HOULTON

SALT STORAGE BUILDING

21248.00

2016

Updated **11/15/15**

STATE 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
   b) an Official Bank Check, Cashier's Check, Certified Check, U.S. Postal Money Order or Negotiable Certificate of Deposit in the amount stated in the Notice to Contractors or
   c) an electronic bid bond submitted with an electronic bid.

5. 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:
Name of Contractor:

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.

October 15, 2015
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 Robert Skehan at robert.skehan@maine.gov , Rebecca Snowden at rebecca.snowden@maine.gov or Diane Barnes at diane.barnes@maine.gov.

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.

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 **Salt Storage Building** in the Town of **Houlton**" 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 April 20, 2016 and at that time and place publicly opened and read. Bids will be accepted from all bidders. The lowest responsive bidder must have completed, or successfully complete, a Building, or project specific prequalification 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.**

Description: Win 21248.00

Location: In Aroostook County, project is located in the Town of Houlton, 159 Bangor Street

Outline of Work: Build a Salt Storage Building 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** 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.

Plans, specifications and bid forms may be seen at the Maine DOT Building in Augusta, Maine and at the Department of Transportation's Regional Office in Presque Isle. 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 $13.00 ($16.50 by mail). Half size plans $6.50 ($8.75 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 $12,000 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 State Laws.

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
March 30, 2016

JOYCE NOEL TAYLOR, P. E.
CHIEF ENGINEER

STATE OF MAINE
Joyce
Noel Taylor
6997
LICENSED
PROFESSIONAL ENGINEER

Houlton
21248.00
April 14, 2011
Supersedes August 3, 2004

SPECIAL PROVISION 102.7.3
ACKNOWLEDGMENT OF BID AMENDMENTS

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

Amendment Number	Date

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

CONTRACTOR

_____
Date

_____
Signature of authorized representative

_____
(Name and Title Printed)

3/24/2016

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 021248.00 **Project(s):** 021248.00

SECTION: 1 BUILDING

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
0010	815.00 BUILDING - HOULTON SALT STORAGE BUILDING	LUMP SUM	LUMP SUM		_____	. ____
	Section: 1		**Total:**		_____	. ____
			Total Bid:		_____	. ____

CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street, Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and _____ **(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 21248.00 for the construction of a Salt Storage Building in the town of Houlton,** County of **Aroostook**, 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 **September 30, 2016.** 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 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 21248.00 for the construction of a Salt Storage Building in the town of Houlton**, 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: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Fifth: 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 21248.00 for the construction of a Salt Storage Building in the town of Houlton,** County of **Aroostook**, 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 **September 30, 2016.** 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 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 21248.00 for the construction of a Salt Storage Building in the town of Houlton**, 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: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Fifth: 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) (Contractor)** 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:

SAMPLE

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.

SAMPLE

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.

SAMPLE

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

SAMPLE

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.....	.....…….....

SAMPLE

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	…….....

SAMPLE

GENERAL NOTES

1. Any damage to the maintenance lot caused by the Contractor's equipment, personnel, or operation shall be repaired to the satisfaction of the Department. All work, equipment and materials required to make repairs shall be at the Contractor's expense.

2. All waste material not used on the project shall be disposed of in acceptable waste areas approved by the Department. Contractor is responsible for disposing of all materials associated with the project.

3. Granular borrow used to backfill muck excavation or in low wet areas to 1' above water level or old ground shall meet requirements for granular borrow underwater backfill.

4. Loam and Seeding and as well as any backing up of any new Pavement areas and any area disturbed during this particular project shall be the responsibility of the Contractor

5. All work shall be done in accordance with the Maine Department of Transportation's Best Management Practices for Erosion Control & Sediment Control, February, 2008. The Contractor Shall be responsible for the Erosion and Sediment Control

6. "Undetermined Locations" shall be determined by the Department

7. The Contractor shall be responsible for portable toilets and drinking water for their crews

8. The Contractor shall be responsible for the payment and installation for temporary electrical services or the use of a generator(s) required for conducting their work.

March 14, 2007
Supersedes March 3, 1966

Non-federal Projects Only

NOTICE TO CONTRACTORS - PREFERRED EMPLOYEES

Sec. 1303. Public Works; minimum wage

In the employment of laborers in the construction of public works, including state highways, by the State or by persons contracting for the construction, preference must first be given to citizens of the State who are qualified to perform the work to which the employment relates and, if they can not be obtained in sufficient numbers, then to citizens of the United States. Every contract for public works construction must contain a provision for employing citizens of this State or the United States. The hourly wage and benefit rate paid to laborers employed in the construction of public works, including state highways, may not be less than the fair minimum rate as determined in accordance with section 1308. Any contractor who knowingly and willfully violates this section is subject to a fine of not less than $250 per employee violation. Each day that any contractor employs a laborer at less than the wage and benefit minimum stipulated in this section constitutes a separate violation of this section. [1997, c. 757, §1 (amd).]

THIS DOCUMENT MUST BE CLEARLY POSTED AT THE PERTAINING STATE FUNDED PREVAILING WAGE CONSTRUCTION SITE

State of Maine
Department of Labor
Bureau of Labor Standards
Wage and Hour Division
Augusta, Maine 04333-0045
Telephone (207) 623-7906

Wage Determination - In accordance with 26 MRSA §1301 et. seq., this is a determination by the Bureau of Labor Standards, of the fair minimum wage rate to be paid laborers and workers employed on the below titled project.

Title of Project --------21248.00-Houlton Salt Storage Bldg

Location of Project --Houlton, Aroostook County

2016 Fair Minimum Wage Rates
Building 2 Aroostook County
(other than 1 or 2 family homes)

Occupation Title	Minimum Wage	Minimum Benefit	Total	Occupation Title	Minimum Wage	Minimum Benefit	Total
Asbestos/Lead Removal Worker	$13.00	$0.62	$13.62	Insulation Installer	$19.25	$2.33	$21.58
Assembler – Metal Building	$13.63	$3.38	$17.01	Ironworker - Reinforcing	$21.00	$6.80	$27.80
Boom Truck (Truck Crane) Operator	$21.00	$2.85	$23.85	Ironworker - Structural	$26.00	$20.52	$46.52
Bricklayer	$23.00	$1.25	$24.25	Laborers (incl. Helpers & Tenders	$13.50	$0.39	$13.90
Bulldozer Operator	$17.63	$3.24	$20.87	Laborers - Skilled	$16.20	$0.81	$17.01
Carpenter	$20.00	$2.23	$22.23	Loader Operator – Front End	$17.21	$2.66	$19.87
Carpenter - Acoustical	$15.00	$2.68	$17.68	Mechanic - Maintenance	$20.25	$2.79	$23.04
Carpenter - Rough	$18.00	$0.11	$18.11	Mechanic - Refrigeration	$22.50	$3.80	$26.30
Cement Mason/Finisher	$16.75	$1.51	$18.26	Millwright	$23.95	$19.19	$43.14
Communication Equipment Installer	$23.06	$11.89	$34.95	Oil/Fuel Burner Servicer & Installer	$24.22	$5.94	$30.16
Concrete Pump Operator	$24.25	$5.40	$29.65	Painter	$18.00	$0.00	$18.00
Crane Operator <15 Tons	$21.25	$2.58	$23.83	Paperhanger	$17.00	$3.16	$20.16
Crane Operator =>15 Tons	$24.50	$6.61	$31.11	Pipe/Steam/Sprinkler Fitter	$26.25	$13.84	$40.09
Crusher Plant Operator	$15.80	$3.76	$19.56	Pipe Layer	$19.33	$2.37	$21.70
Dry-Wall Applicator	$18.50	$2.63	$21.13	Plasterer	$43.93	$27.43	$71.36
Dry-Wall Taper & Finisher	$20.00	$0.99	$20.99	Plumber (Licensed)	$23.75	$3.16	$26.91
Electrician - Licensed	$24.50	$4.64	$29.14	Plumber Helper/Trainee (Licensed)	$17.45	$2.48	$19.93
Electrician Helper/Cable Puller (Licensed)	$16.00	$2.20	$18.20	Propane & Natural Gas Service & inst.	$21.00	$3.87	$24.87
Elevator Construction/Installer	$53.30	$26.30	$79.60	Roofer	$15.00	$1.15	$16.15
Excavator Operator	$19.06	$2.44	$21.50	Sheet Metal Worker	$17.25	$3.25	$20.50
Fence Setter	$15.25	$1.32	$16.57	Sider	$22.75	$4.33	$27.08
Flagger	$16.70	$7.95	$24.65	Stone Mason	$17.80	$0.00	$17.80
Floor Layer	$19.50	$4.51	$24.01	Tile Setter	$21.25	$4.76	$26.01
Furniture Installer/Assembler	$13.75	$0.85	$14.60	Truck Driver – Light	$15.00	$0.99	$15.99
Glazier	$20.82	$2.71	$23.53	Truck Driver – Medium	$15.00	$0.10	$15.10
Grader/Scraper Operator	$17.50	$1.04	$18.54	Truck Driver – Heavy	$14.00	$0.62	$14.62
Heating Ventilation Air Conditioning	$23.08	$5.48	$28.56	Truck Driver – Tractor Trailer	$16.24	$3.28	$19.52

The Laborer classifications include a wide range of work duties. Therefore, if any specific occupation to be employed on this project is not listed in this determination, call the Bureau of Labor Standards at the above number for further clarification.

Welders are classified in the trade to which the welding is incidental.

Apprentices - The minimum wage rate for registered apprentices are those set forth in the standards and policies of the Maine State Apprenticeship and Training Council for approved apprenticeship programs.
Posting of Schedule - Posting of this schedule is required in accordance with 26 MRSA §1301 et. seq., by any contractor holding a State contract for construction valued at $50,000 or more and any subcontractors to such a contractor.
Appeal - Any person affected by the determination of these rates may appeal to the Commissioner of Labor by filing a written notice with the Commissioner stating the specific grounds of the objection within ten (10) days from the filing of these rates with the Secretary of State.

Determination No: B2-043-2016
Filing Date: March 17, 2016

Expiration Date: 12-31-2016

A true copy
Attest: Pamela Megathlin
Pamela Megathlin
Director
Bureau of Labor Standards

BLS 424B2 (R2016)(Building 2 Aroostook)

SPECIAL PROVISIONS

SPECIAL PROVISION SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES

104.3.8A. Federal Wage Rates and Labor Laws Delete the entire section 104.3.8A.

104.3.8B State Wage Rates and Labor Laws The State wage rates enclosed apply to this project.

SPECIAL PROVISION
SECTION 105
General Scope of Work
(Limitations of Operations)

A 24 hour notice is required for any change in work schedule.

Work can be performed at any time except Sundays and Holidays and as provided in Special Provision, Section 107, Contract Time.

SPECIAL PROVISION
SECTION 107
Time
(Contract Time)

The Contractor will be allowed to commence work anytime provided that all required plans/submittals have been received and approved by the Department. .

The specified Contract Completion Date for this contract is Sept 30, 2016.

Completion of Physical Work occurs when the Work is complete and has undergone a successful final inspection. Liquidated Damages will cease upon the physical completion of the Work. Completion occurs when the Contractor has finished all Work pursuant to the Contract, the Work is complete and has undergone a successful final inspection and delivered documentation is complete and accepted. Completion does not mean substantial Completion. Completion also does not mean Completion of Physical Work.

.

SPECIAL PROVISION
SECTION 401 - HOT MIX ASPHALT PAVEMENT

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

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

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

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

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

TABLE 7: METHOD C ACCEPTANCE LIMITS

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

Pay Adjustment Method C

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

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

PA = (density PF- 1.0)(Q)(P)x0.50

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

PA = (% Passing Nom. Max PF-1.0)(Q)(P)X0.05+(% passing 2.36 mm PF-1.0)(Q)(P)X0.05+(%passing 0.30 mm PF-1.0)(Q)(P)X0.05+(%passing 0.075 mm PF-1.0)(Q)(P)X0.10+(PGAB PF-1.0)(Q)(P)X0.25

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

TABLE 10: DISPUTE RESOLUTION VARIANCE LIMITS

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

SPECIAL PROVISION
SECTION 403
HOT MIX ASPHALT

Desc. of Course	Grad. Design	Item Number	Bit Cont. % of Mix	Total Thick	No. Of Layers	Comp. Notes
			Inside Salt Shed			
Top Lift	12.5mm	403.213	N/A	2”	1	1,4,10,17
Base Lift	12.5mm	403.213	N/A	2”	1	1,4,10,17
			Area Around Salt Shed			
Top Lift	12.5mm	403.213	N/A	2”	1	1,4,10,17
Base Lift	12.5mm	403.213	N/A	2”	1	1,4,10,17

COMPLEMENTARY NOTES

1. All work under this contract shall conform to the most recent Special Provision 400 - Hot Mix Asphalt Pavement; with the following revisions.
4. The design traffic level for mix placed shall be 0.3 to <3 million ESALS. The design, verification, Quality Control, and acceptance tests for this mix will be performed at **50 Gyrations.**
10. Section 106.6 Acceptance, (2) Method D - For hot mix asphalt items designated as Method D in Special Provision Section 403 - Hot Mix Asphalt, one sample will be taken from the paver hopper or the truck body per **250** ton, per pay item. The mix will be tested for gradation and PGAB content. Disputes will not be allowed. If the mix is within the tolerances listed in Table 9, below the Department will pay the contract unit price.

