13.43	1.15
LABORER: Wheelman	$ 20.34	3.43
OPERATOR: Backhoe/Excavator/Trackhoe	$ 21.07	4.39
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 21.97	1.74
OPERATOR: Broom/Sweeper	$ 19.02	0.00
OPERATOR: Bulldozer	$ 21.71	5.67
OPERATOR: Grader/Blade	$ 27.40	8.13
OPERATOR: Loader	$ 19.95	2.86
OPERATOR: Mechanic	$ 24.69	8.18
OPERATOR: Milling Machine	$ 28.51	5.44
OPERATOR: Paver (Asphalt, Aggregate, and Concrete)	$ 19.98	4.95
OPERATOR: Roller (Earth)	$ 18.57	2.50
OPERATOR: Roller Asphalt	$ 19.30	4.09
TRAFFIC CONTROL: Flagger	$ 9.00	0.00
TRAFFIC CONTROL: Laborer-Cones/ Barricades/Barrels - Setter/Mover/Sweeper	$ 17.02	5.37
TRUCK DRIVER: Dump Truck	$ 16.71	2.80

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

==========

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.

==========

END OF GENERAL DECISION

General Decision Number: ME180124 01/05/2018 ME124

Superseded General Decision Number: ME20170124

State: Maine

Construction Type: Highway

County: Sagadahoc 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

SUME2014-043 06/23/2017

	Rates	Fringes
CARPENTER, Includes Form Work	$ 18.95	3.23
CEMENT MASON/CONCRETE FINISHER	$ 19.27	1.13
ELECTRICIAN	$ 25.21	5.63
HIGHWAY/PARKING LOT STRIPING: Laborer	$ 15.53	2.04
INSTALLER - GUARDRAIL	$ 19.98	2.55
IRONWORKER, REINFORCING	$ 21.85	0.00
IRONWORKER, STRUCTURAL	$ 22.33	4.50
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor	$ 17.30	1.76
LABORER: Common or General	$ 15.06	2.09

LABORER: Epoxy Injector (Concrete).....$ 13.43 1.15

LABORER: Wheelman.....$ 21.28 4.02

OPERATOR: Backhoe/Excavator/Trackhoe.....$ 20.67 3.91

OPERATOR: Bobcat/Skid Steer/Skid Loader.....$ 22.21 1.90

OPERATOR: Broom/Sweeper.....$ 19.02 0.00

OPERATOR: Bulldozer.....$ 21.71 5.67

OPERATOR: Grader/Blade.....$ 27.40 8.13

OPERATOR: Loader.....$ 19.52 3.19

OPERATOR: Mechanic.....$ 24.69 8.18

OPERATOR: Milling Machine.....$ 28.51 5.44

OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....$ 20.26 4.61

OPERATOR: Roller (Earth).....$ 16.52 1.66

OPERATOR: Roller Asphalt.....$ 19.38 4.59

TRAFFIC CONTROL: Flagger.....$ 10.33 0.00

TRAFFIC CONTROL: Laborer-Cones/ Barricades/Barrels - Setter/Mover/Sweeper.....$ 17.02 5.37

TRUCK DRIVER: Dump Truck.....$ 17.27 2.62

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

==========

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.

==========

END OF GENERAL DECISION

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.

==========

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.

==========

END OF GENERAL DECISION

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.

GENERAL INFORMATION

These Special Provisions outline the arrangements that have been made by the Department for utility and/or railroad work to be undertaken in conjunction with this project. The following list identifies all known utilities or railroads having facilities presently located within the limits of this project or intending to install facilities during project construction.

Utilities have been notified and will be furnished a project specification.

Overview:

Utility/Railroad	Aerial	Underground	Railroad
Central Maine Power Company	X		
Maine Turnpike Authority		X	

Utility Contact Information		
Utility/Railroad	**Contact Person**	**Contact Phone (Cell & Office) Email**
Central Maine Power Company		
Primary Contact	Tim Laney	207-242-9587 Timothy.Laney@cmpco.com
GM I-95 MM 38.28_N	Anton Matoin	207-629-2553 (C) 207-242-0580 (O) Anton.Matoin@cmpco.com
GM I-95 MM 40.01_N	Jason Ward	207-828-2816 (C) 207-242-5398 (O) Jason.Ward@cmpco.com
GM I-295 MM 10.24_N	Jason Ward	*See Above*
GM I-295 MM 14.19_S	Jason Ward	*See Above*
GM I-295 MM 18.13_N	Jason Ward	*See Above*
GM I-295 MM 19.79_S	Jason Ward	*See Above*
GM I-295 MM 30.17_S	Dick Adams	207-629-1803 (C) 207-242-0511 (O) Richard.Adams@cmpco.com
GM I-95 MM 106.00_S	Tim Robbins	207-629-9505 (C) 207-242-9595 (O) Timothy.Robbins@cmpco.com
Maine Turnpike Authority		
Primary Contact	Ralph Norwood, IV	207-871-7771 RNorwood@maineturnpike.com

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. The Contractor shall contact Dig Safe prior to any excavation work. The Contractor shall also contact Dig Smart to locate Department and Authority utilities within each project area.

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

Fire hydrants shall not be disturbed until all necessary work has been accomplished to provide proper fire protection.

All clearing and tree removal in areas where utilities are involved must be completed before the utilities are able to relocate their facilities.

It is the responsibility of the Contractor with the Utility Pole owner, to layout all of the proposed pole locations in the field prior to the start of utility relocations. Should any adjustments be needed, the Utility will document adjustments and inform the Department prior to utility relocations.

The Contractor shall provide the utilities access to the new pole locations. Construction of any spot cuts or fills in excess of 2 feet must be completed prior to utility relocations. The Contractor shall prepare a plan for how access and the spot cuts and fills will be accomplished and what the schedule will be for performing the work. This plan will be discussed at the pre-construction utility meeting.

***** Specific information regarding the line voltage can be requested from* Central Maine Power Company****

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.

BUY AMERICA

Utility construction work performed as part this federal-aid project is subject to the requirements of Buy America in accordance with Federal Regulation 23 CFR 635.410 Section 1518. Specific requirements are presented in MaineDOT Standard Specification Section 100, Appendix A, Section 3.A., Buy America.

AERIAL

Summary:

Utility	Pole Set	Secondary Connection	Transformers	Remove Poles	Estimated Working Days
Central Maine Power Company					
GM I-95 MM 38.28_N		X			2
GM I-95 MM 40.01_N		X			2
GM I-295 MM 10.24_N		X			2
GM I-295 MM 14.19_S			X		2
GM I-295 MM 18.13_N		X			2
GM I-295 MM 19.79_S		X			2
GM I-295 MM 30.17_S		X			2
GM I-95 MM 106.00_S			X		2
				Total:	16

MAINTAINING 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.

UTILITY SIGNING

Any utility working within the construction limits of this project shall ensure that the traveling public is adequately protected at all times. All work areas shall be signed, lighted, and traffic flaggers employed as determined by field conditions. All traffic controls shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways, as issued by the Federal Highway Administration.

December 17, 2010
Supersedes December 30, 2009

SPECIAL PROVISION
SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES
(Electronic Payroll Submission)
(Payment Tracking)

104.3.8.1 Electronic Payroll Submission The prime contractor and all subcontractors and lower-tier subcontractors will submit their certified payrolls electronically on this contract utilizing the Elation System web based reporting. 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 first "Notice".

104.3.8.2 Payment Tracking 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

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

1. This work consists of the installation, configuration, operation, testing, and two-year operations and maintenance for a hybrid travel time sign system along I-95 and I-295 in the towns of Saco, Scarborough, Falmouth, Cumberland, Freeport, Topsham, and Farmingdale.

2. The Contractor shall provide a work schedule and plan operations so that the Resident will have sufficient advance notification to provide the necessary inspection and oversight. Sufficient notification will be considered 48 hours prior to a work day. Schedule changes shall also require 48 hours notice.

3. Portions of this work will be performed along the Maine Turnpike Authority (MTA) rights-of-way. MTA has specific work permit rules and guidelines, as well as specific traffic control requirements. The Contractor shall be subject to the MTA's rules and regulations for work along the Turnpike. See attached Maine Turnpike Authority Work Permit Rules and Guidelines for additional information.

4. The Contractor shall obtain a permit from the Maine Turnpike Authority for all work along the Turnpike (I-95). The cost for the permit will be incidental to other contract items.

5. Permitted work days are Monday through Friday. However, the Contractor shall not perform any work along the Turnpike that requires vehicles to exit or enter the flow of traffic after Noon on Fridays from May 25, 2018 through September 7, 2018. Night work may begin on Sunday evening in accordance with Special Provision 652.

6. Loading and unloading of trucks shall not occur closer than six (6) feet from a travel lane open to vehicle travel.

7. Shoulder closures shall maintain a minimum of four (4) feet of lateral buffer from an open travel lane when in place between 6:00 a.m. and 9:00 a.m. and between 3:00 p.m. and 6:00 p.m. During July and August, along the Turnpike, the four-foot minimum lateral buffer applies from 6:00 a.m. to 8:00 p.m.

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

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	*For questions or additional information*
Right of Way Department	*contact the Right of Way Department at*
2360 Congress Street	*(207) 871-7771 Ext. 355*
Portland, ME 04102	bbolduc@maineturnpike.com

At such time a work permit is issued by the Right of Way Department, the **Permitee** 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.

SPECIAL PROVISION 105
GENERAL SCOPE OF WORK
Equal Opportunity and Civil Rights
(Disadvantaged Business Enterprises Program)

105.10.1.1 Disadvantaged Business Enterprises Program The Maine Department of Transportation (MaineDOT) has established a Disadvantaged Business Enterprise (DBE) program in accordance with regulations of the United States Department of Transportation (USDOT), 49 CFR Part 26. The MaineDOT receives federal financial assistance from USDOT, and as a condition of receiving this assistance, the Department has signed an assurance that it will comply with 49 CFR Part 26.The MaineDOT is responsible for determining the eligibility of and certifying DBE firms in Maine.

A DBE is defined as a for-profit business that is owned and controlled by one or more socially and economically disadvantaged person(s). For the purpose of this definition:

1. "Socially and economically disadvantaged person" means an individual who is a citizen or lawful permanent resident of the United States and who is Black, Hispanic, Native American, Asian, Female; or a member of another group or an individual found to be disadvantaged by the Small Business Administration pursuant to Section 3 of the Small Business Act.
2. "Owned and controlled" means a business which is:
    a. A sole proprietorship legitimately owned and controlled by an individual who is a disadvantaged person.
    b. A partnership or limited liability company in which at least 51% of the beneficial ownership interests legitimately are held by a disadvantaged person(s).
    c. A corporation or other entity in which at least 51% of the voting interest and 51% of the beneficial ownership interests legitimately are held by a disadvantaged person(s).

The disadvantaged group owner(s) or stockholder(s) must possess control over management, interest in capital, and interest in earnings commensurate with the percentage of ownership. If the disadvantaged group ownership interests are real, substantial and continuing and not created solely to meet the requirements of this program, a firm is considered a bona fide DBE.

105.10.1.2 Commercially Useful Function MaineDOT will count expenditures of a DBE contractor toward DBE goals only if the DBE is performing a commercially useful function on that contract. A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. Credit will only be given when the DBE meets all conditions for a CUF. Credit for labor will be in accordance with the responsibilities outlined in the contract. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the Contract, for negotiating price, determining quality and quantity, ordering the materials, and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, MaineDOT will evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the Contract is commensurate with the work it is actually performing and DBE credit claimed for its performance of the work, and other relevant factors.

Rented equipment used by the DBE must not be rented from the Prime Contractor on a job that the DBE is subcontracted with that Prime Contractor for regular course of business.

A current listing of certified DBEs that may wish to participate in the highway construction program and the scope of work for which they are certified can be found at http://www.maine.gov/mdot/disadvantaged-business-enterprises/pdf/directory.pdf. Credit will be given for the value described by a DBE performing as:

A. A prime contractor; 100% of actual value of work performed by own workforces.
B. An approved subcontractor; 100% of work performed by own workforces.
C. An owner-operator of construction equipment; 100% of expenditures committed.
D. A manufacturer; 100% of expenditures committed. The manufacturer must be a firm that operates or maintains a factory or establishment that produces on the premises the materials or supplies obtained by the Contractor. Brokers and packagers shall not be regarded as manufacturers.
E. A regular dealer; 60% of expenditures committed. A regular dealer is defined as a firm that owns, operates, or maintains a store, warehouse or other establishment in which the materials or supplies required for the performance of the contract are bought, kept in stock, and regularly sold to the public. For purposes of this provision a "Broker" is a DBE that has entered into a legally binding relationship to provide goods or services delivered or performed by a third party. Brokers and packagers shall not be regarded as regular dealers.
F. A bona fide service provider; 100% of reasonable fees or commissions. Eligible services include professional, technical, consultant, or managerial, services and assistance in the procurement of essential personnel, facilities, equipment, materials or supplies required for the performance of the contract. Eligible services also include agencies providing bonding and insurance specifically required for the performance of the contract.
G. A trucking, hauling or delivery operation. 100% of expenditures committed when trucks are owned, operated, licensed and insured by the DBE and used on the contract and, if applicable, includes the cost of the self supplied materials and supplies.100% of expenditures committed when the DBE leases trucks from another DBE firm including an owner-operator. 100% of reasonable fees or commissions the DBE receives as a result of a lease arrangement for trucks from a non-DBE, including an owner-operator.
H. Any combination of the above.

