Town of Wells, Maine

INVITATION FOR BID

Wells Harbor Pier Expansion

MaineDOT WIN 028650.00
GEI 2103347

April 2026

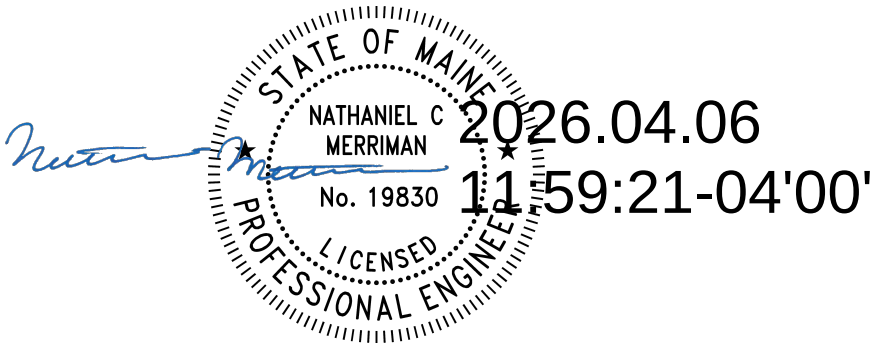
BIDS DUE:

April 30, 2026 @ 2:00 PM

Late Proposals will be Rejected.

DELIVER COMPLETED SUBMISSIONS TO:

Michael York – Harbormaster
Wells Town Office
208 Sanford Rd
Wells, ME 04090
207-646-3236
myorke@wellstown.org



GEI Consultants

Wells Harbor Pier Expansion
MaineDOT WIN 028650.00
Wells, ME

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April 2026

STATE FUNDED PROJECT
October 23, 2024

BIDDING INSTRUCTIONS

1. Use pen and ink to complete all paper bids.

2. The following documents must be received before the time of the bid opening:
    a) Copy of Notice to Contractors;
    b) Completed Acknowledgement of Bid Amendments form;
    c) Completed Schedule of Items;
    d) Two copies of the completed and signed Contract Agreement, Offer & Award form;
    e) Bid Guaranty (if required); and
    f) Any other certifications or bid requirements listed in the bid documents that are due by bid opening.

3. Include prices for all items in the Schedule of Items (excluding non-selected alternates).

4. Bid Guaranty acceptable forms are:
    a) Completed and signed bid bond modeled after the sample in this package for 5% of the bid amount (the industry standard AIA form is acceptable); or
    b) Official bank check, cashier's check, certified check, U.S. postal money order or negotiable certificate of deposit for 5% of the bid amount.

If you need more information about bid preparation, please call:

Nathaniel Merriman PE *at* **401.484.6693**

For complete bidding requirements, refer to Section 102 of the Maine Department of Transportation, Standard Specifications, March 2020 Edition

NOTICE

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

Bid Enclosed - Do Not Open
PIN:
Town:
Date of Bid Opening:
Name of Contractor with mailing address and telephone number:

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

Double Envelope: Bid Enclosed
PIN:
Town:
Date of Bid Opening:
Name of Contractor:
This should not be much of a change for those of you who use Federal Express or similar services.

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

Bid Enclosed: Do Not Open
PIN:
Town:
Name of Contractor:

Note: This document is included as an example. In all cases, the industry standard AIA form is acceptable.

EXAMPLE

BID GUARANTY / BID BOND FORM

KNOW ALL BY THESE PRESENTS THAT_____, of the City/Town of _____and State of_____as Principal, and _____as Surety, a Corporation duly organized under the laws of the State of_____and having a usual place of business in _____and hereby held and firmly bound unto the Municipality of _____in the sum of_____, for payment that Principal and Surety bind themselves, their heirs, executers, administrators, successors and assigns, jointly and severally. The condition of this obligation is that the Principal has submitted to the Municipality of _____, hereafter Municipality, a certain bid, attached hereto and incorporated as a part herein, to enter into a written contract for the construction of_____ _____, and if the Municipality shall accept said bid and the Principal shall execute and deliver a contract in the form attached hereto (properly completed in accordance with said bid) and shall furnish bonds for this faithful performance of said contract, and for the payment of all persons performing labor or furnishing material in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said bid, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Signed and sealed this_____day of _____20____

WITNESS:	PRINCIPAL:
_____	By_____
_____	By:_____
_____	By:_____
WITNESS	SURETY:
_____	By_____
_____	By:_____

NOTICE

Bidders:

Please use the attached “Request for Information” form to submit questions about this advertised Project. Include additional numbered pages as required.

RFI’s may be faxed to 207-646-2935 or submitted by email to nmerriman@geiconsultants.com

These are the only allowable mechanisms for answering Project specific questions. The Municipality 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. In the subject line, include the word RFI, the Project name and Work Identification Number (WIN).

RFI No: _____

REQUEST FOR INFORMATION

Date _____ Time _____

Information Requested for:

WIN: _____ Town(s):_____Bid Date: _____

Question(s):_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

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

Email:_____Fax: (_____)_____

Complete this form and transmit to the number listed in the Notice to Contractors.

NOTICE TO CONTRACTORS

Sealed Bids addressed to the Municipality of Wells and endorsed on the wrapper "Bids for Wells Harbor Pier Expansion" will be received from contractors at the municipal building, located at the Wells Town Office, 208 Sanford Rd, Wells, ME 04090 at 2:00 o'clock PM (prevailing time) on Thursday, April 30, 2026 and at that time and place publicly opened and read.

The lowest responsive bidder must demonstrate to the Municipality that it is qualified to undertake the work to be considered for the award of this contract. To be considered for the award of this contract the lowest responsive bidder must have successfully completed a MaineDOT Marine prequalification application, must have an active registration on the Federal System for Award Management directory www.sam.gov and must not have any active exclusions or be subject to offset.

Description: Maine DOT WIN No. 028650.00

Location: Town of Wells Commercial Peir. Harbor Road, Wells, Maine, in York County.

Outline of Work: Wells Harbor Pier Expansion and other incidental work. The BASE BID includes the construction of two infill portions of the existing Wells Harbor commercial pier. Installation of new piles, float dock system and gangway to connect to the new pier to the existing floats, including the re-installation of 4 existing town procured and installed fender piles. Installation of 4 town procured piles for a future float system and replacement of the existing westernmost floats. A prioritized list of Bid Items that may be deducted from the contract to revise the Base Bid in order to address a construction budget shortfall is identified in the SCHEDULE of BID ITEMS.

The basis of award will be the lowest responsive BASE BID that includes any DEDUCT Bid Items selected. A prioritized list of Bid Items that may be deducted from the contract to revise the Base Bid in order to align with available funding is identified in the SCHEDULE of BID ITEMS.

Any specific brand name products referenced on the plans or specifications are for design purposes only. All products are eligible for an 'or approved equal substitution'.

Consistent with Executive Order 13858, "Strengthening Buy-American Preferences for Infrastructure Projects," the Contractor is encouraged to use, to the greatest extent practicable, iron and aluminum as well as steel, cement, and other manufactured products produced in the United States in every contract, subcontract, purchase order, or sub-award that is chargeable under this Award.

No pre-bid meeting will be held

For project-specific questions, please fill out the attached RFI Form and email it to Nathaniel Merriman PE nmerriman@geiconsultants.com, with the project name and WIN in the subject line. General questions may be directed to Michael Yorke - Town of Wells Harbormaster at (207) 646-3236. Bidders shall not contact anyone else for clarification of contract provisions. Questions received after Friday, April 24, 2026 will not be answered. Questions and Answers will be posted to the bid advertisement site on Monday April 27 2026.

Digital Copies of Bid Documents and notifications in PDF format can be obtained at no charge from GEI Consultants by emailing nmerriman@geiconsultants.com. Paper copies of the Bid Documents may be obtained from GEI Consultants, 5 Milk Street; Portland, ME 04101 (207 797-8901) upon payment of non-refundable payment of $350.00 for each set of documents. Partial sets are not available.

Each Bid must be made upon blank forms provided by the Municipality and must be accompanied by a bid bond of 5% of the bid amount or an official bank check, cashier's check, certified check, certificate of deposit, or

United States postal money order for 5% of the bid amount, payable to Town of Wells, as a Bid Guaranty. A Contract Performance Surety Bond and a Contract Payment Surety Bond, each for 100% of the Contract price, shall be required of the successful Bidder. Surety companies utilized for the bid bond must appear on the US Treasury Circular 570.

This Contract is subject to all applicable federal laws, as well as Disadvantaged Business Enterprise Program requirements as set forth by the Maine Department of Transportation (MaineDOT).

All work shall be governed by the following documents.

1. MaineDOT's Standard Specifications (March 2020) and Standard Details (March 2020), available online: www.maine.gov/mdot/contractors/publications/.

The Municipality reserves the right to reject any or all bids.
Wells, Maine; Date: April 6, 2026

TOWN: Wells Me
WIN: 028650.00
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 . It is the responsibility of the Bidder to determine if there are Amendments to the Project, to download them, to incorporapte them into its Bid Package, and to reference the Amendment number and the date on the form below. The Municipality 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)

Contractor: _____

SCHEDULE OF BID ITEMS

BASE BID Description of Bid Item		DOT Item Number	Quantity Estimate	Unit	Unit Price	Total Amount *In Words*	 *In Figures*
1. GENERAL ITEMS							
1.1	MOBILIZATION & DEMOBILIZATION	502.921	1	LS	$	_____ dollars and _____ cents	$
1.2	MAINTENANCE OF PIER ACCESS	524.304	1	LS	$	_____ dollars and _____ cents	$
1.3	EROSION CONTROL	613.319	1	LS	$	_____ dollars and _____ cents	$
1.4	SITE TRAILER AND SINAGE	639.18	1	LS	$	_____ dollars and _____ cents	$
2. PAVING							
2.1	PAVER AREA	641.70	140	SF	$	_____ dollars and _____ cents	$
3. REINFORCED CONCRETE							
3.1	SOUTH CONCRETE ABUTMENT	502.21	16	CY	$	_____ dollars and _____ cents	$
4. TIMBER PIER RECONSTRUCTION AND EXPANSION							
4.1	SOUTH PIER FRAMING	528.11	1	LS	$	_____ dollars and _____ cents	$
4.2	SOUTH PIER VERTICAL PILES	501.202	10	EA	$	_____ dollars and _____ cents	$
4.3	PILE PROOF TEST PER ASTM D1143	501.233	1	EA	$	_____ dollars and _____ cents	$
5. PIER/SITE AMENITIES							
5.1	NEW PIER HANDRAIL	507.08311	36	LF	$	_____ dollars and _____ cents	$
6. SOUTH FLOAT SYSTEM							
6.1	ALUMINUM GANGWAY (80 FT)	531.9601	1	EA	$	_____ dollars and _____ cents	$
6.2	TIMBER GUIDE PILES (SOUTH FLOAT SYSTEM)	501.203	7	EA	$	_____ dollars and _____ cents	$
6.3	RELOCATE EXISTING GUIDE PILE	910.30	1	EA	$	_____ dollars and _____ cents	$
6.4	REMOVE PILES (2)	202.4011	2	EA	$	_____ dollars and _____ cents	$
7. EAST FLOAT SYSTEM							
7.1	INSTALLATION OF TIMBER GUIDE PILES (EAST FLOAT SYSTEM)	501.203	4	EA	$	_____ dollars and _____ cents	$
8. PIER/SITE AMENITIES		**1st Deduct**					
8.1	REMOVE AND REPLACE EXISTING FLAGPOLE (IF REQ. FOR ACCESS)	641.352	1	LS	$	_____ dollars and _____ cents	$
BASE BID (All BID ITEMS)						_____ dollars and _____ cents	$

BASE BID w/ 1st Deduct (All BID ITEMS)	_____ dollars and _____ cents	$

CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT is made on the date last signed below, by and between the Municipality of Wells ME, a body corporate and politic with its principal administrative offices at 208 Sanford Rd Wells, ME 04090 (the Municipality), and _____, a corporation or other legal entity organized under the laws of the State of _____, with its principal place of business at _____.

The Municipality 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 028650.00 for Harbor Master in the Municipality of Wells, County of York, 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 Municipality 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 _____. Further, the Municipality may deduct from money otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the *Maine Department of Transportation Standard Specifications (March 2020 Edition)* and related Special Provisions.

C. Price.

The quantities given in the Schedule of Items of the Bid Package will be the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond. Accordingly, 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 Project Plans, *Maine Department of Transportation Standard Specifications (March 2020 Edition)* and *Standard Details (March 2020 Edition)* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement, and Contract Bonds. It is agreed and understood that the documents listed above will govern this Contract.

E. Certifications.

By signing below, the Contractor 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 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 work site, Project Plans, *Maine Department of Transportation Standard Specifications (March 2020 Edition)* and *Standard Details (March 2020 Edition)* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement, and Contract Bonds contained herein for construction of:

WIN 028650.00: Wells in York County, State of Maine, on which bids will be received until the time specified in the Notice to Contractors – does 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 Municipality 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 Project Resident for the Municipality, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the *Maine Department of*

Transportation Standard Specifications (March 2020 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 Town of Wells ME** 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 *Standard 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 *Maine Department of Transportation Standard Specifications (March 2020 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 **60** 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 Municipality.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby executes 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 Contractor)
_____	_____
Witness	(Name and Title Printed)

G. Award.

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

MUNICIPALITY OF **Wells ME**

_____	_____
Date	**By:** Michael York
_____	Witness

BOND # _____

SAMPLE

CONTRACT PERFORMANCE BOND

KNOW ALL BY THESE PRESENTS: That_____,
as principal, and_____,
a corporation duly organized under the laws of the State of _____ and having a usual place of business at_____,
as Surety, are held and firmly bound unto the Municipality of _____, Maine, in the sum of _____ **and 00/100 Dollars ($)**, to be paid to said Municipality of _____, Maine or for that 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 Municipality of _____, Maine.

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

WITNESSES:	SIGNATURES:
	CONTRACTOR:
Signature.....	.....….....
Printed Name.....	Printed Name...……....
	SURETY:
Signature	.....……....
Printed Name.....	Printed Name...……....
SURETY ADDRESS:	MUNICIPALITY:
.....	ADDRESS .....
.....	...…….....
.....	.....……....
TELEPHONE.....	.....……....

BOND # _____

SAMPLE
CONTRACT PAYMENT BOND

KNOW ALL BY THESE PRESENTS: That_____,
as principal, and_____,
a corporation duly organized under the laws of the State of _____ and having a usual place of business at_____,
as Surety, are held and firmly bound unto the Municipality of _____, Maine, in the sum of _____ **and 00/100 Dollars ($)**, to be paid to said Municipality of _____, Maine or for that 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 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 that 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 ... .

WITNESSES:	SIGNATURES:
	CONTRACTOR:
Signature.....	.....….....
Printed Name.....	Printed Name...……....
	SURETY:
Signature	....……....
Printed Name.....	Printed Name...……....
SURETY ADDRESS:	MUNICIPALITY:
.....	ADDRESS .....
.....	...……....
.....	.....……....
TELEPHONE.....	.....……....

THIS DOCUMENT MUST BE CLEARLY POSTED AT ALL CONSTRUCTION SITES FUNDED IN PART WITH STATE FUNDS

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

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

2026 Fair Minimum Wage Rates – Building 2 York County (other than 1 & 2 family homes)

Occupational Title	Minimum Wage	Minimum Benefit	Total
Brickmasons and Blockmasons	$43.91	$11.02	$54.93
Bulldozer Operator	$30.62	$5.38	$36.00
Carpenter	$30.01	$19.69	$49.70
Cement Masons and Concrete Finisher	$23.95	$2.73	$26.68
Construction and Maintenance Painters	$26.23	$2.81	$29.04
Construction Laborer	$21.90	$19.72	$41.62
Conveyor Operators and Tenders	$30.17	$13.77	$43.94
Crane and Tower Operators	$40.43	$8.63	$49.06
Crushing Grinding and Polishing Machine Operators	$26.15	$3.24	$29.39
Earth Drillers - Except Oil and Gas	$25.04	$3.77	$28.81
Electrical Power - Line Installer and Repairers	$48.12	$15.63	$63.75
Electricians	$38.75	$21.52	$60.27
Elevator Installers and Repairers	$72.19	$44.52	$116.71
Excavator Operator	$31.75	$5.53	$37.28
Fence Erectors	$26.69	$3.29	$29.98
Flaggers	$21.39	$0.86	$22.25
Floor Layers - Except Carpet/Wood/Hard Tiles	$29.00	$8.65	$37.65
Glaziers	$39.32	$19.22	$58.54
Hazardous Materials Removal Workers	$25.01	$2.04	$27.05
Heating and Air Conditioning and Refrigeration Mechanics and Installers	$36.11	$6.39	$42.50
Heavy and Tractor - Trailer Truck Drivers	$26.10	$4.07	$30.17
Highway Maintenance Workers	$23.30	$1.14	$24.44
Industrial Machinery Mechanics	$29.97	$6.74	$36.71
Industrial Truck and Tractor Operators	$24.61	$4.21	$28.82
Insulation Worker - Mechanical	$28.57	$17.06	$45.63
Light Truck or Delivery Services Drivers	$26.79	$5.14	$31.93
Loading Machine and Dragline Operators	$32.79	$4.40	$37.19
Millwrights	$35.99	$10.52	$46.51
Mobile Heavy Equipment Mechanics - Except Engines	$26.43	$5.48	$31.91
Operating Engineers and Other Equipment Operators	$47.25	$31.30	$78.55
Paving Surfacing and Tamping Equipment Operators	$30.74	$10.67	$41.41
Pile-Driver Operators	$37.15	$3.12	$40.27
Pipe/Steam/Sprinkler Fitter	$43.76	$25.44	$69.20
Pipelayers	$28.75	$3.64	$32.39
Plumbers	$40.00	$24.71	$64.71
Radio Cellular and Tower Equipment Installers	$34.72	$5.63	$40.35
Reinforcing Iron and Rebar Workers	$48.19	$1.93	$50.12
Riggers	$27.16	$21.25	$48.41
Roofers	$28.42	$4.56	$32.98
Sheet Metal Workers	$30.18	$6.64	$36.82
Structural Iron and Steel Workers	$32.94	$25.00	$57.94
Tapers	$31.43	$5.47	$36.90
Telecommunications Equipment Installers and Repairers - Except Line Installers	$32.28	$14.53	$46.81
Telecommunications Line Installers and Repairers	$30.00	$2.20	$32.20
Tile and Marble Setters	$28.91	$5.46	$34.37

Welders are classified as the trade to which welding is incidental (e.g. welding structural steel is Structural Iron and Steel Worker)

Apprentices – The minimum wage rates for registered apprentices are the rates recognized in the sponsorship agreement for registered apprentices working in the pertinent classification.

For any other specific trade on this project not listed above, contact the Bureau of Labor Standards for further clarification.

Title 26 §1310 requires that a clearly legible statement of all fair minimum wage and benefits rates to be paid the several classes of laborers, workers and mechanics employed on the construction on the public work must be kept posted in a prominent and easily accessible place at the site by each contractor and subcontractor subject to sections 1304 to 1313.

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.

A true copy

Attest: Scott R. Cotnoir
Scott R. Cotnoir
Wage & Hour Director
Bureau of Labor Standards

Supersedes 02-03-2025
Effective 01-10-2026

March 19, 2021

SPECIAL PROVISION
SECTION 101
CONTRACT INTERPRETATION

The provisions of Section 101 of the Standard Specifications, "Contract Interpretation," shall apply with the following modifications:

101.2 Definitions.

Chief Engineer.

REPLACE: "The Chief Engineer of the Department."

With: "The Engineer of Record for the Project, Alan Peppin PE."

Commissioner.

REPLACE: "The Commissioner of Transportation established by 23 MRSA §4205."

With: "The Municipality of Wells's duly authorized representative.""

Department.

REPLACE: "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 …"

With: "The Municipality of Wells, Maine," acting through their Harbormaster and this person's duly authorized representatives."

Project Manager.po

REPLACE: "The Department's duly authorized representative for overall coordination of the Project."

With: "The Municipality of Wells's duly authorized representative for overall coordination of the Project."

Resident.

REPLACE: "The Department's on-site representative."

With: "The Municipality of Wells's duly authorized representative."

April 13, 2023

SPECIAL PROVISION
SECTION 110
INDEMNIFICATION, BONDING, AND INSURANCE

The provisions of Section 110 of the Standard Specifications, "Indemnification, Bonding, and Insurance," shall apply with the following modifications:

Section 110.1 Indemnification

This Subsection is amended to read as follows:

The Contractor agrees to indemnify, defend, and hold harmless the Maine Department of Transportation (the Department) and the Municipality of Wells (the Municipality) and their officers, directors, employees, agents, and consultants from and against all claims, actions, torts, costs, losses, and damages for bodily injury (including sickness, disease, or death) and property damage arising out of or relating to this Contract or the performance of Work by the Contractor, their Subcontractors, subconsultants, engineers, suppliers, any individuals or entities directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, excepting only claims directly and solely caused by the negligence of the Department or the Municipality. Damages covered include, but are not limited to, all Dispute resolution costs, including court costs, attorney's fees, and the fees of engineers and consultants, arbitrators, and other professionals related to Dispute defense and preparation.

This indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Contractor or any Subcontractor, subconsultant, engineer, supplier, or other individual or entity under Workers' Compensation acts, disability benefit acts, or other employee benefit acts.

SPECIAL PROVISION
SECTION 107
CONTRACT TIME

In the water work must be completed between the dates of 11/8/2026 and 4/1/2027.

Contractor shall indicate their proposed finish date on the contract agreement.

SECTION 401 - HOT MIX ASPHALT PAVEMENT

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

401.02 Materials Materials shall meet the requirements specified in Section 700 - Materials:

Asphalt Cement	702.01
Aggregates for HMA Pavement	703.07
RAP for HMA Pavement	703.08
HMA Mixture Composition	703.09

401.03 Composition of Mixtures The Contractor shall compose the Hot Mix Asphalt Pavement with aggregate, Performance Graded Asphalt Binder (PGAB), approved antistrip, warm mix additive, and/or mineral filler if required. HMA shall be designed and tested according to AASHTO R 35 and the volumetric criteria in Table 1. The Contractor shall size, uniformly grade, and combine the aggregate fractions in proportions that provide a mixture meeting the grading requirements of the Job Mix Formula (JMF). Unless otherwise noted in Special Provision 403 - Hot Mix Asphalt Pavement, the design, verification, Quality Control, and Acceptance tests for this mix will be performed at 65 gyrations.

TABLE 1: VOLUMETRIC DESIGN CRITERIA

Design ESAL's (Millions)	**Required Density (Percent of G_{mm})**			**Voids in the Mineral Aggregate (VMA) (Minimum Percent)**					**Voids Filled with Binder (VFB) (Minimum %)**	**Fines/Eff. Binder Ratio**
				Nominal Maximum Aggregate Size (mm)						
	$N_{initial}$	**N_{design}**	**N_{max}**	**25.0**	**19.0**	**12.5**	**9.5**	**4.75**		
< 3.0	≤90.5	96.0	≤98.0	13.0	14.0	15.0	16.0	16.0	65-80*	0.6-1.2
3 to <10	≤89.0									
≥ 10										

*For 9.5 mm nominal maximum aggregate size mixtures, the maximum VFB is 82. For 4.75 mm nominal maximum aggregate size mixtures, the maximum VFB is 84.

The Contractor shall submit a JMF to the Department for each mixture to be supplied. The JMF will be approved by the Department in accordance with the MaineDOT HMA Policies and Procedures for HMA Sampling and Testing Manual. At the time of JMF submittal, the Contractor shall identify and make available the stockpiles of all proposed aggregates at the plant site. There must be a minimum of 150 ton for coarse aggregate stockpiles and 75 ton for fine aggregate stockpiles before

the JMF may be submitted. The Contractor shall provide aggregate samples to the Department unless otherwise required. The Contractor shall also make available to the Department the PGAB proposed for use in the mix in sufficient quantity to test the properties of the asphalt and to produce samples for testing of the mixture. The first day's production shall be monitored, and the approval may be withdrawn if the mixture exhibits undesirable characteristics such as checking, shoving or displacement. The Contractor shall be allowed to submit aim changes for a JMF as outlined in the MaineDOT HMA Policies and Procedures for HMA Sampling and Testing Manual: Mix Design Approval Section.

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

401.031 Warm Mix Technology The Contractor may place Hot Mix Asphalt Pavement produced with an accepted WMA technology if approved by the Department. Methods or technologies shall generally be at the Contractors option, but will be limited to proven, Agency and Industry accepted practice. Mixture production, placement and volumetric testing details, including temperatures, shall be included in the project specific QCP, and submitted to the Department for approval prior to any work.

401.04 Temperature Requirements The temperature of the mixture shall conform to the tolerances in Table 2 as measured at the truck at the mixing plant and at the paver unless otherwise authorized by the Department.

TABLE 2: ALLOWABLE TEMPERATURE RANGES

PGAB Grade(s)	**Temperature Range (°F)**
PG58-28 / PG64-28	275-325
PG64E-28 / PG70E-28	285-335

401.05 Performance Graded Asphalt Binder The Contractor shall utilize either a PG58-28, PG64-28, PG64E-28, PG70E-28, or other grade as specified in the 403 Special Provision. The Contractor shall utilize a PG64-28 if no liquid grade is specified within the 403 Special Provision.

401.06 Weather and Seasonal Limitations The State is divided into two paving zones as follows:

a. Zone 1 Areas north of US Route 2 from Gilead to Bangor and north of Route 9 from Bangor to Calais.
b. Zone 2 Areas south of Zone 1 including the US Route 2 and Route 9 boundaries.

TABLE 3: SEASONAL AND TEMPERATURE LIMITATIONS

Description	Zone 1 Allowable Placement Dates	Zone 2 Allowable Placement Dates	Minimum Ambient Air Temperature
HMA Surface Course greater than or equal to 1" (Travelway)	May 1 to Saturday following October 1	April 15 to Saturday following October 15	50°F
HMA Surface Course less than 1" (Travelway)	May 15 to Saturday following September 15	May 15 to Saturday following October 1	
HMA Surface Course less than 1" considered to be "**Night Work**" (Travelway)	June 1 to the Saturday following September 1		
HMA Surface Course less than 1" (Shoulders)	May 15 to the Saturday following October 15		
HMA for Surface Course on **Bridge Decks**	May 1 to Saturday following October 1	April 15 to Saturday following October 15	
HMA for Base or Shim Course on **Bridge Decks**	April 15 to November 15		
HMA for use other than Travelway Surface Course (Shoulders greater than or equal to 1", Intermediate, Base, Shim)	April 15 to November 15		40°F
HMA for curb, driveways, sidewalks, islands, or other incidentals	N/A		
With Use of Approved Warm Mix Technology as Compaction Aid (Surface Course Ambient Air Temperature Allowances)			
HMA Surface Course greater than or equal to 1" (Travelway)	May 1 to Saturday following October 1	April 15 to Saturday following October 15	Begin at 50°F and pave **down to** 45°F
HMA Surface Course less than 1" (Travelway)	May 15 to Saturday following October 1	May 15 to Saturday following October 15	
HMA Surface Course less than 1" considered to be "**Night Work**" (Travelway)	June 1 to the Saturday following September 15		
HMA Surface Course less than 1" (Shoulders)	May 15 to the Saturday following October 15		
With Use of Approved Warm Mix Technology as Compaction Aid (Seasonal Limitation Extensions)			
HMA Surface Course greater than or equal to 1" (Travelway)	Saturday following October 1 to Saturday following October 15	Saturday following October 15 to Saturday following October 29	50°F
HMA Surface Course less than 1" (Shoulders)	Saturday following October 15 to Saturday following October 29		
HMA for use other than Travelway Surface Course (Shoulders greater than or equal to 1", Intermediate, Base, Shim)	April 15 to Saturday following November 15		35°F

1. Shoulders paved with the travelway pass shall meet travelway ambient air temperatures
2. Refer to the 461 SP for UTBWC for seasonal and temperature requirements.
3. The minimum ambient air temperature for placement of HMA for curbs, driveways, sidewalks, islands, and other incidental work shall be 40°F, regardless of whether the mixture is produced using an approved WMA technology.

The ambient air temperature shall be determined by an approved thermometer placed in the shade at the paving location. Unless otherwise specified, the Contractor shall not place Hot Mix Asphalt Pavement on a wet or frozen surface regardless of the ambient air temperature. The Hot Mix Asphalt Pavement produced with an approved WMA technology shall meet the requirements of section 401.04 - Temperature Requirements, unless otherwise approved by the Department. For the purposes of this Section, the traveled way includes truck lanes, ramps, approach roads and auxiliary lanes.

401.07 Hot Mix Asphalt Plant

401.071 General Requirements HMA plants shall conform to AASHTO M 156, Standard Specification for Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures with exception of Section 4.2.1, 4.2.2, 4.3.4, 4.3.5, and 4.12.2.

All HMA plants will be inspected annually by the Department prior to producing HMA for Department projects. The Contractor shall provide the Department at least 72 hours' notice that the plant is ready for inspection. The Contractor shall equip the plant with ladders and platforms that are accessible and safe to obtain samples of PGAB, aggregate and mix from the relevant tanks, collector belts and haul units. Silo storage time of mixtures shall not exceed 36 hours.

401.072 Stockpiles The Contractor shall provide sufficient space for stockpiles and maintain a minimum of supply for 2 days production of all aggregate products used in MaineDOT approved mix designs currently under production. A minimum stockpile supply of 100 ton (70 yards) shall be maintained at all times. The Contractor shall construct stockpiles to prevent intermingling and to minimize segregation. All stockpiles used in MaineDOT mixes shall be identified with weatherproof signs at least 12" high and 24" wide, with reflective lettering at least 2" high.

401.073 Cold Feeds Cold Feed Bins will have bin dividers to keep aggregate products separated. Adequate means must be provided for obtaining samples of the combined flow of all Cold feed bins.

401.074 Dryer Dryer shall be capable of heating aggregate to required mixing temperature and shall be in good operation and condition. Dryer shall be subject to annual inspection prior to start-up. The Contractor shall dry and heat the aggregates for the HMA to the required temperature, adjusting flames to avoid damaging the aggregates. The Contractor shall provide the Department a minimum period of 72 hours to inspect the dryer and provide at least 24 hours' notice that the dryer is ready for inspection.

401.075 Asphalt Binder The plant shall include a heating system and insulation to maintain the asphalt binder at a uniform temperature for proper mixing and compaction. A thermometer shall be provided in the asphalt binder line. No direct flame may come in contact with tank. A sampling valve shall be provided in the circulation line downstream of any binder additive used unless otherwise approved by the Department. The Contractor shall drain down the asphalt as low as safely possible in any tank that will be switched to a new source or grade prior to adding the new PGAB.

401.076 Additives Additives (WMA, anti-strip, etc.) introduced into the binder at the HMA plant shall be introduced per the supplier's recommendations and shall be approved by the Department. The system for introducing additives shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all production rates and batch sizes. Additive introduction systems shall be controlled by a proportioning device to the amount required on the JMF plus or minus 0.1% of the target. Additive introduction systems shall be interlocked with the plant and the recordation (batch tickets or drum recordation) shall display the additive and the weight and percentage added. A means for sampling the PG binder with additive introduced will be provided. The sampling point shall be after the additive is mixed with the PGAB before entering the drum or mixer unit.

401.077 Batch Plants

Hot Bins Hot bins shall provide uniform continuous operation and be in good working condition. The plant shall be able to provide samples of hot bins upon request. Overflow shall be provided for each hot bin. Hot bin gates shall close without leaking. Bin walls must prevent intermingling between bins. Each hot bin shall have low level indicators which will alert the operator when the bin is empty.

Mixer Unit Clearance between blades and liner shall be 1" maximum, unless the aggregate exceeds 1 ¼" then the clearance shall be 1 ½". The spray bar length shall be at least 75% of the mixer length. The mixer unit shall be a twin pug mill-type mixer capable of mixing continuously for at least 45 seconds after all materials have been introduced into the mixer. The blades in the mixer shall be capable of producing a homogenous mixture. If the mixer is not enclosed, it shall be equipped with an adjustable hood to prevent loss of dust by dispersion. The mixer unit shall be subject to annual inspection prior to removal of safety features and being readied for service. The Contractor shall provide the Department the opportunity to inspect the mixer unit prior to the annual inspection. The Contractor shall provide the Department a minimum period of 72 hours to inspect the mixer unit and provide at least 24 hours' notice that the mixer unit is ready for inspection.

Mineral Filler Mineral filler and fiber shall utilize separate bins and feed systems to store and proportion the required quantity into the mixture. The feed systems shall be accurate to no more than 10% of the required weight with a convenient and accurate means of calibration. Mineral filler and fiber shall be introduced in the weigh hopper and uniformly distributed prior to the injection of the asphalt binder.

Automation The HMA batch plant shall automatically batch, mix and discharges mixes. The batch plant shall accurately proportion the various materials in the proper order by weight. The entire batching and mixing cycle shall be continuous and shall not require any manual operations. The batch plant shall use auxiliary interlock circuits to trigger an audible alarm whenever an error exceeding the acceptable tolerance occurs. Along with the alarm, the printer shall print an asterisk on the delivery slip in the same row containing the out-of-tolerance weight. The automatic proportioning system shall be capable of consistently delivering material within the full range of batch sizes. When RAP is being used, the plant must be capable of automatically compensating for the moisture content of the RAP.

The HMA batch plant shall be operated within the following tolerances:

Each aggregate component	+/- 1.5% cumulative, per bin
Mineral Filler	+/- 0.5%
Bituminous Material	+/- 0.1%
Zero return (aggregate)	+/- 0.5%
Zero Return (AC)	+/- 0.1%
Additives	+/- 0.1%

Recordation All plants shall be equipped with an approved digital recording device. The printer shall mark any weight on the ticket that exceeds tolerance. The delivery slip shall contain information required under Section 108.1.3 - Provisions Relating to Certain Measurements, Mass and paragraphs a, b, and c of Section 401.078.

401.078 Drum Plants

Cold Feeds and Delivery System A scalper screen shall be used to remove oversize material. The accuracy of the belt scale shall be within +/- 1.0% of the actual weight being measured. The plant shall be capable of correcting for aggregate moisture. Mineral filler and fiber shall utilize separate bin(s) and feeder systems to store and proportion the required quantity into the mixture. The feed systems shall be accurate to no more than +/- 10% of the required weight with a convenient and accurate means of calibration. The plant shall be equipped with a single control to change all feed rates. Mineral filler and fiber shall be introduced such that dry mixing is accomplished no less than 18 inches prior to the injection of the asphalt binder. The Contractor shall ensure that the mineral filler does not become entrained in the exhaust stream of the dryer.

Binder System The flow of asphalt binder shall adjust automatically with dry aggregate weights. The Department will conduct an asphalt flow meter check annually and after each change of plant location. The flow meter check must be performed prior to producing mix for Department projects. The plant must be configured to provide a convenient means to check accuracy of the flow meter. The flow meter will be considered accurate if the measured weight is within 1% of actual weight.
Drum Mixer The plant shall be equipped with a diversion system where mix can be diverted at startup/shutdown and any time. The drum mixer shall be subject to annual inspection prior to removal of safety features and being readied for service. The Contractor shall provide the Department a minimum period of 72 hours to inspect the drum mixer while providing at least 72 hours' notice that the drum mixer is ready for inspection.

Recordation An approved automatic ticket printer system shall be used to print delivery slips. The requirements for delivery slips for payment of materials measured by weight, as given in the following Sections, shall be waived: 108.1.3 a., 108.1.3 b., 108.1.3 c., and 108.1.3 d. The automatic printed ticket will be considered as the Weight Certificate. The dry aggregate weights and binder flow shall be recorded as well as mineral filler and all binder additives. The recordation of materials shall be printed a minimum of every ten minutes while in production.

The requirements of Section 108.1.3 f. - Delivery Slips, shall be met by the delivery slip printed by the automatic system, which accompanies each truckload, except for the following changes:

a. The quantity information required shall be individual weights of each batch or total net weigh of each truckload.
b. Signatures (legible initials acceptable) of Weighmaster (required only in the event of a malfunction as described in 401.074 c.).
c. The MaineDOT designation for the JMF.

401.079 Scales and Weight Checks Scales shall meeting the requirements of Section 108 - Payment. The scales shall be inspected and sealed by the State Sealer (or approved alternative) as often as the Department deems necessary to verify their accuracy. Plant scales shall be checked prior to the start of the paving season, and each time a plant is moved to a new location. Subsequent checks will be made as determined by the Resident. The Contractor will have at least ten 50 pound masses for scale testing at batch plants. At Contractor's option, the Contractor can use one single test weight that has been checked on sealed scales. This weight shall be 1,000 lbs. or greater. At least twice during each 5 days of production either of the following checks will be performed:

a. A loaded truck may be intercepted and weighed on a platform scale that has been sealed by the State Sealer of Weights and Measures within the past 12 months. The inspector will notify the producer to take corrective action on any discrepancy over 1.0%. The producer may continue to operate for 48 hours under the following conditions.
    1. If the discrepancy does not exceed 1.5%; payment will still be governed by the printed ticket.
    2. If the discrepancy exceeds 1.5%, the plant will be allowed to operate as long as payment is determined by truck platform scale net weight.

    If, after 48 hours the discrepancy has not been addressed and reduced below 1.0%, then plant operations will cease. Plant operation may resume after the discrepancy has been brought within 1.0%.
b. Where platform scales are not readily available, a check will be made to verify the accuracy and sensitivity of each scale within the normal weighing range and to assure that the interlocking devices and automatic printer system are functioning properly. If platform scales are not readily available, a weight with a known mass-verified and sealed annually by a licensed scale company, may be used by hanging weight from silo or surge hopper, at lower middle and upper third levels upon request to verify scale accuracy.
c. In the event of a malfunction of the automatic printer system, production may be continued without the use of platform truck scales for a period not to exceed the next two working days, providing total weights of each batch are recorded on weight tickets and certified by a Licensed Public Weighmaster.

401.08 Hauling Equipment Units hauling HMA shall have tight, clean, and smooth metal bodies, which have been thinly coated with a small amount of approved release agent to prevent the mixture from adhering to the bodies. Release agents that dissolve or strip asphalts, including diesel fuel, will not be allowed.

All mix haul units shall have a cover of water repellent material capable of heat retention, which completely covers the mixture. The cover shall be securely fastened on the truck, unless unloading. Haul units shall have an opening on both sides near the midpoint of the body, at least 12 in above the bed, which will accommodate a thermometer stem.

401.09 Pavers The Contractor shall use pavers meeting the requirements of this section unless otherwise authorized by the Department. Pavers shall meet the requirements of Table 4: Paver Requirements.

TABLE 4: PAVER REQUIREMENTS

Use	Paver Requirement
Traveled Way & Auxiliary Lanes	Equipped with a 10 ft minimum main screed with activated extensions. The minimum tractor weight shall be 30,000 pounds.
	Equipped with automatic grade and slope controls that automatically adjust the screed and increase or decrease the layer thickness to compensate for irregularities in the preceding course. The controls shall maintain the proper transverse slope and be readily adjustable so that transitions and superelevated curves can be properly paved. The controls shall operate from a fixed or moving reference such as a grade wire or ski type device (floating beam) with a minimum length of 30 ft, a non-contact grade control with a minimum span of 24 ft, except that a 40 ft reference shall be used on interstate and divided highway projects.
All HMA Placement	Self-contained, self-propelled units of sufficient class and size to place Hot Mix Asphalt Pavement in full lane widths specified in the contract on the main line, shoulder, or similar construction.
	Equipped with a free-floating activated heated main screed with activated extensions. Pavers with extendible screeds shall have auger extensions and tunnel extenders as per the manufacturer's recommendations, a copy of which shall be available if requested.
	Equipped with a receiving hopper with sufficient capacity for a uniform spreading operation and a distribution system to place the mixture uniformly, without segregation in front of the screed.
	Operated in such a manner as to produce a visually uniform surface texture and a thickness within the requirements of Section 401.11 - Surface Tolerances. The screed assembly shall produce a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture.

The Contractor shall have the paver at the project site sufficiently before the start of paving operations to be inspected and approved by the Department. The Contractor shall repair or replace any paver found worn or defective, either before or during placement, to the satisfaction of the Department. Pavers that produce an unevenly textured or non-uniform mat will be repaired or replaced before continuing to place HMA on MaineDOT projects. On a daily basis, the Contractor shall perform density testing across that mat as detailed in Section 401.191 Quality Control - Method A, B & C.

401.10 Rollers Rollers shall be static steel, pneumatic tire, oscillatory, or approved vibrator type. Rollers shall be in good mechanical condition, capable of starting and stopping smoothly, and be free from backlash when reversing direction. Rollers shall be equipped and operated in such a way as to prevent the picking up of hot mixed material by the roller drums or tires. Crushing of the aggregate or displacement of the HMA during rolling will not be permitted. Any HMA Pavement that becomes loose, broken, contaminated, shows an excess or deficiency of PGAB, or is in any other way defective shall be removed and replaced at no additional cost with fresh material which shall be immediately compacted to conform to the adjacent area.

The Contractor shall repair or replace any roller found to be worn or defective, either before or during placement, to the satisfaction of the Department. Rollers that produce grooved, unevenly textured or non-uniform mat will be repaired or replaced before continuing to place HMA. The type of rollers to be used and their relative position in the compaction sequence shall generally be the Contractor's option unless otherwise specified in the contract, provided specified density is attained and with the following requirements:

a. On variable-depth courses, the first lift of pavement over gravel, reclaimed pavement, on irregular or milled surfaces, or on bridges, at least one roller shall be 16 ton pneumatic-tired. Pneumatic-tired rollers shall be equipped with skirting to minimize the pickup of HMA materials from the paved surface. When required by the Resident, the roller shall be ballasted to 20 ton.
b. Compaction with a vibratory or steel wheel roller shall precede pneumatic-tired rolling, unless otherwise authorized by the Department.
c. Vibratory rollers shall not be operated in the vibratory mode on bridge decks.
d. Any method, which results in cracking or checking of the mat, will be discontinued and corrective action taken.
e. The use of an oscillating steel roller shall be required to compact all mixtures placed on bridge decks.

The maximum operating speed for a steel wheel or pneumatic roller shall not exceed the manufacturer's recommendations, a copy of which shall be available if requested.

401.11 Surface Tolerances The Department will check the following surface tolerances:

a. Longitudinally: The pavement surface profile shall be free of deviations in excess of +/- ¼ inches from the required pavement surface profile grade. To verify the surface tolerance a straight plane shall be established using 16 foot straight edge or a taught string line placed parallel to the direction of travel and checked continuously across the width of the lane.
b. Transversely: The pavement surface profile shall be free of deviations in excess of 0 inches below and ¼ inches above the required cross-sectional profile grade. To verify the surface tolerance a straight plane shall be established using a 10 foot straight edge or taught string line placed perpendicular to the direction of travel and checked continuously along the length of the lane.

The Contractor shall correct defective areas by removing defective work and replacing it with new material as directed by the Department. The Contractor shall furnish a 10 foot straightedge for the Department's use.

401.12 Preparation of Existing Surface The Contractor shall thoroughly clean the surface upon which Hot Mix Asphalt Pavement is to be placed of all objectionable material. When the surface of the existing base or pavement is irregular, the Contractor shall bring it to uniform grade and cross section. All surfaces shall have a tack coat applied prior to placing any new HMA course.

When covering portland cement concrete surfaces (concrete slabs or concrete backfill), as a minimum, a triple application of tack coat shall be applied on the surface prior to pavement being placed over the concrete.

Tack coat shall conform to the requirements of Section 409 – Bituminous Tack Coat, Section 702 – Bituminous Material, and all applicable sections of the contract.

401.13 Spreading and Finishing In areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impracticable, the Contractor shall spread, rake, and lute the HMA with hand tools to provide the required compacted thickness. Release agents that dissolve or strip asphalts, including diesel fuel, will not be allowed. On roadways with adjoining lanes carrying traffic, the Contractor shall place each course per the conditions in Table 5, unless otherwise noted by the Department in Section 403 - Hot Mix Asphalt Pavement.

TABLE 5: PLACEMENT CONDITIONS FOR ADJOINING LANES

Depth (at centerline)	Placement Conditions
Vertical Longitudinal Joint	
¾" and less (incl. shim)	The Contractor may place the HMA course over the full single travel lane width for each production day.
1" to 1 ¼"	The Contractor may place the HMA course over the full single travel lane width for each production day and will be required to place a matching course of HMA over the adjacent section of travel lane before weekend or holiday suspension. A maximum unmatched centerline joint of the project's 1 days' average production will be permitted over the weekend.
1 ½" to 2"	The Contractor may place the HMA course over the full single travel lane width for each production day and will be required to place a matching course of HMA over the adjacent section of travel lane before the end of the following calendar day.
Greater than 2"	The Contractor shall place each course over the full width of the traveled way section being paved that day.
Notched-Wedge Longitudinal Joint	
1 ½" to 2"	The Contractor may place the HMA course over the full single travel lane width for each production day and will be required to place a matching course of HMA over the adjacent section of travel lane before weekend or holiday suspension. A maximum unmatched centerline joint of the project's 1 days' average production will be permitted over the weekend.
Greater than 2"	The Contractor may place the HMA course over the full single travel lane width for each production day and will be required to place a matching course of HMA over the adjacent section of travel lane before the end of the following calendar day.
Longitudinal Joints (<45 mph) *	
Greater than 2"	With use of a Notch-Wedge device, the Contractor may place the HMA course over the full single travel lane width for each production day and will be required to place a matching course of HMA over the adjacent section of travel lane before weekend or holiday suspension. A maximum unmatched centerline joint of the project's 1 days' average production will be permitted over the weekend.

* Longitudinal joint allowances for segments under 45 mph will only be permitted if the segment length is continuous for one mile or greater or the total length of the project is one mile or less.

Constructed wedge joints that degrade or break off will not qualify for the open joint duration as described above. The impacted area shall be matched up within 48 hours of notification by the Department. Prior to matching, the Contractor shall trim off the impacted area and construct a vertical joint. Failure to comply will result in an automatic Traffic Control Violation as per section 652.8.

The Contractor shall place the specified course over the full width of the mainline traveled way being paved, regardless of use, depth, or longitudinal joint type prior to Memorial Day, July 4th, Labor Day, paving suspensions exceeding three days, or other dates as specified by special provision.

The Contractor shall install additional warning signage that clearly defines the centerline elevation differential hazard. Unless otherwise addressed in the contract, the Contractor shall install additional centerline delineation such as a double application of raised pavement markers at 100 foot intervals, or temporary painted line. For any exposed vertical edge between the shoulder and traveled way, at a minimum, the use of temporary painted line, or RPMs placed along the edge of traveled way at 200 foot intervals is required. The Traffic Control Plan shall be amended to include this option and the additional requirements. All signs and traffic control devices will conform to Section 719.01, and Section 652, and will be installed prior to the work, at a maximum spacing of 0.50 mile for the entire length of effected roadway section. If this option is utilized, all additional signing, labor, traffic control devices, or incidentals will not be paid for directly, will be considered incidental to the appropriate 652 items.

When covering a portland cement concrete surface (concrete slabs or concrete backfill) a minimum of 3 inches of HMA pavement will be required over the concrete.

401.14 Hot Mix Asphalt Placement on Bridge Decks Hot mix asphalt pavement placed on bridges shall also conform to Section 508.04 and the following requirements:

a. The minimum production and placement temperature for the Hot Mix Asphalt placed over membrane shall conform to the manufacturer's recommendations.
b. The bottom course shall be placed with an approved rubber mounted paver of such type and operated in such a manner that the membrane waterproofing will not be damaged in any way.
c. The top course shall not be placed until the bottom course has cooled sufficiently to provide stability.
d. The Contractor will not be required to cut sample cores from the compacted pavement on the bridge deck, unless otherwise directed by Special Provision.
e. After the top course has been placed, the shoulder areas shall be sealed 3 ft wide with two applications of an emulsified bituminous sealer meeting the requirements of Section 612.03 - Sealing and Section 702.12 - Emulsified Bituminous Sealing Compound. The first application shall be pre-mixed with fine, sharp sand, similar to mortar sand, as needed to fill all voids in the mix in the area being sealed. The second application may be applied without sand. The sealer shall be carried to the curb at the gutter line in sufficient quantity to leave a bead or fillet of material at the face of the curb. The area to be sealed shall be clean, dry and the surface shall be at ambient temperature. The furnishing and applying of the required quantity of sealer for the bridge shoulder areas shall be incidental to placing the hot mix asphalt pavement.
f. The area between the edge of the membrane and the vertical surface of bridge curbing and concrete bridge headers shall be completely sealed with hot-applied asphaltsealant material, meeting the requirements of Type 4 or mastic crack seal. Sealant shall be applied to form a complete seal between the membrane and the vertical surface and shall extend up the vertical surface to within ½ inch of the top of the HMA wearing surface. This work shall be considered incidental to the contract pavement items unless 508 membrane items are included in the contract.

401.15 Compaction Immediately after the Hot Mix Asphalt Pavement has been spread, struck off, and any surface irregularities adjusted, the Contractor shall thoroughly and uniformly compact the HMA by rolling.

The Contractor shall roll the surface when the mixture is in the proper condition and when the rolling does not cause undue displacement, cracking, or shoving. The Contractor shall prevent adhesion of the HMA to the rollers or vibrating compactors without the use of fuel oil or other petroleum-based release agents. Solvents designed to strip asphalt binders from aggregates will not be permitted as release agents on equipment, tools, or pavement surfaces.

The Contractor shall immediately correct any displacement occurring as a result of the reversing of the direction of a roller or from other causes to the satisfaction of the Department. Any operation other than placement of variable depth shim course that results in breakdown of the aggregate shall be discontinued. Any new pavement that shows obvious cracking, checking, or displacement shall be removed and replaced for the full lane width as directed by the Resident at no cost to the Department.

Along forms, curbs, headers, walls, and other places not accessible to the rollers, the Contractor shall thoroughly compact the HMA with mechanical vibrating compactors. The Contractor shall only use hand tamping in areas inaccessible to all other compaction equipment. On depressed areas, the Contractor may use a trench roller or cleated compression strips under a roller to transmit compression to the depressed area.

Any HMA that becomes unacceptable due to cooling, cracking, checking, segregation or deformation as a result of an interruption in mix delivery shall be removed and replaced with material that meets contract specifications at no cost to the Department.

For all items requiring pavement density testing, the Contractor shall cut 6-inch diameter cores at no additional cost to the Department by the end of the working day following paving. Cores shall be cut such that the nearest edge at least 9 inches from any joint. Pre-testing of the cores will not be allowed. If the Contractor and the Department mutually determine that a core is damaged, the Contractor shall cut new core(s) at the same offset and within 3 ft of the initial sample. The Contractor and the Department will mutually determine if underlying material is adhered to the core and if so will mark the core at the point where sawing is needed. The Department will place the cores in a secure container and the Contractor shall transport the cores to the designated MaineDOT lab. The cores will be saw cut by the Department to remove underlying layers. No recuts are allowed at a test location after the core has been tested.

On all sections of overlay with wearing courses designed to be 1 in or less in thickness, there shall be no pay adjustment for density otherwise noted in Section 403 - Hot Mix Asphalt Pavement. For overlays designed to be 1 in or less in thickness, density shall be obtained by the same rolling train and methods as used on mainline travelway surface courses with a pay adjustment for density, unless otherwise directed by the Department.

There shall be no pay adjustment for density on shoulders unless otherwise noted in Section 403 - Hot Mix Asphalt Pavement. Density for shoulders shall be obtained by the same rolling train and methods as used on mainline travelway, unless otherwise directed by the Department. Efforts to obtain optimum compaction will not be waived by the Department unless it is apparent during construction that local conditions make densification to this point detrimental to the finished pavement surface course.

401.16 Joints The Contractor shall construct wearing course transverse and longitudinal joints in such a manner that minimum tolerances shown in Section 401.11 - Surface Tolerances are met when measured with a straightedge. The paver screed shall maintain a uniform head of HMA during transverse and longitudinal joint construction. The HMA shall be free of segregation and meet temperature requirements outlined in Section 401.04. Transverse joints of the wearing course shall be straight and neatly trimmed. The Contractor may form a vertical face exposing the full depth of the course by inserting a header, by breaking the bond with the underlying course, or by cutting back with hand tools. The Contractor shall apply a coating of emulsified asphalt immediately before paving all joints to the vertical face and 3 in of the adjacent portion of any pavement being overlaid except those formed by pavers operating in echelon. The Contractor shall use an approved spray apparatus designed for covering a narrow surface. The Department may approve application by a brush for small surfaces, or in the event of a malfunction of the spray apparatus, but for a period of not more than one working day.

Where pavement under this contract joins an existing pavement, or when the Department directs, the Contractor shall cut the existing pavement along a smooth line, producing a neat, even, vertical joint. The Department will not permit broken or raveled edges. The cost of all work necessary for the preparation of joints is incidental to related contract pay items. Longitudinal joints shall be generally straight to the line of travel and constructed in a manner that best ensure joint integrity. Methods or activities that prove detrimental to the construction of straight, sound longitudinal joints will be discontinued.

The Contractor may utilize an approved notched wedge joint device on all HMA layers 1 ½ inches in depth or greater. A notched wedge joint shall be constructed as shown in Figure 1 using a device that is attached to the paver screed and is capable of independently adjusting the top and bottom vertical notches.

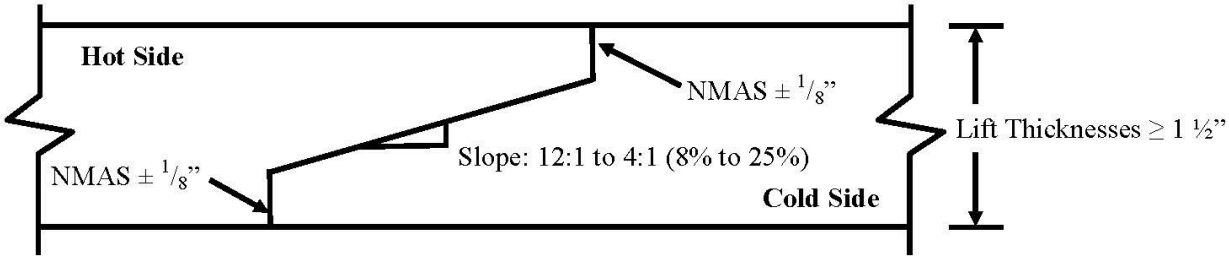


FIGURE 1: Notched Wedge Joint

Notes
1. An emulsified tack coat shall be applied to the vertical edges and the wedge surface so that the total rate is 0.05 G/SY plus the normal specified rate prior to placing the adjacent layer. The Contractor may elect to apply the emulsified tack coat in one or multiple passes.
2. Dimensions shown are compacted depths (after rolling is complete).

The Department reserves the right to have centerline cores cut by the Contractor's QC personnel for informational purposes to monitor the density along the joint. Informational cores at the centerline joint will be taken centered over the tapered part of the wedge joint.

Any notched wedge joint constructed areas that become cracked or broken shall be trimmed back to the limits affected prior to placing the adjoining lane. Any materials that become unbound or separated from the wedge or tapered joint section, or contaminated by materials determined by the Department as being detrimental to the construction of a sound construction joint, shall be removed by sweeping, compressed air and lance, or by hand tools as required. This work, if necessary, will not be paid for directly, but shall be considered incidental to the related contract items.

The Contractor shall apply a coating of emulsified asphalt on the vertical and tapered surface of the longitudinal centerline joint immediately before paving if the notched wedge joint device is used.

The total rate of application shall be 0.050 G/SY plus the normal specified tack coat rate. The Contractor shall use an approved spray apparatus designed for covering a narrow surface. The Department may approve application by a brush for small surfaces.

401.17 Hot Mix Asphalt Documentation The Contractor and the Department shall agree on the amount of Hot Mix Asphalt Pavement that has been placed each day. All delivery slips shall conform to the requirements of 401.078.

401.18 Prepave Meeting Prior to placing any mix, the Department and the Contractor shall hold a Pre-paving conference to discuss the paving schedule, source of mix, type and amount of equipment to be used, sequence of paving pattern, rate of mix supply, random sampling, project lots and sublots and traffic control. A copy of the density QC random numbers to be used on the project shall be provided to the Resident. The Departments' random numbers for Acceptance testing shall be generated and on file with the Resident and the Project Manager. All personnel of the Department and the Contractor who have significant information relevant to the paving items shall attend, including the responsible onsite paving supervisor for the Contractor. The Resident will prepare minutes of the conference and distribute them to all attendees. Any requests to revise the minutes must be made to the Resident within 7 Days of Receipt. These minutes will constitute the final record of the Pre-paving conference. On the first day of paving and whenever there is a change in the onsite paving foreman or paving inspector, the Department and the Contractor shall hold an informal onsite meeting to review the minutes of the Pre-paving conference, Project Specific QCP, Plans, Typicals, Special Provisions and communication process. This meeting shall be held prior to placing any mix and, at minimum, shall occur yearly for multi-year contracts. The onsite paving supervisor, QCT, Superintendent, Resident and/or paving inspector shall attend.

401.19 Contractor Quality Control – Method A, B, C & D
The Contractor shall operate in accordance with the approved Quality Control Plan (QCP) to assure a product meeting the contract requirements. The Contractor shall not begin paving operations until the Department approves the QCP in writing.

401.191 Quality Control The QCP shall meet the requirements of Section 106.6 – Acceptance and this Section. The QCP shall address any items that affect the quality of the Hot Mix Asphalt Pavement, and shall include the following personnel meeting these minimum requirements:

a. QCP Administrator – The QCP Administrator must be a full-time employee of or a consultant engaged by the Contractor or paving subcontractor. The QCP Administrator shall have full authority to institute any and all actions necessary for the successful operation of the QCP. The QCP Administrator (or their designee in the QCP Administrator's absence) shall be available to communicate with the Department at all times.

- For items accepted under Methods A and B, the QCP Administrator shall be certified as a Quality Assurance Technologist (QAT) by NETTCP.
- For items accepted under Methods C and D, the QCP Administrator shall be certified by NETTCP as a Quality Assurance Technologist (QAT), Plant Technician, or Paving Inspector.

b. Process Control Technician(s) (PCT) shall utilize test results and other quality control practices to assure the quality of aggregates and other mix components and control proportioning to meet the JMF(s). The PCT shall inspect all equipment used in mixing to assure it is operating properly and that mixing conforms to the mix design(s) and other Contract requirements, and that delivery slips and plant recordation accurately reflects the mix being produced with all the required information. The QCP shall detail how these duties and responsibilities are to be accomplished and documented, and whether more than one PCT is required. The Plan shall include the criteria to be utilized by the PCT to correct or reject unsatisfactory materials. The PCT shall be certified as a Plant Technician by the NETTCP.

c. Quality Control Technician(s) (QCT) shall perform and utilize quality control tests at the job site to assure that delivered materials meet the requirements of the JMF(s). The QCT shall inspect all equipment utilized in transporting, laydown, and compacting to assure it is operating properly and that all laydown and compaction conform to the Contract requirements. The QCP shall detail how these duties and responsibilities are to be accomplished and documented, and whether more than one QCT is required. The QCP shall include the criteria utilized by the QCT to correct or reject unsatisfactory materials. The QCT shall be certified as a Paving Inspector by the NETTCP.

The QCP shall detail the coordination of the activities of the Plan Administrator, the PCT and the QCT. The Project Superintendent shall be named in the QCP, and the responsibilities for successful implementation of the QCP shall be outlined.

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

a. <u>General Requirements:</u>

- Job Mix Formulas (JMFs)
- Name of QCP Administrator, and certification number
- Description of corrective action process
- Disposition of defective material
- A procedure to take immediate possession of acceptance samples once released by MaineDOT and deliver said samples to the designated acceptance laboratory.
- Type of release agent to be used on haul units, tools and rollers.
- A note stating that the use of petroleum-based fuel oils, such as diesel or kerosene, or asphalt stripping solvents will not be permitted.

b. Process Control Requirements: Each Hot Mix Asphalt plant shall have a Plant Specific Process Control Plan. At minimum the plan shall include:

- Name of Plant Specific Process Control Technician(s) and certification number(s)
- Hot mix asphalt plant details
- Stockpile Management
- Mixing & transportation
- Silo management and details
- A detailed description of RAP processing, stockpiling and introduction into the plant
- PG Binder management:
  - Tanks and storage (including polymer modified binders if applicable)
  - Binder temperature
  - Sample points
  - Method to ensure mixture contains the specified binder grade
  - Additive introduction details if introduced at the plant
- Testing and inspection plan for control of aggregates and RAP
- Mix Testing and inspection plan

c. Quality Control Requirements – Method A & B:

- Name of Quality Control Technicians(s) and certification number(s)
- Laydown operations
- Longitudinal joint construction including the tacking of all joints.
- Procedures for avoiding paving in inclement weather
- Compaction of shoulders
- Methods to ensure that segregation is minimized
- Procedures to determine the maximum rolling and paving speeds based on best engineering practices and past experience in achieving acceptable pavement smoothness.
- Sequence for paving around drainage structures, under guard rail, around curb, at bridges, intersections, drives and minor approaches to ensure proper compaction, finish, and drainage.

d. Quality Control Requirements – Method C and D:

- Name of QCP Administrator and certification number(s) as specified in Section 401.19.
- Name of Process Control Technicians(s) and certification number(s).
- Name of Quality Control Technicians(s) and certification number(s).
- Anticipated Compaction Temperature Zones for each roller zoneduring placement.
- Mix TMD to be used for density gauge setting for method spec density work
- Procedures for avoiding paving in inclement weather.

The Contractor shall also supply a Laydown Operation Plan that addresses sequence of work, layout of work, longitudinal joint construction, compaction of shoulders, methods to minimize segregation, and procedures to achieve acceptable pavement smoothness.

For each production day, a summary of each day's results, including a daily paving report, summarizing the mixture type, mixture temperature, equipment used, environmental conditions, and the number of roller passes, shall be recorded and signed by the QCT and presented to the Department's representative by 1 PM the following working day.

Unless otherwise noted in Section 403 – Hot Mix Asphalt Pavement, the Contractor shall submit a modified QC Plan every year detailing, how the mix is to be placed, what equipment is to be used, and what HMA plant is to be used for Items covered under the Plan. All mix designs (JMF) shall be approved and verified by MaineDOT prior to use.

The Contractor shall certify the mix and the test results for each item by a Certificate of Compliance.

The Contractor shall have a testing lab at the plant site, equipped with all testing equipment necessary to complete the tests in Table 6. The Contractor shall generate QC sampling random numbers for each approved mix design every year. A copy of the random numbers shall be emailed to the QC.mainedot@maine.gov email address and remain on-file (in print) and be available for inspection at the QC laboratory. The Contractor shall sample, test, and evaluate Hot Mix Asphalt Pavement in accordance with the minimum frequencies per each approved mix design.

TABLE 6: MINIMUM QUALITY CONTROL FREQUENCIES

Test or Action	**Frequency**	**Test Method**
Temperature of mix	6 per day at street and plant	-
Temperature of mat	4 per day	-
%TMD (In-Place Density - Surface)	1 per 125 ton	AASHTO T 355 or AASHTO T 343
%TMD (In-Place Density - Base)	1 per 250 ton	AASHTO T 355 or AASHTO T 343
Fines / Effective Binder	1 per 500 ton	AASHTO T 312*
Gradation	1 per 500 ton	AASHTO T 30
PGAB Content	1 per 500 ton	AASHTO T 164 or AASHTO T 308
Voids at N_{design}	1 per 500 ton	AASHTO T 312*
VMA at N_{design}	1 per 500 ton	AASHTO T 312*
Rice Specific Gravity	1 per 500 ton	AASHTO T 209
Percent Fractured Particles	1 per 5,000 ton	AASHTO T 335
Flat and Elongated Particles	1 Per 5,000 ton	ASTM D4791
Fine Aggregate Angularity	1 Per 5,000 ton	AASHTO T 304

The Contractor shall monitor plant production on each approved mix design using running average of three control charts as specified in Section 106 - Quality. Control limits shall be as noted in Table 7 below. The UCL and LCL, shall not exceed the allowable gradation control points for the particular type of mixture as outlined in Table 1 of Section 703.09.

TABLE 7: CONTROL LIMITS

Property	UCL and LCL
Percent Passing 4.75 mm and larger sieves	Target +/- 4.0
Percent Passing 2.36 mm sieve	Target +/- 2.5
Percent Passing 0.075 mm sieve	Target +/- 1.0
PGAB Content	Target +/- 0.25
VMA at N_{design}	LCL = LSL + 0.2
Voids at N_{design}	JMF Target +/- 1.2
Theoretical Maximum Specific Gravity	JMF Target +/- 0.020

The Contractor shall submit all QC test and inspection reports and updated control charts to the Resident and QC.mainedot@maine.gov by email. The reports and updated control charts shall be signed by the appropriate technician and be submitted to the Department by 1:00 P.M. on the next working day, except when otherwise noted in the QCP and approved by the Department.

The Contractor shall also retain splits of the previous 5 QC tests, with QC results enclosed for random selection and testing by the Department. Test results of splits that do not meet the Dispute Resolution

Variance Limits in Table 18 shall trigger an investigation by the MaineDOT Independent Assurance Unit and may result in that lab losing NETTCP certification and the ability to request a dispute [Section 401.50 - Process for Dispute Resolution].

The Contractor shall make density test results, including randomly sampled densities, available to the Department onsite. Summaries of each day's results, including a daily paving report summarizing the mixture type, mixture temperature, equipment used, environmental conditions, and the number of roller passes, shall be recorded and signed by the QCT and provided to the QC.mainedot@maine.gov email address and Resident in writing by 1:00 p.m. the next working day. The Contractor shall fill all holes in the pavement resulting from cutting cores by the Contractor or the Department with a properly compacted, acceptable mixture no later than the following working day. Before filling, the Contractor shall carefully clean the holes and apply a coating of emulsified asphalt. The Contractor may only cut additional cores for verification of the densometer, at a rate not to exceed 3 per day or 2 per 1000 ton placed.

If the Contractor’s control chart shows the process for a given mix design to be out of control (defined as a single point outside of the control limits on the running average of three chart) on any property listed in Table 7: Control Limits, the Contractor shall notify the Resident of all affected projects in writing of the corrective action by 1:00 PM the next working day. The written description shall detail what action is being taken by the Contractor to bring the property in question back within control limits. Subsequent quality control results are expected to demonstrate an improvement and regression towards the aim. The Department reserves the right to take action, to include cessation of production, in the case of repeated results outside the Table 7 control chart control limits.