Table 9

Property	USL and LSL	
		Method D
Percent Passing 4.75 mm [No. 4] and larger sieves		Target ± 7
Percent Passing 2.36 mm [No. 8] to 1.18 mm [No. 16] sieves		Target ± 5
Percent Passing 0.60 mm [No. 30]		Target ± 4
Percent Passing 0.30 mm {No. 50] to 0.075 mm [No. 200] sieve		Target ± 3
PGAB Content		Target ± 0.5
In –Place Density		See note 17

If the test results for each **250** ton increment are outside these limits the following deductions (Table 9b) shall apply to the HMA quantity represented by the test. A second consecutive failing test shall result in cessation of production

TABLE 9b

PGAB Content	-5%
2.36 mm sieve	-2%
0.30 mm sieve	-1%
0.075 mm sieve	-2%
In-Place Density	N/A

17. Unless otherwise directed by the Agency, compaction of the new Hot Mix Asphalt Pavement will be obtained using a minimal roller train consisting of a 10 ton dual drum vibratory roller, 12 ton pneumatic roller, and a 3-5 ton dual drum vibratory finish roller for all the specified paving work. Rollers shall be operated in sequence, and be kept generally close together, dependent on the air and existing pavement temperatures. Roller patterns shall, as a minimum, consist of initial steel roller passes immediately behind the paver using vibratory compaction, followed by a reversed static roller pass in the same path, continuing in a similar sequence until the entire paved mat has been rolled. The second roller shall be the pneumatic roller, and shall make continuous, overlapping passes until the entire paved mat has been rolled. The final roller shall be a steel roller operated in static mode, and used to finish the pavement surface, taking out any bumps or roller marks left after the initial or pneumatic rollers. The Agency may require cores for informational purposes

Tack Coat

A tack coat of emulsified asphalt, RS-1, Item 409.15 shall be applied to any existing pavement at a rate of approximately 0.025 gal/yd², and on milled pavement approximately 0.05 gal/yd² prior to placing a new course. A fog coat of emulsified asphalt shall be applied between shim /base courses and the surface course, at a rate not to exceed 0.025 gal/yd².

Cleaning objectionable material from the pavement and furnishing and applying Item 409.15 bituminous material to joints and contact surfaces is incidental.

SPECIAL PROVISION
SECTION 503
REINFORCING STEEL

503.01 Description This work shall consist of furnishing and placing of epoxy-coated reinforcement, in accordance with these specifications and in conformance with the Plans, Supplemental Specifications and Special Provisions.

503.02 Materials Materials shall meet the requirements of the following Sections of Division 700 - Materials:

Reinforcing Steel	709.01
Welded Steel Wire Fabric	709.02

503.03 Schedule of Material When the Department does not furnish reinforcing steel schedules, the Contractor shall submit order lists, bending diagrams and bar layout drawings to the Resident for approval. The reinforcing steel shall not be ordered until these lists and drawings are approved. Approval shall not relieve the Contractor of full responsibility for the satisfactory completion of this item. When the Department allows the use of precast concrete deck panels, or any other significant changes that effect the quantity of reinforcing steel, the Contractor shall be responsible for revising the reinforcing steel schedule; the revised schedule shall be submitted to the Resident for approval.

503.04 Protection of Material Reinforcement shall be stored on skids or other supports a minimum of 12 in above the ground surface and protected at all times from damage and surface contamination. The storage supports shall be constructed of wood, or other material that will not damage the surface of the reinforcement or epoxy coating. Bundles of bars shall be stored on supports in a single layer. Each bundle shall be placed on the supports out of contact with adjacent bundles.

If it is expected that epoxy-coated bars will be required to be stored outdoors for a period in excess of three months, then they shall be protected from ultraviolet radiation.

503.05 Fabrication Bending of reinforcing bars and tolerances for bending of reinforcing bars shall be in conformance with the latest edition of the "Manual of Standard Practice of the Concrete Reinforcing Steel Institute" and the "Detailing Manual of the American Concrete Institute". Unless otherwise specifically authorized, bars shall be bent cold.

503.051 Epoxy Coating All reinforcing steel shall be epoxy coated. Epoxy coating shall meet the requirements of AASHTO M284/M284M (ASTM A775/A775M), Epoxy-Coated Reinforcing Steel Bars, and the following requirements:

a. The Contractor shall furnish a written certification that at the point of application of the coating and at the reinforcing bar shop the coating, the coated bars, and the handling and packaging of the coated bars, meet all the

requirements specified in Section 5.2.1 and Section 15.1 of AASHTO M284/M284M (ASTM A775/A775M), and Section 503.053 of these specifications.

b. Patching material as specified in Section 5.4 of AASHTO M284/M284M (ASTM A775/A775M), shall be supplied for both shop and field patching of the coated reinforcing steel. The patching material shall be supplied as required, but at not less than the following rates:

#3 to #5 bars: 1 qt/15000 ft of bar, or fraction thereof
#6 to #9 bars: 1 qt/8000 ft of bar, or fraction thereof
#10 and up: 1 qt/6000 ft of bar, or fraction thereof

c. All testing shall be as specified in AASHTO M284/M284M (ASTM A775/A775M), except that the frequency of testing for adhesion of the coating shall be two bars of each size out of all bars coated with each individual batch or lot of epoxy resin, or two bars of each size out of all bars coated in an eight hour period, whichever is greater.
d. If a reinforcing bar fabrication shop uses previously stockpiled bars to supply the requirements of this contract, the fabrication shop shall furnish copies of all certificates required to be furnished by the coating applicator under a., above. The certificates furnished shall be directly traceable to the actual bars used through batch numbers, order numbers or similar information. If such certification is not available, the Department reserves the right to perform the tests specified under AASHTO M284/M284M (ASTM A775/A775M), at the expense of the fabrication shop. For bars supplied from stock, the fabrication shop shall supply all patching material specified under b., above.
e. The Contractor shall notify the Resident at least 1 week prior to the start of the coating application, so that the Resident or their designated representative may be present at the beginning of the application of the epoxy coating.

<u>503.052 Patching of Epoxy</u> Coating Patching required at the point of application of the epoxy coating shall be done in conformance with the requirements of AASHTO M284/M284M (ASTM A775/A775M).

At the reinforcing steel fabrication shop and at the job site, all nicks, cuts, scratches, cracks, abrasions, sheared ends etc., visible to the naked eye, shall be repaired using patching material supplied as specified under Section 503.051 b. To the greatest extent possible, repairs to each day's production at the fabrication shop and each day's placement at the job site shall be done before the end of each working day. If damaged areas do become rusted or contaminated with foreign matter, then these areas shall be cleaned by sandblasting, or an equally effective method, such that all visible rust and/or foreign matter is removed prior to patching.

<u>503.053 Packaging and Handling of Epoxy-Coated Bars</u> All handling of epoxy-coated reinforcing bars by mechanical means shall be done by equipment having padded contact

areas, or by the use of nylon webbing slings. The use of chains or wire rope slings shall not be allowed, even when used with padding. All bundles of coated bars shall be lifted with a strong back, spreader bar, multiple supports or a platform bridge to prevent bar-to-bar abrasion from sags in the bundles. Support points during lifting or transporting of bundled epoxy-coated bars shall be spaced at a maximum of 15 ft.

Bundled bars shall be strapped together with non-metallic or padded straps in a manner to prevent bar-to-bar abrasion due to relative movement between bars.

Bars loaded for transport shall be loaded and strapped down in a manner that will prevent damage from motion and vibration, to the greatest extent possible. Bundles of bent bars shall be transported strapped to wooden platforms or shall be crated. All individual bundles and layers of bundles shall be separated, and supported by dunnage.

Individual bars shall be handled in a manner that prevents damage to the coating due to abrasion or impact, and at no time shall any bar be moved by dragging over any surface, including other reinforcing bars. Sufficient personnel shall be assigned to assure that there is complied with the above.

503.06 Placing and Fastening All steel reinforcement shall be accurately placed in the positions shown on the plans and shall be firmly held there during the placing and setting of the concrete. Immediately before placing concrete, steel reinforcement shall be free from all foreign material, which could decrease the bond between the steel and concrete. Such foreign material shall include, but not be limited to, dirt, loose mill scale, excessive rust, paint, oil, bitumen and dried concrete mortar.

Bars shall be fastened together at all intersections except where spacing is less than 1 ft in either direction, in which case, fastening at alternate intersections of each bar with other bars will be permitted providing this will hold all the bars securely in position. This fastening may be tightly twisted wire. Welding on epoxy-coated reinforcing steel will not be permitted under any condition.

Proper distances from the forms shall be maintained by means of stays, blocks, ties, hangers or other approved means. Blocks used for this purpose shall be precast Portland cement mortar blocks of approved shape and dimensions. Chairs may be used for this purpose and, when used, must be plastic, plastic coated, epoxy coated or plastic tipped. Layers of bars may be separated by precast Portland cement mortar blocks or other approved devices. The use of pebbles, pieces of broken stone or brick, metal pipe or wooden blocks shall not be permitted. The placing of reinforcement as concrete placement progresses, without definite and secure means of holding the steel in its correct position, shall not be permitted except in the case of welded steel wire fabric or bar mats.

Epoxy-coated reinforcing bars supported on formwork shall rest on coated wire bar supports, or on bar supports made of dielectric material or other acceptable materials. Wire bar supports shall be coated with dielectric material for a minimum distance of 2 in

from the point of contact with the reinforcing bars. Reinforcing bars used as support bars shall be epoxy-coated. In walls, spreader bars shall be epoxy-coated.

Tie wire for epoxy-coated reinforcing steel shall be soft annealed wire that has been nylon, epoxy or plastic coated.

Field bending or cutting of epoxy-coated reinforcing bars will not be allowed, unless otherwise indicated on the plans or permitted by the Resident. When field bending or cutting is allowed, all damaged coating areas shall be repaired in accordance with the patching requirements.

Bars in the foundation walls shall be placed so as to clear anchor bolts.

When specified on the contract plans, reinforcing steel shall be anchored into drilled holes.

The anchoring material shall be one of the products listed on the Maine Department of Transportation's list of Prequalified Type 3 Anchoring Materials. Installation shall be in accordance with the manufacturer's published recommendations.

At each anchor location, existing reinforcing will be located to avoid drilling through existing bars. Where interferences are found to exist, location adjustments will be determined by the Resident.

Minimum embedment lengths of reinforcing bars shall comply with the manufacturer’s published recommendations for the anchoring material selected. These embedment lengths shall be verified by the Resident before installation of the reinforcing bars. The reinforcing steel lengths indicated on the Plans may be reduced, at the Contractor's option, to the determined minimum embedment lengths.

Reinforcement shall be inspected and approved by the Resident before any concrete is placed.

<u>503.07 Splicing</u> Reinforcing bars shall be spliced in accordance with the requirements of this section, and in the locations shown on the plans. No modifications of, or additions to, the splice arrangements shown on the plans shall be made without the Resident's prior approval. Any additional splices authorized shall be staggered as much as possible. All splices shall be made in a manner that will ensure that not less than 75% of the clear concrete cover and not less than 75% of the minimum clear distance to other bars will be maintained, as compared to the cover and clear distance requirements for the unspliced bar.

Lapped splices shall be made by placing the bars in contact and wiring them together. Splice laps shall be made in accordance with the following table, unless otherwise noted on the plans

US CUSTOMERY UNITS

Minimum Lap Splice Length (inches)[1]

Bar Type	Bar Size								
	#3	#4	#5	#6	#7	#8	#9	#10	#11
Plain	14	18	22	26	33	43	54	68	83
Epoxy	21	27	33	39	50	64	80	103	124

[1] Lap Splice lengths are based on the following parameters: Minimum center to- center spacing between bars of 6 in; nominal yield strength of the reinforcing steel of 60 ksi; minimum 28-day compressive strength of concrete of 4000 psi. When any of the preceding parameters is altered, appropriate minimum lap splice lengths will be determined by the Resident. When lap splices are placed horizontally in an element where the concrete depth below the splice will be 12 in, or more, the indicated lap splice lengths shall be multiplied by a factor of 1.4.