105.10.1.3 Race-neutral Goals The Maine DOT is required to set an annual goal (approved on a three year basis) for DBE participation in Federal-aid projects. In order to fulfill that goal, bidders are encouraged to utilize DBE businesses certified by the MaineDOT. MaineDOT seeks to meet the established DBE goal solely through race-neutral means. *Race-neutral* DBE participation occurs when a DBE is awarded a prime contract through customary competitive procurement procedures, is awarded a subcontract on a contract that does not carry a DBE contract goal, or wins a subcontract from a prime contractor that did not consider its DBE status in making the award. A DBE/subcontractor Utilization Proposed Form is required to be included in bid documents.

MaineDOT will analyze each project and create a Project Availability Target (PAT), based on a number of factors including project scope, available DBE firms, firms certified in particular project work, etc. Each bid will request that the contractor attempt to meet the PAT. This PAT is developed to assist contractors to better understand what the MaineDOT expectations are for a

specific project. The PAT is NOT a mandate but an assessment of what this particular project can bear for DBE participation. The Department anticipates that each contractor will make the best effort to reach or exceed this PAT for the project.

105.10.1.4 Race-conscious Project Goals If it is determined by the Department that the annual DBE goal will not be met through *race-neutral* means, the Department may implement *race-conscious contract goals* on some projects. Race-conscious contract goals are goals that are enforceable by the Department and require that the prime contractor use good faith effort to achieve the goal set by the Department for that particular project. If race conscious means are implemented on a project, the Prime must comply with the requirements of 49 CFR.

At the time of the bid opening, all Bidders shall submit with their bid a Disadvantaged Business Enterprise (DBE) Commitment Form provided by the Department. This form will list the DBE and non-DBE firms that are proposed to be used during the execution of the Work. The list shall show the name of the firm, the item/material/type of work involved and the dollar amount of work to be performed. The dollar total of each commitment shall be totaled and a percentage determined.

If the project goal is not met, acceptable documentation showing all good faith efforts made to obtain participation may be required in order to award the project. Failure to provide the required listing with the dollar participation total or acceptable documentation of good faith efforts to obtain DBE participation within 3 days after the bid opening date will be considered a lack of responsiveness on the part of the low bidder. Rejection of the low bid under these circumstances will require the low bidder to surrender the Proposal Guaranty to the Department. The submission and approval of the above forms does not constitute a formal subcontract.

If for any reason during the progress of the Work the Contractor finds that DBEs included on the list are unable to perform the proposed work, the Contractor, with written release by the committed DBE or approval of the Department, may substitute other DBE firms for those named on the list. If the Contractor is able to clearly document their inability to find qualified substitute firms to meet the project goal, the Contractor may request in writing approval to substitute the DBE with a non-DBE firm. If at any time during the life of the Contract it is determined that the Contractor is not fulfilling the goal or commitment(s) and is not making a good faith effort to fulfill the DBE requirement, the Department may withhold progress payments. If good faith effort is determined by the Department, failure to meet the DBE contract goal will not be a detriment to the bid award. Fulfillment of the goal percentage shall be determined by dividing the dollars committed to the DBEs by the actual contract dollars. These requirements are in addition to all other Equal Employment Opportunity requirements on Federal-aid contracts.

105.10.1.5 Certification of DBE attainment on Contracts The MaineDOT must certify that it has conducted post-award monitoring of all contracts to ensure that DBEs had done the work for which credit was claimed. The certification is for the purpose of ensuring accountability for monitoring which the regulation already requires. The MaineDOT will certify these contracts through review of CUF forms, Elations sub-contract payment tracking as well as occasional on-site reviews of projects and through the project's final closeout documentation provided by our Contracts Section.

105.10.1.6 Bidders' List Survey Pursuant to 49 CFR 26.11 the MaineDOT is required to "create and maintain" a bidders list and gather bidder information on our construction/consultant projects, Contractors will maintain information on all subcontract bids submitted by DBE and Non-DBE firms and provide that information to the Department. The Following information is required:

Firm Name
Firm Address
Firm status (DBE or non-DBE)
Age of firm (years)
And the annual gross receipts amount as indicated by defined brackets, i.e. $500,000 to $800,000, rather than requesting exact figures.

Not only is this information critical in determining the availability of DBE businesses relative to other businesses that do similar work, but the Federal Highway Administration requires that we obtain this information.

MaineDOT DBE Project Attainment Target (PAT)
for this Project is 0.1 %

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.

SPECIAL PROVISION
SECTION 105
GENERAL SCOPE OF WORK
(Safety Plan)

In order to be awarded a construction contract, the Bidder must have a current, applicable Safety Plan on file with the Department or must submit to the Department's Bureau of Maintenance & Operations, an acceptable, current Contractor's 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's Project and Site Specific Safety Plan shall address the specific activities or tasks that require protection and establish the procedures that are to be followed to minimize the hazard. Specific statements which describe both what action is to be taken and how it is to be performed are preferable. The plan shall address the following items which include, but are not limited to:

1. Personal Protective Equipment
2. Fall Prevention/Fall Protection
3. Lockout/Tagout
4. Hazard Communication
5. Scaffolding/Ladders/Aerial Lifts
6. Trench Excavation
7. Materials Handling
8. Electrical Safety
9. Vehicular Access to the Work Zone
10. Work Zone Safety and Traffic Control

If a submittal is required, the Department will notify the Apparent Successful Bidder of the required submittal of the Contractor's Safety Plan or the Project and Site Specific Safety Plan and the Bidder shall submit two copies or an electronic copy to the Department within seven (7) days of the notice or the Department will reject the bid as on-responsive.

Within 14 days, the Department will review the Apparent Low Bidder's Safety Plan. The Department will review a Project and Site Specific Safety Plan to evaluate if the Bidder has a reasonable understanding of job hazards of the expected contract work, has determined preventive measures to overcome these hazards and understands that the work is to be conducted in compliance with this special provision, Contract requirements

and all applicable Federal, State, and local laws governing safety including all applicable laws and regulations of OSHA. 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 a Safety Plan in accordance with the Contract, or to shift any responsibility to the Department. The Bidder shall have 3 days to submit additions, changes and clarifications. The Bidder will have no additional opportunity to submit, modify or clarify information. The Department will not provide an opportunity for the Bidder to meet.

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

1. Qualified - The Contractor has satisfied the post-bid, pre-award Safety Plan requirements.
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.

Failure by the Contractor to perform the Work in compliance with their submitted Safety Plan, Federal and State requirements, Contract provisions, applicable laws and regulations of OSHA when required or to substantially meet other contractual requirements will be considered a violation and may result in the following actions:

All Incidents: The Contractor will immediately eliminate all unsafe conditions brought to the Contractor’s attention by the Department or any other representative of the Department. 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.

1st Incident: If the Contractor has previously received a verbal warning for the same or similar unsafe conditions or does not take corrective action immediately upon receipt of verbal warning, the Department will issue a written warning.

2nd Incident: The Department may (A) give written Notice of Default to the Contractor and immediately terminate the Contract by written Notice of Termination, or (B) take prosecution of the Work away from the Contractor without violating the Contract. Such Contractor will be prohibited from submitting a Bid for the Work in the event that the Work is re-advertised. Further, the Department may refuse to

accept any Bid from the Contractor on any Project for a period of two years from the date of such refusal. The Department may then take any action that the Department determines is in the best interest of the Department including re-advertising the Work.

SPECIAL PROVISION
SECTION 107
TIME
(Contract Time)
(Supplemental Liquidated Damages)

The Contractor will be allowed to commence work on this project as long as all applicable plans required under this Contract have been submitted and approved, and following a pre-construction meeting.

The completion date for this contract, excluding the two-year warranty and maintenance period, is **November 15, 2018**. The final completion date (including the warranty and maintenance period) shall be two calendar years following the final approval date.

The following interim completion date for this contract apply and shall be subject to supplemental liquidated damages on a calendar day basis for each day the required work is not completed.

- The Contractor shall have established an operational travel time system by September 14, 2018 at each of the hybrid travel time sign system locations.

The Contractor shall be assessed supplemental liquidated damages at the rate of Five Hundred Dollars ($500.00) per calendar day for each additional calendar day beyond the interim completion date that the travel time system is not operational at all locations. This assessment of supplemental liquidated damages will be in addition to the liquidated damages specified in Section 107 of the Standard Specifications.

All work schedule changes must be submitted for approval to the Department a minimum of 48 hours prior to the requested change.

Once operations commence, for every available weekday indicated in the Contractor's schedule that is not worked, the Contractor will be charged supplemental liquidated damages per Section 107.7.2 of the Standard Specifications, excluding days lost to inclement weather, holidays, and approved absences.

Absences not indicated within the approved work schedule must be requested at least 72 hours in advance and are subject to Department approval. The Contractor must assure that the roadway and traffic control signing is maintained for safe passage of the traveling public during any approved absence.

The completion date and interim completion dates will not be modified due to approved absences.

Work time restrictions for holidays and special events will include:

- No work within the rights-of-way will be allowed from 12:01 p.m. Friday, May 25, 2018 through 6:00 a.m. Tuesday, May 29, 2018 (Memorial Day weekend).

- No work within the rights-of-way will be allowed from 12:01 p.m. Tuesday, July 3, 2018 through 6:00 a.m. Thursday, July 5, 2018 (Independence Day holiday).

- No work within the rights-of-way will be allowed from 12:01 p.m. Friday, August 31, 2018 through 6:00 a.m. Tuesday, September 4, 2018 (Labor Day weekend).

- No work within the rights-of-way will be allowed from 12:01 p.m. Friday, October 5, 2018 through 6:00 a.m. Tuesday, October 9, 2018 (Columbus Day weekend).

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:

Pay Item		Pay Unit
527.33	Truck Mounted Attenuator	Each

SPECIAL PROVISION
SECTION 626
FOUNDATIONS, CONDUIT AND JUNCTION BOXES FOR HIGHWAY SIGNING, LIGHTING AND SIGNALS

ADD the following paragraph to subsection 626.033:

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.

ADD the following paragraph to subsection 626.05

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	**Pay Unit**
626.251 Non-Metallic Under pavement Conduit (Schedule 80 or greater rating)	(Linear Foot)

SPECIAL PROVISION
SECTION 645
HIGHWAY SIGNING
(Solar Power System)

Description: This work shall consist of furnishing, installing, wiring, and testing solar power systems, support poles, foundations, mounting hardware, and associated equipment to provide power for the hybrid travel time sign system. The work shall also include calculating the power load requirements and furnishing, installing, and testing all ancillary items needed to establish a complete, functional solar power system.

General: The Contractor shall provide a solar panel array, mounting hardware, support pole and foundation, charging control equipment, batteries, battery storage cabinet, and all other associated equipment to provide the necessary power for all connected equipment. Solar panels and battery storage shall be sufficient to provide a minimum of 10 days of autonomy under no-light conditions when the batteries are fully charged, and to provide 24 hours per day of operation, seven (7) days per week, 365 days per year with no loss of operation. The batteries shall not discharge more than 50 percent of capacity at the end of the 10 days autonomy. The Contractor shall submit for approval a solar calculation which demonstrates compliance with this requirement based on the expected power draw of all connected equipment. The solar calculation shall include the manufacturer's specified loads of each piece of equipment to be powered. The solar calculation shall take into account the full required operating temperature range. The solar calculations shall take into account leaves on adjacent trees, regardless if the leaves are on the trees at the time of installation. The solar calculations recharge rate shall account for limited light levels associated with winter.