On a daily basis, or whenever equipment type or sequence is modified, the Contractor shall perform density testing across the mat being placed, prior to being compacted by equipment at 12 in intervals. If the density values vary by more than 2.0% from the mean, the Contractor shall make adjustments to the screed until the inconsistencies are remedied. Failure to replace or repair defective placement equipment may result in a letter of suspension of work and notification of a quality control violation resulting in possible monetary penalties as governed by Section 106 – Quality.

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

a. The quality level for density using all quality control tests for the current Lot is less than 60 PWL.
b. The Coarse Aggregate Angularity or Fine Aggregate Angularity value falls below the requirements of Section 703.07, Table 3: Aggregate Consensus Properties Criteria for the design traffic level.
c. The Flat and Elongated Particles value exceeds 10% by ASTM D4791.
d. There is any visible damage to the aggregate due to over-densification other than on variable depth shim courses.
e. The Contractor fails to follow the approved QCP.

The Contractor shall notify the Resident in writing as to the reason for shutdown, as well as the corrective action, by the end of the workday. Failure to do so will be treated as a second incident under 106.4.6 QCP Non-compliance. The Department will only allow the continuation of paving operations when it is satisfied the corrective action will result in an improvement in results. The Department may require the submittal of a passing verification sample to allow further production. The Department

retains the exclusive right, with the exception of the first day's production of a new JMF, to determine whether the resumption of production involves a significant change to the production process. If the Department so determines, then the current lot will be terminated, a pay factor established, and a new lot will begin.

The Contractor may utilize innovative equipment or techniques not addressed by the Contract documents to produce or monitor the production of the mix, subject to approval by the Department.

401.192 Quality Control and Acceptance for Item 403.209 Hot Mix Asphalt, 9.5 mm Nominal Maximum Size, (sidewalks, drives, islands & incidentals) and visual acceptance items Item 403.209 will be accepted under method D acceptance unless otherwise noted in the 403 special provision. A QCP, certified QC personnel, or Prepave Meeting shall not be required for Item 403.209 - Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (sidewalks, drives, islands & incidentals) when accepted under either visual acceptance or under Method D acceptance unless otherwise specified in the 403 SP. An approved JMF shall be provided to the Resident prior to placement.

401.20 Acceptance Method A & C These methods utilize Quality Level Analysis and pay factor specifications. For Hot Mix Asphalt Pavement designated for acceptance under Quality Assurance provisions, the Department will sample once per sublot on a statistically random basis, test, and evaluate in accordance with the Acceptance Properties as outlined in Table 8:

TABLE 8: ACCEPTANCE PROPERTIES – METHOD A & C

Properties	**Point of Sampling**	**Test Method**
Gradation	Paver Hopper	AASHTO T 30
PGAB Content	Paver Hopper	AASHTO T 308
% TMD (In-Place Density)	Mat behind all Rollers	AASHTO T 269
Voids at N_{design}	Paver Hopper	AASHTO T 312
VMA at N_{design}	Paver Hopper	AASHTO T 312
Fines to Effective Binder	Paver Hopper	AASHTO T 312
VFB	Paver Hopper	AASHTO T 312

The Department will obtain samples of Hot Mix Asphalt Pavement in conformance with AASHTO R 97, Sampling Asphalt Mixtures, and the MaineDOT Policies and Procedures for HMA Sampling and Testing. The Contractor shall transport the samples in containers provided by the Department to the designated MaineDOT Laboratory within 48 hours except when otherwise noted in the project specific QCP or as directed by the Resident. Failure to deliver an acceptance sample to the designated acceptance laboratory will be considered the second incident under 106.4.6–QCP Non-Compliance.

Target values shall be as specified in the JMF. The Department will withhold reporting of the test results for the Acceptance sample until 7:00 AM, on the second working day of receipt of the sample, or after receipt of the Contractors results of the Acceptance sample split. Upon conclusion of each lot being evaluated under quality level analysis, where there is a minimum of four sublots, results shall be examined for statistical outliers, as stated in Section 106.7.2 - Statistical Outliers.

Lot sizes and sublot sizes shall be determined as outlined in Table 9.

TABLE 9: LOT AND SUBLOT SIZES – METHOD A & C

Lot Size*	Entire production per item per contract per year up to 6000 ton
Maximum Sublot Size – Mix	750 ton
Maximum Sublot Size – Density	Surface Layers – 250 ton Base / Intermediate Layers – 500 ton
Minimum Number of Samples – Mix	Four
Minimum Number of Samples – Density	Five

*General – Lot and Sublot size may be adjusted to accommodate the work scope and schedule, or as otherwise agreed upon at the Prepave Meeting

If there is less than one-half of a sublot remaining at the end of production for the year, then it shall be combined with the previous sublot. If there is more than one-half sublot remaining at the end of production for the year, then it shall constitute the last sublot and shall be represented by test results. If it becomes apparent partway through a Lot that, due to an underrun, there will be insufficient mix quantity to obtain the minimum number of sublots needed, the Resident may adjust the size of the remaining sublots and select new sample locations based on the estimated quantity of material remaining in the Lot. Unanticipated over-runs of up to 1500 ton shall be rolled into the last lot. Cases where the lot is terminated prior to reaching completion shall be handled in accordance with Section 106.7.3 Early Termination of Lots. In cases where a density incentive/disincentive provision apply, additional cores shall be taken to attain a minimum of three for the Lot.

Isolated Areas During the course of inspection, should it appear that there is an isolated area that is not representative of the lot based on a lack of observed compactive effort, excessive segregation, a change in process or any other questionable practice, that area may be isolated and tested separately.

An area so isolated that has a calculated pay factor below 0.80 for Method A, based on three random tests shall be removed and replaced at the expense of the Contractor for the full lane width and a length not to be less than 150 ft.

TABLE 10: ACCEPTANCE LIMITS – METHOD A & C

Property	USL and LSL	
	Method A	Method C
Percent Passing 4.75 mm and larger sieves	Target +/- 7%	Target +/- 7%
Percent Passing 2.36 mm to 1.18 mm sieves	Target +/- 4%	Target +/- 5%
Percent Passing 0.60 mm sieve	Target +/- 3%	Target +/- 4%
Percent Passing 0.30 mm to 0.075 mm sieve	Target +/- 2%	Target +/- 2%
PGAB Content	Target +/- 0.4%	Target +/- 0.4%
Voids at N_{design}	4.0% +/- 1.5%	N/A
Fines to Effective Binder	0.9 +/- 0.3	N/A
VMA at N_{design}	LSL from Table 1	N/A
VFB	Table 1 plus a 4% production tolerance for USL	N/A
% TMD (In-place Density)	94.5% +/- 2.5%	94.5% +/- 2.5%

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

TABLE 11: CEASE PRODUCTION – METHOD A & C

Property	Percent Within Limits (PWL)	
	Method A	Method C
Percent Passing NMAS sieve*	<60 PWL	<60 PWL
Percent Passing 2.36 mm sieve*		
Percent Passing 0.30 mm sieve*		
Percent Passing 0.075 mm sieve*		
PGAB Content		
Voids at N_{design}		N/A
Fines to Effective Binder*		
VMA at N_{design}		
VFB		
% TMD (In-place Density)		<60 PWL

*Paving operations shall not be required to cease if the mean test value is equal to the LSL or USL and s = 0.

In cases where the Contractor is to cease paving operations based upon an Acceptance result or payfactor, the Contractor will submit a corrective action plan to the Department. The Department will only allow the continuation of paving operations when it is satisfied the corrective action will result in an improvement in results. The Department may require the submittal of a passing verification sample to allow further production.

401.201 Pay Adjustment - Method A & C The Department will use the following criteria for pay adjustment at the completion of the Lot using the pay adjustment factors under Section 106.7 - Quality Level Analysis.

Density Upon conclusion of each lot, density results shall be examined for statistical outliers as stated in Section 106.7.2. If the pay factor for Density falls below 0.80, all of the cores will be randomly re-cut by Sublot. A new pay factor will be calculated that combines all initial and retest results. If the resulting pay factor is below 0.80 , the entire Lot shall be removed and replaced with material meeting the specifications at no additional cost to the Department, except that the Department may, when it appears that there is a distinct pattern of defective material, isolate any defective material by investigating each mix sample sublot and require removal of defective mix sample sublots only, leaving any acceptable material in place if it is found to be free of defective material. Pay factors equal to or greater than the reject level will be paid accordingly.

Mix Properties The Department will determine a pay factor (PF) using the applicable Acceptance Limits. If all three pay factors for PGAB Content, VMA at N_{design}, and Voids at N_{design} fall below 0.80 for Method A, then the composite pay factor for PGAB Content, VMA at N_{design}, and Voids at N_{design} shall be 0.50.

The following variables will be used for pay adjustment:

PA = Pay Adjustment
Q = Quantity represented by PF in ton
P = Contract price per ton
PF = Pay Factor

The Department will determine a pay adjustment using Table 12: Pay Adjustment Calculations as follows:

TABLE 12: PAY ADJUSTMENT CALCULATIONS – METHOD A & C

Acceptance Method	Mix Properties / Gradation	Density
Method A	PA = (Voids @ N_d PF - 1.0)(Q)(P)x0.20 + (VMA @ N_d -1.0)(Q)(P)x0.20 + (PGAB Content PF- 1.0)(Q)(P)x0.10	PA = (density PF-1.0)(Q)(P)x0.50
Method C	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 Content PF-1.0)(Q)(P)x0.25	PA = (density PF-1.0)(Q)(P)x0.50

In addition, for 9.5 mm NMAS mixtures the following pay adjustment shall also apply:

The average percent passing for the 0.075 mm sieve shall be evaluated for each Lot. If the average is greater than 6.5%, a pay adjustment according to Table 13 below shall apply in addition to the other pay adjustments for the given method of testing.

TABLE 13: 0.075 MM SIEVE PAY ADJUSTMENT

Average Percent Passing 0.075 mm Sieve	Pay Adjustment
6.6% - 7.0%	-5%
> 7.0%	-10%

The Department shall notify the Contractor whenever the average of at least three samples in a given Lot is greater than 6.5%.

401.21 Acceptance Method B & D Unless otherwise stated in the 403 special provision, the Lot shall be the entire mix quantity per item per contract per year. The Department will sample once per sublot per pay item on a statistically random basis, test, and evaluate in accordance with the Acceptance Properties in Table 14. The Department will obtain samples of Hot Mix Asphalt Pavement in conformance with AASHTO R 97, Sampling Asphalt Mixtures, and the MaineDOT Policies and Procedures for HMA Sampling and Testing. The Contractor shall transport the samples in containers provided by the Department to the designated MaineDOT Laboratory within 48 hours except when otherwise noted in the project specific QCP or as directed by the Resident. Failure to deliver an acceptance sample to the designated acceptance laboratory will be considered the second incident under 106.4.6–QCP Non-Compliance. Target values shall be as specified in the JMF. The Department will withhold reporting of the test results for the Acceptance sample until 7:00 AM, on the second working day of receipt of the sample, or after receipt of the Contractors results of the Acceptance sample split.

TABLE 14: ACCEPTANCE PROPERTIES – METHOD B & D

Properties	**Point of Sampling**		**Test Method**
	Method B	**Method D**	
Gradation	Paver Hopper	Paver Hopper or Truck	AASHTO T 30
PGAB Content	Paver Hopper	Paver Hopper or Truck	AASHTO T 308
% TMD (In-Place Density)	Mat behind all Rollers	Mat behind all Rollers	AASHTO T 269
Voids at N_{design}	Paver Hopper	N/A	AASHTO T 312
VMA at N_{design}	Paver Hopper	N/A	AASHTO T 312
Fines to Effective Binder	Paver Hopper	N/A	AASHTO T 312
VFB	Paver Hopper	N/A	AASHTO T 312

TABLE 15: LOT AND SUBLOT SIZES – METHOD B & D

Lot Size*	Entire mix quantity per item per contract per year
Maximum Sublot Size – Mix	250 ton (Max 4 Sublots)
Sublot Size – Density	125 ton (Max 5 Sublots)

*General – Lot and Sublot size may be adjusted to accommodate the work scope and schedule, or as otherwise agreed upon at the Prepave Meeting

If there is less than one-half of a sublot remaining at the end of production for the year, then it shall be combined with the previous sublot. If there is more than one-half sublot remaining at the end of production for the year, then it shall constitute the last sublot.

TABLE 16: ACCEPTANCE LIMITS – METHOD B & D

Property	USL and LSL	
	Method B	**Method D**
Percent Passing 4.75 mm and larger	Target +/- 7%	Target +/- 7%
Percent Passing 2.36 mm sieve	Target +/- 5%	Target +/- 7%
Percent Passing 1.18 mm sieve	Target +/- 5%	Target +/- 5%
Percent Passing 0.60 mm sieve	Target +/- 4%	Target +/- 4%
Percent Passing 0.30 mm sieve	Target +/- 3%	Target +/- 3%
Percent Passing 0.075 mm sieve	Target +/- 3%	Target +/- 3%
PGAB Content	Target +/- 0.5%	Target +/- 0.5%
Voids at N_{design}	4.0% +/- 2.0%	N/A
Fines to Effective Binder	0.9 +/- 0.3	N/A
VMA at N_{design}	LSL from Table 1	N/A
VFB	Table 1 plus a 4% production tolerance for USL	N/A
% TMD (In-place Density)	94.5% +/- 2.5%	LSL of 92.0%

The Contractor shall cease paving operations whenever two consecutive Method B or D tests fall outside specification limits on the same property. The Contractor will submit a corrective action plan to the Department. The Department will only allow the continuation of paving operations when it is satisfied the corrective action will result in an improvement in results. The Department may require the submittal of a passing verification sample to allow further production.

401.211 Pay Adjustment - Method B & D For items accepted under Method B or D, if the mix is within the tolerances listed in Table 16, the Department will pay the contract unit price. Otherwise, pay adjustments as shown in Table 17 shall be applied to the quantity of mix represented by the test. The Contractor shall cut one 6 in core per sublot unless otherwise noted in Section 403 - Hot Mix Asphalt Pavement. If the density result is not within the specified limits the disincentive shall apply. If the sublot density is less than 88.5 percent or greater than 99.0 percent of the sublot TMD, two additional cores shall be cut at random locations determined by the Department. If either of the additional cores has a density less than 88.5 percent or greater than 99.0 percent of the sublot TMD, the sublot shall be removed and replaced at no cost to the Department; otherwise, the average of the three cores will be used to determine the sublot pay adjustment.

TABLE 17: PAY ADJUSTMENTS – METHOD B & D

Property	**Method B**		**Method D**	
Percent Passing 2.36 mm sieve	N/A		-2.0%	
Percent Passing 0.30 mm sieve	N/A		-1.0%	
Percent Passing 0.075 mm sieve	-2.0%		-2.0%	
PGAB Content	-5.0%		-5.0%	
Voids at N_{design}	-3.0%		N/A	
% TMD (In-place Density)	91.5% - 91.9% or 97.1% - 97.5%	-5.0%	91.5% - 91.9%	-5.0%
	90.5% - 91.4% or 97.6% - 98.5%	-10.0%	90.5% - 91.4%	-10.0%
	89.5% - 90.4% or 98.6% - 99.0%	-20.0%	89.5% - 90.4%	-20.0%
	88.5% - 89.4%	-30.0%	88.5% - 89.4%	-30.0%
	<88.5% or >99.0%	Reject	<88.5% or >99.0%	Reject

401.30 Method of Measurement The Department will measure Hot Mix Asphalt Pavement by the ton in accordance with Section 108.1 - Measurement of Quantities for Payment.

401.40 Basis of Payment The Department will pay for the work, in place and accepted, in accordance with the applicable sections of this Section, for each type of HMA specified.

The Department will pay for the work specified in Section 401.12, for the HMA used, except that cleaning objectionable material from the pavement and furnishing and applying bituminous material to joints and contact surfaces is incidental.-Payment for this work under the appropriate pay items shall be full compensation for all labor, equipment, materials, and incidentals necessary to meet all related contract requirements, including design of the JMF, implementation of the QCP, obtaining core samples, transporting cores and samples, filling core holes, applying emulsified asphalt to joints, and providing testing facilities and equipment. The Department will make a pay adjustment for quality as specified in Section 401.20 Acceptance Method A & B or 401.21 Acceptance Method C & D.

401.50 Process for Dispute Resolution At the time of Hot-Mix Asphalt sampling, the Department will obtain a split sample of each Acceptance test random sample for possible dispute resolution testing. The Contractor shall also obtain a split sample of the HMA at this same time. If the Contractor wishes to retain the option of requesting dispute testing of the initial Acceptance sample, the Contractor will test their split of the Acceptance sample in accordance with applicable AASHTO procedure and accepted supplemental practice as described in the Department's HMA Sampling and Testing Policies and Procedures manual. The Contractor shall report their results to the Resident, with a copy to Contractor.mainedot@maine.gov by 7:00 AM, on the second working day from time of QA sampling, otherwise dispute resolution will not be initiated. The Department's dispute resolution split sample will be properly labeled and stored for a period of at least two weeks after it has been reported, or until the sample is tested. The properties eligible for dispute and the respective variances are shown in Table 18.

The Contractor may dispute the Department's Acceptance results and request that the dispute resolution split sample be tested by notifying the Department's Resident and QA Engineer in writing within two working days after the results of the Acceptance test are reported. The following shall be provided in the request:

- Acceptance sample reference number
- The specific test result(s) or property(ies) being disputed, and
- The complete, signed report of the Contractor's testing (In a lab certified by the NETTCP and MaineDOT) of their split of the Acceptance sample indicating that the variances in Table 18 for the specific test result(s) or property(ies) were met or exceeded.

TABLE 18: DISPUTE RESOLUTION VARIANCE LIMITS

Property	Method A & B	Method C & D*	Variance Limits
PGAB Content	Yes	Yes	+/- 0.4%
G_{mb}	Yes	No	+/- 0.030
G_{mm}	Yes	Only if referenced to a Core	+/- 0.020
Voids at N_{design}	Only if G_{mb} or G_{mm} is not disputable	No	+/- 0.8%
VMA at N_{design}	Only if G_{mb} or G_{mm} is not disputable	No	+/- 0.8%
Percent Passing 4.75 mm and larger sieves	No	Yes^	+/- 4.0%
Percent Passing 2.36 mm to 0.60 mm sieves	No	Yes^	+/- 3.0%
Percent Passing 0.30 mm to 0.15 mm sieves	No	Yes^	+/- 2.0 %
0.075 mm sieve	Only for 9.5 mm NMAS mixes	Yes	+/- 0.8%

*****Disputes will not be allowed on Item 403.209

^Disputes will only be allowed on Sieve Sizes used for pay adjustment calculations

The value of any disputed result or property reported for the initial Acceptance sample shall stand if the value reported for the dispute resolution sample is not closer to the value the Contractor reported for their split sample than to the value reported for the initial Acceptance sample. If the value reported for the dispute resolution falls precisely half-way between the other two values the value reported for the dispute resolution will replace the original acceptance value. Otherwise, the value reported for the dispute resolution sample will replace the value reported for the initial Acceptance sample and will be used to re-calculate any other affected results or properties.

SECTION 402 - PAVEMENT SMOOTHNESS

402.00 Smoothness Projects Projects to have their pavement smoothness analyzed in accordance with this Specification will be so noted in Special Provision 403 - Hot Mix Asphalt Pavement.

402.01 Pavement Smoothness The final pavement surface shall be evaluated for smoothness using a Class I or Class II profiler as defined by ASTM E950 (94). Smoothness measurements will be expressed in terms of the International Roughness Index (IRI) as defined by the World Bank, in units of inches/mile.

402.02 Lot Size Lot size for smoothness will be 3000 lane-feet. A sublot will consist of 50 lane-feet. Partial lots will be included in the previous lot if less than one-half the size of a normal lot. If equal to or greater than one-half the normal lot size, it will be tested as a separate lot.

402.03 Acceptance Testing The Department will conduct Acceptance testing following completion of the surface course. Sections to be excluded from testing include the following:

- Bridge decks and joints (no smoothness measurements will be taken within 100 ft of bridge joints)
- Acceleration and deceleration lanes
- Shoulders and ramps
- Side streets and roads
- Within 100 ft of transverse joints at the beginning and end of the project
- Within 100 ft of railroad crossings
- Urban areas with speed limits of 30 mph or lower

Each lot shall have 2 measurements made in each wheel path. The average of the 4 measurements will determine the smoothness for that lot. The smoothness measurements will be statistically evaluated for pay factors as described in Subsection 106.7 - Quality Level Analysis, using the specification limits shown below.

TABLE 1: ACCEPTANCE LIMITS

Level	**USL**
I	55 in/mile
II	65 in/mile
III	75 in/mile

Computation of Smoothness Pay Adjustment:

PA = (PF-1.0)(Q)(P) where:
Q = Quantity of surface course in the Lot (excluding shoulders, side streets, bridge decks, ramps, acceleration and deceleration lanes)
PF = smoothness pay factor for the Lot
P = Contract unit price for surface pavement
PA = pay adjustment

402.04 Unacceptable Work In the event that any Lot is found to have a pay factor less than 0.80, the Contractor shall take whatever remedial action is required to correct the pavement surface in that Lot at no additional expense to the Department. Such remedial action may include but is not limited to removal and replacement of the unacceptable pavement. In the event remedial action is necessary, the Contractor shall submit a written plan to the Resident outlining the scope of the remedial work. The Resident must approve this plan before the remedial work can begin. Following remedial work, the Lot shall be retested, and will be subject to the specification limits listed above. The resulting pay factor, if within the acceptable range, will be used in the final pay adjustment. The Contractor shall pay the cost of retesting the pavement following corrective action.

Localized surface tolerance defects will be subject to the provisions outlined in Section 401.11 Surface Tolerances.

Payment will be made under:

Pay Item	Pay Unit
402.10 Incentive/Disincentive - Pavement Smoothness	Lump Sum

SECTION 403 - HOT MIX ASPHALT PAVEMENT

403.01 Description This work shall consist of constructing one or more courses of Hot Mix Asphalt pavement on an approved base in accordance with these specifications, and in reasonably close conformity with the lines, grades, thickness and typical cross sections shown on the plans or established. The HMA pavement shall be composed of a mixture of aggregate, filler if required, and asphalt material.

403.02 General The materials and their use shall conform to the requirements of Section 401 - Hot Mix Asphalt Pavement.

403.03 Construction The construction requirements shall be as specified in Section 401 - Hot Mix Asphalt Pavement.

403.04 Method of Measurement Hot mix asphalt pavement will be measured as specified in Section 401.21- Method of Measurement.

403.05 Basis of Payment The accepted quantities of hot mix asphalt pavement will be paid for at the contract unit price per ton for the mixtures, including hot mix asphalt material complete in place. Method A, Method B, Method C and Method D shall be used for acceptance as specified in Section 401 - Hot Mix Asphalt Pavements. (See Complementary Notes, Section 403 - Hot Mix Asphalt Pavement, for Method location).

Payment will be made under:

Pay Item		Pay Unit
403.102	Hot Mix Asphalt Pavement for Special Areas	Ton
403.206	Hot Mix Asphalt, 25 mm Nominal Maximum Size	Ton
403.207	Hot Mix Asphalt, 19.0 mm Nominal Maximum Size	Ton
403.2071	Hot Mix Asphalt, 19.0 mm Nominal Maximum Size (Polymer Modified)	Ton
403.2072	Asphalt Rich Hot Mix Asphalt, 19.0 mm Nominal Maximum Size (Asphalt Rich Base and Intermediate course)	Ton
403.208	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size	Ton
403.2081	Hot Mix Asphalt - 12.5 mm Nominal Maximum Size (Polymer Modified)	Ton
403.209	Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Sidewalks, Drives, Islands & Incidentals)	Ton
403.210	Hot Mix Asphalt, 9.5 mm Nominal Maximum Size	Ton
403.2101	Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Polymer Modified)	Ton
403.2104	Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Thin Lift Surface Treatment)	Ton
403.211	Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Shimming)	Ton
403.2111	Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Shimming, Polymer Modified))	Ton
403.212	Hot Mix Asphalt, 4.75 mm Nominal Maximum Size	Ton
403.213	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base and Intermediate Base course)	Ton
403.2131	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base and Intermediate Base course, Polymer Modified)	Ton
403.2132	Asphalt Rich Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base and Intermediate Base course)	Ton
403.214	Hot Mix Asphalt, 4.75 Nominal Maximum Size (5/8” Surface Treatment)	Ton

TOWN: Well Maine
WIN: 028650.00
DATE:3/27/2026

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

CLASS OF CONCRETE	ITEM NUMBER	DESCRIPTION	P	METHOD
A	3.1	Cast in Place Concrete Abutments		C

SPECIAL PROVISIONS
SECTION 531
MARINE STRUCTURES

531.01 Description This work shall comprise the, detailing, fabrication, delivery and installation of marine components, structures, and corresponding elements in accordance with the Plans and Specifications. All requirements in this specification are the responsibility of the Contractor, unless otherwise noted.

Facilities Quality Control Plan shall be administered by a Certified Welding Inspector (CWI) for welding and National Associate of Corrosion Engineers (NACE) II for coatings or by other individuals approved by the Fabrication Engineer.

531.02 Materials All materials shall comply with the requirements of the respective Subsections of this Specification.

531.03 General Specifications The specifications for marine elements are as follows:

Moorings	Subsections 531.50 through 531.59
Gangways	Subsections 531.60 through 531.69
Fenders	Subsections 531.70 through 531.79

531.04 Inspections Quality Control (QC) is the responsibility of the Contractor. Inspect all aspects of the Work and supervise all nondestructive examination (NDE). Record measurements and test results in a clear and legible manner. Reject materials and workmanship that do not meet contract requirements. The Contractor may perform NDE in addition to the minimum required. Make the results of all measurements and testing available to the Quality Assurance Inspector (QAI).

531.05 Notice of Beginning of Work The Contractor shall provide the Department a minimum of a two week notice for in-Maine work and a three week notice for out-of-Maine work, prior to beginning production. If the production schedule changes, notify the Fabrication Engineer no less than three working days prior to the initial start-up date. Any Work done without the QAI present will be rejected. Advise the Fabrication Engineer of the production schedule and any changes to it. If Work is suspended on a project, the Fabrication Engineer will require 72 hours' notice prior to the resumption of Work.

Office facilities for the QA staff shall meet the requirements of Standard Specification Section 504.09, Facility Inspection.

MOORINGS

531.50 Description Provide all labor, materials, equipment, and supervision necessary for the installation of mooring devices and chocks.

531.51 Materials The materials shall meet the requirements of the following Sections of the Standard Specifications and Special Provisions:

Concrete	502 Class LP
Coating	506 Zinc-Rich Coating

Anchor Rods	720.07
Mooring Hardware	731.01
Polyurethane (self-leveling)	731.02
Polyurethane (non-sag)	731.03

The mooring hardware shall have a high chemical-resistant coating suitable for severe marine exposure. Coating shall conform to Standard Specification Section 506 – Shop Applied Protective Coating – Steel. provide the coating system to ensure compatibility between coats and quality control of the final product.

Mooring Tackle shall comprise a concrete (or granite) anchor block, chains, shackles, and mooring ball.

531.52 Submittals Submit the following for review and approval prior to ordering any materials:

For Mooring Hardware:

1. Product Data: Indicate the make, model, certified load capacity with directions of load indicated, method and orientation of installation, and size, type, and location of fasteners for the mooring device. Indicate the paint coating system. Illustrate dimensions and thicknesses of components via manufacturer cut sheets.

For Mooring Tackle:

1. Product Data and Illustration: Indicate the size and length of components and certified load capacity of steel chains and elements. Illustrate in cross-section views the maximum radius of the mooring ball at extreme tidal elevations. Illustrate dimensions and thicknesses of components via manufacturer cut sheets.

531.53 Design Mooring Hardware and associated anchorages shall be designed to withstand the loads provided in the Contract Plans. The factor of safety against yielding shall be a minimum of 3.0. The manufacturer of the mooring device shall indicate the size (diameter) and length of the anchor rod necessary to achieve the capacity of the mooring device.

Mooring Tackle shall be designed to withstand the intended design vessel as noted on the Plans at extreme tidal elevations: Mean Lower Low Water (MLLW) minus 2 ft and Mean Higher High Water (MHHW) plus 2 ft based on tidal elevations listed at the closest National Oceanic and Atmospheric Administration (NOAA) Tidal Station to the project site. Wave, wind, and current forces shall be included in the design of the mooring tackle components with a factor of safety no less than 3.0.

531.56 Installation Anchor bolts shall be of the size, type and location as recommended by the mooring hardware manufacturer. Where existing mooring hardware is to be used, the size, location, and embedment of the anchor bolts shall be as detailed on the Plans. Contractor shall verify bolt size and spacing for new and existing mooring devices. Anchor bolts and sleeves shall be held in place with templates that match bollard manufacturer's bolt pattern. Templates shall ensure proper location of bolts and sleeves during placement of concrete.

Prior to placement of concrete, areas of mooring hardware shall be formed out of the concrete pour. Contractor shall verify orientation. Just prior to setting of each mooring device, a bed of high-strength, non-shrink grout shall be placed to seal mooring hardware into position. Contractor shall ensure no voids are created beneath the mooring hardware. After mooring hardware is set and tightened down, excess grout shall be removed.

Fill the anchor bolt holes using a one-part self-leveling polyurethane sealant to create a meniscus of material.

Seal the perimeter of the mooring device at the concrete interface with a one-part non-sag polyurethane elastomeric sealant.

ALUMINUM GANGWAYS

531.60 Description This work shall consist of furnishing all labor, materials, equipment, transportation and incidentals required to assemble and install aluminum gangways, complete, as shown on the Contract Plans to include anchor bolts, nuts, washers, transition plates, shims, and all other hardware required to construct gangways in accordance with these Specifications and shown on the Plans.

531.61 Materials All materials shall conform to the following:

Stainless Steel	711.12
Aluminum	716.01
UHMW-Polyethylene	731.04
MDS-Nylon	731.05

Gangways and their secondary components shall be fabricated of ASTM B221, Aluminum Alloy 6061-T6 or 6063-T5. Secondary fabricated components shall consist of handrails, treadplates, kick plates, hinges, and anchor plates.

All fastener bolts and studs shall be stainless steel ASTM F593, Type 316. Fastener nuts and washers shall be ASTM F594, Type 316.

When rollers are provided at the free end of the gangway, they shall be fabricated of UHMW-Polyethylene or a MDS Nylon material.

531.62 Submittals Submit the following for review and approval prior to ordering any materials:

1. Shop Drawings: Illustrate dimensions and thicknesses of all components. Drawings shall be signed and stamped by a professional engineer licensed in the State of Maine.
2. Product Data: Indicate the make and model of the gangway unless custom-fabricated and its load carrying capability. Provide a maintenance manual listing regularly schedule maintenance activities to be performed by the owner.

3. Material Certifications: Aluminum, stainless steel, and UHMW-Polyethylene.
4. Certificate of Conformance: Manufacturer shall provide written documentation of product conformance in the form of a written certificate. Also, a metal name tag shall be affixed to the side of the gangway within 3 ft from the end of rail in a conspicuous location with manufacturer's contact information and live load capacity.
5. Design Calculations: Computations indicating conformance to the design loads shown on the Contract Plans and within these Specifications. Calculations shall be signed and stamped by a professional engineer licensed in the State of Maine.
6. Quality Control Plan
7. Welding Procedures

531.63 Design The aluminum gangway shall be designed to the current edition of *The Aluminum Association Specifications and Guide for Aluminum Structures*. The design of aluminum gangways shall meet the criteria noted below and as indicated on the Contract Plans. The designer shall consider the environmental forces and effects associated with the marine environment specific to the site including the extreme conditions of wind and wave forces.

General Gangway:

1. The Plans will illustrate and identify the following attributes based on the marine environmental condition and the intended functionality of the gangway:
    i. Vertical live load requirements (minimum 85 lbs/ft^2).
    ii. ADA compliance features.
    iii. Overall dimensions including width, clear width (between handrails), and length.
2. The length of the gangway shall be designed to accommodate the full range of tidal conditions from MLLW minus 2 ft to MHHW plus 2 ft in accordance with the closest NOAA Tidal Station data. Accommodation of this tidal range shall mean that a 4 ft by 4 ft landing is maintained at each end of the gangway during the extreme tidal range noted above.
3. The maximum deflection shall not exceed L/180 where L is the length of the gangway in inches.
4. Handrail Horizontal Load - Handrails shall be capable of withstanding a 200-pound concentrated horizontal load applied at the top of the railing.
5. Handrail Vertical Load - Handrails shall be capable of withstanding a 50-pound per-foot vertical loading applied at the top of the railing.

Provisions shall be made for supporting utilities beneath or alongside the gangway when required by Contract. Hangers shall be the sizes, shapes, and lengths sufficient for their intended use and hot-dipped galvanized in accordance with ASTM A123. Protection from galvanic reaction of dissimilar metals shall be provided.

The walkway surface shall be comprised of planks with perforations to provide an integral non-skid surface. The use of cross-cleats or other mechanical devices to achieve non-skid capacity shall only be allowed when specifically called for on the plans.

Handrail height shall be 34 inches (min.) to 42 inches (max.) from the top of deck. When the top rail of the gangway also serves as the handrail, the top rail shall be round, schedule 40 aluminum pipe of no less than 2-inch diameter. The handrail shall extend a minimum of 12 inches past the walking surface of the gangway at both ends.

When specified on the Plans, a continuous kick plate shall be installed along the edge of the walking surface along the bottom of each railing on the inside faces. The plates shall be 1/4 inch x 3 inches flat bar.

Transition plates shall be installed at the ends of the gangway using piano-style hinges. The transition plate dimensions shall be 1/4 inches x 48 inches wide by 24 inches long with a non-slip surface. The hinged end of the gangway (hinge and latch) shall be designed and detailed by the manufacturer to conform to the load requirements and schematics given and shown in the Contract Plans, including the details for attachment to the gangway support structure.

The roller at the free end of the gangway shall be 3-inch minimum diameter and the full width of the gangway unless otherwise dimensioned on the Contract Plans.

All bolts, nuts, and washers shall be as indicated on the shop drawings, or if not so indicated, shall be of sizes, shapes and lengths sufficient for their intended uses and shall be stainless steel.

531.64 Fabrication All components of the gangway shall be shop fabricated and assembled in accordance with the details shown on the Contract Plans. Welded components of Aluminum gangways shall be performed by experienced operators in accordance with *ANSI/AWS D1.2-97* using the gas metal arc welding process. All exposed surfaces and their welded joints shall be smooth and free of sharp or jagged edges.

531.66 Delivery Gangways shall be delivered, handled, and stored to prevent damage. Place the gangway on level dunnage to avoid warping. Protect transition plates, anchorage plates, and rollers.

531.67 Installation Gangways shall be installed level in the transverse direction and anchored at one end in accordance with the Plans. Anchorages shall be comprised of bolted connections in oversized slotted holes to permit longitudinal expansion and contraction. The free end of the gangway shall be vertically supported yet confined horizontally using guide plates or a recessed pocket if indicated on the plans.

FENDERS

531.70 Description This work shall consist of the manufacture, delivery, and installation of fenders of the types and dimensions and at the locations shown on the Contract Plans. Fender systems may include steel panels with UHMW surfaces, rubber buckling elements, chains, spacers, and anchorage hardware or Elastomeric Arch and D-Fenders.

531.71 Materials All materials shall meet the requirements of the following sections of The Standard Specifications and Special Provisions.

Coating	506 Zinc-Rich Coating
Structural Steel	713.01
Anchor Rods	720.07
UHMW- Polyethylene	731.04
Ethylene Propylene Dimonomer (EPDM), rubber	731.06

The steel fender panels shall have a minimum yield strength of 50 ksi and all welding shall be in accordance with the latest version of the AWS D1.1 standard. Steel for brackets and miscellaneous steel items shall be of structural steel conforming to ASTM Standard A36 or stronger and shall be of the shape, size and details indicated or suitable for the purposes.

The steel fender panels shall have a high chemical-resistant coating suitable for severe marine exposure. Coating shall conform to Standard Specification Section 506 – Shop Applied Protective Coating – Steel. The coating shall be a three-coat Zinc-Rich Coating of no less than 18 mils DFT: two coats of 8 mils minimum per coat, and top-coated with polyurethane of 2 mils minimum. Surface preparation shall be SSPC-SP10 with an anchor profile of 2.5 mils to 4.0 mils. One manufacturer shall provide the coating system to ensure compatibility between coats and quality control of the final product.

The rubber for the proposed fender shall be vulcanized, natural, synthetic or a mixture. The fender(s) shall be reinforced with carbon black and resistant to aging, ozone, temperature extremes, marine growth, seawater, abrasion, and ultraviolet rays.

The rubber is to be homogenous in quality and free from foreign materials, bubbles, tears, cracks and other harmful defects. The unvulcanized rubber compound used to mold the fenders must be produced specifically for this project. Only virgin rubber shall be used to manufacture the fenders. Manufacturer shall submit a certificate of conformance stating the unvulcanized rubber used meets this requirement.

The embedded steel plates are to be firmly bonded into the rubber body through the process of vulcanization, and completely encapsulated so that no steel is exposed except where female bolting nuts are present.

All steel chains shall be hot-dipped galvanized, Grade 3, Stud-Link Chains. Pad eyes, U-bolts, and shackles shall be hot-dipped galvanized G2130. Bolts shall be anchored into the existing concrete and secured with epoxy anchoring material. Epoxy material shall be a product that is on the MaineDOT Qualified Products List for "Epoxy and Resin Based Adhesive Bonding Systems" suitable for a marine environment and capable of sustaining the specified loads Fenders shall be provided with templates for setting anchor bolts.

All fasteners between the steel fender panel and the rubber fender elements, and between the rubber fender elements and the mounting substrate shall be stainless steel ASTM A240, Type 316 unless otherwise noted on the plans.

531.72 Submittals Submit the following for review and approval prior to ordering any materials:

1. Shop Drawings: Illustrate dimensions, arrangement, and thicknesses of all components. For steel fender panels, illustrate internal stiffeners, wearing surfaces, chains, anchorages,

and hardware. Drawings shall be signed and stamped by a professional engineer licensed in the State of Maine.

2. Product Data: Indicate the make, model, and certified energy rating capacity for the rubber buckling fenders. Indicate the coating system and UHMW materials for steel fender panels. Indicate the mounting hardware components. Provide catalog data sheets for the coating system.
3. Material Certifications & Test Certificates: Rubber fenders, steel, chains, shackles, U-bolts, pad eyes, anchor bolts, epoxy resins, and UHMW.
4. Certificate of Conformance: Performance of the fender system to absorb the design berthing energy. Pressure test report of the steel closed-box fender panel.
5. Design Calculations: Computations indicating conformance to the design energy shown on the Contract Plans. For rubber fenders, provide energy compression curves. For steel fender panels, provide structural calculations indicating conformance to the design loads and locations shown on the Contract Plans. Calculations shall be signed and stamped by a professional engineer licensed in the State of Maine.
6. Material Safety Data Sheets: Paint coating system.
7. Quality Control Plan- Coating and Welding
8. Welding Procedures.
9. Manufacturer's Documentation: Provide qualification package which supports 15 years of manufacturing experience of rubber fender elements for the marine industry, and satisfactory proof of past performance of similar applications. Provide instructions for the handling, assembly, and installation of materials and elements. Provide qualifications and certifications of the individuals performing welding procedures.
10. Warranty Certification: Rubber fenders.

531.73 Design The fender system shall be designed to withstand the berthing energies and forces noted on the Contract Plans. Berthing energies shall be listed in kip-ft. The manufacturer shall review the design criteria shown on the Contract Plans regarding the vessel characteristics, berthing requirements, and minimum standoff requirements prior to designing and submitting the panel shop drawings and material specifications.

The fender panel shall be of the closed-box type and be rectangular in shape as shown on the Contract plans with a vertical height and horizontal width as illustrated. If the fender panel is beveled along its perimeter, only the flat frontal area of the panel that contacts the vessel shall be considered when calculating the hull pressure. The panel shall be designed and constructed according to the AISC Steel Construction Manual Specifications15th edition.

The fender panel shall also be designed to include all possible loads imparted by the vessel including but not be limited to line loads at the extreme top and extreme bottom of the flat portion of the panel to represent tidal variations, storm surges, and vessel movements. The weight of the panel with the UHMW-PE wearing surface shall not exceed the load limitation noted on the plans.

The proposed chains, shackles, pad eyes (or U-bolts, or "dog-bones"), and hardware shall prevent excessive shear and weight-induced deflection of the existing fenders. The proposed chains are

identified by the anticipated minimum link-counts, and the Contractor shall field verify the actual number of chain links (length) required prior to ordering and purchase. All chains are mandatory and must be included in the design. Chain capacities shall have a minimum factor of safety of 2. Pad eye anchor bolts shall be of the prescribed strength and size and installed to the depths shown on the Contract Plans. The hole diameter for the anchor bolts shall be in accordance with the recommendations of the epoxy manufacturer to achieve 125% of the design tensile strength of the bolt.

The UHMW-PE wearing surface shall be comprised of individual plates which cover the full face of the fender panel including the faces of beveled panels along its perimeter. The plates shall be a minimum of 1 1/2 inches thick and black in color unless otherwise noted on the Contract Plans. The plates shall be fastened to the fender panel using stainless steel hex-head bolts and washers that are counter sunk into the plate as shown on the Plans. The UHMW wearing pads on the front face of the fender panels shall be drilled and counter bored for the studs or mounting bolts. The counter bored hole shall leave a minimum of 1/2-inch of material between the panel and the washer. The wear surface shall be a minimum of 1/2-inch. All mounting studs (or bolts) shall be a minimum of 5/8-inch diameter. All studs, bolts, washers, and nuts shall be Alloy 316 stainless steel. All exposed edges of the UHMW shall include 3/4-inch by 3/4-inch chamfers. A gap of 1/4-inch min. to 1/2-inch max. shall be maintained between plates throughout the wearing surface.

531.74 Fabrication Steel fender panels shall be fabricated to the grades and dimensions shown on the Contract Plans and the requirements of Standard Specification Section 504, Structural Steel. Do not substitute material without the approval of the Fabrication Engineer. All external welds shall be seal-welds to prevent corrosion. All exposed surfaces and their welded joints shall be smooth and free of sharp or jagged edges. All bolt holes shall be drilled or punched. The manufacturer is to supply current welding procedures as well as individual welder qualifications and certifications as part of their submittal documentation.

Rubber fenders include leg fenders, conical fenders, arch fenders, and D-fenders used behind steel fender panels or individually as illustrated in the Contract Plans. Leg fenders, arch fenders, and D-fenders shall be extruded and continuous in length as indicated. Conical fenders shall be manufactured as one single unit.

The Contractor shall warranty and guarantee that the fender panel including the steel panels, UHMW-PE facing, the rubber elements and all connection hardware meets or exceeds the material and performance criteria specified and shall be free of defects in construction and/or materials for a period of two years from the date of Physical Work Complete. Should any warranty defects be found within this period, the Contractor shall be required to repair all defects at no additional cost to the Department.

531.75 Delivery Steel fender panels and rubber fender elements shall be delivered, handled, and stored to prevent damage. Steel fender panels shall be protected from construction activities which may damage the paint coating or gouge the UHMW wearing surfaces. Rubber fenders shall be protected from bending or abrading of end fittings, cutting of rubber, or damage to coating of hardware. Protect rubber fenders from exposure to damaging liquids, oils, greases and extended exposure to sunlight.

531.76 Installation Install the fender system in the position indicated on the Plans.

For proposed rubber buckling leg and conical fenders, attach the fender to the back of the steel fender panel and position the assembly in the location shown on the Plans. Mark the hole locations on the dolphin and then reposition the assembly to the side to enable clean drilling. Pre-drill holes into the mounting surface prior to attachment.

Fasteners between the rubber buckling fender and the steel fender panel (if present), and anchorages between the rubber buckling fender and the mounted surface shall be stainless steel ASTM A240, Type 316. Use an anti-seize compound to coat threads of bolts prior to installing all hardware.

Pad eyes shall be installed simultaneously and integrally with the steel reinforcement. Layout of the pad eyes shall be prepared in accordance with the Plans prior to concrete placement.

Care shall be taken to secure all fender units with required hardware without sagging or distortion. Installation shall include chains, spacers and attachment to fenders as indicated.

531.77 Special Testing The Contractor shall perform special tests on the following components.

Steel Fender Panels: Pressure testing shall be performed to ensure an air and watertight seal. Pressure test results must be provided to the approval engineer prior to delivery of the panels.

Anchors drilled and grouted shall be tested for pull-out strength. Anchors that fracture shall be replaced by drilling and installing a new anchor approximately 6-inches away laterally from the broken one. Anchors that fail, may be replaced by a new anchor using the same hole, provided depth and diameter requirements are achieved, as approved by the Resident.

531.90 Method of Measurement

Mooring Hardware will be measured for payment by each unit in place and accepted.

Mooring Hardware Clean and Recoat will be measured for payment by each unit that is blast-cleaned and coated.

Mooring Tackle will be measured for payment by each unit fully assembled and installed. The chains, shackles, and mooring ball shall be incidental to this item.

Mooring Block will be measured for payment by each unit fully furnished and installed. Concrete anchor block (or granite block) shall comprise this item.

Aluminum Gangways will be measured for payment by each unit in place and accepted. Anchorage connections and transition plates shall be incidental to the Aluminum Gangway pay item.

Aluminum Gangway Guides will be measured for payment by each pair in place and accepted.

Steel Closed-Box Fender Panel will be measured for payment by each unit in place and accepted.

Steel Closed-Box Fender Panel Fully Furnished will be measured for payment by the lump sum in place and accepted.

Steel Chains, Shackles, and Pad Eyes will be measured for payment by each unit in place and accepted. The length and size of steel chains and shackles shall be as noted on the Plans.

Elastomeric Leg and Conical Fenders will be measured for payment by each unit in place in and accepted.

Elastomeric Arch and D-Fenders will be measured for payment by the linear foot in place and accepted.

531.91 Basis of Payment

Mooring Hardware shall be paid for at the Contract unit price, which shall be full compensation for all materials, equipment, labor, and incidentals necessary for furnishing and installing the mooring hardware as shown on the Plans. Payment shall include concrete fill materials placed inside the mooring device, anchorage hardware, coatings, and sealants.

Mooring Tackle shall be paid for at the Contract lump sum price, which shall be full compensation for all materials, equipment, labor and incidentals necessary for furnishing and installing the mooring tackle as shown on the Plans. Payment shall include pad eyes, chains, shackles, and mooring balls.

Mooring Block shall be paid for at the Contract lump sum price, which shall be full compensation for all materials, equipment, labor and incidentals necessary for furnishing and installing the mooring block as shown on the Plans. Payment shall include a concrete (or granite) anchor block,

Aluminum Gangways will be paid for at the Contract unit price and shall include all labor, materials, incidentals, and equipment necessary to satisfactorily complete the work in accordance with the Plans and Specifications. Payment shall include fabrication, delivery and installation of the gangways, transition plates, and connections. Installation shall include all hardware to fasten, secure, and level the gangway(s).

Aluminum Gangway Guides will be paid for at the Contract unit price per pair and shall include all labor, materials, incidentals, and equipment necessary to satisfactorily complete the work in accordance with the Plans and Specifications.

Fender Panel, Steel Closed-Box will be paid for at the Contract unit price for the respective Contract items which shall be full compensation for all labor, materials, incidentals, and equipment necessary to satisfactorily complete the work in accordance with the Plans and Specifications. Basis of payment shall include all coatings, threaded inserts and studs, and UHMW-PE wearing surfaces.

Fender Panel, Steel Closed-Box Fully Furnished will be paid for by the Contract lump sum price for the respective Contract items which shall be full compensation for all labor, materials, incidentals, and equipment necessary to satisfactorily complete the work in accordance with the Plans and Specifications. Basis of payment shall include all steel fender panels, coatings, threaded inserts and studs, UHMW-Polyethylene wearing surfaces, rubber buckling fender elements, chains, shackles, and pad eyes.

Steel Chains, Shackles, and Pad Eyes when individual pay items are provided in the schedule of items, these items will be paid for at the Contract unit price for the respective Contract items. Payment shall be full compensation for all labor, materials, incidentals, and equipment necessary

to satisfactorily complete the work in accordance with the Plans and Specifications. Installation of Pad Eyes shall entail drilling of the concrete hole, hole cleaning, and anchor materials. If no individual item is provided, the item shall be considered incidental to the Fender panel item.

Elastomeric Leg and Conical Fenders will be paid for at the Contract unit price. Payment shall be full compensation for fabrication, delivery and installation, including all labor, materials and equipment necessary to complete the work.

Elastomeric Arch and D-Fenders will be paid for at the Contract linear foot. Payment shall be full compensation for fabrication, delivery and installation, including all labor, materials and equipment necessary to complete the work.

Cathodic Protection by Sacrificial Anodes will be paid for under Pay Item 655.501, Cathodic Protection by Sacrificial Anodes.

Payment will be made under:

Pay Items		Pay Unit
531.9501	Mooring Hardware – Bollards	Each
531.9511	Mooring Hardware – Cleats	Each
531.9521	Mooring Hardware – Double Bitts	Each
531.9531	Mooring Hardware – Chocks	Each
531.9541	Mooring Hardware – Clean and Recoat	Each
531.9551	Mooring Tackle	Each
531.9561	Mooring Block	Each
531.9601	Aluminum Gangway (xx LF)	Each
531.9611	Aluminum Gangway Guides	Each
531.9701	Fender Panel, Steel Closed-Box	Each
531.9702	Fender Panel, Steel Closed-Box Fully Furnished	Lump Sum
531.9711	Steel Chains	Each
531.9715	Steel Shackles	Each
531.9719	Steel Pad Eyes	Each
531.9721	Elastomeric Leg Fenders	Each
531.9731	Elastomeric Conical Fenders	Each
531.9741	Elastomeric Arch Fenders	Linear Foot
531.9751	Elastomeric D-Fenders	Linear Foot

September 22, 2025
Supersedes December 17, 2024

2020 STANDARD DETAIL UPDATES

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

Detail #	Description	Posted Date
502(06)	Concrete Sidewalk on Bridges	9/22/2025
502(19)	Bridge Drains	3/17/2023
502(15)	Bridge Drains	3/17/2023
502(20)	Bridge Drains	3/17/2023
502(23)	Bridge Drains	3/17/2023
502(24)	Bridge Drains	3/17/2023
502(25)	Bridge Drains	3/17/2023
502(26)	Bridge Drains	3/17/2023
504(07)	Diaphragm & Crossframe Notes	3/17/2023
507(04)	Steel Bridge Railing	9/22/2025
507(05)	Steel Bridge Railing	9/22/2025
507(06)	Steel Bridge Railing	9/22/2025
507(07)	Steel Bridge Railing	9/22/2025
507(14)	Steel Bridge Railing	9/22/2025
507(15)	Steel Bridge Railing	9/22/2025
507(20)	Steel Approach Railing 3-Bar	2/11/2021
507(21)	Steel Approach Railing 3-Bar	2/11/2021
507(22)	Steel Approach Railing, 3 Bar	9/22/2025
507(23)	Steel Approach Railing, 3 Bar	9/22/2025
507(26)	Steel Approach Railing, 3 Bar	9/22/2025
507(27)	Steel Approach Railing	9/22/2025
507(39)	Barrier – Mounted Steel Bridge Rail	9/22/2025
526(01)	Portable Concrete Barrier	1/14/2021
526(01A)	Portable Concrete Barrier	1/14/2021
526(01B)	Portable Concrete Barrier	1/14/2021
526(02)	Portable Concrete Barrier	1/14/2021
526(02A)	Portable Concrete Barrier	1/14/2021
526(03)	Portable Concrete Barrier	1/14/2021
526(04)	Portable Concrete Barrier	1/14/2021

526(04A)	Portable Concrete Barrier	1/14/2021
526(04B)	Portable Concrete Barrier	1/14/2021
526(05)	Permanent Concrete Barrier	3/17/2023
526(21)	Permanent Concrete Barrier	3/17/2023
526(22)	Concrete Transition Barrier	9/22/2025
526(23)	Concrete Transition Barrier	9/22/2025
526(23)A	Concrete Transition Barrier	9/22/2025
526(34)	Concrete Transition Barrier	9/22/2025
526(35)	Concrete Transition Barrier	9/22/2025
526(36)	Concrete Transition Barrier	9/22/2025
526(37)	Concrete Transition Barrier	9/22/2025
526(37) A	Concrete Transition Barrier	9/22/2025
526(38)	Concrete Transition Barrier	9/22/2025
526(39)	Texas Classic Rail	3/17/2023
526(55)	Texas Classic Rail	3/17/2023
603(10)	Concrete Pipe Ties	6/10/2021
605(01)	Underdrain	7/8/2022
605(01)	Underdrain Notes	7/8/2022
606(17)	Midway Splice Guardrail Transition	6/10/2022
606(21)	Guardrail Type 3 – Single Rail Bridge Mounted	9/22/2025
606(22)	Guardrail Treatment over Buried Structures	9/22/2025
606(23)	Standard Bridge Transition – Type “1”	2/11/2021
606(24)	Bridge Transition – Type “1A”	9/22/2025
606(25)	Bridge Transition – Type “2”	9/22/2025
607(10)	Snow Fence Details (New Detail)	9/22/2025
607(11)	Snow Fence Details (New Detail)	9/22/2025
607(12)	Snow Fence Details (New Detail)	9/22/2025
607(13)	Snow Fence Details (New Detail)	9/22/2025
607(14)	Snow Fence Details (New Detail)	9/22/2025
607(15)	Snow Fence Details (New Detail)	9/22/2025
607(16)	Snow Fence Details (New Detail)	9/22/2025
608(02)	Detectable Warnings	6/10/2021
609(08)	Precast Concrete Transition Curb	9/22/2025
609(09)	Precast Concrete Vertical Curb	9/22/2025
627(07)	Crosswalk	2/22/2022
627(08)	Crosswalk	2/22/2022

643(11)	ATCC Cabinet	12/14/2020
645(06)	H Beam Posts Highway Signing	12/17/2024
645(21)	Overpass Mounted Sign Support Highway Signing	9/22/2025
645 (22)	Overpass Mounted Sign Support Highway Signing	9/22/2025
801(10) Pavement Transition at Bridge	DISCONTINUE THIS STD DETAIL	9/22/2025
801(11)	Pedestrian Ramp Notes	11/20/2023
801(12)	Pedestrian Ramp Requirements	11/20/2023
801(13)	Ramp Length Table	11/20/2023
801(14)	Parallel Pedestrian Ramp	11/20/2023
801(15)	Perpendicular Pedestrian Ramp – Option 1	11/20/2023
801(16)	Parallel Pedestrian Ramp – Option 2A	11/20/2023
801(17)	Perpendicular Pedestrian Ramp – Option 2A	11/20/2023
801(18)	Parallel Pedestrian Ramp – Option 2B	11/20/2023
801(19)	Perpendicular Pedestrian Ramp – Option 2B	11/20/2023
801(20)	Parallel Pedestrian Ramp – Option 3	11/20/2023
801(21)	Perpendicular Pedestrian Ramp – Option 3	11/20/2023
801(22)	Side Street Pedestrian Ramp	11/20/2023
801(23)	Parallel Pedestrian Ramp – Esplanade	11/20/2023
801(24)	Perpendicular Pedestrian Ramp – Esplanade	11/20/2023
801(25)	Island Crossings	11/20/2023
801(26)	Blended Transition	11/20/2023
801(26)	Blended Transition	1/19/2024
801(27)	Pedestrian Ramp Adjacent to Driveway or Entrance	11/20/2023
802(05)	Roadway Culvert End Slope Treatment	1/03/2017
802(05)	Roadway Culvert End Slope Treatment	11/01/2024

SUPPLEMENTAL SPECIFICATIONS
(Corrections, Additions, & Revisions to Standard Specifications – March 2020)

SECTION 101
CONTRACT INTERPRETATION

101.2 Definitions

Construction Easement revise this definition by removing it in its entirety and replace with; **"A right acquired by the Department for a specific use of private property outside of the established Right-of-Way. Examples include but are not limited to Drainage Easements, Construction and Maintenance Easements, and Slope Easements. Construction Easement areas, including Temporary Construction Limits and Temporary Road Limits, outside of the Right-of-Way remain private property. No use other than to access and perform the specified work activity is permitted without written permission of the owner."**

Construction Limit Line Remove this definition in its entirety.

Holidays Amend this paragraph by adding "**Juneteenth**" between 'Memorial Day' and 'Independence Day'.

Plans Revise this paragraph by removing "**Standard Details, Supplemental Standard Details**" from the first sentence.

Project Limits Revise this definition by removing it in its entirety and replacing it with: **"Areas within the Right-of-Way, Construction Easements, or Temporary Construction Limits shown on the Plans or otherwise indicated in the Contract. If no Project Limits are indicated in the Contract, the Project Limits shall be determined by the Department. For a related Maine statute, see 23 MRSA § 653. "**

Right-Of-Way Revise this definition by removing it in its entirety and replacing it with: **"The area of land, property, or interest therein, acquired for or devoted to the Project or other purposes. Portions of the Right-of-Way may be used for storage of materials and equipment and the location of engineering facilities, subject to written approval by the Department."**

Amend this Section by adding the following two definitions (that replace Construction Limit Line);

Temporary Construction Limits The area within which the Contractor may access and perform the Physical Work and outside of which Work may not be performed without written authorization by the property owner.

Temporary Road Limits The area within which the Contractor may construct and maintain a temporary detour for maintenance of traffic.

SECTION 102
BIDDING

102.11 Bid Responsiveness Revise the paragraph that states
"The Bid is not signed by a duly authorized representative of the Bidder." So that it reads:

"**The Bid is not signed by a duly authorized representative of the Bidder.**
- **Properly submitted electronic bids meet this requirement.**
- **Paper bids must include at least one signed copy of the Contract Agreement Offer & Award form**."

SECTION 103
AWARD AND CONTRACTING

103.3.1 Qualification Requirement for Award Revise this subsection so that it reads:

"**103.3.1 Qualification Requirement for Award If the Notice to Contractors lists a Prequalification requirement, the Apparent Successful Bidder must successfully complete the Prequalification process as a condition of Award. The Apparent Successful Bidder who does not already hold an Annual Prequalification shall have 21 days to provide the Department with their Prequal documents or the Department may move on to the next low bidder."**

SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES

104.2.1 Furnishing of Right-of-Way Revise this subsection by removing it in its entirety and replace with the new subsection:

"104.2.1 Furnishing of Property Rights The Department will secure all necessary rights to real property within the Project Limits shown on the Right-of-Way Plans that are provided with the Bid Documents. For related provisions, see Sections 104.3.2 – Furnishing of Other Property Rights, Licenses and Permits and 105.4.5 - Maintenance of Existing Structures. For related definitions, see Construction Easements and Right-of-Way."

104.3.2 Furnishing of Other Property Rights, Licenses and Permits Revise this subsection by replacing "104.2.1 Furnishing of Right-of-Way" with "**104.2.1 Furnishing of Property Rights".**

SECTION 105
GENERAL SCOPE OF WORK

Amend this Section by adding this new sub-section:
105.8.8 Protected Species If the Contractor witnesses a bat (dead or alive), any activities that may injure any live bats must cease immediately and the Contractor shall contact the

Resident. Dead and/or injured bats will be collected by the Department. Work in the vicinity of the live/dead bat sighting will not resume until the Department confirms it is acceptable to do so.

If the Contractor observes an active bird nest within the project limits, any activities that may disturb the nest or injure birds (i.e., nesting adults, chicks, eggs) must cease immediately, and the Contractor shall contact the Resident.

Amend this Section by adding this new sub-section to cover incidents in the field:
105.6.5 Survey Control Markers **If a survey control marker will be disturbed by Work on a project, the Resident shall be informed a minimum of 2 weeks prior to performing any Work that may disturb the marker. If a survey control marker is accidentally disturbed by Work on a project, the Resident shall be informed immediately. A disturbed marker will remain the property of the Department.**

105.10.1.4 Race-conscious Project Goals Revise the second paragraph of this section so it reads as follows:
*"***At the time of the bid opening, all Bidders shall submit with their bid a Disadvantaged Business Enterprise (DBE) Commitment Form provided by the Department. This form will list the DBE and non-DBE firms that are proposed to be used during the execution of the Work. This form must be filled out in its entirety. The dollar total of each commitment shall be totaled and a percentage determined.***"*

105.10.2 Requirements Applicable to All Contracts Under section A, number 2, in the first sentence of the first paragraph, revise this Section by replacing the word "handicap" in two places with the word "disability" so it now reads:

"2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, State that all qualified applicants will receive consideration for employment without regard to race, color, sexual orientation, religious creed, sex, national origin, ancestry, age, physical disability, or mental disability."

105.10.1.6 Bidders' List Survey This section shall be revised to meet the May 9, 2024 CFR changes as follows:
Revise the title of this Section to "**Bidders' List**" by removing the word "**Survey**".
Revise the current information required to:

(i) Firm name;
(ii) Firm address including ZIP code;
(iii) Firm's status as a DBE or non-DBE;
(iv) Race and gender information for the firm's majority owner;
(v) NAICS code applicable to each scope of work the firm sought to perform in its bid;
(vi) Age of the firm; and

**(vii) The annual gross receipts of the firm. You may obtain this information by asking each firm to
indicate into what gross receipts bracket they fit (*e.g.,* less than $1 million; $1-3 million; $3-6 million; $6-10 million; etc.) rather than requesting an exact figure from the firm.**

Revise this section by removing the paragraph beginning with "This information…" and replacing it with the following:
"This data is required from all bidders for federally assisted contracts to be submitted with their bids as this information is critical in determining the availability of DBE Businesses relative to other businesses that do similar work."

SECTION 106
QUALITY

106.6 Acceptance Revise this Subsection by replacing the paragraph beginning with "Acceptance of Hot Mix Asphalt Pavement will be based" with:

"Acceptance of Hot Mix Asphalt Pavement will be based on Method A or C Statistical Acceptance, or Method B or D Acceptance as specified. The method of acceptance for each item is defined in Special Provision, Section 403, Hot Mix Asphalt Pavement. When items of Hot Mix Asphalt Pavement are not so designated, Method A will be utilized whenever there are more than 1000 tons per Hot Mix Asphalt Pavement item, and Method B will be utilized when there are less than or equal to 1000 tons per Hot Mix Asphalt Pavement item."

Revise Subsection "B" by removing it and replacing it with:

"B. Items not designated for Statistical Acceptance will utilize Method B or D Acceptance testing to validate the quality of the material incorporated into the Project. For material paid under Item 403.209 – Method D, or designated to be visually accepted, the Contractor shall provide the Department with a Certification Letter that indicates that the material supplied complies with the Specifications. Test results representative of the certified material shall be attached to the letter.

The Department will randomly sample and test the certified Material for properties noted in Table 1 of Section 502 - Structural Concrete or Table 14 of Section –401.21 Acceptance Method B & D. Material will be subject to rejection as noted in Structural Concrete Section 502.195 - Quality Assurance Method C Concrete or Hot Mix Asphalt, Section 401.2022 Pay Adjustment – Method B & D."

106.7.1 Standard Deviation Method Revise 106.7.1, subsection H by removing the following from the first paragraph:

"Method B: PF = [70 + (Quality Level * 0.33)] * 0.01"
106.9.1 Warranty by Contractor Revise the third paragraph of this section so that it reads:

"**For a related provision regarding obligations regarding plantings, see section 621.36 – Maintenance Period.** "

SECTION 107
TIME

107.3.1 General Amend this paragraph by adding "**Juneteenth**" between 'Patriot's Day' and 'the Friday after Thanksgiving'.

SECTION 108
PAYMENT

108.2.3 Mobilization Payments Replace Standard Specification 108.2.3 – Mobilization Payments with the following:

"**108.2.3 Mobilization Payments "Mobilization" includes the mobilization and demobilization of all resources as many times as necessary during the Work.**

Percent Mobilization Bid will be determined by taking the amount Bid for Mobilization and dividing by the Total Contract Amount less Mobilization. Mob/(Total Contract – Mob).

Payment will be made at the following intervals:

% Mobilization Bid	% Mobilization Paid at Contract Award	% Mobilization Paid after the Department determines 50% of the work is Complete	% Mobilization Paid at Final Acceptance
10% or less	50%	50%	
More than 10% to 15%	33%	33%	34%
More than15% to 20%	25%	25%	50%
More than 20% to 30%	15%	15%	70%
Greater than 30%	10%	10%	80%

108.3 Retainage Revise the third paragraph of this section so that it reads:

"Upon Final Acceptance, and determination by the department that there are no claims either by or on the Contractor or Subcontractors; no over payments by the department; no LDs due; and no disincentives due, the Department will reduce Retent to 1% of the original Contract Award amount, or $100,000, whichever is less, as it deems desirable and prudent."

108.4.1 Price Adjustment for Hot Mix Asphalt Revise this section by removing it in its entirety and replacing it with the following:

"108.4.1 Price Adjustment for Hot Mix Asphalt: For each Contract, a price adjustment for performance graded binder will be made for the following pay items, when the total quantity of Hot Mix Asphalt included in these items is in excess of 500 tons, based on the estimated quantities of these items at the time of bid.

Item 403.102	**Hot Mix Asphalt – Special Areas**
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 403.2084	**Hot Mix Asphalt - 12.5 mm (Highly Modified HiMAP)**
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 403.2104	**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 403.301	**Hot Mix Asphalt (Asphalt Rubber Gap-Graded)**
Item 461.13	**Light Capital Pavement**
Item 461.210	**9.5 mm HMA - Paver Placed Surface**
Item 461.2101	**Hot Mix Asphalt - 9.5 mm (Polymer Modified)**
Item 461.216	**Hot Mix Asphalt (Shim)**
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 403.207–5.2%
Item 403.2071–5.2%
Item 403.2072–5.8%
Item 403.208–5.6%
Item 403.2081–5.6%
Item 403.2084 – 6.2%
Item 403.209–6.2%
Item 403.210–6.2%
Item 403.2101–6.2%
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 403.301–6.2%
Item 461.13–6.7%
Item 461.210 – 6.4%
Item 461.2101 – 6.4%
Item 461.216 – 6.7%
Item 462.30–0.0021 tons/SY
Item 462.301–0.0021 tons/SY"

SECTION 110
INDEMNIFICATION, BONDING, AND INSURANCE

110.3.2 Commercial General Liability Revise the last sentence in this Section that starts with "The coverage shall also…" and add a sentence to the end so that it reads:

"**The coverage shall also include protection against damage claims due to explosives, collapse, and underground coverage. No endorsement excluding damage caused by subsidence, earth movement, and/or earth pressure shall be permitted.**"

110.3.9 Administrative & General Provisions Amend this subsection by adding "**Automobile Liability**" under letter A) Additional Insured to the list of exceptions.