Mechanical couplers may be used for splicing reinforcing bars, provided they are approved by the Resident and conform to the following requirements:

a. Tension Couplers Couplers shall be able to develop 1.25 times the theoretical yield strength of the spliced bar in tension. Bolted and wedge-lock type couplers will not be allowed.

b. Compression Couplers Couplers shall be capable of maintaining the spliced bars in alignment prior to and during concrete placement. For reinforcing bars designed to act in compression, the individual bar ends shall be within 1½° of being "square" to the final 12 in of the bar. Additionally, abutting bar ends shall be in contact, and the angle of the gap between abutting bar ends shall be 3°, or less.

c. Mechanical Couplers Any mechanical couplers using a threaded splicer and dowel in combination, requiring a lapped splice with the reinforcing bars, shall have a minimum lap splice length as required by this Section.

Welded splices may be made by the "Thermit" process or, with the approval of the Resident, by the shielded metal arc welding process or the self-shielded flux-core arc welding process. The latter two processes shall be used in strict conformance with the requirements of the latest edition of AWS D1.4 "Structural Welding Code - Welding Reinforcing Steel" and any applicable provisions of Section 504, Structural Steel. The Contractor shall submit complete details of their proposed method of making welded splices for the Resident's approval.

503.08 Lapping Sections of welded steel wire fabric shall securely fasten to adjoining sections and overlap. All laps shall be in accordance with Wire Reinforcement Institute Manual of Standard Practice.

Bar mats shall be spliced as required for the individual bars.

503.09 Substitution Substitution of different size bars shall not be permitted except with the written authorization of the Resident.

SPECIAL PROVISION
SECTION 815
Buildings

Description The work shall consist of the furnishing and construction of the Salt Shed building at the Maine Department of Transportation Lot located at 159 Bangor Street, Houlton, Maine in accordance with these contract documents.

Materials All backfill, not otherwise specified, shall be Granular Borrow and shall meet the requirements of Section 703.19 Granular Borrow.

Aggregate Subbase shall meet the requirements of Standard Specification, Section 703.06 Aggregate for Base and Subbase – Grading D.

Construction The Department will provide the Contractor with two horizontal and vertical control points establishing the top of slab elevation and two corners of the slab. The Contractor shall provide the additional layout necessary to complete the Work.

All work shall meet the requirements of governmental agencies having jurisdiction and comply with applicable standards and codes. The Contractor shall submit two (2) copies of shop drawings to Department for review at least fifteen (15) days prior to incorporation into the work. Shop drawings shall be approved prior to incorporation into the work.

Roof, siding and paint colors shall be selected by Department from manufacturer's standard colors.

Excavation shall meet the requirements of Section 203 Excavation and Embankment.

When the structure is to rest on an excavated surface other than rock, special care shall be taken not to disturb the bottom of the excavation. If the surface upon which the structure is to rest is disturbed, it shall be regraded and recompacted to the extent directed by the Resident.

Suitable material taken from excavation shall be used in the construction of subgrade and for backfilling as indicated on the plans, or as directed, except that if the volume of suitable excavated material exceeds that required to construct the site to the grades indicated, the excess shall be used as directed or wasted.

If excavated material is not suitable for backfilling then granular borrow shall be placed at a vertical plane 18" past the end of the footing from 12" below the bottom of the footing up to the final grade elevation as indicated on the plans.

Backfilling shall meet the requirements of Section 203 Excavation and Embankment. Backfilling shall consist of placing suitable material in all spaces not occupied by

structures up to the elevation of the existing ground or other elevations shown on the plans or designated. Backfill material shall be granular borrow or other material designated on the plans and shall be at or near optimum moisture content and shall not contain stones larger than 3 in, frozen lumps, chunks of clay, mineral matter or any other objectionable matter.

For reinforced concrete sections, no backfill shall be placed until the masonry has been in place at least 14 days or until concrete cylinders cured with the structure establish that design strength has been reached.

Unless otherwise approved the material shall be deposited and spread upon compacted material in full width layers not more than 8 inches in depth, loose measure. Sand or gravel soils shall be compacted by vibratory type compaction equipment or by pneumatic tired equipment and, if necessary, by the addition of water. The compacting operations shall be continued until each layer is satisfactorily compacted to its full depth and width.

Unless otherwise indicated on the plans or directed, all sheeting and bracing used during structural excavation shall be removed by the Contractor following the completion of the work, and all voids resulting from use of the sheeting and bracing backfilled where necessary.

Subgrades shall be promptly graded and rolled to minimize absorption of water. When excavating results in a subgrade of unsuitable soil, the Resident may require the Contractor to remove the unsuitable material and backfill the area with approved material.

Placing and compacting of Aggregate Subbase shall meet the requirements of Standard Specification, Section 304 Aggregate Base and Subbase Course.

Variations from Materials Specified Whenever and wherever items have been identified by describing a proprietary product, such identification is intended to be descriptive, but not restrictive, and is used to indicate the quality and characteristics of products that are satisfactory. Bids shall be considered as offering the item specified in the Invitation for Bid. The Department will consider all alternates submitted by the Contractor, but is not bound to accept any which, in its opinion, is not in the Department's best interest and are determined by the Department to be of equal value in all material respects to the proprietary items specified. The evaluation of and determination as to equality of the product offered shall be the responsibility of the Department and will be based on information furnished by the Contractor, as well as information reasonably available to the purchasing activity.

Quality and Standards Materials and manufactured products incorporated into the work shall be new unless otherwise specified, free from defect, and in conformity with the contract. When material is fabricated or treated with another material or where any combination of materials is assembled to form a finished product, any or all of which are

covered by specifications, the Department may reject the finished product if any of the components do not comply with the specifications. The Department may reject materials not conforming to the Specifications at any time, and the Contractor shall remove them immediately from the project site unless otherwise instructed by the Department. The Contractor shall not store or use rejected materials on any Department project.

If there is no applicable standard set forth in this contract for particular Work, then the Contractor shall perform that Work in accordance with industry standards prevailing at the time of bid. If the Department determines that Work is non-conforming, the Contractor shall remove, replace, or otherwise correct all unacceptable work as directed by the Department at the expense of the Contractor, without cost or liability to the Department.

Submittals The Contractor shall submit manufacturers' specifications, product data and installation instructions for all items furnished. The Contractor shall not be relieved of responsibility for any deviation from the requirements of the specifications unless the contractor has specifically informed the owner in writing of such deviation at the time of submission and the owner has given written approval to the specific deviation. The Contractor shall not be relieved from responsibility for errors or omissions. No portion of the work shall be commenced until the Department has approved the submittal.

Delivery, Storage, and Handling

- Store materials off the ground and protected from the weather.
- Deliver products in manufacturers' original containers, dry, undamaged, with seals and labels intact.

Installation

- Installation, handling and storage of all materials shall comply with manufacturer's instructions and recommendations.
- The Contractor shall make provisions to allow safe access to the work for the Department in order to inspect the work, facilitate ongoing inspection of the work and to measure the work for payment purposes.
- Complete installation to provide weather tight service.
- Completed installation for the roof shall conform, to all applicable National, State and local codes

Contractor’s Safety Program If a copy of the Contractor’s Safety Plan is not on file with the Department, the Contractor must submit an acceptable Contractor’s Safety Plan to the Department’s Bureau of Maintenance & Operations Section prior to Contract award. If copy of the Contractor’s Safety Plan is on file with the Department’s Bureau of Maintenance & Operation’s, the Contractor must confirm, in writing, that the plan on file is still applicable prior to Contract award. The Contractor shall designate which portions such submissions it considers confidential business information. If such program is revised during the Contract Time, the Contractor shall provide the updated program to the Department. The Contractor shall comply with its safety program and the Standard

Specifications. The Contractor shall be responsible for all claims or damages arising from failure to so comply and indemnifies and holds harmless the Department from all claims and damages arising from such non-compliance.

The contractor shall be responsible for the safety of all operations in connection with the Contract and shall take all necessary actions to ensure the safety of all persons who may be in, on or adjacent to the Site. The Contractor shall perform Work in a manner that is in compliance with the Contractor's TCP, an applicable OSHA requirements, and established safety practices.

Failure by the Contractor to comply with the Contractor's TCP or an applicable OSHA requirement or to follow all established safety practices pertaining to the work being performed, will result in the immediate suspension of Work on the entire project until all unsafe practices are corrected and comply with the applicable requirements, standard or practice.

Environmental Requirements and Waste Materials All waste materials shall be removed and disposed of in accordance with all federal, state, and local laws.

All materials removed from the site shall be the property of the contractor. Sale of these materials on site, and removal by persons other than the contractor or his personnel, shall be at the risk of the contractor. Once the contract is signed, responsibility for the safety of the public within the confines of the project shall be the responsibility of the contractor. The contractor shall be responsible for any and all materials dropped from his trucks distant from the project. The contractor shall make his own arrangement for disposal of materials taken from the site, and there will be no burning of materials on or adjacent to the site.

Hazardous Materials If the Contractor encounters any condition that indicates the presence of uncontrolled petroleum or hazardous Materials, the Contractor shall immediately stop Work, notify the Department, treat any such conditions with extreme caution, and secure the area of potential hazard to minimize health risks to Workers and the public, and to prevent additional releases of contaminants into the environment. Such conditions include the presence of barrels, tanks, unexpected odors, discoloration of soil or water, an oily sheen on soil or water, excessively hot earth, smoke, or any other condition indicating uncontrolled petroleum or hazardous Materials. The Contractor shall continue Work in other areas of the Project unless otherwise directed by the Department. The Contractor shall comply with all federal, State, and local laws concerning the handling, storage, treatment, and disposal of uncontrolled petroleum or hazardous Material.

Permits, Fees, and Notices The Contractor shall also acquire, at its sole expense, all licenses, Permits and other permissions that are necessary, appropriate and legally required to perform the Work. The contractor shall give all notices and comply with all laws, ordinances, rules, regulations, and lawful orders of any public authority bearing on

the performance of the work. If the contractor performs any work knowing it to be contrary to such laws, ordinances, rules, and regulations, and without such notice to the Department, he shall assume full responsibility therefore and shall bear all cost attributable thereto.

Closeout Procedures The Contractor shall make final changeover of permanent locks and deliver keys to Department, and complete final cleaning requirements, including touchup painting, touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects,.

Final Cleaning The Contractor shall clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program and comply with manufacturer's written instructions.

1. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
2. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
3. Remove tools, construction equipment, machinery, and surplus material from Project site.
4. Remove snow and ice to provide safe access to building.
5. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
6. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
7. Sweep concrete floors broom clean in unoccupied spaces.
8. Remove labels that are not permanent.
9. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
10. Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
11. Wipe surfaces of mechanical and electrical equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances. Replace parts subject to unusual operating conditions.

Closeout Documentation The following documents shall be added to the required list of closeout documentation:

Project Record Drawings
Warranties
Maintenance & Operations Manual

The Contractor shall prepare and submit Project Record Documents, operation and maintenance manuals, and similar final record information.

Warranty The Contractor shall guarantee work for one (1) year from date of Final Acceptance by the Department. The Physical Work must be Complete and in Conformity with the Contract and the Closeout Documentation, exclusive of the All Bills Paid and Request for Final Payment Letters, in order for the Department to finally "accept" the Project. All defects, including leaks occurring during guarantee period, shall be corrected without cost to the Owner. The contractor unconditionally warrants and guarantees to the owner that all work will be of good quality, free from faults and defects, and in conformance with the specification. All work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. If required by the owner, the contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. If the Department discovers any warranty defects during the warranty period, the Contractor agrees to perform all remedial work, at no additional cost or liability to the Department. Remedial Work will be completed within two weeks unless a more immediate response is required for safety or convenience, as determined by the Department.

The Contractor agrees that the warranty obligations provided by this Contract shall be reported as an outstanding obligation in the event of bankruptcy, dissolution, or the sale, merger, or cessation of operations of the Contractor.

Operations and Maintenance Manual The Contractor shall prepare operation and maintenance manuals, including the following:

Emergency data.
Operation data for systems, subsystems, and equipment.
Maintenance data for the care and maintenance of systems and equipment.