Materials: Materials provided for this contract shall comply with the following standards. If no revision date is specified, the most recent revision of the standard applies, with any published interims. Solar system hardware shall be rated for -30 degrees F to +122 degrees F. The Contractor shall submit a complete Technical Submittal for the solar power system prior to manufacturing, fabricating or constructing components of the solar power system. The Technical Submittal shall include:

A. Solar power calculations
B. Drawings, manufacturer's specifications, and applicable catalog cuts for all materials and components for this work.
    a. Solar panels and connection details
    b. Solar controller
    c. Power inverter
    d. Batteries (AGM type and spill proof)
    e. Battery enclosure with foundation (battery enclosure shall be in a location that allows for convenient maintenance access and the batteries shall be

contained in such a manner that maintenance access does not require the removal of any batteries in order to access any other battery)

f. All other components required for a working system

C. Solar Array Support Pole

a. Contractor shall provide design calculations for the support pole signed and stamped by a Professional Engineer licensed in the State of Maine.
b. Contractor shall provide top of foundation reactions of the solar array support pole.
c. Contractor shall provide manufacturer's specifications and catalog cuts for any off-the-shelf mounting hardware, materials and components.
d. The solar array support pole shall be designed and fabricated in accordance with the AASHTO *Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals*.
e. The solar array support pole shall be designed to support the proposed solar array and all attached hardware. The design should consider all possible loading combinations including wind, snow and ice loads.
f. The solar array support pole shall include hardware to allow the panels to be angled in the direction of and at the angle best suited to year-round solar exposure.
g. The calculations should include the pole, the base plate, and the anchor bolt analysis.
h. The pole shaft shall be one-piece construction and shall conform to ASTM A595 Grade A with a minimum yield strength of 55 ksi or ATMS 572 with a minimum yield strength of 65 ksi.
i. The base plate shall conform to ASTM A36 or A573 Grade 42.
j. The support pole shall be fully galvanized.

D. Solar Power Support Pole Foundation

a. Contractor shall provide design calculations for the support pole foundation signed and stamped by a Professional Engineer licensed in the State of Maine.
b. The solar array support pole foundations shall be designed in accordance with the AASHTO *Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals*.
c. The Contractor is encouraged to conduct a subsurface exploration for any proposed foundations. Alternatively, the Contractor may assume worst case soils for the foundation design.
d. The foundation design shall meet the requirements of Section 626.034.

The Contractor shall supply and install a grounding system at the base of the solar array support pole. The grounding system shall be connected to the pole through and appropriate ground clamp. A #4 AWG copper wire shall be installed between the support pole and the battery enclosure providing a common ground system. A minimum on-inch conduit through the foundation to the inside of the support pole shall provide the means to connect the ground wire from the inside of the pole to the external ground rod(s). Maximum

resistance to ground shall be 25 ohms, or as recommended by the manufacturer, whichever is more stringent. Additional ground rods shall be installed to meet the required grounding.

The Contractor shall unconditionally guaranty all system modules, including all equipment and hardware as specified in the Contract Documents to be free of defects for a period of two (2) years from the date of final approval. The guaranty shall cover all materials, equipment, tools, transportation, supplies, parts, and incidentals required to facilitate response maintenance as necessary to repair and replace any defective modules, system(s) or subsystem(s) of the completed facility within the two-year time period. Acceptance of any system or subsystem during the construction contract, or any modifications to the system design proposed by the Contractor and approved by the Department shall not relieve the Contractor of the requirements of this guaranty. The guaranty period shall be considered to start concurrent with the date of final approval.

The Contractor shall maintain records, which show the itemized material, equipment, and labor cost incurred to provide response maintenance during the guaranty period. These records shall be provided to the Resident at the end of the warranty period. The purpose of this requirement is to provide the Department with information to estimate the response maintenance budget needed for the system after the guaranty period. These records will not be used as a Basis of Payment to the Contractor. The Contractor shall assure that these cost records are as complete and accurate as practicable.

The Contractor shall perform testing in accordance with the requirements contained in the Special Provision 645. Testing shall include, but not be limited to, demonstration that the solar power system will properly power the ITS equipment for the required no-light autonomy time, while still retaining the required battery capacity after the completion of the test.

As part of the Contractor's training program for the hybrid travel time sign system, the Contractor shall include a maintenance program consisting of the furnishing of educational training in the operation and maintenance of the solar power equipment for the hybrid travel time sign system, including hardware.

Method of Measurement: Solar Power Systems will not be measured directly but shall be incidental to each hybrid travel time sign location using solar power.

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 two 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
- Traffic Tile API
- Virtual Sensor (speed at a point) API

The route segments to be provided shall include:

- I-95 northbound from mile marker (MM) 38.0 to MM 109.0
- I-95 southbound from MM 105.0 to MM 36.0
- I-295 northbound from MM 0.0 to MM 52.5 (entire corridor)
- I-295 southbound from MM 52.5 to MM 0.0 (entire corridor)

- Falmouth Spur eastbound from MM 0.0 to MM 4.3 (entire corridor)
- Falmouth Spur westbound from MM 4.3 to MM 0.0 (entire corridor)

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 two-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 the remainder of the lump sum price for Travel Time Data.

Payment will be made under:

Pay Item		Pay Unit
645.523	Travel Time Data	LS

SPECIAL PROVISION
SECTION 645
HIGHWAY SIGNING
(Hybrid Travel Time Signs)

The provisions of Section 645 of the Standard Specifications shall apply with the following additions and modifications:

645.01 Description Add after the first paragraph:

This work shall also consist of furnishing, installing, testing, integrating, operating, and maintaining new hybrid travel time signs with two or three face-mounted dynamic message signs (DMS) on static guide signs for travel time and delay messaging. Additional equipment includes ground-mounted intelligent transportation system (ITS) equipment cabinets, DMS controllers, Ethernet switches, cellular modems, cellular antennas, cabling, and all communication and power services in accordance with these specifications and in reasonably close conformity with the Plans.

645.021 Materials Add after the last paragraph:

645.0211 Dynamic Message Signs – General

Within 21 days following the execution of the contract and before any materials are ordered, the Contractor shall submit three (3) sets of the Technical Submittal to the Resident for review and approval in accordance with Section 105.7. Shop drawings and calculations associated with the Technical Submittal shall be signed and stamped by a Professional Engineer licensed in the State of Maine. The Technical Submittal shall include the following items:

1. DMS manufacturer's full corporate name and address.
2. DMS manufacturer's primary contract person's name, title, address, phone number and email address.
3. DMS manufacturer's qualification statement and information indicating proof of prior installation of a minimum of ten (10) DMS panels for travel time messaging excluding systems exclusively for indoor use.
4. DMS shop drawings including an illustration or directions of the recommended installation method.
5. DMS schematics in block diagram form including power distribution (both interior and exterior), communications connections, and control hardware. Separate schematics will be required for the travel time message signs and the delay message signs.
6. DMS catalog cuts for the major DMS components including the LED modules, control/logic components, environmental control assemblies (thermostats, cooling fans and heaters), DMS controller and software, polycarbonate face material, and

LEDs. All submitted product data sheets shall clearly indicate the specific make and model of the product being proposed.

7. DMS warranty information.
8. Sign panel layout shop drawings.
9. Steel supports shop drawings.

The DMS signs shall meet the following requirements.

a. The dynamic message signs (DMS) shall satisfy the following basic requirements:

1. The DMS shall be designed in accordance with the most recent version of NEMA Standards publication TS 4, Hardware Standards for Dynamic Message Signs (DMS), with National Transportation Communications for ITS Protocol (NTCIP) Requirements.

2. Voltage carrying components and circuits (120 VAC and greater) shall be designed, wired, and color-coded per the National Electric Code (NEC).

3. All DMS and associated equipment and enclosures shall be listed by the Underwriters Laboratories (UL®) and shall bear the UL mark on the outside of the DMS insert enclosure.

4. All equipment shall be designed in accordance with Federal Communications Commission (FCC) Part 15, Subpart B as a "Class A" digital device.

5. The sign housing shall be designed and constructed to comply with all applicable sections of AASHTO's *LRFD Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals* (AASHTO LRFD Specifications), 2015 edition with all applicable interims.

b. The DMS panels shall satisfy the following requirements:

1. The DMS panel housing shall be designed to comply with type 3R enclosure criteria as described in the latest revision of (National Electrical Manufacturers Association) NEMA Standards Publication 250, Enclosures for Electrical Equipment (1000 Volts Maximum).

2. The DMS panel housing shall provide front service access for all LED display modules, electronics, environmental control equipment, air filters, wiring, and other internal components.

3. The DMS panel shall contain a full display matrix using 18-inch tall characters for each of the travel time displays. The matrix shall display digits and text that is continuous, uniform, and unbroken in appearance to motorists and travelers.

4. DMS panel and controller components shall operate in a minimum temperature range of -40ºF to +140ºF (-40ºC to +60ºC) and a relative humidity range of 0 to 99%, non-condensing.

5. External component hardware (nuts, bolts, screws, standoffs, rivets, fasteners, etc.) shall be fabricated from hot dipped or mechanically galvanized steel, stainless steel, aluminum, nylon, or other durable corrosion-resistant materials suitable for the roadway signage application.

6. DMS panel and controller components shall be 100% solid-state, except for the environmental control fan(s) and thermostat(s).

7. All voltage carrying electrical components (exceeding 24 VDC) used in the DMS and the sign controller shall be UL (Underwriter's Laboratory) listed and meet all local NEC codes applicable to DMS applications.

8. The presence of ambient radio signals and magnetic or electromagnetic interference, including those from power lines, transformers, and motors, shall not impair the performance of the DMS system.

9. The DMS system shall not radiate electromagnetic signals that adversely affect any other electronic device, including those located in vehicles passing near the DMS panel.

10. The DMS controller shall include a display intensity control system, which shall provide means to change the brightness of the display matrix manually and automatically. Manual control will allow the user to select one of at least 6 intensity levels, which will be communicated to the LED drivers in all LED panels. The brightness on all LED panels shall remain at that level until the user changes the level or sets the controller to automatic mode.

11. The automatic intensity control mode shall monitor the ambient light sensors of each LED panel and will use a mathematical algorithm to automatically select one of the 6 or more intensity levels. The intensity level will then be transmitted to the LED drivers in all the LED panels. The intensity level shall be determined by the controller based on the highest light level sensed from all ambient light sensors of the DMS panels.

12. The intensity control mode, manual or automatic, and brightness level shall be settable via NTCIP using the control software.

c. The LEDs and LED display modules shall satisfy the following requirements:

1. The LED display modules shall be placed adjacently in a two-dimensional matrix to form the face of the DMS panel.

2. All LED display modules and internal components shall be removable and replaceable by a single technician through the front face of the DMS panel.

3. Removal of the LED modules shall provide access to the interior of the DMS housing.

4. Each LED display module shall have a minimum of one (1) cam latch that fastens it to the DMS housing.

5. Seams that separate adjacent LED display modules shall be sealed.

6. LED display modules shall not be welded to the DMS panel housing.

7. The front face of LED display modules shall provide a high-contrast background for the DMS panel display matrix.

8. The front of each LED display module shall be black, and shall have a polycarbonate front face.

9. LED display module electrical connections shall use a quick-disconnect locking connector. Removal of an LED display module from the DMS panel shall not require a soldering operation.

10. It shall not be possible to mount a display module upside-down or in an otherwise incorrect position within the DMS panel display matrix.

11. All LED display modules, as well as the LED pixel boards and driver circuit boards, shall be identical and interchangeable throughout the DMS panel.

12. Removal of one or more modules shall not affect DMS panel structural integrity or the structural integrity of the rest of the LED display matrix.

13. The failure of an LED string or pixel shall not cause the failure of any other LED string or pixel in the DMS panel.

14. The pixel pitch (spacing between adjacent pixels) shall not exceed sixty-six (66) millimeters.

15. Each pixel shall output white colored light at a minimum luminous intensity of 12,400 candelas per square meter when measured using a photometric meter.

16. The LED driver circuitry shall be able to detect that individual LED strings or pixels are stuck off and shall report the pixel status to the sign controller upon request.

17. All LEDs shall have a nominal viewing cone of 30 degrees with a half-power angle of 15 degrees measured from the longitudinal axis of the LED. Viewing cone tolerances shall be as specified in the LED manufacturer's product specifications and shall not exceed ±5 degrees.

18. The LED package styles shall be through-hole with standoffs. Surface-mount LEDs or LEDs without standoffs will not be accepted.

19. The LEDs used in the DMS insert shall maintain color uniformity and consistency on the LED display face within the 30 degree cone of vision.

645.0212 Dynamic Message Signs – For Travel Time Messages

Signs identified with two-digit travel time displays shall provide a minimum of two (2) characters with a minimum one pixel spacing/gap. The DMS panel shall support display of amber travel time digits on a black background. Each display pixel shall be comprised of a series of LEDs that when turned on cause the pixels to appear to be emitting white light. Other pixel technologies, such as fiber optic, flip disk, combination flip disk-fiber optic, combination flip disk-LED, liquid crystal, LED lenses, and incandescent lamp, will not be accepted.

DMS panel dimensions of the housing containing all electronic components shall not exceed 24 inches high by 42 inches wide. The front-to-back housing depth shall not exceed 6 inches at its widest point, exclusive of vent fins.

Each hybrid travel time message sign shall include three (3) DMS panel housings, as indicated in the plans. The DMS panel housing bottom side shall contain small weep holes for draining any water that may accumulate due to condensation. Weep holes and ventilation ports shall be screened to prevent the entrance of insects and small animals.