10. Assurance Required by 49 CFR: 26.13(a)(b) Revise this section by removing it in its entirety and replacing it with the following:

"a. MaineDOT shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of any DOT-assisted contract or in the administration of its DBE Program or the requirements of 49 CFR part 26. MaineDOT shall take all necessary and reasonable steps under 49 CFR part 26 to ensure nondiscrimination in the award and administration of DOT-assisted contracts. MaineDOT's DBE Program, as required by 49 CFR part 26 and as approved by DOT, is incorporated by reference in this agreement. The implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the MaineDOT of its failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the MaineDOT of its failure to carry out its approved program, the Department may impose sanctions as provided for under 49 CFR Part 26, and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Remedies Act of 1986 (31 U.S.C. 3801 et seq.). This language will appear in financial assistance agreements with sub-recipients.

b. The contractor, sub-recipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, including, but not limited to:

1. **Withholding monthly progress payments;**
2. **Assessing sanctions;**
3. **Liquidated damages; and/or**
4. **Disqualifying the contractor from future bidding as non-responsible."**

SECTION 206
STRUCTURAL EXCAVATION

206.01 Description – *Structural Earth Excavation, Below Grade* delete the entire sentence and replace with "**shall consist of the removal of excavation required for unknown or unanticipated subsurface condition. See 206.04 – Method of Measurement for pay limits**."

206.04 Method of Measurement – Drainage and Minor Structures Paragraph 1, sentence 2, delete the remainder of the sentence beginning with "….provided the maximum allowable…"And replace with: **"….in accordance with the following limits:"**

- **Vertical pay limits:**

- **Below a plane parallel with and 12 inches below the bottom of the drainage or minor structure or**
- **Below the excavation limits shown in the Bid Documents; whichever is greater.**

- **Horizontal pay limits – The maximum allowable horizontal dimensions shall not exceed those bounded by vertical surfaces 18 inches outside the base, or extreme limits of, the structure, and to the vertical neat lines of underdrain trenches, as shown in the Contract Documents.**

SECTION 401
HOT MIX ASPHALT PAVEMENT

401.19 Contractor Quality Control Amend this Section by adding the following to the end:
"Failure to comply with the approved QCP will result in work suspension and pay reductions as outlined in Section 106.4.6. The Quality Control Plan Value shall be the total bid value for all items covered by the QCP as identified in Special Provision 403."

SECTION 501
FOUNDATION PILES

501.044 Special Requirements for Steel Pipe Piles and Steel Casings Amend this section by deleting it in its entirety and replacing with:

Pipe piles shall be driven closed ended, unless otherwise specified. When open-ended pipe piles are specified or when the ends are not completely closed ended when driven, the inside of the pile shall be thoroughly cleaned out, and the inside walls cleaned by jetting or other means approved by the Resident. The sediment control required for the cleaning operations shall be covered in the Contractor's SEWPCP.

Pipe piles shall be inspected and approved by the Resident immediately before concrete is placed in them. They shall be free from rupture and undue deformation and shall be free from water unless the Resident determines that the concrete can be placed without damage to the pile and such that the discharged water will be contained. The Contractor shall provide lights and other equipment necessary to enable the Resident to inspect each pipe pile.

Portland cement concrete for filling the pipe piles shall be placed in one continuous operation to fill the pile completely without causing water contamination. An internal type vibrator shall be used in the top 25 feet. Pile heads shall be protected and cured in accordance with Section 502, Structural Concrete.

The placing of concrete and the driving of piles shall be scheduled so that fresh and setting concrete will not be injured by the pile driving.

Concrete shall not be placed in pipe piles until pile driving has progressed beyond a radius of 15 feet from the pile to be concreted. If pile heave is detected for pipe piles that have been filled with concrete, the piles shall be redriven to the original position after the concrete has attained sufficient strength and a proper hammer-pile cushion system, is in place and is satisfactory to the Resident.

When a reinforcing steel cage is specified, it shall be placed inside the piles to allow for a minimum of 2 inches of concrete cover and the piles shall be filled with concrete to the elevation shown on the Plans.

Full-length pipe piles and steel casings shall be used wherever practicable; however, splicing may be permitted when approved by the Resident. The method of splicing shall be as follows:

a. Steel pipe piles and steel casings shall be spliced by full penetration butt joint welds.

b. When the pipe piles and steel casings are to be spliced while in a vertical position, splicing shall be accomplished utilizing single-bevel groove welds with the use of back-up rings. When the pipe piles and steel casings are to be spliced while in a horizontal position, splicing shall be accomplished utilizing single-vee groove welds with the use of back-up rings.

c. Welded joints shall conform to the Standard Details.

501.047 Splicing Piles Amend this section by deleting it in its entirety and replacing it with:

Full-length piles shall always be used wherever practicable. When full-length piles cannot be used, the number of splices, locations, and details shall be noted in the QCP. Piles fabricated from multiple pieces will be acceptable only if they comply with the following:

H-Beam Piles [a]		Pipe Piles and Steel Casings [a,b]	
Lengths	**Maximum No. Field Splices**	**Lengths**	**Maximum No. Field Splices**
Less than 20 ft.	**0**	**Less than 20 ft.**	**0**
Over 20 – 35 ft.	**1**	**Over 20 – 40 ft.**	**1**
Over 35 – 79 ft.	**2**	**Over 40 – 60 ft.**	**2**
Over 79 ft.	**1 per 40 ft.**	**Over 60 – 80 ft.**	**3**
		Over 80 ft.	**1 per 20 ft.**
[a] Pile lengths less than 10 feet will not be spliced, except as the final (top) section of the pile. **[b] Where pipe piles are used for pile bent piers, no splices will be allowed in the length of pile from the cutoff elevation to 2 feet below the channel bottom.**			

When pre-planned splicing is approved, the pile piece of lesser length shall be placed at the tip of the pile (the first part of the pile that enters the ground).

When splicing is allowed, the work shall be done in accordance with the following:

A. Welding shall be done in accordance with the requirements of the AWS D1.1 welding code.
B. Qualify welders in accordance with the most recent edition of the AWS D1.5 code.
C. Submit a written Weld Procedure Specification (WPS) for each joint to be included as part of the QCP. The WPSs shall be provided to the Fabrication Engineer for review and approval prior to beginning welding. Provide copies of the approved WPSs to the welder, QC Inspector and Resident prior to beginning welding. Welding performed without an approved WPS and approved QCP will be considered Unacceptable Work.
D. Provide a list of qualified welders with copies of their AWS certifications to the Fabrication Engineer for review prior to beginning welding. Welders shall have in their possession, at the time of welding, a valid certification for the process and position to be used in production from the AWS. The welder shall show the Resident their credentials upon request.
E. The Contractor shall only use electrodes that are on the Department's Qualified Products List for Welding Electrodes or shall submit alternative electrodes for review and approval by the Fabrication Engineer. Electrodes used shall match those approved for use in the WPS.
F. Welding shall not be done: When the temperature in the immediate vicinity of the weld is below 0°F; when the surfaces are damp or exposed to rain, snow, or high wind; or when the welders or welding operators are exposed to inclement conditions.
G. The pile shall be preheated to and maintained at 150°F minimum, within 6 inches from the joint during welding.
H. Power sources for welders shall have meters indicating amperage/voltage that have been calibrated within 1 year at the time of welding.
I. The Contractor shall provide the Department with notice, a minimum of, 7 Days prior to the start of any welding.
J. The Contractor shall provide a QC Inspector to perform QC for the welds in accordance with the AWS D1.1 welding code. The QC Inspector shall be an AWS Certified Welding Inspector (CWI) in conformance with the requirements of AWS QC1, Standard for AWS Certifications of Welding Inspectors. The Contractor may submit, in lieu of a CWI, an alternative QC Inspector with documented training and experience in metals fabrication, inspection, and testing for approval by the Fabrication Engineer. The QC Inspector shall be someone other than the welder performing the welds to be inspected.
K. The QC Inspector shall inspect all production stages of the welded splice to ensure that workmanship and materials meet the requirements of the AWS D1.1 welding code and the Contract. The QC Inspector shall submit a signed record of all weld inspection documentation to the Resident after welding is completed.

Record of weld inspection shall include, but not be limited to, the following:

1. **Name of QC Inspector**
2. **Project WIN and Location**
3. **Date**
4. **Weather conditions**
5. **Type, size, length, and location of welds.**

6. **Confirmation of appropriate equipment and materials used, including proper handling of welding electrodes.**
7. **Confirmation that welder has approved WPS onsite, and welding is performed in accordance with approved WPS.**
8. **Confirmation that welder is qualified to perform work per approved WPS. Include name and certifications of qualified welder who performed the work.**
9. **Confirm that 100% visual testing, in accordance with AWS D1.1 Table 8.1, has been conducted and any subsequent repairs are made prior to non-destructive testing (NDT).**
10. **Document NDT testing including name of NDT technician, NDT personnel qualifications, type and extent of NDT testing performed, and include NDT testing reports provided by the NDT testing technician.**

L. Piles shall not be driven until all pile welding has been inspected and accepted by the Department.

501.0471 Specific Requirements for Splicing H-Beam Piles

A. Damaged material shall be removed from the end of the driven pile. Lifting holes shall be repaired or trimmed off. The ends of both pieces to be spliced shall be cut off square with the longitudinal axis of the pile and beveled per the approved WPS. All cutting shall be done with the use of a mechanical guide, except that minor trimming may be allowed, as approved by the Resident.

B. The Contractor shall use an approved mechanical splicer or a full penetration butt weld for the entire cross section of the pile. Mechanical splicers shall be installed per the manufacturer's recommendations, except that the flanges shall be welded using a complete joint penetration weld, per the AWS D1.1 welding code.

C. In addition to the 100% visual testing (VT) performed by the QC Inspector, the Contractor shall perform NDT on the first two welded splices of the same type/size. The welds shall be radiographically (RT) or ultrasonically (UT) tested for their full length for acceptance per Table 8.2 of AWS D1.1. If both RT/UT-tested splices are determined to be acceptable, no further NDT will be required. If either of the first two RT/UT-tested splices contain defects warranting rejection, RT/UT testing of splices shall continue until two consecutive splices are found to be acceptable.

D. Should the Department determine that the Quality Control of the Contractor is not producing welds with acceptable quality, then the Department may request the Contractor to perform additional NDT, such as RT or UT of any or all welds. Should the NDT testing identify defects warranting rejection, the welds shall be repaired and retested. The Contractor shall perform the NDT and weld repair work at no additional cost to the Department. If the NDT does not identify defects warranting rejection, then the Department will pay for the cost of the NDT testing. RT and UT defect indications will be evaluated according to the statically loaded criteria of AWS D1.1.

501.0472 Specific Requirements for Splicing Steel Pipe Piles and Steel Casings

A. Damaged material shall be removed from the end of the driven pile. Lifting holes shall be trimmed off. The ends of both pieces to be spliced shall be cut off square with the

longitudinal axis of the pile and beveled per the approved WPS. All cutting shall be done with the use of a mechanical guide, except that minor trimming may be allowed, as approved by the Resident.

B. Splices shall be welded using an AWS D1.1 Complete Joint Penetration butt weld with a backer ring.

C. In addition to the 100% VT performed by the QC Inspector, the Contractor shall perform NDT on the first two welded splices of the same type/size. The welds shall be RT or UT tested for their full length for acceptance per Table 8.2 of AWS D1.1. If both RT/UT-tested splices are determined to be acceptable, no further NDT will be required. If either of the first two RT/UT-tested splices contain defects warranting rejection, RT/UT testing of splices shall continue until two consecutive splices are found to be acceptable.

D. Should the Department determine that the Quality Control of the Contractor is not producing welds with acceptable quality, then the Department may request the Contractor to perform additional NDT, such as RT or UT of any or all welds. Should the NDT testing identify defects warranting rejection, the welds shall be repaired and retested. The Contractor shall perform the NDT and weld repair work at no additional cost to the Department. If the NDT does not identify defects warranting rejection, then the Department will pay for the cost of the NDT testing. RT and UT defect indications will be evaluated according to the statically loaded criteria of AWS D1.1.

501.048 Prefabricated Pile Tips Amend this section by deleting it in its entirety and replacing it with:

Welding of pile tips shall be done in accordance with the following:

A. Welding shall be done in accordance with the requirements of the AWS D1.1 welding code.

B. Qualify welders in accordance with the most recent edition of the AWS D1.5 code.

C. Submit a written WPS for each tip to be included as part of the QCP. The WPSs shall be provided to the Fabrication Engineer for review and approval prior to beginning welding. Provide copies of the approved the WPS to the welder and Resident prior to beginning welding. Welding performed without an approved WPS and approved QCP will be considered Unacceptable Work.

D. Provide a list of qualified welders with copies of their AWS certifications to the Fabrication Engineer for review prior to beginning welding. Welders shall have in their possession, at the time of welding, a valid certification for the process and position to be used in production from the AWS or other organization acceptable to the Resident. The welder shall show the Resident their credentials upon request.

E. The Contractor shall only use electrodes that are on the Department's Qualified Products List for Welding Electrodes or shall submit alternative electrodes for review and approval by the Fabrication Engineer. Electrodes used shall match those approved for use in the WPS.

F. Pile tips shall be approved by the Resident.

G. Welding shall not be done: When the temperature in the immediate vicinity of the weld is below 0°F; when the surfaces are damp or exposed to rain, snow, or high wind; or when the welders or welding operators are exposed to inclement conditions.

H. The pile shall be preheated to and maintained at 150°F minimum within 6 inches from the joint during welding.

I. Power sources for welders shall have meters indicating amperage/voltage that have been calibrated within 1 year at the time of welding.

J. Pile tips may be welded to the piles by the pile supplier upon approval by the Department. Approval is contingent upon submission of the following: A welding QC Plan; proof that the proposed welder(s) is certified per AWS D1.5; and an AWS D1.1 WPS, with base metal preheated to a minimum of 150°F. The Contractor shall provide notice a minimum of 14 Days prior to the start of any welding by the pile supplier. At a minimum, welds shall be 100% visually inspected by the pile supplier's QC representative.

K. The Contractor shall provide a QC Inspector to perform QC for the welds in accordance with the AWS D1.1 welding code. The QC Inspector shall be an CWI in conformance with the requirements of AWS QC1, Standard for AWS Certifications of Welding Inspectors. The Contractor may submit, in lieu of a CWI, an alternative QC Inspector with documented training and experience in metals fabrication, inspection, and testing for approval by the Fabrication Engineer. The QC Inspector shall be someone other than the welder performing the welds to be inspected.

L. The QC Inspector shall inspect all production stages of the welded splice to ensure that workmanship and materials meet the requirements of the AWS D1.1 welding code and the Contract. The QC Inspector shall submit a signed record of all weld inspection documentation to the Resident after welding is completed.

M.

Record of weld inspection shall include, but not be limited to, the following:

1. Name of QC Inspector
2. Project WIN and Location
3. Date
4. Weather conditions
5. Type, size, length, and location of welds.
6. Confirmation of appropriate equipment and materials used, including proper handling of welding electrodes.
7. Confirmation that welder has approved WPS onsite, and welding is performed in accordance with approved WPS.
8. Confirmation that welder is qualified to perform work per approved WPS. Include name and certifications of qualified welder who performed the work.
9. Confirm that 100% VT, in accordance with AWS D1.1 Table 8.1, has been conducted and any subsequent repairs are made prior to NDT.
10. Document NDT testing including name of NDT technician, NDT personnel qualifications, type and extent of NDT testing performed, and include NDT testing reports provided by the NDT testing technician.

N. The Contractor shall provide notice a minimum of 7 Days prior to the start of any field welding.

O. Piles shall not be driven until all pile welding has been inspected and accepted by the Department.

501.0481 Specific Requirements for Installing H-Beam Pile Tips

A. Damaged material shall be removed from the end of the driven pile, as applicable. Lifting holes shall be trimmed off. The end of the pile to which the tip is to be attached shall be cut off square with the longitudinal axis of the pile and prepared per the approved WPS. All cutting shall be done with the use of a mechanical guide, except that minor trimming may be allowed, as approved by the Resident.

B. Regarding weld size, prefabricated pile tips shall be attached to H-beam piles with 5/16-inch groove welds along each flange, or as recommended by the manufacturer of the pile tips, whichever weld size is larger.

C. The QC Inspector shall, at a minimum, perform 100% VT on each pile tip weld.

D. Should the Department determine that the Quality Control of the Contractor is not producing welds with acceptable quality, then the Department may request the Contractor to perform additional NDT, such as RT or UT of any or all welds. Should the NDT testing identify defects warranting rejection, the welds shall be repaired and retested. The Contractor shall perform the NDT and weld repair work at no additional cost to the Department. If the NDT does not identify defects warranting rejection, then the Department will pay for the cost of the NDT testing. RT and UT defect indications will be evaluated according to the statically loaded criteria of AWS D1.1.

501.0482 Specific Requirements for Installing Steel Pipe Pile Tips

A. Damaged material shall be removed from the end of the driven pile, as applicable. Lifting holes shall be trimmed off. The end of the pile to which the tip is to be attached shall be cut off square with the longitudinal axis of the pile and prepared per the approved WPS. All cutting shall be done with the use of a mechanical guide, except that minor trimming may be allowed, as approved by the Resident.

B. Unless otherwise shown on the Plans, steel pipe piles shall have pointed cast steel pile tips.

C. Regarding weld size, prefabricated pile tips shall be attached to steel pipe piles with a continuous 5/16-inch groove weld along the full perimeter of the pile, or as recommended by the manufacturer of the pile tips, whichever weld size is larger.

D. The QC Inspector shall, at a minimum, perform 100% VT on each pile tip weld.

E. Should the Department determine that the Quality Control of the Contractor is not producing welds with acceptable quality, then the Department may request the Contractor to perform additional NDT, such as RT or UT of any or all welds. Should the NDT testing identify defects warranting rejection, the welds shall be repaired and retested. The Contractor shall perform the NDT and weld repair work at no additional cost to the Department. If the NDT does not identify defects warranting rejection, then the Department will pay for the cost of the NDT testing. RT and UT defect indications will be evaluated according to the statically loaded criteria of AWS D1.1.

501.05 Method of Measurement
c. Piles in Place Revise the third paragraph by replacing the "10" with "20" so that it reads:

Unused pile cutoffs **20** feet or more in length, except those required to accommodate the Contractor's construction method, as discussed herein, will remain the property of the Department and will be stored at a bridge maintenance yard nearest the project. Hauling and unloading of piles will be done by the Contractor or by the Department, depending upon availability of services.

SECTION 502
STRUCTURAL CONCRETE

502.03 Materi**a**l**s** Amend this section by adding the following to the list of materials:

Combined Aggregate Grading for Concrete 703.03

502.07 Mixing and Delivery Remove the last sentence in Paragraph A that starts with "With prior approval… and replace with the following:

"An approved hydration stabilizing admixture may be used to increase the discharge time. Justification for the need for a hydration stabilizing admixture shall be provided in the QC Plan. When a hydration stabilizing admixture is used, the manufacturer, dosage rate and discharge time, from the time cement is added to the aggregate, shall be documented in the approved QC Plan. The proposed discharge time(s) shall be based on the manufacturer's written recommendations, the anticipated concrete temperatures and anticipated ambient conditions at the time of placement(s). Discharge time(s) shall be adjusted when conditions change or are not as anticipated as outlined in the approved QC Plan. The discharge time(s) approved by the Department shall be subject to change at any time, and discharge of concrete into the permanent work shall cease immediately if the concrete is determined to have attained Accelerated Hydration Gain. Accelerated Hydration Gain being the condition where the fresh concrete has hydrated to the point where the workability and finishability is detrimental to the quality of the final product. Determination of when concrete has attained Accelerated Hydration Gain shall be made by the Contractor's Quality Control Technician(s) and shall be based on parameters proposed by the Contractor in the QC Plan, such as, but not limited to, loss of slump, plasticity, or workability, an increase in concrete temperature, or a change in the percentage of entrained air."

502.09 Forms and Falsework Amend this subsection by adding the subsection title "**502.10 Placing Concrete**" after section "D" Removal of Forms and False work" and after the paragraph beginning with "2. Forms and False work, including blocking…". So that a new subsection starts and reads:

"**502.10 Placing Concrete**

A. **General Concrete shall not be placed until forms** …."

502.1701 Quality Control, Method A and B Revise this Section so that the first paragraph and the first sentence of the second paragraph read:

"**502.17 Quality Control The Contractor shall control the quality of the concrete through testing, inspection, and practices which shall be described in the QCP, sufficient to assure a product meeting the Contract requirements. The QCP shall meet the requirements of Section 106, Quality, and this specification. No work under this item shall proceed until the QCP is submitted to and approved by the Department. Failure to comply with the approved QCP will result in work suspension and pay reductions as outlined in Section 106.4.6. The Quality Control Plan Value shall be the total bid value for all cast-in-place items covered by the QCP, using the P value listed in Special Provision 502. If no P value is listed, a value of $350, or bid value per cubic yard, whichever is less, shall be used.**

502.1701 Quality Control, Method A and B The QCP shall address all elements that affect the quality of the structural concrete including, but not limited to, the following: "

Under the list with the heading, "The QCP shall address all elements that affect the quality of the structural concrete including, but not limited to, the following:":

Replace "F" to read: "**Mix and Transportation, including Time from Batching to Completion of Delivery, as well as manufacturer, product name, proposed dosage(s) and discharge time(s) if a hydration stabilizing admixture is used**."

Replace "H" to read: "**Process QC Testing, including monitoring for attainment of Accelerated Hydration Gain when a hydration stabilizing admixture is used**."

Revise this section by replacing the paragraph before Table 4 that starts out "The Contractor shall maintain…"to read:

"**The Contractor shall maintain records of all QC tests and calculations. All QC test data shall be signed by the person who performed the test. The representative gradation test results shall be reported to the Department before the placement they represent. This initial representative gradation test shall be sampled a maximum of 30 days prior to the production day. The Contractor or supplier shall retain split samples of the most recent QC gradations for possible testing by the Department. In addition, the Department will sample the aggregates at the plant monthly to determine compliance with 703.03 Combined Aggregate Grading for Concrete. The Combined Aggregate Grading will be calculated by mathematically blending the individual aggregate gradations using the batch percentages from the approved mix design. If the Department's gradation tests determine that the aggregate does not meet the specified gradation limits, the current procedure mentioned in MaineDOT PCC Policies and Procedures Manual shall be followed. The compressive strength test results shall be reported to the Department by 10:00 A.M. of the first working day following the test. The Contractor shall record all onsite QC test data and calculations at the time of the placement and present this information, on a form acceptable to the Department, to the Department by 10:00 A.M. of the first working day following the concrete placement. Batch tickets shall be representative of that day's total moisture in aggregate value, QC test data for total moisture in aggregate shall be provided to the**

Department by 10:00 A.M. of the first working day following the concrete placement. All Method A and B QC testing shall meet the minimum requirements found in Table 4."

Section 502.1701, Quality Control, Revise Table 4 of this Subsection by removing it in its entirety and replacing it with:

TABLE 4
METHOD A & B MINIMUM QUALITY CONTROL TESTING REQUIREMENTS*

TEST	TEST METHOD	SAMPLING LOCATION	FREQUENCY
Gradation	AASHTO T 27 & T 11	Stockpile	One representative set per proposed grading before production One set every 100 yd^3 (Min. 1 set per month)
Organic Impurities	AASHTO T 21	Stockpile	Once per fine aggregate per year**
% Absorption	AASHTO T 84 & T 85	Stockpile	Once per aggregate per year
Specific Gravity	AASHTO T 84 & T 85	Stockpile	Once per aggregate per year
Total Moisture in Aggregate	AASHTO T 255	Stockpile	One set per day's production
Free Water and Aggregate Wt.	N/A		One per day's production
% Entrained Air	AASHTO T 152	On Project	On first two loads and every third load thereafter provided consistent results are achieved
Compressive Strength	AASHTO T 22	On Project	One set per sublot
Compressive Strength	AASHTO T 22	On Project	One set per sublot

***Additional QC testing will be required any time a process change occurs during a placement, including changes in type or dosage of admixture. Additional testing shall include, but is not limited to, entrained air testing.**
****If the color produced is a laboratory designation Plate III, then the fine aggregate shall be tested once per month**

502.1702 Quality Control, Method C Remove this sub section and replace it with:

"**The Contractor shall submit a QCP listing the mix design(s) to be used, the name and location of the production facility, a brief description of the placement and curing process and the name and qualifications of any QCT to be used. When a hydration stabilizing admixture is proposed for use, the manufacturer, product name, dosage rate and discharge time, from the time cement is added to the aggregate, shall be included, as well as procedures for monitoring attainment of Accelerated Hydration Gain. A QCT will be required. The Contractor shall provide a Certificate of Compliance for each truckload of concrete to the Department at the time of the load placement**."

502.18, Method of Measurement, Revise Subsection 'F' by removing the word 'transverse' so that it reads: "**Saw cut grooving of concrete wearing surfaces, complete and accepted, will be measured for payment as one lump sum**."

502.19, Basis of Payment, Revise the third paragraph by removing the word 'transverse' so that it reads: "**Saw cut grooving of concrete wearing surfaces will be paid for at the Contract Lump Sum Price, which shall be payment for furnishing all materials, labor, and equipment, including depth gauges and all incidentals, to satisfactorily complete the work."**
(Also see 535.24 and 535.25 for related changes)

SECTION 503
REINFORCING STEEL

Section 503.07 Splicing Revise this section by removing the table and following footnote and replacing them with:

Minimum Lap Splice Length (inches)									
	Bar Size								
Bar Type	#3	#4	#5	#6	#7	#8	#9	#10	#11
Plain or Galvanized	16	20	24	29	38	47	59	72	85
Epoxy or Dual Coated	17	24	36	43	56	71	88	107	128
Stainless	19	24	30	36	47	59	73	89	107
Low-carbon Chromium	24	32	39	47	63	78	97	119	142

"**The minimum lap splice lengths in the table above are based on the parameters below. When any of these parameters are altered, appropriate minimum lap splice lengths will be as shown on the Plans.**

- **Normal weight concrete**
- **Minimum 28-day concrete compressive strength from 4,000 psi to 10,000 psi**

- **Class B tension lap splice**
- **Minimum center-to-center spacing between bars of 6 inches**
- **Minimum clear cover of 2 inches**
- **Nominal reinforcing steel yield strengths**
  - **Low-carbon Chromium = 100 ksi**
  - **Stainless = 75 ksi**
  - **All others = 60 ksi**
- **Reinforcement with yield strengths greater than 75 ksi shall have beam transverse reinforcement and column ties provided over the required lap splice length in accordancewith the current edition of the AASHTO LRFD Bridge Design Specifications**

When lap splices are placed horizontally in an element where the concrete depth below the splice will be 12 inches, or more, the indicated lap splice lengths shall be multiplied by a factor of 1.3."

Amend the Paragraph starting with Welded Splices may be made…" by adding to the last sentence beginning so that it reads **"The Contractor shall submit complete details of their proposed method of making welded splices for the Resident's approval at least 10 days prior to use."**

504.12 Protective Coatings Revise this subsection by removing the paragraph beginning with "When galvanizing is specified" and replacing it with:

"**When galvanizing is specified, clean the steel in accordance with SSPC-SP 6 prior to galvanizing. Galvanize in accordance with AASHTO M 111 (ASTM A123). Galvanize fasteners in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I. Galvanized nuts shall be lubricated with a water-soluble lubricant containing a dye that contrasts with the color of the galvanizing.**"

SECTION 506
SHOP APPLIED PROTECTIVE COATING – STEEL

506.10 Description Revise this subsection by removing the entire paragraph in its entirety and replacing it with:

"This work shall consist of surface preparation and application of coating systems in accordance with the Plans and this Specification. The color of structural steel painted in its entirety shall comply with SAE AMS-STD-595 – Colors Used in Government Procurement Color No. 14272 (Green), unless otherwise specified in the Contract. The color of partially painted weathering steel shall comply with SAE AMS-STD-595 – Colors Used in Government Procurement Color No. 30045 (Brown), unless otherwise specified in the Contract. All other coating colors shall be as specified in the Contract."

506.13 Surface Preparation Amend this section by adding this paragraph to the end:

"**Steel shall meet the requirements of SSPC SP8 Pickling prior to being immersed in the zinc tanks. Verification of the surface preparation shall be included in the QC documentation**."

SECTION 518
STRUCTURAL CONCRETE REPAIR

518.02 Repair Materials Replace the paragraph beginning with "Where the depth of placement…" with the following:
"**Where the depth of placement is equal to or greater than 1 inch, the Contractor may use concrete as the repair material. When concrete is used, the coarse aggregate shall conform to the requirements of the table below and Standard Specification Section 703.02, Coarse Aggregate for Concrete, or 703.03, Combined Aggregate Grading for Concrete."**

Remove the second table with the heading, "Sieve Designation Percent by Weight Passing a Square Mesh Sieve"

SECTION 523
BEARINGS

523.051 Protective Coating Revise this subsection by removing the paragraph beginning with "Anchor rods shall be galvanized…" and replacing with:

"**Anchor rods shall be galvanized. When anchor rods are designated to secure bare unpainted steel or painted steel, a dielectric coating (epoxy or bituminous type coatings are acceptable) shall be applied to the anchor rod and/or adjacent steel to prevent contact between galvanized surfaces and painted or unpainted steel."**

523.22 Fabrication Amend this subsection by adding the following: "**Elastomeric Bearings shall be fabricated in accordance with AASHTO M251."**

SECTION 526
CONCRETE BARRIER

Amend this section by deleting it in its entirety and replacing it with:

"**526.01 Description This work shall consist of the furnishing, constructing, erecting, setting, resetting, and removal of concrete barrier and associated elements in accordance with these specifications, the Standard Details, and the lines and grades shown on the Plans or established by the Resident.**

The types of concrete barrier are designated as follows:

Portable Concrete Barrier Type I **Double faced removable barrier in accordance with the Standard Details.**

Permanent Concrete Barrier Type II **Double faced barrier as shown on the Plans.**

Permanent Concrete Barrier Type IIIa **Single faced barrier 32 inches high in accordance with the Standard Details or as shown on the Plans.**
Permanent Concrete Barrier Type IIIb **Single faced barrier 42 inches high in accordance with the Standard Details or as shown on the Plans.**

Permanent Concrete Transition Barrier **Barrier of various heights joining steel bridge rail to steel guardrail in accordance with the Standard Details or as shown on the Plans.**

Permanent Texas Classic Rail Barrier **Traffic rail or sidewalk rail, in accordance with the Standard Details or as shown on the Plans.**

526.02 Materials

a. Concrete **Concrete for barriers, both permanent and portable, shall have a design strength of 5,000 psi.**

For cast-in-place barrier: The concrete shall be Class LP, in accordance with Standard Specification Section 502, Structural Concrete.

For precast barrier: The concrete shall meet the requirements of Standard Specification 712.061, Structural Precast Concrete Units, except that the stripping strength for precast barriers is 4,000 psi.

b. Reinforcing Steel **Reinforcing steel shall meet the requirements of Section 503, Reinforcing Steel.**

c. Structural Steel **Plates and barrier connections shall meet the requirements specified in Standard Specification 504 - Structural Steel and shall be hot dip galvanized after fabrication in accordance with Standard Specification 506, Shop Applied Protective Coating – Steel**

d. Bolts Bolts shall meet the requirements specified in Section 713.02, High Strength Bolts.

e. Connecting Pins for Portable Concrete Barrier **Portable concrete barriers must be connected using a 1- inch diameter pin. The connecting pin must be smooth, not deformed, i.e., reinforcing bar may not be used, and shall meet the strength requirements of ASTM A449 steel. Materials with greater strength may be used with the approval of the Department.**

f. Anchor Pins for Portable Concrete Barrier Anchoring to concrete or asphalt will be required when specified on the Plans. When required, portable concrete barriers must be anchored using a 1 ½ - inch diameter anchor pin. The anchor pin must be smooth, not deformed, i.e., reinforcing bar may not be used, and shall meet the strength requirements of ASTM A36 steel. Materials with greater strength may be used with the approval of the Department.

g. Device Crashworthiness MaineDOT is transitioning to MASH2016 criteria for Portable Concrete Barrier on the following schedule:

New Portable Concrete Barrier shall be crash tested and/or evaluated to MASH2016 criteria.

Current Portable Concrete Barrier in useful serviceable condition that is successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029.

Other current Portable Concrete Barrier that is deemed acceptable by the Department may be utilized on projects off the National Highway System through December 31, 2024.

526.03 Construction Requirements

Cast-in-place barriers shall be fabricated in accordance with Standard Specification Section 502, Structural Concrete. Precast barriers shall be fabricated in accordance with Standard Specification 534, Precast Structural Concrete.

Concrete finish for permanent barrier shall be rubbed as defined in Standard Specification Section 502, Structural Concrete, 502.13 D2 or an approved equal.

Portable concrete barrier shall be generally free from fins and porous areas and shall present a neat and uniform appearance.

Permanent barrier shall have a protective coating applied in accordance with Standard Specification Section 515, Protective Coating for Concrete Surfaces.

Reflective delineators for concrete median barrier shall meet the requirements of Special Provision 645, Highway Signing.

Preformed Joint Filler shall meet the requirements specified in Subsection 705.01, Preformed Expansion Joint Filler.

Permissible dimensional tolerances for all concrete barriers shall be as follows:

a. Cross-sectional dimensions shall not vary from design dimensions by more than ¼ inch. The vertical centerline shall not be out of plumb by more than ¼ inch.

b. Longitudinal dimensions shall not vary from the design dimensions by more than ¼ inch per 10 feet of barrier section and shall not exceed ¾ inches per section.

c. Location of anchoring holes shall not vary by more than ½ inch from the dimensions shown in the concrete barrier details on the Plans.

d. Surface straightness shall not vary more than ¼ inch under a 10-foot straightedge.

e. The barrier shall have no significant cracking. Significant cracking is defined as fractures or cracks passing through the section, or any continuous crack extending for a length of 12 inches or more, regardless of position in the section.

526.04 Method of Measurement Permanent Concrete Barrier Type II, IIIa, IIIb, Texas Classic Rail, and Precast Median Barrier will be measured for payment by lump sum, complete in place.

Portable concrete barrier, both anchored and unanchored will be measured for payment by lump sum. Lump sum measurement will include verification of the installation and removal of all portable concrete at the completion of the Contractor's operations.

The Contractor shall replace sections of portable concrete barrier, including anchored barrier damaged by the traveling public when directed by the Resident. Replacement sections will be measured for payment in accordance with Standard Specification 109.7, Equitable Adjustments to Compensation and Time.

Transition barrier will be measured by each, complete in place.

526.05 Basis of Payment The accepted quantities of Concrete Barrier Type II, IIIa, IIIb, Texas Classic Rail, and Precast Median Barrier will be paid for at the Contract lump sum price for the type specified, complete in place.

The accepted quantities of Portable Concrete Barrier Type I, both anchored and unanchored will be paid for at the Contract lump sum price. Such payment shall be full compensation for furnishing all materials, assembling, moving, resetting, transporting, temporarily storing, removing barrier, furnishing new parts as necessary, and all incidentals necessary to complete the work.

Portable barrier shall become the property of the Contractor upon completion of the use of the barrier on the project and shall be removed from the project site by the Contractor.

Transition barrier will be paid for at the Contract price each, complete in place.

The accepted quantity of all types of concrete barrier, whether portable or permanent, will be paid for at the lump sum or per each price, as applicable, which payment shall be full compensation for all materials, including reinforcing steel, protective coating, reflective

delineators, steel plates and hardware, equipment, labor and incidentals required, as necessary, to complete the work.

Payment will be made under:

	Pay Item	**Pay Unit**
526.301	**Portable Concrete Barrier, Type I**	**Lump Sum**
526.304	**Portable Concrete Barrier, Anchored Type I**	**Lump Sum**
526.312	**Permanent Concrete Barrier Type II**	**Lump Sum**
526.321	**Permanent Concrete Barrier Type IIIa**	**Lump Sum**
526.323	**Texas Classic Rail**	**Lump Sum**
526.331	**Permanent Concrete Barrier Type IIIb**	**Lump Sum**
526.34	**Permanent Concrete Transition Barrier**	**Each**
526.502	**Precast Concrete Median Barrier**	**Lump Sum**"

SECTION 527
ENERGY ABSORBING UNIT

527.02 Materials Amend this section by deleting it in its entirety and replacing it with:

"**MaineDOT is transitioning to MASH2016 criteria for Work Zone Traffic Control Devices on the following schedule:**

Portable Crash Cushions will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2030. Current Category 3 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029.

Work Zone Crash Cushions shall be selected from the Department's Qualified Products List of Crash Cushions/Impact Attenuators or approved equal."

SECTION 535
PRECAST, PRESTRESSED CONCRETE SUPERSTRUCTURE

535.02 Materials Replace the description of "Coarse Aggregate for Concrete (Class A, AA, or Latex) in its entirety with: "**Coarse Aggregate for Concrete (Class A, AA, or SP-1-7)"**

535.22 Tolerances Amend this section by deleting it in its entirety and replacing it with:
"**Product dimensional tolerances shall be in conformance with the latest edition of PCI MNL-135, Tolerance Manual for Precast and Prestressed Concrete Construction, as applicable to the particular product (e.g., slab, I-girder, box beam), the Plans, and this Specification. Use Box**

Beam fabrication tolerances for voided or solid slab beams and use Double Tee tolerances for NEXT beams. In case of dispute, the Fabrication Engineer shall determine the allowable tolerance."

535.24 Installation of Slabs, Beams, and Girders Revise the 5th paragraph by replacing "6.0 and 9.0" to "5.0 and 8.0" so it reads: **"Ready mixed grout shall achieve a design compressive strength of 6,000 psi at 28 days, have an entrained air content of between 5.0 and 8.0 percent, be non-shrink, flowable, and contain a non-shrink additive listed on the Department QPL for expansive cements."**

535.25, Installation of Precast/Prestressed Deck Panels Revise the 2nd paragraph by replacing "6.0 and 9.0" to "5.0 and 8.0" so it reads: **"Ready mixed grout shall achieve a design compressive strength of 6,000 psi at 28 days, have an entrained air content of between 5.0 and 8.0 percent, be non-shrink, flowable, and contain a non-shrink additive listed on the Department QPL for expansive cements."**

SECTION 606
GUARDRAIL

Amend this section by replacing it with the following:

606.01 Description This work shall consist of furnishing and installing guardrail components in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans or as established. Guardrail is designated as:

31" W-Beam Guardrail - Mid-Way Splice
Galvanized steel w-beam, 8" wood or composite offset blocks, galvanized steel posts
Thrie Beam
Galvanized steel thrie beam, 8" wood or composite offset blocks, galvanized steel posts

Median guardrail shall consist of two beams of the above types, mounted on single posts.

Bridge mounted guardrail shall consist of furnishing all labor, materials, and equipment necessary to install guardrail as shown on the plans. This work shall also include drilling for and installation of offset blocks if specified, and incidental hardware necessary for satisfactory completion of the work.

Remove and Reset and Remove, Modify, and Reset guardrail shall consist of removing the existing designated guardrail and resetting in a new location as shown on the plans or directed by the Resident. Remove, Modify, and Reset guardrail and Modify guardrail include the following guardrail modifications: Removing plate washers at all posts, except at anchorage assemblies as noted on the Standard Details, adding offset blocks, and other modifications as listed in the Construction Notes or General Notes. Modifications shall conform to the guardrail Standard Details.

Bridge Connection shall consist of the installation and attachment of beam guardrail to the existing bridge. This work shall consist of constructing a concrete end post or modifying an existing end post as required, furnishing, and installing a terminal connector, necessary hardware, and incidentals required to complete the work as shown on the plans. Bridge Transition shall consist of a bridge connection and furnishing and installing guardrail components as shown in the Standard Details.

606.02 Materials Materials shall meet the requirements specified in the following Sections of Division 700 - Materials:

Timber Preservative	708.05
Metal Beam Rail	710.04
Guardrail Posts	710.07
Guardrail Hardware	710.08

Guardrail components shall meet the applicable standards of "A Guide to Standardized Highway Barrier Hardware" prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee, Task Force 13 Report.

Posts for underdrain delineators shall be “U” channel steel, 8 ft long, 2 ½ lb/ft minimum and have 3/8-inch round holes, 1-inch center to center for a minimum distance of 2 ft from the top of the post.

Reflectorized Flexible Guardrail Markers shall be mounted on all guardrails. A marker shall be mounted onto guardrail posts at the flared guardrail terminal end point and tangent point, both at the leading and trailing ends of each run of guardrail. The marker’s flexible posts shall be gray with either silver-white or yellow reflectors (to match the edge line striping) at the tangents, red at leading ends, and green at trailing ends. Whenever the guardrail terminal is not flared, markers will only be required at the terminal end point. These shall be red or green as appropriate. Markers shall be installed on the protected side of guardrail posts unless otherwise approved by the Resident. Reflectorized flexible guardrail markers shall be from the Department’s Qualified Products List of Delineators. The marker shall be gray, flexible, durable, and of a non-discoloring material to which 3-inch by 9-inch reflectors shall be applied, and capable of recovering from repeated impacts and meeting MASH 16 requirements. Reflective material shall meet the requirements of Section 719.01 for ASTM D 4956 Type III reflective sheeting. The marker shall be secured to the guardrail post with two fasteners, as shown in the Standard Details.

Reflectorized beam guardrail reflectors shall be mounted on all “w” beam guardrail and shall be either the “butterfly” type or linear delineation system panels. “Butterfly” or linear delineation panels shall be installed at approximately 62.5 foot intervals on tangents (after every tenth post) and 31.25 feet on curves (after every fifth post), and shall be centered on the guardrail beam. On Divided highways, the left-hand delineators shall be yellow and the right-hand delineators shall be silver/ white. On two-way directional highways, the right-hand side will have silver / white reflectors and no reflectorized delineator used on the left. Delineators shall have reflective sheeting that meets or exceeds the requirements of Section 719.01.

"Butterfly" reflectors shall be fabricated from high-impact, ultraviolet & weather resistant thermoplastic. Aluminum, galvanized metal or other materials shall not be used. Reflective sheeting will be applied to only one side of the delineator facing the direction of traffic and shall be centered vertically on the guardrail beam as shown in the Standard Detail 606(7).

Linear delineation system panels shall be 1.5 inches wide by approximately 11 inches nominal length, with a minimum of 5 raised lateral ridges spaced at approximately 2.25 inches. The height of each ridge shall be 0.34 inches with a 45 degree profile and a 0.28 inches radius at the top. Sheeting shall be laminated to thin gauge aluminum with a pre-applied adhesive tape on the back. Panels shall not be installed over seams or bolt heads and shall be centered horizontally on the guardrail beam; linear delineation panels shall be attached to only one guardrail beam. The guardrail beam surface shall be cleaned and prepared according to the manufacturer's instructions. Air temperature and guardrail surface temperature must be a minimum of 50 degrees F (10 C) with rising temperature at the time of installation.

Exact locations of the either the "butterfly" type or the linear delineation panels shall be approved by the Resident prior to installation.

Single wood post shall be of cedar, white oak, or tamarack, well-seasoned, straight, and sound and have been cut from live trees. The outer and inner bark shall be removed, and all knots trimmed flush with the surface of the post. Posts shall be uniform taper and free of kinks and bends.

Single steel post shall conform to the requirements of Section 710.07 b.

Single steel pipe post shall be galvanized, seamless steel pipe conforming to the requirements of ASTM A120, Schedule No. 40, Standard Weight.

Acceptable multiple mailbox assemblies shall be listed on the Department's Qualified Products List and shall be MASH 16 tested and approved.

Flared and Tangent w-beam guardrail terminals and guardrail offset blocks shall be from the Department's Qualified Products List. Flared terminals shall be installed with a 4 ft offset as shown in the Manufacturer's installation instructions.

Anchorage assemblies used to anchor trailing ends, radius guardrail, or other ends not exposed to traffic shall meet the applicable standards of "A Guide to Standardized Highway Barrier Hardware" prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee, Task Force 13 Report, Drawing SEW02a.

Existing materials damaged or lost during adjusting, removing and resetting, or removing, modifying, and resetting, shall be replaced by the Contractor without additional compensation. Existing guardrail posts and guardrail beams found to be unfit for reuse shall be replaced when directed by the Resident.

606.03 Posts Posts for guardrail shall be set plumb in holes or they may be driven if suitable driving equipment is used to prevent battering and distorting the post. When posts are driven

through pavement, the damaged area around the post shall be repaired with approved bituminous patching. Damage to lighting and signal conduit and conductors shall be repaired by the Contractor.

When set in holes, posts shall be on a stable foundation and the space around the posts, backfilled in layers with suitable material, thoroughly tamped.

The reflectorized flexible guardrail markers shall be set plumb with the reflective surface facing the oncoming traffic. Markers shall be installed on the protected side of guardrail posts. Markers, which become bent or otherwise damaged, shall be removed and replaced with new markers.

Single wood posts shall be set plumb in holes and backfilled in layers with suitable material, thoroughly tamped. The Resident will designate the elevation and shape of the top. The posts, that are not pressure treated, shall be painted two coats of good quality oil base exterior house paint.

Single steel posts shall be set plumb in holes as specified for single wood posts or they may be driven if suitable driving equipment is used to prevent battering and distorting the post.

Additional bolt holes required in existing posts shall be drilled or punched, but the size of the holes shall not exceed the dimensions given in the Standard Details. Metal around the holes shall be thoroughly cleaned and painted with two coats of approved aluminum rust resistant paint. Holes shall not be burned.

606.04 Rails Brackets and fittings shall be placed and fastened as shown on the plans. Rail beams shall be erected and aligned to provide a smooth, continuous barrier. Beams shall be lapped with the exposed end away from approaching traffic.

End assemblies shall be installed as shown on the plans and shall be securely attached to the rail section and end post.

All bolts shall be of sufficient length to extend beyond the nuts but not more than ½ inch. Nuts shall be drawn tight.

Additional bolt holes required in existing beams shall be drilled or punched, but the size of the holes shall not exceed the dimensions given in the Standard Details. Metal around the holes shall be thoroughly cleaned and painted with two coats of approved aluminum rust resistant paint. Holes shall not be burned.

606.045 Offset Blocks The same offset block material is to be provided for the entire project unless otherwise specified.

606.05 Shoulder Widening At designated locations the existing shoulder of the roadway shall be widened as shown on the plans. All grading, paving, seeding, and other necessary work shall be in accordance with the Specifications for the type work being done.

606.06 Mail Box Post Single wood post shall be installed at the designated location for the support of the mailbox. The multiple mailbox assemblies shall be installed at the designated location in

accordance with the Standard Details and as recommended by the Manufacturer. Attachment of the mailbox to the post will be the responsibility of the home or business owner.

606.07 Abraded Surfaces All galvanized surfaces of new guardrail and posts, which have been abraded so that the base metal is exposed, and the threaded portions of all fittings and fasteners and cut ends of bolts shall be cleaned and painted with two coats of approved rust resistant paint.

606.08 Method of Measurement Guardrail will be measured by the linear foot from center to center of end posts along the gradient of the rail except where end connections are made to masonry or steel structures, in which case measurement will be as shown on the plans. When connected to radius rail, measurement will be to the end of the last tangent beam.

Guardrail terminal, reflectorized flexible guardrail marker, terminal end, anchorage assembly, bridge transition, bridge connection, multiple mailbox post, and single post will be measured by each unit of the kind specified and installed.

Widened shoulder will be measured as a unit of grading within the limits shown on the plans.

Excavation in solid rock for placement of posts will be paid under force account unless otherwise indicated in the Bid Documents.

Reflectorized beam guardrail reflectors (“butterfly” type or linear delineation system panels) when identified by pay item, will be measured for payment by each.

606.09 Basis of Payment The accepted quantities of guardrail will be paid for at the contract unit price per linear foot for the type specified, complete in place. Reflectorized beam guardrail (“butterfly”-type) delineators will not be paid for directly but will be considered incidental to guardrail items. Reflectorized flexible guardrail marker, terminal end, anchorage assembly, bridge transition, bridge connection, multiple mailbox post, and single post will be paid for at the contract unit price each for the kind specified complete in place.
Guardrail terminals will be paid for at the contract price each, complete in place which price shall be full payment for furnishing and installing all components including the terminal section, posts, offset blocks, "w" beam, cable foundation posts, plates and for all incidentals necessary to complete the installation within the limits as shown on the Standard Details or the Manufacturer’s installation instructions. Pay limits for a flared terminal will be 37.5 feet. Pay limits for a tangent terminal will be 50 feet. Each guardrail terminal will be clearly marked with the Manufacturer’s name and model number to facilitate any future needed repair. Such payment shall also be full compensation for furnishing all material, excavating, backfilling holes, assembling, and all incidentals necessary to complete the work, except that for excavation for posts or anchorages in solid ledge rock, payment will be made under 109.7.5 – Force Account. Type III Retroreflective Adhesive Sheeting shall be applied to the approach buffer end sections and sized to substantially cover the end section. On all roadways, the ends shall be marked with alternating black and retroreflective yellow stripes. The stripes shall be 3 in wide and sloped down at an angle of 45 degrees toward the side on which traffic is to pass the end section. Guardrail terminals shall also include a set of installation drawings supplied to the Resident.

Anchorages to bridge end posts will be part of the bridge work. Connections thereto will be considered included in the unit bid price for guardrail.

Guardrail to be placed on a radius of curvature of 150 ft or less will be paid for under the designated radius pay item for the type guardrail being placed.

Widened shoulder will be paid for at the contract unit price each complete in place and will be full compensation for furnishing and placing, grading and compaction of aggregate subbase and any required fill material.

Adjust guardrail will be paid for at the contract unit price per linear foot and will be full compensation for adjusting to grade. Payment shall also include adjusting guardrail terminals where required.

Modify guardrail will be paid for at the contract unit price per linear foot and will be full compensation for furnishing and installing offset blocks, additional posts, and other specified modifications; removing, modifying, installing, and adjusting to grade existing posts and beams; removing plate washers and backup plates, and all incidentals necessary to complete the work. Payment shall also include removing and resetting guardrail terminals where required.

Remove and Reset guardrail will be paid for at the contract unit price per linear foot and will be full compensation for removing, transporting, storing, reassembling all parts, necessary cutting, furnishing new parts when necessary, reinstalling at the new location, and all other incidentals necessary to complete the work. Payment shall also include removing and resetting guardrail terminals when required.

Remove, Modify, and Reset guardrail will be paid for at the contract unit price per foot and will be full compensation for the requirements listed in Modify guardrail and Remove and Reset guardrail.

Bridge Connections will be paid for at the contract unit price each. Payment shall include, attaching the connection to the endpost including furnishing and placing concrete and reinforcing steel necessary to construct new endposts if required, furnishing and installing the terminal connector, and all miscellaneous hardware, labor, equipment, and incidentals necessary to complete the work.

Bridge Transitions will be paid for at the contract unit price each. Payment shall include furnishing and installing the thrie beam or “w”-beam terminal connector, doubled beam section, and transition section, where called for, posts, hardware, precast concrete transition and vertical curb, and any other necessary materials and labor, including the bridge connection as stated in the previous paragraph.

No payment will be made for guardrail removed, but not reset and all costs for such removal shall be considered incidental to the various contract pay items.

Reflectorized beam guardrail reflectors (“butterfly” type and the linear delineation panels) will not be paid for directly but will be considered incidental to all new guardrail items. The Contractor shall

furnish and install either the “butterfly” type or linear delineation panels, at its discretion, for new guardrail items.

Reflectorized beam guardrail reflectors (either “butterfly” type or linear delineation system panels) will be paid for under the applicable pay items for installation in conjunction with Adjust, Modify, Remove and Reset, Remove Modify and Reset guardrail items. The accepted quantity of “butterfly” type or linear delineation system panels will be paid for at the contract unit price each for all work and materials furnished to install, complete in place, including all incidentals necessary to complete the work.

Payment will be made under:

Pay Item		Pay Unit
606.1301	31” W-Beam Guardrail - Mid-Way Splice – Single Faced	Linear Foot
606.1302	31” W-Beam Guardrail - Mid-Way Splice – Double Faced	Linear Foot
606.1303	31” W-Beam Guardrail - Mid-Way Splice, 15’ Radius and Less	Linear Foot
606.1304	31” W-Beam Guardrail - Mid-Way Splice, Over 15’ Radius	Linear Foot
606.1305	31” W-Beam Guardrail - Mid-Way Splice Flared Terminal	Each
606.1306	31” W-Beam Guardrail - Mid-Way Splice Tangent Terminal	Each
606.1307	Bridge Transition (Asymmetrical) – Type IA	Each
606.1721	Bridge Transition - Type I	Each
606.1722	Bridge Transition - Type II	Each
606.1731	Bridge Connection - Type I	Each
606.1732	Bridge Connection - Type II	Each
606.178	Guardrail Beam	Linear Foot
606.25	Terminal Connector	Each
606.257	Terminal Connector - Thrie Beam	Each
606.259	Anchorage Assembly	Each
606.265	Terminal End-Single Rail - Galvanized Steel	Each
606.266	Terminal End-Single Rail - Corrosion Resistant Steel	Each
606.275	Terminal End-Double Rail - Galvanized Steel	Each
606.276	Terminal End-Double Rail - Corrosion Resistant Steel	Each
606.352	Reflectorized Beam Guardrail Delineators (“Butterfly” type)	Each
606.3521	Linear Delineation System Panel	Each
606.353	Reflectorized Flexible Guardrail Marker	Each
606.354	Remove and Reset Reflectorized Flexible Guardrail Marker	Each
606.356	Underdrain Delineator Post	Each
606.358	Guardrail, Modify	Linear Foot
606.362	Guardrail, Adjust	Linear Foot
606.365	Guardrail, Remove, Modify, and Reset	Linear Foot
606.366	Guardrail, Remove and Reset	Linear Foot
606.367	Replace Unusable Existing Guardrail Posts	Each
606.3671	Replace Unusable Offset Blocks	Each
606.47	Single Wood Post	Each
606.48	Single Galvanized Steel Post	Each

606.50	Single Steel Pipe Post	Each
606.51	Multiple Mailbox Support	Each
606.568	Guardrail, Modify - Double Rail	Linear Foot
606.63	Thrie Beam Rail Beam	Linear Foot
606.64	Guardrail Thrie Beam - Double Rail	Linear Foot
606.65	Guardrail Thrie Beam - Single Rail	Linear Foot
606.66	Terminal End Thrie Beam	Each
606.70	Transition Section - Thrie Beam	Each
606.71	Guardrail Thrie Beam - 15 ft radius and less	Linear Foot
606.72	Guardrail Thrie Beam - over 15 ft radius	Linear Foot
606.73	Guardrail Thrie Beam - Single Rail Bridge Mounted	Linear Foot
606.74	Guardrail - Single Rail Bridge Mounted	Linear Foot
606.753	Widen Shoulder for Low Volume Guardrail End	Each
606.754	Widen Shoulder for Flared Guardrail Terminal	Each
606.78	Low Volume Guardrail End	Each
606.80	Buried-in-Slope Guardrail End	Each

SECTION 608
SIDEWALKS

Section 608.022Detectable Warning Materials Standard Revise this section by removing the last sentence of this section beginning with "Concrete…" and replacing it with "**Concrete shall meet the requirements of Section 608.021, Sidewalk Materials, of this specification or may be a prepackaged concrete mix from the Department's Qualified Products List (QPL).**"

SECTION 609
CURB

Remove this section in its entirety and replace with the following:

609.01 Description Construct or reset curb, gutter, or combination curb and gutter, paved ditch, and paved flume. The types of curb are designated as follows:

Type 1 - Stone curbing of quarried granite stone
Type 2 – Concrete Curbing
Type 3 - Bituminous curbing
Type 5 - Stone edging of quarried granite stone

609.02 Materials Except as provided below, the materials used shall meet the requirements of the following Sections of Division 700 - Materials:

Portland Cement and Portland Pozzolan Cement	701.01
Water	701.02
Air Entraining Chemical Admixture	701.03
Fine Aggregate for Concrete	703.01

Coarse Aggregate for Concrete	703.02
Joint Mortar	705.02
Reinforcing Steel	709.01
Stone Curbing and Edging	712.04
Epoxy Resin	712.35
Hot Mix Asphalt Curbing	712.36
Structural Precast Concrete Units (Concrete Curb)	712.061

The Contractor shall submit a concrete mix design for the Portland Cement Concrete to the Resident, for the uses specified below or in accordance with the Contract Documents.

Circular curb, terminal sections and transition sections shall be in reasonably close conformity with the shape and dimensions shown on the Plans and to the applicable material requirements herein for the type of curb specified.

Dowels shall be reinforcing steel deformed bars.

Concrete for Slipform Concrete Curb shall meet the requirements below:

a. Class A, with the exception that permeability requirements shall be waived.
b. Entrained air content of Slipform Concrete Curb shall be 4.0% to 7.0%
c. Concrete temperature, prior to discharge, shall not exceed 90 F.
d. Proposed mix designs may contain polypropylene fibers.
e. Partially discharged loads may be retempered with water provided the maximum water to cement ratio is not exceeded.

609.03 Vertical Stone Curb, Terminal Section and Transition Sections and Portland Cement Concrete Curb, Terminal Sections and Transition Sections

a. Installation The curb stone shall be set on a compacted foundation so that the front top arris line conforms to the lines and grades required. The foundation shall be prepared in advance of setting the stone by grading the proper elevation and shaping to conform as closely as possible to the shape of the bottom of the stone. The required spacing between stones shall be assured by the use of an approved spacing device to provide an open joint between stones of at least ¼ inch and no greater than ⅝ inch.

b. Backfilling All remaining spaces under the curb shall be filled with approved material and thoroughly hand tamped so the stones will have a firm uniform bearing on the foundation for the entire length and width. Any remaining excavated areas surrounding the curb shall be filled to the required grade with approved materials. This material shall be placed in layers not exceeding 8 inches in depth, loose measure and thoroughly tamped.

When backfill material infiltrates through the joints between the stones, small amounts of joint mortar or other approved material shall be placed in the back portion of the joint to prevent such infiltrating.

c. Protection The curb shall be protected and kept in good condition. All exposed surfaces smeared or discolored shall be cleaned and restored to a satisfactory condition or the curb stone removed and replaced.

d. Curb Inlets Curb placed adjacent to curb inlets shall be installed with steel dowels cemented into each stone with epoxy grout as shown in the Standard Details.

The epoxy grout shall be used in accordance with the manufacturer's instructions. The grout shall be forced into the hole, after which the dowel shall be coated with grout for one-half its length and inserted into the grout filled hole. The hole shall be completely filled with grout around the dowel. All tools and containers must be clean before using.

The Contractor may elect to substitute concrete to backfill Stone Curbing or Stone Edging at their option. If the concrete backfill option is elected, the Concrete Fill shall meet the requirements of 609.02. The Contractor shall submit a concrete design for the Portland Cement Concrete, with a minimum designated compressive strength of 3000 PSI meeting the requirements of Class S or Class Fill Concrete. The Contractor may elect to choose a Prepackaged Concrete Mix from the Departments Qualified Products list (QPL). Concrete backfill shall be completed in conformance with a Department supplied concrete backfill detail.

609.04 Bituminous Curb

a. Preparation of Base Before placing the curb, the foundation course shall be thoroughly cleaned of all foreign and objectionable material. String or chalk lines shall be positioned on the prepared base to provide guidelines. The foundation shall be uniformly painted with tack coat at a rate of 0.04 to 0.14 gal/yd^2.

b. Placing The curb shall be placed by an approved power operated extruding type machine using the shape mold called for. A tight bond shall be obtained between the base and the curb. The Resident may permit the placing of curbing by other than mechanical curb placing machines when short sections or sections with short radii are required. The resulting curbing shall conform in all respects to the curbing produced by the machine.

c. When required, the curb shall be painted and coated with glass beads in accordance with Section 627 - Pavement Marking. Curb designated to be painted shall not be sealed with bituminous sealing compound.

d. Acceptance Curb may be accepted or rejected based on appearance concerning texture, alignment, or both. All damaged curb shall be removed and replaced at the Contractor's expense.

e. Polyester fibers shall be uniformly incorporated into the dry mix at a rate of 0.25 percent of the total batch weight. Certification shall be provided from the supplier with each shipment meeting the following requirements:

Average Length	0.25 inches ± 0.005
Average Diameter	0.0008 inches ± 0.0001
Specific Gravity	1.32-1.40
Melting Temperature	480 °F Minimum

609.05 Slipform Concrete Curb

a. Preparation of Base Before placing the curb, the foundation course shall be thoroughly cleaned of all foreign and objectionable material. The Contractor shall not place Slipform Concrete Curb on a wet or frozen foundation. The foundation (HMA or concrete) may be in a Saturated Surface Dry condition, but no standing water shall be allowed. String or chalk lines shall be positioned on the prepared foundation to provide guidelines. Prior to placing the curb, the foundation shall be uniformly coated with an epoxy resin adhesive that meets the requirements of AASHTO M 235, Type I, II, III, IV or V and has been tested by AASHTO Product Evaluation & Audit Solutions. The Contractor shall submit the epoxy resin adhesive that they propose to utilize with the concrete mix design. The epoxy resin adhesive must be approved prior to placement and used in accordance with manufacturer's recommendations.

b. Placing Concrete shall be placed with an approved Slipform machine that will produce a finished product according to the design specified in the Plans. For cold weather slip forming, the outside temperature must be at least 36°F and rising. The curb shall be placed on a firm, uniform foundation, shall conform to the section profile specified in the Plans, and shall match the appropriate grade. Expansion joints shall be placed in the curb where it meets rigid structures such as but not limited to building foundations, catch basin headers or fire hydrants. Contraction joints will be placed at 10-foot intervals using sawing methods, which shall cut 1 to 3 inches into the concrete. Contraction joints shall be cut between 1 and 7 days after placement of the concrete. Joints shall be constructed perpendicular to the subgrade and match other joints in roadways, sidewalks, or other structures when applicable.

c. Curing and Sealing Proper curing shall be provided using either a combination curing/sealing compound spray that meets ASTM 1315 Type 1-Class A, or a curing compound spray that meets ASTM 309 Type 1-D – Class A. Curing may also be accomplished by the methods specified in Standard Specification Section 502.14, Curing Concrete.

If a combination curing/sealing compound spray is not used, a separate sealing compound from the MaineDOT Qualified Products List for a Type 1c sealer shall be applied after the concrete has cured.

d. Protection Slipform curb must be adequately protected after placement. The concrete shall be allowed to cure for at least 72 hours. During cold weather conditions, when temperatures drop below the required temperature of 36°F after placement, curbing shall be protected by concrete blankets or a combination of plastic sheeting and straw. After any

placement of Slipform curb, regardless of weather conditions, the placed curb shall be adequately protected by traffic control devices as necessary.

e. Marking When required, the curb shall be painted and coated with glass beads in accordance with Section 627 - Pavement Marking. Curb designated to be painted shall not be sealed unless a combination curing/sealing compound is used.

f. Acceptance Curb shall be accepted or rejected based on finish, alignment, entrained air content, and compressive strength. Concrete Quality Control and Acceptance shall be done in accordance with Standard Specification Section 502, Method C. All damaged curb shall be removed and replaced at the Contractor's expense.

609.06 Stone Edging The curb shall be installed, backfilled and protected in accordance with Section 609.03, except as follows:

a. Slope The edging shall be set on a slope as shown on the Plans or as directed.

b. Joints Joints shall be open and not greater than 1½ inch in width.

609.07 Stone Bridge Curb

a. Installation Each stone and the bed upon which it is to be placed shall be cleaned and thoroughly wetted with water before placing the mortar for bedding and setting the stone. The stone shall be set on a fresh bed of joint mortar and well bedded before the mortar has set so that the front top arris line conforms to the line and grade required. Whenever temporary supporting wedges or other devices are used in setting the stones, they shall be removed before the mortar in the bed has become set, and the holes left by them shall be filled with mortar. Concrete behind the stones shall not be placed until the stones have been in place at least two days. Bedding and pointing mortar for joints shall be cured as required under Section 502 - Structural Concrete.

b. Joints Vertical joints shall be ½ inch in width plus or minus ⅛ inch. Whenever possible, the face and top of the joint shall be pointed with joint mortar to a depth of 1½ inch, before the bedding mortar has set. Joints which cannot be so pointed, shall be prepared for pointing by raking them to a depth of 1½ inch before the mortar has set. Joints not pointed at the time the stone is laid shall be thoroughly wetted with clean water and filled with mortar. The mortar shall be well driven into the joint and finished with an approved pointing tool, flush with the pitch line of the stones.

609.08 Resetting Stone or Portland Cement Concrete Curb, Including Terminal Sections and Transitions

The curb shall be installed, backfilled and protected in accordance with Section 609.03, except as follows:

a. Removal of Curbing The Contractor shall carefully remove and store curb specified on the Plans or designated for resetting. Curb damaged or destroyed, because of the

Contractor's operations or because of their failure to store and protect it in a manner that would prevent its loss or damage, shall be replaced with curbing of equal quality at the Contractor's expense.

b. Cutting and Fitting Cutting or fitting necessary in order to install the curbing at the locations directed shall be done by the Contractor.

609.09 Method of Measurement Curb, both new and reset, will be measured by the linear foot along the front face of the curb at the elevation of the finished pavement, complete in place and accepted. Curb inlets at catch basins, including doweling, will not be measured for payment but shall be considered included in the cost of the catch basin. New transition sections and terminal curb will be measured by the unit. Reset transition sections and terminal curb will be included in the measurement for resetting curb.

Concrete Slipform Curb and terminal ends will be measured by the linear foot along the front face of the curb at the elevation of the finished pavement, complete in place and accepted.

609.10 Basis of Payment The accepted quantities of curbing will be paid for at the contract unit price per linear foot for each kind and type of curbing as specified.

Payment for terminal curb shall include only that portion of the curbing modified for installation at ends of curb runs shown in the Standard Details. Curb adjacent to terminal ends shall be paid for at the contract unit price per linear foot for the type of curb installed.

Vertical Curb Type 1 is required to have a radius of 60 feet or less, will be paid for as Vertical Curb Type 1 - Circular.

Curb, Type 5 required to have a radius of 30 feet or less will be paid for as Curb Type 5 - Circular.

There will be no separate payment for concrete fill, mortar, reinforcing steel, anchors, tack coat, drilling for and grouting anchors, pointing and bedding of curbing, and for cutting and fitting, but these will be considered included in the work of the related curb.