Method of Measurement The Salt Storage Building will be measured for payment as one lump sum, complete in place and accepted.

Basis of Payment The Salt Storage Building will be paid for at the contract lump sum price, complete and accepted which shall be full compensation for the work indicated on the plans and as called for in the contract, including excavation, borrow, gravel, hot mix asphalt pavement, foundation drain pipe, stone, geotextile, the additional underground electrical as noted on the plans, backfill, labor, equipment and materials for building construction and other contract related incidentals necessary to complete the work.

Grading of the backslopes beyond the pavement limits and not indicated on the plans, loam, seed and mulch will be the responsibility of the Department.

Payment will be made under:

Pay Item	Pay Unit
815.00 Building – Houlton- Salt Storage Building	Lump Sum

SPECIAL PROVISION
SECTION 02724
FOUNDATION DRAIN PIPE

PART 1 – GENERAL

1.1 Summary

A. Work included: Provide and install non-pressure pipe and fittings of the sizes and types and in the locations shown on the Drawings and as specified herein.

1.2 Delivery, Storage and Handling

A. Provide all labor necessary to assist the Department to inspect pipe, fittings, gaskets and other materials.
B. Carefully inspect all materials at the time of delivery and just prior to installation.
C. Carefully inspect all pipe and fittings for:
   1. Defects and damage.
   2. Deviations beyond allowable tolerances for joint dimensions.
   3. Debris and foreign matter.
D. Examine area and structures to receive piping for:
   1. Defects such as weak structural components that adversely affect the execution and quality of work.
   2. Deviations beyond allowable tolerance for pipe clearances.
E. All materials and methods not meeting the requirements of the Contract Documents will be rejected.
F. Immediately remove all rejects materials from the Project site.
G. Start work only when conditions are correct to the satisfaction of the Department.

PART 2 – PRODUCTS

2.1 Non-Perforated Pipe and Fittings

A. Size 4” dia. And 6” dia. Inclusive
   1. PVC Schedule 40
   2. ASTM D-2665
   3. Fittings and joints to be compatible with pipe.

2.2 Perforated Pipe and Fittings

A. Size 4” dia. And 6” dia. Inclusive:
   1. MDOT, TYPE “B” meeting requirements of Section 605.
   2. Corrugated Polyethylene Drainage Tubing for underdrain. ASSHTO M-252.
   3. Coiled pipe shall not be used.

PART 3 – EXECUTION

3.1 Inspection

A. Examine areas to receive piping for the following:
   1. Obstructions that adversely affect the installation and quality of the work.
   2. Deviations beyond allowable tolerances for clearances.
B. Examine pipe and fittings before installation to assure no defective materials are incorporated. No single piece of pipe shall be laid unless it is generally straight.
C. Remove and replace all defective materials at no additional cost to the Department.
D. Start work only when conditions are satisfactory.

3.2 Installation

A. Install all pipe and fittings to the lines and grades shown on the Drawings and/or as approved by the Department.
B. Begin laying pipe at the downstream end.
C. During installation, close open ends with temporary watertight plugs to prevent earth, water and other material from entering the pipe.

SPECIAL PROVISION
SECTION 03300
CAST-IN-PLACE CONCRETE

PART 1 – GENERAL

1.1 Summary

A. This work shall consist of furnishing and constructing all cast-in-place Portland Cement Concrete as shown on the contract drawings and as required to complete the work. This work include all steel reinforcement, form work, anchor bolts, sleeves and any other accessories necessary to complete the work.

1.2 References

A. All work shall comply with the applicable provisions of the following codes:
   1. American Concrete Institute ACI-318-08 "Building Code Requirements for Structural Concrete and Commentary".
   2. American Concrete Institute ACI-301-10 "Specifications for Structural Concrete".
   3. Concrete-Reinforcing Steel Institute CRSI Handbook, 10th Edition.
   4. ASTM C94 Standard Specification for Ready-Mixed Concrete.

1.3 Submittals

A. At least 15 days prior to the first placement, a concrete mix design shall be submitted by the contractor to the Department for approval. No concrete shall be placed on the project until the concrete mix design has been approved by the Department. The mix design submitted by the Contractor to the Department shall include the following information:

   1. Description of individual coarse aggregate stockpiles, original source, bulk specific gravity, absorption and gradation. A combined coarse aggregate blended gradation shall be provided.
   2. Description of fine aggregate, original source, bulk specific gravity, absorption, colorimetric, gradation, and Fineness Modulus (F.M.).
   3. Description and amount of cement.
   4. Target water-cement ratio.
   5. Target water content by volume.
   6. Target strength.
   7. Target air content, slump and concrete temperature.
   8. Target concrete unit weight.
   9. Type and dosages of air entraining and chemical admixtures.

B. Approval by the Department will be contingent upon the ability of the mix design proportions to produce the concrete strength requirement and other factors that may affect durability.
C. The Contractor shall provide the Department with at least two copies of shop drawings for all reinforcing steel and other accessories to be cast-in-place. Shop drawings shall be submitted at least 15 days in advance of concrete placement and shall be reviewed by the Department prior to placement.

1.4 Testing

A. Concrete acceptance testing will be performed by the Department. The Department will determine the acceptability of the concrete through a quality assurance program. Quality assurance tests will include compressive strength and air content. Concrete sampling for quality assurance tests will be taken at discharge point, with pumped concrete sampling taken at the discharge end of the pump line.
B. Compressive strength tests will be completed by the Department in accordance with AASHTO T22 at 28 days, except that no slump will be taken. The test average of two concrete cylinders will determine the compressive strength.
C. Testing for entrained air in concrete, at the rate of one test per sublot, shall be in accordance with AASHTO T152.
D. Concrete not meeting the standards implied in these specifications or as indicated on the Drawings shall be removed and replaced by the Contractor and no cost to the Department.

1.5 Quality Assurance

A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment. Measuring and batching of materials shall be performed at a Department approved batching plant.
B. Determination of the concrete cover over reinforcing steel for structural concrete shall be made prior to concrete being placed in the forms. Bar supports, chairs, slab bolsters, and side form spacers shall meet the requirements of CRSI Chapter 3, Section 2.5 Class 1, Section 2.6 Class 1A or Section 4. All supports shall meet the requirements for type and spacing as stated in the CRSI Manual of Standard Practice, Chapter 3. Concrete will not be placed until the placing of the reinforcing steel and supports have been approved by the Department. If the Contractor fails to secure Department approval prior to placement, the Contractor’s failure shall be cause for removal and replacement at the Contractor’s expense. The Contractor shall notify the Department at least 48 hours prior to the placement, when reinforcing steel will be ready for checking. Sufficient time must be allowed for the checking process and any needed repairs.

PART 2 – PRODUCTS

2.1 Concrete

A. Materials shall meet the requirements specified in the following sections of Division 700 Materials of the "State of Maine, Department of Transportation, Standard Specifications, November 2014"

1. Portland Cement and Portland Pozzolan Cement	701.01
2. Water	701.02
3. Air Entraining Chemical Admixtures	701.03
4. Water Reducing Chemical Admixtures	701.04
5. High Range, Water Reducing, Chemical Admixture	701.0401
6. Set Retarding Chemical Admixtures	701.05
7. Curing Materials	701.06
8. Water Stops	701.07
9. Smoothed Surface Asphalt Roll Roofing (Formerly Heavy Roofing Felt).	701.08
10. Fly Ash	701.10
11. Calcium Nitrate Solution, Chemical Admixture	701.11
12. Silica Fume	701.12
13. Ground Granulated Blast Furnace Slag	701.13
14. Fine Aggregate for Concrete	703.01
15. Coarse Aggregate for Concrete	703.02
16. Alkali Silica Reactive Aggregates	703.0201
17. Preformed Expansion Joint Filler	705.01

B. Cement
   1. Cement shall be Portland Cement conforming to ASTM C-150 for Type I, II or III as specified.
C. Aggregates
   1. Concrete aggregate shall conform to ASTM Specification C-33. All aggregates shall be free from frozen materials and other impurities.
   2. Fine aggregates shall be clean sand free from clay, loam and other deleterious substances.
   3. Coarse aggregate shall be durable, clean, crushed stone or gravel, free from clay, loam and other deleterious substances.
D. Water
   1. Water shall be clean and potable containing no deleterious impurities which may be harmful to concrete or accessories.
E. Admixtures
   1. Prohibited admixture: Calcium chloride, thiocyanates or admixture containing more than 0.05% chloride ions are not permitted.
   2. All admixtures products shall be listed on the Maine DOT Qualified Products List. (http://www.maine.gov/mdot/tr/qpl/index.htm).

3. Certification: Written conformance to the above mentioned requirements and the chloride ion content of the admixture will be required from the admixture manufacturer prior to mix design review by the Department.

2.2 Steel

A. Reinforcing steel shall conform to ASTM A-615 and be of an approved manufacturer. All bars shall be new, Grade 60 and shall be at the sizes shown on the drawings.
B. All reinforcing steel shall meet the requirements of Reinforcing Steel, Section 709.01 of the "State of Maine, Department of Transportation, Standard Specifications, November 2014".
C. Steel accessories shall be at the sizes and types as shown on the Drawings unless otherwise specified and shall include all spaces, chairs, ties and other devices for properly spacing, supporting and fastening reinforcement in place. Anchor bolts shall be F1554, Grade 36 or better and of the sizes and types shown on the Drawings. All anchors and fasteners shall be hot dip galvanized per ASTM A123/A153 as applicable. Verify location of anchor bolts to verify they do not interfere with stud layout or other related work prior to casting concrete. Additional angles and other steel accessories shall be hot dip galvanized.
D. All reinforcing steel shall be epoxy coated.

2.3 Accessories

A. Non-shrink Grout shall be listed on the Maine DOT Qualified Products List (http://www.maine.gov/mdot/tr/qpl/index.htm).

2.4 Joint Sealants

A. Joint filler shall be listed on the Maine DOT Qualified Products List (http://www.maine.gov/mdot/tr/qpl/index.htm).

2.5 Protective Coating for Concrete Surfaces

A. Protective coating shall be a blend of 50% by volume boiled linseed oil and 50% petroleum spirits. The linseed oil shall comply with the requirements as ASTM D260. Petroleum spirits shall meet the requirements of ASTM D235. CAUTION: This blend is flammable.

PART 3 – EXECUTION

3.1 Concrete Proportioning

A. Concrete shall conform to the following requirements

Use	Min. Strength 28 Day-psi	Max. Size Coarse Agg	% Air (1%)	Min-Max Slump	Min Chem. Fac.	Max W/C
Footing, Walls	4000	3/4"	6-9*	2-4**	611 #/CY	0.45

*Target Air is 7.5% with -1.5% ; +1.5% Range
**Min-Max slump is before the addition of water reducing admixtures.

3.2 Formwork

A. All construction form work shall be of sufficient strength and construction to safely withstand the loads imposed, conforming to ACI 347. Forms shall be suitably tied and/or bolted together to maintain the specified dimensions. 3/4-inch chamfer strips shall be placed at all exposed corners unless otherwise specified.
B. Materials – Forms shall be smooth, treated plywood or steel. Plywood forms shall be coated with form oil and steel forms shall be coated with water or other approved substances to facilitate removal. Only non-staining substances shall be used.
C. All foreign matter within the forms shall be removed before depositing concrete in them.
D. All forms shall be inspected and approved by the Department prior to placing any concrete within them.
E. Build into the forms all collars or sleeves required for piping and wiring, and any anchors and inserts as shown on the Drawings.
F. Forms shall be left in place until the concrete has developed 80 percent of the design strength, and proven by a break of two cylinders. The formwork may be removed 48 hours after the completion of the concrete placement with the approval of the Department and when the following conditions are met:
    1. Immediately after the forms are removed, defects in the concrete surface shall be repaired in accordance with section 502.13 of the "State of Maine, Department of Transportation, Standard Specifications, November 2014" and the repaired area is thoroughly dampened with water. The surfaces of exposed concrete shall be cured for the remainder of the 7-day curing period by the application of a product listed on the Maine Department of Transportation Prequalified list of curing compounds. The curing compound shall be applied continuously by an approved pressure spraying or distributing equipment at a rate necessary to obtain an even, continuous membrane, meeting the manufacturer's recommendation but at a rate of not less than 1 gal/200ft^2 of surface. Other methods of curing concrete may be used with the prior approval of the Department.