645.0213 Dynamic Message Signs – For Delay Messages

Signs identified with multi-character delay messages shall provide a minimum of nine (9) characters with a minimum one pixel spacing/gap between each character. The DMS panel shall support display of red, amber, and green text on a black background. Each display pixel shall be comprised of a series of LEDs that when turned on cause the pixels to appear to be emitting red, amber or green light. Other pixel technologies, such as fiber optic, flip disk, combination flip disk-fiber optic, combination flip disk-LED, liquid crystal, LED lenses, and incandescent lamp, will not be accepted.

DMS panel dimensions of the housing containing all electronic components shall not exceed 23 inches high by 136 inches wide for the multi-character delay messages. The front-to-back housing depth shall not exceed 6 inches at its widest point, exclusive of vent fins.

Each hybrid delay message sign shall include two (2) DMS panel housings, as indicated in the plans. The DMS panel housing bottom side shall contain small weep holes for draining any water that may accumulate due to condensation. Weep holes and ventilation ports shall be screened to prevent the entrance of insects and small animals.

645.025 Hybrid Travel Time Signs

The hybrid travel time signs shall consist of two types: Hybrid Travel Time Message Signs and Hybrid Delay Message Signs.

a. Each hybrid travel time message sign shall consist of two components: a static guide sign and multiple DMS panels.

b. The static guide sign shall be a Type I guide sign constructed in accordance with 645.04. Sign sheeting shall be ASTM D4956 Type XI retroreflective sheeting. The static guide sign shall include cut-outs specifically sized for the DMS panels.

c. The DMS panels shall be legible within a distance range of 150 feet to more than 1,000 feet under the following conditions:

    - 24 hours per day in most normally encountered weather conditions.
    - During dawn and dusk hours when sunlight is shining directly on the display face and when the sun is directly behind the sign.
    - When viewed by motorists and travelers that have 20-20 corrected vision.
    - The DMS component(s) shall have an outdoor ambient light sensor that controls the display intensity to maintain legibility.

d. A minimum of 30 days prior to configuration of the DMS signs, the Contractor shall submit the proposed IP-addresses for all addressable equipment to include:
    - Proposed IP Address along with all required network configuration information.
    - MAC address
    - Device Name and Type
    - Port Assignment (as appropriate)

e. Environmental System

    - The DMS panels shall contain a temperature sensor.

- The DMS panels shall contain a thermostatically controlled ventilation system that maintain internal temperatures less than +140°F (+60°C), when the outdoor ambient temperature is +115°F (+46°C) or less.
- The DMS shall include a filtered air intake port.

f. The wiring and power distribution for the DMS system shall satisfy the following basic requirements:
   - All cabling at the DMS and at the MaineDOT Traffic Management Center shall be installed in a neat and workmanlike manner utilizing cable bundling devices per industry standards.
   - Power and communication entrances shall be located on the rear wall of the DMS panel.
   - The DMS panel housing shall include a strain relief for the incoming power cable.
   - All power and communications cables entering the DMS shall be surge protected.
   - Wiring for LED display module control, environmental control circuits, and other internal DMS panel components shall be installed in the DMS panel housing in a neat and professional manner.
   - Wiring shall not impede the removal of display modules, power supplies, environmental control equipment, and other sign components.
   - All wiring shall conform to the NEC.
   - The DMS panel manufacturer shall provide one earth ground lug that is electrically bonded to the DMS insert housing that can accommodate a #4 AWG ground wire.
   - The lug shall be installed near the power entrance location on the DMS panel housing's inside rear wall.
   - The DMS panel installation contractor shall provide the balance of materials and services needed to properly earth ground the DMS insert in accordance with state and local codes.
   - The DMS shall be grounded to a maximum of 25 ohms to ground or as recommended by the manufacturer, whichever is more stringent.
   - All earth grounding shall conform to the NEC, and the DMS panel manufacturer's requirements.

g. The transient protection for the DMS system shall satisfy the following requirements:
   - A series-connected AC line surge suppressor capable of passing 15 amps of current shall protect the sign controller and other control and communication equipment.
   - The AC line surge suppressor shall withstand a peak 50,000 ampere surge current for an 8x20 microsecond wave form.

- The AC line surge suppressor shall have a maximum continuous operating current of 15 amps at 120 VAC, 60 Hz.
- The AC line surge suppressor shall have a series inductance of 200 micro-henrys (nominal).
- The AC line surge suppressor shall have an operating temperature range of –40ºF to +158°F (-40ºC to +70ºC).
- The AC line surge suppressor shall have a UL-1449 surge rating of 400 V or less.
- The Ethernet transient voltage surge suppression shall be provided by an Ethernet surge card, or equivalent, which protect the inputs of the control equipment that are connected to off-site sources using copper cables.

h. The DMS controller shall satisfy the following requirements:

- The sign controller hardware/firmware and control software must conform to the applicable NTCIP standards. Refer to the NTCIP section of the specification for detailed NTCIP requirements.
- The DMS controller shall maintain a minimum of 100 changeable messages.
  The DMS controller shall maintain a minimum of 100 permanent messages in a user-accessible library.
- The contractor shall provide all the software, firmware, and services necessary to operate a DMS system that fully complies with the NTCIP functional requirements specified herein, including incidental items that may have been inadvertently omitted.
- The DMS controller shall include diagnostic software to self-test and identify when modules or individual pixels are not operating and provide an alert to an operator.
- The DMS communications interface shall be native Ethernet, ready for installation of a wireless modem or other Ethernet communications device. The DMS shall be equipped with all the necessary ancillary equipment to communicate with both the manufacturer's computer software and the ATMS via the Department's chosen mode of wireless communications.
- The DMS controller shall contain a minimum of one (1) 10/100Base-T Ethernet communication port. This port shall be available for use for communicating to and from the sign's central controller for modifying sign messages, changing configuration settings, obtaining sign diagnostic information, and performing all sign management functions. The Ethernet port shall have a standard RJ45 connector, which conforms to EIA/TIA standard 568A or 568B. The sign shall have configurable IP address, subnet mask, and gateway addresses, and shall be capable of being assigned a fixed IP address or be assigned an address via DHCP.
- Communications on the Ethernet port shall be NTCIP-compatible using the NTCIP 2202 Internet transport profile, and the NTCIP 2104 Ethernet

sub network profile. This shall permit the controller to be operated on any typical Ethernet network using the TCP/IP and UDP/IP protocols.

- These specifications reference standards and MIBS through their NTCIP designated names. Refer to the NTCIP library at www.ntcip.org for information on the current status of NTCIP.

Document Number and Version	**Document Title**
NTCIP 1101:1996 and Amendment 1	*Simple Transportation Management Framework (STMF)*
NTCIP 1102:2004 v01.15	*Octet Encoding Rules (OER) Base Protocol*
NTCIP 1103 v02.16	*Transportation Management Protocols*
NTCIP 1201 v02	*Global Object (GO) Definitions*
NTCIP 1203 v02	*Object Definitions for Dynamic Message Signs*
NTCIP 2101:2001 v01.19	*Point to Multi Point Protocol (PMPP) Using RS-232 Subnetwork Profile*
NTCIP 2103 v02	*Point-to-Point Protocol Over RS-232 Subnetwork Profile*
NTCIP 2104v01.11	*Ethernet Subnetwork Profile*
NTCIP 2201 v01.15	*Transportation Transport Profile*
NTCIP 2202 v01.05	*Internet (TCP/IP and UDP/IP) Transport Profile*
NTCIP 2301 v02.18	*Simple Transportation Management Framework (STMF) Application Profile*

1. Each serial or modem port on each NTCIP device shall be configurable to support both NTCIP 2101:2001 v01.19 and NTCIP 2103 v02. Only one of these profiles shall be active at any given time. Serial ports shall support external dial-up modems.

2. Each Ethernet port on the NTCIP device shall comply with NTCIP 2104 v01.11

3. The NTCIP device(s) may support additional Subnet Profiles at the manufacturer's option. At any one time, only one subnet profile shall be active on any single port of the NTCIP device. All response datagram packets shall use the same transport profile used in the request. The NTCIP device shall be configurable in a way that allows a field technician to activate the desired subnet profile and shall provide a visual indication of the current selected subnet profile.

4. Each Ethernet port on the NTCIP device shall comply with NTCIP 2202 v01.05

5. The NTCIP device(s) may support additional transport profiles at the manufacturer's option. Response datagrams shall use the same transport profile used in the request. Each NTCIP device shall support the receipt of datagrams conforming to any of the supported transport profiles at any time.

6. Each NTCIP device shall comply with NTCIP 2301 v02.18.

7. An NTCIP device may support additional application profiles at the manufacturer's option. Responses shall use the same application profile used by the request. Each NTCIP device shall support the receipt of application data packets at any time allowed by the subject standards.

8. Each NTCIP device shall support all mandatory objects of all mandatory conformance groups, and all applicable optional objects, as defined in NTCIP 1201 and NTCIP 1203, latest versions.

9. NTCIP documentation shall be provided on electronic media, and will contain ASCII versions of the following Management Information Base (MIB) files in Abstract Syntax Notation 1 (ASN.1) format:

    - The relevant version of each official standard MIB modules referenced by the device functionality.

    - If the device does not support the full range of any given object within a standard MIB Module, a manufacturer specific version of the official standard MIB Module with the supported range indicated in ASN.1 format in the SYNTAX and/or DESCRIPTION fields of the associated OBJECT TYPE macro. The filename of this file shall be identical to the standard MIB Module except that it will have the extension "man".

    - A MIB module in ASN.1 format containing any and all manufacturer specific objects supported by the device with accurate and meaningful DESCRIPTION fields and supported ranges indicated in the SYNTAX field of the OBJECT-TYPE macros.

- A MIB containing any other objects supported by the device.

645.026 Ground-Mounted Intelligent Transportation System (ITS) Equipment Cabinet

a. The Contractor shall furnish, install, configure, and test a Ground Mounted ITS Equipment Cabinet that meets the following requirements:

1. Ground mounted cabinets shall be mounted on concrete foundations.

    - All conduits terminating in the cabinet shall be sealed with duct sealant. Use of tape to permanently seal conduits shall be prohibited.
    - Prior to placing the ITS cabinet on the concrete foundation, silicone sealant shall be applied to the area of contact. A two-inch gap shall be left without sealant on the front side of the cabinet.

2. Where indicated, spare sweeps shall be provided in the cabinet foundations for future use. If no spare sweeps are identified in the plans, the Contractor shall supply one 3-inch PVC conduit sweep as a spare.

3. The ground mounted ITS equipment cabinet shall be 66”H x 24”W x 30”D. The cabinet shall have two locking doors located on opposite sides of the cabinet. All equipment housed in the cabinet shall be rack mounted.

4. Ground mounted cabinets shall be installed with doors opening parallel to adjacent traffic.

5. The Contractor shall establish the following for maintenance vehicle access to ITS devices and cabinets:

    - An access point near the device or cabinet location sufficient for a two-ton vehicle.
    - Off-roadway parking without requiring a lane closure within 100 yards of the cabinet location.

6. The cabinet shall contain a full-height standard EIA 19-inch rack. The rack shall be secured within the cabinet by mounts at the top and bottom.

7. A 3’0” x 2’6” x 4” concrete work pad shall be installed in front of each cabinet door. The pad shall be placed on a minimum of 4-inches of compacted granular material. The pad shall be set with at least 1 percent grade such that any water on the pad shall flow away from the cabinet. The ground mounted ITS control cabinet shall be secured to the concrete foundation provided by the Contractor as shown in the plans. Where the work pad is installed on a slope, the depth of the

pad shall be increased such that there is at least two inches of the concrete pad below grade.

8. Each cabinet shall contain a power panel. The power panel shall contain a primary circuit breaker, which will accept the incoming power.

    - Utility Powered Systems: Power shall be 120 VAC, single-phase power. This primary circuit breaker shall serve as the electrical disconnect for the cabinet and shall shut off all cabinet power when in the "off" position. The primary circuit breaker shall be a single pole, 30-amp breaker. Two additional circuit breakers shall be supplied and installed and be fed from the primary circuit breaker. These two circuit breakers shall be single pole, 20-amp circuit breakers. One of these two circuit breakers shall feed the four 15-amp, electrical outlets to be installed in the cabinet while the other 20-amp circuit breaker shall feed a power distribution buss which will provide the hard wired electrical feed for the lamps, the cabinet heater, the electric fan, and all other integrated electrical equipment. The power panel shall also contain a single-phase filtering surge protector, as described elsewhere in this document.
    - Solar Powered Systems: See Solar Power System special provision.

9. The cabinet shall contain all necessary power equipment required for connections to utility power or battery power. This shall include: disconnect switches, circuit breakers, surge suppressors, power distribution equipment and other equipment required to fully power the cabinet and its equipment. The cabinet shall include power inputs for connections to external power sources from both the local utility company AC lines service and from the UPS.