Removal of existing curb and necessary excavation for installing new or reset curbing will not be paid for directly but shall be considered to be included in the appropriate new or reset curb pay item. Base and Subbase material will be paid for under Section 304 - Aggregate Base and Subbase Course. Backing up bituminous curb is incidental to the curb items. Loam, as directed, will be paid under 615 – Loam.

Payment will be made under:

	Pay Item	Pay Unit
609.11	Vertical Curb Type 1	Linear Foot
609.12	Vertical Curb Type 1 - Circular	Linear Foot
609.13	Vertical Bridge Curb Type 1	Linear Foot
609.131	Vertical Bridge Curb Type 1A	Linear Foot
609.132	Vertical Bridge Curb Type 1B	Linear Foot
609.142	Vertical Bridge Curb Type 1B - Circular	Linear Foot
609.15	Sloped Curb Type 1	Linear Foot
609.151	Sloped Curb Type 1 - Circular	Linear Foot
609.161	Concrete Slipform Curb – Vertical Type 2	Linear Foot
609.21	Concrete Slipform Curb Type 2	Linear Foot
609.219	Concrete Slipform Terminal End Type 2	Linear Foot
609.23	Terminal Curb Type 1	Each
609.234	Terminal Curb Type 1 - 4 foot	Each
609.237	Terminal Curb Type 1 - 7 foot	Each
609.2371	Terminal Curb Type 1 - 7 foot – Circular	Each
609.238	Terminal Curb Type 1 - 8 foot	Each
609.26	Curb Transition Section B Type 1	Each
609.31	Curb Type 3	Linear Foot
609.34	Curb Type 5	Linear Foot
609.35	Curb-Type 5 - Circular	Linear Foot
609.38	Reset Curb Type 1	Linear Foot
609.39	Reset Curb Type 2	Linear Foot
609.40	Reset Curb Type 5	Linear Foot

SECTION 610
STONE FILL, RIPRAP, STONE BLANKET, AND STONE DITCH PROTECTION

610.02 Materials Amend this subsection by adding the following to the end of the material list:
"**Stone Ditch Protection 703.29"**

SECTION 618
SEEDING

618.08 Mulching Revise this Section so that the third sentence reads: "Mulch for Seeding Method Number 1 shall only be cellulous fiber mulch Section 619.04 **(b)** or straw mulch Section 619.04 (**a**)."

SECTION 619
MULCH

619.03 General Amend this Section by adding the following sentence to the end: **"Straw mulch shall be used in all wetland areas."**

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

Section 626.021 Miscellaneous Materials Revise this section by removing the fourth paragraph beginning with " All Concrete for concrete encasement…" and replace it with "**All concrete for concrete encasement of conduit shall be Class S or Class Fill concrete in accordance with the applicable requirements of Section 502 – Structural Concrete, or a Prepackaged Concrete Mix from the Department's Qualified Products List (QPL).**"

Section 626.031Conduit Revise the fifth paragraph beginning with "After the trench has been…" by removing the last sentence beginning with "Where concrete encasement…" and replacing it with **"Where concrete encasement is required around the conduit, the concrete shall meet Class S, Class Fill in accordance with the applicable requirements of Section 502 – Structural Concrete, or a Prepackaged Concrete Mix from the Department's Qualified Products List (QPL)."**

626.034 Concrete Foundations Revise this Section by changing '626.037' to '**626.036**' in the Second Paragraph which begins with "Foundations shall consist of cast-in-place…".

Revise the 10th paragraph beginning with "Before placing concrete, the required elbows…" by removing "…**in accordance with Standard Specification 633**."

626.036 Precast Foundations Revise the last sentence of paragraph one so that it reads: "**Construction of precast foundations shall conform to the Standard Details and all requirements of 712.061**."

SECTION 627
PAVEMENT MARKINGS

627.02 Materials Amend this section by adding the following to the existing Specification:

"When pavement marking paint must be applied on pavement with an air temperature between 35 ºF and 50 ºF, a low temperature waterborne paint may be used upon the Department's approval as noted below.

The Contractor shall submit the following information for Department review and approval at least 10 calendar days prior to application:

The manufacturer and product name of the low temperature waterborne paint

The manufacturer's technical product data sheets

The product's SDS sheets

All required and recommended application specifications for the product

The manufacturer's requirements for temperature, surface preparation, paint thickness and the bead application shall be followed. No additional payment will be made for the use of low temperature waterborne paint. "

627.06 Application Revise this subsection by replacing the paragraph beginning with " On other final pavement markings…" with the following:
"On other final pavement markings and on curb, where the paint is applied by hand painting or spraying, application shall be one uniform covering coat at least 16 mils thick. Before the paint has dried, the glass beads shall be applied by a pressure system that will force the glass beads onto the undried paint as uniformly as possible.

Painted lines and markings shall be applied in accordance with the manufacturer's published recommendations. These recommendations will be supplied to the Resident prior to installation."

Revise this subsection by replacing the paragraph beginning with " If the final reflectivety values are less…" with the following:

"The final reflectivity will be acceptable if 90 percent or more of the painted pavement lines and markings meet the specified minimum value. If less than 90 percent of the painted pavement lines and markings meet the specified minimum final reflectivity values, the Contractor shall repaint those areas not meeting required reflectivity at no cost to the Department.

If, after repainting, analysis of the final reflectivity values results in the need for a second repainting, the Contractor will submit in writing a plan of action to meet the reflectivity minimums prior to continuing any work. Once the plan has been reviewed and approved by the Department, the Contractor shall reapply at no cost to the Department."

SECTION 634
HIGHWAY LIGHTING

634.021 Materials Revise this subsection by removing the paragraph beginning with "All bolts for mounting lighting fixtures" and replacing with:

"**All bolts for mounting lighting fixtures under bridge structures shall conform to the requirements of ASTM A307. These bolts and other fastening hardware shall be galvanized in**

accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I."

SECTION 637
DUST CONTROL

Revise this section by removing it in its entirety.

SECTION 643
TRAFFIC SIGNALS

643.021 Materials Amend this subsection by adding the following at the end:

"**MaineDOT is transitioning to MASH2016 criteria for Work Zone Traffic Control Devices on the following schedule:**

Temporary Traffic Control Signals will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2030. Current Category 4 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029."

643.023 Traffic Signal Structures Remove the third paragraph and replace it with the following:

"**Traffic signal support structures shall be classified as Fatigue Category III if they are located on roads with a speed limit of 35 mph or less, Fatigue Category II if they are located on roads with a speed limit of greater than 35 mph, and Fatigue Category I if noted on the Contract Plans. Fatigue Importance Factors shall be as specified in Table 11.6-1 (Fatigue Importance Factors). Fatigue analyses are not required for span-wire (strain) pole traffic signal support structures with heights of 55 feet or less unless required by the current edition of AASHTO "LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals".**

643.09 Service Connection Revise this subsection by removing the paragraph that begins with "Traffic signal services shall have…".

And by removing the paragraphs beginning with " A service ground rod shall be installed…" and "A total of 4, 10' service…" and replace them with "**A total of 4, 10' service ground rods shall be installed and properly connected together on the outside of the cabinet foundation. One ground rod shall be located at each corner and shall be either flush or slightly below finished grade. The connection between the ground rod and the ground wire shall be an**

exothermic connection such as a Cadweld. The ground wire from the interconnected ground rods shall be routed through a conduit in the foundation and into the base of the cabinet".

SECTION 645
HIGHWAY SIGNING

Section 645.023 Sign Support Structures. Under letter "c.", revise the fifth paragraph beginning with "In addition to the required details…" by removing the words "**and foundation**" from the 5th sentence.

Section 645.08 Method of Measurement. Revise the second paragraph beginning with "Bridge-type, cantilever and…" by removing the words "**including the foundation**" .

Section 645.09 Basis of Payment. Revise the third paragraph beginning with "The accepted bridge-type, cantilever and…" by removing the word "**foundation**" from the second sentence. Add the following sentence to the end of the paragraph "**Conduits, Junction Boxes, and Foundations will be paid for under Section 626.**"

SECTION 652
MAINTENANCE OF TRAFFIC

652.2.5 Portable Changeable Message Sign Revise the fifth paragraph so it reads:

"The control system shall include a display screen upon which messages can be reviewed before being displayed on the message sign. The control system shall be capable of maintaining memory when power is unavailable. Messages must be changeable with either a portable electronic device like a notebook computer or an on-board keypad. The controller shall have the capability to store a minimum of 200 user-defined and 200 pre-programmed messages. Controller and battery compartments shall be enclosed in lockable, weather-tight boxes. The cabinet shall be locked at all times that the Contractor is not actively changing the message. The Contractor shall change the password for the controller prior to stationing the PCMS and shall provide the password to the Resident. The password shall be unique per PCMS and secure and shall not be written anywhere in, on, around, or stored in the PCMS."
Amend this Section by adding the following new subsection:

"**652.2.6 Device Crashworthiness MaineDOT is transitioning to MASH2016 criteria for Work Zone Traffic Control Devices on the following schedule:**

Category 1 (Cones, Drums, Tubular Markers, Flexible Delineators, and similar devices that have little chance if causing windshield penetration, tire damage, or other significant effect on the control or trajectory of a vehicle) – All Category 1 devices will be manufacturer self-certified as MASH2016 by January 1, 2025. Current Category 1 devices in useful serviceable condition that are not self-certified as MASH2016 compliant may be utilized through December 31, 2024.

Category 2 (Barricades, Portable Sign Supports, Category 1 devices with attachments, and similar devices that are not expected to produce significant vehicular velocity change but may be otherwise hazardous) – All Category 2 devices will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2025. Current Category 2 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2024.

Category 3 (Portable Concrete Barrier, Portable Crash Cushions, Truck Mounted Attenuators, Category 2 devices weighing more than 100 pounds, and similar devices that are expected to produce significant vehicular velocity change or other harmful reactions) – All Category 3 devices will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2030. Current Category 3 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029. (See Standard Specification 526 for additional Portable Concrete Barrier information).

Category 4 (Trailer Mounted Devices: Arrow Boards, Temporary Traffic Control Signals, Area Lighting, Portable Changeable Message Sign, and other similar devices.) – All Category 4 devices will be crash tested and/or evaluated to MASH2016 criteria by January 1, 2030. Current Category 4 devices in useful serviceable condition that are successfully tested to NCHRP Report 350 or MASH2009 criteria may be utilized through December 31, 2029."

652.3.3 Submittal of Traffic Control Plan Amend this section by adding:

"n. A security plan for any PCMS shall be included. The Contractor shall provide a plan for secure access to the PCMS and protection from unauthorized users. The plan shall have details on securing the cabinets via a lock and password from unauthorized users, password changing protocols, and where the access information will be kept so it can be used in the event of emergency. The Contractor shall not Identify or store passwords in the TCP."

652.4 Flaggers Revise the first paragraph of this section so that it reads:

"The Contractor shall furnish flaggers as required by the TCP or as otherwise specified by the Resident. All flaggers must have successfully completed a flagger test approved by the Department and administered by a Department-approved Flagger-Certifier who is employing that flagger. All flaggers must carry an official certification card with them while flagging that has been issued by their employer."

SECTION 681
PRECAST AGGREGATE-FILLED, CONCRETE BLOCK GRAVITY WALL

681.08 Basis of Payment Amend this section by adding the Item Number "**681.10**' in front of the item "Precast Aggregate-Filled Concrete Block Gravity Wall" at the end of the section.

SECTION 701
STRUCTURAL CONCRETE RELATED MATERIAL

701.01 Portland Cement and Portland Pozzolan Cement Amend the first sentence of Paragraph 3 by adding "**or Type 1L Portland Limestone cement**" so that it reads:
"**A Type IP (MS) Portland-pozzolan cement (blended hydraulic cement with moderate sulfate resistance) or Type 1L Portland Limestone cement meeting the requirements of AASHTO M 240, may be used instead of Type II or where Type I Portland cement, meeting the requirements of AASHTO M 85, is allowed**."

SECTION 703
AGGREGATES

Add the following to Section 703 - Aggregates

703.01 Fine Aggregate for Concrete Fine aggregate for concrete shall consist of natural sand or, when approved by the Resident, other inert materials with similar characteristics or combinations thereof, having strong, durable particles. Fine aggregate from different sources of supply shall not be mixed or stored in the same pile nor used alternately in the same class of construction or mix without permission of the Resident.

All fine aggregate shall be free from injurious amounts of organic impurities. Should the fine aggregate, when subjected to the colorimetric test for organic impurities, AASHTO T 21, produce a color darker than the reference standard color solution (laboratory designation Plate III), the fine aggregate shall be rejected.

Fine aggregate shall have a sand equivalent value of not less than 75 when tested in accordance with AASHTO T 176.
Fine aggregate sources shall meet the Alkali Silica Reactivity (ASR) requirements of Section 703.0201.

The fineness modulus shall not be less than 2.26 or more than 3.14. If this value is exceeded, the fine aggregate will be rejected unless suitable adjustments are made in proportions of coarse and fine aggregate. The fineness modulus of fine aggregate shall be determined by adding the cumulative percentages of material by weight retained on the following sieves: Nos. 4, 8, 16, 30, 50, 100 and dividing by 100.

Fine aggregate, from an individual source when tested for absorption as specified in AASHTO T 84, shall show an absorption of not more than 2.3 percent.

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves
⅜ inch	100
No. 4	95-100
No. 8	80-100
No. 16	50-85
No. 30	25-60
No. 50	10-30
No. 100	2-10
No. 200	0-5.0

703.02 Coarse Aggregate for Concrete Coarse aggregate for concrete shall consist of crushed stone or gravel having hard, strong, durable pieces, free from adherent coatings and of which the composite blend retained on the ⅜ inch sieve shall contain no more than 15 percent, by weight of flat and elongated particles when performed in accordance with test method ASTM D 4791, Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate, using a dimensional ratio of 1:5.

The coarse aggregate from an individual source shall have an absorption no greater than 2.0 percent by weight determined in accordance with AASHTO T 85 modified for weight of sample.

The composite blend shall have a Micro-Deval value of 18.0 percent or less as determined by AASHTO T 327 or not exceed 40 percent loss as determined by AASHTO T 96.

Coarse aggregate sources shall meet the Alkali Silica Reactivity (ASR) requirements of Section 703.0201.

Coarse aggregate shall conform to the requirements of the following table for the size or sizes designated and shall be well graded between the limits specified.

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves						
Grading	S	A	AA	SP-1-7	SP-1-78	SP-2-8	SP-2-89
Aggregate Size	1 ½ inch	1 inch	¾ inch	½ inch	½ inch	⅜ inch	⅜ inch
2 inch	100						
1 ½ inch	95-100	100					
1 inch	-	95-100	100				
¾ inch	35-70	-	90-100	100	100		
½ inch	-	25-60	-	90-100	90-100	100	100
⅜ inch	10-30	-	20-55	40-70	40-75	85-100	90-100
No. 4	0-5	0-10	0-10	0-15	5-25	10-30	20-55
No. 8	-	0-5	0-5	0-5	0-10	0-10	5-30
No. 16	-	-	-	-	0-5	0-5	0-10
No. 50	-	-	-	-	-	-	0-5
No. 200*	0-1.5	0-1.5	0-1.5	0-1.5	0-1.5	0-1.5	0-1.5

*This limit will be 0-2.0 for Department production samples. Yearly quality samples will be held to 0-1.5.

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:

a. Class F Coal Fly Ash meeting the requirements of AASHTO M 295
b. Ground Granulated Blast Furnace Slag (Grade 100 or 120) meeting the requirements of AASHTO M 302
c. Densified Silica Fume meeting the requirements of AASHTO M 307
d. Lithium-based admixtures
e. 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.

Amend this section by adding the new sub section:

"703.03 Combined Aggregate Grading for Concrete The combined gradation of the fine and coarse aggregates when mathematically blended using the mix design percentages shall conform to the requirements of the following table for the size or sizes designated and shall be well graded between the limits specified.

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves						
Grading	**S**	**A**	**AA**	**SP-1-7**	**SP-1-78**	**SP-2-8**	**SP-2-89**
Aggregate Size	**1½ inch**	**1 inch**	**¾ inch**	**½ inch**	**½ inch**	**⅜ inch**	**⅜ inch**
2 inch	**100**						
1½ inch	**95–100**	**100**					
1 inch	**80–100**	**95–100**	**100**				
¾ inch	**55–90**	**90–100**	**93–100**	**100**	**100**		
½ inch	**45–80**	**55–80**	**60–90**	**90–100**	**90–100**	**100**	**100**
⅜ inch	**40–65**	**40–65**	**50–80**	**55–85**	**65–90**	**90–100**	**90–100**
No. 4	**35–55**	**35–55**	**35–60**	**30–60**	**40–70**	**45–75**	**50–80**
No. 8	**25–53**	**28–50**	**30–55**	**25–55**	**30–65**	**35–65**	**35–75**
No. 16	**15–40**	**18–45**	**19–45**	**18–50**	**20–55**	**20–55**	**20–55**
No. 30	**7–30**	**9–30**	**10–33**	**8–32**	**10–38**	**10–38**	**10–40**
No. 50	**3–14**	**4–14**	**4–16**	**3–16**	**4–20**	**4–20**	**4–20**
No. 100	**0–6**	**0–6**	**0–6**	**0–6**	**0–7**	**0–8**	**0–8**
No. 200	**0–3.5***	**0–3.5***	**0–3.5***	**0–3.5***	**0–3.5***	**0–3.5***	**0–3.5***

***The percent passing the No. 200 sieve shall not exceed 6.0 percent for any fine aggregate. The percent passing the No. 200 sieve shall not exceed 2.0 percent for any single coarse aggregate. The percent passing the No. 200 sieve shall not exceed 4.0 percent for the combined gradation of self-consolidating concrete (SCC) mix designs."**

703.05 Aggregate for Sand Leveling Aggregate for sand leveling shall be sand of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. The aggregate shall meet the grading requirements of the following table.

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves
⅜ inch	85-100
No. 200	0-5.0

703.06 Aggregate for Base and Subbase 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.

Recycled Asphalt Pavement (RAP) shall not be used for or blended with aggregate base or subbase.

a. Aggregate for base, Type A and B shall be crushed ledge or crushed gravel of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. The gradation of the part that passes a 3 inch sieve shall meet the grading requirements of the following table:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	Type A	Type B
½ inch	45-70	35-75
¼ inch	30-55	25-60
No. 40	0-20	0-25
No. 200	0-6.0	0-6.0

At least 50 percent by weight of the material retained on the No. 4 sieve shall have at least one fractured face as tested by AASHTO T 335.

Type A aggregate for base shall only contain particles of rock that will pass the 2 inch square mesh sieve.

Type B aggregate for base shall only contain particles of rock that will pass the 4 inch square mesh sieve.

b. Aggregate for base, Type C shall be crushed ledge or crushed gravel of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. The material shall meet the grading requirements of the following table:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves
	Type C
4 inches	100
3 inches	90-100
2 inches	75-100
1 inch	50-80
½ inch	30-60
No. 4	15-40
No. 200	0-6.0

At least 50 percent by weight of the material coarser than the No. 4 sieve shall have at least one fractured face as tested by AASHTO T 335.

c. Aggregate for subbase shall be sand or gravel of hard durable particles free from vegetable matter, lumps or balls of clay and other deleterious substances. The gradation of the part that passes a 3 inch sieve shall meet the grading requirements of the following table:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	Type D	Type E
½ in	35-80	
¼ inch	25-65	25-100
No. 40	0-30	0-50
No. 200	0-7.0	0-7.0

Type D aggregate for subbase gravel may contain up to 50 percent by weight Recycled Concrete Aggregate (RCA). When RCA is used, the portion of the resulting blend of gravel and RCA retained on a ½" square mesh sieve shall contain a total of no more than 5 percent by weight of other recycled materials such as brick, concrete masonry block, or asphalt pavement as determined by visual inspection.

RCA shall be substantially free of wood, metal, plaster, and gypsum board as defined in Note 9 in Section 7.4 of AASHTO M 319. RCA shall also be free of all substances that fall under the category of solid waste or hazardous materials.

Aggregate for subbase shall not contain particles of rock which will not pass the 6 inch square mesh sieve.

703.08 Recycled Asphalt Pavement Recycled asphalt pavement shall consist of salvaged asphalt materials from milled pavements or production waste that has been processed before use to meet the requirements of the job mix formula. It shall be free of winter sand, granular fill, construction debris, or other materials not generally considered asphalt pavement.

703.081 RAP for Asphalt Pavement Recycled Asphalt Pavement (RAP) may be introduced into hot-mix asphalt pavement at percentages approved by the Department according to the MaineDOT Policies and Procedures for HMA Sampling and Testing.

If approved by the Department, the Contractor shall provide documentation stating the source, test results for average residual asphalt content, and stockpile gradations showing RAP materials have been sized to meet the maximum aggregate size requirements of each mix designation. The Department will obtain samples for verification and approval prior to its use.

The maximum allowable percent of RAP shall be determined by the asphalt content, the percent passing the 0.075 mm sieve, the ratio between the percent passing the 0.075 mm sieve and the asphalt content, and Coarse Micro-Deval loss values as tested by the Department.

The maximum percentage of RAP allowable shall be the lowest percentage as determined according to Table 4 below:

Classification	Maximum RAP Percentage Allowed	Asphalt content standard deviation	Percent passing 0.075 mm sieve standard deviation	Percent passing 0.075 mm sieve / asphalt content ratio	Residual aggregate M-D loss value
Class III	**10%**	**≤ 1.0**	**N/A**	**≤ 4.0**	**≤ 18**
Class II	**20%**	**≤ 0.5**	**≤ 1.0**	**≤ 2.8**	
Class I	**30%**	**≤ 0.3**	**≤ 0.5**	**≤ 1.8**	

Table 4: Maximum Percent RAP According to Test Results

The Department will monitor RAP asphalt content and gradation during production by testing samples from the stockpile at approximately 15,000 T intervals (in terms of mix production). The allowable variance limits (from the numerical average values used for mix designs) for this testing are determined based upon the maximum allowable RAP percentage and are shown below in Table 5.

Table 5: RAP Verification Limits

Classification	Asphalt content (compared to aim)	Percent passing 0.075 mm sieve (compared to aim)
Class III	± 1.5	± 2.0
Class II	± 1.0	± 1.5
Class I	± 0.5	± 0.7

For specification purposes, RAP will be categorized as follows:

Class III – A maximum of 10.0 percent of Class III RAP may be used in any base, intermediate base, surface, or shim mixture. A maximum of 20.0 percent of Class III RAP may be used in hand-placed mixes for item 403.209.

Class II – A maximum of 20.0 percent Class II RAP in any base, binder, surface, or shim course.

Class I – A maximum of 20.0 percent Class I RAP may be used in any base, intermediate base, surface, or shim mixture without requiring a change to the specified asphalt binder. A maximum of 30.0 percent Class I RAP may be used in in any base or intermediate base mixture provided that a PG 58-28 or PG 58-34 asphalt binder is used. A maximum of 30.0 percent Class I RAP may be used in any surface or shim mixture provided that PG 58-34 asphalt binder is used. Mixtures exceeding 20.0 percent Class I RAP must be evaluated and approved by the Department.

The Contractor may use up to two different RAP sources in any one mix design. The total RAP percentage of the mix shall not exceed the maximum allowed for the highest classification RAP source used (i.e. if a Class I & Class III used, total RAP must not exceed 30.0%). The blended RAP material must meet all the requirements of the classification for which the RAP is entered (i.e. 10% Class III with 20% Class I, blend must meet Class I criteria). The Department may take belt cuts of the blended RAP to verify the material meets these requirements. If the Contractor elects to use more than one RAP source in a design, the Contractor shall provide an acceptable point of sampling blended RAP material from the feed belt.

In the event that RAP source or properties change, the Contractor shall notify the Department of the change and submit new documentation stating the new source or properties a minimum of 72 hours prior to the change to allow for obtaining new samples and approval.

Revise this Section by removing 703.7 and 703.9 in its entirety and replace with the following:

703.07 Aggregates for HMA Pavements **Coarse and fine aggregate for hot mix asphalt pavements shall be of such gradation that when combined in the proper proportions, including filler, if required, the resultant blend will meet the composition of mixture for the type of pavement specified.**

Coarse aggregate, that material retained on the No. 4 sieve, shall be crushed stone or crushed gravel and, unless otherwise stipulated, shall consist of clean, tough, durable fragments free from an excess of soft or disintegrated pieces and free from stone coated with dirt or other objectionable matter. Coarse aggregate shall not exceed an absorption of 2.0 percent by weight as determined by AASHTO T 85.

Fine aggregate, material that passes the No. 4 sieve, shall consist of natural sand, manufactured sand, or a combination of these. It shall consist of hard, tough grains, free from injurious amounts of clay, loam, or other deleterious substances. Fine aggregate shall not exceed an absorption of 2.3 percent by weight as determined by AASHTO T 84.

All individual aggregates for hot mix asphalt pavements shall meet Table 3 requirements (excluding LCP) unless otherwise noted. The Department reserves the right to sample and test the aggregate for any of the following properties at any time:

TABLE 3: Aggregate Consensus Properties Criteria

Estimated Traffic, Million 18 kip ESALs	AASHTO T 335 (minimum %)	AASHTO T 304 Method A **	ASTM D 4791 Method B	AASHTO T 176	Aggregate shall meet at least one of these:		
					AASHTO T 327	AASHTO T 96	WSDOT T 113*
< 3.0	75/60	≥ 40%	≤ 10%	≥ 45	≤ 18.0%	≤ 40%	≥ 30
3.0 to < 10	90/80	≥ 45%		≥ 50		≤ 35%	
≥ 10	95/90					≤ 30%	N/A

* As determined by Washington State DOT Test Method T 113, Method of Test for Determination of Degradation Value except that the reported degradation value will be the result of testing a single composite specimen from that portion of the sample that passes the ½ inch sieve and is retained on the No. 10 sieve.

** Property will be evaluated on a mix design basis by calculating a weighted average based upon individual aggregate values (weighted average by the percentage proportion of the aggregate within the design).

AASHTO T 335 - "90/80" denotes that 90 percent of the coarse aggregate has one fractured face and 80 percent has two fractured faces.

AASHTO T 304 - Criteria are presented as percent air voids in loosely compacted fine aggregate, (U).

ASTM D4791 - Criteria are presented as maximum percent by weight of flat and elongated particles (5:1 ratio).

The entire HMA wearing course shall come from the same source of material and the same job mix formula, except when permission is obtained from the Department to change sources.

703.09 HMA Mixture Composition **The coarse and fine aggregate shall meet the requirements of Section 703.07. The several aggregate fractions for mixtures shall be sized, graded, and combined in such proportions that the resulting composite blends, including RAP aggregate will meet the grading requirements of the following table:**

Aggregate Gradation Control Points

Nominal Maximum Aggregate Size---Control Points (Percent Passing)						
Sieve Designation	**Type 25 mm**	**Type 19 mm**	**Type 12.5 mm**	**Type 9.5 mm**	**Type 9.5 mm Thin Lift Mixture (TLM)**	**Type 4.75 mm**
	Percent By Weight Passing - Combined Aggregate					
37.5 mm	**100**					
25 mm	**90-100**	**100**				
19 mm	**-90**	**90-100**	**100**			
12.5 mm	**-**	**-90**	**90-100**	**100**	**100**	**100**
9.5 mm	**-**	**-**	**-90**	**90-100**	**95-100**	**95-100**
4.75 mm	**-**	**-**	**-**	**-90**	**60-95**	**80-100**
2.36 mm	**19-45**	**23-49**	**28-58**	**32-67**	**47-65**	**40 - 80**
1.18 mm	**-**	**-**	**-**	**-**	**-**	**-**
0.60 mm	**-**	**-**	**-**	**-**	**-**	**-**
0.30 mm	**-**	**-**	**-**	**-**	**-**	**-**
0.075 mm	**2.0-6.0**	**2.0-6.0**	**2.0-6.0**	**2.0-7.0***	**2.0-7.0***	**2.0-7.0**

*** For 9.5 mm nominal maximum aggregate size mixtures, the maximum design aim for the percent passing the 75 µm sieve is 6.5%.**

SECTION 709
REINFORCING STEEL AND WELDED STEEL WIRE FABRIC

709.01 Reinforcing Steel Remove the second paragraph of Section 709.01 of the standard specification beginning with "Low-Carbon, Chromium,…" and replace with the following:

" Low-carbon, chromium, reinforcing steel shall be deformed bars conforming to the requirements of ASTM A1035. Bars shall be Grade 100 and alloy Type CS unless otherwise specified on the Plans. "

SECTION 710
FENCE AND GUARDRAIL

710.06 Fence Posts and Braces Revise the first Paragraph so that it reads:

"Wood posts shall be of cedar, white oak, or tamarack or other AWPA approved species, of the diameter or section and length shown on the plans."

Remove the fourth paragraph which starts " That portion of wood posts…".

Revise the paragraph beginning with "Braces shall be of spruce, eastern hemlock … so that it now reads:

"Braces shall be of spruce, eastern hemlock, Norway pine, pitch pine, or tamarack timbers or other AWPA approved species, or spruce, cedar, tamarack or other AWPA approved species round posts of sufficient length to make a diagonal brace between adjacent posts. All wood posts and braces shall be pressure-treated in accordance with AASHTO M 133 and AWPA U1, UC4A Commodity Specification B: Posts. "

710.07 Guardrail Posts Revise this section so that the first sentence of section a. reads:

"a. Wood posts shall be of Norway pine, southern yellow pine, pitch pine, Douglas fir, red pine, white pine, or eastern hemlock or other AWPA approved species."

Revise the next paragraph so that it reads:

Wood posts and offset brackets shall be preservative treated in accordance with the requirements of AASHTO M 133 and AWPA U1, UC4A Commodity Specification B: Posts.

710.08 Guardrail Hardware Revise this subsection by replacing "**AASHTO M 298**" with "**ASTM B695**"

SECTION 711
MISCELLANEOUS BRIDGE MATERIAL

711.06 Stud Shear Connector Anchors and Fasteners Amend this section by deleting it in its entirety and replacing it with:
"Shear connectors shall meet the dimensional tolerances of Figure 9.1 of the ANSI/AASHTO/AWS D1.5 Bridge Welding Code (D1.5 Code). Shear connectors, anchors and fasteners shall meet the material requirements of Section 9 of the D1.5 Code. Shear connectors shall meet the mechanical property requirements of Table 9.1, Type B of the D1.5 Code. Anchors and fasteners shall meet the mechanical property requirements of Table 9.1 of the D1.5 Code, Type A."

SECTION 712
MISCELLANEOUS HIGHWAY MATERIAL

712.061 Structural Precast Units Amend this section by adding the following sentence to the end of the first paragraph of the Construction subsection:

"Facilities certified by NPCA or PCI shall provide to the Fabrication Engineer a copy of their annual audit to include deficiency reports and corrective actions."

Revise this section by changing the letter "b" of ASTM C1611 of the Concrete Testing subsection so that it reads:

"**b. Air content shall be 5.0% to 8.0%**."

SECTION 713
STRUCTURAL STEEL AND RELATED MATERIAL

Section 713.01 Structural Steel Replace paragraph two in its entirety with the following:
"**Main load-carrying components subject to tensile stresses or stress reversal shall meet the notch toughness requirements in AASHTO M 270M, Table 11, Zone 2, for non-fracture critical steel or Table 12, Zone 2 for fracture critical steel. Frequency of tension tests shall comply with the requirements of S1.**"

Section 713.02 High Strength Bolts **R**evise this subsection by removing the portion from the beginning up to and including TABLE 1 – Test Schedule*, and replace it with:

"**Bolts shall conform to the requirements of ASTM F3125, Grade A325, Type 1 or Type 3. Type 3 bolts shall be supplied for all structures utilizing unpainted AASHTO M 270M weathering steel. Type 1 galvanized bolts shall be used for all structures utilizing metallized or galvanized steel.**

Nuts shall meet the requirements of ASTM A563.

Circular and beveled washers shall conform to the requirements of ASTM F436.

Direct Tension Indicators (DTI'S) shall conform to the requirements of ASTM F959. DTI's for use with painted steel shall have a plain "as fabricated" finish. DTI's for use with unpainted steel shall be galvanized to the requirements of ASTM B695 Class 50, Type I and have a fusion-bonded epoxy coating. DTI's used with galvanized steel, metalized steel and steel coated with a zinc-rich primer shall be galvanized to the requirements of ASTM B695 Class 50, Type I.

"Twist Off" Type Tension Control Structural Bolt/Nut/Washer Assemblies shall meet the requirements of ASTM F3125, Grade F1852.

Bolts, nuts and washers specified to be galvanized, shall be galvanized in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695 Class 50, Type I.

All fastener (bolts and nuts), whether black or galvanized, shall be coated with a suitable lubricant. Galvanized nuts shall be lubricated with a lubricant containing a visible dye.

Each lot of bolts, nuts, washers and DTI's shall be tested by the manufacturer in accordance with the tests tabulated in Table 1 - Test Schedule. The testing frequency for bolts, nuts and washers from each shipping lot of fasteners shall be as specified in the applicable AASHTO/ASTM Standard Specifications. The testing frequency for each production lot of DTI's shall be as specified in ASTM F959.

TABLE 1 - Test Schedule*

Bolts	Tensile Strength (Wedge Test) Proof Load Hardness Coating Thickness	ASTM F606 ASTM F606 ASTM F606 ASTM B695
Nuts	Proof Load Hardness Coating Thickness	ASTM F606 ASTM F606 ASTM B695
Washers	Hardness Coating Thickness	ASTM F606 ASTM B695
DTI's	Coating Thickness Compression Load	ASTM B695 ASTM F959

Section 716
STRUCTURAL ALUMINUM AND RELATED MATERIAL

716.01 Aluminum Railings: Revise this subsection by removing section d. and replacing with:

d. Steel Anchor Assembly Steel spacers for post anchors shall conform to the requirements of ASTM A36. Nuts embedded in concrete shall conform to the requirements of ASTM A307.

Anchor bolts, exposed nuts and washers shall conform to the requirements of ASTM A449 or ASTM F1554, Grade 55 and shall be galvanized in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I.

SECTION 718
TRAFFIC SIGNALS MATERIAL

718.03 Signal Mounting Amend the paragraph beginning with "All trunions, brackets and…" by adding "**For polycarbonate signal heads with more than 3 sections or requiring mounting extensions greater than 12 inches in length, reinforcing plates shall be used to reinforce the housings at the point of attachment.**" to the end of the paragraph.

718.08 Controller Cabinet Revise this subsection by replacing the paragraph beginning with "The cabinet shall be supplied with LED light panels…" on or about page 7-66 with "**The cabinet shall be supplied with white LED light panels which shall automatically illuminate via a door open switch whenever one of the four main cabinet doors are opened for the ground mount cabinet or two main doors for the side of pole cabinet. The ground mounted cabinet shall contain four LED light panels per side totaling eight panels for the cabinet; one panel each at the top and bottom portion of the front side and back side on the Control side and Power/Auxiliary side of the cabinet. Each light panel shall produce a minimum of 250 lumens for a total minimum lumen output of 2000 lumens with all eight panels illuminated. The minimum output per side would be 1000 lumens. The LED panels shall be protected by a clear shatterproof shield. The side of pole mounted cabinet shall contain four light panels; one at the top of the rack assembly and one at the bottom rack assembly on each side of the cabinet.**

A second door open status switch per door shall activate a controller input to log a report event that one of the doors was opened. All door open status switches shall be connected to the same controller input. For the ground mount cabinet, there shall be two switches on each of the four main doors. For the side-of-pole mount cabinet, there shall be two switches on each of the two main doors."

Revise this subsection by replacing the paragraph beginning with "The cabinet shall be supplied with a generator panel …" on or about page 7-68 with:

"The cabinet shall be supplied with a generator panel. The generator panel shall consist of a manual transfer switch and a twist-lock connector for generator hookup. The transfer switch knob and twist-lock connector shall be located inside a stainless steel enclosure with a separate lockable door accessed with a Corbin #2 key. The unit shall be mounted on the left, exterior of the control side wall of the ground mount cabinet a minimum of 36" above the surrounding grade and on the lower left side of the pole mounted cabinet. The generator transfer switch shall be a Reliance C30A1N Signa Series or approved equal. "

Revise this subsection by removing the following from the paragraph beginning with "The ground mounted cabinet shall be supplied and installed with an electric service meter socket trim and electrical service disconnect switch …" on or about page 7-69: **"(removed: thus preventing that space from being used either by equipment supplied as part of the project, or future equipment that would be installed in the rack system. Joe indicated that he would add this language to the detail so it is covered.)".**

Revise this subsection by replacing the following in the paragraph beginning with "The Contractor shall reconfigure the default user name…" on or around page 7-70; "MaineDOT IT" with "**MaineDOT Traffic Division**".

In the paragraph beginning with "Tests shall be conducted by the contractor…" on or around page 7-73, amend this subsection by removing **"in the state of Maine and"** after "The facility shall be".

Amend this Section by adding the following subsection:

718.13 Field Monitoring Unit (FMU) This item of work shall conform to this specification. This item shall consist of furnishing and installing a Field Monitoring Unit (FMU) and software, as well as all needed accessories required for a full and complete installation, including but not limited to power adapters, Ethernet cables, and interface cables, as described herein.

Where applicable, communications from MaineDOT's cloud-based Central Management System (CMS) to the on-street traffic signal controllers shall be made through fiber optic interconnect cable connected back to existing internet connections and/or the Field Monitoring Unit (FMU). The Contractor shall furnish and install all materials necessary for a complete and operational fiber optic interconnection to all project intersections as shown on the plans. All connections to the CMS cloud-based system shall be via a secure VPN network.

The FMU shall be the only remote connection device used by isolated intersections to connect to the cloud-based system. All connections shall be encrypted VPN tunnels. The Contractor shall coordinate all configuration settings with MaineDOT IT and the Engineer.

The FMU central web based interface shall be a separate element from the CMS.

MATERIALS: The materials for this work shall conform to the following requirements:

1. The work under this item specifies the requirements for the FMU. The FMU shall operate independent of the brand/type of intersection controller deployed in the ATC traffic cabinet.

2. The FMU shall conform to the following requirements:
   - 2.1 The FMU shall function correctly between -34 degrees C and +74 degrees C.
   - 2.2 The FMU shall be provided with appropriately rated connectors that allows the FMU to be exchanged by unplugging connectors, without tools.
   - 2.3 The FMU shall monitor and log all ATC Controller and ATC cabinet faults and or alarms.
   - 2.4 The FMU shall be wired directly to the ATC cabinet.
   - 2.5 The FMU shall have an internal cellular modem running at 4G LTE.
     - 2.5.1 The Cellular modem shall be designed to be replaced / upgraded to 5G service when available.
   - 2.6 The FMU shall incorporate an integrated GPS and cell modem.
   - 2.7 The configuration of the FMU shall be accomplished by accessing the internal web server with a browser. It shall be possible to configure the FMU without any special software.
   - 2.8 The FMU shall be powered via a standard 120V input power.

2.9 The FMU shall allow for the routing of the controller configuration packets to and from the controller (either by Ethernet or serial communications) for any type of controller utilized by the MaineDOT. In this way it shall be possible to configure the controller and utilize the controller specific software to interrogate the controller, and the FMU shall provide the communications pipe which allows this to be accomplished.

2.10 The FMU shall, within the size limitations above, include a battery and battery charging/monitoring circuit, to allow the FMU to function correctly even when all power to the intersection has failed. The battery shall continue to power the FMU for a minimum of 5 hours after all power has failed to the intersection.

2.11 The FMU shall incorporate an integrated GPS which will allow the FMU to geo-locate itself on the FMU management software map, without configuration.

2.12 The FMU shall operate without requiring a static IP address. The only configuration required at the FMU is to enter the URL of where the FMU management software is hosted.

2.13 In the event that the cell service is interrupted or is not available, the FMU shall store any events that occur in internal memory and forward these events automatically to the FMU management software when the cell service is restored. In this way, a complete record of events at the device can be maintained even if cell service is interrupted for a period. The system will store 5000 events.

2.14 The FMU shall utilize HTTP and HTTPS protocols, and XML data structures, for communication with the FMU management software. In this way the data will be open for future expansion and competition. The use of secret proprietary protocols is not permitted.

2.15 The FMU shall include Ethernet communications via an Ethernet Port with RJ45 connector.

2.16 The FMU shall include weather proof antennas.

3. **Map Display FMU Management Software**

3.1 The FMU shall include a scrollable, zoomable map display, with the intersections and other monitored devices shown as representative icons on the map. The map shall include the ability to see the intersections using Google Streetview.

3.2 The alarm status of the intersection shall be clearly indicated on the icon on the map, so that the user can see at a glance which intersections are in alarm.

3.3 The map display shall also include a list of intersections, with the number and priority of alarms indicated on the list. Intersections in high priority alarm shall be moved to the top

of the list, followed by medium priority, low priority and then finally by intersections not in alarm.

3.4 The icons shall change to be able to clearly indicate if an intersection is offline.

3.5 Clicking on the icon on the map shall expose a box with the current parameters of the intersection shown.

3.6 The default map display position and zoom shall be configurable by user, so that the user's view will default to show the intersections that the user is responsible for managing.

3.7 The map view shall have the ability to show Google traffic overlays on the map.

4. **Intersection Detail Display FMU Management Software**

4.1 It shall be possible to drill down, either from the map icon or from the list, to a device level detail for the intersection, which as a minimum shall display the following parameters:

4.1.1 The alarm status, with priority indicated, and a text description of the alarm (if an alarm is present for this device).

4.1.2 The time since the last communication with the device

4.1.3 The following parameters (real time now values, minimum for the day values, maximum for the day values, and average for the day values)

4.1.3.1 The AC mains voltage (value)

4.1.3.2 The battery back-up voltage (value)

4.1.3.3 The cabinet temperature (value)

4.1.3.4 The cabinet humidity (value)

4.1.3.5 The presence of AC power (OK or Fail)

4.1.3.6 The flashing status of the intersection (OK or Flashing)

4.1.3.7 Stop Time status (OK or Stop Time Active)

4.1.3.8 The cabinet door status (Open or Closed)

4.1.3.9 The intersection fan status (Fan On or Fan off)

4.1.4 It shall be possible to view graphs of each of the value parameters in graphical form, over the recent two-week period. This includes real time graphs of:

4.1.4.1 The AC mains voltage

4.1.4.2 The battery back-up voltage

4.1.4.3 The cabinet temperature

4.1.4.4 The cabinet humidity

5. **Diagnostics and Log Display FMU Management Software**

5.1 From the device level detail within the FMU management software, it shall be possible to drill down to get the raw data; the error logs; and the communications logs to allow a technician to fault-find problems.

5.2 It shall be possible to filter the logs by Device; by Device Type and/or by Group as well as between dates.

5.3 It shall be possible to print these selected logs to a local printer or a PDF file.

5.4 It shall be possible to export these logs to Excel on the local computer for further analysis.

6. **Alarms FMU Management Software**

6.1 The FMU management software shall have a comprehensive alarm generation capability

6.2 It shall be possible to configure alarms to be generated on any parameter becoming out of tolerance, including analog values, digital values and enumerated values.

6.3 Alarms shall be configurable to be of Low, High or Critical Priority.

6.4 The alarm priority shall be displayed throughout the FMU management software, on all displays, using color codes such as red-critical; yellow – high; and amber-low to indicate the priority of the alarm.

6.5 The current active alarms shall be accessible for view via an expandable window, to see which alarms are active and when the alarm occurred. The highest priority alarms shall rise to the top of the list.

7. **Alerts FMU Management Software**

7.1 The FMU management software shall have comprehensive alerting capability, to enable the response personnel to be notified when an abnormal situation has occurred.

7.2 It shall be possible to configure alerts to one or more personnel for each alarm. This will cause, as selected, an SMS and/or an email to be sent to the person when an alarm occurs.

7.3 The alert shall be configurable to optionally send via email and/or via SMS a message when an alarm clears.

7.4 The intention is that the FMU management software provides the alerts to the user in near real time. The SMS and email shall be issued within 30 seconds of the occurrence of event which results in an alert being issued.

8. **Hosting and Connectivity and Service FMU / FMU Management Software**

8.1 The contractor shall supply the FMU with the FMU manufacturers 10 year options for Connectivity and Service, as part of the purchase price. The Connectivity and Service agreement shall include at a minimum:

8.1.1 Cellular Connectivity

8.1.2 No cellular overage charges

8.1.3 Extended warranty on the hardware for the period of the Connectivity and Service Agreement

8.1.4 Over-the-air software updates

8.1.5 Over-the-air security updates

8.1.6 Future Connected Vehicles Service

Section 719
SIGNING MATERIAL

719.072 Overhead Signing: Revise this subsection by replacing it in entirety with:

"**Sign panels mounted to independent sign support structures and support structure components mounted to bridges passing over the highway are considered to be overhead signing. Overhead signing shall be mounted on W6 by 9 steel beams conforming to the requirements of ASTM A992/A992M, galvanized in accordance with AASHTO M 111 (ASTM A123), or the same size aluminum beams conforming to ASTM B221M, alloys and tempers of 6061-T6, 6063-T6 or 6005-T5. These components shall be horizontally spaced a maximum of 5¼ feet on center, extending from the bottom of sign panel to the top. If supplemental signs are included in the contract, these beams will extend from the bottom of the main sign panel to the top of the supplemental sign panel. The maximum distance from the edge of the sign to the center of the W6 by 9 shall not exceed approximately 3¼ feet.**

On independent sign support structures, these W6 by 9 beam components shall be fastened to chords with a pair of appropriately sized U-bolts on each side of the web at each fastening

location. A similar pair of U-bolt assemblies shall be used in attaching each chord of an overhead component to upright supports. U-bolts for steel support structures shall conform to ASTM A449, Type 1. U-bolt hardware, which includes nuts, flat washers, and helical lock washers, shall be galvanized in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I. Washers shall conform to the requirements of ASTM F436. The U-bolt material for aluminum support structures, or a combination of steel and aluminum structural components, shall be stainless steel conforming to the requirements of ASTM F593, alloy group 1, with a minimum yield strength of 45 ksi. Steel support structures may also utilize stainless steel hardware assemblies as an alternative to galvanized steel. Nuts shall be of the locking type with nylon inserts. Washers shall conform to the requirements of ASTM A276, Type 302. Flat washers, without helical lock washers, will be acceptable in this stainless steel assembly.

On bridge mounted structures, the fastener configurations shall be depicted in the contract documents. "

SECTION 720
STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS

720.03 Steel Supports: Revise this subsection by removing the paragraph beginning with "Chord flange splice fastener" and replacing with:

"**Chord flange splice fastener assemblies shall conform to ASTM A325, Type 1, and galvanized in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I. Other fastener assemblies shall be as specified in Section 719.07, or as approved by the Fabrication Engineer."**

720.06 Steel H-beam: Revise this subsection by replacing it in its entirety with:

"**Steel H-beam Post shall conform to the requirements of ASTM A992. All work shall conform to the applicable provisions of Section 504 – Structural Steel. Steel shall be hot-dip galvanized in accordance with AASHTO M 111 (ASTM A123). All steel hardware for use with H-beam poles shall be galvanized in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I."**

720.07 Anchor Bolts: Revise this subsection by replacing it in its entirety with:

"**Anchor bolts and nuts supplied for aluminum and/or steel supports shall conform to ASTM A449, Type 1, or ASTM F1554, Grade 55, both with a minimum yield strength of 55 ksi. Anchor bolts shall be supplied with 2 heavy hex nuts and 2 hardened washers and unless otherwise specified the anchor bolts shall have a 90° bend with a 6 inch minimum leg length at the lower end. The anchor bolts, nuts and hardened washers shall be galvanized in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I. The bolt**

shall be zinc-coated 12 inches from the exposed end, unless otherwise specified. If the anchor bolts are to be used with breakaway devices incorporating the function of a nut, for example, longitudinally grooved breakaway couplings, nuts or washers will not be required.

Alternate materials, grades, and designs may be used for anchor bolts subject to approval of the Fabrication Engineer."

720.09 Wood Ornamental Light Standard: Revise this subsection by removing the paragraph beginning with "All bolts shall be" and replacing it with:

"**All bolts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), ASTM F2329, or ASTM B695, Class 50, Type I."**

720.12 Wood Sign Posts Revise the first sentence so that it reads:

"Wood sign posts shall be rectangular, straight and sound timber, cut from live growing native spruce, red pine, hemlock, cedar trees or other AWPA approved species, free from loose knots or other structurally weakening defects of importance, such as shake or holes or heart rot."

Revise the third paragraph that starts with "When pressure treated…" so that it reads:

"All sign posts shall be pressure-treated in accordance with AASHTO M 133 and AWPA Standard U1, UC4A, Commodity Specification A: Sawn Products."

SECTION 01005

ADMINISTRATIVE PROVISIONS

1. GENERAL

1.1. REQUIREMENTS INCLUDED

A. Title of Work, and Type of Contract.

B. Work Sequence.

C. Contractor Use of Premises.

D. Owner Occupancy

E. ALLOWANCE Bid Items

F. DEDUCT Bid Items

G. Coordination.

H. Field Engineering.

I. Reference Standards.

1.2. WORK COVERED BY CONTRACT DOCUMENTS

A. Work of this Contract comprises the construction of two infill portions of the existing Wells Harbor commercial pier. Installation of new piles, float dock system and gangway to connect to the new pier to the existing floats, including the re-installation of 4 existing town procured and installed fender piles. Installation of 4 town procured piles for a future float system and replacement of the existing westernmost floats. Refer to Section 01025 Measurement and Payment for a list and description of project Bid Items.

B. All work under this contract will be considered part of the BASE BID with the exception of DEDUCT Bid Items and items that are specifically identified as not being in the contract.

1.3. CONTRACT METHOD

A. Construct the Work under a Unit Price Contract to include the Base Bid and accepted DEDUCT Bid Items.

1.4. WORK SEQUENCE

A. Coordinate work to minimize disturbance to intertidal and subtidal areas.

1. The contractor shall coordinate work with the Town of Wells Harbormaster, the Engineer and designated Town representatives.

2. The Contractor shall maintain access to the existing main pier and existing moorings in accordance with Special Provision Section 107- Contract Time for requirements.

B. Coordinate work with harbormaster on a weekly basis to limit disruption to pier activities. The Contractor will be required to provide a schedule of work activity. This schedule shall be subject to the approval of the Harbormaster/Pier Manager and shall identify the following items:

1. Delineation of ‘hard hat’ areas.

2. Impacts to pier operations.

3. Requested changes in pier access and egress to protect users from construction activities.

1.5. CONTRACTOR USE OF PREMISES

A. The Contractor shall notify the Harbormaster in advance of bringing crane or barge equipment to the site to allow for the relocation of any vehicles, equipment, or vessels within the work area.

1.6. ALLOWANCE Bid Items (Not Applicable).

1.7. DEDUCT Bid Items (Not Applicable).

1.8. COORDINATION

A. Coordinate work of the various Sections of Specifications to assure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items installed later.

B. Assist Engineer with the review of WORK and testing of materials.

1.9. FIELD ENGINEERING

A. Horizontal and vertical control for the project is the responsibility of the Contractor.

B. Site layout is based on the baselines referenced on the drawings.

C. The contractor shall install floats temporarily so that float location can be checked in advance of using float system as template for pile installation.

D. Protect control and reference points.

1.10. REFERENCE STANDARDS

A. For products specified by association or trade standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. The date of the standard is that in effect as of the Bid date, or date of Owner-Contractor Agreement when there are no bids, except when a specific date is specified.

C. Obtain copies of standards when required by Contract documents. Maintain copy at job site during progress of the specific work.

2. PRODUCTS (Not Applicable).

3. EXECUTION (Not Applicable).

4. MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT AND PAYMENT

A. Refer to Section 01025 for a description of Bid Items and method of measurement and payment.

B. No separate measurement or payment shall be made for the work in this Section. Measurement and Payment for this item shall be included within the work it is associated with.

END OF SECTION

SECTION 01025

MEASUREMENT AND PAYMENT

1. GENERAL

1.1. REQUIREMENTS INCLUDED

A. Lump Sum Bid Items.

B. Unit Price Bid Items.

C. DEDUCT Bid Items

D. Other Work.

1.2. RELATED REQUIREMENTS

A. Bid Sheet.

B. Contract Agreement.

C. Individual Specification Sections.

1.3. PROCEDURES

A. Unit Price Bid is full compensation for furnishing and installing all materials, labor, equipment, tools, operations, and incidentals necessary to complete the work under that item.

B. The Contractor will be paid for the actual amount of work completed on the basis of final quantities measured in place, load tickets or plan quantities where specified.

C. The Engineer will measure complete work according to U.S. standard measure units to determine final quantities.

D. Pay items based on in-place volumes will be determined by the method of average end areas based on field cross sections unless otherwise noted. Certain pay items involving cross sections may have fixed widths as noted.

E. The Contractor shall deliver all materials specified to be measured by load tickets for tons or cubic yards in vehicles with legible identification numbers or marks.

F. The Contractor shall clearly mark truck box volume on vehicles hauling materials to be measured by the cubic yard.

G. The Contractor shall weight materials to be measured by the ton on platform scales.

H. The Contractor shall show on each load ticket the type of material, the volume, or weights (gross, tare, net), the vehicle identification number or marks, the date, and the source of the material. The Contractor shall deliver load tickets to the Resident Project Representative within 24 hours after materials are delivered.

I. All items of work not specifically identified in the Schedule of Payment that are necessary for the proper execution of the work as required, described, or implied shall be considered as incidental to the pay items and will not be measured or estimated.

1.4. INCIDENTAL WORK ITEMS

Incidental work items shall include the following:

A. In addition to all items considered incidental to the completion of other specific project tasks, unless otherwise noted, the following shall also be considered incidental but not limited to:

1. Temporary surface water control.
2. Dewatering.
3. Sub-grade undercutting.
4. All excavation.
5. Construction staking, layout, and surveying required to reconstruct existing topographic conditions and/or necessitated out of providing for positive drainage throughout construction.
6. Pipe laying, joining, and bedding.
7. Temporary sheeting, shoring, forming, and bracing.
8. Protection of adjacent structures.
9. Removal and disposal of all pavements regardless of thickness, material type, and construction.
10. All pipe connections, bends, fittings (unless otherwise noted), hardware, connections, plugs, adapters, valves, joints, joint restraints, joint materials, and continuity connectors not specifically listed in the Bid Schedule.
11. Water distribution thrust restraint systems and support blocking as directed.
12. Deflection testing of sanitary sewer.
13. Removal and replacement of existing signage.
14. Landscape grading.
15. Rough grading and finish grading.
16. Trenching.
17. Site clearing and grubbing.
18. Removal and disposal of surplus and unsuitable excavated material, including concrete, aggregate, or other as directed by Engineer.
19. Pressure testing, flushing, disinfection, continuity testing, and bacteria testing of watermain, copper water service piping, any other piping, and all appurtenances.
20. Swabbing watermain lengths, fittings and appurtenances when connecting to existing watermain.
21. Removal, disposal, disconnection, and abandoning of all or portions of existing structures and underground utilities, unsalvageable culverts, bulkheads, plugs, fittings, valves, hydrants, and other appurtenances encountered within earth excavation required for construction of items bid unless otherwise noted.
22. Subbase preparation, placement, and compaction.

23. Bituminous tack coat.
24. Curing compound as specified.
25. Saw cutting of existing pavement.
26. Bedding and backfilling as specified.
27. Compacting.
28. Providing positive drainage.
29. Soil erosion and sedimentation control permit and permit fees.
30. Building permit and permit fees.
31. Testing costs not specified herein.
32. Testing costs associated with rework.
33. Gravel for temporary construction operations with discretion of Engineer.
34. All repairs of adjacent utilities damaged during the work.
35. Forms, steel reinforcement, full depth saw cutting, and joint materials for all concrete work.
36. Installing and maintaining soil erosion and sedimentation control measures.
37. Underground marking tape.

1.5. SCHEDULE OF BASE BID ITEMS

A. 1.0 General Items

1. Bid Item No. 1.1 – Mobilization & Demobilization

   a. Mobilization and Demobilization and completion of all Contract Items and all related or incidental work not included in other Bid Items.

   b. Method of Measurement: None.

   c. Basis of Payment: The accepted Mobilization & Demobilization will be paid for at the Lump Sum bid for Item 1.1 in accordance with the provisions in Section 108.2.3 Mobilization Payments of the MaineDOT Standard Specifications.

2. Bid Item No. 1.2 – Maintenance of Pier Access

   a. This item includes, labor, equipment, materials, delivery, and handling associated with Maintenance of Pier Access for the fisherman in accordance with the narrative and Table provided in the Special Provision Section 107-Contract Time.

   b. Method of Measurement: None

   c. Basis of Payment: The accepted Maintenance of Pier Access will be paid for at the Lump Sum bid for Item No. 1.2.

3. Bid Item No. 1.3 – Erosion Control

   a. This item includes all materials, equipment and labor costs associated with the preparation, execution and maintenance of a written Soil

Erosion and Water Pollution Control Plan (SEWPCP) that meets the provisions and requirements of the Maine DOT Section 656.00 and incorporates the Erosion Control Notes on Sheet G-2, MaineDOT standards and the details specified on Sheet C-6. The SEWPCP plan shall be updated during the project as needed.

b. Method of Measurement: None

c. Basis of Payment: The accepted *Erosion Control* item will be paid for at the Lump Sum price bid for Item No. 1.3.

4. Bid Item No. 1.4 – Site Trailer and Signage

a. This item includes the procurement, maintenance and installation of a Site Trailer and required Signage for the duration of the project in accordance with Section 01500.

b. Method of Measurement: None

c. Basis of Payment: The accepted Site Trailer and Signage will be paid for at the lump sum bid for Item No. 1.4.

B. 2.0 SITE WORK

1. Bid Item No. 2.1 – Paver area

a. This item includes all labor, equipment and materials associated with the proposed paver area around the flagpole to be removed and replaced.

The work includes:

1) Permeable sub base

2) Install permeable paver system approved by the engineer and owner.

b. Method of Measurement: Square Feet Installed

c. Basis of Payment: The accepted permeable paver area will be paid for at the Unit Price bid for Item No. 2.1.

C. 3.0 REINFORCED CONCRETE

1. Bid Item No. 3.1 – South Concrete Abutment

a. This item includes all labor, equipment, materials, delivery, and installation associated with forming, placement, installation of embedment's, finishing, curing, and sealing of the Southern Concrete Abutment.

b. Method of Measurement: Cubic Yards

c. Basis of Payment: The accepted South Concrete Abutment will be paidfor at the Unit Price bid for Item No. 3.1.

D. 4.0 TIMBER PIER RECONSTRUCTION AND EXPANSION

1. Bid Item No. 5.1 – South Pier Framing

a. This item includes all labor, equipment, materials, delivery, handling, and installation associated with Southern Pier construction of project elements that are not reused or retained by the Owner.

b. Method of Measurement: None

c. Basis of Payment: The accepted South Pier Framing will be paid for at the Lump Sum bid for Item No. 5.1.

2. Bid Item No. 5.2 – South Pier Vertical Piles

a. This item includes all labor, equipment, materials, delivery, handling, and installation associated with Southern Pier Vertical Piles construction of project elements that are not reused or retained by the Owner.

b. Method of Measurement: Per Pile installed and accepted.

c. Basis of Payment: The accepted South Pier Framing Vertical Piles will be paid for at the Unit Price bid for Item No. 5.2.

3. Bid Item No. 5.3 – Pile proof test per ASTM D1143 single pile procedure

a. This item includes all labor, equipment, materials, to perform a pile proof test according to ASTM D1143 single pile procedure.

b. Method of Measurement: Per test performed and accepted.

c. Basis of Payment: The accepted Proof Test will be paid for at the Unit Price bid for Item No. 5.3.

E. 5.0 TIMBER PIER RECONSTRUCTION AND EXPANSION

1. Bid Item No. 5.1 – New Pier Handrail

a. This item includes all labor, equipment, materials, delivery, and installation associated with New Pier Handrail to be installed on the North and South Pier to the extents shown on the plans.

b. Method of Measurement: per Linear feet of installed and accepted rail.

c. Basis of Payment: The accepted New pier handrail will be paid for at the Unit Price bid for Item No. 5.1.

F. 6.0 FLOAT SYSTEM

1. Bid Item No. 6.1 – Aluminum Gangway (80FT).

a. All design, materials, work, delivery, and installation associated with the new 80’ ADA handrail and walking surface compliant gangway. Contractor to submit design drawings stamped by a Maine registered Professional Engineer.

b. Method of Measurement: None

c. Basis of Payment: The accepted - Aluminum Gangway (80FT)will be paid for at the Lump Sum bid for Item No. 7.1

2. Bid Item No. 6.2 – Timber Guide Piles (South Float System)

a. This item includes all labor, equipment, materials, delivery, and installation associated with installation of new southern yellow pine guide piles for the new southern float system.

b. Method of Measurement: Per Pile installed and accepted.

c. Basis of Payment: The accepted Timber Guide Piles- North Floats will be paid for at the Unit Price bid for Item No. 6.2.

3. Bid Item No. 6.3 – Relocate Existing Guide Pile (South Float System)

a. This item includes all labor, equipment, materials, delivery, and installation associated with relocate of new southern yellow pine guide piles for the new southern float system per the location of the plans.

b. Method of Measurement: Per Pile installed and accepted.

c. Basis of Payment: The accepted Timber Guide Piles- South Floats will be paid for at the Unit Price bid for Item No. 6.3.

4. Bid Item No. 6.4 – Remove 2 existing piles

a. This item includes all labor, equipment, materials, delivery, and installation associated with removing the 2 existing piles per the location of the plans.

b. Method of Measurement: Per Pile removed and accepted.

c. Basis of Payment: The accepted removed timber piles will be paid for at the Unit Price bid for Item No. 6.4.

G. 7.0 Eastern Float system

1. Bid Item No. 7.1 – Installation of timber guide piles

a. This item includes all labor, equipment, materials, delivery, and installation associated with relocate of new southern yellow pine guide piles for the future eastern float system per the location of the plans.

b. Method of Measurement: Per Pile installed and accepted.

c. Basis of Payment: The accepted Timber Guide Piles- North Floats will be paid for at the Unit Price bid for Item No. 7.1.

H. 8.0 remove and replace existing flagpole - **1st DEDUCT Bid Item**

1. Bid Item No. 8.1 – Remove and Replace Existing Flagpole

a. This item includes the removal of the existing flagpole adjacent to the southern pier infill and re-installation if required by the contractor for access and installation of the concrete abutment. The work includes temporary storage of the flagpole, construction of the new foundation and anchoring the flagpole to the new foundation.

b. Method of Measurement: none.

c. Basis of Payment: The accepted Remove and replace existing flagpole will be paid for at the Lump Sum bid for Item No. 8.1.

2. PRODUCTS -NOT USED

3. EXECUTION

3.1 FIELD QUALITY CONTROL

A. Owner's representative will take measurements for determining quantities of unit price items incorporated in the work.

B. Cooperate with Owner's representative for measurement of unit price items.

END OF SECTION

SECTION 01200

PROJECT MEETINGS

1. GENERAL

1.1. REQUIREMENTS INCLUDED

A. Contractor participation in Preconstruction conferences.

B. Contractor scheduling and administration of progress meetings and preinstallation conferences.

1.2. RELATED REQUIREMENTS

A. Section 01005 - Administrative Provisions: Coordination of Work.

B. Section 01300 - Submittals: Progress Schedules.

C. Section 01300 - Submittals: Shop drawings, product data, and samples.

D. Section 01400 - Quality Control.

E. Section 01700 - Contract Closeout: Project record documents.

1.3. PRECONSTRUCTION CONFERENCES

A. Engineer will administer Preconstruction Conference for execution of Owner-Contractor Agreement, exchange of preliminary submittals for review of Contractor responsibility in use of site, and for review of administrative procedures.

1.4. PROGRESS MEETINGS

A. Engineer will schedule and administer Project meetings throughout progress of the Work at maximum monthly intervals, called meetings, and preinstallation conferences.

B. Engineer will make physical arrangements for meetings, prepare agenda with copies for participants, preside at meetings; record minutes, and distribute copies to participants and those affected by decisions made at meetings.

C. Attendance: Job superintendent, major subcontractors and suppliers; Owner and Engineer as appropriate to agenda topics for each meeting.

D. Minimum Agenda: Review of Work progress, status of progress schedule and adjustments thereto, delivery schedules, submittals, maintenance of quality standards, pending changes and substitutions, coordination with City waterfront activities.

2. PRODUCTS (Not Applicable).

3. EXECUTION (Not Applicable).

4. MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT AND PAYMENT

A. Refer to Section 01025 for a description of Bid Items and method of measurement and payment.

B. No separate measurement or payment shall be made for the work in this Section. Measurement and Payment for this item shall be included within the work it is associated with.

END OF SECTION

SECTION 01300

SUBMITTALS

1. GENERAL

1.1 SHOP DRAWINGS, MANUFACTURERS' SPECIFICATIONS AND INSTALLATION INSTRUCTIONS, SAMPLES, ETC.

A. The Contractor shall review and approve all submittals prior to submittal to the Engineer. Each submittal shall be numbered serially and marked with the approval of the Contractor.

1. The Contractor shall submit to the Engineer for approval all Shop Drawings and submittals as called for under the various headings of these specifications. Submittals made in hard copy shall include three copies plus as many copies as required to be returned. The Contractor is also permitted to make submittals electronically to the Engineer via email of electronic documents.

2. Each submittal shall be numbered with the project name (abbreviated), specification section and submittal number in consecutive order (Ex NAME-02550-#). Where resubmission is required, a letter shall be assigned to designate each resubmission (Ex NAME-02550-#A, NAME-2550-#B, etc.)

3. The Contractor shall submit all Shop Drawings to the Engineer in sufficient time for checking and processing. Shop Drawings shall be of sufficient clarity so that copies thereof will be legible.

4. All Shop Drawings submitted by subcontractors for approval shall be sent directly to the Contractor for his approval. The Contractor shall be responsible for their submission to the Engineer at the proper time so as to prevent delays in delivery of materials.

5. All submissions shall be referenced properly to clearly indicate the location, service, and function of each particular item and the specification paragraph under which it is being furnished.

6. Submittals that are related to or affect each other shall be forwarded simultaneously as a package to facilitate coordinated review. Uncoordinated submittals will be rejected.

7. The Engineer reserves the right to require submittals in addition to those called for in individual sections.

8. The term "Shop Drawings" includes drawings, diagrams, schematics, descriptive literature, illustrations, schedules, performance and test data, calculations and similar materials furnished by Contractor to explain in detail specific portions of the work required by the Contract.

9. The Contractor shall stamp each sheet of each submission with a rubber stamp stating that he has examined and checked the submission as above and shall date and sign each. Any submission, which, upon examination by the Engineer, shows evidence of not having been thoroughly checked will be returned to the Contractor for completion of checking before it will be considered for review.