2. Forms and false work, including blocks and bracing, shall not be removed without the consent of the Department. The Department's consent shall not relieve the Contractor of responsibility for the safety of the work. In no case shall any portion of the wood forms be left in the concrete. As the forms are removed, all projecting metal devices that have been used for holding the forms in place shall be removed in accordance with Section 502.10 and the holes shall be filled as required in Section 502.13 of the "State of Maine, Department of Transportation, Standard Specifications, November 2014".

G. Forms shall be removed so as not to damage the concrete.

3.3 Placing Concrete

A. Placing of all concrete shall be done in accordance with Section 502.10 of the "State of Maine, Department of Transportation, Standard Specifications, November 2014"
B. All concrete shall be placed before it has taken its initial set, in any case, as specified in Section 502.10. Concrete shall be placed in horizontal layers in such a manner as to avoid separation and segregation. A sufficient number of workers for the proper handling, tamping and operation of vibrators shall be provided to compact each layer before the succeeding layer is placed and to prevent the formation of cold joints between layers. Care shall be taken to prevent mortar from spattering on structural steel, reinforcing steel and forms. Any concrete or mortar that becomes dried on structural steel, reinforcing steel or forms shall be thoroughly cleaned off before the final covering with concrete. Following the placing of the concrete, all exposed surfaces shall be thoroughly cleaned as required, with care not to injure any surfaces.
C. Concrete in any section of a structure shall be placed in approximately horizontal layers of such thickness that the entire surface shall be covered by a succeeding layer before the underlying layer has taken its initial set. Layers shall not exceed 18in in thickness and shall be compacted to become an integral part of the layer below. Should the placement be unavoidably delayed long enough to allow the underlying layer to take initial set or produce a so-called "cold joint", the following steps shall be taken:
   1. An incomplete horizontal layer shall be bulk-headed off to produce a vertical joint.
   2. Horizontal joints shall be treated as required in Section 502.10(F) of the "State of Maine, Department of Transportation, Standard Specifications, November 2014"
   3. Portland cement concreted with a high range, water reducing admixture shall not be placed when the concrete mix temperature is below 40°F or above 85°F.
   4. Fresh concrete, threatened with rain damage shall be protected by approved means. Sufficient material for covering the work expected to be done in one

day shall be on hand at all times for emergency use. The covering shall be supported above the surface of the concrete.

D. Transit Mix – Concrete mixed in transit mixers shall be placed within 90 minutes of addition of water at the plant. Delivery tickets shall state the time of water addition or departure from the plant if this is within 10 minutes. If the concrete cannot be placed within the specified time limitations, the Department may require that all cement be added at the job site. No additional water shall be added without consulting the Department. Any additional water added to the concrete on the site is the Contractor's sole responsibility and risk. The contractor shall provide a Certificate of Compliance for each truckload of concrete to the Department at the time of the load placement. The Certificate of Compliance shall be a form acceptable to the Department and shall include the following:
   1. Contract Name & Number
   2. Facility/Building Name
   3. Manufacturing Plant (Batching Facility)
   4. Name of Contractor (Prime Contractor)
   5. Date
   6. Time Batched/Time Discharged
   7. Truck No.
   8. Quantity (Quantity Batched this Load)
   9. Type of concrete by Class and Producer Design Mix No.
   10. Cement Brand or Type, and Shipment Certification No.
   11. Temperature of Concrete at Discharge
   12. Target Weights per cubic yard and Actual Batched Weights for:
      - Cement
      - Coarse Concrete Aggregate
      - Fine Concrete Aggregate
      - Water (including free moisture in aggregates and water added at the project)
      - Admixtures Brand and Quantity (fluid ounces/cubic yard)
   13. Air Entraining Admixture
   14. Water Reducing Admixture
   15. Other admixtures
   16. Placement Location

E. Vibration
   1. Power vibrators shall be provided to thoroughly consolidate and compact the concrete. Vibrators shall not be used to push or move concrete laterally in forms. Excessive vibration will not be permitted. A minimum of two power vibrators shall be on the site when pouring the concrete.
   2. Vibrators shall be an approved type, with a frequency of 5,000 to 10,000 cycles per minute and shall be visibly capable of properly consolidating the designed mixture.
   3. Sufficient vibrators shall be used to consolidate the incoming concrete within 5 minutes after placing.

3.4 Protection of Concrete

A. All concrete shall be placed/protected in accordance with Section 502.08 Cold Weather Concrete of the "State of Maine, Department of Transportation, Standard Specifications, November 2014"
B. Fresh concrete shall be protected from rain, cold and excessive temperature. Concrete shall be placed at temperatures between 40°F and 90°F. When outside air temperatures are below 40°F, materials shall be heated and maintained above 50°F for at least 5 days after placement.
C. All concrete surfaces, if not protected by forms, shall be kept thoroughly wet either by sprinkling or by the use of wet burlap, cotton mats or other suitable fabric until the end of curing period. Polyethylene sheets shall not be placed directly on the concrete, but may be placed over the fabric cover to prevent drying except as provided in 3.2 Formwork, Section F.

3.5 Protective Coating of Concrete Surfaces

A. A protective coating, consisting of 50% linseed oil and 50% petroleum spirits, shall be applied to the top of the foundation walls and the exposed interior face of the foundation walls.
B. On surfaces to be treated, all voids shall be filled with mortar and the entire surface shall be dressed by dry rubbing to remove form marks and blemishes to present a neat appearance. The concrete shall remain dry for at least 48 hours before treatment and shall be free of laitance, oil, grease, dirt and dust. All traces of dust shall be removed immediately before applying linseed oil mixture. The treatment shall not be done until at least 14 days after casting the concrete.
C. Enough material shall be used to coat the surfaces thoroughly. Two coatings shall be applied 24 hours or more apart. The minimum rates of application shall be 0.025 gal/yd^2 for the first coat and 0.015 gal/yd^2 for the second coat. The method of application may be dependent on available equipment. Hand spray methods or pressure distributors may be used and application by rollers or brushes may be desirable for some locations.
D. Twenty-four hours after application, excess coating materials, if any, must be removed.
E. Temperature of the concrete to be treated shall be above 40°F at the time of application.

3.6 Finishing

A. Exposed Concrete

1. After the removal of forms, remove all form ties to at least 1 inch below surfaces. Remove all loose and honeycombed concrete, fins and other surface irregularities.
2. Concrete patching – After cleaning out all holes, honeycombs and other areas to be patched, moisten surface and apply non-shrink grout or a mixture of one part Portland Cement and 3 parts sand, taking care to match the concrete.
3. All concrete which will be exposed to view, shall be hand rubbed using carborundum bricks, burlap or other approved method. Finished surfaces should present a smooth, even appearance of uniform color.

B. Unexposed Concrete
   1. All unexposed concrete shall have tie holes, honeycombs and other holes filled with patching mortar as above. Fins and other irregularities shall be removed so as to present a uniform surface.
   2. Unexposed concrete will not require a rubbed finish after patching.

C. Penetrations – All wall or floor penetrations by pipes, conduit and other inserts shall be sealed with non-shrink grout around entire penetration to provide a watertight finish.

3.7 All concrete mixes must be batched and designed in accordance with this specification and the approved design.

SPECIAL PROVISION
SECTION 06100
ROUGH CARPENTRY

PART 1 – GENERAL

1.1 Summary

A. This work consists of all labor, materials and equipment necessary to complete the work as shown on the Drawings and as specified herein.

1.2 References

A. International Building Code, Latest Edition.

1.3 Workmanship

A. Only experienced personnel shall be engaged in this work.

1.4 Delivery, Storage and Handling

A. Deliver the materials to the job site and store in a safe area, out of the way of traffic, shored up off the ground surface and covered to protect from weather.

PART 2 – PRODUCTS

2.1 Dimension Lumber

A. Dimension lumber shall be Eastern Spruce or other wood approved by the Department and shall comply with grading requirements of the Northeastern Lumber Manufacturers Association for Common, Number 2 or better, and shall bear the grade stamp.
B. When specified on the Plans or in part 4, stress grade structural lumber shall be provided. Stress grade lumber shall bear appropriate stamp for the specified grade and species.
C. Wood for pressure treating and special installation shall be southern yellow pine meeting the requirements of the Southern Pine Inspection Bureau (SPIB) for Number 2 or better.
D. All lumber shall not exceed 19% moisture content.

2.2 Plywood

A. All plywood shall be 4/5-ply minimum and shall comply with U.S. Product Standard PS-1 for softwood plywood and shall bear the specified grade and stamp of the American Plywood Association.
B. Unless otherwise shown on the Drawings, plywood shall meet the following requirements:

Use	Thickness	Grade	Glue	Span Rating
Roof	5/8" T&G	OSB Structural 1	Exterior	40/20
Exterior Sheathing	5/8"	OSB Structural 1	Exterior	32/16
Interior Sheathing	5/8"	CDX	Exterior	32/16
Electrical Backboard	¾"	BC	Exterior	N/A

C. All OSB shall be coated oriented strand board (OSB) sheathing in lieu of exterior wall sheathing, "Advantech" by Huber Industries.

2.3 Accessories

A. Nails shall be new, galvanized as appropriate, common nails of appropriate lengths and sizes to adequately join the wood. Use galvanized where exposed to weather or pressure treated lumber or where shown on the Drawings.
B. Joist hangers, framing anchors shall be 18-gauge, galvanized steel such as manufactured by Kant Sag, Simpson, or approved equivalent.
C. Special Nails shall be used where shown on the Drawings or as recommended by manufacturer.
D. Glue shall be an all purpose subfloor and construction adhesive, suitable for interior and exterior use, as manufactured by DAP, GE, Ohio Sealants, of approved equivalents.

2.4 Pressure Treated Lumber (P.T.)

A. Lumber or plywood in contact with ground or fresh water shall be treated in accordance with AWPA Standards C2 and LP-22 and shall be rated 0.60 retention.
B. Lumber in direct contact with concrete, masonry, or steel, not in contact with soil or fresh water shall be treated in accordance with AWPA Standards C2 and LP-2 and shall be rated 0.40 retention.
C. Pressure treatment shall be water borne chromate copper arsenate (ACQ).
D. Wood shall be dried after treatment.

PART 3 – EXECUTION

3.1 Preparation

A. Carefully select individual lumber pieces so that knots and obvious defects will not interfere with placing bolts or proper nailing.
B. Cut out and discard defects which render a piece unable to serve its intended function.
C. Lumber will be rejected by the Department if it is excessively warped, twisted, bowed, mildewed or molded, as well as if it is improperly installed.

3.2 Erection

A. All framing work shall produce joints which are tight, true, and well nailed with members assembled in accordance with the Drawings and with pertinent codes and regulations.
B. All framing and fastening shall equal or exceed HUD Minimum Property Standards, Manual of Accepted Practices and the requirements of the IBC.
C. Do not shim any framing member.
D. Install horizontal and sloped members with crown up.
E. Do not notch, cut or bore members for pipes, ducts, conduits, or for any other reason, except as shown on the Drawings and as approved the Department.
F. Bearing surfaces on which structural members rest shall provide a full, even support.
G. Joists, rafters and similar members shall be fastened with at least two (2) galvanized steel hangers or anchors and nailed completely.
H. Install solid block bridging at midpoint of joists or as shown on the Drawings.
I. Provide all shims, blocking and bracing as shown on the Drawings and as approved by the Department to complete the work.
J. In addition to normal framing operations, install wood blocking or backing required to support the work of other trades.

3.3 Plywood Sheathing

A. Unless otherwise specified or approved by the Department, install plywood with the face grain perpendicular to framing and central joints over supports. Leave 1/16-inch gap where adjacent plywood panels meet.
B. Stagger plywood joints so that all joints do not lie on the same support.

3.4 Nailing

A. Use galvanized nails except as otherwise indicated. Make tight connections between members. Countersink nail heads on exposed carpentry work and fill holes.
B. Install fasteners without splitting wood; pre-drill as required.

C. All nailing shall comply with the IBS, Recommended Fastening Schedule (found in table 2304.9.1), unless special requirements are shown on the Drawings.

3.5 Concrete Bearing

A. All wood which bears against concrete, earth, steel or masonry shall be pressure treated as specified on the Drawings or as approved by the Department.

SPECIAL PROVISION
SECTION 06192
STRUCTURAL GLUE LAMINATED TIMBER

PART 1 – GENERAL

1.1 Summary

A. The work of this section shall consist of providing wood arches as shown on the drawings, and as needed for a complete installation.
B. Related Work: Section 06100 – Rough Carpentry.

1.2 Quality Assurance

A. Laminated wood arches fabrication and installation shall comply with the requirements of the American Institute of Timber Construction.
B. Use an adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts and are knowledgeable with the specified requirements and methods necessary to properly perform the work of this section.