10. The cabinet shall protect the electronics and interfaces against: sustained winds of 90 miles per hour (MPH), with 120 MPH wind gusts, blowing sand and dust, roadside pollutants from vehicle exhausts, blowing rain and snow and heavy ice accumulations experienced in the project area.

11. The cabinet shall be weatherproof with the top of the enclosure crowned or slanted to prevent standing water. The field cabinet shall also provide protection against vandalism and theft of equipment. Each cabinet door shall be supplied and installed with Corbin 1548-1 locks for access by #2 keys. The Contractor shall supply two #2 keys for each cabinet. The cabinet shall be NEMA 3R rated.

12. The cabinet and doors shall be constructed from sheet aluminum, which has a minimum thickness of 0.125 inches. All welds shall be neatly formatted and free of cracks, blowholes and other irregularities.

13. The cabinet shall be supplied with a captive door restraint bar. The bar shall allow the door to be kept open at a minimum of two different angles with one at 90° and the other in the fully open position. The door restraint bar shall be supplied and installed such that the door is held in place during a 40 MPH wind without the restraint bar being bent. The door restraint bar shall be provided to prevent door movement when open in windy conditions.

14. Door hinges shall be continuous and bolted to the cabinet and door utilizing steel carriage bolts and nylock nuts. The hinges shall be made of a minimum 0.083-inch thick aluminum and shall have a minimum 0.250-inch diameter stainless steel hinge pin. The hinge pin shall be capped at the top and bottom by a weld to prevent removal.

15. The top and bottom of the latching pushrods shall contain nylon rollers to promote secure door closure.

16. The door handle shall be stainless steel. The latching handle shall have provisions for padlocking in the closed position.

17. The cabinet shall be equipped with a slide out metal drawer mounted below the bottom shelf. It shall be constructed and installed such that it can hold a 15-pound notebook computer.

18. The cabinet shall be provided with a minimum of four utility duplex electric power outlets to support electrical equipment. The power outlets shall be installed with minimum 2-inch spacing between each other. The utility power outlets shall be installed within the field cabinet and not on the cabinet door. The current rating of the duplex outlets shall be 15 amperes.

19. The cabinet shall contain a power switch mounted within the cabinet to control power to all duplex outlets.

20. The Contractor shall supply and install a thermostatically controlled electric fan(s) in the field cabinet to maintain the temperature within the field cabinet to that required by the equipment for outside temperatures as specified in these Special Provisions. Thermostats shall have the capability of being field adjusted from 50° F to 120° F.

21. The cabinet shall be supplied and installed with a 200-watt radiant heater, except in cabinets powered by a solar power system. The radiant heater shall be a self-contained device designed to provide heat for an outdoor metal enclosure. The 120 VAC heater shall be hardwire connected to the cabinet's electrical power distribution buss. The heater shall have an on/off switch along with an adjustable thermostat with a minimum turn on range of 10°F to 60°F. The heater shall be installed in the lower portion of the cabinet allowing for the heat generated by the

unit to rise. It shall be mounted such that it is not blocking or touching installed equipment or wiring. It shall not be installed directly under a shelf. This will preclude the opportunity of the shelf getting so hot that it may melt the rubber feet of the installed equipment. There shall be sufficient space around the unit to facilitate proper airflow. The control knob for the thermostat shall be located such that it can easily be read and adjusted by field personnel.

22. All exposed, high voltage electrical terminals shall be insulated with non-conducting material such as rubber boots or silicon/rubber caulking.

23. All air venting arrangements shall contain air filters. The air filters shall have an average rated efficiency of 30% and an arrestance of 90% when tested in accordance with ASHRAE 52.1-1992 Test Standard. The filter shall be listed and rated Class 2 by the Underwriters Laboratories. All fans shall be located above the air filters at the top of the cabinet. Filters shall have a metal structure; paper or paper-based filters shall be prohibited.

24. All intake and exhaust vents shall meet NEMA 3R requirements with and without powering the air venting arrangements. All exhaust vents shall be furnished with a screen to prevent insects from entering the field cabinet.

25. The cabinet shall be supplied and installed with two (2) internal lights located in the top of the cabinet inside each door. This light shall automatically turn on when the cabinet door is open and shut off when the door is closed. The lights shall be hardwire connected to the cabinet's electrical power distribution buss.

26. The Contractor shall furnish in a watertight container a control cabinet-wiring diagram. Three sets of identical wiring diagrams shall be furnished for each cabinet.

b. The Contractor shall furnish, install, and test Grounding and Transient Voltage Surge Suppression (TVSS) that meets the following requirements:

1. The Contractor shall furnish, install, and test Grounding and Transient Voltage Surge Suppression (TVSS) at all ITS cabinets and all metallic ITS device structures. The Contractor shall provide grounding connection between each TVSS device and the main grounding terminus in the cabinet. Each TVSS device shall have a dedicated grounding connection, directly with the grounding terminus. Daisy-chaining of grounding connection is not permitted.

2. All grounding and electrical installations shall meet the requirements of the National Electrical Code, as well as all applicable state, local, and applicable public utility codes.

3. All grounding shall meet the requirements of the manufacturers of the devices installed on the project. If the manufacturers' requirements are more stringent than those of the national, state, and local codes, then the manufacturers' grounding requirements shall apply.

4. All ITS cabinets shall include at least one ¾-inch by 10-foot ground rod made of solid copper or copper-clad steel rod. A #4 AWG copper ground wire shall be connected to the ground lug on the cabinet and exothermically welded to the ground rod. Additional ground rods shall be furnished to provide required grounding.

5. All metallic ITS device support structures, including but not limited to camera poles, detector sensor poles, and dynamic message sign structures, shall include a minimum of one ground rod. A #4 AWG copper ground wire shall be connected to the ground lug on the support structure and exothermically welded to the ground rod. Additional ground rods shall be furnished to provide required grounding. A conduit through the foundation of the support structure to the inside of the structure shall provide the means to connect the ground wire from the inside of the structure to the ground rod(s). No ground wires mounted externally to the structure will be permitted.

6. All ITS cabinets shall be electrically bonded to their associated ITS device support structure ground system(s) using #4 AWG copper wire(s). The #4 AWG copper wire(s) shall be installed between the support structure(s) and the cabinet providing a common ground system for each terminus.

7. The power panel of all ITS cabinets shall contain a single-phase filtering surge protector, designed for use within traffic equipment cabinets, to absorb power line noise and switching transients. The surge protector shall be connected to the load side of the primary circuit breaker. The cabinet shall also be supplied with electrical neutral and ground terminal busses. The electrical neutral buss, the ground buss, the cabinet shell and the ground rod shall all be wired in conformance to the applicable electrical codes.

8. All ITS cabinets shall have a transient voltage surge suppressor (TVSS) sized for the incoming current and loads to be protected.

    - The TVSS shall be UL 1449 Compliant.
    - The TVSS shall be field hardened and rated by its manufacturer in accordance with the operating temperature, storage temperature, and relative humidity requirements of the NEMA TS2 Standard. The design shall be inherently temperature compensated to prevent abnormal operation. The circuit design shall include such compensation as is

necessary to overcome effects due to temperature in the specified environmental range.

- The TVSS shall have protected lines L, N, and G.
- The TVSS shall operate with a maximum leakage current of less than 0.3 mA.
- The TVSS shall satisfy a maximum attenuation of -55 dB@ 100 MHz, typical.
- The TVSS shall satisfy a maximum surge current of 18 kAmp per mode, 8/20 impulse.
- The TVSS shall provide lightning induced voltage surge protection.
- The TVSS shall filter and absorb power line noise and switching transients.
- The TVSS shall utilize three stages for power line voltage spike and Radio Frequency Interference (RFI) suppression.

9. The Contractor shall furnish and install TVSS device(s) for all power and communications conductors leaving the ITS equipment cabinets, including but not limited to utility service, and power and communications for all ITS devices that are external to the cabinet.

c. The Contractor shall furnish, install, and test an Uninterruptible Power Supply (UPS) that meets the following requirements in all cabinets except cabinets powered by a solar power system:

1. An uninterruptible power supply (UPS) unit as specified herein shall be housed in each utility powered ITS equipment cabinet. The UPS shall be connected to a 120 VAC line power receptacle.

2. The UPS shall supply power to all ITS equipment cabinet devices and all equipment connected to the cabinet, except as otherwise indicated herein.

3. All equipment connected to the UPS shall be properly connected and insulated to prevent shock hazard.

4. In the event that environmental control equipment, such as heaters and/or air conditioners, or spare 120 VAC auxiliary convenience outlets are installed in the ITS equipment cabinet, they shall not be connected to UPS power.

5. The UPS shall be sized to provide power to all 120 VAC loads described herein, plus fifty percent (50%) spare power capacity. The Contractor shall supply load calculations to the Resident for approval prior to installation of the UPS.

6. The UPS batteries shall be sized to provide a hold-up time to all connected loads, plus the required spare capacity as described herein, of four (4) hours, minimum. The UPS batteries shall be of the sealed, maintenance free type.

7. During the transfer from utility power to UPS power, there shall be minimal transfer, or switchover, time, i.e., the maximum transfer or switchover time shall be 10 microseconds.

8. The UPS shall provide true sine wave power to all connected loads. The UPS output total harmonic distortion shall not exceed three (3) percent.

9. Each cabinet mounted UPS unit shall be SNMP compatible to allow being configured and integrated for remote monitoring via TCP/IP from the MaineDOT. Any software required to monitor all UPS' shall be furnished, configured and integrated into the MaineDOT monitoring computer. The UPS monitoring software shall provide the following capabilities, as a minimum:

    - Data logging
    - Event logging
    - Fault notification
    - Unattended system shutdown
    - Hibernation
    - Manage all network UPS units
    - Operating system shutdown
    - Power event summary
    - Run command file

10. The UPS shall have an RJ45 Ethernet connector for remote monitoring as well as local connection to a laptop computer for configuration.

11. The UPS shall have status indicators that display, as a minimum:

    - Power
    - Remaining battery capacity, as a ratio of total battery capacity
    - Load level, as a ratio of maximum UPS capacity
    - Overload
    - Battery failure

12. The UPS shall be field hardened and rated by its manufacturer in accordance with the operating temperature, storage temperature, and relative humidity requirements of the NEMA TS2 Standard. The design shall be inherently temperature compensated to prevent abnormal operation. The circuit design shall include such compensation as is necessary to overcome effects due to temperature in the specified environmental range.

13. The UPS shall have a manual power on/off switch.

14. The UPS shall have transient voltage surge protection that protects itself as well as connected loads against normal mode and common mode power line transients and surges. The UPS shall be capable of providing surge protection of 800 joules, minimum, and 6500 amperes, maximum. The UPS response time to transients and surges shall be no more than five (5) nanoseconds.

15. The UPS shall provide output voltage regulation. The output voltage variation shall not exceed five (5) percent.

16. The UPS shall include one Category 6 Ethernet patch cord, a minimum of three feet in length, and terminated on both ends with Type RJ45 connectors.

d. The Contractor shall furnish, install, and test 1 Gbps Ethernet Switch(es) that meet the following requirements:

1. The 1 Gbps Ethernet Switch shall be a self-contained unit capable of 24-hour per day unattended operation. The 1 Gbps Ethernet Switch shall be supplied, assembled and tested by the Contractor. The 1 Gbps Ethernet Switch shall be of rugged design and suitable for reliable operation. The 1 Gbps Ethernet Switch shall be configured for minimum maintenance and need for adjustment after initial set-up.

2. The 1 Gbps Ethernet Switch shall include a minimum of eight Category 6 Ethernet patch cords, each a minimum of three feet in length and terminated on both ends with Type RJ45 connectors.

3. The 1 Gbps Ethernet Switch shall include all accessories required for a full and complete installation, including but not limited to connecting cables, power supplies, and mounting hardware. The Ethernet cable type shall be selected based on cabling standard requirements; for example, use of plenum vs. non-plenum cable, armored cable for direct burial usage, or UV and weather protected for cable exposed to weather.

4. Ethernet Switch shall allow for remote configuration and status using web based tools via the most current version of Internet Explorer.

5. Ethernet Switch shall allow for remote configuration and status using Command Line Interface (CLI) via a local console (RS-232).

6. Ethernet Switch shall include LED indicators for each Ethernet port to provide port status. Indicators shall be for:
    a. Power

b. Collisions (1 LED for 10Mb, or 100Mb)
c. LK (steady on when twisted pair link is operational)
d. RX (Activity, flashing when port is receiving data)

7. Ethernet Switch shall be a managed Ethernet layer 2 device.

8. Ethernet Switch shall have a switching method of store and forward.

9. Ethernet Switch shall support the following protocols:
    a. RTP/I
    b. TCP/IP
    c. DNS
    d. DHCP

10. Ethernet Switch shall support the following network management protocols and be interoperable and compatible with the proposed communication system:
    a. SNMP V2c
    b. RMON for Ethernet agent
    c. Telnet/TFTP
    d. ICMP

11. Ethernet Switch shall be rack and shelf mountable.

12. Ethernet Switch shall be UL listed.

13. Ethernet Switch shall be field hardened and rated by its manufacturer in accordance with the operating temperature, storage temperature, and relative humidity requirements of the NEMA TS2 Standard. The design shall be inherently temperature compensated to prevent abnormal operation. The circuit design shall include such compensation as is necessary to overcome effects due to temperature in the specified environmental range.