10. All calculations shall be performed and stamped by a Licensed Professional Engineer who is authorized to perform engineering design in the location of the proposed work unless directed otherwise. Calculations shall be organized, legible and provide clear indications of the checks being performed, the codes being followed, and all assumptions being made.

11. All details on Shop Drawings submitted for approval shall clearly show the relation of the various parts of the work, and where correct fabrication of the work depends upon field measurements; such measurements shall be made and shall be noted on the Shop Drawings before being submitted for approval.

B. Approval by the Engineer shall not relieve Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with requirements of this Contract, except with respect to variations described and approved in accordance with Paragraph C below.

C. If shop drawings show variations from Contract requirements, Contractor shall describe such variations in writing, separate from the drawings, at time of submission. All such variation must be approved by the Engineer.

D. The Contractor shall distribute approved submittals to job site and record documents files and to suppliers and subcontractors as required.

E. Samples required by the specifications shall be submitted after the award of the Contract to the Engineer. No material for which samples are required shall be fabricated or delivered to the site for use until representative samples of same have been approved in writing by the Engineer. Such samples shall be furnished and delivered by the Contractor without charge.

1. All color samples shall be reviewed and approved by the Engineer prior to inclusion into the work.

2. Each sample shall be labeled to designate the material or product, the name of its producer, the name of the Contractor, and the name and number of the project; and each submission shall be accompanied by a certificate describing each sample submitted for approval, certifying that the material, equipment or accessory submitted complies with Contract requirements, and including the name and brand of product, the name and address of manufacturer, the name of the Contractor and the name of the project.

3. Approved samples, unless incorporated in the work or otherwise specified, shall be kept on file (and accessible for inspection by the Engineer until final acceptance of the project. If return on the samples is not requested within thirty (30) days after the acceptance of the project, they will be considered unclaimed material and disposed of by the Engineer.

4. Such samples as may be required for check tests shall be furnished by the Contractor without extra charge. Check tests will be made on materials delivered for use only as frequently as the Engineer considers necessary to ensure compliance of materials used with Contract requirements. The cost of testing materials, or equipment, or accessories to check for compliance with specification requirements shall be borne by the Contractor.

1.3 PROJECT RECORD DOCUMENTS

A. Keep on file at job site one complete set of up-to-date Contract Documents, including drawings and specifications, addenda, all shop drawings, and manufacturer's data, testing data, change orders, field orders and other modifications. Documents shall be neatly and securely stored in files or on racks, clearly indexed by trade activity or specification section, and shall not be used for construction purposes.

B. Legibly mark significant field changes such as the following, using colored pencils or felt-tipped pens:

1. Drawings:

a. Locations of concealed utilities whether existing or new.

b. All current horizontal and vertical survey control points.

c. Field changes including dimension, location, and detail.

d. Changes resulting from change order or field order.

e. Details not on original drawings.

2. Specifications: Manufacturer and model number of equipment actually installed.

3. Shop Drawings and manufacturers' literature: Changes made after the Engineer's review.

C. At completion of work, deliver completed record documents to the Engineer. Final payment for project will not be made until the Engineer reviews and approves these documents.

2. PRODUCTS (Not Applicable).

3. EXECUTION (Not Applicable).

4. MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT AND PAYMENT

A. Refer to Section 01025 for a description of Bid Items and method of measurement and payment.

B. No separate measurement or payment shall be made for the work in this Section. Measurement and Payment for this item shall be included within the work it is associated with.

END OF SECTION

SECTION 01400

QUALITY CONTROL

1. GENERAL

1.1. REQUIREMENTS INCLUDED

A. General Quality Control.

B. Workmanship.

C. Manufacturer's Instructions.

D. Manufacturer's Certificates.

E. Manufacturers' Field Services.

1.2. RELATED REQUIREMENTS

A. Section 01005 - Administrative Provisions

B. Section 01300 - Submittals: Submittal of Manufacturer's Instructions.

C. Individual Specification Sections.

1.3. QUALITY CONTROL, GENERAL

A. Maintain quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.

1.4. WORKMANSHIP

A. Comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.

B. Perform work by persons qualified to produce workmanship of specified quality.

C. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking.

1.5. MANUFACTURERS' INSTRUCTIONS

A. Comply with instructions in full detail, including each step in sequence. Should instructions conflict with Contract Documents, request clarification from Engineer before proceeding.

1.6. MANUFACTURERS' CERTIFICATES

A. When required by individual Specifications Section, submit manufacturer's certificate that certifies products meet or exceed specified requirements.

1.7. MANUFACTURERS' FIELD SERVICES

A. When specified in respective Specification Sections, require manufacturer to provide qualified personnel to observe field conditions, conditions of surfaces and installation, quality of workmanship, as applicable, and to make appropriate recommendations.

B. Representative shall submit written report to Engineer listing observations and recommendations.

2. PRODUCTS (Not Applicable).

3. EXECUTION (Not Applicable).

4. MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT AND PAYMENT

A. Refer to Section 01025 for a description of Bid Items and method of measurement and payment.

B. No separate measurement or payment shall be made for the work in this Section. Measurement and Payment for this item shall be included within the work it is associated with.

END OF SECTION

SECTION 01500

TEMPORARY FACILITIES AND CONTROLS

1. GENERAL

1.1 GENERAL DESCRIPTION

A. Work under this specification includes providing the temporary facilities and site controls throughout the construction phase and as required to perform the work specified within the contract documents including but not limited to:

1. Site Trailer
2. Signage.
3. Site Security.
4. Material Storage.
5. Site Safety.
6. Erosion Control and conformance to regulatory approvals and conditions.

1.2 FACILITY REQUIREMENTS

A. Site Trailer

1. Contractor shall maintain a construction trailer on site for the duration of the project with sufficient space for onsite meetings.
2. The Trailer shall have a separate office space for the Harbormaster.
3. The trailer shall be heated.

B. Site Signage

1. N/A

C. Provide Site Security

1. Provide secure temporary closures to prevent unauthorized entry to the contractors authorized staging and work area including:
   a. Temporary 6-foot minimum chain link fence.
   b. Locked gate.
2. Furnish, install, and maintain a bulletin board, protected from the elements in a prominent location at the work site, accessible to all employees and workers at the site, on which data of concern to the employees will be posted.
3. Provide marked metal containers with tight-fitting covers for edible debris, enforce their use by employees. Provide on-site dump container for collection of waste material. Periodically remove and legally dispose of waste material off-site. Schedule cleaning operations so that dust and other contaminants resulting from cleaning will not fall on wet, newly finished surfaces. Dispose of volatile wastes such as mineral spirits, oil or paint thinner in accordance with local and state regulations.

D. Provide for Material Storage

1. Temporary structures shall be constructed in a structurally-sound, weatherproof manner.
2. Confine storage of materials to within the Limit of Work and areas as may be designated.
3. Provide temporary sheds or other covered facilities for storage of materials subject to weather damage. Number and size of structures shall be subject to Owner's approval. Locate structures to avoid interference with work and relocate as required by progress of work.
4. Remove structures and surplus stored materials at completion of work.

E. Maintain site, temporary structures, storage areas, temporary fencing, etc., in a neat and orderly manner.

F. Provide staging, hoists, temporary stairs, ladders, chutes, etc., as required, complying with applicable safety codes.

G. The Contractor, including all subcontractors, will not be permitted to display any descriptive signs indicating their company names and names of equipment of materials installed in the work beyond the specific requirements established with the contract documents.

1.3 FIELD LAYOUT

A. Contractor shall maintain a level, rod, and total station on job, and shall employ competent personnel for use thereof. The Owner shall have reasonable use of these instruments at all times.

B. Project survey information has been located on drawings for Contractor's use. Contractor shall establish benchmarks in at least two widely separated locations, and shall establish and maintain grades, lines, levels, and other dimensional reference guides as required. Annotate project record documents (specified in SECTION 01300) to indicate all modifications of grades, utilities, etc.

1.4 EROSION CONTROL AND SITE DRAINAGE

C. Prior to beginning work, Contractor shall review erosion and sedimentation control requirements as stipulated in the project regulatory approvals and shall coordinate activities to ensure proper installation including meetings with regulatory agencies as may be stipulated within the regulatory approvals.

D. Upon beginning site work, Contractor shall assume complete responsibility for Project Area site erosion and sedimentation control and drainage for duration of Contract and shall maintain such erosion control measures in a manner which will cause no damage and/or erosion or sedimentation directly or indirectly into waterways or to adjacent areas.

E. Maintain all erosion control barriers in good functional condition throughout the project. Erosion and sedimentation control measures shall be inspected weekly and after any major storm event.

F. Take all necessary measures to prevent vehicles leaving site from depositing mud on public ways. Clean up after and repair damage caused by trucks. Comply with applicable ordinances regarding noise control.

G. Keep excavations, pits, trenches, and other upland construction areas free of water at all times, including backing up of drains and sewers. Provide hydraulic equipment to control

surface and ground water. Pumping equipment shall be adequate to remove all hydrostatic pressure from structures until sufficient strength has been developed by the structure to protect work from displacement or other damage.

H. Maintain ground water level (non-tidal) sufficiently below excavation level at all times to maintain stable working platform. Ground water shall be controlled so as to avoid adverse effects on established ground water elevation of adjacent sites.

1.5 SAFETY AND PROTECTION

A. Comply with applicable safety regulations, including ANSI Series A10, Safety requirements for Construction and Demolition, and OSHA Part 1926, Construction Safety and Health Regulations. Provide barricades, fences and other protection measures as required.

B. Minimize storage of flammable materials and ensure that such material is properly handled and stored. Provide fire extinguishers per code requirements and near locations of flammable products. Install prominent signs giving locations of fire alarms. Do not permit use of open fires or salamanders.

C. Take all necessary precautions to ensure that finished or partially completed work is properly braced and secured against wind, rain, snow and other adverse weather conditions.

D. Remove snow and ice from roads, walks, work area, etc., which impedes access or drainage, or presents danger to workmen, public, or property.

1.6 WORK WITHIN NAVIGABLE WATERWAY

A. Contractor shall keep proper lights each night between sunset and sunrise upon all floating plant and equipment and any other obstructions connected with the work in accordance with CG-169, Rules of the Road, and Code of Federal Regulations, Title 33, Chapter 1, Subchapter C and Chapter 11, Part 207. Contractor shall be required to install and maintain for the duration of the Contract, standard obstruction lights upon all stakes, piles, dolphins, or upon any other obstruction connected with the work which are located in navigable waters. The obstruction light shall consist of a quick flashing white light which shows not less than sixty flashes per minute when viewed from any direction. The light shall have a luminous intensity of not less than a two-mile range.

B. Contractor will be required to conduct the work in such a manner as to obstruct navigation as little as possible and in case the Contractor's plant so obstructs vessels, it shall be promptly moved on the approach of any vessel, to such an extent as may be necessary to afford a safe practicable passage. Upon completion of the work, Contractor shall promptly remove his plant, buoys and other markers placed by him during execution of this Contract.

C. Should the Contractor, during the progress of the work lose, dump, throw overboard, sink or misplace any materials, plant, machinery, or appliance which in the opinion of the Owner may be dangerous to berthing vessels or obstruct navigation, the Contractor shall recover and remove the same with the utmost dispatch. Should the Contractor refuse, neglect or delay compliance with the above, such obstructions may be removed by the Owner, and the cost of such removal shall be deducted from money due the Contractor.

1.7 TEMPORARY UTILITIES

A. Maintain strict supervision to enforce conformance with applicable standards and safe practices and prevent abuse of services. Obtain necessary permits, temporary easements, etc.

B. Light and Power:

1. Provide temporary light and power for construction needs safety and security throughout construction period. Suitably protect temporary system by fused or circuit breakers. Panelboards, safety switches and electrical outlets shall be enclosed and grounded. Provide meters as required. Entire system shall comply with NEC requirements for temporary wiring.

2. Make necessary arrangements with power company to install temporary service, including temporary poles and transformer.

C. Heating and Ventilation:

1. Provide temporary heat and ventilation as required to protect against dampness, cold and condensation; provide heat and humidity suitable for curing and installation of materials; provide ventilation adequate for work safety and fire protection. Temporary heaters shall be smokeless portable unit heaters acceptable to Underwriter' Laboratories, local fire department and the Owner.

D. Water and Sanitary Facilities:

1. Provide temporary water for construction purposes, sanitation, drinking, first aid, fire protection and cleaning. Furnish and install all connections, pipes, fittings, meters, etc., necessary for temporary service, and maintain same in good condition. Take necessary precautions to prevent waste of water.

2. PRODUCTS (Not Applicable).

3. EXECUTION (Not Applicable).

4. MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT AND PAYMENT

A. Refer to Section 01025 for a description of Bid Items and method of measurement and payment.

B. No separate measurement or payment shall be made for the work in this Section. Measurement and Payment for this item shall be included within the work it is associated with.

END OF SECTION

SECTION 01600

MATERIAL AND EQUIPMENT

1. GENERAL

1.1. REQUIREMENTS INCLUDED

A. Products.

B. Transportation and Handling.

C. Storage and Protection.

D. Product Options.

E. Products List.

F. Substitutions.

1.2. RELATED REQUIREMENTS

A. Section 01005 - Administrative Provisions.

B. Section 01400 - Quality Control.

1.3. PRODUCTS

A. Products include material, equipment, and systems.

B. Comply with Specifications and referenced standards as minimum requirements.

C. Components required to be supplied in quantity within a Specification section shall be the same and shall be interchangeable.

D. Do not use materials and equipment removed from existing structure, except as specifically required, or allowed, by Contract Documents.

1.4. TRANSPORTATION AND HANDLING

A. Transport products by methods to avoid product damage; deliver in undamaged condition in manufacturer's unopened containers or packaging, dry.

B. Provide equipment and personnel to handle products by methods to prevent soiling or damage.

C. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.

D. Provide for timely delivery of materials and products to the project site.

1.5. STORAGE AND PROTECTION

A. Store products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight enclosures; maintain within temperature and humidity ranges required by manufacturer's instructions.

B. For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation.

C. Arrange storage to provide access for inspection. Periodically inspect to assure products are undamaged and are maintained under required conditions.

D. Label materials and equipment stored off-site as "Property of Town of Kennebunkport".

1.6. PRODUCT OPTIONS

A. Whenever a product is specified by using a proprietary name or the name of a particular manufacturer or vendor, the specific item mentioned shall be understood as establishing type, function, dimension, appearance and quality desired. Other manufacturers products will be accepted, as outlined below, provided sufficient information is submitted to allow the Engineer to determine that products proposed are equivalent to those named.

B. Product Specified by Reference Standards or by Description Only: Any product meeting those standards.

C. Any specific Brand Name products referenced on the plans or specifications are for design purposes only. All products are eligible for an 'or equal substitution'.

1.7. PRODUCTS LIST

A. Within 15 days after date of Owner-Contractor Agreement, submit complete list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.

1.8. SUBSTITUTIONS

A. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.

B. Request constitutes a representation that Contractor:

1. Has investigated proposed product and determined that it meets or exceeds, in all respects, specified product.

2. Will provide the same warranty for substitution as for specified product.

3. Will coordinate installation and make other changes, which may be required for Work to be complete in all respects.

4. Waives claims for additional costs that may subsequently become apparent.

C. Engineer will determine acceptability of proposed substitution and will notify Contractor of acceptance or rejection in writing within a reasonable time.

2. PRODUCTS (Not Applicable).

3. EXECUTION (Not Applicable).

4. MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT AND PAYMENT

A. Refer to Section 01025 for a description of Bid Items and method of measurement and payment.

B. No separate measurement or payment shall be made for the work in this Section. Measurement and Payment for this item shall be included within the work it is associated with.

END OF SECTION

SECTION 01700

PROJECT CLOSEOUT

1. GENERAL

1.1 CLEANING

A. Use cleaning materials as recommended by product manufacturers and appropriate specification sections. Employ experienced workmen or professional cleaners.

B. Before inspection for substantial completion, do all necessary cleaning, including the following:

1. Sweep and rinse with clear water exterior finished surfaces, rake clean other site surfaces.

2. Refer to specification sections for additional requirements for particular surfaces.

1.2 SUBSTANTIAL COMPLETION AND FINAL INSPECTION

A. Submit written certification that project, or designated portion of project, is substantially complete, and request, in writing, a final inspection. The Engineer will make an inspection within 10 days of receipt of request.

B. Should the Engineer determine that the work is substantially complete, he will prepare a punch list of deficiencies that need to be corrected before final acceptance and issue a notice of substantial completion with the deficiencies noted.

C. Should the Engineer determine that the work is not substantially complete, he will immediately notify Contractor, in writing, stating reasons. After Contractor completes work, he shall re-submit certification and request for final inspection.

1.3 CLOSE-OUT SUBMITTALS

A. Refer to EXECUTION portion of each specification section for closeout requirements, including operating and maintenance manuals; instruction of Engineer's personnel in maintenance and operation of systems; submission of certifications, test reports, etc.; provision of spare parts and maintenance materials, all of which shall be neatly wrapped or packaged in standard sizes and clearly labeled.

B. Completed project record documents specified in SUBMITTALS, SECTION 01300.

C. Certificate of insurance for products and completed operations.

D. Typed list of major subcontractors and suppliers with addresses and telephone numbers.

E. Submissions specified elsewhere in Contract Documents, including consent of surety to final payment; affidavit that all bills and indebtedness connected with the Work have been paid; and certification of payment from subcontractors and suppliers, or bond satisfactory to the Engineer indemnifying the Engineer against liens or other claims.

1.4 ACCEPTANCE OF THE WORK

A. After all deficiencies have been corrected, a Letter of Final Acceptance will be issued. If only designated portions of the project have been inspected, a Letter of Partial Acceptance will be issued for that portion of the Work.

B. Acceptance may be given prior to correction of deficiencies that do not preclude operation and use of the facility; however, final payment will be withheld until all deficiencies are corrected.

C. Until receipt of Letter of Final Acceptance, Contractor shall be responsible for the work of this Contract.

1.5 POST-CONSTRUCTION INSPECTION

A. Prior to expiration of one year from date of final acceptance, the Engineer will inspect the project to determine whether corrective work is required. Contractor will be notified in writing of all deficiencies. In accordance with terms of the General Conditions, corrective work must start on noted deficiencies within 10 days of receipt of notification to Contractor.

2. PRODUCTS (Not Applicable).

3. EXECUTION (Not Applicable).

4. MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT AND PAYMENT

A. Refer to Section 01025 for a description of Bid Items and method of measurement and payment.

B. No separate measurement or payment shall be made for the work in this Section. Measurement and Payment for this item shall be included within the work it is associated with.

END OF SECTION

SECTION 02000

SITE PREPARATION

1. GENERAL

1.1 RELATED DOCUMENTS

A. Maine Department of Transportation Standard Specification; March 2020 Edition and in accordance with Special Provisions, Supplemental Specifications and Standard Detail updates provided in this Project Manual.

1.2 SCOPE OF WORK

A. These site preparation requirements shall apply to all project work operations within this Contract.

B. The work of this Section consists of providing all labor, equipment, materials, incidental work, and construction methods necessary to prepare the site, complete, as indicated on the Contract Documents, as specified, and as follows:

1. Mobilization and demobilization of all equipment, labor, materials, supervision, survey and any incidentals required to satisfactorily complete this project in accordance with these Specifications, the Contract Drawings and as directed by the Owner.

2. Comply fully with all requirements and conditions of all Project Permits including performance of any miscellaneous work required to ensure full compliance and not otherwise covered by individual items in the contract.

3. Protection of existing structures, as may be required, to prevent damages resulting from the contractor's performance of work at the site.

4. Perform all other miscellaneous work obviously required to complete the project, but not covered by individual items in the contract.

5. Reinstate any existing areas impacted during the work to their pre-project conditions unless otherwise specified.

6. Perform site work operations and the removal of debris and waste materials to assure minimum interference with navigation, streets, walks, parking facilities, buildings, and all other adjacent facilities.

7. Obtain governing authorities written permission, when required, to close or obstruct street, walks and adjacent facilities. Provide alternate routes around closed or obstructed traffic ways, when required by governing authorities.

8. Obtainment of written permission from property owners to trespass and/or transgress their properties where an easement has not been granted.

9. Control dust caused by the work. Dampen surfaces as required. Comply with pollution control regulations of governing authorities.

10. Provide debris booms and siltation curtains, as required, to meet regulatory agency conditions.

11. If the Contractor, in the course of excavation, uncovers or otherwise encounters any artifacts, whether historic or prehistoric, he shall bring them to the immediate attention of the Owner, and stop all work in that vicinity of said artifacts until directed by the Owner.

12. If the Contractor, in the course of excavation, uncovers or otherwise encounters any suspected hazardous or unidentified substances, he shall bring them to the immediate attention of the Owner, and stop all work in that vicinity of said until directed by the Owner.

1.1 RELATED WORK UNDER OTHER SECTIONS

A. The following items of related work are specified and included in other Sections of the Specifications:

13. Demolition under DEMOLITION, SECTION 02110

1.2 SUBMITTALS

A. Location and phasing plan (if required) of staging areas and schedule for moving staging equipment into those areas shall be submitted for Owner's approval prior to mobilization and related site preparation operations.

1.3 PROTECTION

A. Protect existing structures and facilities that are adjacent to the work area from damage caused by the project operations. Repair all damage caused to the satisfaction of the Owner, at the sole expense of the Contractor.

B. Do not interfere with use of adjacent buildings or facilities. Maintain free and safe passage to and from adjacent buildings and facilities or both and between them and the public way.

C. Cease operations and notify Owner immediately if safety of adjacent structures, fisherman, workers, or the general public appears to be endangered. Take precautions to properly support structures and protect workers and general public. Do not resume operations until safety is restored.

D. The Contractor shall erect a security fence around the limit of work areas as defined in the staging and phasing plan.

1.4 EXISTING SERVICES

A. Arrange and pay for temporarily disconnecting and reconnecting utility services as indicated on the Contract Documents. Notify the affected utility company in advance and obtain approval before starting this work.

B. Place markers to indicate location of disconnected services.

1.5 MAINTAINING TRAFFIC and MATERIAL DELIVERIES

A. Do not close or obstruct roadways or other public access areas without authorization or permits.

B. Conduct operations with minimum interference to public or private roadways. Coordinate with local and state officials, police, and emergency agencies regarding all operations on public roadways including requirements for Police Details.

C. Contractor shall be aware of any and all limitations of truck access for delivery and removal of material and equipment to/from the site and coordinate all activities as may be required.

2 PRODUCTS

2.1 MATERIALS

A. Materials shall be as selected by the Contractor and approved by the Owner, except as indicated on the Contract Drawings and/or in the Specifications.

B. Construction Fence:

1. Unless otherwise specified on the Construction documents or approved by Owner, Contractor shall provide chain link fencing around perimeter of work area and staging area to prevent public access and provide public safety. The Fence shall be a minimum of 6-feet-high and constructed of galvanized steel chain link with posts at 8 feet on center. Fence shall be supported by concrete blocks to receive posts.

2. Fence shall be installed around all areas dedicated for construction activities to prevent public access and provide for public safety.

C. Floating Debris/Siltation Boom:

1. Contractor shall provide floating debris/siltation boom around perimeter of in water work areas in accordance with regulatory conditions of approval. Boom shall be installed around area of seawall reconstruction and slope reconstruction, for the duration of work activities in each of these areas.

3 EXECUTION

3.1 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

A. Notify "Dig Safe" and local utilities and services as applicable prior to conducting any work in order to have all known utilities and services marked out before work begins.

B. Existing structures and utilities shall be suitably protected from damage, including but not limited to existing pavements and curbs, lighting, fencing, concrete vault, manholes, and utility lines.

3.2 PROTECTION OF CONSTRUCTION SITE

A. It is the Contractor’s responsibility to secure the construction site, both for the protection of the ongoing work and the protection of the public. The location of construction fencing used for this purpose shall be approved by the Owner.

3.3 INSPECTION

A. The Owner will assign inspectors and/or resident engineers to this project on either a full time or part time basis, as required to cover the work under this Contract, as justified by the

Owner. The inspector or resident engineer shall be the Owner's representative for this project.

B. The Owner must be notified at least 48 hours in advance of all material shipments in order to plan for the shipment to be inspected as they arrive to the site.

C. All materials that are not suitable for placement on this project and/or have been rejected by the Owner's representative shall be removed from the site immediately; the cost of the removal of these materials shall be the responsibility of the Contractor.

D. Unless otherwise agreed upon with the Owner, no work shall be done with materials that are partially or completely buried or hidden from view without the presence of the Owner's representative. The Owner reserves the right to have all materials uncovered for inspection if placed without direct supervision, at the sole expense of the Contractor. No materials shall be paid for under this Contract that have not been examined and passed by the Owner's representative, or for any reason are placed outside the prescribed limits of the work.

E. The Owner shall be permitted at all times to check the lines, grades, elevations, reference marks, batter boards, etc. set by the Contractor. Any errors or discrepancies in these items discovered by checks shall be corrected by the Contractor. Such checks shall not be construed as to be an approval of the Contractor's work and shall not relieve or diminish in any way the responsibilities of the Contractor for the accurate and satisfactory completion of the entire work. The Contractor shall be available to assist the Owner with these checks as needed.

4. MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT AND PAYMENT

A. Refer to Section 01025 MEASUREMENT and PAYMENT for a description of Bid Items and method of measurement and payment.

END OF SECTION

SECTION 02015

SUBSURFACE INFORMATION

1. GENERAL

1.1. RELATED DOCUMENTS

A. No geotechnical investigation has been performed for this project.

1.2. RELATED SECTIONS

A. Section 02317 – Round Timber Piles

1.3. INTERPRETATION OF DATA

A. The information is intended to indicate subsurface conditions. The information is provided to the Contractor so that he or she can evaluate the subsurface conditions and determine appropriate measures to take and equipment to use in the execution of the project.

B. The Owner and their representatives assume no responsibility for the accuracy of the information provided or for any conclusions the Contractor may draw there from.

2. PRODUCTS (Not Applicable).

3. EXECUTION (Not Applicable).

4. MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT AND PAYMENT

A. Refer to Section 01025 MEASUREMENT and PAYMENT for a description of Bid Items and method of measurement and payment.

END OF SECTION

SECTION 02110

DEMOLITION

1. GENERAL

1.1 RELATED DOCUMENTS

A. Maine Department of Transportation Standard Specification; March 2020 Edition and in accordance with Special Provisions, Supplemental Specifications and Standard Detail updates provided in this Project Manual.

1.2 SCOPE OF WORK

A. Provide all labor, materials, equipment, and supervision necessary to complete the work specified in this Section.

B. Scope of work includes, but is not limited to the demolition, removal, relocation and/or disposal of the following:

1. Existing timber piles, associated hardware, bolts, chains, and shackles.
2. Asphalt pavement.
3. Portion of the existing pier handrail
4. Existing electrical to be re-routed

C. The following items of related work are specified and included in other Sections of the Specifications:

1. Site Preparation under SITE PREPARATION, SECTION 02000

1.3 SUBMITTALS

A. Prior to the start of demolition activities, the Contractor shall submit to the owner the name(s) of solid waste facilities selected by the Contractor to receive the wastes generated by the project.

B. Contractor to provide certification that all materials disposed of has been done so in accordance with all municipal, state, and federal regulations.

2. PRODUCTS

2.1 MATERIALS

A. No materials are to be supplied under this specification.

3. EXECUTION

3.1 GENERAL

A. Bidders shall examine the site and make their own estimates of the types and quantities of demolition, which will be required to fulfill the contract requirements.

B. All materials removed during demolition designated for disposal shall become the property of the contractor unless otherwise noted.

C. All materials removed during demolition, except that which is to be reused, shall be disposed of off the site in conformance with all municipal, state, and federal regulations.

D. During demolition activities which are over or in water, the area of the demolition work will be enclosed with a floating boom approved by the owner.

E. Contractor shall use extreme caution when demolishing structures. Damage caused to adjacent structures or a structure to remain which is caused by the contractor shall be repaired by the contractor as directed by the owner at no additional cost to the owner.

4. MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT AND PAYMENT

B. Refer to Section 01025 MEASUREMENT and PAYMENT for a description of Bid Items and method of measurement and payment.

END OF SECTION

SECTION 02220

EXCAVATION, BACKFILL, AND COMPACTION

1. GENERAL

1.1 RELATED DOCUMENTS

A. The Contractor shall complete the work of this section in accordance with the state of Maine Department of Transportation Standard Specification; March 2020 Edition and in accordance with Special Provisions, Supplemental Specifications and Standard Detail updates provided in this Project Manual.

1.2 SCOPE OF WORK

A. Work Included:

1. Furnish all labor, materials, equipment, and incidentals necessary to perform all excavation, backfill, compaction, grading, material storage, and disposal of surplus materials required to complete the removal and reconstruction of the existing stone coastal embankment below the main pier in accordance with these specifications and in close conformity with the plans.

2. Repair of any seawall, pavement, parking, or lawn areas damaged by the Contractor in the course of the project.

3. Material Gradations to be supplied by the Contractor at no extra cost to the Owner. Compaction testing of materials in place will be paid for by the Owner.

1.1. RELATED SECTIONS

A. Section 02270 - Erosion and Siltation Control

B. Section 02317 – Round Timber Pilesp

1.2. SUBMITTALS

A. All products, materials, gradations, mix designs shall be submitted to the Engineer for review.

B. Submittals required under this section includes, but are not limited to, the following:

1. Materials Testing Results

a. Soil Testing Reports

b. Gradation

1.3. PROTECTION OF WORK

A. The Contractor shall execute the work so that no damage occurs to adjacent utilities, structures, property, or any other installation located in or adjacent to work areas. Damaged utilities shall be repaired with similar or better materials of the same size and to the requirements of the utility owner. The Contractor shall have on site the necessary manpower, materials, and equipment such as pumps, piping to protect and maintain uninterrupted flows in existing utilities during construction.

B. Excavations shall be kept free from water, snow, and ice during construction. Bedding and backfill material shall not be placed in water. Water shall not be allowed to rise upon or flow over bedding and backfill material.

C. The Contractor shall maintain all benchmarks, monuments and other reference points and, if disturbed, shall replace them at no additional cost to the Owner.

D. Excavating equipment shall be of such size and type, and used in a manner, that will not damage existing items such as but not limited to paved surfaces, utilities, structures, and trees.

E. The finished subgrade shall not be disturbed by traffic or other operations and shall be maintained by the Contractor in a satisfactory condition until the finished surfaces are placed. Until the subgrade has been observed by the Engineer, no pavement materials shall be installed thereon.

F. The Contractor shall take whatever steps necessary to prevent catch basins and drain lines from receiving silt and sediment washed from project work areas. The Contractor shall clean out catch basins and drain lines that have not been successfully protected.

1.4. QUALITY ASSURANCE

A. Codes and Standards: Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.

B. Testing and Inspection Service: The Contractor shall employ a geotechnical consultant and testing laboratory to perform soil testing and inspection service for quality control testing during trenching operations.

C. Test Reports: Contractor shall submit the following reports directly to the Engineer from an approved testing service, with copy to the Contractor:

1. Gradation reports on each material to be used.

2. One moisture density curve for each type of fill and native soil encountered.

3. Field density test reports.

2. PRODUCTS

2.1. MATERIALS

A. Fill materials, meeting the following requirements, shall be used in the areas shown on the drawings or where specified herein. Fill materials may be obtained from either on-site excavations or from off-site sources as appropriate. All soil materials shall be free of debris, roots, wood, scrap material, vegetation, refuse, soft unsound particles, and frozen, deleterious, or objectionable materials.

2.2. STONE ARMOR

A. Stones shall consist of sound durable rock which will not disintegrate with exposure to wind or water. The exposed stones shall be angular. Round or thin flat stones will not be permitted. Stones shall have a minimum weight of 500 lbs. with 50 percent of stones by volume shall exceed 1000 lbs. each.

B. Stone shall be machine placed to form a tight interlocked matrix to the limits shown on the plans.

C. Existing embankment stone that meets the dimensional requirements of Stone Armor may be used to supplement imported material.

2.3. BALLAST STONE

A. Ballast Stone shall consist of sound, durable rock, which will not disintegrate by exposure to the water or weather. Field stone, rough quarry stone, or blasted ledge may be used. The rock shall be graded within the following limits or as otherwise approved by the Engineer:

Sieve Designation	Percent by Weight Passing Square Mesh Sieves
8 inch	90-100
4 inch	0-15
No. 4	0-5

B. Existing graded embankment stone that meets the dimensional requirements for Ballast Stone may be used to supplement imported material.

2.4. DRAINAGE STONE

A. Use for pipe bedding for Conduit and pipe.

MDOT specification 703.22 Type C. Crushed stone or uncrushed material, meeting the following gradation:

Sieve Designation	Percent by Weight Passing
1 inch	100
3/4 inch	90-100
3/8 inch	0-75
No. 4	0-25
No. 10	0-5

2.5. AGGREGATE BASE

A. Aggregate base used for pipe bedding for paved roadways, sidewalks, driveways, and structural base material.

B. MDOT Specification 703.06(a) Type A. Screened or crushed gravel of hard durable particles. The gradation of the portion passing a 3-inch sieve shall meet the following:

Sieve Designation	Percent by Weight Passing
2 inch	100

1/2 inch	45-70
1/4 inch	30-55
No. 40	0-20
No. 200	0-5

2.6. AGGREGATE SUBBASE

A. Aggregate subbase used for paved roadways.

B. MDOT Specification 703.06(b) Type D. Sand or gravel of hard durable particles. Maximum stone size of 6 inches. The gradation of that portion that passes a 3-inch sieve shall meet the following:

Sieve Designation	Percent by Weight Passing
1/4 inch	25-70
No. 40	0-30
No. 200	0-7

2.7. SAND BEDDING MATERIAL

A. Use for pipe bedding for HDPE pipe (less than 4 inches in diameter) and bedding for pipe insulation.

B. MDOT 703.05 Aggregate for Sand Leveling. Sand of hard durable particles, meeting the following gradation requirements:

Sieve Designation	Percent by Weight Passing
3/4 inch	100
3/8 inch	85-100
No. 200	0-5

2.8. CRUSHED STONE

A. MDOT 703.31 Crushed Stone. Crushed stone shall be obtained from rock of uniform quality and shall consist of clean, angular fragment of quarried rock, free from soft or disintegrated pieces or other objectionable matter. The stone shall meet the following gradation requirements:

Sieve Designation	Percent by Weight Passing
2-1/2 inch	100

2 inch	90-100
1 inch	0-30
3/4 inch	0-5

2.9. SUBGRADE STABILIZATION FABRIC

A. Stabilization fabric shall be Mirafi 700X woven geotextile.

B. US 1540 (By US Fabric), US Fabrics, Inc.; 3904 Virginia Avenue; Cincinnati, OH 45227 (USA); Phone: 1-800-518-2290; Fax: (513) 271-4420; Email: info@usfabricsinc.com.

C. Or approved equal.

3. EXECUTION

3.1. INSPECTION

A. Examine the areas and conditions under which excavating, filling, and grading are to be performed and notify the Engineer in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in an acceptable manner.

B. Prior to beginning of excavation, grading, and embankment operations in any area, perform all necessary clearing in that area.

3.2. EXCAVATION

A. Classifications:

1. Earth Excavation: Removal and disposal of pavements and other obstructions visible on ground surface, underground structures and utilities indicated in data on subsurface conditions, and other materials encountered that are not classified as rock excavation or unauthorized excavation.

2. Rock Excavation:

a. Removal and disposal of materials encountered that cannot be excavated without continuous and systematic drilling and blasting or continuous use of a ripper or other special equipment except such materials that are classed as earth excavation.

b. Typical Materials: Boulders 1 cu. yd. or more in volume, solid rock, rock in ledges, and rock-hard cementitious aggregate deposits.

c. Intermittent drilling performed to increase production and not necessary to permit excavation of material encountered will be classified as earth excavation.

3. Pavement Excavation:

a. Conform to subgrade elevations and dimensions shown, within a vertical tolerance of one (1) inch. Follow State of Maine D.O.T. requirements for removal and replacement of pavement.

b. Excavated pavement shall become property of the Owner unless otherwise noted.

4. Trench Excavation:

a. Conform to elevations and dimensions with a vertical tolerance of one (1) inch. Excavate to the uniform width shown or required for the particular item to be installed. Provide adequate working space for compaction equipment.

b. Unless otherwise specifically directed or permitted by the Engineer, begin excavation at the low end of drain or sewer lines and precede upgrade.

c. Perform excavation for force mains and/or water mains in a logical sequence.

d. Excavate trenches to the depth indicated or required. Carry the depth of trenches for piping to establish the indicated flow lines and invert elevations and provide suitable bedding.

e. Where rock is encountered, carry the excavation six (6) inches (or as indicated on the drawings) below the required elevation and backfill with specified pipe bedding material.

f. Grade bottoms of trenches as indicated, notching under pipe joints to provide solid bearing for the entire body of the pipe.

5. Excavation of Unsatisfactory Soil Materials:

a. Excavate unsatisfactory soil materials encountered that extend below required elevations, to additional depth directed by Engineer.

b. Such additional excavation, provided it is not due to fault or neglect of Contractor, will be measured as directed by the Engineer and paid for as extra work.

c. Remove unsatisfactory soil and dispose of off-site.

6. Experimental Excavation:

a. The Contractor shall make excavations at locations authorized by the Engineer, for the purpose of confirming the location and depth of existing utilities, structures or ledge profile.

3.3. MATERIAL STORAGE

A. Stockpile satisfactory excavated materials where directed, until required for backfill or fill.

B. Place, grade, and shape stockpiles for proper drainage.

C. Locate and retain soil materials away from edge of excavations.

D. Dispose of excess soil and waste materials as specified hereinafter.

3.4. TEMPORARY EARTH SUPPORT

A. The Contractor shall design, furnish, install and maintain temporary earth support systems, as required, to prevent injury to persons, collapse of the sides of the excavation, and damage, disturbance and settlement of adjacent property. Sheeting and bracing shall be of

adequate type; size and strength for the conditions encountered and shall be driven to true alignment in a workmanlike manner.

B. Establish requirements for trench shoring and bracing to comply with local codes and authorities having jurisdiction.

3.5. COLD WEATHER PROTECTION

A. Protect excavation bottoms against freezing when atmospheric temperature is less than 35 degrees F.

B. Do not place fill or backfill on frozen soil or use frozen material for fill or backfill.

3.6. COMPACTION

A. Percentage of Maximum Density Requirements:

1. Provide not less than the following percentages of maximum density of soil material compacted at optimum moisture content, for the actual density of each layer of soil material-in-place.

2. Structures: Compact top 12 inches of subgrade and each layer of backfill or fill material at 95 percent maximum dry density for cohesionless soils, and 90 percent maximum dry density for cohesive soil material as determined by laboratory compaction test ASTM D-1557, Method D.

3. Pavements: Compact top 12 inches of subgrade and each layer of backfill or fill material at 95 percent maximum dry density for cohesionless soils, and 90 percent maximum dry density for cohesive soil material as determined by laboratory compaction test ASTM D-1557, Method D.

4. Pipe Trenches: Compact pipe bedding material and each layer of backfill to a depth of six (6) inches above the top of the pipe, to 90% of maximum dry density. The remainder of the trench shall be filled with soil compacted to the minimum required compaction for the intended surficial use (i.e., lawns 85% or pavements 95%, etc.). Care shall be taken not to damage the pipe by over compaction.

B. Moisture Control:

1. Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade, or layer of soil material at such a rate as to avoid free water from appearing on surface during or subsequent to compaction operations.

2. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.

3. Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by dicing, harrowing, or pulverizing, until moisture content is reduced to a satisfactory value, as determined by moisture-density relation tests.

3.7. BACKFILL AND FILL:

A. General: Place acceptable soil material in layers to required subgrade elevations, for each area classification listed below:

1. In excavations, use satisfactory excavated material or common borrow.

2. Under grassed areas use satisfactory excavated material or common borrow.

3. Under walks and pavements, use subbase material, aggregate base, or satisfactory excavated material, or combination of all.

4. Under building slabs, footings, and detention pond outlet structures, use aggregate base material.

5. In pipe trenches, use satisfactory excavated material or common borrow.

B. Backfill excavations as promptly as work permits, but not until completion of the following:

1. Acceptance by the Engineer of construction below finish grade including, where applicable, damp-proofing and waterproofing.

2. Inspection, testing, approval, and recording locations of underground utilities.

3. Removal of shoring and bracing, and backfilling of voids with satisfactory materials. Temporary sheet piling driven below bottom of structures shall be removed in manner to prevent settlement of the structure or utilities or cut off and left in place if required.

4. Removal of trash and debris.

C. Ground Surface Preparation:

1. Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills.

2. Plow, strip, scarify or break-up sloped surfaces steeper than 1 vertical to 4 horizontal so that fill material will bond with existing surface.

3. When existing ground surface has a density less than that specified under "Compaction" for the particular area classification, break up the ground surface, pulverize, moisture-condition to the optimum moisture content, and compact to required depth and percentage of maximum density.

D. Placement and Compaction:

1. Place backfill and fill materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

2. Before compaction, moisten or aerate each layer as necessary to provide the optimum moisture content. Compact each layer to required percentage of maximum dry density for each area classification. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.

3. Place backfill and fill materials evenly adjacent to structures, to required elevations. Take care to prevent wedging action of backfill against structures by carrying the material uniformly around structure to approximately same elevation in each lift.

3.8. DISPOSAL OF SURPLUS MATERIAL

A. Surplus excavated material and fill shall become the property of the Contractor and shall be removed and disposed of off-site.

B. Remove trash, debris, and waste materials, from work areas and legally dispose of it at the municipal landfill, if permitted, or in a lawful and acceptable manner, at no additional cost to the Engineer.

3.9. PAVEMENT BASE AND SUBBASE COURSES:

A. General: This work consists of placing aggregate base and subbase material, in layers of specified thickness, over subgrade surface to support the pavement.

B. Grade Control: During construction, maintain lines and grades including crown and cross-slope of subbase course.

C. Placing:

1. Place subbase and base course material on prepared surfaces in layers of uniform thickness, conforming to indicate cross-section and thickness. Maintain optimum moisture content for compacting material during placement operations.

2. When a compacted subbase course is shown to be 6 inches thick or less, place material in a single layer. When shown to be more than 6 inches thick, place material in equal layers, except no single layer more than 6 inches or less than 3 inches in thickness when compacted.

3.10. FIELD QUALITY CONTROL

A. Quality Control Testing During Construction: Allow testing service to examine and test subgrade and fill layers. Before further construction work is performed, test results meeting the requirements of 3.06A herein, shall be obtained.

B. Perform field density tests in accordance with ASTM D-2922 (nuclear method), using Troxler moisture-density gauge Model 3411B or 3401B or approved equal.

C. Foundation and Footing Subgrade: For each stratum of soil on which footings will be placed, conduct at least one field density test for each 30 linear foot of footing or each 2,000 square feet of foundation slab.

D. Paved Areas: Conduct at least one field density test of subgrade for every 2,000 square feet of paved area, but in no case less than three tests.

E. Foundation Wall Backfill: Conduct at least two field density tests, at locations and elevations as directed.

F. Pipe Trenches: Conduct at least one field density test between each manhole and for each 300 linear feet of force main.

G. If, in the opinion of the Engineer based on testing services reports and inspection, subgrade or fills which have been placed are below specified density, Contractor shall provide additional compaction and testing at no additional expense to the Owner.

3.11. GRADING

A. General: Uniformly grade areas within limits of grading under this section, including adjacent transition areas. Grade areas to property drain runoff to appropriate collection structures or ditches. Smooth finished surface with specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades.

B. Grading Lines: Finish surfaces free from irregular surface changes, and as follows:

1. Lawn or Unpaved Areas: Finish areas to receive topsoil to within not more than one (1) inch above or below the required subgrade elevations.

C. Compaction: After grading, compact subgrade surfaces to the depth and percentage of maximum density for each area classification.

3.12. MAINTENANCE

A. Protection of Graded Areas:

1. Protect newly graded areas from traffic and erosion.

2. Keep free of trash and debris.

3. Repair and re-establish grades in settled, eroded, and rutting areas to specified tolerances.

B. Reconditioning Compacted Areas: Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, re-shape, and compact to required density prior to further construction.

4. MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT AND PAYMENT

A. Refer to Section 01025 MEASUREMENT and PAYMENT for a description of Bid Items and method of measurement and payment.

END OF SECTION

SECTION 02270

SLOPE PROTECTION AND EROSION CONTROL

1. GENERAL

1.1 RELATED DOCUMENTS

A. The Contractor shall complete the work of this section in accordance with the state of Maine Department of Transportation Standard Specification; March 2020 Edition and in accordance with Special Provisions, Supplemental Specifications and Standard Detail updates provided in this Project Manual.

B. Refer to the Erosion Control Notes on Sheet G-02.

C. Section 01300 – Submittals

D. Section 01500 – Temporary Facilities and Controls

E. Section 02220 – Excavation, Backfill and Compaction

1.2 SECTION INCLUDES

A. Devices to control construction erosion and discharge of sediments into the waters adjacent to the site. Measures include temporary silt fence, erosion control mesh, hay bales, temporary erosion check dams that are selected by the Contractor for the circumstance and type of construction disturbance.

B. Debris Control Booms

1.1. RELATED SECTIONS AND DOCUMENTS

A. Section 01300 – Submittals

B. Section 01500 – Temporary Facilities and Controls

C. Section 02220 – Excavation, Backfill and Compaction

1.2. SUBMITTALS

A. Submit product data under provisions of Section 01300.

B. Submit samples of geotextile fabric under provisions of Section 01300.

1.3. REGULATORY REQUIREMENTS

A. Conform to current “Maine Erosion and Sediment Control Handbook for Construction; Best Management Practices." Maintain copy of document on site.

2. PRODUCTS

2.1. MATERIALS

A. Silt Fence:

1. Posts: Either wood straight posts minimum 54 inches long and minimum 2 inches thick or steel posts minimum 5 feet long with projections for fastening wire to fence.

2. Wire Staples: No. 9 staples minimum 1 1/2 inches long.

3. Wire Fabric: Minimum 32 inches high having at least 6 horizontal wires; vertical wires spaced maximum 12 inches apart, top and bottom wires to be minimum 10 gage; all other wires minimum 12 gage.

4. Filter Fabric: Mirafi 100X, Polyfilter X Stabilenka Type 100, minimum 34 inches wide.

5. Reinforced Filter Fabric: Geofab Mirafi Envirofence.

B. Erosion Control Mesh: MDOT Subparagraph 717.06.

C. Hay Bales: Baled hay approximately 14 by 18 by 30 inches securely tied to form a firm bale.

3. EXECUTION

3.1 INSTALLATION

A. The Contractor is responsible for installing temporary erosion control measures prior to beginning work to prevent erosion and discharge of sediments.

3.2 MAINTENANCE

A. Maintain erosion control measures in a functional condition at all times. Inspect after each rainfall and at least daily during prolonged rainfall. Immediately correct deficiencies.

B. Where deficiencies exist, install additional erosion control measures as needed.

3.3 FIELD QUALITY CONTROL

A. Field inspection will be performed under provisions of Section 01400.

3.4 TEMPORARY EROSION CONTROL REMOVAL

A. Remove sediment deposits.

B. Remove temporary silt fence and hay bales when no longer needed and dispose of in a proper manner.

4. MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT AND PAYMENT

A. Refer to Section 01025 MEASUREMENT and PAYMENT for a description of Bid Items and method of measurement and payment.

END OF SECTION

SECTION 02317

ROUND TIMBER PILES

1. GENERAL

1.1 RELATED DOCUMENTS

A. The Contractor shall complete the work of this section in accordance with the state of Maine Department of Transportation Standard Specification; March 2020 Edition and in accordance with Special Provisions, Supplemental Specifications and Standard Detail updates provided in this Project Manual.

B. Refer to the Pile and Abutment Plan S-01.

1.2 SCOPE OF WORK

A. Provide all labor, materials, equipment, and supervision necessary to complete work specified in this Section.

B. Scope of work includes, but is not necessarily limited to, furnishing, and installing the following piles in accordance with the Schedule on Sheet S-2:

1. Timber Fender Piles.
2. Timber Vertical Piles.
3. Timber Guide Piles.
4. Pile caps, fasteners, banding, wire wrap, and other accessories as required.

C. Related work specified elsewhere includes:

1. Fasteners, anchor bolts, bolts, and lag bolts under Section 05600 Miscellaneous Metals.
2. All timber under Section 06130 Heavy Timber Construction,

1.3 PERFORMANCE REQUIREMENTS

A. Piles shall be driven to ledge, refusal, or specified depth. Avoid damage to piles from over driving.

B. Fixed pier piles shall be driven to reach a load capacity of 18 kips (unfactored) with a minimum embedment depth of 10’. Capacity shall be verified by a static load test per ASTM D1134 single pile procedure. Remaining piles shall be driven to matching tip elevation.

C. Pile penetration lengths are estimated. The minimum lengths indicated are to allow for additional embedment to be obtained if conditions allow.

1.4 QUALITY ASSURANCE

A. Except as noted, work shall conform to the latest editions of the following codes, specifications, and standards.

1. American Society for Testing and Materials (ASTM), Specifications: D25 Round Timber Piles.

2. American Institute of Timber Construction (AITC).

1.5 SUBMITTALS

1. Submit in accordance with provisions of Section 01300.

2. Pile Hammer specifications that include hammer type, hammer base, cushion material and rated energy.

3. Preservative Treatment Certificates indicating piles meet standards specified in contract documents.

4. ASTM D1134 (single pile procedure) static load test results including:

a. All pile driving records per item No.5

b. Load test procedure

c. Load test results.

5. Driving records for each driven pile with the following information:

a. Installation date and time.

b. Equipment used.

c. Rate of operation.

d. Total driving time.

e. Blows required per foot for each foot of penetration.

f. Pile location.

g. Tip designation.

h. Ground elevation.

i. Cut-off elevation.

j. Unusual behavior during driving.

6. Pile energy calculation.

   a. Driving plan and schedule for installation of piles.

   b. Method of installation of piles including size and type of pile hammers.

   c. Templates and falsework to be used for support and layout of piles during driving.

   d. Pile point and method of attachment.

7. AWPA quality stamp on each new treated pile.

8. Certification of timber pile species.

1.6 PRODUCT HANDLING

A. Piles shall be handled with care to prevent damage. Damaged piles will be rejected and replaced at no additional cost to the Owner. Piles shall be stored with a space beneath them and situated to prevent being exposed to standing water. Cant hooks or pike poles shall not be used.

2. PRODUCTS

2.1 MATERIALS

A. Timber Piles

1. Piles shall be free from any defects, which will impair their strength, or usefulness for the purpose intended or that will prevent proper driving.

2. All piles shall be of uniform size.

3. All piling shall be cut from sound and live trees, preferably during the winter season.

4. Minimum circumference three (3) feet from the butt shall be 38 inches and minimum tip circumference shall be 22 inches for piles over 30 feet in length.

B. Greenheart Piles

1. Greenheart piles shall be supplied by a company that's operations in the Guiana Shield countries are in conformity with the International Conventions and National Forestry Regulations relating to the management of forestry concessions. Company shall enforce the protection of the endangered species listed by CITES (Convention on Trade in Endangered Species) and the biodiversity of the ecosystems. It respects the Intellectual Property Rights of the Indigenous Peoples, whose communities are the beneficiaries of the Company's field operation.

2. Greenheart piles shall be supplied by a company that stresses the need for low impact forestry operations, ensuring that its forestry extraction is state of the art while constantly monitoring the effect of its logistics systems on watershed management and its use of biodegradable wood preservatives.

3. Greenheart piles shall be banded at 12 inches below final cutoff elevation. Bands shall be 1 ½-inch-wide stainless steel 19 gauge. Each pile shall be wrapped with two bands.

4. Banding of greenheart piles shall occur prior to any cutting.

C. Pile Cut-off:

1. Refer to pile schedule for cut-off elevation, minimum embedment, and estimated length.

1. Fender and Guide pile heads shall be cut off horizontal and capped with black plastic conical pile caps sized to fit each pile. Caps shall be secured to piles with stainless steel screws in accordance with manufacturer recommendations.

2. Vertical piles shall be cut square at the correct elevation to receive the timber cap without shimming. A layer of ice and water shield shall be applied to the pile prior to making the connection.

3. EXECUTION

3.1 DRIVING EQUIPMENT

A. Pile hammers: Vibratory, air, steam or diesel-powered, of a type approved by the Owner.

1. Impact Hammers: The hammer furnished shall have a capacity at least equal to the hammer manufacturer's recommendation for the total weight of pile and character of subsurface material to be encountered. The minimum driving energy of the hammer shall be 8,000 foot-pounds. For piles of any length, the maximum driving energy of the hammer shall be 12,000 foot-pounds. Diesel-powered hammers shall be operated at the rate recommended by the manufacturer throughout the entire driving period. Sufficient pressure shall be maintained at the hammer so that: (1) for double-acting hammer, the number of blows per minute during and at the completion of driving of a pile is equal approximately to that at which the hammer is rated; (2) for single-acting hammer, there is a full upward stroke of the ram; and (3) for differential-type hammer, there is a slight rise of the hammer base during each upward stroke.

2. Vibratory Hammers: Vibratory hammers will be allowed when bearing capacity determination by blow count or driving energy is not required.

B. Driving helmets and cushion blocks:

1. Use a driving helmet or cap including a cushion block or cap block of a design approved by the Owner between the top of the pile and the ram to prevent impact damage to the pile.

2. The driving helmet or cap and cushion block combination shall be capable of protecting the head of the pile, minimizing energy absorption, and transmitting hammer energy uniformly and consistently during the entire driving period.

3. The driving helmet or cap shall fit snugly on the top of the pile so that the energy transmitted to the pile is uniformly distributed over the entire surface of the pile head.

4. Demonstrate to the Owner that the equipment to be used on the project performs the above functions.

5. The cushion block may be a solid or laminated softwood block with the grain parallel to the pile axis and enclosed in a close-fitting steel housing. The thickness of block shall be suitable for the length of pile to be driven and the character of subsurface material to be encountered. Generally, thicker blocks are required for longer piles and softer subsurface material.

6. Replace cushion block if it has been damaged, split, highly compressed, charred or burned or has become spongy or deteriorated in any manner.

7. Under no circumstances will the use of small wood blocks, wood chips, rope or other material permitting excessive loss of hammer energy be permitted.

3.2 HANDLING

A. Inspect piles in the leads, and where the protective shell or treated wood is impaired, between cutoff and a point which will be not less than 10 feet below the ground, the piles shall be repaired as specified under Timber Treatment unless the pile is damaged to such an extent that it is rejected. Rejected piles will be replaced at no additional cost to the Owner.

B. Support pile laterally during driving, but not unduly restrained from rotation in the leads. Where pile orientation is essential, take special care to maintain the orientation during driving. Take special care in supporting battered piles to prevent excess bending stresses in the pile.

C. When necessary, place collars around the pile head to prevent brooming. Cant hooks shall not be used in handling treated piles. Cut piles by sawing or other means approved by the Owner.

3.3 DRIVING PILES

A. Piles: Drive without interruption to the specified tip elevation or embedment.

1. All Fender Piles shall be driven to minimum tip elevation or embedment indicated in the Pile Schedule.

2. In the event that refusal is encountered at less than 5 feet of embedment at any location, the engineer shall be notified to determine remedial actions necessary.

B. Tolerances in Driving: Butts shall be within 4 inches of the location indicated. Manipulation of piles to force them into position will not be permitted. Check all piles for heave. Re-drive heaved piles to the required elevation. Piles damaged, mislocated, or driven out of alignment shall be replaced or additional piles driven as directed at no additional cost to the Owner.

3.4 INSTALLATION

A. All piles shall be marked at a given distance from the pile tip and every foot interval to the pile butt end. Markings should indicate length from the pile tip and should be visible above the waterline or ground level after driving.

B. If obstructions are encountered, contractor shall make reasonable effort to remove obstruction. Reasonable efforts shall include excavation if obstruction is shallow or probing with steel pile to remove or bypass the obstruction. This work shall be considered as part of the work associated with pile installation.

C. Pile Cut-Offs: After completion of driving, tops of piles shall be cut off to remove damage caused by driving hammer. All cut offs shall be the property of the contractor for removal and disposal from the project site.

D. Piles that split under driving or prove otherwise unsatisfactory shall be removed and replaced from the site at the sole expense of the Contractor and to the satisfaction of the Engineer.

E. The driving of piles with followers shall not be permitted.

F. Spudding, jetting, auguring, or pre-drilling of piles to achieve the required penetration will not be permitted unless approved in writing by the design engineer.

G. Any pile, which may be driven in the wrong position, shall be removed, and driven in the correct position. Contractor will not be paid for the pile driven in a wrong position.

H. Any pile which may prove too short after driving, or which has been split, broomed, upset, or otherwise damaged during driving, shall be rejected and another satisfactory pile shall be substituted and properly driven. The Contractor shall not be paid for pile work associated with the replacement of piles in the above category.

I. In accordance with USACE Permit Special Conditions, pile driving shall utilize the “soft start” technique in order to minimize potential effects to endangered species. Soft starts require an initial set of three strikes from the impact hammer at 40% energy, followed by a 1-minute waiting period between subsequent three-strike sets. The soft-start procedure shall be conducted any time hammering ceases for more than 30 minutes.

3.5 INSPECTIONS

A. All piles will be subject to inspection before or after shipment to the site, or both, at the option of the Engineer. Any pile that does not conform to all the requirements will be rejected.

B. A line drawn from the center of the butt to the center of the tip must lie within the body of the pile. Any pile that does not meet this requirement shall be rejected.

C. Inspection of pile driving operations will be provided by the Engineer. No piles shall be driven except in the presence of an authorized inspector.

D. Approval given by the Engineer or by his agent shall not relieve the Contractor of his responsibility for performing the work in accordance with the plans and specifications.

E. Contractor shall not cut off top of pile until verification by the Owner.

3.6 RECORDS

A. A complete and accurate record of each pile shall be made and furnished by the Contractor. The presence of the Owner or the Owner's representative will not exempt the Contractor from the requirement to keep and furnish his own records. The record shall indicate the pile location, diameter, length, hammer (make and model), number of blows per 6 inches for the final 36 inches of penetration, all other pertinent information. Where a vibratory hammer is used for friction piles, the time of driving shall be recorded per 6 inches for the final 36 inches of penetration.

4. MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT AND PAYMENT

B. Refer to Section 01025 MEASUREMENT and PAYMENT for a description of Bid Items and method of measurement and payment.

END OF SECTION

SECTION 03300

CAST-IN-PLACE CONCRETE

1. GENERAL

1.1. SUMMARY

A. Section includes:

1. Cast-in-place concrete, joints in concrete, reinforcement steel and appurtenant work, epoxy-grouted dowels, formwork, bracing, shoring, and supports.

B. Connections and embedments associated with adjacent work.

1.2. REFERENCES

A. State of Maine Department of Transportation Standard Specifications Highways and Bridges, revision of March 2020 hereafter designated as MDOT Specifications.

B. MaineDOT Additions and Special Provisions that modify the MDOT Specifications for this project.

C. Design Basis Building Code: Maine Uniform Building and Energy Code (MUBEC). (International Building Code, 2021)

D. Where dates or editions are not indicated, the following edition applies:

1. For references included in the design basis Building Code, the edition referenced in that Building Code.

2. For all other references, the current edition in force at the date of Contract award.

E. American Concrete Institute:

1. ACI 301- Structural Concrete for Buildings.

2. ACI 304.2R - Placing Concrete by Pumping Methods.

3. ACI 306.1 - Cold Weather Concreting.

4. ACI 315 - Details and Detailing of Concrete Reinforcement.

5. ACI 318 - Building Code Requirements for Reinforced Concrete.

6. ACI 347 - Guide to Formwork for Concrete.

7. ACI 117 - Standard Tolerance for Concrete Construction and Materials.

F. ASTM International:

1. ASTM A82 - Steel Wire, Plain, for Concrete Reinforcement.

2. ASTM A185 - Steel Welded Wire Fabric, Plain, for Concrete Reinforcement.

3. ASTM A615 - Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.

4. ASTM C31 - Standard Practice for Making and Curing Concrete Test Specimens in the Field.

5. ASTM C33 - Concrete Aggregates.

6. ASTM C39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.

7. ASTM C94 - Ready-Mixed Concrete.
8. ASTM C114 - Standard Test Methods for Chemical Analysis of Hydraulic Cement.
9. ASTM C143 - Standard Test Method for Slump of Hydraulic Cement Concrete.
10. ASTM C150 - Portland Cement.
11. ASTM C156 - Standard Test Method for Water Retention by Concrete Curing Materials.
12. ASTM C260 - Air Entraining Admixtures for Concrete.
13. ASTM C309 - Liquid Membrane-Forming Compounds for Curing Concrete.
14. ASTM C494 - Chemical Admixtures for Concrete.
15. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.
16. ASTM C920-14a - Standard Specification for Elastomeric Joint Sealants.
17. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation.
18. ASTM D1752 - Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.

G. NSF International:

1. NSF/ANSI 61: Drinking Water System Components - Health Effects.

H. American Welding Society:

1. AWS D1.4 - Structural Welding Code - Reinforcing Steel.

I. Other:

1. Maine Department of Transportation (MaineDOT) Standard Specifications, March 2020 Edition.
2. U.S. Product Standard PS 20 - American Softwood Lumber Standard.

1.3. SUBMITTALS

A. Furnish submittals following procedures specified in applicable sections of the Contract Documents.

B. Shop Drawings:

1. Submit shop drawings under provisions of Section 01300: Show placement and detailing of reinforcing steel.
2. Detailed drawings of the falsework proposed to be used. Such drawings shall be in sufficient detail to indicate the layout, sizes of members, anticipated stresses, grade of materials to be used in the falsework, and typical foundation conditions.
3. Shop drawings, bending diagrams, and placing lists for reinforcing steel. Details of reinforcing steel for fabrication and erection shall conform to ACI 315 and the requirements herein. The shop bending diagrams shall show the actual lengths of bars, to the nearest inch measured to the intersection of the extensions (tangents for bars of circular cross section) of the outside surface. Include bar placement diagrams which clearly indicate the dimensions of each bar splice.

4. Where mechanical couplers are required or permitted to be used to splice reinforcing steel, submit manufacturer's literature which contains instructions and recommendations for installation for each type of coupler used; certified test reports which verify the load capacity of each type and size of coupler used; and Shop Drawings that show the location of each coupler with details of how they are to be installed in the formwork.

C. Manufacturer's information demonstrating compliance with requirements of the following:

1. Bearing pads.
2. Neoprene sponge.
3. Preformed joint filler.
4. Backing rod.
5. Elastomeric joint sealant.
6. Bond breaker.
7. Slip dowels.
8. PVC tubing.
9. Form ties and related accessories.
10. Form gaskets.
11. Form release agent.
12. List of form materials and locations of use.
13. Mill tests for cement.
14. Admixture certification. Chloride ion content shall be included.
15. Aggregate gradation test results and certification.
16. Aggregate reactivity test results and certification.
17. Materials and methods for curing.

D. Placement drawings showing the location and type of joints for each structure.

E. Concrete Mix Design

1. MDOT Class A Concrete in accordance with MDOT Section 502-Structural Concrete as amended by MDOT Special Provision 502sp.
    a. Calcium Nitrite (3gal/cubic yard) and pozzolan added to meet the permeability ratings.
    b. Maximum water/cement ratio = 0.40 (ratio by weight).
    c. Method of Acceptance shall be METHOD C that may allow for mix design approval based on test documentation from another project that has been approved for use in the same construction season.

F. Delivery Tickets: Where ready-mix concrete is used, the Contractor shall furnish certified delivery tickets at the time of delivery of each load of concrete. Each ticket shall show the state-certified equipment used for measuring, and the total quantities, by weight, of cement, sand, each class of aggregate, admixtures, the amounts of water in the aggregate, added at

the batching plant, and the amount allowed to be added at the Site for the specific design mix. In addition, each certificate shall state the mix number, total yield in cubic yards, and the time of day to the nearest minute, corresponding to the time when the batch was dispatched, when it left the plant, when it arrived at the Site, when unloading began, and when unloading was finished.

1.4. QUALITY ASSURANCE

A. Testing of Reinforcing Steel:

1. If requested by the Owners Representative, the Contractor shall furnish samples from each heat of reinforcing steel in a quantity adequate for testing. Costs of initial tests will be paid by the Owners Representative. Costs of all testing shall be paid for from the Testing Allowance.

2. If requested by the Owners Representative, the Contractor shall furnish samples of each type of welded splice used in the Work in a quantity and of dimensions adequate for testing. At the discretion of the Owners Representative, radiographic testing of direct butt welded splices will be performed. The Contractor shall provide assistance necessary to facilitate testing. The Contractor shall repair any weld that fails to meet the requirements of AWS D1.4. Costs of all testing shall be paid for from the Testing Allowance.

B. Testing of Materials:

1. Tests on component materials and for compressive strength of concrete will be performed as indicated herein. Tests for determining slump will be in accordance with the requirements of ASTM C143 - Standard Test Method for Slump of Hydraulic Cement Concrete.

2. Testing for aggregate shall include sand equivalence, reactivity, organic impurities, abrasion resistance, and soundness in accordance with ASTM C33 - Concrete Aggregates.

3. The cost of laboratory tests on cement, aggregates, and concrete, will be paid by the Town. However, the Contractor shall pay the cost of any additional tests and investigations on Work that does not meet the Specifications. The laboratory will meet or exceed the requirements of ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation.

4. Concrete for testing shall be furnished by the Contractor at no cost to the Owners Representative, and the Contractor shall assist the Owners Representative in obtaining samples and disposal and cleanup of excess material.

C. Compression Tests:

1. Compression test specimens shall be taken during construction from the first placement of each class of concrete herein and at intervals thereafter as selected by the Owners Representative to ensure continued compliance with these Specifications. Each set of test specimens will be a minimum of four (4) cylinders.

2. Compression test specimens for concrete will be made in accordance with Section 9.2 of ASTM C31 - Standard Practice for Making and Curing Concrete Test Specimens in the Field. Specimens will be 6-inch-diameter by 12-inch-high cylinders.

3. Compression tests will be performed in accordance with ASTM C39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens. One test cylinder will be tested at seven days, two at twenty-eight days, and one at fifty-six days, unless otherwise directed by the Owners Representative.

D. Evaluation and Acceptance of Concrete:

1. Evaluation and acceptance of the compressive strength of concrete will be according to the requirements of ACI 318 - Building Code Requirements for Reinforced Concrete, Chapter 5 "Concrete Quality", and as indicated herein.