1.3 Submittals

A. Within 15 days after the contractor has received the Departments Notice to Proceed, the contractor shall submit the following:

- A complete list of items to be provided under this section
- Manufacturer's specifications and all related data needed to prove compliance with the contract requirements.
- Shop drawings showing species, sizes and grades of lumber proposed to be used.
- Configuration of arch.
- Connection details and bearing details, including loads induced from arch.
- Installation procedure.

1.4 Delivery Storage and Handling

A. Handle and store arches with care and in accordance with manufacturer's instructions and with recommended handling procedures of AITC.
B. The delivery of the arches shall be coordinated between the arch manufacturer and the contractor in such a manner to avoid any extended on-site storage.

C. Arches shall be handles during fabrication, delivery and installation so as to not induce any excessive bending or additional stresses on the arch.
D. Trusses shall be unloaded on a smooth surface, and shall be protected against any on-site activities and environmental conditions.

PART 2 – PRODUCTS

2.1 Structural Glue Laminated Wooden Arches

A. Design Criteria
   1. Arches shall comply with all applicable codes in the International Building Code, 2012.
   2. A 100psf ground snow load.
   3. 105mph wind load.
   4. Combination symbol 24F-V5
   5. Industrial Grade.
B. Fabrication
   1. Cut members to accurate lengths, angles and sizes to produce close fitting joints with proper wood-to-wood bearing in assembled units.
   2. Connect members by means of metal connector plates accurately located and securely fastened to foundation.
   3. Arches shall be fabricated in a permanent facility that is large enough to handle the size or the arches, is equipped to manufacture the arches by experienced workmen and does not expose the wood to any extreme weather conditions.

2.2 Sealer

A. Seal entire member as recommended by manufacturer.

2.3 Bracing

A. Brace arches as indicated on contract drawings and as required for arch installation and as recommended by arch manufacturer.

2.4 Miscellaneous Materials

A. Provide any and all other materials, not specifically indicated in this section, required for the proper installation of the arches.

2.5 Anchors

A. Install F1554 anchors as indicated on the contract drawings. Anchors and fasteners shall be galvanized in accordance with ASTM 123/153 as

applicable. Anchors shall be grade 36ksi or better. Contractor shall coordinate the exact anchor layout with the arch manufacturer prior to installation of any anchors. Any change in the layout of the anchors shall be reported to the Engineer of record. Any dependent work shall not be done until the engineer is satisfied that the modified anchorage is adequate.

PART 3 – EXECUTION

3.1 Surface Conditions

A. Do not proceed with installation until the area and conditions of the area in which the work of this section will be performed have been deemed adequate for installation.

3.2 Installation

A. Coordinate with all involved parties prior to installation to make sure all necessary equipment, tools and personnel are available.
B. Install the work of this section in accordance with the original design, the approved shop drawings, and the recommendations of the manufacturer as approved by the Engineer.
    1. Any apparent damage to the arches shall be reported to the manufacturer prior to installation
    2. Cutting or altering of any arch is not permitted unless approved by the Engineer and the manufacturer.
    3. Hoist arch into position with required bracing at designated lifting points.
    4. Lift arches in such a manner as to not induce any excessive stress in the arch.
    5. Set arch level and plumb in correct location. Arches shall be temporarily braced as required until sufficient permanent bracing is installed.
    6. Concentrated loads shall not be placed along the arch until all specified bracing has been installed and the roofing has been permanently secured into place.
    7. Contractor shall coordinate installation of arches to make sure arches are installed in a timely fashion that will minimize the time between arch placement and installation of final permanent bracing. Arches shall not sit in place with temporary bracing for any extended amount of time.

SPECIAL PROVISION
SECTION 07467
METAL SIDING

PART 1 – GENERAL

1.1 Summary

A. Provide preformed metal siding and roofing where shown on the Drawings, as specified herein and as needed for a complete and proper installation.
B. Related Work: Documents affecting work of this Section include, but are not necessarily limited to, Section 06100 - Rough Carpentry and Section 06192- Laminated Lumber.

1.2 Quality Assurance

A. Use adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.3 Submittals

A. Product Date: Within 15 calendar days after the Contractor has received the Department's notice to Proceed, submit:
    - Materials list of items proposed to be provided under this Section
    - Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
    - Shop drawings in sufficient detail to show fabrication, installation, anchorage and interface of the work of this Section with the work of adjacent trades;
    - Sample of two (2) full panel width by 6" length of finished exterior siding, interior liner and permanent trim pieces.
    - Sample of each fastener employed, one each.
    - Manufacturer's recommended installation procedures which, when approved by the Department, will become the basis for accepting or rejecting actual installation procedures used on the work.

PART 2 – PRODUCTS

2.1 Preformed Metal Siding and Roofing

A. Metal siding shall be 27 gauge, Everlast II with a galvalume finish, or equivalent.
B. Panels shall be a maximum length possible to minimize end laps.

2.2 Accessory Items

A. Provide subgirts, perimeter trim, closures and other required components as needed to comprise the complete preformed metal siding system, using the materials and gauges recommended by the manufacturer and approved by the Department, and providing finish on exposed surfaces precisely matching the finish on the other exposed surfaces.
B. Provide fasteners, washers and sealants as recommended by the manufacturer.

PART 3 - EXECUTION

3.1 Surface Conditions

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

3.2 Installation

A. Install the work of this Section in strict accordance with the manufacturer's recommended installation procedures as approved by the Department.
B. Set siding plumb, level and true to line, without warp or rack, to a tolerance of 1 in 600.
C. Touch up mars, scratches, and cut edges to match original finish.

SPECIAL PROVISION
SECTION 07611
METAL ROOFING

PART 1 - GENERAL

1.1 Summary

A. Work included shall consist of installing a standing seam metal roofing complete with concealed fasteners and accessories for a water tight system. Metal roofing shall be continuous, contoured to the profile of the roof arch, with no butt seams.

1.2 Quality Assurance

A. Contractor shall be approved in writing by the roofing manufacturer and shall substantiate a minimum of three years experience installing standing seam roofing.

1.3 Submittals

A. Submit two copies of detailed shop drawings to the Department for review at least fifteen (15) days prior to incorporation into the work. Shop drawings shall be approved and assigned a number by the manufacturer.
B. Shop drawings shall include the following:
    - Outline of roof and roof size.
    - Layout of panels
    - Location and types of proposed penetrations.
    - Perimeter details
    - Penetration details
    - Manufacturer's data on the proposed materials including panels, anchor clips and fasteners.
    - Calculations with registered engineer's seal, licensed in the State of Maine, verifying roof panel and attachment method resists applicable wind pressure imposed on it applicable with the IBC 2012.
C. Submit written approval of contractor by manufacturer.
D. Submit sample warranty and maintenance instructions.

1.4 Warranty

A. Provide manufacturer's written twenty year warranty for weather tightness against leaks in roof panels cause by ordinary wear and tear under normal weather conditions.
B. Roof finish coating shall be warranted against rust, peeling, chipping, cracking and blistering for a period of twenty years.

C. Contractor shall provide written three year warranty, guaranteeing the roof system to be watertight and free of defects.
D. Contractor shall provide detailed instructions for preventative maintenance and noting a list of harmful substances that may damage roofing.

PART 2 – PRODUCTS

2.1 Roof Panels

A. Roof panels shall be 24-gauge Grade C Galvalume ASTM 792-86, AZ 55 with a "Satin Finish".
B. Panels shall have a standing, interlocking seam, 16" wide with a seam height of 1.5".
C. Panels shall be roll-formed in continuous lengths from eave to ridge.
D. Roofing color will be bare Galvalume or as approved by the Department.

2.2 Fasteners

A. Panels shall be fastened to the substrate with a concealed clip system that accommodates thermal movement.
B. Fasteners shall be concealed.

2.3 Flashing

A. Flash all other roof penetrations.
B. Flashing shall be as recommended by the roofing manufacturer and as approved by the Department. Flashing shall be a minimum of 0.040 aluminum or 24 gauge galvanized steel.
C. Rubber boot pipe flashing shall be used around vent pipes.

2.4 Sealants

A. Sealants between roof panels shall be as recommended by the manufacturer.
B. Provide all required sealants at trim, roof penetrations, etc.
C. Sealants shall be non-drying elastomer based material.

2.5 Fascia, Trim and Accessories

A. Fascia and metal trim shall be prefinished 0.040 aluminum or 24 gauges galvanized steel.
B. Ridge cap shall be a continuous venting metal ridge cover, as provided by the roofing manufacturer.

2.6 Acceptable Manufacturers

A. Everlast Metals
B. Approved Equivalent

2.7 Provisions for Expansion/Contraction

A. End wall trim and roof transition flashings shall allow the roof to move relative to walls as the roof expands and contracts with temperature changes.
B. Movement of roof panels relative to other panels shall be accommodated by the use of clips that allow movement of up to 1" in either direction.
C. Ridge assembly shall be designed to allow roof panels to move lengthwise with expansion/contraction as the roof panel temperature changes. Parts shall be factory prepunched for correct field assembly. If panels are formed in the field by manufacturer, panels may be punched in field as required by manufacturer. Panel closures and interior reinforcing straps shall be installed to seal the panel ends at the ridge. The attachment fasteners shall not be exposed on the weather side. A lock seam plug shall be used to seal the lock seam portion of the panel. A hi-tensile steel ridge cover shall span from panel closure to panel closure and flex as the roof system expands and contracts.

PART 3 – EXECUTION

3.1 Inspection

A. Contractor shall inspect the substrate prior to installing metal roofing to ensure that the surface is sound and uniform. Correct any irregularities prior to proceeding with the work.

3.2 Installation

A. Fasten metal panels to structural substrate with movable clips that are seamed into the standing seam side lap
B. Fasten clips to structural substrate in accordance with manufacturer's recommendations.
C. Panel to panel connections shall be made with a positive, standing lock seam, continuously locked or crimped together by mechanical means during installation.
D. All side lap sealant shall be factory applied.
E. Install accessories such as penetration flashings and eave closures in accordance with manufacturer's recommendations, as approved by the Department.

3.3 Final Inspection

A. A final inspection of the roofing system shall be made by the roofing manufacturer's representative as soon as construction is complete. Coordinate final manufacturer's inspection with the Department. Provide written certification that the metal roof system has been installed in accordance with the manufacturer's recommendations.

SPECIAL PROVISION
SECTION 07920
SEALANTS AND CAULKING

PART 1 – GENERAL

1.1 Summary

A. Provide all labor, materials and equipment to complete sealing and caulking as shown on the drawings and as specified herein.

1.2 Scope of Work

A. Sealing and caulking shall be performed on all exterior joints including but not limited to:
   1. Around door, frames and windows.
   2. Joints around wall, ceiling and penetrations such as electrical boxes, pipes, etc.
   3. Joints between dissimilar building materials such as concrete and wood, wood and metal, etc., where water might enter.
B. Interior caulking of all wall, floor, and ceiling penetrations.
C. Sealing of concrete joints is covered on the plans.

1.3 References

A. All sealants and caulking shall comply with ASTM C920, Standard Specification for elastomeric joint sealants.

PART 2 – PRODUCTS

2.1 Exterior Caulking

A. Exterior caulking between prefinished surfaces shall be a one component silicone joint sealant; “Spectrum 1” by Tremco Sealant Systems, Dow Corning “795 Silicone Building Sealant”, or approved equivalent.
B. Exterior caulking for use on paintable surfaces shall be an acrylic latex joint sealant; “Tremco Acrylic Latex Caulk”; Bostik “Chem-Caulk 600”, or approved equivalents.

2.2 Interior Caulking

A. Interior caulking for bedding electrical boxes, outlets, pipes or other wall penetrations and around interior doors, frames and windows shall be a non-

hardening sealant; "Tremco Acoustical Sealant", Bostik "Chem-Caulk 600", or approved equivalents.

B. Interior caulking per penetrations through fire wall or smoke barriers such as conduits, pipes and ducts shall be a one component fire resistant caulk or putty; 3M Fire Barrier Caulk "CP25" or Putty "303", or approved equivalents.

2.3 Joint Filler

A. Joint filler for backing caulking shall be non-absorbent precompressed foam sealant; "Will-Seal 150", by Will-Seal Construction Foams; "York-Seal 100" by York Manufacturing, Inc., or approved equivalents.

PART 3 – EXECUTION

3.1 Preparation

A. All joints and spaces to be caulked shall be dry, clean and free from dust and loose materials.
B. If necessary mask or otherwise protect adjacent surfaces.