14. The 1 Gbps Ethernet Switch shall have the following connections:

    a. Multi-speed 10/100/1000 Mbps Ethernet ports with RJ45 connectors. The Contractor shall determine the number of ports required for the specific project installation and shall provide a switch with the required number of ports plus a minimum of two (2) spare Ethernet ports with RJ45 connectors, or a minimum of 8 total 10/100/1000 Mbps Ethernet ports, whichever is greater.
    b. The 10/100/1000 Mbps Ethernet ports shall support the following network standards:

        - IEEE.802.3 10 Base-T

- IEEE.802.3u 100 Base-T
- IEEE.802.3ab 1000 Base-T
- IEEE.802.1d Spanning Tree
- IEEE.802.1w Rapid Spanning Tree
- IEEE.802.1q VLAN
- IEEE.802.1p Class of service (CoS)
- Support for IGMP Multicast

645.027 Cellular Modem with High Gain Antenna

The Contractor shall furnish and install cellular modems at each equipment cabinet. Cellular equipment shall be compatible and interoperable with the existing MaineDOT cellular carriers. The cellular communications system be capable of 4G LTE cellular data service, and shall be reliable and capable of independent functioning 24/7, 365 days per year regardless of weather, site location, and cellular service anomalies.

The Contractor shall propose a cellular carrier for approval by the Resident. The Contractor shall establish all required cellular accounts with the approved carrier, shall commission and configure those accounts, and shall be responsible for all required payments to the carrier(s) up until the time of final approval.

The Cellular Modem with High Gain Antenna shall meet the following requirements:

1. The 4G LTE Cellular Modem shall utilize 4G LTE public cellular data services provided by the cellular telephone utilities serving the areas in which the equipment sites are located.

2. The transmission speeds, signaling protocols and frequencies utilized shall match those of the cellular telephone utilities providing the 4G LTE service.

3. The Cellular Modem shall be compatible with the DMS controller, and UPS to which it is connected.

4. The Contractor shall securely affix the Cellular Modem to the mounting rails or shelf within the ITS Cabinet and shall neatly dress all associated cabling within the cabinet.

5. The Cellular Modem shall be capable of fully supporting 4G service, and shall automatically scale itself back to 3G service when only 3G service is available.

6. In the event that the modem's data connection to the service provider is lost for any reason, including but not limited to power interruption and connection termination by the service provider, the modem shall automatically reestablish the

data connection. It shall not be necessary to manually power cycle, restart, or reboot the modem.

7. The modem shall have the capability of displaying to the user the cellular signal strength it is receiving at its antenna terminals, in units of decibels relative to one milliwatt (dBm). The resolution of the signal strength displayed by the modem shall be one (1) dBm or better.

8. The Cellular Modem shall have an antenna input impedance of 50 ohms.

Antenna Requirements

1. The Contractor shall provide and install an external high gain unidirectional antenna at all project sites for the Cellular Modem. The antenna shall have a gain of at least 10 dB.

2. The external antenna shall be on a protected mount, weatherproof and of the type that is specifically designed for outdoor applications. It shall include a weatherproof covering that protects the antenna elements from snow and ice buildup.

3. The Contractor shall propose an antenna mounting location to the Resident Engineer for each of the project sites. The proposed mounting location shall not cause the antenna to be subject to loss of signal due to signal occlusions of any type. The mounting method and hardware shall be as recommended and approved by the antenna manufacturer.

4. The Contractor shall aim the antennas in a manner that yields the maximum achievable signal strength at each location. The Contractor shall rotate the antenna through a full 360 degrees of rotation while monitoring the received signal strength. The antenna shall be permanently secured at the rotational position that yields the maximum signal strength. With the antenna at this optimal position, the received signal strength, as seen by the cellular modem, and in units of decibels relative to one milliwatt (dBm), shall be recorded by the Contractor, and submitted to the Resident Engineer.

5. The lead-in cable between the external antenna and the cabinet shall be an ultra-low-loss coaxial cable as specified by the antenna manufacturer. The cable loss shall not exceed 4 dB per one hundred (100) feet of length.

6. The Contractor shall provide and install a coaxial surge protector in the antenna lead-in cable that is approved by the modem manufacturer. The surge protector shall be properly grounded as recommended by its manufacturer.

7. The Contractor shall supply all required accessories to obtain acceptable signal strength at the cellular modem inside the cabinet.

8. The Contractor shall provide and install antenna cable connections of the type recommended by the Cellular Modem manufacturer, and the antenna manufacturer, and shall keep these connections as short as possible to minimize losses.

9. The Contractor shall install the antenna cabling using a bulkhead fitting on the cabinet, and using a sealing material, grommet or other sealing system to protect the antenna cable from damage and to maintain the environmental rating of the control cabinet. Hole(s) drilled into the controller cabinet shall be drilled on the sides of the cabinet to allow for base mounting and cable entry. Holes shall NOT be drilled into the top of the controller cabinet.

10. The Contractor shall ensure that the minimum bending radius of the coaxial antenna cable, as specified by the cable manufacturer, is not violated during installation.

645.028 Power Service

The hybrid travel time sign system will be supplied with electrical power; either by the local power company or via solar power system. For utility power, the service shall be single phase, three-conductor, 120/240-volt, 60 hertz, alternating current. An external, standalone breaker capable of shutting off the ITS equipment cabinet will be provided to disconnect power to the control cabinet. No power shall be routed in or out of the control cabinet before this breaker. The power company will make all connections of the hybrid travel time sign system cables at the power company's service pole. The Contractor shall notify the power company at least two weeks in advance of the time they intend to start construction at each of the sites and shall make all necessary arrangements with the power company for the required installation. See solar power system special provision for details on solar power service.

The Contractor shall furnish, install, and test meter and disconnect pedestals that meet the following requirements:

a. The Contractor shall furnish and supply the total number of meter pedestals shown on the plans or as directed by the Resident Engineer.

b. Meter and disconnect pedestals, also known as metered service pedestals, shall be UL listed “Suitable for Service Equipment” and shall be acceptable to the local utility companies for use as a service connection.

c. Meter pedestals shall consist of a galvanized steel post containing a main circuit breaker for service disconnect, branch circuit breakers, and an integral meter socket.

d. Meter pedestals shall contain a 100-amp main circuit breaker and two 50-amp branch circuit breakers, or as otherwise shown on the Plans.

e. Disconnect pedestals shall consist of a galvanized steel post containing a single branch circuit breaker.

f. The Contractor shall arrange a meeting with the Resident and the local utility company representatives to establish a schedule for utility connections before any control equipment or material is ordered.

g. The Contractor shall make the necessary arrangements with the utility companies to ensure having needed utility service available at the time of equipment testing and turn-on. Any utility energization, connection, or disconnection delays will not be a valid reason for a time extension. Difficulties in securing utility company services are to be reported to the Resident at the earliest possible time. The Contractor shall be responsible for all utility charges, including connection and monthly service charges, until Final Approval.

h. The metered service installed shall provide power with a reserve capacity of 50 percent over the requirements of the connected ITS equipment cabinet(s) and all installed equipment, including the connected ITS loads.

i. When required, the Contractor shall furnish and install a service riser on the pole selected by the utility company in conformity with the Plans and in accordance with the local utility companies' requirements.

j. The Contractor shall adhere to all applicable NEC, IEEE 1100-1992, UL 1459, and UL 1950 standards and practices.

645.029 Communications and Control

The sign controller shall be capable of being controlled on site from a mobile terminal: a personal computer (latest Windows release) equipped with the vendor's sign software and from a remote computer through a modem. The mobile terminal shall be supplied and maintained by the System Integrator (see Integration Special Provision).

The signs shall be supplied with computer software that allows MaineDOT personnel and Maine Turnpike personnel to remotely control the on-board computer from a personal computer equipped with the latest Windows released version. The Contractor will provide three (3) licensed copies of the software on electronic media and allow the MaineDOT to install software on as many computers as MaineDOT deems necessary to remotely control the DMS from this procurement. MaineDOT operators shall be able to monitor and remotely control the sign messages as if they were being controlled locally.

The software will be password protected and allow administrator defined privileges for at least three levels of users.

Operators shall be able to access a library of pre-programmed standard or customized messages and graphics. Text messages shall be easily created, labels, stored, and programmed with Windows-based message sign software provided as part of this procurement.

The Contractor shall provide electronic media that contains all management information base (MIBS) and an Interface Control Document that enables the System Integrator to integrate the new DMS into the Compass ATMS.

645.04 Fabrication of Type I Guide Signs Add after the last paragraph:

d. Cutouts The hybrid travel time signs will require two or three cut-outs, as specified on the Plans, for face-mounting of DMS signs. The cutouts shall allow for all cabling required for the DMS signs to pass through the cutouts to receiving conduits that do not allow wiring to impede any portion of the sign face.

The cut-outs for the hybrid travel time signs shall be shop-fabricated to the sizes designated on the approved shop drawings. Cut edges shall be true, smooth, and free from burrs or ragged breaks. Flame cutting will not be permitted.

645.05 Training and Warranty

645.051 Training

The Contractor shall provide a training program consisting of the furnishing of educational training in the installation, operation (via Compass ATMS), and maintenance of the system installed. The Contractor shall provide twelve (12) hours of training for MaineDOT and Maine Turnpike personnel for the hybrid travel time signs. The training shall include maintenance, communication systems, and operating the signs. Training shall consist of classroom lectures as well as "hands-on" demonstrations. A portion of this training session will be held at a location where a hybrid travel time sign has been installed. The training shall include no less than four (4) hours working with the Compass ATMS to add, modify, and delete sensor information, and monitoring and controlling the signs as well as modifying messages both automatically and manually. The office portion of the training session will be held at the MaineDOT headquarters facility in Augusta, Maine. The Contractor may use vendor or manufacturer developed training programs and/or materials to satisfy this requirement.

The Contractor shall provide qualified instructors approved in writing by the Resident and all training materials necessary for training MaineDOT and Maine Turnpike personnel in the operation and maintenance of the system components.

The Contractor shall develop and submit training course outlines and samples of all training aids and manuals to the Resident for approval at least twenty-eight (28) days prior to the proposed start of the training sessions. At the same time, the Contractor shall submit a list of individuals who will conduct the training and resumes of each for review and approval. Written approval of this material and training instructors will be required prior to the final scheduling of the training sessions or the final production of training materials.

The Contractor shall develop and supply all necessary manuals, displays, class notes, visual aids, and other instructional materials as required to provide the training programs described herein. The required manuals shall be individually bound in loose-leaf binders. The Contractor shall supply an adequate number of manuals and class notes to provide one copy of each to all session participants. An additional three electronic copies shall be turned over to the Resident at the completion of the training program to allow MaineDOT to furnish additional copies for internal training. All manuals must be submitted to the Resident for approval. Training shall begin no sooner than three weeks after Resident approval of the training materials, and no later than 14 days after the last field unit is brought on-line, tested, and accepted.

As a minimum, the training session shall completely cover the following topics:

a. Operational Overview Element - The emphasis in this portion of the training program shall be placed on familiarizing those individuals not accustomed to the DMS equipment furnished, installed or provided in this project with the abilities and functionality of the system.

b. Communications System - This element shall consist of training on the operation, maintenance and theory of the communication system(s) implemented in the project. As a minimum, the communications portion of this session shall include a discussion of the following components and elements:
    - An overview of the communications system as a whole
    - Wireless communication principles
    - Communication interfaces – Ethernet Switches
    - Grounding/lightning protection
    - All other unique aspects of this project

c. Maintenance of the System – This element shall consist of hands-on training of the hardware and software, both on site and in the office setting. The focus of the training should be on preventative maintenance requirements as well as troubleshooting and resolving common problems.

645.052 Warranty and Maintenance

The Contractor shall maintain, operate, and unconditionally guaranty all system and subsystem components, including all equipment, hardware, and software for a period of two (2) years from the date of final approval of each project site by the Department. The guaranty shall cover all labor, materials, equipment, tools, transportation, supplies, parts, and incidentals required to facilitate responsive maintenance as necessary to repair and replace any defective modules, system(s) or subsystem(s) of the completed facility within the two-year time period. Additionally, the Contractor shall guarantee availability of compatible replacement equipment (to the field replaceable unit level) for a ten-year time period from the date of final approval. Acceptance of any system or subsystem during the construction contract, or any modifications to the system design proposed by the Contractor and approved by the Resident shall not relieve the Contractor of the requirements of this guaranty. The guaranty period shall be considered to start concurrent with the date of final approval of each project site.