2. If any concrete fails to meet these requirements, immediate corrective action shall be taken to increase the compressive strength for subsequent batches of the type of concrete affected.

3. Concrete that fails to meet the ACI requirements and these Specifications is subject to removal and replacement as part of the Work.

E. Construction Tolerances:

1. The Contractor shall set and maintain concrete forms and perform finishing operations so that the concrete is within the tolerances herein. Surface defects and irregularities are defined as finishes and are to be distinguished from tolerances. Tolerance is the permissible variation from lines, grades, or dimensions indicated.

2. Where tolerances are not indicated, permissible deviations will be in accordance with ACI 117 - Standard Tolerance for Concrete Construction and Materials. Unless otherwise specified, the variation from required lines or grades shall not exceed 1/4 inch in 10 feet and there shall be no offsets or visible waviness in the finished surface.

2. PRODUCTS

2.1 Concrete Mix

A. MDOT Class A Concrete in accordance with MDOT Section 502-Structural Concrete as amended by MDOT Special Provision 502sp.

B. Calcium Nitrite (3gal/cubic yard) and pozzolan added to meet the permeability ratings.

C. Maximum water/cement ratio = 0.40 (ratio by weight).

D. Method of Acceptance shall be METHOD C that may allow for mix design approval based on test documentation from another project that has been approved for use in the same construction season.

2.2 CONCRETE GROUT

E. Grout must be on the approved MDOT List of cement based grout materials.

F. Manufacturer to verify that material is suitable for the application.

2.3 FORM AND FALSEWORK MATERIALS

G. Except as otherwise expressly accepted by the Owners Representative, lumber brought on the Site for use as forms, shoring, or bracing shall be new material.

H. Materials for concrete forms, formwork, and falsework shall conform to the following requirements:

1. Lumber shall be Douglas Fir or Southern Yellow Pine, construction grade or better, in conformance with U.S. Product Standard PS 20 - American Softwood Lumber Standard.
2. Form materials shall be metal, wood, plywood, or other material that will not adversely affect the concrete and will facilitate placement of concrete to the shape, form, line, and grade required.
3. Metal form panels shall be of commercial manufacture and in new or like-new condition. Form edges shall align and butt tightly together. Forms shall be clean and free of rust, pits, dents, holes, bends, and other damage.
4. Wood form panels shall be High-Density Overlay (HDO) plywood, specifically rated for use as concrete forms, and in new or like-new condition. Form edges shall align and butt tightly together. Forms shall be clean and free of splinters, tears, cuts, holes, bends, and other damage.

2.4 FORM TIES

A. Form ties shall be provided with a plastic cone or other suitable means for forming a conical hole to ensure that the form tie may be broken off back of the face of the concrete. The maximum diameter of removable cones for rod ties or other removable form-tie fasteners having a circular cross-section shall not exceed 1-1/2 inches; and such fasteners shall be such as to leave holes of regular shape for reaming.

B. Removable taper ties may be used when approved by the Owners Representative.

2.5 REINFORCING STEEL

A. General: Reinforcing steel for cast-in-place reinforced concrete construction shall conform to the following requirements:

1. Bar reinforcement shall conform to the requirements of ASTM A615 - Deformed and Plain Billet-Steel Bars for Concrete Reinforcement, for Grade 60 Billet Steel Reinforcement, unless otherwise indicated.
2. Welded wire reinforcement shall conform to the requirements of ASTM A185 - Steel Welded Wire Fabric, Plain, for Concrete Reinforcement, and the details indicated. Welded wire reinforcement shall be furnished in flat sheets only.
3. Spiral reinforcement shall be cold-drawn steel wire conforming to the requirements of ASTM A82 - Steel Wire, Plain, for Concrete Reinforcement.

B. Accessories:

1. Accessories shall include necessary chairs, slab bolsters, concrete blocks, tie wires, dips, supports, spacers, and other devices to position reinforcement during concrete placement. Bar supports shall meet the requirements of the CRSI Manual of Standard Practice including special requirements for supporting epoxy coated reinforcing bars. Wire bar supports shall be CRSI Class 1 for maximum protection with a 1/8-inch minimum thickness of plastic coating which extends at least 1/2-inch from the concrete surface. Plastic shall be gray in color.
2. Concrete blocks (dobies) used to support and position reinforcement steel shall have the same or higher compressive strength than required for the concrete in which they are located. Where concrete blocks are used on concrete surfaces exposed to view,

the color and texture of the concrete blocks shall match that required for the finished surface. Wire ties shall be embedded in concrete block bar supports.

2.6 MECHANICAL COUPLERS

A. Mechanical couplers shall be provided where indicated and where approved by the Owners Representative. Couplers shall develop a tensile strength that exceeds 125 percent of the yield strength of the reinforcing bars being spliced at each splice.

2.7 CONCRETE MATERIALS

A. Materials shall be delivered, stored, and handled so as to prevent damage by water or breakage. Only one brand of cement shall be used. Cement reclaimed from cleaning bags or leaking containers shall not be used. Cement shall be used in the sequence of receipt of shipments.

B. Materials for the Work shall comply with the requirements of MaineDOT.

C. Storage of materials shall conform to the requirements of Section 205 of ACI 301.

D. Materials for concrete shall conform to the following requirements:

2.8 CURING MATERIALS

A. Materials for curing concrete shall conform to the following requirements and ASTM C309 - Liquid Membrane-Forming Compounds for Curing Concrete and shall either be approved for potable water use per NSF 61 or removed after curing:

1. Curing compounds shall be white-pigmented and resin-based. Sodium silicate compounds shall not be allowed. Concrete curing compound shall be Kurez VOX White Pigmented by Euclid Chemical Company, Cure R-2 by L&M Construction Chemicals, 1200-White by W.R. Meadows, or equal. When curing compound must be removed for finishes or grouting, curing compounds shall be Kurez DR VOX by Euclid Chemical Company, L&M Cure R by L&M Construction Chemicals, 1100-Clear by WR Meadows, or equal. Curing compounds shall meet local VOC requirements.

2. Polyethylene sheet for use as concrete curing blanket shall be white and shall have a nominal thickness of 6 mils. The loss of moisture when determined in accordance with the requirements of ASTM C156 - Standard Test Method for Water Retention by Concrete Curing Materials, shall not exceed 0.055 grams per square centimeter of surface.

3. Evaporation retardant shall be a material such as Confilm by ChemRex MBT, Eucobar by Euclid Chemical Company, E-CON by L&M Construction Chemicals, Inc., or equal.

2.9 JOINT MATERIALS

A. Materials for joints in concrete shall conform to the following requirements:

1. Joint filler material shall be of the preformed non-extruding type joint filler constructed of cellular neoprene sponge rubber or polyurethane of firm texture. Non-extruding and resilient-type preformed expansion joint fillers shall conform to the requirements and tests set forth in ASTM D1752 - Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction; for Type I, except as otherwise indicated.

2. Elastomeric joint sealer shall be a two component, self-leveling, polyurethane or polysulfide sealant conforming to Federal Specification TT-S-227E, Class A, Type I, and ASTM C920, Type M, Class 25, Grade P.

3. Mastic joint sealer shall be a material that does not contain evaporating solvents; that will tenaciously adhere to concrete surfaces; that will remain permanently resilient and pliable; that will not be affected by continuous presence of water and will not in any way contaminate potable water; and that will effectively seal the joints against moisture infiltration even when the joints are subject to movement due to expansion and contraction. The sealer shall be composed of special asphalts or similar materials blended with lubricating and plasticizing agents to form a tough, durable mastic substance containing no volatile oils or lubricants.

2.10 MISCELLANEOUS MATERIALS

A. Epoxy grout for grouting reinforcing bars shall be HIT-HY 200 two-component adhesive or approved equal. Adhesive shall be rated for use with deformed rebar in cracked and uncracked concrete under wet or dry installation and service conditions.

3. EXECUTION

3.1 FORMWORK

A. Forms and falsework to support slabs shall be designed for the total dead load, plus a live load of 50 psf (minimum). The minimum design load for combined dead and live loads shall be 100 psf.

B. General Formwork Requirements:

1. Forms to confine the concrete and shape it to the required lines shall be used wherever necessary. The Contractor shall assume full responsibility for the adequate design of forms, and any forms that are unsafe or inadequate in any respect shall promptly be removed from the Work and replaced. A sufficient number of forms of each kind shall be available to permit the required rate of progress to be maintained.

2. The design and inspection of concrete forms, falsework, and shoring shall comply with applicable local, state and federal regulations. Design, construction, maintenance, preparation, and removal of forms shall be in accordance with ACI 347 - Guide to Formwork for Concrete and the requirements herein.

3. Forms shall be true in every respect to the required shape and size, shall conform to the established alignment and grade, and shall be of sufficient strength and rigidity to maintain their position and shape under the loads and operations incident to placing and vibrating the concrete, producing finished concrete that complies with the tolerances stated herein.

4. Vertical or Inclined Surfaces: Vertical and inclined surfaces of concrete members shall be formed, except where placement of the concrete against the ground is indicated.

a. For the purposes of this requirement, inclined surfaces are those surfaces sloped at an angle too steep to permit wet concrete to stay in place without formwork.

b. Not less than 1 inch of concrete shall be added to the indicated thickness of a concrete member where concrete is permitted to be placed against trimmed ground in lieu of forms. Permission to do this will be granted only for members of comparatively limited height and where the character of the ground is such

that it can be trimmed to the required lines and will stand securely without caving or sloughing until the concrete has been placed.

C. Form Ties:

1. Embedded Ties: Wire ties for holding forms will not be permitted. No form-tying device or part thereof, other than metal, shall be left embedded in the concrete. Ties shall not be removed in such manner as to leave a hole extending through the interior of the concrete members. The use of snap-ties which cause spalling of the concrete upon form stripping or tie removal will not be permitted. If steel panel forms are used, rubber grommets shall be provided where the ties pass through the form in order to prevent loss of cement paste. Where metal rods extending through the concrete are used to support or to strengthen forms, the rods shall remain embedded and shall terminate not less than 1 inch back from the formed face or faces of the concrete.

2. Removable Ties: Where taper ties are approved for use, after the taper tie is removed, the hole shall be thoroughly cleaned and roughened for bond. A precast neoprene or polyurethane tapered plug shall be located at the wall centerline. The hole shall be completely filled with non-shrink cement grout. Exposed faces of walls shall have at least the outer 2 inches of the exposed face filled with a cement grout which shall match the color and texture of the surrounding wall surface.

D. Reuse of Forms:

1. Forms may be reused only if in good condition and only if acceptable to the Owners Representative. Light sanding between uses will be required wherever necessary to obtain uniform surface texture on exposed concrete surfaces. Exposed concrete surfaces are defined as surfaces which are permanently exposed to view.

E. Removal of Forms:

1. Careful procedures for the removal of forms shall be strictly followed, and this Work shall be done with care so as to avoid injury to the concrete. No heavy loading on green concrete will be permitted.

2. Members which must support their own weight shall not have their forms removed until they have attained at least 75 percent of the 28-Day strength of the concrete. Forms for vertical or nearly-vertical walls and columns shall remain in place at least 48 hours after the concrete has been placed.

3. Forms for parts of the Work not specifically mentioned herein shall remain in place for periods of time as recommended in ACI 347.

3.2 Steel Reinforcement

A. General Requirements: Reinforcement steel, welded wire fabric, couplers, and other appurtenances shall be fabricated and placed in accordance with the requirements of the Building Code and the supplementary requirements indicated herein.

B. Fabrication:

1. Reinforcement steel shall be accurately formed to the dimensions and shapes indicated, and the fabricating details shall be prepared in accordance with ACI 315 and ACI 318, except as modified by the Drawings.

2. The Contractor shall fabricate reinforcement bars for structures in accordance with bending diagrams, placing lists, and placing drawings. Said drawings, diagrams, and lists shall be prepared by the Contractor.

3. Unless otherwise indicated, dowels shall match the size and spacing of the spliced bar.

C. Bending or Straightening: Reinforcement shall not be straightened or rebent in a manner that will injure the material. Bars shall be bent or straight as indicated. Do not use bends different from the bends indicated. Bars shall be bent cold unless otherwise permitted by the Owners Representative. No bars partially embedded in concrete shall be field-bent except as indicated or specifically permitted by the Owners Representative.

D. Placing:

1. Reinforcement steel shall be accurately positioned as indicated and shall be supported and wired together to prevent displacement, using annealed iron wire ties or suitable clips at intersections. Reinforcement steel shall be supported by concrete, plastic or metal supports, spacers or metal hangers that are strong and rigid enough to prevent any displacement of the reinforcement steel.

   a. For concrete over formwork, the Contractor shall provide concrete, metal, plastic, or other acceptable bar chairs and spacers.

   b. Where concrete is to be placed on the ground, supporting concrete blocks (or dobies) may be used in sufficient numbers to support the bars without settlement, but in no case shall such support be continuous. Concrete blocks used to support reinforcement steel shall be tied to the steel with wire ties which are embedded in the blocks.

2. Tie wires shall be bent away from the forms or exposed surface.

3. Bars additional to those indicated which may be found necessary or desirable by the Contractor for the purpose of securing reinforcement in position shall be provided by the Contractor as part of the Work.

4. Unless otherwise indicated, reinforcement placing tolerances and minimum spacing requirements shall be as specified in ACI 318.

5. Welded wire fabric reinforcement placed over horizontal forms shall be supported on slab bolsters having gray, plastic-coated standard type legs. Slab bolsters shall be spaced not more than 30 inches on centers, shall extend continuously across the entire width of the reinforcing mat, and shall support the reinforcing mat in the plane indicated.

6. Welded wire fabric placed over the ground shall be supported on wired concrete blocks (dobies) spaced not more than 3 feet on centers in any direction. The practice of placing welded wire fabric on the ground and hooking into place in the freshly placed concrete shall not be used.

E. Splicing:

1. General: Reinforcement bar splices shall only be used at locations indicated. When it is necessary to splice reinforcement at points other than where indicated, the character of the splice shall be reviewed and accepted by the Owners Representative.

2. Splices of Reinforcement:

a. The length of lap for reinforcement bars, unless otherwise indicated, shall be in accordance with ACI 318, Section 12.15.1 for a Class B splice.

b. Welded splices shall be performed in accordance with AWS D1.4.

c. Laps of welded wire reinforcement shall be in accordance with the ACI 318. Adjoining sheets shall be securely tied together with No. 14 tie wire, one tie for each 2 running feet. Wires shall be staggered and tied in such a manner that they cannot slip.

F. Cleaning and Protection:

1. Reinforcement steel shall always be protected from conditions conductive to corrosion until concrete is placed around it.

2. The surfaces of reinforcement steel and other metalwork to be in contact with concrete shall be thoroughly cleaned of dirt, grease, loose scale and rust, grout, mortar, and other foreign substances immediately before the concrete is placed. Where there is delay in depositing concrete, reinforcing shall be reinspected and, if necessary recleaned.

3.3 EPOXY-GROUTED DOWELS:

A. Drill holes using equipment and tools specified in epoxy grout manufacturer's instructions.

B. Drill holes perpendicular to concrete surface unless otherwise indicated on drawings.

C. Drill holes to depth indicated on drawings, or minimum depth to fully develop dowels per manufacturer's data, whichever is greater.

D. Blow out with compressed air, brush, clean, and otherwise prepare holes per manufacturer's instructions.

E. Inject epoxy grout into hole per manufacturer's instructions.

F. Insert bar into hole per manufacturer's instructions.

G. Support bar, if necessary, and protect from disturbance until epoxy grout has cured.

3.4 PROPORTIONING AND MIXING

A. Proportioning of the concrete mix shall conform to the requirements of Chapter 3 "Proportioning" of ACI 301.

B. Mixing of concrete shall conform to the requirements of Chapter 7 of ACI 301.

C. Retempering of concrete or mortar which has partially hardened shall not be permitted.

3.5 PREPARATION OF SURFACES FOR CONCRETING

A. No concrete shall be placed in any structure until water entering the space to be filled with concrete has been properly cut off or has been diverted by pipes, or other means, and carried out of the forms, clear of the Work. No concrete shall be deposited underwater nor shall the Contractor allow still water to rise on any concrete until the concrete has attained its initial set. Water shall not be permitted to flow over the surface of any concrete in such manner and at such velocity as will injure the surface finish of the concrete. Pumping or other necessary dewatering operations for removing ground water, if required, shall be subject to the review of the Owners Representative.

B. Earth and rock surfaces shall be thoroughly moistened and kept moist up to the time of placing concrete thereon. The surface shall be free from standing water, mud, and debris at the time of placing concrete.

C. Concrete surfaces upon or against which concrete is to be placed, where the placement of the concrete has been stopped or interrupted so that, as determined by the Owners Representative, the new concrete cannot be incorporated integrally with that previously placed, are defined as construction joints.

1. The surfaces of horizontal joints shall be given a compacted, roughened surface for good bonding. Except where the Drawings call for joint surfaces to be coated, the joint surfaces shall be cleaned of laitance, loose or defective concrete, and foreign material, and be roughened to a minimum 1/4-inch amplitude. Such cleaning and roughening shall be accomplished by hydroblasting. Standing water shall be removed from the surface of construction joints before the new concrete is placed.

2. Vertical construction joints shall be established by placing a bulkhead in the forms. Unless otherwise indicated on the drawings, such a bulkhead shall be configured to form a key, the center portion of which shall have a width of approximately one-third the thickness of the member and a depth of approximately one-half such width, and shall have tapered sides. Joint surfaces shall be cleaned of laitance, loose or defective concrete, and foreign material.

3. When placing of concrete is to be interrupted long enough for the concrete to take a set, the working face shall be given a shape by the use of forms or other means, that will secure proper union with subsequent Work; provided that construction joints shall be made only where acceptable to the Owners Representative.

D. Embedded Items:

1. Reinforcement, anchor bolts, sleeves, inserts, and similar items shall be set and secured in the forms at locations indicated or by Shop Drawings and shall be acceptable to the Owners Representative before any concrete is placed.

2. Surfaces of forms and embedded items that have become encrusted with dried grout from previous usage shall be cleaned before the surrounding or adjacent concrete is placed.

3. Openings for pipes, inserts for pipe hangers and brackets, and anchors shall, where practicable, be provided for during the placing of concrete.

4. Anchor bolts shall be accurately set and shall be maintained in position by templates while being embedded in concrete.

3.6 HANDLING, TRANSPORTING, AND PLACING

A. Placing of concrete shall conform to the applicable requirements of Chapter 8 of ACI 301 and the requirements of this Section.

B. No aluminum materials shall be used in conveying any concrete.

C. Concrete construction joints will not be permitted at locations other than those indicated, except as may be acceptable to the Owners Representative. When a second lift is placed on hardened concrete, special precautions shall be taken in the way of the number, location, and tightening of ties at the top of the old lift and bottom of the new to prevent any unsatisfactory effect whatsoever on the concrete. Pipe stubs and anchor bolts shall be set in the forms where required.

D. The Contractor shall notify the Owners Representative at least 24 hours in advance of placement of any concrete.

E. No concrete shall be placed until formwork, embedded items, reinforcement steel, and preparation of surfaces involved in the placing have been completed and accepted by the Owners Representative at least four hours before placement of concrete.

F. No concrete shall be placed except in the presence of a duly authorized representative of the Owners Representative.

G. Concrete which during or before placing is found not to conform to the requirements indicated herein shall be rejected and immediately removed from the Work. Concrete which is not placed in accordance with these Specifications or which is of inferior quality shall be removed and replaced.

H. Placement in Wall and Column Forms:

1. Concrete shall not be dropped through reinforcement steel or into any deep form nor shall concrete be placed in any form in such a manner as to leave accumulation of mortar on the form surfaces above the placed concrete. In such cases, means such as the use of hoppers and, if necessary, vertical ducts of canvas, rubber, or metal shall be used for placing concrete in the forms in a manner that it may reach the place of final deposit without separation. In no case shall the free fall of concrete exceed 4 feet in walls or 8 feet in columns below the ends of ducts, chutes, or buggies.

2. Concrete shall be uniformly distributed during the process of depositing and in no case after depositing shall any portion be displaced in the forms more than 6 feet in a horizontal direction. Concrete in wall forms shall be deposited in uniform horizontal layers not deeper than 2 feet, and care shall be taken to avoid inclined layers or inclined construction joints except where such are required for sloping members. Each layer shall be placed while the previous layer is still soft.

3. The surface of the concrete shall be level whenever a run of concrete is stopped. To ensure a level, straight joint on the exposed surface of walls, a wood strip at least 3/4-inch thick shall be tacked to the forms on these surfaces. The concrete shall be carried about 1/2 inch above the underside of the strip. About one hour after the concrete is placed, the strip shall be removed and any irregularities in the edge formed by the strip shall be leveled with a trowel, and laitance shall be removed.

4. Sufficient illumination shall be provided in the interior of forms so that the concrete at the places of deposit is visible from the deck or runway.

I. Conveyor Belts and Chutes: Ends of chutes, hopper gates, and other points of concrete discharge throughout the Contractor's conveying, hoisting, and placing system shall be so designed and arranged that concrete passing from them will not fall separated into whatever receptacle immediately receives it. Conveyor belts, if used, shall be of a type acceptable to the Owner. Chutes longer than 50 feet will not be permitted. Minimum slopes of chutes shall be such that concrete of the required consistency will readily flow in them. If a conveyor belt is used, it shall be wiped clean by a device operated in such a manner that none of the mortar adhering to the belt will be wasted. Conveyor belts shall be covered.

J. Temperature of Concrete: The temperature of concrete when it is being placed shall be not more than 90 degrees F nor less than 40 degrees F in moderate weather, and not less than 50 degrees F in weather during which the mean daily temperature drops below 40 degrees F. Concrete ingredients shall not be heated to a temperature higher than that necessary to

keep the temperature of the mixed concrete, as placed, from falling below the required minimum temperature. If concrete is placed when the weather is such that the temperature of the concrete would exceed 90 degrees F, the Contractor shall employ effective means, such as precooling of aggregates and mixing water or using ice as necessary to maintain the temperature of the concrete, as it is placed, below 90 degrees F. The Contractor shall be entitled to no additional compensation on account of the foregoing requirements.

K. Cold Weather Placement: Placement of concrete shall conform to ACI - 306.1 - Cold Weather Concreting, and the following.

1. Earth foundations shall be free from frost or ice when concrete is placed upon or against them.

2. Maintain the concrete temperature above 50 degrees F for at least 72 hours after placement.

3.7 PUMPING OF CONCRETE

A. General: If the pumped concrete does not produce satisfactory end results, the Contractor shall discontinue the pumping operation and proceed with the placing of concrete using other methods.

B. Pumping Equipment:

1. The pumping equipment shall have 2 cylinders and be designed to operate with one cylinder only in case the other one is not functioning. In lieu of this requirement, the Contractor may have a standby pump on the Site during pumping.

2. The minimum diameter of the hose conduits shall be in accordance with ACI 304.2R - Placing Concrete by Pumping Methods.

3. Pumping equipment and hose conduits that are not functioning properly, shall be replaced.

4. Aluminum conduits for conveying the concrete shall not be permitted.

3.8 TAMPING AND VIBRATING

A. As concrete is placed in the forms or in excavations, it shall be thoroughly settled and compacted, throughout the entire depth of the layer which is being consolidated, into a dense, homogeneous mass, filling all corners and angles, thoroughly embedding the reinforcement, eliminating rock pockets, and bringing only a slight excess of water to the exposed surface of concrete. Vibrators shall be high speed power vibrators (8,000 to 12,000 rpm) of an immersion type in sufficient number and with at least one standby unit as required.

B. Concrete in walls shall be internally vibrated and at the same time rammed, stirred, or worked with suitable appliances, tamping bars, shovels, or forked tools until it completely fills the forms or excavations and closes snugly against all surfaces. Subsequent layers of concrete shall not be placed until the layers previously placed have been worked thoroughly. Vibrators shall be provided in sufficient numbers, with standby units as required, to accomplish the required results within 15 minutes after concrete of the prescribed consistency is placed in the forms. The vibrating head shall not contact the surfaces of the forms. Care shall be taken not to vibrate concrete excessively or to work it in any manner that causes segregation of its constituents.

3.9 FINISHING CONCRETE SURFACES

A. Surfaces shall be free from fins, bulges, ridges, offsets, honeycombing, bugholes, or roughness of any kind, and shall present a finished, smooth, continuous hard surface.

B. Allowable deviations from plumb or level and from the alignment, profiles, and dimensions indicated are defined as tolerances and are indicated above. These tolerances are to be distinguished from irregularities in finish as described herein.

C. Aluminum finishing tools shall not be used.

D. Unless otherwise indicated, exterior corners in concrete members shall be provided with 3/4-inch chamfers or be tooled to a 1/2-inch radius. Re-entrant corners in concrete members shall not have fillets unless otherwise indicated.

E. Formed Surfaces:

1. All formed surfaces in this Work shall be given a grout-cleaned finish after all required curing, cleaning, and repairs have been completed.

2. The grout is composed of one part Portland cement as used on the project, to two parts by volume of well-graded sand passing a No. 30 sieve mixed with water to the consistency of thick paint. Use white Portland cement for all or part of the cement as approved by the Owners Representative to give the desired finish color.

3. Moist cure surfaces to be grout-cleaned for the period of time required for Curing before application of the grout-cleaned finish. Delay grout-cleaning until near the end of construction on all surfaces not to be painted in order to achieve uniformity of appearance and reduce the chance of discoloring caused by subsequent construction operations. The temperature of the air adjacent to the surface must be not less than 40 degrees F for 24 hours prior to and 72 hours following the application of the finish. Complete the finish for any area in the same day and make the limits of a finished area at natural breaks in the finished surface.

4. Thoroughly wet the surface to receive grout-cleaned finish to prevent absorption of water from the grout but leave no free water present. Then coat the surface with grout. Apply the grout as soon as the surface of the concrete approaches surface dryness and vigorously and thoroughly rub over the area with clean burlap pads, cork floats, or stones, so as to fill all voids. The applied coating must be uniform, completely filling all pits, bugholes, and surface voids.

5. While the grout is still plastic, remove all excess grout by working the surface with a rubber float, burlap pad, or other means. Then, after the surface whitens from drying (about 30 minutes at normal temperature) rub vigorously with clean burlap pads. Tightly stretch burlap pads used for this operation around a board to prevent dishing the mortar in the voids.

6. Immediately after rubbing is completed, moist cure the finished surface for 72 hours.

F. Unformed Surfaces:

1. After proper and adequate vibration and tamping, unformed top surfaces of slabs, floors, walls, and curbs shall be brought to a uniform surface with suitable tools.

2. The classes of finish for unformed concrete surfaces are designated and defined as follows:

a. Finish U1 - Sufficient leveling and screeding to produce an even, uniform surface with surface irregularities not to exceed 3/8-inch. No further special finish is required.

b. Finish U2 - After sufficient stiffening of the screeded concrete, surfaces shall be float finished with wood or metal floats or with a finishing machine using float blades. Excessive floating of surfaces while the concrete is plastic and dusting of dry cement and sand on the concrete surface to absorb excess moisture will not be permitted. Floating shall be the minimum necessary to produce a surface that is free from screed marks and is uniform in texture. Surface irregularities shall not exceed 1/4 inch. Joints and edges shall be tooled where indicated on the Drawings or as determined by the Owners Representative.

c. Finish U3 - After the Finish U2 surface has hardened sufficiently to prevent excess of fine material from being drawn to the surface, steel troweling shall be performed with firm pressure such as will flatten the sandy texture of the floated surface and produce a dense, uniform surface free from blemishes, ripples, and trowel marks. The finish shall be smooth and free of irregularities.

d. Finish U4 - Prepare the surface as for Finish U2. Subsequently, the surface shall be given a light broom finish with brooming perpendicular to drainage unless otherwise indicated. The resulting surface shall be rough enough to provide a nonskid finish.

3. Unformed surfaces in this Work shall be finished according to the following schedule:

Surface	Finish
Top of Footings and Pile Cap	U3
Bait Shed Slab, Exterior Slabs and RC Walkway	U4

3.10 CURING AND DAMP-PROOFING

A. General: Concrete shall be cured for not less than seven days after placing, in accordance with the methods indicated below for the various parts of the Work.

Surface to be Cured	Method
Unstripped forms	1
Construction joints between footings and walls, and between floor slab and columns	2
Encasement and ductbank concrete and thrust blocks	3
Concrete surfaces not specifically provided for elsewhere in this Paragraph	4
Buried slabs and backfilled walls	5

B. Method 1: Wooden forms shall be wetted immediately after concrete has been placed and shall be kept wet with water until removal. If steel forms are used, the exposed concrete surfaces shall be kept continuously wet until the forms are removed. If forms are removed within seven days of placing the concrete, curing shall be continued in accordance with Method 4 below.

C. Method 2: The surface shall be covered with burlap mats which shall be kept wet with water for the duration of the curing period, until the concrete in the walls has been placed. No curing compound shall be applied to surfaces cured under Method 2.

D. Method 3: The surface shall be covered with moist earth not less than four hours nor more than 24 hours after the concrete is placed. Earthwork operations that may damage the concrete shall not begin until at least seven days after placement of concrete.

E. Method 4: The surface shall be sprayed with a liquid curing compound.

1. The curing compound shall be applied in accordance with the manufacturer's printed instructions in such a manner as to cover the surface with a uniform film that will seal thoroughly.

2. Where the curing compound method is used, care shall be exercised to avoid damage to the seal during the seven-day curing period. If the seal is damaged or broken before the expiration of the curing period, the break shall be repaired immediately by the application of additional curing compound over the damaged portion.

3. Wherever curing compound has been applied by mistake to surfaces against which concrete subsequently is to be placed and to which it is to adhere, compound shall be entirely removed by wet sandblasting just prior to the placing of new concrete.

4. Curing compound shall be applied as soon as the concrete has hardened enough to prevent marring on unformed surfaces, and within two hours after removal of forms. Repairs required to be made to formed surfaces shall be made within the said two-hour period; provided, however, that any such repairs which cannot be made within the said two-hour period shall be delayed until after the curing compound has been applied. When repairs are to be made to an area on which curing compound has been applied, the area involved shall first be wet-sandblasted to remove the curing compound.

5. During the curing period, no traffic of any nature and no depositing of any materials, temporary or otherwise, shall be permitted on surfaces coated with curing compound, except that foot traffic may be allowed after three days if the surface is covered with 5/8-inch plywood placed over polyethylene sheets.

F. Method 5: This method applies to both buried slabs and walls to be backfilled.

1. The concrete shall be kept continuously wet by the application of water for a minimum period of at least seven days beginning immediately after the concrete has reached final set or forms have been removed.

2. Until the concrete surface is covered with the curing medium, the entire surface shall be kept damp by applying water through nozzles that atomize the flow so that the surface is not marred or washed.

3. Heavy curing mats shall be used as a curing medium to retain the moisture during the curing period. The curing medium shall be weighted or otherwise held substantially in contact with the concrete surface to prevent being dislodged by wind or any other causes. Edges shall be continuously held in place.

4. The curing blankets and concrete shall be kept continuously wet by the use of sprinklers or other means both during and after normal working hours.

5. Immediately after the application of water has terminated at the end of the curing period, the curing medium shall be removed, any dry spots shall be rewetted, and curing compound shall be immediately applied in accordance with Method 4 above.

6. The Contractor shall dispose of excess water from the curing operation to avoid damage to the Work.

G. The Contractor may submit alternate methods of curing which maintain the concrete in a continuously wet condition for acceptance by the Owners Representative.

3.11 PROTECTION

A. The Contractor shall protect concrete against damage until final acceptance.

B. Fresh concrete shall be protected from damage due to rain, hail, sleet, or snow. The Contractor shall provide such protection while the concrete is still plastic and whenever precipitation is imminent or occurring.

3.12 CURING IN COLD WEATHER

A. Water curing of concrete may be reduced to six days during periods when the mean daily temperature in the vicinity of the Site is less than 40 degrees F; provided that, during the prescribed period of water curing, when temperatures are such that concrete surfaces may freeze, water curing shall be temporarily discontinued.

B. Concrete cured by an application of curing compound will require no additional protection from freezing if the protection at 50 degrees F for 72 hours is obtained by means of approved insulation in contact with the forms or concrete surfaces; otherwise, the concrete shall be protected against freezing temperatures for 72 hours immediately following 72 hours protection at 50 degrees F. Concrete cured by water shall be protected against freezing temperatures for 72 hours immediately following the 72 hours of protection at 50 degrees F.

C. Discontinuance of protection against freezing temperatures shall be such that the drop in temperature of any portion of the concrete will be gradual and will not exceed 40 degrees F in 24 hours. In the spring, when the mean daily temperature rises above 40 degrees F for more than three Days, 72-hour protection at a temperature not lower than 50 degrees F may be discontinued for as long as the mean daily temperature remains above 40 degrees F; provided, that the concrete shall be protected against freezing temperatures for not less than 48 hours after placement.

D. Where artificial heat is employed, special care shall be taken to prevent the concrete from drying. Use of unvented heaters will be permitted only when unformed surfaces of concrete adjacent to the heaters are protected for the first 24 hours from an excessive carbon dioxide atmosphere by application of curing compound; provided, that the use of curing compound for such surfaces is otherwise permitted by these Specifications.

3.13 TREATMENT OF SURFACE DEFECTS

A. As soon as forms are removed, exposed concrete surfaces shall be carefully examined and any irregularities shall be immediately rubbed or ground in a satisfactory manner in order to secure a smooth, uniform, and continuous surface. Plastering, parging, or other coating of surfaces to be smoothed will not be permitted. No repairs shall be made until after inspection by the Owners Representative. In no case will extensive patching of honeycombed concrete be permitted. Concrete containing minor voids, holes,

honeycombing, or similar depression defects shall be repaired as indicated below. Concrete containing extensive voids, holes, depressions, honeycombing, or similar defects shall be completely removed and replaced. Repairs and replacements shall be performed promptly.

B. Defective surfaces to be repaired shall be cut back from true line a minimum depth of ½ inch over the entire area. Feathered edges will not be permitted. Where chipping or cutting tools are not required in order to deepen the area properly, the surface shall be prepared for bonding by the removal of laitance or soft material, plus not less than a 1/32-inch depth of the surface film from hard portions by means of an efficient sandblast. After cutting and sandblasting, the surface shall be wetted sufficiently in advance of shooting with shotcrete or with cement mortar so that while the repair material is being applied, the surfaces underneath will remain moist but not so wet as to overcome the suction upon which a good bond depends. The material used for repair shall consist of a mixture of one sack of cement to 3 cubic feet of sand. For exposed walls, the cement shall contain such a proportion of white Portland cement as is required to make the color of the patch match the color of the surrounding concrete.

C. Holes left by tie-rod cones shall be reamed with suitable toothed reamers so as to leave the surfaces of the holes clean and rough. These holes then shall be repaired in an approved manner with dry-packed cement grout. Holes left by form-tying devices having a rectangular cross-section, and other imperfections having a depth greater than their least surface dimension, shall not be reamed but shall be repaired in an approved manner with dry-packed cement grout.

D. Repairs shall be built up and shaped in such a manner that the completed Work will conform to the requirements of this Section as applicable, using approved methods which will not disturb the bond, cause sagging, or cause horizontal fractures. Surfaces of repairs shall receive the same kind and amount of curing treatment as required for unrepaired concrete.

3.14 CARE AND REPAIR OF CONCRETE

A. The Contractor shall protect concrete against injury or damage from excessive heat, lack of moisture, overstress, or any other cause until final acceptance. Particular care shall be taken to prevent the drying of concrete and to avoid roughening or otherwise damaging the surface. Any concrete found to be damaged, or which may have been originally defective, which becomes defective at any time prior to the final acceptance of the completed Work, which departs from the established line or grade, or which, for any other reason, does not conform to the requirements of the Contract Documents, shall be satisfactorily repaired or removed and replaced with acceptable concrete.

END OF SECTION

SECTION 05200

STRUCTURAL ALUMINUM (GANGWAY)

1. GENERAL

1.1. DESCRIPTION

A. Provide all labor, materials, equipment and supervision necessary to complete the specified work in this section.

B. The work in this section includes but is not necessarily limited to the following:

1. Supply, fabrication, and installation of aluminum gangways.
2. Top link arm pier hinge assembly that articulates with out of plane float action.
3. Gangway roller assembly at float with associated connections, transition plates and float mounted plates to protect floats from abrasion and wear from gangway contact.
4. Guide channels to keep float from ‘walking’ on float.
5. Supply, fabrication, and installation of aluminum gangway with turntable.

C. Related work specified elsewhere includes, but is not necessarily limited to, the following:

1. Timber Floats under TIMBER FLOATS, SECTION 06400
2. Metal fasteners under MISCELLANEOUS METALS, SECTION 05600
3. Concrete under CONCRETE, SECTION 03300

1.2. QUALITY ASSURANCE

A. Except as noted, work shall conform to the latest editions of the following codes specifications and standards:

1. Aluminum Association Specifications for Aluminum Structures - Allowable Stress Design.
2. Americans with Disabilities Act Accessibility Guidelines (ADAAG).
3. American Welding Society AWS D1.2 Structural Welding Code - Aluminum.

B. The aluminum gangways shall be fabricated by a company specializing in the fabrication of these items with a minimum of 5 years documented experience.

C. The Contractor shall ensure the aluminum gangway provided works over the extreme tide range; Elevation -3.07 to Elevation +13.35 (MLLW) and without potential damage to gangway and associated structural elements.

D. Welders shall have current certifications to weld the various materials and positions to be incorporated in the work.

E. Welding procedures shall be in accordance with AWS D1.2 - Structure Welding Code, Aluminum and Aluminum Construction Manual, Section 5 as applicable.

F. Independent Weld Inspection: Contractor shall obtain the services of an independent testing laboratory, satisfactory to the Owner, to perform weld inspection utilizing visual, ultrasonic or other techniques applicable to aluminum welding.

1.3. SUBMITTALS

A. Submit for approval by Owner the following items:

1. Aluminum manufacturers qualifications

2. Independent Weld Inspector qualifications

3. Design Calculations including:

   a. Design calculations of all structural components and connections in a clear organized and readable form acceptable to the Owner, complete with the signature and seal of a Registered Professional Engineer, licensed in the State of Maine, responsible for the work.

   b. Designed to meet the load requirements in accordance with AASHTO “Guide Specifications for Design of Pedestrian Bridges” (latest edition) including:

      i. Dead load of structure.

      ii. Pedestrian live load of 100 pounds per square foot across the clear distance between handrails for the length of the element.

      iii. Wind load for 100 mph wind per Section 1.2.2 of the AASHTO Guide.

      iv. Allowable deflection under a Live Load of 50 PSF equal or less than the length divided by 360 (L/360).

   c. AASHTO Guide Section 1.3.4 Minimum Thickness of Metal is not applicable to aluminum design specified herein.

4. Material Data: Submit material dimensional and engineering property data of all shapes incorporated into the work. .

5. Shop Drawings: Detailed shop drawings illustrating all structural shapes and connects for review and acceptance and shall indicate all material thicknesses, dimensions and show in detail all connections and welds for approval prior to fabrication.

6. Submit field AWS D1.2 welder qualifications to the Owner for verification of current certification.

7. Submit field and fabrication shop AWS D1.2 welding procedures to the Owner for review prior to the start of welding.

8. Submit field in-process and final welding inspection reports performed by an American Welding Society (AWS) Certified Welding Inspector (CWI).

2. PRODUCTS

2.1 MATERIALS

A. Material and components used shall be new and shall be free from defects which would adversely affect the performance or maintainability of individual components or of the overall assembly or structure. Materials not specified herein shall be of the same or higher quality used for the intended purpose in commercial practice.

B. All aluminum assemblies shall be fabricated from aluminum alloy 6061-T6.

C. All welded connections shall be Gas Metal Arc Welded (GMAW, also known as "MIG" welding) in accordance with AWS standards.

D. The decking for the gangways shall be non-skid with either a raised rib profile with the ribs no higher than ¼ inch and perpendicular to the flow of traffic or covered with a uniform carborundum surface. Surfaces capable of having a slope of 1:33 or greater shall have a static coefficient of friction of 0.8 or greater when wet. Surfaces where the slope will always be less than 1:22 shall have a static coefficient of friction of 0.5 or greater when wet.

2.2 CONNECTION HARDWARE

A. All nuts, bolts and washers shall be stainless steel ASTM Series 300, type 316.All nuts shall be self-locking or provide double nuts on each bolt.

B. The gangway connection pins and sleeves shall be type 316 stainless steel.

C. All dissimilar metals shall be separated by plastic separation sheets or bushings not less than 1/16 inch thick. The separation sheets shall be Nylatron-GS, plastic sheet conforming to Military Specification MIL-P-15035 or other suitable material for precluding galvanic corrosion.

3. EXECUTION

3.1 WELDING

A. Surfaces of parts to be welded shall be free from scale, paint, grease, or other foreign matter. Welds shall be sufficient size and shape to develop the full strength of the parts connected by the welds. Welds shall transmit stress without permanent deformation or failure when the parts connected by the weld are subject to proof and service loading.

B. Deficiencies revealed by this inspection shall be repaired at Contractor's expense. Inspection reports and deficiency correction reports shall be submitted to the Owner.

3.2 PREPARATION/INSTALLATION

A. Fabricate and install in accordance with the Aluminum Association Specifications for Aluminum Structures and American Welding Society Standards.

B. Gangways shall be continuous, no splices

C. Inspection of all field and shop fabrication welding shall be performed by an AWS CWI. CWI shall perform in process and final inspections and testing as required to certify that all work has been completed in accordance with these specifications and referenced codes. This shall include final inspection on 100% of complete welds.

D. Field in process and final welding inspection reports shall be provided to the Owner.

4. MEASUREMENT AND PAYMENT

Refer to Section 01025- Measurement and Payment for a description of Lump Sum and Unit Price Bid Items that correspond to the tabulated bid schedule for the project.

END OF SECTION

SECTION 05500

METAL FABRICATIONS

1. GENERAL

1.1. DESCRIPTION

A. Provide all labor, materials, equipment, and supervision necessary to complete work specified in this Section.

B. Scope of work includes, but is not necessarily limited to, manufacturing or shop-fabricating metal elements, itemized under MATERIALS in this Section.

1.2. QUALITY ASSURANCE

A. Except as noted, work shall conform to the following codes and standards:

1. American Society for Testing and Materials (ASTM), latest edition.
2. American Institute of Steel Construction (AISC) Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings, latest editions.
3. American Welding Society (AWS).

1.3. SUBMITTALS

A. Shop drawings

1. Submit for approval prior to fabrication all information necessary for the fabrication of the component parts. Indicate size and weight of members, type, and location of shop and field connections, the type, size, and extent of all welds, and welding sequences. Use American Welding Society welding symbols. Approval of shop drawings will be for size and arrangement of principal and auxiliary members and strength of connections. Any errors in dimensions shown on shop drawing shall be the responsibility of the Contractor.

B. The Contractor shall use only certified welders and the shielded arc process for all welding performed in connection with the work of this Section. Each welder shall be certified for the particular work, prior to commencing the work, which must be accomplished.

C. Upon completion of this portion of the work, and as a condition of its acceptance, the Contractor shall deliver to the Engineer a letter signed by an official of the miscellaneous metal fabricating firm or firms certifying that all fabricated metal has been fabricated in complete accordance with this Section of these specifications.

1.4. PRODUCT HANDLING

A. All materials shall be delivered, stored and handled with care to prevent damage to any material or material coating. Material damaged or with damaged coating will be rejected and replaced at no additional cost to the Owner.

2. MATERIALS

2.1. STRUCTURAL STEEL AND MISCELLANEOUS ITEMS

A. Structural steel, including rolled shapes, angles and plates, shall conform the following specifications

1. W, WT SHAPES ——— ASTM A992 ——— (FY=50 KSI)
2. HP SHAPES ——— ASTM A572 GR. 50 ——— (FY=50 KSI)
3. S, M, C, MC, & L SHAPES ——— ASTM A36 ——— (FY=36 KSI)
4. SQUARE & RECTANGULAR HSS ——— ASTM A500 GR. B ——— (FY=46 KSI)
5. ROUND HSS ——— ASTM A500 GR. B ——— (FY=42 KSI)

B. All steel items under this section shall be galvanized. Galvanizing shall be by the hot dip method according to ASTM Specifications A-123 and A-153.

2.2. WELD ELECTRODES

A. Weld rod shall conform to AWS E70XX grade.

3. EXECUTION

3.1. FABRICATION

A. Fabricate products in a fully-equipped facility capable of producing high grade of metal fabrication work. All work shall be straight and true, free from warpage and other defects. joints, covers, copes, and miters shall be accurately and neatly cut, machined, filed and fitted.

B. Carry out bolting and welding in accordance with latest approved methods, with due consideration for strength and appearance of finished product. All welding shall be done by certified welders.

C. All steel will be free from imperfections, dirt, loose scale, paint, oil, or other foreign substances.

D. All welds shall be made watertight.

E. All material shall be fabricated to within + or - 1/8 inch of their theoretical dimensions as shown on the drawings.

F. Holes for bolts shall be located as shown on the drawings and shall be drilled or burnt 1/8" in diameter larger than the galvanized bolt.

3.2. INSTALLATION

A. Store materials on skids, not on ground, in such a fashion as to prevent bending, twisting, or similar damage. Do not dump steel off truck.

B. Clean installed work from weld spatter, dirt and other foreign materials. Protect installed work as required from damage by subsequent building operations.

3.3. DEFECTIVE WORK

A. Any parts damaged or improperly fabricated shall be removed and replaced or corrected as directed by the Engineer and at no additional cost to the Owner.

4. METHOD OF MEASUREMENT AND PAYMENT

4.1. METHOD OF MEASUREMENT AND PAYMENT

A. No separate measurement or payment shall be made for the work in this Section. Measurement and Payment for this item shall be included within the work it is associated with.

END OF SECTION

SECTION 05600

MISCELLANEOUS METALS

1. GENERAL

1.1. DESCRIPTION

A. Provide all labor, materials, equipment, and supervision necessary to complete the work specified in this Section.

B. Scope of work includes:

1. Machine bolts and washers
2. Anchor and expansion bolts
3. S.S. hardware
4. Eye bolts
5. Chain and shackles
6. Mooring hardware (cleats and bollards)
7. Fabricated steel elements
8. All other hardware not specified elsewhere

C. Related work specified elsewhere:

1. Concrete under REINFORCED CONCRETE, SECTION 033000.
2. Metal fabrications under METAL FABRICATIONS, SECTION 05500.
3. Timber under HEAVY TIMBER CONSTRUCTION, SECTION 06130.

1.2. QUALITY ASSURANCE

A. Except as noted elsewhere, work shall conform to the following codes and standards:

1. American Society for Testing and Materials (ASTM).
2. American Welding Society (AWS).
3. American Institute of Steel Construction (AISC).

1.3. SUBMITTALS

A. Shop drawings for all shop fabricated items shall be submitted to the Engineer for approval before beginning fabrication.

B. Certificate of compliance with applicable ASTM specifications for all galvanized items shall be submitted to the Engineer with all materials delivered to the fabricator or site.

C. Manufacturer's literature and specifications for all fasteners, wire rope, chains, shackles, expansion bolts, and other connection items identified within the contract drawings.

D. List of all other hardware with quantities and material specifications.

1.4. PRODUCT DELIVERY, STORAGE, AND HANDLING

A. All materials shall be delivered, stored and handled with care to prevent damage to any material or material coating. Material damaged or with damaged coating will be rejected and replaced at no additional cost to the Owner.

2. PRODUCTS

2.1. MATERIALS

A. Structural Steel Shall conform to the specifications in METAL FABRICATIONS, SECTION 05500.

B. Machine and eye bolts shall conform to ASTM A307, Gr. A for Mild Steel Bolts unless otherwise noted.

C. All bolted connections of steel members shall be A325, Type 1 bolts and nuts with manufacturer markings that indicate such, unless otherwise specified.

D. All bolted connections of timber members shall be ASTM A-307 for Mild Steel unless otherwise specified.

E. Anchor bolts to concrete shall conform to ASTM F1554, Gr. 55 unless otherwise noted.

F. All chains, cable, shackles, and connecting links shall be the size and capacity shown on the drawings.

G. All stainless steel shall be Series 300, type 316, except pipe hangers and pipe clamps where stainless-steel Series 300, type 304 is permitted.

H. All steel items under this section shall be galvanized. Galvanizing shall be by the hot dip method according to ASTM Specifications A-123 and A-153.

I. Welding rods shall conform to AWS E70XX grade. Sizes shall be as indicated on the drawings.

3. EXECUTION

3.1. FABRICATION

A. Fabrication shall conform to AISC Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings.

B. Workmanship shall be equal to standard commercial practice.

C. All materials shall be clean and straight. Each assembly shall be accurately fabricated to the lines and dimensions called for and shall be free from undue twists, bends, warping, distortion, and other irregularities.

D. Assemblies shall be fabricated to within + or - 1/8 inch of their theoretical dimensions.

3.2. INSTALLATION

A. Installation shall conform to AISC Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings.

B. Parts covered by this specification shall be installed in the work as shown on the drawings.

C. No cutting or burning of steel shall be done to install fasteners without approval of the Engineer.

3.3. DEFECTIVE WORK

A. The following shall be grounds for rejection and replaced at no additional cost to the Owner:

1. Any damaged parts.
2. Any parts improperly installed in the work.
3. Any items found not to have the proper coating.
4. Otherwise not according to Contract Documents.

4. MEASUREMENT AND PAYMENT

4.1. METHOD OF MEASUREMENT AND PAYMENT

A. No separate measurement or payment shall be made for the work in this Section. Measurement and Payment for this item shall be included within the work it is associated with.

END OF SECTION

SECTION 06125

WOOD DECKING

1. GENERAL

1.1. WORK INCLUDED

A. Softwood lumber decking.

B. Pressure impregnated preservative treatment.

1.2. RELATED WORK

A. Section 05500 - Metal Fabrications.

B. Section 06130 – Heavy Timber Construction.

1.3. REFERENCES

A. Grading Standards and material properties set by the following organizations:

1. ALSC - American Lumber Standard Committee, Inc.
2. SPIB - Southern Pine Inspection Bureau
3. AITC - American Institute of Timber Construction
4. AWPA - American Wood-Preservers' Association

1.4. QUALITY ASSURANCE

A. Manufacturer: Company specializing in production and supply of heavy timber framing certified by AITC with three years minimum experience.

B. Timber Preservative Treatment: Each piece of treated lumber or timber shall be branded by the producer in accordance with AWPA M6.

1.5. SUBMITTALS

A. Submit shop product data in accordance with provisions of Section 01300.

1.6. DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in accordance with provisions of Section 01600.

B. Store and protect products in accordance with provisions of Section 01600.

2. PRODUCTS

2.1. MATERIALS

A. Grading Rules: Comply with current published standards of the Southern Pine Inspection Bureau (SPIB).

B. Lumber Decking: Southern Yellow Pine species, No. 1 grade, surface four sides nominal dimensions indicated, 19% moisture content prior to treating and kiln dried to 25% after treating.

2.2. ACCESSORIES

A. Fasteners: Spiral shanked nails or spikes; galvanized, size and type to suit condition or as indicated on the Drawings.

2.3. WOOD TREATMENT

A. ACQ (Alkaline Copper Quaternary formulation) Treatment preservative with lbs./cf. retention as indicated on Sheet G-2 or approved equal.

B. For site applications to sawn ends coat with Cuprinol clear preservative.

C. Substitutions: In accordance with provisions of Section 01600.

3. EXECUTION

3.1. INSPECTION

A. Verify that surfaces are ready to receive decking.

B. Beginning of installation means acceptance of existing conditions.

3.2. PREPARATION

A. Coordinate placement of support items.

3.1. SITE APPLIED WOOD TREATMENT

A. Treat sawn ends after installation with preservative coating following installation.

B. Allow preservative to cure prior to erecting members.

3.2. INSTALLATION - LUMBER DECKING

A. Make decking of a single thickness of plank supported by stringers or joists. Unless otherwise indicated, lay plank with heart side down and with tight joints. Spike each plank to each joist with not less than two fasteners. Provide nails at least 4 inches greater than the thickness of plank. Place spikes not less than 2-1/2 inches from edges of the plank. Cut off ends of plank on a line parallel to centerline of pier. Grade planks as to thickness and lay so those adjacent planks vary no more than 1/16-inch.

B. Maintain deck joints of 1/16 inch.

3.3. TOLERANCES

A. Surface Flatness of Deck: 1/4 inch in 10 feet maximum.

END OF SECTION

SECTION 06130

HEAVY TIMBER FRAMING

1. GENERAL

1.1. WORK INCLUDED

A. Heavy structural timber for float framing.

B. Pressure impregnated preservative treatment.

C. Connection hardware.

D. Provide all labor, materials, equipment, and supervision necessary to complete the work specified in this Section.

E. The work includes, but is not limited to, the installation of the following:

1. Deck planking
2. Joists
3. Pile caps
4. Pile bracing
5. Blocking
6. Handrail cap, cap supports, and posts

1.2. RELATED WORK

A. Section 02361 – Timber Piles.

B. Section 05500 – Metal Fabrications.

C. Section 06400 – Timber Treatment.

1.3. QUALITY ASSURANCE

A. Lumber Grading Agency: Certified by ALSC.

B. Manufacturer: Company specializing in manufacture of heavy timber framing certified by AITC with three years minimum experience.

C. Timber Preservative Treatment: Each piece of treated lumber or timber shall be branded by the producer in accordance with AWPA M6.

1.4. SUBMITTALS

A. Submit product data in accordance with provisions of Section 01300.

B. Certified Inspection Report by an independent inspection agency stating that timber products comply with applicable AWPA standards.

2. PRODUCTS

2.1. MATERIAL

A. Lumber Grading Rules: Comply with SPIB.

B. Lumber: Stress group Southern Yellow Pine species; surface four sides. Grade and moisture content indicated on Sheet G-2.

2.2. ACCESSORIES

A. Drift Pins, Bolts, Nuts, Washers, Lags, Stainless Steel screws, spiral-shanked nails, and Screws: Medium carbon steel; galvanized coating; size and type to suit application.

2.3. FINISHES

A. Galvanize connectors in accordance with ASTM A123.

2.4. WOOD TREATMENT

A. Wood preservative (pressure treatment): Refer to treatment designation and rating in the Timber Schedule on Sheet G-2.

3. EXECUTION

3.1. ERECTION

A. Set structural members level and plumb, in correct position.

B. Make provision for erection loads, and for sufficient temporary bracing to maintain structure safe, plumb, and in true alignment until completion of erection and installation of permanent bracing.

C. Cut and frame all lumber and timber so that joints will fit over contact surface. Secure timbers in alignment. Open joints are unacceptable. Shimming is not allowed. Bore holes for drift pins and dowels with a bit 1/16-inch (2mm) less in diameter than the pin or dowel. Bore holes for lag screws in two parts. Make lead hold for shank the same diameter as shank. Make lead hole for the threaded portion approximately two-thirds of the shank diameter. Bore holes in small timbers with a bit of the same diameter or smallest dimension of the spike to prevent splitting. Countersink wherever smooth faces are indicated or specified.

D. Stringers: Place crown up and, if possible, the better edge of deck stringers down. Tops of stringers shall not vary from a plane more than will permit bearing of the deck on all stringers. Butt joint and splice outside stringers, lap interior stringers to take bearing over full width of cap or floor beam at each end. Break joints if stringers cover two spans. Toenail or drift bolt stringers as indicated. Stringers may be of sufficient length to cover two spans. Between stringers, frame, and toenail solid bridging at each end with at least four nails for solid bridging. Make size of bridging same as stringer. Prior to placing plank on stringers, cover entire length of top surface with ice and water shield to waterproof top surface.

E. Fastening: Use washers of the size and type specified under bolt heads and nuts in contact with wood. Burr threads of all bolts after nuts have been finally tightened. Vertical bolts shall have nuts on the lower end. Where bolts are used to fasten timber-to-timber, timber to concrete, or timber to steel, bolt members together when they are installed and retighten immediately prior to final acceptance of contract. Provide bolts having sufficient additional threading to provide at least 3/8-inch per foot thickness of timber for future re-tightening. Provide timber connectors of types indicated.

F. Do not field cut or alter structural members without approval of Engineer.

3.2. FIELD TREATMENT

A. Timber work: Field treat all cuts, bevels, notches, re-facing and abrasions made in the field in treated piles or timbers in accordance with AWPA M4. Trim all cuts and abrasions before field treatment. Paint all depressions or openings around bolt holes, joints, or gaps including recessed formed by counter-boring, with preservative treatment used for timber.

B. Timber work: Field treat all cuts, bevels, notches, re-facing and abrasions made in the field in treated piles or timbers in accordance with AWPA M4. Trim all cuts and abrasions before field treatment. Paint all depressions or openings around bolt holes, joints, or gaps including recessed formed by counter-boring, with preservative treatment used for timber.

C. Piling and Post Protection: In accordance with AWPA M4, immediately after pile or post tops are cut off and prior to placement of pile cap, protect pile or post top with several heavy applications of the same preservative used to treat the pile or post. Ends shall be sealed with a heavy application of coal-tar pitch or other appropriate sealer.

D. Galvanized Surfaces: Repair and recoat zinc coating which has been field or shop cut, burned by welding, abraded, or otherwise damaged to such an extent as to expose the base metal. Thoroughly clean the damaged area by wire brushing and remove all traces of welding flux and loose or cracked zinc coating prior to painting. Paint cleaned area with two coats of zinc oxide-zinc dust paint conforming to Mil. Spec. DOD-P-21035. Compound paint with a suitable vehicle in a ratio of one part zinc oxide to four parts zinc dust by weight.

END OF SECTION

SECTION 06310

TIMBER TREATMENT

1. GENERAL

1.1. DESCRIPTION

A. Provide all labor, materials, equipment, and supervision necessary to complete the work specified in this Section.

B. Scope of work includes:

1. The treatment of timber members with a wood preservative.

2. The field application of all timber subject to field cutting.

C. Related work specified elsewhere:

1. Timber under HEAVY TIMBER CONSTRUCTION, SECTION 06130.

1.2. QUALITY ASSURANCE

A. Except as noted all work shall conform to the latest editions of the following codes, specifications, and standards.

1. American Society for Testing and Materials (ASTM) D-25.

2. American Wood Preservatives Association (AWPA).

2. PRODUCTS

2.1 MATERIALS

A. All new Southern Yellow Pine members to which the public may be exposed shall be treated with alkaline copper quaternary (ACQ) in accordance with AWPA standard P5 and U1-UC4B for materials subject to saltwater splash or an approved equivalent.

3. EXECUTION

3.1 GENERAL

A. Prior to treatment all dimension lumber shall be kiln dried. Conditioning by heating is not permitted.

B. All timber to be treated with alkaline copper quaternary (ACQ) shall be treated to a retention of 0.6 pounds per cubic foot.

C. Sealing compound for treatment of field cuts and drilled holes shall be two (2) coats of copper naphthenate meeting AWPA standard p8.

D. No treatment of tropical hardwood is required.

4. MEASUREMENT AND PAYMENT

4.1. METHOD OF MEASUREMENT AND PAYMENT

A. No separate measurement or payment shall be made for the work in this Section. Measurement and Payment for this item shall be included within the work it is associated with.

END OF SECTION

SECTION 06400

FLOATING DOCKS - TIMBER

1. GENERAL

1.1 RELATED DOCUMENTS

A. Maine Department of Transportation Standard Specification; March 2020 Edition and in accordance with Special Provisions, Supplemental Specifications and Standard Detail updates provided in this Project Manual.

1.2 SCOPE OF WORK

A. Offsite design, fabrication, delivery, and installation of new timber floats sized in accordance with the drawings.

1. Refer to Drawings for location, float dimensions and connectivity.
2. The work shall include all timber materials, fendering, drum floatation units, hardware, cleats, and pile guides as specified and necessary for the installation.
3. New floats shall have a 2”x6” ACQ (0.60) pressure treated southern yellow pine No. 1 grade deck unless otherwise specified on the drawings.
4. All new floats shall be built with integral longitudinal pressure treated skids to facilitate seasonal removal from the water.
5. All new floats are to be fitted with a hinge and pin connection system provided by the same supplier.
6. Provide experienced personnel from manufacturer to assist and supervise the field installation, float mooring tackle, and anchor installation, and adjustment of the floats once installed.
7. The Contractor shall supply any and all labor, materials, tools, equipment, trucking, disposal, permits, survey, supervision, and any incidentals necessary to complete the work under this Section.
8. Contractor shall submit shop drawings for the proposed floats stamped by a Maine Registered Professional Engineer.

B. Related work specified elsewhere includes:

1. Timber Piles under ROUND TIMBER PILES, SECTION 02317
2. Aluminum Gangway under STRUCTURAL ALUMINUM, SECTION 05200
3. Metal brackets and fabrications under METAL FABRICATIONS, SECTION 05500.
4. Fasteners, chains, and connectors under MISCELLANEOUS METALS, SECTION 05600.
5. Timber treatment under TIMBER TREATMENT, SECTION 06310.

1.3 QUALITY ASSURANCE

A. Except as noted, work shall conform to the latest editions of the following codes specifications and standards.

1. American Society for Testing and Materials (ASTM)
2. American Welding Society (AWS)
3. American Institute of Steel Construction (AISC)
4. American Institute of Timber Construction (AITC)
5. American Wood-Preservers Association (AWPA)

B. Manufacturers of the float system must meet the following requirements:

1. Have a minimum of 5 years experience in the design, production, and installation of timber floating dock systems.
2. Warrant the product for a minimum of one year.
3. Design life of the product is to be a minimum of 15 years with minor maintenance.

1.4 SUBMITTALS

A. Submit shop drawings and list of hardware under provisions of Section 01300. Drawings shall detail the following elements:

1. All framing elements, including skids, main and secondary joists, spanner boards, decking and bracing.
2. All hardware connection assemblies include face and backing plates, brackets, hinges, and float connecting pins.
3. Location and mounting details for each drum.

B. Certifications/ Warranties

1. Timber material pressure treated certification shall be provided.
2. The float drum manufacturer shall provide a written warranty that certifies the product to include all labor and materials for repairs required during a fifteen (15) year period from date of installation.

1.5 PRODUCT HANDLING

A. System components shall be handled and stored with care to prevent damage. Damaged members will be rejected and replaced at no additional cost to the Owner.

2. PRODUCTS

2.1 FLOAT LAYOUT

A. The proposed floats, mooring piles and anchoring systems are shown on the accompanying drawing(s). Noted are locations and sizes of the gangway(s) and timber floating dock(s).

2.2 MANUFACTURERS

A. Float Drums; Hardware, Fasteners:

1. Custom Float Services; 36 Union Wharf; Portland, Maine 04112; 207-772-3796; http://www.customfloat.com/
2. Seaport Marine Corporation; PO Box 3108; Chesapeake, VA 23327; (757) 436-4400; http://www.seaport-marine.com/
3. Fendering: Proprietary marine fendering by Edgepro; 1.5 plf min. weight; minimum 3-inch vertical x 1.1-inch offset profile; fastened with #12 x 1-1/4" stainless steel pan head screws with finish washers @ 6-inch spacing.
4. Approved Equal.

2.3 METAL PLATE

A. Structural steel weldments and shapes shall conform to ASTM A-36 and be hot-dip hot dip galvanized after fabrication in accordance with ASTM a-123.

B. All metal brackets and timber connection assemblies shall have a minimum thickness of 3/8-inch.

C. All corner pieces, connections, and attachments to have backing plates that are a minimum of ¼-inch.

2.4 FLOTATION

A. Flotation shall be comprised of modular drum units bolted to the main float frame assembly with the following parameters.

B. The units shall comprise a foam filled heavy duty polyethylene shell suitable for long-term exposure to the marine environment.

C. Float drums shall be rotationally molded polyethylene and shall meet Army Corps of Engineers absorption rate standards. Minimum wall thickness is 3/16"

D. All units shall be through bolted to the timber float frame.

E. The number of floatation units installed on each float shall be adequate to provide a stable float platform that meets the following design criteria.

1. Float Freeboard and live load capacity shall be as indicated on the drawings.
2. Floatation shall consider the weight of the gangways such that the entire float system is level when installed.

2.5 TIMBER

A. Float Framing: Pressure Treated Southern Yellow Pine No. 2; 1.0 pcf CCA or equivalent. Main and secondary members shall be a nominal 4-inch-wide section. Fascia members may be nominal 2-inch-wide section.

B. Exposed decking, trim, fascia boards, subject to human contact: Pressure Treated Southern Yellow Pine No. 1; 0.60 pcf ACQ or equivalent.

2.6 FLOAT HARDWARE

A. All float hardware and fasteners shall be hot-dipped galvanized unless otherwise noted.

1. Deck fasteners shall be #10x4" square drive 316-stainless steel deck screws located as per deck manufacturer's specification.

2. Bolts: Hot dip galvanized A301. Exposed fasteners to be carriage bolts or countersunk to prevent damage to boats. Minimum Bolt size shall be ½" carriage bolts.

3. All construction joints, inside, outside corners, blocking and cleat locations shall have heavy duty hot-dipped-galvanized hardware applied.

4. Corner hardware shall be 3/8" plate with 2 and 3-tab (1/2-inch) connections to accept a 1" diameter pin.

5. Cleats shall be 12" long heavy duty, 10-lb weight, hot-dipped-galvanized and fastened to float frame with thru-bolts and steel backing plates.

2.7 FLOAT CONNECTIONS

A. Float to Float connections shall be with a three (3) tab pin connection.

B. Refer to drawings for guide pile connection.

C. Mooring Cleats: All cleats and other vessel tie-up hardware shall be as shown on the contract drawings. All tie-downs shall be through-bolted to the float structure and have sufficient bolting and dock structure to withstand 1.5 times the rated strength capacity of the hardware. All tie-downs and hardware shall be of non-corrosive metal. 8-inch cleats shall be provided unless otherwise noted.

D. All steel utilized within the system shall be hot-dip galvanized according to ASTM A-123 and A-153. All structural steel shall be fabricated from ASTM A-36 grade steel. All bolts, nuts, and washers shall be fabricated in accordance with ASTM 307. Fabrications shall meet the provisions of specification Section 05500.

E. Gangway landings onto timber floats shall have aluminum bearing plate (1/8-inch minimum thickness) with sufficient length and width for maximum gangway movement and shall attached to float where new gangway bears on new timber float. Plates shall be secured with countersunk stainless-steel screws.

1. Aluminum members shall be grade 6061-T6 with bolted or welded connections.

2. All bolts or fasteners in contact with aluminum members shall be non-metallic or 6061 aluminum or 316 stainless steel.