3.2 Installation

A. All sealants and caulking shall be installed according to the manufacturer's recommendations.
B. Caulking shall be applied with suitable equipment such as with a caulking gun.
C. Use foam backing for joints deeper than ½-inch. Pack into joint allowing at least ¼-inch for caulking.
D. Caulking shall be applied so that surfaces are slightly concave, tight and smooth. Joints shall be air and water tight.
E. Caulk or putty around fire and smoke wall penetrations shall be applied so as to provide a complete fire barrier sealing system.
F. Remove excess caulking and clean adjacent surfaces with approved cleaners.

SPECIAL PROVISION
SECTION 08250
DOORS, FRAMES AND HARDWARE

PART 1 – GENERAL

1.1 Summary

A. This work shall include all labor, materials and equipment necessary to complete the work as shown on the drawings and as specified herein.

1.2 Submittals

A. Contractor shall submit two (2) copies of shop drawings to the Department fifteen (15) days prior to installation. Only doors for which there are reviewed and approved shop drawings shall be incorporated into the work.

1.3 Quality Assurance

A. Only experienced skilled workmen shall be engaged in this work.

1.4 Delivery Storage and Handling

A. Deliver doors and all necessary equipment in manufacturer's unopened containers.
B. Store material in a protected area to prevent damage.
C. Protect doors and equipment during and after installation from splashing or the accumulation or paint, concrete, mortar, or other foreign material.

PART 2 – PRODUCTS

2.1 Acceptable Manufacturers

A. Therma-Tru Smooth Star flush panel fiberglass door.
B. Sargent Lock Co. 10 lines Series Bored Locks
C. Approved equivalents.

2.2 Fiberglass Doors and Frames

A. Fiberglass doors shall be insulated core doors, 1-3/4" thick, of the sizes and type as shown on the drawings and as specified herein.
B. Frames shall be pre-assembled units made of Grade A pine.
C. Doorstops, latches, doorknobs, hinges, fasteners, etc., for all doors installed shall be provided by the Contractor.

2.3 Door Hardware

A. Door hardware shall be equivalent to Sargent.
B. All hardware shall be lever-style handles with a dull chrome finish.
C. Door closers shall be full rack and pinion type contained in a permanent mold aluminum body and equipped with a single valve installed on all doors.
D. Door closers shall be mounted to door with stainless steel bolts that bolt through the door.
E. Hinges shall be full mortise type, 4”x4”, concealed ball bearing, stainless steel, three (3) per door, equivalent to Hager Tri Con Hinges #BB800.
F. Door stops for interior doors shall be as manufactured by H.B. Ives, wall mounted #65 door stop, aluminum finish.

2.4 Weather-stripping

A. Acceptable Manufacturers:
   1. National Guard Products, Inc.
   2. Reese
   3. Approved equivalents.
B. Head and jamb weather-stripping shall be nylon brush gasket, National Guard Products #C607, ½” X ¼” or approved equivalent.
C. Door bottom seal shall be equivalent to National Guard Products aluminum and vinyl seal, and surface mount nylon brush gasket #D698.

PART 3 – EXECUTION

3.1 Doors and Frames

A. Install units in compliance with the manufacturer’s specifications and as approved by the Department.
B. Frames must be rigid and present a neat appearance.
C. Frames must be installed with not less than three wall anchors per jamb and an anchor to the floor at each jamb.
D. The partition shall enter the frame so that the two work as a unit.
E. Install all units plumb, level, straight and snuggle fitted.
F. Take care not to damage door surface, Defects in surface finish such as hammer marks, scratches, and chips shall be repaired to the satisfaction of the Department.

3.2 Hardware

A. Install hardware on all doors as specified.
B. Install doorstops for all doors at heights recommended by the manufacturer.
C. Provide necessary shims and block to properly install units.

3.3 Finish

A. Paint all doors as shown in Finish Schedule of the Specifications, Section 09000.
B. All colors and products are to be selected and approved by the Department.

3.4 Cleanup and Protections

A. Clean all doors completely. Wash all windows with approved glass cleaner.
B. Protect all door units, replacing any breakage or defective parts until accepted by the Department.

SPECIAL PROVISION
SECTION 08360
OVERHEAD DOORS

PART 1 - GENERAL

1.1 Summary

A. Work includes the furnishing and installation of overhead door and accessories of the types and sizes in the locations shown on the Drawings.

1.2 Shop Drawings

A. Two copies of the show drawings shall be submitted to the Department for all doors fabricated off site and to be installed on site.
B. All shop drawings shall be submitted to the Department for review at least fifteen (15) days prior to incorporation into the work. All shop drawings shall be reviewed and approved by the Department prior to incorporating into the work.

1.3 Delivery, Storage and Handling

A. Deliver doors and all necessary equipment in manufacturers unopened containers.
B. Store materials in a protective area to prevent damage of any nature.
C. Handle using manufacturer's recommendations.

1.4 Protection

A. Protect doors and equipment during and after installation from splashing or the accumulation of paint, concrete, mortar or other foreign material.

PART 2 – PRODUCTS

2.1 Materials

A. Doors shall be of the following construction:
   1. 1½" minimum thick sections.
   2. Galvalume interior and exterior skin.
   3. Thermal break between all interior and exterior metal skin.

B. Acceptable manufacturers:
   1. Overhead Door Corporation Thermacore, Series 591
   2. Raynor Company, ThermaSeal Basic
   3. Approved Equivalents.

2.2 Seals

A. Doors shall be equipped with the following seals:
   1. Joint seals between sections.
   2. Perimeter seals on ends of the exterior surface.
   3. A top seal in the top section to seal against the header.
   4. An astragal on the bottom section.

B. Doors shall have an air infiltration rate of 0.1 CFM/ft at a pressure difference of 0.112 H O.
C. All seals shall be factory installed.

2.3 Weather-stripping

A. Head and jamb weather-stripping shall be EPDM rubber tube seals and door bottoms shall be rubber bulb-type seal.

2.4 Tracks and Hardware

A. Doors shall be equipped with 3” galvanized tracks.
B. Track rollers shall be hardened steel with ball bearing.
C. Tracks shall be angle mounted at 45° or as approved by the Department.
D. Hinges shall be galvanized steel, strap type hinge with 20 gauge reinforcement strips at each hinge location.
E. Doors shall be installed on high lift tracks.
F. Contractor shall build door jamb as required for proper installation of all door tracks and hardware.

2.5 Operators

A. Provide Hoist type door operator Min 1/2 HP, equivalent to LiftMaster Model H-75-11 L4.
B. Provide three-button control. Up/Down/Stop in waterproof box.
C. Provide auxiliary chain hoist.
D. Provide solenoid break to prevent door coasting.
E. Provide emergency manual operation feature.
F. Provide external radio control terminals.

2.6 Options

A. Doors shall be equipped with a bottom-sensing edge that stops or reverses the door’s travel when meeting an obstruction.

2.7 Warranty

A. Doors and hardware shall have a manufacturer's warranty for one year for all materials and workmanship.

PART 3 – EXECUTION

3.1 Installation

A. Install doors and hardware in accordance with approved shop drawings and manufacturer's instructions.
B. Test operation of doors and make all necessary adjustments to ensure proper operation.

Part 4 – SUPPLEMENTAL SPECIFICATIONS

4.1 Door Size

A. Door shall be 18'-0" high and 20'-0" wide as indicated on contract drawings.

SPECIAL PROVISION
SECTION 09900
PAINTING

PART 1 – GENERAL

1.1 Summary

A. This work shall consist of all labor, materials and equipment necessary to complete painting as shown on the Drawings and as specified herein.
B. In general, all unfinished surfaces shall be painted or stained unless otherwise specified.

1.2 Submittals

A. Contractor shall submit color samples, manufacturer and paint specifications to the Department for review fifteen (15) days prior to incorporation into the work. Provide two (2) copies of product information.

1.3 Scope of Work

A. This work shall include prefinishing and painting or staining of all exposed surfaces and specified unexposed surfaces, except factory or prefinished surfaces. Also included is touching up of prefinished surfaces as required and/or as approved by the Department.

PART 2 –PRODUCTS

2.1 Paint

A. All materials shall be top quality products of the type and texture as shown on the Drawings and/or as specified in Part 4 of these specifications.
B. Acceptable manufacturers include: Glidden, Olympic, California, Benjamin Moore, Sherwin Williams and other approved equivalents.
C. All colors shall be as selected by the Department from samples submitted by the Contractor.

2.2 Painting Accessories

A. Turpentine shall be pure gum spirits conforming to ASTM DB-65.
B. Putty shall be as recommended by paint or stain manufacturers and as approved by the Department.

PART 3 – EXECUTION

3.1 Preparation

A. Prior to painting or staining insure that all surfaces are finished and ready for application.
   1. Wood Surfaces:
      - Stain to smooth finish and clean all dust from surfaces. Fill and nail holes, cracks, and other irregularities with approved putty. Pre-color all putty to be used under natural finish wood.
      - Shellac all knots and pitch streaks or pockets to prevent bleeding.
      - Apply prime coat as recommended by manufacturer. Sand lightly where necessary to smooth surface.
   2. Metal surfaces:
      - Clean all grease, rust and dirt from surface. Feather edges of chipped paint on pre-painted items.
      - If so approved by the Department, sandblast or wire brush all metal surfaces to obtain a suitable surface for painting. This procedure will normally be required for refinishing previously painted surfaces which are chipping or peeling.
      - Prime metal surfaces with approved metal primers.
      - Galvanized and prefinished surfaces shall not to be painted unless specified in Painting Schedule.

3.2 All Surfaces

A. Apply paint or stain only to clean, dry surfaces. Do not paint or stain in the rain or in very humid conditions.
B. Use masking tape, drop cloths and other means protection to adequately protect adjacent surfaces from dip, spatters and overruns.

3.3 Application

A. Apply paint or stain as recommended by the manufacturer on properly prepared surfaces according to the paint schedule in Part 4 of these Specifications.
B. Thoroughly brush or roll all coats to achieve a uniformly smooth coverage.
C. Allow each coat to dry 48 hours or longer if recommended by manufacturer before applying subsequent coats.
D. Do not apply paint, stain, varnish or shellac when temperatures are below 45°F unless provision for heating is made.
E. All finishes shall be smooth, free from runs and sags, streak, brush fibers and other defects. All edges shall be straight and sharp.
F. Refinish and paint to match any existing adjacent areas which were distributed as a result of the work.

3.4 Cleanup and Protection

A. Clean all areas of drippings, spatters and debris. Remove all masking tape and clean glass and other areas as required.
B. Touch up all defective areas to the satisfaction of the Department.
C. Protect all surfaces until acceptance by the Department.

3.5 Touch-Up Materials

A. Partially used cans shall also be left with the Owner.

PART 4 – SUPPLEMENTAL SPECIFICATIONS

4.1 Paint Schedule

SURFACE	PRIMER	FINISH
Fiberglass Door and Frame	1 Coat Acrylic Latex	2 Coats Acrylic Latex Semi-gloss
Misc. wood	1 Coat Acrylic Latex	2 Coats Acrylic Latex Egg Shell

SPECIAL PROVISION
SECTION 15622
EXHAUST FANS

PART 1 – GENERAL

1.1 Description

A. Work Included: Provide wall mounted exhaust fan, intake louver, controls and accessories where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

B. Related Work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Rough Carpentry 06100, Metal Siding 07467 and Electrical Supply.

1.2 Quality Assurance

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods for proper performance of the work of this Section.

1.3 Submittals

A. Submit: Shop drawings for all materials, equipment and accessories of this section. Submit to the Department at least fifteen (15) days prior to incorporation into the work.

PART 2 – PRODUCTS

2.1 Wall Mounted Exhaust Fan and Intake Louver

A. Furnish and install high-pressure belt drive fan, 1 ½ HP, 36” propeller diameter, wall mounted, 13,400 cfm capacity at 1/8” S.P., single phase motor, epoxy coated unit, equivalent to Airmaster HA36KA.

B. Fan units shall be complete with balanced propellers and motor and include the following:

1. Aluminum wall collar.
2. Wire mesh safety guards on the propeller and motor side.
3. Motor mountings with vibration eliminators.
4. Epoxy coated steel weatherhood with bird screen.
5. Manual motor starter with overload protection.
6. Weather resistant epoxy coated steel wall shutter with motor operated shutters. Motor shall open shutters whenever the exhaust fan is operating.

Provide mounting collar and weatherhood with bird screen for wall shutter.

2.2 Other Materials

A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Engineer.