The Contractor shall provide a two (2) year Warranty on all hardware that begins upon completion of the operational test period. The warranty shall include technical support. The DMS manufacturer shall provide a customer service department that is contactable via telephone and e-mail to provide technical support and help services (24 hours/7 days a week/365 days a year) for the applicable DMS systems.

The Warranty and Maintenance period shall also include all parts, labor, and mobilization to fix the system, provided the problem is not due to damage beyond the control of the Contractor or his vendor, as determined by the Department. The Contractor shall provide on-site warranty service of the signs within 48-hours of notification by MaineDOT for the first two (2) years after initial acceptance of the signs by MaineDOT. During the warranty period, if the Contractor is unable to affect a repair to a component within seven (7) days of notification, if requested, the Contractor shall provide a temporary component meeting all these specifications at no additional cost to the Department. The Contractor shall then either fix the defect or replace it with a new component at their discretion. If the same component requires repair more than twice during the warranty period, the Contractor shall replace the component rather than provide a third repair at no additional cost to the Department.

The Contractor shall provide the following spare parts for the system: 2-each Travel Time Message DMS, 2-each Delay Message DMS, 1-each spare DMS controller, and 2-each spare surge protectors.

The Contractor shall provide to the MaineDOT a complete set of maintenance and user manuals along with all the wiring and assembly schematics/diagrams, including any material safety data sheets (MSDS), prepared by the manufacturer and any toxic substances (coatings, liquids, or other) used.

A log of all response maintenance and repair activities performed during the guaranty period by the Contractor shall be maintained by the Contractor. The log shall be kept in a database management system utilizing MaineDOT approved database software, and include, as a minimum, the following information:

- Date and time defect reported
- Entity reporting the defect
- Description of the reported defect
- Technician responding to reported defect
- Arrival time at the site of the technician
- Technician performing defect repair or replacement
- Description of observed defect
- Corrective actions taken
- Model and serial number of any module repaired or replaced
- Date and time defect rectified

The Contractor shall maintain records, which show the itemized material, equipment, and labor cost incurred to provide response maintenance during the guaranty period. These records shall be provided to the MaineDOT on a semi-annual basis within fourteen (14) days after the end of each six-month period. The purpose of this requirement is to provide the MaineDOT with information to estimate the response maintenance budget needed for the system after the guaranty period. These records will not be used as a Basis of Payment to the Contractor. The Contractor shall assure that these cost records are as complete and accurate as practicable. The Department may perform an audit to verify the accuracy of the cost records.

645.08 Method of Measurement Add after the last paragraph:

Hybrid Travel Time Signs will be measured for payment by the lump sum complete in place per sign, satisfactorily installed, operational, and accepted.

Hybrid Travel Time Signs Warranty and Maintenance will be measured by the lump sum.

645.09 Basis of Payment Add after the last paragraph:

Hybrid Travel Time Signs will be paid for at the contract lump sum price for each location. Such price will be full compensation for furnishing and installing all materials, including but not limited to the static sign with cut-outs; DMS panels and controllers; DMS control hardware, software, and configuration; ITS equipment cabinets with all internal hardware; power service connections (utility or solar), hook-ups, and monthly utility charges; supplying system training materials and training; and all appurtenances and incidentals required for a complete and functional installation and for furnishing all assembly hardware, tools and labor necessary for completing the installation.

Hybrid Travel Time Signs Warranty and Maintenance will be paid for at 1/4th the contract lump sum price semi-annually during the Warranty and Maintenance period; payment shall be requested by the Contractor in writing upon submission of the log of maintenance activities during each six-month period. Payment shall be full compensation for furnishing and installing all materials, tools and labor necessary to provide operations and preventative and emergency maintenance to the signs and system.

Payment will be made under the following:

Pay Item		Pay Unit
645.52	Hybrid Travel Time Sign: (SIGN NAME/LOCATION)	LS
645.522	Hybrid Travel Time Sign Warranty and Maintenance	LS

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 and delay messages in accordance with the sign message matrices 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 Department as a condition of Contract Award as described in Special Provision 103. 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 DMS hardware installed on this project. The System Integrator shall also have experience working with data application programming interfaces (APIs).

Integration shall be accomplished with minimal interruption to the existing MaineDOT Traffic Management Center (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 test environment may include use of MaineDOT-supplied portable-changeable message sign (PCMS) upon request.

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

The System Integrator shall also prepare up to three additional project-specific reports at the request of MaineDOT.

Operations: The Contractor shall install, configure, integrate and test the hybrid travel time sign system. The hybrid travel time sign system shall provide either travel time messaging providing the travel times along I-295 between the given sign and the interchange exit ramp indicated or delay messaging as detailed in the attached delay message matrices.

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.

B. Delay Message Signs

Delay message signs shall display the message indicated in the attached message matrix for the individual signs. Where two screen messages are indicated, the DMS panel shall display each screen for at least two seconds but not more than three seconds.

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:

- DMS Standalone Test
- Travel Time Data Validation Test
- Travel Time Message Sign Subsystem Test
- Delay Message Sign Subsystem Test
- 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.

Test plans shall include the following:

1) Date, Time and Location of the Test
2) Names of witnesses to the test, identify the person executing the test plan
3) Descriptive narrative of the proposed test procedure
4) List of test equipment necessary to conduct the test
5) Detailed, step-by-step execution plan that tests the functional requirements of the equipment.
6) Tabular documentation for each test step indicating:
    a) Description of the test step
    b) Expected result for success
    c) Actual field result
    d) Check box indicating pass or fail
    e) Comments area
7) Location for the Resident, MaineDOT TMC representative and test executor to sign and date the form. Signatures on the test form only acknowledge that the test was performed in the presence of the correct witnesses. Signatures and witnesses do not signify the pass or fail of the given test.

Each separate test shall be performed with individual test log forms. A summary of all tests for each testing stage shall be provided by the Contractor and approved by the Resident prior to proceeding to the next testing stage. MaineDOT reserves the right to examine and test/retest any and all materials furnished by the Contractor for the project as Quality Assurance. If MaineDOT determines that any material used in the construction or

testing is defective, the Contractor shall repair or replace the defective components at no additional cost to the Department.

A. DMS Standalone Test

The DMS Standalone Test shall be performed after the field installation of the DMS components. The test shall exercise all pixels in all project colors and through all project messages. The standalone testing shall be conducted using a Contractor-supplied computer at the ITS equipment cabinet for each sign location. If any DMS fails to pass its standalone test, that DMS may be re-tested up to two additional times until satisfactory results are achieved. Upon three failed tests on one DMS panel, the Contractor shall replace that panel at no additional charge to the Department. Testing shall use vendor-approved, Contractor-supplied software.

At a minimum, testing shall include:

1) Verification by means of inspection that all equipment has been installed in accordance with the Plans.
2) Verification by means of inspection that all installed software and firmware are the latest versions available.
3) Verification by means of inspection and ground resistance measurement that the DMS, the DMS steel sign supports, and the ground mounted DMS control cabinet are grounded in accordance with the NEC, the manufacturer's recommendations, or the contract requirements, whichever is more stringent.
4) Verification that all cables, controllers, and equipment are installed in accordance with the Plans.
5) Verification of character displays and pixel displays. Run test messages and selected library messages, and test patterns.
6) Exercise all DMS diagnostics to verify that there are no DMS component failures.
7) Exercise the environmental components of the DMS.
8) Exercise the automatic dimming control function of the DMS.

B. Travel Time Data Validation Test

Upon selection of a travel time data API, the Contractor shall provide independent validation of the real-time travel times provided by the system. The validation should follow the format of prior validations performed by the I-95 Corridor Coalition (see http://i95coalition.org/projects/vehicle-probe-project/ for data validation reports). This test may be concurrent with the subsystem tests.

C. Travel Time Message Sign Subsystem Test

The Travel Time Message Sign Subsystem Test shall be performed upon successful completion of the DMS Standalone Tests and approval by the Resident. This test shall

exercise all hardware contained within the ITS equipment cabinet, including the DMS, UPS, modem, and Ethernet switch.

At a minimum, testing shall include:

1) Verification that all cabinet equipment is connected as shown in the Plans.
2) Verification that all IP-addressable devices are assigned their correct IP addresses, and that all devices can be pinged. The test should also provide documentation on the configurations for all configurable hardware.
3) Exercise the environmental components of the cabinet.
4) Exercise the UPS to show the run time without utility power meets or exceeds the hold-up time indicated in the Contract. The Contractor shall add additional load to simulate the spare UPS capacity indicated in the Contract.
5) Verification that all cellular communication components have been installed, commissioned, and configured.
6) Exercise the modem to ensure two-way communications from the cabinet to the Compass ATMS at the MaineDOT TMC.
7) Exercise the DMS signs to show separate messages on each panel per sign, using DMS-specific vendor-supplied software from the MaineDOT TMC.

D. Delay Message Sign Subsystem Test

The Delay Message Sign Subsystem Test shall be performed upon successful completion of the DMS Standalone Tests. This test shall exercise all hardware contained within the ITS equipment cabinet, including the DMS, UPS, modem, and Ethernet switch.

At a minimum, testing shall include:

1) Verification that all cabinet equipment is connected as shown in the Plans.
2) Verification that all IP-addressable devices are assigned their correct IP addresses, and that all devices can be pinged. The test should also provide documentation on the configurations for all configurable hardware.
3) Exercise the environmental components of the cabinet.
4) Exercise the UPS to show the run time without utility power meets or exceeds the hold-up time indicated in the Contract. The Contractor shall add additional load to simulate the spare UPS capacity indicated in the Contract.
5) Verification that all cellular communication components have been installed, commissioned, and configured.
6) Exercise the modem to ensure two-way communications from the cabinet to the Compass ATMS at the MaineDOT TMC.
7) Exercise the DMS signs to show separate messages on each panel per sign, using DMS-specific vendor-supplied software from the MaineDOT TMC.
8) Demonstrate the DMS panels can provide two screen messages with appropriate display and gap times.

E. 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 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.

F. 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 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:

Pay Item		Pay Unit
645.521	Travel Time Sign Integration	LS

Sign: GM I-95 MM 38.28_N

Sign Message Matrix

			TRAVEL TIME VIA TURNPIKE		
			< 70 MIN	> 70 TO 80 MIN	> 80 MIN
TRAVEL TIME VIA I-295	< 67 MIN	UPPER DMS	NO DELAY	DELAYS XX MIN	MAJ DELAY XX MIN
		LOWER DMS	NO DELAY	NO DELAY	NO DELAY
	> 67 TO 77 MIN	UPPER DMS	NO DELAY	DELAYS XX MIN	MAJ DELAY XX MIN
		LOWER DMS	DELAYS XX MIN	DELAYS XX MIN	DELAYS XX MIN
	> 77 MIN	UPPER DMS	NO DELAY	DELAYS XX MIN	MAJ DELAY XX MIN
		LOWER DMS	MAJ DELAY XX MIN	MAJ DELAY XX MIN	MAJ DELAY XX MIN

Estimated Standard Travel Time – Via Turnpike = 65 minutes (70 miles)
Estimated Standard Travel Time – Via I-295 = 62 minutes (65 miles)

Sign: GM I-95 MM 106.00_S

Sign Message Matrix

			TRAVEL TIME VIA TURNPIKE		
			< 65 MIN	> 65 TO 75 MIN	> 75 MIN
TRAVEL TIME VIA I-295	< 62 MIN	UPPER DMS	NO DELAY	DELAYS XX MIN	MAJ DELAY XX MIN
		LOWER DMS	NO DELAY	NO DELAY	NO DELAY
	> 62 TO 72 MIN	UPPER DMS	NO DELAY	DELAYS XX MIN	MAJ DELAY XX MIN
		LOWER DMS	DELAYS XX MIN	DELAYS XX MIN	DELAYS XX MIN
	> 72 MIN	UPPER DMS	NO DELAY	DELAYS XX MIN	MAJ DELAY XX MIN
		LOWER DMS	MAJ DELAY XX MIN	MAJ DELAY XX MIN	MAJ DELAY XX MIN

Estimated Standard Travel Time – Via Turnpike = 60 minutes (69 miles)
Estimated Standard Travel Time – Via I-295 = 57 minutes (64 miles)

Sign: GM I-95 MM 40.01_N

Sign Message Matrix

			TRAVEL TIME VIA TURNPIKE		
			< 29 MIN	> 29 TO 39 MIN	> 39 MIN
TRAVEL TIME VIA I-295	< 29 MIN	UPPER DMS	NO DELAY	DELAYS XX MIN	MAJ DELAY XX MIN
		LOWER DMS	NO DELAY	NO DELAY	NO DELAY
	> 29 TO 39 MIN	UPPER DMS	NO DELAY	DELAYS XX MIN	MAJ DELAY XX MIN
		LOWER DMS	DELAYS XX MIN	DELAYS XX MIN	DELAYS XX MIN
	> 39 MIN	UPPER DMS	NO DELAY	DELAYS XX MIN	MAJ DELAY XX MIN
		LOWER DMS	MAJ DELAY XX MIN	MAJ DELAY XX MIN	MAJ DELAY XX MIN

Estimated Standard Travel Time – Via Turnpike = 24 minutes (25 miles)
Estimated Standard Travel Time – Via I-295 = 24 minutes (25 miles)

Sign: GM I-295 MM 14.19_S

Sign Message Matrix

			TRAVEL TIME VIA TURNPIKE		
			< 26 MIN	> 26 TO 36 MIN	> 36 MIN
TRAVEL TIME VIA I-295	< 26 MIN	UPPER DMS	NO DELAY	DELAYS XX MIN	MAJ DELAY XX MIN
		LOWER DMS	NO DELAY	NO DELAY	NO DELAY
	> 26 TO 36 MIN	UPPER DMS	NO DELAY	DELAYS XX MIN	MAJ DELAY XX MIN
		LOWER DMS	DELAYS XX MIN	DELAYS XX MIN	DELAYS XX MIN
	> 36 MIN	UPPER DMS	NO DELAY	DELAYS XX MIN	MAJ DELAY XX MIN
		LOWER DMS	MAJ DELAY XX MIN	MAJ DELAY XX MIN	MAJ DELAY XX MIN

Estimated Standard Travel Time – Via Turnpike = 21 minutes (23 miles)
Estimated Standard Travel Time – Via I-295 = 21 minutes (23 miles)

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC
(I-295 Specific Requirements)

Description: This specification describes the specific project maintenance of traffic requirements for this Project. These restrictions and requirements shall apply to locations along I-295.