3. Aluminum fabrications shall meet the provisions of specification Section 05200.

F. Stainless Steel: All stainless steel shall conform to Type 18-8 (300 Series), 316 and shall meet the provisions of specification Section 05600.

3. EXECUTION

3.1 INSTALLATION - GENERAL

A. Floats shall be launched, connected, and temporarily restrained in place prior to final adjustment of restraining lines. The float layout shall be observed throughout the tide cycle and approved by the Town prior to acceptance.

B. All holes and cuts in treated timbers made after the pressure-treated process shall be given 2 brush coats of CCA preservative; the second application to be made after the first has been fully absorbed.

C. Timber decking shall be edged with a minimum ¼ inch radius or chamfer.

3.2 FLOAT ADJUSTMENT

A. All connections shall be designed to be accessible, adjustable, and positioned to facilitate seasonal removal.

B. The Contractor shall adjust the float system when installed to minimize movement of the float system through the tide cycle and ensure correct performance of the gangway. Adjustments shall be made as required to maintain float location to the satisfaction of the Town.

C. During the first season, the Contractor will be responsible for additional adjustments that may be required to prevent unreasonable movement throughout the tide cycle.

3.3 DEFECTIVE WORK

A. Any damaged portions shall be replaced as directed by the Owner at no additional cost to the Owner.

B. Any improperly installed components shall be removed and replaced or corrected as directed by the Owner at no additional cost to the Owner.

4. MEASUREMENT AND PAYMENT

4.1 METHOD OF MEASUREMENT AND PAYMENT

A. Refer to Section 01025 MEASUREMENT and PAYMENT for a description of Bid Items and method of measurement and payment.

END OF SECTION

Appendix A

Project Permits

DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

IN THE MATTER OF

TOWN OF WELLS Wells, York County	) NATURAL RESOURCES PROTECTION ACT) COASTAL WETLAND ALTERATION) SIGNIFICANT WILDLIFE HABITAT
TOWN PIER AND FLOAT EXPANSION L-19141-4P-AD-N	) WATER QUALITY CERTIFICATION) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of 38 M.R.S. §§ 480-A–480-JJ, Section 401 of the Clean Water Act (33 U.S.C. § 1341), and Chapters 310, 315, and 335 of Department rules, the Department of Environmental Protection (Department) has considered the application of TOWN OF WELLS (applicant) with the supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

A. History of Project: In Board Order #L-19141-4E-B-N, dated July 14, 1998, the Board approved dredging approximately 177,600 cubic yards (CY) of material to restore the entire Federal Navigation Project (FNP) to its authorized depths and the dredging of the town anchorages to an equivalent depth. That dredging activity was conducted from September to December 2000. The applicant also replaced 85 existing granite mooring anchors with 18, 12-inch diameter piles for the float strings located at the east-side Town pier. The piles were driven into the sand substrate following dredging of the FNP and the mooring areas authorized in Department Order #L-19141-4E-E-N/L-19141-TW-F-N/L-19141-FS-G-N/L-19141-4G-H-N, dated November 30, 2011. Subsequent Department Orders have approved numerous maintenance dredges of the town anchorage. In Department Order #L-19141-4E-W-N/L-19141-FS-X-N/L-19141-TW-Y-N/L-19141-4G-Z-N, approved December 15, 2023, a maintenance dredge of the two Town anchorage areas (east and west) was conducted and dredge material placed on Wells Beach for beach nourishment (PBR# 78881) in coordination with the Corps dredge activity authorized in Department Order #L-19141-4E-Q-N/L-19141-FS-S-N/L-19141-TW-R-N/L-19141-4G-S-N. Both the dredge and beach nourishment were completed April 2024. Most recently, in Department Order #L-19141-4P-AA-N/L-TW-AB-N/L-19141-FS-AC-N, approved April 26, 2024, the Department approved the reconfiguration and expansion of the municipal mooring field with new floats, moorings, and timber piles, resulting in 28 square feet of direct impacts due to the support piles, as shown in the as-built plans referenced below.

B. Summary: The applicant is proposing to expand the town pier structure and docking facility in order to support commercial and recreational demand at the facility. The expansion of the permanent pier will consist of an approximately 30-foot long by 22-foot wide section of additional permanent with approximately 650 square feet of pier area landward and south of the existing pier, and an approximately 25-foot long by 40-foot wide section of additional

permanent pier with approximately 800 square feet of additional pier area landward of the most landward floats on the north side of the existing structure. The proposed pier expansions will result in approximately 21 square feet of new direct impacts to the coastal resource due to 21 timber piles, and approximately 1,189 square feet of new indirect impacts due to shading. The permanent pier additions will be supported by new concrete abutments in the upland adjacent to the coastal wetland. The proposed expansion will also include a five-foot wide by 80-foot long Americans with Disabilities Act (ADA)-compliant ramp that will result in approximately two square feet of new direct impacts due to two timber piles and approximately 371 square feet of new indirect impacts due to shading. The applicant proposes to add five new floats to the existing float system: one new 16-foot wide by 18-foot long float, two new six and one-half-foot wide by 24-foot long floats, and two new six and one-half-foot wide by 16-foot long floats, all of which will be associated with the new proposed permanent pier addition and will result in approximately five square feet of new direct impacts due to six timber piles and approximately 795 square feet of new indirect impacts due to shading.

The applicant also proposes two new stand-alone 11.5-foot wide by 32-foot long floats in the river on the opposite side of the channel to expand the mooring field that will result in approximately four square feet of new direct impacts as the result of four timber piles and 736 square feet of new indirect impacts as the result of shading. In total, the proposed project will result in 32 square feet of new direct impacts and 3,091 square feet of new indirect impacts. The project is shown on a set of plans titled "Wells Harbor Pier Expansion," prepared by GEI Consultants, Inc., dated January 9, 2025, and last revised April 23, 2025. The project site is located at the end of Harbor Road in the Town of Wells.

C. Current Use of the Site: Wells Harbor is the largest public anchorage between York Harbor and Saco Bay, and is heavily used by commercial fishermen and seasonal, recreational boaters. Located at the mouth of the Webhannet River, it is bound to the northeast and southeast by two barriers islands whose seaward sides are the highly developed Drake's Island Beach and Wells Beach, respectively. It is also located within the Webhannet estuary, which is an undeveloped marsh and part of the Rachel Carson National Wildlife Refuge. The Town pier, boat launch and landing are located on the west side of the project site adjacent to the Rachel Carson National Wildlife Refuge. At this site there is an existing float system and mooring field associated with the Town pier.

The Town of Wells established a conservation easement over a 4.7-acre intertidal sandbar within the harbor to the Maine Department of Agriculture, Conservation, and Forestry (MDACF). This sandbar is located between the two anchorage areas, just east and south of the federal navigation channel. This easement protects the sandbar from any future dredging, sand collection, mining, or intentional sand removal as it has been determined to be an existing waterbird habitat. The proposed mooring reconfiguration does not include any work within the Conservation Easement area.

2. EXISTING SCENIC, AESTHETIC, RECREATIONAL OR NAVIGATIONAL USES:

The Natural Resources Protection Act (NRPA), in 38 M.R.S. § 480-D(1), requires the applicant to demonstrate that the proposed project will not unreasonably interfere with existing scenic, aesthetic, recreational and navigational uses.

In accordance with Chapter 315, *Assessing and Mitigating Impacts to Scenic and Aesthetic Uses* (06-096 C.M.R. ch. 315, effective June 29, 2003), the applicant submitted a copy of the

Department's Visual Evaluation Field Survey Checklist as Appendix A to the application along with a description of the property and the proposed project. The applicant also submitted several photographs of the proposed project site and surroundings including an aerial photograph of the project site.

The proposed project is located in the Webhannet River, which is a scenic resource visited by the general public, in part, for the use, observation, enjoyment and appreciation of its natural and cultural visual qualities. The proposed project is located at the existing town pier on the west side of the river which is subject to heavy commercial and recreational boat use. There is another town landing and extensive pier system on the east side of the river.

The applicant is proposing the expansion of the existing permanent pier structure and associated float system and mooring field. The permanent pier structure expansion will be landward of the most seaward portion of the permanent structure, which will reduce the visibility of the expansion from the scenic resource. The new proposed floats will connect the permanent structure to 9 existing floats in the anchorage directly south of the permanent structure. The proposed float system expansion will be similar in character and orientation to the existing float system and mooring field, and will match in size and scale to reduce the visibility of the proposed project from the scenic resource.

The Department staff utilized the Department's Visual Impact Assessment Matrix in its evaluation of the proposed project and the Matrix showed an acceptable potential visual impact rating for the proposed project. Based on the information submitted in the application and the visual impact rating, the Department determined that the location and scale of the proposed activity is compatible with the existing visual quality and landscape characteristics found within the viewshed of the scenic resource in the project area.

The Department of Marine Resources (DMR) reviewed the project and stated that the proposed project should not cause any significant adverse impact to navigation or recreation based on the nature of the project and its location.

The Department finds that the proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational or navigational uses of the coastal wetland.

3. SOIL EROSION:

The NRPA, in 38 M.R.S. § 480-D(2), requires the applicant to demonstrate that the proposed project will not cause unreasonable erosion of soil or sediment nor unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.

The applicant proposes to install piles using a barge-mounted crane and vibratory hammer. The floats and ramp will be constructed off-site and delivered to the site for installation after the piles are installed and construction of the permanent portion of the pier is complete. The applicant proposes to conduct some work in the upland adjacent to the coastal wetland for the construction of the permanent portions of the pier structure, including a concrete abutment. The applicant will install silt fence around the work area prior to conducting excavation, and the applicant proposes to install erosion control mesh on all proposed slopes with a 2H:1V or steeper grade. The applicant stated that installation should take approximately two months to complete.

Uncured concrete may not be placed directly into the water. Concrete must be pre-cast and cured at least three weeks before placing in the water or, where necessary, must be placed in

forms and cured at least one week before the forms are removed. No washing of tools, forms, or other equipment may occur in or adjacent to the waterbody or wetland.

The Department finds that the activity will not cause unreasonable erosion of soil or sediment nor unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment, provided that uncured concrete does not enter the water as described above.

4. HABITAT CONSIDERATIONS:

The NRPA, in 38 M.R.S. § 480-D(3), requires the applicant to demonstrate that the proposed project will not unreasonably harm significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic or adjacent upland habitat, travel corridor, freshwater, estuarine or marine fisheries or other aquatic life.

The project site is a is a paved parking lot with a harbormaster building and shellfish lab in the upland. The slope immediately adjacent to the project area is stabilized with riprap. The intertidal and subtidal consists of fine sandy substrates and mud and sand flats.

The Maine Department of Inland Fisheries and Wildlife (MDIFW) reviewed the proposed project and stated that the project is within Tidal Waterfowl and Wading Bird Habitat (TWWH) and is also within known locations of piping plover, least tern, and saltmarsh sparrow, which are all State Endangered species. However, MDIFW commented that based on the application materials, no work is proposed in the saltmarsh or the conservation easement, and construction will start after November 8 and be completed prior to March 15. MDIFW stated that due to the limits of the applicant's proposal, and proposed construction window, minimal impacts are anticipated as a result of the project.

In its review, the Department of Marine Resources (DMR) recommended that the floats be equipped with skids to prevent the floats from grounding on the substrate in the project area. The applicant responded to DMR comments on June 24, 2025, and stated that floats will not ground on the substrate during any portion of the tide cycle.

The Department finds that the activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic or adjacent upland habitat, travel corridor, freshwater, estuarine or marine fisheries or other aquatic life, provided that construction occurs within the applicant's proposed work window.

5. WATER QUALITY CONSIDERATIONS:

The applicant proposes to use lumber treated with chromated copper arsenate (CCA) and micronized copper azole (MCA) to construct the pier. To protect water quality, all CCA- and MCA-treated lumber must be cured on dry land in a manner that exposes all surfaces to the air for 21 days prior to the start of construction.

Provided that CCA- and MCA-treated lumber is cured as described above, the Department finds that the proposed project will not violate any state water quality law, including those governing the classification of the State's waters.

6. WETLANDS AND WATERBODIES PROTECTION RULES:

The applicant proposes 32 square feet of new direct impacts from the new support piles and 3,091 square feet of new indirect impacts due to shading to the coastal resource. Total cumulative direct impacts to the coastal wetland as a result of projects at the Wells Harbor public pier will be 60 square feet. Coastal wetlands are wetlands of special significance as defined in the Department's Wetlands and Waterbodies Protection Rules, 06-096 C.M.R. ch. 310 (last amended November 11, 2018) § 4(A).

The *Wetlands and Waterbodies Protection Rules*, 06-096 C.M.R. ch. 310 (last amended November 11, 2018), interpret and elaborate on the Natural Resources Protection Act (NRPA) criteria for obtaining a permit. The rules guide the Department in its determination of whether a project's impacts would be unreasonable. A proposed project would generally be found to be unreasonable if it would cause a loss in wetland area, functions and values and there is a practicable alternative to the project that would be less damaging to the environment. Each application for a NRPA permit that involves a coastal wetland alteration must provide an analysis of alternatives in order to demonstrate that a practicable alternative does not exist.

A. Avoidance. An applicant must submit an analysis of whether there is a practicable alternative to the project that would be less damaging to the environment and this analysis is considered by the Department in its assessment of the reasonableness of any impacts. Additionally, for activities proposed in, on, or over wetlands of special significance the activity must be among the types listed in Chapter 310, § 5(A) or a practicable alternative less damaging to the environment is considered to exist and the impact is unreasonable. A pier is a water dependent use and its proposed construction is among the activities specifically provided for in Chapter 310, § 5(A)(1)(c). The applicant submitted an alternatives analysis for the proposed project completed by GEI Consultants, Inc., dated January 10, 2025. The purpose of the project is to improve the efficiency, accessibility, and capacity of the Wells Town Pier and provide additional docking and designated berth space for commercial and charter vessels. The applicant states that the existing dock space is shared by a multitude of users including commercial and charter vessels, recreational boaters, dinghy access for mooring holders, tourists, and transit vessels, and the large number of users causes the existing facility to be crowded, creating conflict between the different users. The applicant considered not conducting the project but determined that the facility in its current configuration does not meet the needs of the Town due to the number of existing vessels and users that operate from the facility. Additionally, not expanding the pier was determined to not be practicable because the existing facility is not ADA-compliant and does not provide safe boarding access for charter passengers. The applicant considered reducing the size of the expansion but determined that due to the increasing number of users at the facility, a reduction in the dimensions of the proposal would also not adequately improve the capacity of the facility and therefore would not meet the project purpose. The applicant considered alternative locations at the project site but determined that because the area to the north of the existing structure is developed with the only public boat launch access to Wells Harbor, therefore expansion to the north was deemed not practicable. Based on the project site, there is no other practicable alternative to the proposed project that would accomplish the project purpose and avoid impacts to the coastal wetland.

B. Minimal Alteration. In support of an application and to address the analysis of the reasonableness of any impacts of a proposed project, an applicant must demonstrate that the amount of coastal wetland to be altered will be kept to the minimum amount necessary for

meeting the overall purpose of the project. The applicant has minimized impacts by limiting the number of permanent piles to only that which is necessary to support the expanded permanent structure to support the increased number of users, and to secure the additional floats in the proposed float system. The applicant has also minimized the size of each new float to only that which is necessary to provide space for safe pedestrian circulation on the floats for all users of the public docking facility. The applicant has also sited the expansion in a location that minimizes impacts by allowing sufficient water depth at all tides to prevent floats from grounding on the substrate. The proposed project minimizes coastal wetland impacts to the greatest extent practicable.

C. Compensation. In accordance with Chapter 310, § 5(C)(6)(b), compensation may be required to achieve the goal of no net loss of coastal wetland functions and values. This project will not result in over 500 square feet of fill in the resource, which is the threshold over which compensation is generally required. Further, the proposed project will not have an adverse impact on marine resources or wildlife habitat as determined by DMR and MDIFW. For these reasons, the Department determined that compensation is not required.

The Department finds that the applicant has avoided and minimized coastal wetland impacts to the greatest extent practicable, and that the proposed project represents the least environmentally damaging alternative that meets the overall purpose of the project.

7. OTHER CONSIDERATIONS:

The Department finds, based on the design, proposed construction methods, and location, the proposed project will not inhibit the natural transfer of soil from the terrestrial to the marine environment, will not interfere with the natural flow of any surface or subsurface waters, and will not cause or increase flooding. The proposed project is not located in a coastal sand dune system, is not a crossing of an outstanding river segment, and does not involve dredge spoils disposal or the transport of dredge spoils by water.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S. §§ 480-A–480-JJ and Section 401 of the Clean Water Act (33 U.S.C. § 1341):

A. The proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational, or navigational uses.

B. The proposed activity will not cause unreasonable erosion of soil or sediment.

D. The proposed activity will not unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.

E. The proposed activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic or adjacent upland habitat, travel corridor, freshwater, estuarine, or marine fisheries or other aquatic life, provided that construction is conducted between November 8, and March 15 of any given year.

F. The proposed activity will not unreasonably interfere with the natural flow of any surface or subsurface waters.

G. The proposed activity will not violate any state water quality law including those governing the classifications of the State's waters provided that CCA- and MCA-treated lumber is cured as described in Finding 5.

H. The proposed activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties.

I. The proposed activity is not on or adjacent to a sand dune.

J. The proposed activity is not on an outstanding river segment as noted in 38 M.R.S. § 480-P.

THEREFORE, the Department APPROVES the above noted application of TOWN OF WELLS to expand the existing public pier facility as described in Finding 1, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations:

1. Standard Conditions of Approval, a copy attached.

2. The applicant shall take all necessary measures to ensure that its activities or those of its agents do not result in measurable erosion of soil on the site during the construction of the project covered by this approval.

3. Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

4. All construction shall take place between November 8 and March 15 of any given year.

5. All CCA- and MCA-treated lumber shall be cured on dry land in a manner that exposes all surfaces to the air for 21 days prior to the start of construction.

6. Uncured concrete shall not be placed directly into the water. Concrete shall be pre-cast and cured at least three weeks before placing in the water or, where necessary, must be placed in forms and cured at least one week before the forms are removed. No washing of tools, forms, or other equipment shall occur in or adjacent to the waterbody or wetland.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES.

DONE AND DATED IN AUGUSTA, MAINE, THIS 3RD DAY OF JULY, 2025.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:___ _____

For: Melanie Loyzim, Commissioner

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES.

SLS/ L019141ADN

Natural Resources Protection Act (NRPA)

Standard Conditions

THE FOLLOWING STANDARD CONDITIONS SHALL APPLY TO ALL PERMITS GRANTED UNDER THE NATURAL RESOURCES PROTECTION ACT, 38 M.R.S. § 480-A ET SEQ., UNLESS OTHERWISE SPECIFICALLY STATED IN THE PERMIT.

A. Approval of Variations From Plans. The granting of this permit is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from these plans, proposals, and supporting documents is subject to review and approval prior to implementation.

B. Compliance With All Applicable Laws. The applicant shall secure and comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and orders prior to or during construction and operation, as appropriate.

C. Erosion Control. The applicant shall take all necessary measures to ensure that his activities or those of his agents do not result in measurable erosion of soils on the site during the construction and operation of the project covered by this Approval.

D. Compliance With Conditions. Should the project be found, at any time, not to be in compliance with any of the Conditions of this Approval, or should the applicant construct or operate this development in any way other the specified in the Application or Supporting Documents, as modified by the Conditions of this Approval, then the terms of this Approval shall be considered to have been violated.

E. Time frame for approvals. If construction or operation of the activity is not begun within four years, this permit shall lapse and the applicant shall reapply to the Board for a new permit. The applicant may not begin construction or operation of the activity until a new permit is granted. Reapplications for permits may include information submitted in the initial application by reference. This approval, if construction is begun within the four-year time frame, is valid for seven years. If construction is not completed within the seven-year time frame, the applicant must reapply for, and receive, approval prior to continuing construction.

F. No Construction Equipment Below High Water. No construction equipment used in the undertaking of an approved activity is allowed below the mean high water line unless otherwise specified by this permit.

G. Permit Included In Contract Bids. A copy of this permit must be included in or attached to all contract bid specifications for the approved activity.

H. Permit Shown To Contractor. Work done by a contractor pursuant to this permit shall not begin before the contractor has been shown by the applicant a copy of this permit.

Revised September 2016

DEP INFORMATION SHEET

Appeals to the Board of Environmental Protection

Date: November 2024 Contact: Clerk.BEP@maine.gov or (207) 314-1458

SUMMARY

This document provides information regarding a person's rights and obligations in filing an administrative or judicial appeal of: (1) a final license decision made by the Commissioner of the Department of Environmental Protection ("DEP"); or (2) an insurance claim-related decision ("Clean-up and Response Fund decision") made by the Commissioner or the Office of State Fire Marshal pursuant to 38 M.R.S. § 568-A.

Except as explained below, there are two methods available to an aggrieved person seeking to appeal a license decision made by the Commissioner or a Clean-up and Response Fund decision: (1) an administrative appeal before the Board of Environmental Protection ("Board"); or (2) a judicial appeal before Maine's Superior Court. An aggrieved person seeking review of a license decision or Clean-up and Response Fund decision made by the Board may seek judicial review in Maine's Superior Court.

An appeal of a license decision made by the DEP Commissioner or the Board regarding an application for an expedited wind energy development (35-A M.R.S. § 3451(4)), a general permit for an offshore wind energy demonstration project (38 M.R.S. § 480-HH(1)), or a general permit for a tidal energy demonstration project (38 M.R.S. § 636-A) must be taken to the Supreme Judicial Court sitting as the Law Court.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

A person filing an appeal with the Board should review the applicable rules and statutes, including the DEP's Chapter 2 rule, *Processing of Applications and Other Administrative Matters* (06-096 C.M.R. ch. 2); Organization and Powers, 38 M.R.S. §§ 341-D(4) and 346; and the Maine Administrative Procedure Act, 5 M.R.S. § 11001.

DEADLINE TO SUBMIT AN APPEAL TO THE BOARD

Within 30 calendar days of the date of: (1) a final license decision of the Commissioner; or (2) a Clean-up and Response Fund decision, an aggrieved person may appeal to the Board for review of that decision. "Aggrieved person" means any person whom the Board determines may suffer a particularized injury as a result of a Commissioner's license decision or a Clean-up and Response Fund decision. A complete appeal must be received by the Board no later than 5:00 p.m. on the 30th calendar day of the decision being appealed. With limited exception, untimely appeals will be dismissed.

HOW TO SUBMIT AN APPEAL TO THE BOARD

An appeal to the Board may be submitted via postal mail or electronic mail (e-mail) and must contain all signatures and required appeal contents. An electronic filing must contain the scanned original signature of the appellant(s). The appeal documents must be sent to the following address.

Chair, Board of Environmental Protection
c/o Board Clerk
17 State House Station
Augusta, ME 04333-0017
Clerk.BEP@maine.gov

The DEP may also request the submittal of the original signed paper appeal documents when the appeal is filed electronically. The risk of material not being received in a timely manner is on the sender, regardless of the method used.

At the time an appeal is filed with the Board, the appellant must send a copy of the appeal to: (1) the Commissioner of the DEP (Maine Department of Environmental Protection, 17 State House Station, Augusta, Maine 04333-0017); (2) the licensee, if the appellant is not the licensee; and (3) if a hearing was held on the application, any intervenors in that hearing proceeding. For appeals of Clean-up and Response Fund decisions made by the State Fire Marshal, the appellant must also send a copy of the appeal to the State Fire Marshal. **Please contact the Board Clerk at clerk.bep@maine.gov or DEP staff at 207-287-7688 with questions or for contact information regarding a specific license or Clean-up and Response Fund decision.**

REQUIRED APPEAL CONTENTS

A written appeal must contain the information specified in Chapter 2, section 23(B) or section 24(B), as applicable, at the time the appeal is submitted. **Please carefully review these sections of Chapter 2**, which is available online at https://www.maine.gov/sos/cec/rules/06/chaps06.htm, or contact the Board Clerk to obtain a copy of the rule. Failure to comply with the content of appeal requirements may result in the appeal being dismissed pursuant to Chapter 2, section 23(C) or section 24(C).

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with the administrative record.* Generally, the record on which the Board decides an appeal is limited to the record prepared by the agency in its review of the application, any supplemental evidence admitted to the record by the Board Chair and, if a hearing is held on the appeal, additional evidence admitted during the hearing. A person who seeks to appeal a decision to the Board is encouraged to contact the DEP (or State Fire Marshal for Clean-up and Response Fund decisions made by that agency) to inspect the record before filing an appeal.

2. *Be familiar with the applicable rules and laws.* An appellant is required to identify the licensing criterion or standard the appellant believes was not satisfied in issuing the decision, the bases of the objections or challenges, and the remedy sought. Prior to filing an appeal, review the decision being appealed to identify the rules and laws that are applicable to the decision. An appellant may contact the DEP or Board staff with any questions regarding the applicable rules and laws or the appeal procedure generally.

3. *The filing of an appeal does not operate as a stay to any decision.* If a license has been granted and it has been appealed, the license normally remains in effect pending the processing of the appeal. Unless a separate stay of the decision is requested and granted (*see* Chapter 2, section 23(M)), the licensee may proceed with an approved project pending the outcome of the appeal. Any activity initiated in accordance with the approved license during the pendency of the appeal comes with the risk of not knowing the outcome of the appeal, including the possibility that the decision may be reversed or modified by the Board.

4. *Alternative dispute resolution.* If the appeal participants agree to use mediation or another form of alternative dispute resolution ("ADR") to resolve the appeal and so notify the Board, the Board will not hear the matter until the conclusion of that effort, provided the participants engaged in the alternative dispute resolution demonstrate satisfactory progress toward resolving the issues. *See* Chapter 2, section 23(H) or contact the Board Executive Analyst (contact information below) for more information on the ADR provision.

WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD

The Board will acknowledge receipt of each appeal and develop a service list of appeal participants and any interested persons for use in the appeal proceeding. Electronic mail (e-mail) is the preferred method of communication during an appeal proceeding; however, the Board reserves the right to require paper copies of all filings. Once the Board Chair rules on the admissibility of all proposed supplemental evidence, the licensee (if the licensee is not the appellant) may respond to the merits of the appeal. Instructions specific to each appeal will be provided in correspondence from the Board Executive Analyst or Board Chair.

Generally, once all filings in an appeal proceeding are complete, the DEP staff will assemble a packet of materials for the Board (Board packet), including a staff recommendation in the form of a proposed Board Order. Once available, appeal participants will receive a copy of the Board packet and an agenda with the meeting location and start time. Once finalized, the meeting agenda will be posted on the Board's webpage https://www.maine.gov/dep/bep/index.html. Appeals will be considered based on the administrative record on appeal and oral argument at a regular meeting of the Board. *See* Chapter 2, Section 23(I). The Board may affirm all or part of the decision under appeal; affirm all or part of the decision under appeal with modifications, or new or additional conditions; order a hearing to be held as expeditiously as possible; reverse the decision under appeal; or remand the decision to the Commissioner or State Fire Marshal, as applicable, for further proceedings.

II. JUDICIAL APPEALS

The filing of an appeal with the Board is not a prerequisite for the filing of a judicial appeal. Maine law generally allows aggrieved persons to appeal final license decisions to Maine's Superior Court (*see* 38 M.R.S. § 346(1); Chapter 2; 5 M.R.S. § 11001; and M.R. Civ. P. 80C). A judicial appeal by a party to the underlying proceeding must be filed with the Superior Court within 30 days of receipt of notice of the Board's or the Commissioner's decision. For any other aggrieved person, an appeal must be filed within 40 days of the date the decision was rendered. An appeal to court of a license decision regarding an expedited wind energy development, a general permit for an offshore wind energy demonstration project, or a general permit for a tidal energy demonstration project may only be taken directly to the Maine Supreme Judicial Court. *See* 38 M.R.S. § 346(4), the Maine Administrative Procedure Act, statutes governing a particular license decision, and the Maine Rules of Civil Procedure for substantive and procedural details applicable to judicial appeals.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal procedure, for administrative appeals contact the Board Clerk at clerk.bep@maine.gov or 207-287-2811 or the Board Executive Analyst at bill.hinkel@maine.gov or 207-314-1458, or for judicial appeals contact the court clerk's office in which the appeal will be filed.

Note: This information sheet, in conjunction with a review of the statutory and rule provisions referred to herein, is provided to help a person to understand their rights and obligations in filing an administrative or judicial appeal, and to comply with notice requirements of the Maine Administrative Procedure Act, 5 M.R.S. § 9061. This information sheet is not intended to supplant the parties' obligations to review and comply with all statutes and rules applicable to an appeal and insofar as there is any inconsistency between the information in this document and the applicable statutes and rules, the relevant statutes and rules apply.

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD MA 01742-2751

April 1, 2026

Regulatory Division
File Number: NAE-2013-00319

Mike Pardue
Town of Wells
208 Sanford Road,
PO Box 398
Wells, ME 04090
Sent by email: mpardue@wellstown.org

Dear Mr. Pardue:

The U.S. Army Corps of Engineers (USACE) has reviewed your request to reverify your previous verification dated July 24, 2025 that expired on October 14, 2025 for the placement of a 22-foot by 36-foot pile-supported pier connected to a 5-foot by 80-foot ramp leading to a series of floats, which includes a 16 feet by 18 feet float, two (2) - 6.5 feet by 16 feet floats, and two (2) - 6.5 feet by 24 feet floats that will include 7 new timber piles. Associated mooring tackle will also be installed. Additionally, two (2) – 11.5-foot by 32-foot floats will be installed with 4 timber piles located below the mean high water (MHW) of Wells Harbor. All components will be located below the MHW of Wells Harbor at 362 Harbor Road in Wells, Maine. The work is shown on the enclosed plans titled “Wells Harbor Pier Expansion, Town of Wells, Maine,” on seven (6) sheets, and dated “01/09/2025” and on one (1) sheet dated “04/23/2025”.

Based on the information that you have provided, we verify that the activity is authorized under Regional General Permit C – Structures and Mooring in Navigable Waters.

You must ensure the proposed work is performed in accordance with the enclosed applicable terms and conditions, as well as the below special condition:

1. The work authorized by this permit verification shall be conducted between November 1st and March 15th of any given year to minimize potential impacts to endangered species, essential fish habitat, and local water quality.

You are also required to complete and return the enclosed Work-Start Notification 14 days prior to the anticipated project start date and the enclosed Compliance Certification form within 30 days of completing your project. Please email the completed documents to the representative identified in the last paragraph of this letter.

A change in location or project plans may require re-evaluation of your project. Proposed changes should be coordinated with this office prior to construction. Failure to comply with all terms and conditions of these permits (RGP) invalidate this authorization and could result in a violation of Section 301 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899. You must also obtain all local, state, Tribal, and other Federal permits that apply to this project.

Water Quality Certification (WQC) and Coastal Zone Management Act (CZM)

The State of Maine issued a conditioned WQC and CZM decision for your project (enclosed). You must comply with the conditions specified in the WQC and CZM decision for this RGP authorization to be valid.

Permit Expiration

The Corps' verification of this RGP authorization is valid until October 31, 2030, unless the RGP is modified, reissued, or revoked prior to that date. If the authorized work for the RGP authorization has not been completed by that date and you have commenced or are under contract to commence this activity before October 31, 2030, you will have until October 31, 2031, to complete the activity under the enclosed terms and conditions of this RGP.

Contact Information

If you have any questions, please contact Amanda Sayles at 978-318-8486, or by email at Amanda.L.Sayles@usace.army.mil.

In order to better serve you, please complete the Customer Service Survey located at: https://regulatory.ops.usace.army.mil/customer-service-survey/.

Sincerely,

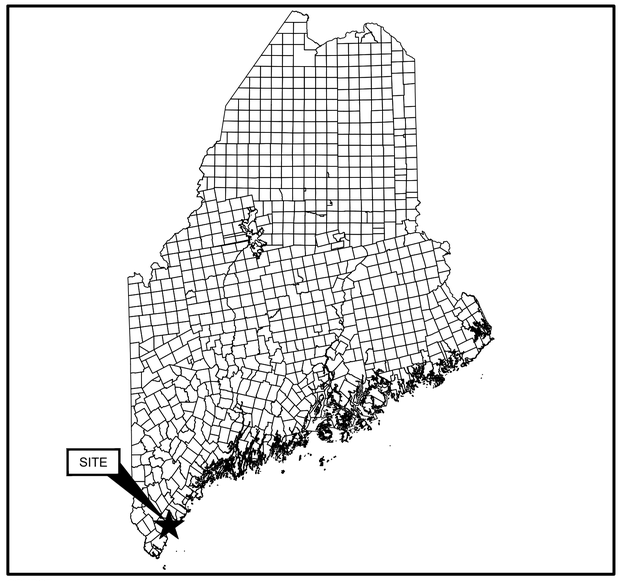
Amanda Sayles

For Peter D. Olmstead
Chief, Maine Section
Regulatory Division

cc:
U.S. EPA, Region 1, Boston, MA; R1_CWA404_REG@epa.gov
Samuel Sheppard, Maine DEP; Samuel.L.Sheppard@maine.gov
Lisa Vickers, Agent, LVickers@geiconsultants.com
Michael York, town of Wells Harbor Master, myorke@wellstown.org

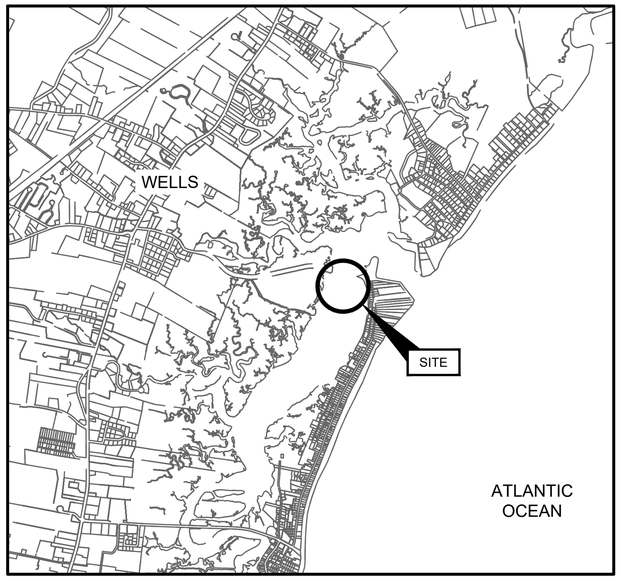
WELLS HARBOR PIER EXPANSION

TOWN OF WELLS, MAINE



SOURCE:
MAINE TOWN MAP BOUNDARIES TAKEN FROM MAINE GIS

STATE MAP
(NOT TO SCALE)



SOURCE:
TOWN OF WELLS PARCELS TAKEN FROM MAINE GIS, IMAGERY TAKEN FROM NEARMAP

SITE LOCATION MAP
(NOT TO SCALE)

SHEET INDEX

SHEET NO.	DRAWING NO.	TITLE
01	G-01	COVER SHEET
02	G-02	NOTES AND SCHEDULES
03	C-01	EXISTING CONDITIONS PLAN
04	C-02	PROPOSED PLAN
05	S-01	DETAILS I
06	S-02	DETAILS II

PREPARED FOR:

TOWN OF WELLS
208 SANFORD ROAD
WELLS, ME 04090

PREPARED BY:

GEI CONSULTANTS, INC.
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

PRELIMINARY

GEI PROJECT NO. 2103347

NO.	DATE	ISSUE/REVISION	APP
1	1/9/2025	PERMIT SET	DJB

DWG. NO.
G-01

SHEET NO.
01 OF 06

GENERAL NOTES:

1. THE CONTRACTOR SHALL BE GOVERNED BY THE CONSTRUCTION SAFETY RULES AS ADOPTED BY THE STATE BOARD OF CONSTRUCTION SAFETY, AUGUSTA, MAINE.
2. THE PROJECT IS SUBJECT TO THE SAFETY AND HEALTH REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) AS PROMULGATED BY THE US DEPARTMENT OF LABOR.
3. ALL PAVED AREAS DISTURBED SHALL BE PATCHED WITH BITUMINOUS UNLESS OTHERWISE SPECIFIED.
4. ALL NON-PAVED AREAS DISTURBED DURING CONSTRUCTION SHALL BE LOAMED, SEEDED, FERTILIZED AND MULCHED UNLESS OTHERWISE DIRECTED BY THE OWNER OR THEIR REPRESENTATIVE.
5. THE CONTRACTOR SHALL INCLUDE IN THEIR BID, COSTS FOR COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATORY REQUIREMENTS.
6. UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL MAKE ALL IMPROVEMENTS IN ACCORDANCE WITH THE STATE OF MAINE DEPARTMEMT OF TRANSPORATION STANDARD SPECIFICATION; MARCH 2020 EDITION WITH LATEST INTERIM UPDATES.
7. THE CONTRACTOR IS RESPONSIBLE FOR DISPOSAL OF ALL CONSTRUCTION DEBRIS AT AN APPROVED FACILITY IN ACCORDANCE WITH ALL APPLICABLE LOCAL STATE AND FEDERAL REGULATORY REQUIREMENTS.

EROSION CONTROL NOTES:

1. APPLICATION OF TEMPORARY AND PERMANENT EROSION CONTROL MEASURES FOR THE PROJECT SHALL BE IN ACCORDANCE WITH PROCEDURES AND SPECIFICATIONS OF THE CURRENT MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION; BEST MANAGEMENT PRACTICES.
2. SILTATION FENCE SHALL BE INSTALLED BEFORE ANY EXCAVATION TAKES PLACE.
3. INSTALL EROSION CONTROL MESH ON ALL PROPOSED SLOPES 2:1 OR STEEPER, UNLESS SHOWN OR NOTED OTHERWISE.
4. ALL EROSION CONTROL MEASURES, SEEDING AND MULCHING SHALL BE INSPECTED WEEKLY, AFTER RAINSTORMS AND DURING RUNOFF EVENTS. ALL MEASURES SHALL BE REPAIRED OR REPLACED WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DAMAGE.
5. SEEDED AND MULCHED AREAS SHALL BE MAINTAINED UNTIL FINAL ACCEPTANCE OF THE WORK
6. TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED UPON COMPLETION OF GRADING OPERATIONS AND ESTABLISHMENT OF ACCEPTABLE GROUND COVER.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EROSION CONTROL MEASURES DURING CONSTRUCTION.

UTILITY NOTES:

1. NO DISRUPTION TO EXISTING UTILITIES ADJACENT TO THE PROJECT SITE SHALL BE ALLOWED DURING CONSTRUCTION.
2. ANY TEMPORARY ELECTRIC SERVICE, IF REQUIRED DURING THE DURATION OF CONSTRUCTION, IS THE RESPONSIBILITY OF THE CONTRACTOR.
3. THE CONTRACTOR SHALL NOT MAKE ANY OPENING OR EXCAVATION WITHIN THE PROJECT AREA UNTIL CONTACT HAS BEEN MADE WITH 'DIG SAFE' AND ALL UTILITIES TO LOCATE ANY EXISTING POWER, TELEPHONE, CABLE TV, WATER OR OTHER UNDERGROUND SERVICES.
4. THE UTILITY LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND ARE PROVIDED AS A GUIDE TO THE CONTRACTOR. NO GUARANTEE IS MADE THAT UTILITIES WILL BE ENCOUNTERED WHERE SHOWN OR THAT ALL UTILITIES ARE SHOWN. THE CONTRACTOR SHALL VERIFY ALL LOCATIONS IN THE FIELD AND BE RESPONSIBLE FOR REPAIR OF UTILITIES DISTURBED DURING CONSTRUCTION.

CONSTRUCTION SEQUENCE & COORDINATION:

1. SCHEDULE FOR ALL ACTIVITIES SHALL BE COORDINATED WITH THE TOWN OF WELLS HARBORMASTER: MICHAEL YORKE 207-646-3236 (OFFICE) 207-351-5452 (CELL).
2. EXISTING PILES AND FIXED STRUCTURES WILL REMAIN IN PLACE FOR THE DURATION OF THE WORK.
3. WORK IS SUBJECT TO THE FOLLOWING TIME OF YEAR AND TIMING OF ACTIVITY RESTRICTION: ALL IN-WATER WORK SHALL BE COMPLETED BETWEEN THE DATES OF NOVEMBER 8 - APRIL 9.
4. THE SIZE AND LOCATION OF THE LAYDOWN AREA SHALL BE COORDINATED WITH THE TOWN.
5. CONTRACTOR SHALL NOTE THAT COMMERCIAL AND RECREATIONAL USES OF THE HARBOR WILL CONTINUE THROUGH THE DURATION OF CONSTRUCTION. THE WORK SHALL BE UNDERTAKEN IN SUCH A WAY TO MINIMIZE IMPACT ON BOATING ACTIVITIES AND HARBOR USES.

DEMOLITION NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL DEMOLITION MATERIALS THAT ARE NOT SPECIFIED FOR REUSE OR SELECTED FOR RETAINAGE BY THE OWNER.
2. DISPOSAL SHALL BE AT AN APPROVED FACILITY IN ACCORDANCE WITH ALL APPLICABLE REGULATORY REQUIREMENTS.

SURVEY & DATUM NOTES:

1. PROJECT BASE PLAN HAS BEEN DEVELOPED FROM THE FOLLOWING REFERENCES:
   a. BOUNDARY INFORMATION FOR UPLAND PROPERTIES IS FROM TOWN OF WELLS PARCEL LAYER FROM MAINE GIS.
   b. UPLAND TOPOGRAPHY IS FROM MAINE GIS 2-FOOT CONTOUR DATA.
   c. BATHYMETRY IS FROM A MARCH 2024 POST-DREDGE SURVEY PERFORMED BY MICHELS CONSTRUCTION AND IS REPORTED AS DEPTH BELOW MLLW=0 WITH POSITIVE VALUES REPRESENTING AN ELEVATION BELOW THAT SAME PLANE.
   d. FEDERAL CHANNELS, ANCHORAGE, AND SETTLING BASINS HAVE BEEN PLOTTED FROM THE COORDINATES PROVIDED ON THE PLAN "WELLS HARBOR; WELLS, MAINE; FEDERAL NAVIGATION PROJECT" SHEET V-001 BY THE U.S. ARMY CORPS OF ENGINEERS, DRAWING CODE ME_64_WEL_NP_2020 DATED JULY 20, 2020.
   e. TOWN DREDGE AREAS AND NO-DREDGE CONSERVATION EASEMENT HAVE BEEN PLOTTED FROM THE COORDINATES PROVIDED ON THE PLANS "MAINTENANCE DREDGING; 6 AND 8-FOOT ENTRANCE CHANNELS, 6-FOOT ANCHORAGE, SETTLING BASIN, AND 6-FOOT TOWN DREDGING AREAS; WELLS HARBOR, WELLS, MAINE" BY THE U.S. ARMY CORPS OF ENGINEERS, DRAWING CODE WEL-2724 DATED JULY 2013.
2. BASE FLOOD INFORMATION IS FROM THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA).
3. THE HIGHEST ANNUAL TIDE IS FROM THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION (MAINEDEP).
4. TIDAL INFORMATION IS FROM THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA).
5. ELEVATIONS ARE PROVIDED IN MLLW = 0.0 FT VERTICAL DATUM UNLESS OTHERWISE NOTED. POSITIVE VALUES REPRESENT ELEVATION ABOVE THAT SAME PLANE. REFER TO ELEVATION TABLE FOR DATUM CONVERSIONS.
6. PROJECT BENCHMARK IS A BRASS SURVEY DISK LOCATED IN THE TOWN PARKING LOT ADJACENT THE NORTHWEST CORNER OF THE WEST PIER WITH ELEVATION +15.25 FEET MLLW. HORIZONTAL COORDINATES ARE BASED ON NAD83, MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE AND ARE EXPRESSED IN FEET.
7. THE CONTRACTOR SHALL INSTALL SURVEY CONTROL AS NECESSARY TO PERFORM THE WORK. PERMANENT SURVEY CONTROL (AT LEAST 2 POINTS) SHALL BE ESTABLISHED FOR THE PROJECT AND PROTECTED FROM DAMAGE DURING CONSTRUCTION AND PROVIDED ON AS-BUILT DRAWINGS.
8. THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN PROJECT BASELINES AND CONTROL AS REQUIRED TO ENSURE ACCURATE LOCATION OF ALL ELEMENTS OF THE PROJECT.
9. CONTRACTOR SHALL NOTE THAT EXISTING STRUCTURE DETAILS, DIMENSIONS, AND LOCATIONS ARE APPROXIMATE. BIDDERS SHALL MAKE THEIR OWN ASSESSMENT OF EXISTING CONDITIONS.

DESIGN CRITERIA:

1. SITE EXPOSURE
   - DESIGN WAVE CONDITIONS <1.5 FT
   - DESIGN WIND SPEED 111 MPH
2. VESSEL LOADING
   - DESIGN VESSELS FOR FLOATING DOCK SYSTEM 36FT LOA
   - VESSELS USING THE FACILITY WILL USE FENDERS AND WILL BE REMOVED FROM THE DOCKS IN ADVANCE OF SIGNIFICANT STORM EVENTS.
3. PIER EXTENSION
   - DESIGN LIVE LOAD - 250 PSF UNIFORM
   - ALL HANDRAIL AND POSTS SHALL BE CONSTRUCTED TO WITHSTAND A 200 LB LOAD APPLIED IN ANY DIRECTION AT THE TOP RAIL, OR 50 LB/FT APPLIED ALONG THE RAIL LENGTH.
4. ALUMINUM GANGWAY
   - DESIGN LIVE LOAD - 100 PSF UNIFORM
5. FLOAT SYSTEM
   - FLOAT FREEBOARD SHALL MATCH EXISTING FLOATS.
   - FLOATS SHALL BE FABRICATED WITH DRUM LAYOUT THAT PROVIDES MINIMUM LIVE LOAD CAPACITY OF 25 PSF APPLIED OVER THE ENTIRE DECK SURFACE WITHOUT SUBMERGENCE OF TIMBER FRAMING ELEMENTS.
   - DEAD LOADS SHALL CONSIST OF THE ENTIRE WEIGHT OF THE FLOATING STRUCTURE, INCLUDING UTILITIES, GANGWAYS, DOCK BOXES, PILE GUIDES, MOORING TACKLE.
   - A CONCENTRATED LIVE LOAD OF 400 LBS APPLIED AT ANY POINT SHALL NOT TILT THE DECK MORE THAN SIX DEGREES TO THE HORIZONTAL.
   - FLOATS SHALL BE REMOVED FROM SERVICE IN ADVANCE OF HURRICANE EVENTS.

STRUCTURAL NOTES:

TIMBER PILES
1. TIMBER PILES SHALL HAVE A MINIMUM DIAMETER OF 12-INCHES AT 3-FEET FROM THE BUTT AND MEET ASTM D2899 DESIGN VALUES FOR TREATED ROUND TIMBER PILES, WITH MINIMUM TIP CIRCUMFERENCE AS INDICATED BELOW:

LOCATION	TIP CIRCUMFERENCE	MATERIAL
PIER EXPANSION	22"	SYP
FLOAT SYSTEM	22"	GREENHEART

2. TIMBER PILES SHALL CONFORM TO ASTM D25. PROVIDE PROTECTION TO PILE TIP AND BUTT TO AVOID DAMAGE DURING DRIVING.
3. ALL TIMBER PILES SHALL BE FITTED WITH DRIVING POINTS PRIOR TO INSTALLATION.
4. REFER TO SPECIFICATIONS FOR PILE DRIVING CRITERIA. THE CONTRACTOR IS CAUTIONED OF ANTICIPATED RAPID INCREASE IN DRIVING RESISTANCE DUE TO ABRUPT CHANGES IN SOIL STRATA. CARE SHOULD BE TAKEN TO AVOID DAMAGE TO THE PILE.
5. THE CONTRACTOR SHALL ORDER PILES OF SUFFICIENT LENGTH TO ALLOW FOR 5 FT VARIATION IN THE SPECIFIED LENGTH.

TIMBER MEMBERS
1. REFER TO TIMBER SCHEDULES.
2. ALL EXPOSED EDGES SHALL BE PLANED OR SANDED TO PROVIDE SMOOTH SURFACE FREE OF ROUGH EDGES OR DEFECTS.
3. ALL EXPOSED FASTENERS SHALL BE COUNTERSUNK.
4. ALL TIMBER JOISTS, BEAMS, AND PILE CAPS TO BE CAPPED WITH SELF-ADHERING ASPHALT FLASHING, VYCOR BY GRACE CONSTRUCTION PRODUCTS OR EQUIVALENT.

MISCELLANEOUS METALS AND FASTENERS
1. ALL METAL ITEMS TO BE A36 STEEL, HOT-DIP GALVANIZED AFTER FABRICATION UNLESS OTHERWISE NOTED.
2. ALL FASTENERS SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL.
3. ALL BOLTS SHALL CONFORM TO ASTM A-307. MINIMUM SIZE SHALL BE ¾" DIA. UNLESS OTHERWISE NOTED. ALL BOLTS TO BE HEAVY HEX UNLESS OTHERWISE NOTED.

REFERENCE DOCUMENTS:

1. REFER TO THE PROJECT MANUAL FOR COPIES OF REGULATORY PERMITS.

TIMBER SCHEDULE

TIMBER SIZE	LOCATION	% MOISTURE AT TREATMENT	TREATMENT		GRADING TO SPIB	SURFACE FINISHING
			TYPE	PCF		
PIER EXPANSION						
4X6	DECK PLANKING	19%	MCA	0.40	NO. 1	S4S
6X12	JOIST	25%	CCA	1.00	NO. 1	S4S
12X12	EDGE JOIST	25%	CCA	1.00	NO. 1	S4S
12X12	PILE CAP	25%	CCA	2.50	NO. 1	S4S
3X8	PILE BRACING	25%	CCA	2.50	NO. 2	R
8X8	CURB	19%	MCA	0.40	NO. 1	S4S
3X8	CURB BLOCKING	19%	MCA	0.40	NO. 1	S4S
HANDRAIL						
4X4	RAILING POST	19%	MCA	0.40	NO. 1	S4S
2X4	TOP RAIL BACKER	19%	MCA	0.40	NO. 1	S4S
2X6	TOP RAIL AND SIDE RAILS	19%	MCA	0.40	NO. 1	S4S

CHROMATED COPPER ARSENATE (CCA)
MICRONIZED COPPER AZOLE (MCA)
QUANTITIES SHALL INCLUDE SUFFICIENT MATERIAL TO INCLUDE BLOCKING AND SPLICES (WHERE AUTHORIZED).
R = ROUGH SAWN, S2S = FINISHED TWO SIDES, S4S = FINISHED ALL SIDES.

Preliminary

ELEVATION	MLLW*	NAVD88
BFE	+19.14'	+14.00'
HIGHEST OBSERVED TIDE (1/4/2018)	+13.35'	+8.21'
HAT	+11.50'	+6.36'
MHHW	+9.56'	+4.42'
MHW	+9.13'	+3.99'
MSL	+4.77'	-0.37'
MLW	+0.34'	-4.80'
MLLW	0.00'	-5.14'
LOWEST OBSERVED TIDE (2/20/2015)	-3.07'	-8.21'

*PROJECT DATUM

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

DRAFT

Designed:	ACB
Drawn:	JLD
Checked:	-
Approved:	DJB
P.E. No:	-
GEI Project	2103347

GEI Consultants
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

Town of Wells
208 Sanford Road
Wells, ME 04090

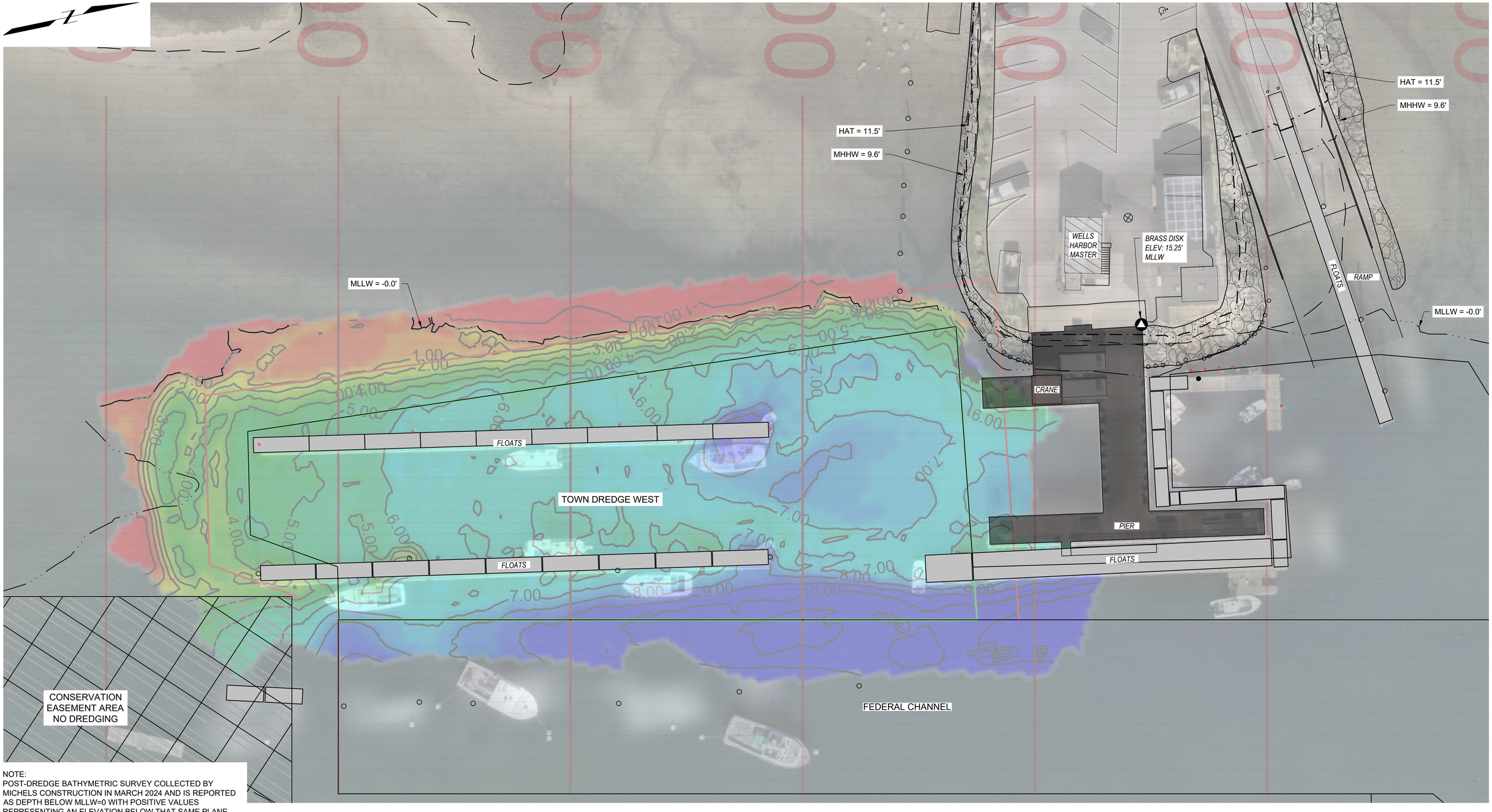
WELLS HARBOR PIER EXPANSION

Town of Wells, Maine

NO	DATE	ISSUE/REVISION	APP
1	1/9/2025	PERMIT SET	DJB

SHEET NAME: **NOTES AND SCHEDULES**

SHEET NO.: G-02



NOTE:
POST-DREDGE BATHYMETRIC SURVEY COLLECTED BY MICHELS CONSTRUCTION IN MARCH 2024 AND IS REPORTED AS DEPTH BELOW MLLW=0 WITH POSITIVE VALUES REPRESENTING AN ELEVATION BELOW THAT SAME PLANE.

0 20 40
SCALE: 1" = 20'

ELEVATION	MLLW*	NAVD88
BFE	+19.14'	+14.00'
HIGHEST OBSERVED TIDE (1/4/2018)	+13.35'	+8.21'
HAT	+11.50'	+6.36'
MHHW	+9.56'	+4.42'
MHW	+9.13'	+3.99'
MSL	+4.77'	-0.37'
MLW	+0.34'	-4.80'
MLLW	0.00'	-5.14'
LOWEST OBSERVED TIDE (2/20/2015)	-3.07'	-8.21'

*PROJECT DATUM

EXISTING CONDITIONS
PLAN

Preliminary

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

DRAFT

Designed:	ACB
Drawn:	JLD
Checked:	-
Approved:	DJB
P.E. No:	-
GEI Project	2103347

GEI Consultants
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

Town of Wells
208 Sanford Road
Wells, ME 04090

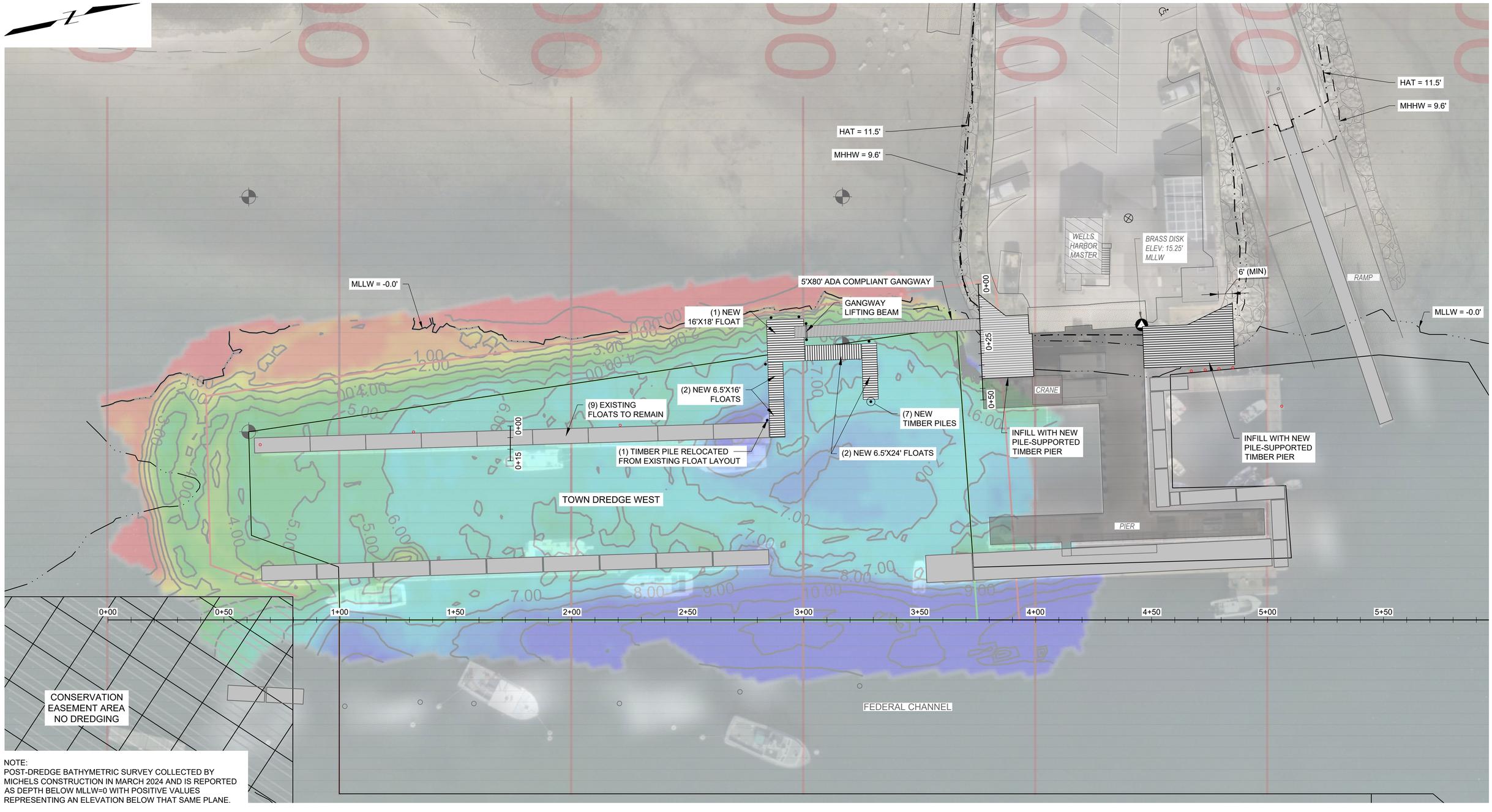
WELLS HARBOR PIER EXPANSION

Town of Wells, Maine

NO	DATE	ISSUE/REVISION	APP
1	1/9/2025	PERMIT SET	DJB

SHEET NAME
EXISTING CONDITIONS PLAN

SHEET NO.
C-01



NOTE:
POST-DREDGE BATHYMETRIC SURVEY COLLECTED BY MICHELS CONSTRUCTION IN MARCH 2024 AND IS REPORTED AS DEPTH BELOW MLLW=0 WITH POSITIVE VALUES REPRESENTING AN ELEVATION BELOW THAT SAME PLANE.

0 20 40
SCALE: 1" = 20'

PROPOSED MARINA EXPANSION
PLAN

Preliminary

ELEVATION	MLLW*	NAVD88
BFE	+19.14'	+14.00'
HIGHEST OBSERVED TIDE (1/4/2018)	+13.35'	+8.21'
HAT	+11.50'	+6.36'
MHHW	+9.56'	+4.42'
MHW	+9.13'	+3.99'
MSL	+4.77'	-0.37'
MLW	+0.34'	-4.80'
MLLW	0.00'	-5.14'
LOWEST OBSERVED TIDE (2/20/2015)	-3.07'	-8.21'

*PROJECT DATUM

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

DRAFT

Designed:	ACB
Drawn:	JLD
Checked:	-
Approved:	DJB
P.E. No:	-
GEI Project	2103347

GEI Consultants
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

Town of Wells
208 Sanford Road
Wells, ME 04090

WELLS HARBOR PIER EXPANSION

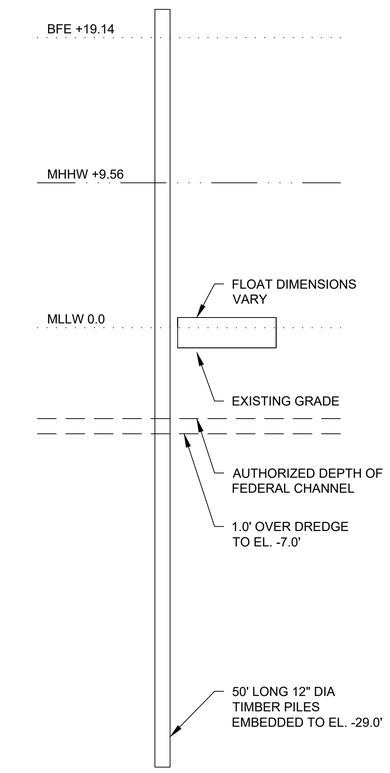
Town of Wells, Maine

NO	DATE	ISSUE/REVISION	APP
1	1/9/2025	PERMIT SET	DJB

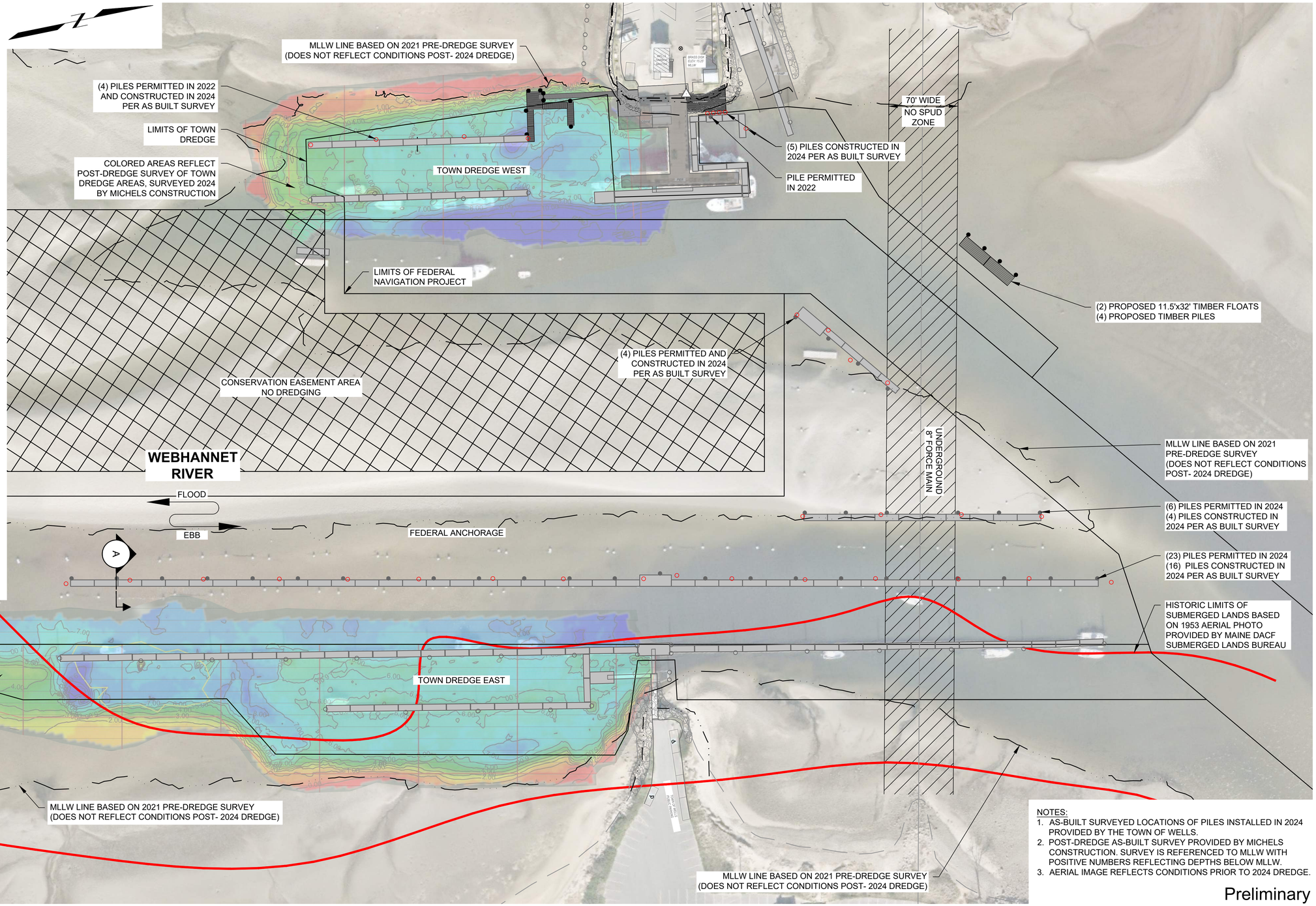
SHEET NAME: **PROPOSED PLAN**

SHEET NO.: C-02

---- \\geiconsultants.com\data\Data_Storage\Working\WELLS ME, TOWN OF\2103347 Wells Harbor Dredging\00_CAD\Design\Sheets\Pier Expansion\C-02 PROPOSED PLAN.dwg - 1/8/2025



A SECTION
TYPICAL FLOAT AND PILE SCALE: 1" = 10'-0"



LEGEND:

- PRE-EXISTING PILE
- PILE PERMITTED IN 2022 OR 2024
- PILE CONSTRUCTED IN 2024
- NEW PILE

0 50 100
SCALE: 1" = 50'

ELEVATION	MLLW*	NAVD88
BFE	+19.14'	+14.00'
HIGHEST OBSERVED TIDE (1/4/2018)	+13.35'	+8.21'
HAT	+11.50'	+6.36'
MHHW	+9.56'	+4.42'
MHW	+9.13'	+3.99'
MSL	+4.77'	-0.37'
MLW	+0.34'	-4.80'
MLLW	0.00'	-5.14'
LOWEST OBSERVED TIDE (2/20/2015)	-3.07'	-8.21'

*PROJECT DATUM

NOTES:
1. AS-BUILT SURVEYED LOCATIONS OF PILES INSTALLED IN 2024 PROVIDED BY THE TOWN OF WELLS.
2. POST-DREDGE AS-BUILT SURVEY PROVIDED BY MICHELS CONSTRUCTION. SURVEY IS REFERENCED TO MLLW WITH POSITIVE NUMBERS REFLECTING DEPTHS BELOW MLLW.
3. AERIAL IMAGE REFLECTS CONDITIONS PRIOR TO 2024 DREDGE.