PART 3 – EXECUTION

3.1 Surface Conditions

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 Coordination

A. Coordinate as required with other trades to assure proper and adequate provision of the work of those trades for interface with the work of this Section.

3.3 Preparation

A. Flashing:

1. Where items of the Section penetrate the roof, outer walls or waterproofing of any kind, provide under this Section all base flashing and counter flashing required at such penetration.

3.4 Testing and Adjusting

A. Test and adjust each piece of equipment and each system as required to assure proper balance and operation.

1. Test and regulate ventilation systems to conform to the air volumes shown on the approved design drawings.
2. Make tests and adjustments in apparatus and ducts for securing the proper volume of air for each grille.

B. Eliminate noise and vibration and assure proper function of all controls and operation in accordance with the approved design.

SPECIAL PROVISION
SECTION 16500
Lighting

PART 1 – GENERAL

1.1 Summary

A. This work shall include all labor, materials and equipment necessary to install lighting fixtures and accessories as shown on the drawings and as specified herein.
B. All work shall conform to the National Electrical Code and other applicable codes.

1.2 Submittals

A. Contractor shall submit two (2) copies of all lighting equipment and accessories to the Department at least fifteen (15) days prior to incorporation into the work.
B. Provide photometric data on all lighting units.

1.3 Permits

A. Contractor shall obtain and pay for electrical permit from local electrical inspector.
B. Copies of permit shall be sent to the Department.

PART 2 – PRODUCTS

2.1 Interior Lights

A. H.E. Williams Fully Enclosed, Gasketed Industrial Light Fixture,
Model #96-8-L130/840-DCL-SSCMB-SS LATCH-DRV
With attached, Hubbell Fixture Mounted Occupancy Sensors

2.2 Exterior Lights

A. LED Flood Light D-Series Size 3 by Lithonia Lighting with photocell and switch.
B. LED LFLOOD 78W by RAB Lighting with photocell and switch.
C. Champ FMV 11L LED Floodlight with photocell and switch.
D. Approved Equivalent

PART 3 – EXECUTION

3.1 Installation

A. Install light fixture where shown on the drawings, complete with lamps, lenses and all accessories securely fastened in place.
B. Follow manufacturer's instructions and recommendations completely.
C. Light fixtures shall be installed in accordance with the latest edition of the "National Electrical Code"

3.2 Cleanup and Testing

A. Test all fixtures and equipment to the satisfaction of the Department.
B. Repair or replace any defective fixtures, lamps or finishes.
C. Clean all fixtures and lenses at the completion of the project.

3.3 Warrantee

A. All materials and work shall be warranted for one (1) year from date of acceptance by the Department.
B. Contractor shall supply a minimum of 10% spare lamps and 5% spare ballasts to the Department at completion.
C. Any additional lamps beyond the spares provided shall be replaced at no additional cost to the Department during the warranty period.

SPECIAL PROVISIONS
ADDITIONS AND REVISIONS TO STANDARD SPECIFICATIONS

SPECIAL PROVISION SECTION 101
CONTRACT INTERPRETATION

101.2 Definitions Add the following:

MaineDOT The Department of Transportation of the State of Maine, as established by 23 MRSA §4205 et seq. for the administration of Highway, Bridge, and other public Works; acting through the Commissioner and his/her duly authorized representatives.

SPECIAL PROVISION SECTION 102
BIDDING

102.11.1 Non-curable Bid Defects E. Delete the entire section 102.11.1 E and replace with the following:

(1) "The unit price and bid amount is not provided if the item quantity is not one or lump sum, or
(2) the unit price, bid amount or lump sum price is not provided if the item quantity is one or lump sum or
(3) the lump sum contract price is not provided or
(4) the unit price, bid amount or lump sum price is illegible as determined by the Department."

102.11.2 Curable Bid Defects Add the following after 102.11.2 E:

"F. If a submitted bid contains any additional conditions or alternate bidding language, the Bidder may cure the defect by removing all conditions and alternate language or the Department will reject the bid as non-responsive."

SPECIAL PROVISION SECTION 103
AWARD AND CONTRACTING

103.1.1 Unit Prices Govern Add the following at the end of the paragraph:

"If the item quantity is one and either a unit price or bid amount is not provided, the unit price or bid amount omitted shall be determined mathematically by the Department."

103.5 Award Conditions Replace the first paragraph with the following:

The Apparent Successful Bidder must provide and/or perform all of the items listed in this Section 103.5 within 14 Days of Receipt of the Notice of Intent to Award. Unless indicated otherwise, all items must be Delivered to the Department's Bureau of Maintenance & Operations.

103.5.4 Execution of Contract By Bidder Delete the entire section and replace with the following:

"The properly completed and signed Contract form provided with the Bid constitutes the Bidder's offer. Once the Department has received the bonds, insurance, and any other pre-award items required, the Department will sign and execute the Contract. The point of Contract execution is when the Contractor receives written notice that the contract has been signed by the Department and executed."

October 13, 2015
Supersedes August 06, 2015

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
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

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

SECTION 101
CONTRACT INTERPRETATION

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 104
GENERAL RIGHTS AND RESPONSIBILITES

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

105.4.5 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

106.4.1 General - In the first sentence, remove "When required by Special Provision," and replace with **"When required elsewhere in the Contract, "**

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 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 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**."

SECTION 304
AGGREGATE BASE AND SUBBASE COURSE

304.02 Aggregate
Remove the sentence "Aggregate for base and subbase courses shall be material meeting the aggregate type requirements specified in the following table" in its entirety and the table that follows it with headings of 'Material' and 'Aggregate Type'.

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"**

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.

<u>307.021 New Aggregate and Additional Recycled Material</u> 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.

<u>307.022 Emulsified Asphalt Stabilizer</u>. 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.

<u>307.023 Water</u> Water shall be clean and free from deleterious concentrations of acids, alkalis, salts or other organic or chemical substances.

<u>307.024 Portland Cement</u> If required, Portland Cement shall be Type I or II meeting the requirements of AASHTO M85.

<u>307.025 Hydrated Lime</u> If required, Hydrated Lime shall meet the requirements of AASHTO M216.

EQUIPMENT

<u>307.03 Pulverizer</u> 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.

<u>307.04 Liquid Mixer Unit or Distributor</u>. 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.

<u>307.041 Cement or Lime Spreader</u> 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.

<u>307.05 Placement Equipment</u> 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.

<u>307.06 Rollers</u> 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

<u>307.06 Pulverizing</u> 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.

<u>307.07 Weather Limitations</u> 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.

<u>307.08 Surface Tolerance</u> 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.

<u>307.09 Full Depth Recycling Procedure</u> 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

<u>307.10 Quality Control</u> The Contractor shall operate in accordance with the approved Quality Control Plan (QCP) to assure a product meeting the contract requirements. The QCP shall meet the requirements of Section 106.4 - Quality Control and this Section. The Contractor shall not begin recycling operations until the Department approves the QCP in writing.

Prior to performing any recycling process, the Department and the Contractor shall hold a Pre-recycle conference to discuss the recycling schedule, type and amount of equipment to be used, sequence of operations, and traffic control. A copy of the QC random numbers to be used on the project shall be provided to the Resident. All field supervisors including the responsible onsite recycling process supervisor shall attend this meeting.

The QCP shall address any items that affect the quality of the Recycling Process including, but not limited to, the following:

- **A. Sources for all materials, including New Aggregate and Additional Recycled Material.**
- **B. Make and type of rollers including weight, weight per inch of steel wheels, and average contact pressure for pneumatic tired rollers.**
- **C. Testing Plan.**
- **D. Recycling operations including recycling speed, methods to ensure that segregation is minimized, grading and compacting operations.**
- **E. Methods for protecting the finished product from damage and procedures for any necessary corrective action.**
- **F. Method of grade checks.**
- **G. Examples of Quality Control forms.**
- **H. Name, responsibilities, and qualifications of the Responsible onsite Recycling Supervisor experienced and knowledgeable with the process.**
- **I. A note that all testing will be done in accordance with AASHTO and MDOT/ACM procedures.**

The Project Superintendent shall be named in the QCP, and the responsibilities for successful implementation of the QCP shall be outlined.

The Contractor shall sample, test, and evaluate the full depth reclamation process in accordance with the following minimum frequencies:

MINIMUM QUALITY CONTROL FREQUENCIES

Test or Action	Frequency	Test Method
Density	1 per 1000 feet / lane	AASHTO T

		310
Air Temperature	**4 per day at even intervals**	
Surface Temperature	**At the beginning and end of each days operation**	
Yield of all materials (Daily yield, yield since last test, and total project yield.)	**1 per 1000 ft/lane**	

The Department may view any QC test and request a QC test at any time. The Contractor shall submit all QC test reports and summaries in writing, signed by the appropriate technician, to the Department's onsite representative by 1:00 P.M. on the next working day, except when otherwise noted in the QCP due to local restrictions. The Contractor shall make all test results, including randomly sampled densities, available to the Department onsite.

The Contractor shall cease recycling operations whenever one of the following occurs:

A. The Contractor fails to follow the approved QCP.
B. The Contractor fails to achieve 98 percent density after corrective action has been taken.
C. The finished product is visually defective, as determined by the Resident.
D. The computed yield differs from the mix design by 10 percent or more.

Recycling operations shall not resume until the Department approves the corrective action to be taken.

<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

308.102 Curing. No new pavement shall be placed on the full depth recycled pavement until curing has reduced the moisture content to 1 percent or less by total weight of the mixture, or a curing period of 4 days has elapsed, whichever comes first.

307.11 Method of Measurement Full Depth Recycled Pavement (Untreated or Treated with Emulsified Asphalt Stabilizer) will be measured by the square yard.

307.12 Basis of Payment The accepted quantity of Full Depth Recycled Asphalt Pavement (Untreated or Treated with Emulsified Asphalt Stabilizer) will be paid for at the contract unit price per square yard, complete in-place which price will be full compensation for furnishing all equipment, materials and labor for pulverizing, blending, placing, grading, compacting, and for all incidentals necessary to complete the work.

The addition of materials to restore profile grade and/or cross-slope in areas shown on the plans or described in the construction notes will be paid separately under designated pay items within the contract. No additional payment will be made for materials salvaged from the project.

Payments will be made under:

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 AGGRAGATE 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 with a failing permeability as indicated by the surface resistivity test may be tested for permeability in accordance with the Rapid Chloride Permeability Test AASHTO T-277 averaging the results from two specimens cut from the samples prepared for the surface resistivity test. Method C concrete not meeting the requirements listed in Table 1 or if the Rapid Chloride Permeability test results in values exceeding 2000 coulombs for Class LP or 2400 for Class A, 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

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 remove the word 'Chloride' from 'Chloride Permeability'.

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 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 619
MULCH

619.07 Basis of Payment
In the list of Pay Items add "**619.12 Mulch**" with a Pay Unit of " **Unit** ".
Change the description of 619.1201 from "Mulch" to "**Mulch – Plan Quantity**"

In the list of Pay Items add "**619.13 Bark Mulch**" with a Pay Unit of " **CY** ".
Change the description of 619.1301 from "Bark Mulch" to "**Mulch – Plan Quantity**"

In the list of Pay Items add "**619.14 Erosion Control Mix**" with a Pay Unit of " **CY** ".
Change the description of 619.1401 from "Erosion Control Mix" to "**Mulch – Plan Quantity**"

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 JUNTION BOXES FOR HIGHWAY SIGNING, LIGHTING AND SIGNALS

626.034 Concrete Foundations

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, add the following to the paragraph beginning with "Concrete for drilled shafts…" so that 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 A 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….."

SECTION 627
PAVEMENT MARKINGS

627.10 Basis of Payment Remove the existing "627.78 Temporary Pavement Marking Line, White or Yellow" and replace with: **627.78 TEMP 4" PAINT PVMT MARK LINE W OR Y LF**

SECTION 652
MAINTENANCE OF TRAFFIC

652.3 Submittal of Traffic Control Plan On page **6-148**, note **f,** in the last sentence change 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**.".

652.4 Flaggers In the first paragraph, change the fifth sentence which says:

For nighttime conditions, Class 3 apparel, meeting ANSI 107-2004, shall be worn along with a hardhat with 360˚ retro-reflectivity.

So that it reads:

For nighttime conditions, 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.

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 677

On page 6 - 203 change "636.041" to "677.041"

SECTION 703
AGGREGATES

703,0201 Alkali Silica Reactive Aggregates
Remove this section in its entirety and replace with the following:

703.0201 Alkali Silica Reactive Aggregates. 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. "

703.19 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 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**"