MaineDOT Traffic Control Requirements: The anticipated maintenance of traffic will include shoulder closures and single lane closures for the work that will occur on or adjacent to I-295. Shoulder closures will be restricted to weekdays 8:30 a.m. to 3:30 p.m. and from 8 p.m. to 6 a.m. Lane closures will only be permitted at night, Sunday evening through Friday morning, between the hours of 8 p.m. and 6 a.m. Travel lanes may not be impeded by traffic control devices until the time frames specified for each activity. No lane closures will be allowed during non-working hours, weekends and/or holiday periods.

Lane closures shall include use of a truck mounted attenuator (TMA). Shoulder closures may include use of a TMA if included as part of the Contractor's approved traffic control plan.

The Contractor's personnel and equipment shall avoid crossing traffic whenever possible. No Contractor's vehicle may slow down or stop in a traffic lane unless said lane has previously been made safe with signs and barricades as required by the Resident. No vehicle will move onto the traveled way at such a time or in such a manner so as to cause undue concern or danger to traffic approaching from either direction. The Contractor or his employees are not empowered to stop traffic.

Short-Term or Work Hour Speed

A short-term or work hour speed (Fines Doubled) is a regulatory speed limit that indicates the maximum legal speed through a work zone which is lower than the normal posted speed. The speed limit may be displayed by black on white speed limit signs in conjunction with a black on orange "Work Zone" plaque. Any existing regulatory speed limit signs within the reduced speed zone shall be covered once the reduced speed signs have been erected.

The reduced speed limit signs may be used when workers are adjacent to traffic, when travel lanes are closed, when indicated on Maintenance of Traffic Control Plans provided or other times as approved by the Resident. The signs shall be removed when not applicable.

Night Work

When night work occurs (scheduled or unscheduled), the Contractor shall provide and maintain lighting on all equipment and at all work stations. Lighting shall not interfere with traffic, including commercial vehicle, approaching the work site from either direction. The Contractor shall submit a lighting plan prior to any night work for review showing the type and location of lights to be used for night work. The Resident may require modifications be made to the lighting set up in actual field conditions.

For fixed operations, direct lighting will be utilized capable of illuminating the work area with at least 10 foot-candles of light.

Payment for lighting, vehicle mounted signs and lights, and other costs accrued because of night work will not be paid directly but shall be considered incidental to the Maintenance of Traffic item.

SPECIAL PROVISION
SECTION 652
MAINTENANCE OF TRAFFIC
(Maine Turnpike Specific Requirements)

Description: This specification describes the specific project maintenance of traffic requirements for this Project. These restrictions and requirements shall apply to locations along I-95 (Maine Turnpike).

Maine Turnpike Traffic Control Requirements: The maintenance of traffic control plans include shoulder closures and single lane closures for the work that will occur on or adjacent to the Turnpike. Activities along the Turnpike mainline are only allowed during the times noted in Table A. Travel lanes may not be impeded by traffic control devices until the time frames specified for each activity. No lane closures will be allowed during non-working hours, weekends and/or holiday periods.

Shoulder closures shall maintain a minimum of four (4) feet of lateral buffer from an open travel lane when in place weekdays between 6:00 a.m. and 9:00 a.m. and between 3:00 p.m. and 6:00 p.m. During July and August, the four-foot minimum lateral buffer shall apply weekdays from 6:00 a.m. to 8:00 p.m.

All vehicles used on the Project shall be equipped with amber flashing lights, visible from both front and rear, or by means of a single or multiple revolving, flashing or strobe lights of an approved type mounted so as to be visible 360 degrees. The flashing lights shall be in continuous operation while the vehicle is on any part of the project.

All workers on the Project shall wear a safety vest labeled as ANSI 107-2004 standard performance for Class 3 risk exposure at all times. When work occurs at night, all workers shall also wear the ANSI Class 3 pants. This requirement also applies to truck drivers and equipment operators when out of an enclosed cab.

Portable signs shall be erected on temporary sign supports conforming to NCHRP 350, Test Level 3 (TL-3) rated for 80 mph wind. Temporary sign supports shall be installed so that the bottom of the sign is either at 12 inches or is greater than 5 feet above the traveled way.

Any proposed use of temporary plaques to cover or change the text on a construction sign shall be approved by the Resident. All signs or proposed plaques shall have a uniform face and be constructed from similar sheeting. Only signs with symbol messages conforming to the MUTCD shall be used unless the Resident approves the substitution of word message signs.

All cones shall be either weighted or nailed. Drums shall be weighted but shall not be weighted on the top.

No equipment or vehicles of the Contractor, their subcontractors, or employees engaged in work on this contract shall be pared or stopped on lanes carrying traffic, or on lanes or shoulders adjacent to lanes carrying traffic, at any time, except as required by ongoing work operations. Contractor equipment or vehicles shall never be used to stop, block, or channelize traffic.

Vehicles parked on the shoulder shall be located so all portions of the vehicle are a minimum of one foot from the traveled way except as otherwise noted. No operation (including loading or unloading vehicles) shall be conducted on or near the traveled lanes or shoulders without first setting up the proper shoulder or lane closure and traffic control devices. No materials may be stored on any paved areas of the highway or within 30 feet of the traveled way, unless protected by guardrail or concrete traffic barriers approved by the Resident. Private vehicles owned by the Contractor's employees shall be parked close together in a group no closer than 30 feet from the traveled way in pre-approved areas.

The Contractor's personnel and equipment shall avoid crossing traffic whenever possible. No Contractor's vehicle may slow down or stop in a traffic lane unless said lane has previously been made safe with signs and barricades as required by the Resident. No vehicle will move onto the traveled way at such a time or in such a manner so as to cause undue concern or danger to traffic approaching from either direction. The Contractor or his employees are not empowered to stop traffic.

Short-Term or Work Hour Speed

A short-term or work hour speed (Fines Doubled) is a regulatory speed limit that indicates the maximum legal speed through a work zone which is lower than the normal posted speed. The speed limit may be displayed by black on white speed limit signs in conjunction with a black on orange "Work Zone" plaque. Any existing regulatory speed limit signs within the reduced speed zone shall be covered once the reduced speed signs have been erected.

The reduced speed limit signs shall be used when workers are adjacent to traffic, when travel lanes are closed, when indicated on Maintenance of Traffic Control Plans provided or other times as approved by the Resident. The signs shall be removed when not applicable.

Night Work

When night work occurs (scheduled or unscheduled), the Contractor shall provide and maintain lighting on all equipment and at all work stations. Lighting shall not interfere with traffic, including commercial vehicle, approaching the work site from either direction. The Contractor shall submit a lighting plan prior to any night work for review

showing the type and location of lights to be used for night work. The Resident may require modifications be made to the lighting set up in actual field conditions.

For fixed operations, direct lighting will be utilized capable of illuminating the work area with at least 10 foot-candles of light.

Payment for lighting, vehicle mounted signs and lights, and other costs accrued because of night work will not be paid directly but shall be considered incidental to the Maintenance of Traffic item.

TABLE A: TURNPIKE MAINLINE - APPROVED SHOULDER CLOSURES AND LANE CLOSURES

Mainline Northbound, Exit 36 to Exit 42 May 29, 2018 to June 28, 2018 September 4, 2018 to November 16, 2018			
		Turnpike Shoulder Closures	**Turnpike Single Lane Closures**
Days of Week:	**Sunday p.m. through Friday a.m.**		
Time of Day:	Anytime, subject to lateral buffer restrictions	Allowed	
Time of Day:	6:00 p.m. to 5:00 a.m. next day	Allowed	Allowed

Mainline Northbound, Exit 36 to Exit 42 June 29, 2018 to September 3, 2018			
		Turnpike Shoulder Closures	**Turnpike Single Lane Closures**
Days of Week:	**Sunday p.m. through Friday a.m.**		
Time of Day:	Anytime, subject to lateral buffer restrictions	Allowed	
Time of Day:	9:00 p.m. to 5:00 a.m. next day	Allowed	Allowed

Mainline Southbound, North of Exit 103 May 29, 2018 to June 28, 2018 September 4, 2018 to November 16, 2018			
		Turnpike Shoulder Closures	**Turnpike Single Lane Closures**
Days of Week:	**Sunday p.m. through Friday p.m.**		
Time of Day:	6:00 p.m. to 2:00 p.m. next day	Allowed	Allowed

Mainline Southbound, North of Exit 103 June 29, 2018 to September 3, 2018			
		Turnpike Shoulder Closures	**Turnpike Single Lane Closures**
Days of Week:	**Sunday p.m. through Friday a.m.**		
Time of Day:	7:00 p.m. to 8:00 a.m. next day	Allowed	Allowed

May 02, 2018
Supersedes September 06, 2017

STANDARD DETAIL UPDATES

Standard Details and Standard Detail updates are available at:
http://maine.gov/mdot/contractors/publications/standarddetail/

Detail #	Description	Revision Date
501(02)	Pipe Pile Splice	3/05/2015
501(03)	H – Pile Splice	3/05/2015
504(07)	Diaphragm & Crossframe Notes	10/13/2015
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	8/06/2015
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
504(10)	Drip Bar Details	9/06/2017
609(9)	Concrete Slipform Curb	5/06/2018

SUPPLEMENTAL SPECIFICATIONS
(Corrections, Additions, & Revisions to Standard Specifications - November 2014)

SECTION 101
CONTRACT INTERPRETATION

101.1 Abbreviations Revise the definition of AWPA 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 RESPONSIBILITES

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**."

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/yd^2 with uniform pressure and with an allowable variation from any specified rate not to exceed 0.01 gal/ yd^2. 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 inch^2, 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.
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 ⅜ 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 ⅜ 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:

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.

<u>307.101 Test Strip</u> 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

<u>307.102 Curing</u>. 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.

<u>307.11 Method of Measurement</u> 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:

Pay Item	**Pay Unit**
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	LSL	USL	
S	3,000	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 ≥ 56 days. Four 4 inch x 8 inch cylinders will be cast per sublot placed. The average of three concrete specimens per sublot 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:

<u>d. Ring Insert Requirements</u> Ring inserts to adjust manhole top frame slope and grade will are 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

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 service connections to MaineDOT traffic signal control boxes or lighting breaker boxes constructed in trenches shall be in steel 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 conduit placed in trench sections 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 feeding control cabinets for traffic signalization equipment or highway 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 +/- ¼ 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:

Pay Item		Pay Unit
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 Marking Line - Plan Quantity	Linear Foot
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:

Description	Quantity		
	Type A	Type B	Type C
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.

<u>639.08 Heat</u> 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:

Pay Item		Pay Unit
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.

Base Polymer	Property	Criteria	Test Method
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.

Base Polymer	Property	Criteria	Test Method
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, Jnrdiff, 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 Departments 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 l08.1.3 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 AWPA Standard U1. All preservatives shall meet the requirements of the US EPA regulations under the Federal Insecticide, Fungicide and Rodenticide Act."**

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 AWPA 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/ft^2. 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 AWPA 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 AWPA Standard U1, UC4A, Commodity Specification A: Sawn Products.**"

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, permitee, 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, permitee, 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, permitee, 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, permitee, 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 inorder 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.).