Preliminary

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

DRAFT

Designed:	ACB
Drawn:	JLD
Checked:	-
Approved:	DJB
P.E. No:	-
GEI Project	2103347

GEI Consultants
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

Town of Wells
208 Sanford Road
Wells, ME 04090

WELLS HARBOR PIER EXPANSION

Town of Wells, Maine

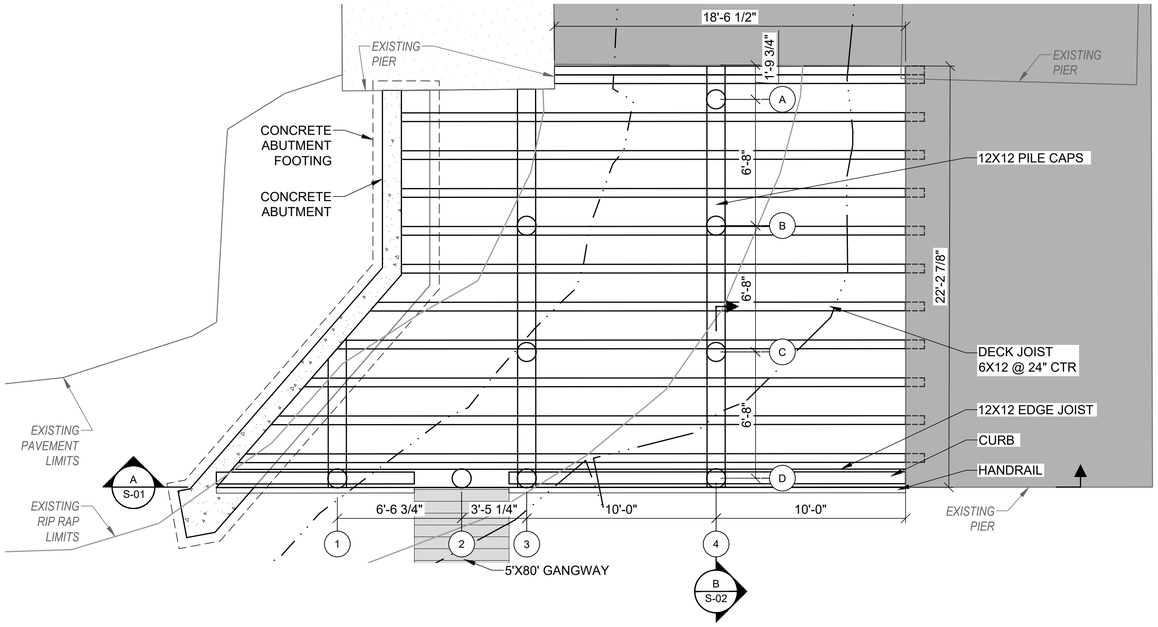
NO	DATE	ISSUE/REVISION	APP
1	4/23/2025	NRPA AND SUBMERGED LANDS MODIFICATIONS	DJB

SHEET NAME
HARBOR PLAN

DWG. NO.
FIG-01

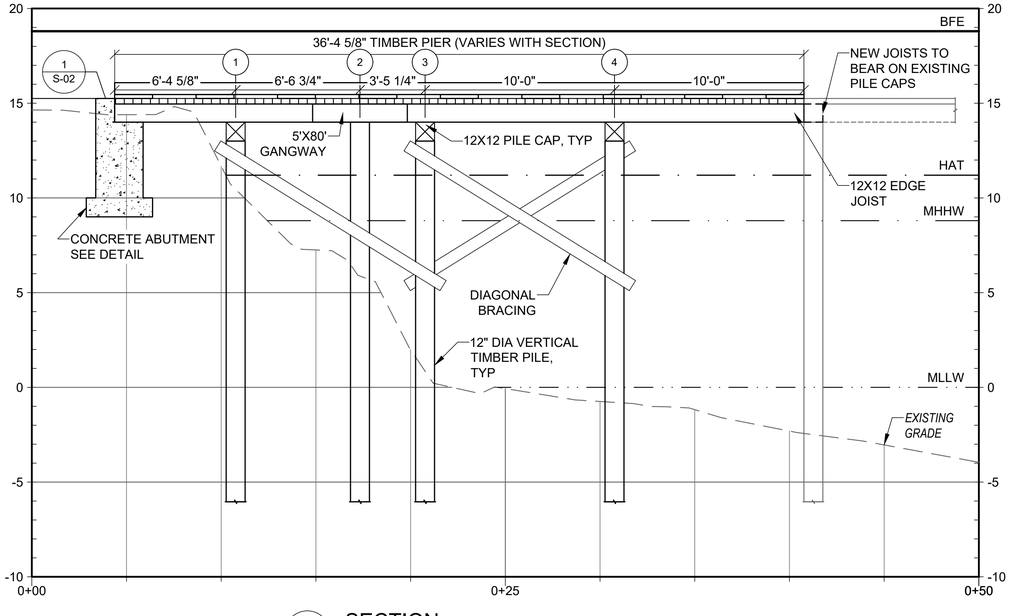
SHEET NO.
01 OF 01

---- B:\Working\WELLS ME, TOWN OF\2103347 Wells Harbor Dredging\00_CAD\Design\Sheets\Pier Expansion\Fig-01 HARBOR PLAN.dwg - 4/23/2025



SOUTH PIER FRAMING PLAN

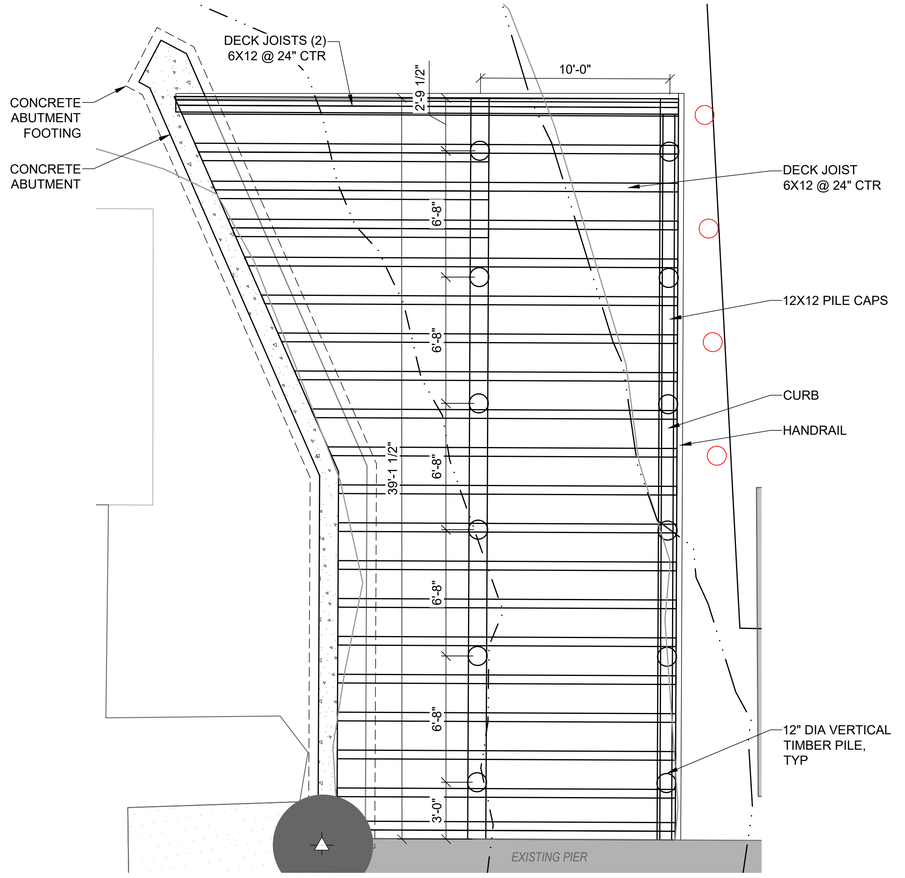
SCALE: 1" = 4'



A / S-01 SECTION PIER FRAMING

SCALE: 1" = 4'

NOTE:
SURVEY DATA WAS COLLECTED IN 2021. BATHYMETRY DOES NOT REFLECT CONDITIONS POST-DREDGE COMPLETED IN 2024



NORTH PIER FRAMING PLAN

SCALE: 1" = 4'

ELEVATION	MLLW*	NAVD88
BFE	+19.14'	+14.00'
HIGHEST OBSERVED TIDE (1/4/2018)	+13.35'	+8.21'
HAT	+11.50'	+6.36'
MHHW	+9.56'	+4.42'
MHW	+9.13'	+3.99'
MSL	+4.77'	-0.37'
MLW	+0.34'	-4.80'
MLLW	0.00'	-5.14'
LOWEST OBSERVED TIDE (2/20/2015)	-3.07'	-8.21'

*PROJECT DATUM

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

DRAFT

Designed:	ACB
Drawn:	JLD
Checked:	-
Approved:	DJB
P.E. No:	-
GEI Project	2103347

GEI Consultants
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

Town of Wells
208 Sanford Road
Wells, ME 04090

WELLS HARBOR PIER EXPANSION

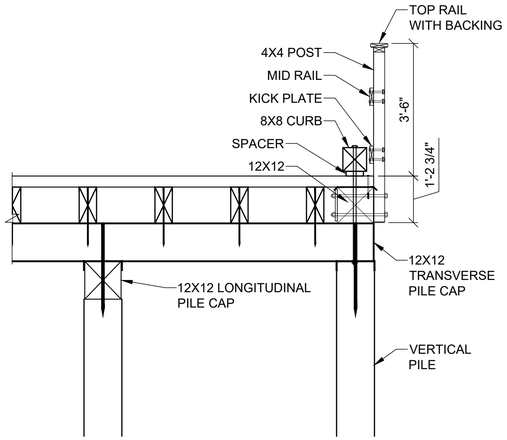
Town of Wells, Maine

NO	DATE	ISSUE/REVISION	APP
1	1/9/2025	PERMIT SET	DJB

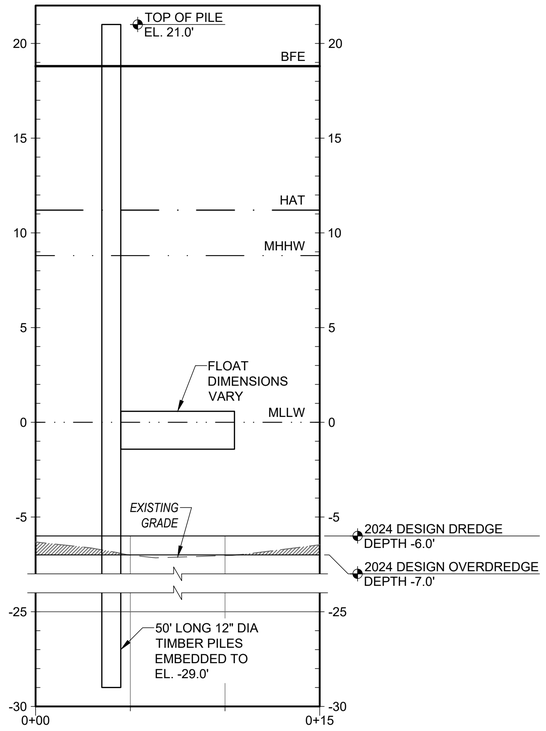
SHEET NAME: **DETAILS I**

SHEET NO.: S-01

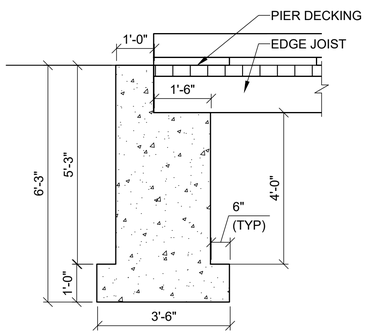
Preliminary



B S-01 SECTION DETAIL
PIER FRAMING AND RAILING SCALE: 1" = 2'



SECTION
TYPICAL FLOAT AND PILE SCALE: 1" = 4'



1 S-01 DETAIL
CONCRETE ABUTMENT SCALE: 1" = 2'

0 2 4 8
SCALE, FEET

0 1 2 4
SCALE, FEET

NOTE:
SURVEY DATA WAS COLLECTED IN 2021. BATHYMETRY DOES NOT REFLECT CONDITIONS POST-DREDGE COMPLETED IN 2024

ELEVATION	MLLW*	NAVD88
BFE	+19.14'	+14.00'
HIGHEST OBSERVED TIDE (1/4/2018)	+13.35'	+8.21'
HAT	+11.50'	+6.36'
MHHW	+9.56'	+4.42'
MHW	+9.13'	+3.99'
MSL	+4.77'	-0.37'
MLW	+0.34'	-4.80'
MLLW	0.00'	-5.14'
LOWEST OBSERVED TIDE (2/20/2015)	-3.07'	-8.21'

*PROJECT DATUM

Preliminary

Attention:
0 1"
If this scale bar does not measure 1" then drawing is not original scale.

DRAFT

Designed:	ACB
Drawn:	JLD
Checked:	-
Approved:	DJB
P.E. No:	-
GEI Project	2103347

GEI Consultants
5 MILK STREET
PORTLAND, ME 04101
(207)797-8901

Town of Wells
208 Sanford Road
Wells, ME 04090

WELLS HARBOR PIER EXPANSION

Town of Wells, Maine

NO	DATE	ISSUE/REVISION	APP
1	1/9/2025	PERMIT SET	DJB

SHEET NAME: **DETAILS II**

SHEET NO.: S-02

Work-Start Notification Form

File Number: NAE-2013-00319 **State: Maine** **County: York**

Permittee: Town of Wells c/o Mike Pardue
Date Verification Issued: 4/1/2026
Project Manager: Amanda Sayles

At least two weeks prior to commencing the activity authorized by this permit, sign this certification, and return it to the following address:

US ARMY CORPS OF ENGINEERS
New England District
Attn: Amanda L. Sayles
442 Civic Center Dr Suite 350
Augusta, Maine 04330
or
Amanda.L.Sayles@usace.army.mil

Please note that your permitted activity is subject to a compliance inspection by a U. S. Army Corps of Engineers (USACE) representative. Failure to comply with any terms or conditions of this authorization may result in the USACE suspending, modifying or revoking the authorization and/or issuing a Class I administrative penalty, or initiating other appropriate legal action.

The people (e.g. contractor) listed below will do the work, and they understand the permit's conditions and limitations.

Contractor Name/Contractor Firm: _____
Business Address: _____
_____
Contractor Phone and Email: _____

Proposed Construction Dates: **Start:** _____ **Finish:** _____

_____ _____
Signature of Permittee **Date**

U.S. Army Corps of Engineers (USACE)

CERTIFICATION OF COMPLIANCE WITH DEPARTMENT OF THE ARMY PERMIT

For use of this form, see Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act of 1899, and Section 103 of the Marine Protection, Research, and Sanctuaries Act; the proponent agency is CECW-COR.

Form Approved - OMB No. 0710-0003 Expires 2027-10-31

The Agency Disclosure Notice (ADN)

The Public reporting burden for this collection of information, 0710-0003, is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

PURPOSE: This form is used by recipients of U.S. Army Corps of Engineer Regulatory permits to certify compliance with the permit terms and conditions.

Your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with this permit, you are subject to permit suspension, modification, or revocation.

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the U.S. Army Corps of Engineers, New England District.

The certification can be submitted by email at cenae-r-me@usace.army.mil or by mail at the below address:

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the U.S. Army Corps of Engineers, New England District.

U.S. Army Corps of Engineers
New England District
Regulatory Division, Maine Project Office
442 Civic Center Drive, Suite 350
Augusta, ME 04330

COMPLETED BY THE CORPS

Corps Action Number:	NAE-2013-00319
Permit Type:	Regional General Permit
General Permit Number and Name (*if applicable*):	RGP C
Name of Permittee:	Town of Wells c/o Mike Pardue
Project Name:	Wells Harbor Pier Expansion
Project Location (*physical address*):	Within Wells Harbor, in 362 Harbor Road in Wells, Maine

PERMITTEE'S CERTIFICATION

Date Work Started: _____

Date Work Completed: _____

Enclose photographs showing the completed project (*if available*).

I _____ hereby certify that the work authorized by the above referenced permit has been completed in accordance with all of the permit terms and conditions, and that any required compensatory mitigation has been completed in accordance with the permit conditions.

Name	Date	Signature

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD MA 01742-2751

The following Maine Regional General Permits (RGPs) were issued on October 31, 2025 by the U.S. Army Corps of Engineers, New England District, Regulatory Division (NAE). On March 15, 2026, NAE began utilizing the 2026 Nationwide Permits (NWPs), which effectively replaced many of the Maine RGPs. Most activities that would have been reviewed under the replaced RGPs will now be reviewed under the 2026 NWPs. A subset of the Maine's RGPs remain available for use. The following document of the Maine RGPs has been edited to include only those RGPs that are still available (i.e., RGPs not replaced by NWPs). As such, there may be references within the RGPs document for removed RGPs.

Please refer to our website (https://www.nae.usace.army.mil/Missions/Regulatory/) for current practices in complying with other required Federal laws and regulations (i.e., Endangered Species Act, National Historic Preservation Act, and Magnuson-Stevens Fishery and Management Act).

NOTE: Verifications received under the removed/replaced RGPs remain valid until the expiration date of the RGPs, or one year from that date of expiration if work has commenced or is under contract to commence.

PLEASE NOTE: These Regional General Permits (RGPs) were repackaged for the issuance of the March 15, 2026 Nationwide Permits (NWPs). RGPs 1-60 will no longer be utilized and NWPs 1-60 will be used.

General Permit No.: NAE-2025-00485
Applicant: General Public, State of Maine

Effective Date: November 10, 2025
Expiration Date: October 31, 2030

Department of the Army
Regional General Permits for the State of Maine

The New England District, U.S. Army Corps of Engineers announces the thirty-seven (37) state-wide Department of Army Regional General Permits known as the Maine Regional General Permits (ME RGPs) with a modified Water Quality Certification (WQC) and Coastal Zone Management (CZM) consistency determination. This ME RGP document reflects updates resulting from a subsequent modification of the October 10, 2025 Maine general WQC and CZM consistency determination.

The ME RGPs are issued for activities subject to Corps jurisdiction in waters of the U.S., including wetlands; and navigable waters within the State of Maine and adjacent ocean waters to the seaward limit of the outer continental shelf. The Maine RGPs (hereafter referred to as the ME RGP or RGP) are issued in accordance with Corps regulations at 33 CFR 320 – 332 [see 33 CFR 325.5(c)(1)].

RGPs numbered “1-60” were developed to closely match the current 2021 Nationwide Permits (NWPs) and the upcoming 2026 NWPs. The next NWPs are proposed to be reissued in March 2026 and are proposed to be used in New England District (NAE), including the Maine Section. To ensure General Permit coverage, between October (expiration of existing Maine Regional General Permits NAE-2019-02771) to March (when the NWPs will be issued), the below RGPs will be used. Each RGP has been numbered to coincide with the current NWPs for ease of transition. Please note, once the 2026 NWPs are issued, New England District may phase in some or all the NWPs. The RGPs that have letters (A-C) will likely be proposed as New England District RGPs (post March 2026) as these activities are not covered under any proposed NWPs. If the new NWPs and/ or RGPs are proposed to be used in New England District, the NWPs will be public noticed in accordance with 33 CFR 330.5.

Tammy R. Turley — November 10, 2025

Tammy R. Turley — Date
Chief, Regulatory Division
New England District
U.S. Army Corps of Engineers

SECTION I. STATUTORY AUTHORITIES AND REGULATED ACTIVITIES

1. Federal Authorities

   a. **Section 10 of the Rivers and Harbors Act of 1899** (see 33 CFR Part 322). The Corps regulates any *structure* in, over, or under any *navigable waters of the United States* (as defined in 33 CFR 329), and *work* such as excavating or dredging from or depositing of material in such waters, or the accomplishment of any other work affecting the course, location, condition, or capacity of such waters.

   b. **Section 404 of the Clean Water Act** (see 33 CFR Part 323). The Corps regulates the discharge of *dredged material* or *fill material* and certain discharges associated with excavation into *waters of the United States* (as defined in 33 CFR 328), including wetlands. Exemptions of Section 404 can be found at 33 CFR Part 323.4.

2. State Approvals

   Applicants are responsible for applying for and obtaining any required state or local government agency approvals, such as those required by Maine Department of Environmental Protection, Maine Land Use Planning Commission, and Maine Department of Marine Resources; as well as those required by the City, Town, or County the project is located within. In many cases activities requiring Corps authorization will also require approval from these government agencies. However, Federal and state jurisdiction as well as review criteria will differ in some cases. State and Local permits may be required for specific projects regardless of Corps jurisdiction.

   When state or local approvals or statutorily required reviews are also required, those approvals should be obtained prior to commencing work under Corps jurisdiction. Refer to the document titled "*Agency & Partners Contact Directory"*, which can be found on the Corps website at: https://www.nae.usace.army.mil/missions/regulatory/state-general-permits/maine-general-permit/.

SECTION II. RGP PROCEDURES

To qualify under these RGPs, the design, construction, maintenance, and use associated with each proposed activity shall meet the terms and eligibility criteria listed in Section III of the RGPs and all applicable general conditions (GCs) in Section IV. For activities authorized by RGPs which do not require submission of a pre-construction notification, (i.e. non-notifying) prior to commencement of the activity, the proponent (i.e., the person and/or the entity performing the work) is responsible for ensuring the activity meets the terms of the applicable RGP, any applicable GCs, and applicable State Water Quality Certification (WQC) and Coastal Zone Management (CZM) Act consistency conditions found on Corps website at: https://www.nae.usace.army.mil/missions/regulatory/state-general-permits/maine-general-permit/. Below are the general conditions for the WQC and CZM. WQC and CZM specific conditions are within the RGP in Section III. Applicants should first review the RGPs to determine if a project is eligible for verification under one or more of the RGPs within this document. A Pre-Construction Notification (PCN) is required if a waiver is required by any RGP. Activities that do not meet criteria of these RGPs will require an Individual Permit (IP). Refer to the document titled *"Local Procedures For Submission of a Complete PCN or Application"* for guidance on the permitting process, which can be found on the Corps webpage at: https://www.nae.usace.army.mil/missions/regulatory/. (*This is a pending document and will be published on our website when completed.*)

Maine Department of Environmental Protection (DEP), Land Use Planning Commission (LUPC), and Maine Coastal Program (MCP) have coordinated on the review of the proposed ME RGPs and have decided the following RGPs would comply with state water quality requirements and MCP enforceable policies with additional conditions, provided that the applicant obtains all applicable state approvals pursuant to 38 M.R.S. §§480-A through -KK and 06-096 C.M.R. ch. 305 and ch. 310 and 01-672 C.M.R. ch. 10: RGPs A, B and C.

Environmental Protection Agency (EPA) issued WQC with general conditions for projects located within the boundaries of an Indian Reservation and Acadia National Park for the following GPs: A, B, and C. WQC was issued for the above listed GPs so long as the project proponent follows the below general conditions and any RGP specific conditions:

1. Prior to construction, the project proponent shall develop a plan that:
    - Includes time stamped photo-documentation of the baseline conditions (*i.e.*, 50 feet upstream of the project area, within the project area, and 100 feet downstream of the project area).
    - Identifies on a site map:
        - Project site with all waters of the U.S. demarcated. Identify all locations where the project will cross jurisdictional waterbodies and identify the ordinary high-water mark and/or wetland boundaries; the planned work area where wetlands/aquatic resources will be removed, disturbed, and/or protected; buffer zones; and areas to be restored/reclaimed, as well as site access points and other approved work areas. Staging areas and stockpiling of materials and equipment, including locations for containment booms and/or absorbent materials, and/or hazardous materials. Stockpiles (*e.g.*, sediment, soil, or other construction materials) shall be stored at least 50 feet from where it may enter waters of the U.S.
        - Construction access points.
        - Disturbance limits.
        - Locations where site dredging and placement of dredged material activities will occur.
        - Locations where hazardous materials are stored. Identify where containment booms and/or absorbent materials are located for corrective action if needed. Hazardous materials shall be stored in leak-proof containers with appropriate secondary containment measures (*e.g.*, spill berms, dikes, spill containment pallets, absorbent materials). Any silt/sediment fencing.
        - Photo-reference sites. The project proponent shall indicate the directional view and location where photos were taken on the site map.
    - Includes a description of how the site will be restored to pre-construction conditions, including stream hydrology and stability/or aquatic resource composition and diversity of native species to be used. Non-native and invasive species shall not be used for restoration activities.
    - Includes the following as applicable:
        - <u>Cofferdams, temporary berms, pilings, and/or dikes:</u> Describe installation and maintenance practices for any cofferdams, temporary berms, pilings, and/or dikes.
        - <u>Dredging:</u> Describe how contaminated materials will be managed (*e.g.*, sediment testing data and information to identify whether sediments are clean or contaminated), if included in the project dredged area. Describe methods for minimizing dredging impacts (*i.e.*, sedimentation resuspension) in the water column.

    - Erosion control: Identify the types and locations of sediment and erosion control features that shall be used onsite, including sediment control fences, haybales, heavy mud mats, and/or other structures. Biodegradable blankets and/or loose-weave mesh shall be used for erosion control matting. Dewatering: Describe methods for dewatering, including the equipment that would be used to conduct the dewatering activities. Identify the locations and timing, including length of time the area is to be dewatered. Explain removal method of the temporary structures and/or fill and what measures will be taken to minimize downstream turbidity and adaptive management measures that will be taken and employed to prevent the draining of waters of U.S., including wetlands.
    - Ditching: Explain trenching and material placement techniques and stabilization methods to be employed, as well as timing. In wetlands, the top 6 to 12 inches of the trench shall be backfilled with topsoil from the trench, unless other techniques are approved. Include activity timing needs for ditching and stabilization.
- Submit the plan to EPA Region 1 at R1CWA401@epa.gov.

During construction, the project proponent shall:

- Visually inspect construction activities daily.
- Prevent sediment, debris, silt, sand, cement, concrete, oil or petroleum, organic materials, or other construction debris or wastes from entering waters of the U.S.
- Maintain documentation onsite that all equipment was cleaned of dirt, mud and other materials prior to arriving on the project site.
- Inspect all equipment daily and prior to entering any waters of the U.S. for oil, gas, diesel, anti-freeze, hydraulic fluid, and other petroleum leaks. If the project proponent detects a leak from any equipment, they shall immediately remove the equipment from waters of the U.S.; and within 24 hours of detection of a leak, repair the equipment in a staging area or move it offsite.
- Limit vegetation clearing and disturbance to waters.
- Limit restoration of the channel bed to pre-existing contours and conditions.
- Photo-document any failures or increased turbidity due to construction activities. Within 24 hours of observing a failure or marked increase in turbidity associated with construction, the project proponent shall remedy and implement any additional adaptive management measures to stabilize the activity and prevent further unauthorized discharges into waters of the U.S. The project proponent shall photo-document the failure (*i.e.*, 50 feet upstream of failure, at the incident site, and at least 100 feet downstream of the failure) and the adaptive management measures taken immediately following implementation. The project proponent shall take photos at the same location and direction as the photos in the plan.
    - Within 48 hours of observing any failure, the project proponent shall provide EPA Region 1 with the above mentioned photo-documentation, and descriptions of all observed failures and remedies.
    - Within three weeks of observing a failure, the project proponent shall provide EPA Region 1 with a description of the impacts and effectiveness of the adaptive management measures.

- Carry out as applicable:
    - Erosion control: Inspect sediment and erosion control measures daily during project implementation and within 12 hours of precipitation events. After construction is complete, stabilization purposes.
    - Dewatering: Assess all dewatering measures within 24 hours after a storm event.

Post construction, the project proponent shall as applicable:

- Submit a copy of the as-builts and a post dredged and disposal report within 45 days of each dredging or disposal event to EPA Region 1 at R1CWA401@epa.gov. The project proponent shall include the following items in the post-dredged and disposal report:
    - Dredging and disposal dates.
    - Updated site map displaying the disposal location(s).
    - Dredging and disposal volumes.
    - Water quality monitoring data.
    - Post-dredged bathymetry.
    - Updated site maps displaying any new ditches, spoil piles, widths and depths.

SECTION III. MAINE REGIONAL GENERAL PERMITS

Applicants shall review all Sections of the RGPs prior to utilizing them or submitting a pre-construction notification to the Corps to confirm that the activity, as proposed, complies with all terms and conditions of the 2025 ME RGPs.

Regional General Permits

1. Replaced by NWP 1 - Aids to Navigation
3. Replaced by NWP 3 - Maintenance
4. Replaced by NWP 4 - Fish & Wildlife Harvesting, Enhancement, and Attraction Devices & Activities
5. Replaced by NWP 5 - Scientific Measurement Devices
6. Replaced by NWP 6 - Survey Activities
7. Replaced by NWP 7 - Outfall Structures and Associated Intake Structures
11. Replaced by NWP 11 - Temporary Recreational Structures
12. Replaced by NWP 12 - Oil or Natural Gas Pipeline Activities
13. Replaced by NWP 13 - Bank Stabilization
14. Replaced by NWP 14 - Linear Transportation Projects
15. Replaced by NWP 15 - U.S. Coast Guard Approved Bridges
17. Replaced by NWP 17 - Hydropower Projects
18. Replaced by NWP 18 - Minor Discharges
19. Replaced by NWP 19 - Minor Dredging
20. Replaced by NWP 20 - Response Operations for Oil or Hazardous Substances
27. Replaced by NWP 27 - Aquatic Ecosystem Restoration, Enhancement, and Establishment Activities
29. Replaced by NWP 29 - Residential Developments
33. Replaced by NWP 33 - Temporary Construction, Access, and Dewatering
38. Replaced by NWP 38 - Cleanup of Hazardous and Toxic Waste
39. Replaced by NWP 39 - Commercial and Institutional Developments
41. Replaced by NWP 41 - Reshaping Existing Drainage and Irrigation Ditches
42. Replaced by NWP 42 - Recreational Facilities
43. Replaced by NWP 43 - Stormwater Management Facilities
45. Replaced by NWP 45 - Repair of Uplands Damaged by Discrete Events
46. Replaced by NWP 46 - Discharges in Ditches
48. Replaced by NWP 48 - Commercial Shellfish Mariculture Activities
51. Replaced by NWP 51 - Land-Based Renewable Energy Generation Facilities
52. Replaced by NWP 52 - Water-Based Renewable Energy Generation Pilot Projects
53. Replaced by NWP 53 - Removal of Low-Head Dams
54. Replaced by NWP 54 - Living Shorelines
55. Replaced by NWP 55 - Seaweed Mariculture Activities
57. Replaced by NWP 57 - Electric Utility Line and Telecommunications Activities
58. Replaced by NWP 58 - Utility Line Activities for Water and Other Substances
60. Replaced by NWP 60 - Activities to Improve Passage of Fish and Other Aquatic Organisms

A. Boat Ramps

B. Dredging, Disposal of Dredged Material, Beach Nourishment, Rock Relocation, Rock & Debris Removal, and Recreational Beach Grading & Raking

C. Structures and Moorings in Navigable Waters of The U.S.

RGP C. Structures and Moorings in Navigable Waters of the U.S. (Authority: Section 10 and Section 404):

New, expansions, replacement, removal, reconfigurations, or modifications of structures within navigable waters of the U.S., including but not limited to temporary/seasonal or permanent pile- and crib-supported piers, gangway ramps, floats, stairs, dolphins, shore haul outs, moorings, boat & float lifts. Discharges of fill material that are associated with the construction of such structures (e.g., poured concrete footings, etc.) that do not exceed 1/10 in waters of the U.S. This RGP does not authorize artificial reefs and new marinas, unless the district engineer waives this limitation by making a written determination concluding the work will result in no more than minimal adverse environmental effects.

Pre-construction notification required if:

(1) There are multiple new commercial or rental moorings;

(2) The piles cannot be installed "in the dry" (i.e. below the mean low water and/or during periods of high tide that leave the site submerged);

(3) New piers, ramps, and floats exceed a total of 1,000 square feet below the MHW; or

(4) Structure(s) extend greater than 25 percent of the waterway width, as measured from mean low water.

Note 1: Structures with no discharges of dredged or fill material are not regulated by the Corps in non-navigable waters.

Note 2: Seasonal storage of structures in navigable waters, e.g., in a protected cove, requires prior Corps approval.

Note 3: Minor relocation of previously authorized moorings requires no additional authorization so long as all general conditions of the general permit are met.

Note 4: Low impact mooring systems, including conservation moorings, are encouraged to minimize impacts of chain scouring from conventional moorings during the tidal cycle. Existing, authorized moorings that are converted from traditional moorings to low impact mooring technology and/or helical anchors do not need further authorization.

Note 5: Coastal structures such as pier sections, floats, etc., that are removed from the waterway for a portion of the year (often referred to as seasonal structures) shall be stored in an upland location, located above MHW and not in tidal wetlands. These seasonal structures may be stored on the fixed, pile-supported portion of the structure that is seaward of MHW. This is intended to prevent structures from being stored on the marsh substrate and the substrate seaward of MHW.

Section 401 Water Quality Certification (WQC):

- MEDEP and LUPC granted WQC with a general condition for projects located within the boundaries of the State of Maine. See Section II above for the general condition.

- EPA granted WQC with general conditions and RGP-specific conditions for projects located within the boundaries of an Indian Reservation and Acadia National Park. See Section II above for general conditions.

- *RGP specific condition:*

  - *This grant with conditions is for structures in non-wetland waters of the United States. For work that proposes installation of new structures in wetlands, an individual water quality certification will be required.*

Coastal Zone Management (CZM) Act Consistency Determination:

The MCP concurred with general conditions with the Corps federal consistency determination for areas that are from the inland boundary of coastal municipalities or unorganized townships or plantations that contain tidal waters seaward to the outer limit of the State's territorial ownership, three nautical miles from the baseline from which the territorial sea is measured. See Section II above for the general condition.

SECTION IV: General Conditions

To qualify for RGP authorization, the prospective permittee must comply with the following general conditions (GCs), as applicable. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an RGP.

1. Navigation
2. Aquatic Life Movements
3. Spawning Areas
4. Migratory Bird Breeding Areas
5. Shellfish Beds
6. Suitable Material
7. Water Supply Intakes
8. Adverse Effects From Impoundments
9. Management of Water Flows
10. Fills Within 100-Year Floodplains.
11. Equipment.
12. Soil Erosion and Sediment Controls.
13. Removal of Temporary Structures and Fills.
14. Proper Maintenance
15. Single and Complete Project
16. Wild and Scenic Rivers
17. Tribal Rights.
18. Federal Threatened and Endangered Species
19. Migratory Birds and Bald and Golden Eagles
20. Historic Properties
21. Discovery of Previously Unknown Remains and Artifacts
22. Designated Critical Resource Waters
23. Mitigation
24. Safety of Impoundment Structures
25. Water Quality
26. Coastal Zone Management
27. Regional and Case-By-Case Conditions
28. Use of Multiple Regional General Permits
29. Transfer of General Permit Verifications
30. Compliance Certification
31. Activities Affecting Structures or Works Built by the United States
32. Pre-Construction Notification
33. PCN Summary Table
34. Essential Fish Habitat
35. Invasive Species
36. General Permit Documentation On-Site
37. Abandonment
38. Expiration of Regional General Permits

1. **Navigation.**

(a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his or her authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

(d) Aquaculture:

Navigation Risk Assessment (NRA), Aids to Navigation (AtoN), and Charting:

i. Coordination with the USCG can be completed by contacting via email: D01-SMB-SecNNE-Waterways@uscg.mil.

The applicant shall provide the following information to facilitate completion of the NRA: applicant name/company affiliation, license/lease type (commercial, research, shellfish, kelp, new or modified), nautical chart, detailed drawing with dimensions, time of year, potential lighting/marking, types/materials of structures in water, planned anchoring, cultivation techniques (number of weekly/monthly visits, vessel tending/type), and any other significant information.

If the applicant receives a medium- or high-risk assessment, they shall coordinate with the Corps and apply safety risk mitigations. The USCG will refer the project to the Corps unless the Corps makes the determination that it may proceed.

Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense. For required permitting, the applicant shall contact USCG First District Private Aid Program Manager through D01-SMB-D01PrivateAtoN@uscg.mil. Only actual AtoNs are permitted; floats, balls, markers, mooring balls and ‘highflier flags’ are not considered Aids to Navigation (AtoN). See: http://www.usharbormaster.com.

Applicants shall notify NOAA’s National Ocean Service (NOS) Nautical Data Branch Office of Coast Survey to initiate chart and Coast Pilot corrections. See:

https://nauticalcharts.noaa.gov/. Applicants must also notify NOAA on removal. See Note 2 below.
ii. For marine safety information during construction or other significant periods, applicants may use the First District's Marine Safety Information form and email to: D01-SMB-LNM@uscg.mil.

Note 1: If a PCN is required, applicants shall include documentation of all required coordination with their PCN.

Note 2: For nautical chart and coast pilot updates, activities owners should use the status report form at https://nauticalcharts.noaa.gov/charts/docs/charts-updates/USACE+Permit+Status+Report.pdf. For aquaculture activities owners should use: https://nauticalcharts.noaa.gov/charts/docs/charts-updates/Artificial+Reef+Aquaculture+Status+Report.pdf to notify the Office of Coast Survey of the project completion. The form should be emailed to ocs.ndb@noaa.gov and should include a copy of as-built drawings.

Note 3: There shall be no unreasonable interference with navigation by the existence or use of any activity authorized by any RGP, and no attempt shall be made by a permittee to prevent the full and free use by the public of all navigable waters at or adjacent to any activity authorized by any RGP.

2. **Aquatic Life Movements.**

No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

Note: Compliance with this condition may be achieved by ensuring that during in-stream work, the low flow channel/thalweg remains unobstructed during periods of low flow, except when it is necessary to perform the authorized work. Additionally, for work in tidal waters, in-stream controls should be installed in such a manner that do not obstruct fish passage.

3. **Spawning Areas.**

Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. **Migratory Bird Breeding Areas.**

   Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. **Shellfish Beds.**
   No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by RGPs 4, 48, 55 or is a shellfish seeding or habitat restoration activity authorized by RGP 27.

   Note: Contact the Maine Department of Marine Resource (ME DMR) for further conservation measures if a proposed activity would result in excess turbidity (i.e., dredging) and is located within 100 feet of ME DMR shellfish areas. Reference materials can be found at: https://dmr-maine.opendata.arcgis.com/datasets/mainedmr-molluscan-shellfish-2010/explore?location=43.733484%2C-69.767928%2C10.43 and https://mgs-maine.opendata.arcgis.com/datasets/maine-coastal-marine-geologic-environments/explore.

6. **Suitable Material.**
   No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. **Water Supply Intakes.**

   No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent stabilization.

8. **Adverse Effects From Impoundments.**

   If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

   Note: Permanent wetland crossings shall be constructed in such a manner as to prevent excessive ponding or drying on either side of the authorized crossing after completion of the work. Measures shall be taken to maintain the existing hydrology. Such measures may include road cross drains such as culverts that are appropriately sized and placed at intervals to maintain the existing hydrology of the contiguous wetland.

9. **Management of Water Flows.**

   To the maximum extent practicable, the preconstruction course, condition, capacity, and location of open waters must be maintained for each activity, including stream

channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows, including tidal flows. The activity must not restrict or impede the passage of normal or high flows, including tidal flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the preconstruction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains.

The activity must comply with applicable FEMA approved state or local floodplain management requirements.

11. Equipment.

Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

If mats are used to minimize soil disturbance, the affected areas must be returned to pre-construction elevations, and revegetated as appropriate. In circumstances where the use of mats has caused significant soil compaction efforts using techniques (e.g., soil reaeration techniques) to break up the compaction should be employed to return the soil to a pre-construction state prior to returning to pre-construction elevations.

Note 1: Compliance with this condition may be achieved through the implementation of best management practices outline in NAE's "*Construction Mat BMPs*" document available at: https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Maine-General-Permit/.

Note 2: Compliance with this condition may be achieved by ensuring that construction equipment such as barges in tidal waters always provide clearance above the substrate to avoid impacts to SAS during all tides.

Note 3: Compliance with this condition may be achieved by ensuring that construction equipment that would cross or access streams utilizes temporary bridges, spans, construction mats, culverts, or cofferdams to minimize disturbance to the waterway.

12. Soil Erosion and Sediment Controls.

Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

Note: Compliance with this condition may be achieved by ensuring that all discharge points back into waters of the U.S., including wetlands use appropriate energy dissipaters and erosion and sedimentation control BMPs. Controls that are biodegradable can be left in place but should be removed if not biodegradable. Temporary controls should be removed upon completion of work, but not before all exposed soil and other fills and any work waterward of the OHWM are permanently stabilized. Once permanently stabilized, temporary controls should be removed as soon as possible. Sediment and debris collected by these controls should be removed and placed at an upland location and in a manner that will prevent its later erosion into a waterway or wetland.

13. Removal of Temporary Structures and Fills.

Temporary structures must be removed, to the maximum extent practicable, after their use has been discontinued. Temporary fills must be removed in their entirety and the affected areas returned to preconstruction elevations. The affected areas must be revegetated, as appropriate.

Note: Compliance with this general condition may be achieved through the use of underlying temporary fills with geotextile fabric which may help to facilitate the restoration to pre-construction elevations.

14. Proper Maintenance.

Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable RGP general conditions, as well as any activity-specific conditions added by the district engineer to an RGP authorization.

Note: Derelict, degraded or abandoned piles and sheet piles in navigable waters of the U.S., except for those inside existing work footprints for piers, must be completely removed, cut and/or driven to three feet below the substrate to prevent interference with navigation. Existing creosote piles that are affected by project activities shall be completely removed if practicable. In areas of fine-grained substrates, piles must be removed by the direct, vibratory or clamshell pull method to minimize sedimentation and turbidity impacts and prevent interference with navigation from cut piles. Removed piles shall be disposed of in an upland location landward of MHW or OHW and not in wetlands, tidal wetlands, their substrate, or mudflats.

15. Single and Complete Project.

The activity must be a single and complete project. The same RGP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers.

(a) No RGP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible

inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed RGP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the pre-construction notification with the Federal agency with direct management responsibility for that river. Permittees shall not begin the RGP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed RGP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: http://www.rivers.gov/.

Note: See also: General Condition 33(c), Additional PCN Requirement (Wild and Scenic Rivers).

17. Tribal Rights.

No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. Federal Threatened and Endangered Species.

(a) No activity is authorized under any RGP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify designated critical habitat or critical habitat proposed for such designation. No activity is authorized under any RGP which "may affect" a listed species or critical habitat, unless ESA section 7 consultation addressing the consequences of the proposed activity on listed species or critical habitat has been completed. See 50 CFR 402.02 for the definition of "effects of the action" for the purposes of ESA section 7 consultation.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA (see 33 CFR 330.4(f)(1)). If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has

been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA.

Note: Federal agencies should refer to "*Multiple Federal Agency & Lead Federal Agency Best Practices"* when a Corps permit is required, which can be found on the Corps webpage at: www.nae.usace.army.mil/Missions/Regulatory/. (*This is a pending document and will be published on our website when completed.*)

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat or critical habitat proposed for such designation, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation), the pre-construction notification must include the name(s) of the endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or that utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. For activities where the non-Federal applicant has identified listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have "no effect" on listed species (or species proposed for listing or designated critical habitat (or critical habitat proposed for such designation), or until ESA section 7 consultation or conference has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation or conference with the FWS or NMFS the district engineer may add species-specific permit conditions to the RGPs.

(e) Authorization of an activity by an RGP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat

modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed RGP activity, the non-federal permittee should provide a copy of that ESA section 10(a)(1)(B) permit with the pre-construction notification required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed RGP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed RGP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed RGP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete preconstruction notification whether the ESA section 10(a)(1)(B) permit covers the proposed RGP activity or whether additional ESA section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.nmfs.noaa.gov/pr/species/esa/ respectively.

19. Migratory Birds and Bald and Golden Eagles.

The permittee is responsible for ensuring that an action authorized by an RGP complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting the appropriate local office of the U.S. Fish and Wildlife Service to determine what measures, if any, are necessary or appropriate to reduce adverse effects to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties.

(a) No activity is authorized under any RGP which may have the potential to cause effects on properties listed, or eligible for listing, in the National Register of Historic Places until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)(1)). If pre-construction notification is required for the proposed RGP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that

the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106.

Note: Federal agencies should refer to "*Multiple Federal Agency & Lead Federal Agency Best Practices"* when a Corps permit is required, which can be found on the Corps webpage at: www.nae.usace.army.mil/Missions/Regulatory/. (*This is a pending document and will be published on our website when completed.*)

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the RGP activity might have the potential to cause effects on any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed RGP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts commensurate with potential impacts, which may include background research, consultation, oral history interviews, sample field investigation, and/or field survey. Based on the information submitted in the pre-construction notification and these identification efforts, the district engineer shall determine whether the proposed RGP activity has the potential to cause effects on historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect.

(d) Where the non-Federal applicant has identified historic properties on which the proposed RGP activity might have the potential to cause effects and has so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects on historic properties or that NHPA section 106 consultation has been completed. For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the

non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

Note: To comply with GC 20 above, the *State Historic Preservation Office & Tribal Scoping Request* template should be submitted to the Maine Historic Preservation Commission and the Federally Recognized Tribes and included in the PCN submission to the Corps, which can be found on the Corps website. Also, the document titled "*Best Practices for Historic Properties & Cultural Resources"* is also found on the Corps website at: https://www.nae.usace.army.mil/Missions/Regulatory/. (*The above documents are pending and will be published on our website when completed. Please continue to notify the MHPC and THPOs through current practices.*)

21. Discovery of Previously Unknown Remains and Artifacts.

Permittees that discover any previously unknown historic, cultural or archaeological remains and artifacts while accomplishing the activity authorized by an RGP, they must immediately notify the district engineer of what they have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters.

Critical resource waters include, NOAA managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district

engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by RGPs 7, 12, 17, 29, 39, 42, 43, 51, 52, 57 and 58 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For RGPs 3, 13, 15, 18, 19, 27, 33, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed by permittees in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these RGPs only after she or he determines that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation.

The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 -acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

(d) Compensatory mitigation at a minimum one-for-one ratio will be required for all losses of stream bed that exceed 3/100-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity specific waiver of this requirement. This compensatory mitigation requirement may be satisfied through the restoration or enhancement of riparian areas next to streams in accordance with paragraph (e) of this general condition. For losses of stream bed of 3/100-acre or less that require pre-construction notification, the district engineer may determine on a case-

by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, because streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for RGP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. If restoring riparian areas involves planting vegetation, only native species should be planted. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the RGPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the pre-construction notification is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f).)

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the RGP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). If permittee-responsible mitigation is the proposed option, and the proposed compensatory mitigation site is located on land in which another federal agency holds an easement, the district engineer will coordinate with that federal agency to determine if proposed compensatory mitigation project is compatible with the terms of the easement.

(5) If in-lieu fee program credits are the proposed option, the mitigation plan needs to address only the baseline conditions at the impact site and the number of credits to be provided (see 33 CFR 332.4(c)(1)(ii)).

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the RGP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the RGPs. For example, if an RGP has an acreage limit of ½-acre, it cannot be used to authorize any RGP activity resulting in the loss of greater than ½ -acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an RGP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the RGPs.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the RGP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may

be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

Note 1: In addition to the requirements of GC 23 above - *Mitigation*, compensatory mitigation requirements for unavoidable impacts to waters of the U.S. will be evaluated in accordance with the current *New England District Compensatory Mitigation Standard Operating Procedures* (April 26, 2024) and any superseding versions thereof (https://www.nae.usace.army.mil/Missions/Regulatory/Mitigation/).

Note 2: Applicants are encouraged to utilize the Regulatory In-lieu Fee and Bank Information Tracking System (RIBITS) in order to determine which in-lieu fee programs and/or mitigation banks have a sufficient amount of appropriate and available credits which they may propose to use to offset their proposed activity's unavoidable impacts to waters of the U.S., including wetlands. RIBITS is available at: https://ribits.ops.usace.army.mil/ords/f?p=107:2:::::.

24. Safety of Impoundment Structures.

To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state or federal, dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality.

(a) Where the certifying authority (state, authorized tribe, or EPA, as appropriate) has not previously certified compliance of an RGP with CWA section 401, a CWA section 401 water quality certification for the proposed activity which may result in any discharge from a point source into waters of the United States must be obtained or waived (see 33 CFR 330.4(c)). If the permittee cannot comply with all of the conditions of a water quality certification previously issued by the certifying authority for the issuance of the RGP, then the permittee must obtain a water quality certification or waiver for the proposed activity which may result in any discharge from a point source into waters of the United States in order for the activity to be authorized by an RGP.

(b) If the RGP activity requires pre-construction notification and the certifying authority has not previously certified compliance of an RGP with CWA section 401, the proposed activity which may result in any discharge from a point source into waters of the United States is not authorized by an RGP until water quality certification is obtained or waived. If the certifying authority issues a water quality certification for the proposed discharge into waters of the United States, the permittee must submit a copy of the certification to the district engineer. The discharge into waters of the United States is not authorized by an RGP until the district engineer has notified the permittee that the water quality

certification requirement has been satisfied (i.e., by the issuance of a water quality certification or a waiver and completion of the Section 401(a)(2) process).

(c) The district engineer or certifying authority may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

Note 1: For information concerning how to apply to EPA for a Water Quality Certification for activities located within a Indian Reservation and Acadia National Park, please see: https://www.epa.gov/cwa-401/resources-when-epa-acts-certifying-authority-under-section-401 and/or contact: R1CWA401@epa.gov.

Note 2: For information concerning how to apply to LUPC or MEDEP for a Water Quality Certification, please see: https://www.maine.gov/dep/water/wd/wqc/.

26. Coastal Zone Management.

In coastal states where an RGP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). If the permittee cannot comply with all of the conditions of a coastal zone management consistency concurrence previously issued by the state, then the permittee must obtain an individual coastal zone management consistency concurrence or presumption of concurrence in order for the activity to be authorized by an RGP. The district engineer or a state may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

Note 1: If an individual state coastal zone management consistency concurrence is required, applicants should submit a determination of consistency (see 15 CFR 930 Subpart C) or a consistency determination to the state (see 15 CFR 930 subpart D) at the same time as the PCN is submitted to the Corps, or shortly thereafter.

Note 2: For information concerning how to apply to the Maine Office of Community Affairs for a coastal zone management consistency certification, please see: https://www.maine.gov/dmr/programs/maine-coastal-program/federal-consistency-review.

27. Regional and Case-By-Case Conditions.

The activity must comply with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its CWA section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Regional General Permits.

The use of more than one RGP for a single and complete project is authorized, subject to the following restrictions:

(a) The total acreage loss of waters of the United States for a single and complete project cannot exceed the acreage limit of the RGP with the highest specified acreage limit when multiple RGPs are used to authorize an activity.

(b) If only one of the RGPs used to authorize the single and complete project has a specified acreage limit, the acreage loss of waters of the United States for that single and complete project cannot exceed that specified acreage limit. For example, if a road crossing over tidal waters is constructed under RGP 14 (which has an acreage limit of 1/3 acre in tidal waters), with associated bank stabilization authorized by RGP 13 (which does not have a specified acreage limit), the maximum acreage loss of waters of the United States for the total project cannot exceed 1⁄3-acre.

(c) If two or more of the RGPs used to authorize the single and complete project have specified acreage limits, the acreage loss of waters of the United States authorized by each of those RGPs cannot exceed the specified acreage limits of each of those RGPs. For example, if a commercial development is constructed under RGP 39 (which as a 1/2-acre limit), and the single and complete project includes the filling of a ditch authorized by RGP 46 (which has a 1-acre limit), the maximum acreage loss of waters of the United States for the construction of the commercial development under RGP 39 cannot exceed 1/2-acre, and the total acreage loss of waters of United States caused by the combination of the RGP 39 and RGP 46 activities cannot exceed 1 acre.

29. Transfer of General Permit Verifications.

If the permittee sells the property associated with a regional general permit verification, the permittee may transfer the regional general permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the regional general permit verification must be attached to the letter, and the letter must contain the following statement and signature:

"When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this regional general permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

_____ _____
(Transferee)

_____
(Date)

30. Compliance Certification.

Each permittee who receives an RGP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The successful completion of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the RGP verification letter. The certification document will include:

(a) A statement that the authorized activity was done in accordance with the RGP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the activity and mitigation. The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. Activities Affecting Structures or Works Built by the United States.

If an RGP activity also requires review by, or permission from, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission and/or review is not authorized by an RGP until the appropriate Corps office issues the section 408 permission or completes its review to alter, occupy, or use the USACE project, and the district engineer issues a written RGP verification.

Note: Refer to the New England District's Section 408 Program webpage that can be found at: https://www.nae.usace.army.mil/Missions/Section-408/. See also: Regional Condition 33(b), Additional PCN Requirement (Federal Projects).

32. Pre-Construction Notification.

(a) Timing. Where required by the terms of the RGP, the prospective permittee must notify the district engineer by submitting a preconstruction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information

necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the RGP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. If the proposed activity requires a written waiver to exceed specified limits of an RGP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the RGP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific RGP or RGP(s) the prospective permittee wants to use to authorize the proposed activity;

(4) (i) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the RGP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental

effects caused by the proposed activity; and any other RGP(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures.

(ii) For linear projects where one or more single and complete crossings require preconstruction notification, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters (including those single and complete crossings authorized by an RGP but do not require PCNs). This information will be used by the district engineer to evaluate the cumulative adverse environmental effects of the proposed linear project, and does not change those non PCN RGP activities into RGP PCNs.

(iii) Sketches should be provided when necessary to show that the activity complies with the terms of the RGP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of waters, wetlands, and other special aquatic sites on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45-day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate. For RGP 27 activities that require PCNs because of other general conditions or regional conditions imposed by division engineers, see Note 2 of that RGP;

Note: To comply with the above GC 32(5), the following methodologies should be utilized:

(a) Wetlands should be delineated in accordance with the Corps Wetlands Delineation Manual and the most recent Northcentral/Northeast Regional Supplement. Wetland delineation and jurisdiction information can be found at: www.nae.usace.army.mil/missions/regulatory/jurisdiction-and-wetlands and https://www.usace.army.mil/Media/Announcements/Article/4262089/1-august-2025-us-army-corps-of-engineers-enhances-aquatic-resource-delineation/.
(b) Refer to the “Best Practices for Jurisdictional Determinations and Wetland Delineations,” which can be found on the Corps webpage at:

https://www.nae.usace.army.mil/missions/regulatory/. (*This is a pending document and will be published on our website when completed.*)

(c) The ordinary high water mark should be delineated (on both sides) when streams, rivers, non-tidal open waters are present on the project site. Ordinary high water mark guidance can be found in RGL 05-05 (https://usace.contentdm.oclc.org/utils/getfile/collection/p16021coll9/id/1253). For complex, atypical, or problematic sites see: https://www.erdc.usace.army.mil/Media/Fact-Sheets/Fact-Sheet-Article-View/Article/486085/ordinary-high-water-mark-ohwm-research-development-and-training/.

(d) Vegetated shallows should be delineated when present on the project site. Vegetated shallow survey guidance and maps can be found on the Corps webpage at: https://www.nae.usace.army.mil/Missions/Regulatory/Jurisdiction-and-Wetlands/.

(e) All Essential Fish Habitat should be delineated when present on the project site. EFH survey guidance can be found in the current EFH programmatic, which can be found on the Corps webpage at https://www.nae.usace.army.mil/Missions/Regulatory/Essential-Fish-Habitat/.

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed and a PCN is required, the prospective permittee must submit a statement describing how the compensatory mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-federal permittees, if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat (or critical habitat proposed for such designation), the PCN must include the name(s) of those endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. For RGP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-federal permittees, if the RGP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For RGP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the "study river" (see general condition 16); and

(10) For an RGP activity that requires permission from, or review by, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the preconstruction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from, or review by, the Corps office having jurisdiction over that USACE project.

Note: Refer to the "*Best Practices for 408 Procedures",* which can be found on the Corps webpage at: https://www.nae.usace.army.mil/missions/regulatory/state-general-permits/maine-general-permit/.

(c) Form of Pre-Construction Notification: The regional general permit pre-construction notification form (Form ENG 4342) should be used for RGP PCNs. A letter containing the required information may also be used. All PCN forms shall be submitted to the Maine Project Office via email:cenae-r-me@usace.army.mil.

(d) Agency Coordination:

(1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the RGPs and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for:

(i) all RGP activities that require preconstruction notification and result in the loss of greater than 1/2-acre of waters of the United States;

(ii) RGP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and

(iii) RGP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters.

(iv) All activities that require a waiver.

(3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). These agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district

engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the RGPs, including the need for mitigation to ensure that the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered.

(4) In cases where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants will submit necessary documents and files to the Corps electronically via email at cenae-r-me@usace.army.mil or using the RRS at https://rrs.usace.army.mil/rrs

(6) The USACE will require additional information not listed here be provided with the PCN if necessary for compliance with other federal laws.

33. PCN Summary Table.

The following activities may require a PCN regardless of the terms of the applicable RGP. Please read the applicable GC to determine if a PCN is required.

Exceedance of loss thresholds within streams, non-tidal and tidal wetlands, tidal submerged aquatic vegetation, mudflats, and intertidal areas	See GC 33 - a
Located within or the vicinity of a Federal Project	See GC 33 - b
Located within or the vicinity of a Wild and Scenic River	See GC 33 - c
Involving discharges of temporary fill material	See GC 33 - d
Located within Vernal Pools	See GC 33 - e
Involving slip lining	See GC 33 - f
Activities within Time-of-Year Restrictions	See GC 33 - g
Located within the Saint John and Saint Croix River basins (Maine)	See GC 33 - h
Authorized by RGP 48, Commercial Shellfish Mariculture Activities and within the State of Maine > 5 acres	See GC 33 – i
Additional aquatic resource protection - activities within Important Rare Resources	See GC 33 - j
Involving stream crossings	See GC 33 - k

(a) Additional PCN Requirement (Specific Resources):

A PCN is required for any proposed activities which would result in the loss of waters of the United States[3] that exceed the listed thresholds to the following aquatic resources if not already required by the RGP.

Aquatic Resource:	**Threshold:**
Non-tidal Wetlands	4,356 square feet (0.1 acre)
Tidal and Non-Tidal Stream	200 linear feet or 0.03 acre (whichever is less)
Tidal Wetland	500 square feet
Tidal Submerged Aquatic Vegetation (SAV)	25 square feet
Mudflat	1,000 square feet
Intertidal	1,000 square feet

(b) Additional PCN Requirement (Federal Projects):

A PCN is required for any proposed activities which would involve the temporary or permanent occupation of, or alteration of, a federal project (including, but not limited to, a levee, dike, floodwall, channel, anchorage, breakwater, seawall, bulkhead, jetty, wharf, pier, or other work built or maintained but not necessarily owned by the United States). This includes all structures and work in, over, or under a Corps' federal navigation project (FNP) or in the FNP's buffer zone. The buffer zone is an area that extends from the horizontal limits of the FNP to a distance three times the FNP's authorized depth.

The activity may also require review and approval by the Corps pursuant to 33 USC 408 (Section 408 Permission). The applicant may reach out to the points of contact listed here: https://www.nae.usace.army.mil/Missions/Section-408/ and consult the National Channel Framework mapper: https://experience.arcgis.com/experience/b413139f18c046009ebcf62abea941dd/page/Map/. For activities which require a Section 408 permission, verification under a RGP will not be issued prior to the decision the Section 408 permission requires. Any structure or work constructed in an FNP, or its buffer zone shall be subject to removal at the owner's expense prior to any future Corps dredging or hydrographic surveys.

Applicants should contact the Corps Real Estate Division (https://www.nae.usace.army.mil/Missions/Real-Estate-Division/) at (978) 318-8585 for work that would occur on or would potentially affect a Corps property (or properties) and/or Corps-controlled easements. Work may not commence on Corps properties and/or Corps-controlled easements until they have received any required Corps real estate documents demonstrating site-specific permission to perform work.

A PCN is not required if an applicant has previously obtained a Section 408 permission for their proposed activities, or a determination from the Corps that a Section 408

[3] See Section VI – Definitions and Acronyms for loss of Waters of the United States.

permission is not required for their proposed activities, and the proposed activities qualify for a non-notifying RGP.

(c) Additional PCN Requirement (Wild and Scenic Rivers):

A PCN is required under GC 16, Wild and Scenic Rivers, and for: 1) any proposed activities which would be located in and within 0.25 mile up or downstream of a Wild and Scenic River (WSR) segment, or in tributaries within 0.25 mile of a WSR segment; 2) any proposed activities which would be located in wetlands within 0.25 mile of a WSR segment; and 3) any proposed activities that have the potential to alter free-flowing characteristics in a WSR segment. Applicants should utilize http://www.rivers.gov/ for the most up-to-date WSR designations.

Note: Applicants may coordinate with the Federal agency that has direct management responsibility of the WSR segment or tributary their proposed activity would be within 0.25 mile of prior to submitting a PCN to the Corps. If that Federal agency determines that the proposed activity would not adversely affect the subject WSR, a PCN is not required to be submitted.

(d) Additional PCN Requirement (Temporary Fills):

A PCN is required for any proposed activities that would involve the discharge of temporary fill (33 CFR 323.2(e) and (f)) greater than 1/10-acre to be left in place in non-tidal wetlands for more than one growing season. The growing season is generally defined as April 1 to September 30 (See the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* for more information about determining growing season. https://www.nae.usace.army.mil/Missions/Regulatory/Jurisdiction-and-Wetlands/Wetland-Delineation-Manual/).

Note 1: The Corps will decide on a case-by-case basis, after evaluating site-specific and activity-specific circumstances whether temporary construction mats proposed for use are considered as temporary fill.

Note 2: For linear projects, crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of RGP authorization (33 CFR 330.2(i)). Therefore, each crossing of a water of the U.S., including wetlands could have up to 0.1 acre of temporary fill without requiring the submittal of a PCN.

(e) Additional PCN Requirement (Vernal pools):

A PCN is required for any proposed discharges of dredged or fill material within a vernal pool depression which has been determined to be a water of the U.S. For information

on vernal pools, please visit:
https://www.nae.usace.army.mil/Missions/Regulatory/Vernal-Pools/

Note: Please note that the state may regulate additional vernal pools that the Corps does not.

(f) Additional PCN Requirement (Slip-Lining):

A PCN is required for any proposed activity which involves slip-lining a stream crossing that is not currently meeting the stream crossing BMPs found in GC 33(k) below (e.g., slip-lining and invert-lining).

(g) Additional PCN Requirement (In Water Work Time-of-Year Windows and Restrictions):

In-water work (including physical alterations) within non-tidal and tidal waters, shall be conducted during the following time-of-year (TOY) work windows (see below table). Approval to work outside the TOY work windows must be obtained from the Maine Department of Inland Fisheries and Wildlife (IFW) using the form located at: https://www.maine.gov/dep/land/permits/pbr/index.html for work in non-tidal waters or from the Maine Department of Marine Resources (DMR): https://www.maine.gov/dep/land/permits/pbr/index.html for work in tidal waters. If in-water work cannot be completed during the TOY work window or approval to work outside the TOY work window from IFW or DMR is not obtained, then the project requires a PCN and written verification removing the below requirements. If a PCN is required, due to RGP thresholds and/or other general and/or regional conditions, then the state's approval for working outside the TOY restriction shall be submitted with the PCN.

	TOY Work Restriction	TOY Work Window
Non-tidal Waters	Oct. 2 to Jul. 14	Jul. 15 to Oct 1.
Tidal Waters	Apr. 16 to Nov. 14	Nov. 15 to Apr. 15

Any proposed activity located in waters of the U.S. (excluding wetlands) shall be completed entirely "in-the-dry" or be isolated from active flows/the water column using temporary measures (i.e., cofferdams, sandbags, flume pipes, etc.) to the maximum extent practicable. The term "in-the-dry" means work that is done under dry conditions, e.g., work behind cofferdams or when the stream or tide is waterward of the work.

(h) Additional PCN Requirement (Saint John and Saint Croix River basins):

A PCN is required for any proposed work within the Saint John and Saint Croix River basins that requires approval of the International Joint Commission. In addition, a PCN is required if any temporary or permanent use, obstruction, or diversion of international boundary waters could affect the natural flow or levels of waters on the Canadian side

of the boundary; or if any construction or maintenance of remedial works, protective works, dams, or other obstructions in waters downstream from boundary waters could raise the natural level of water on the Canadian side of the boundary.

(i) Additional PCN Requirement (RGP 48, Commercial Shellfish Mariculture Activities):

A PCN is required for any activities proposed under RGP 48 which would install gear for a commercial shellfish operation within a site greater than 5 acres in size.

(j) Additional PCN Requirement (Important or Rare Resources):

A PCN is required if a discharge of dredged or fill material is proposed within any of the following aquatic resources or resource types identified as specifically important or rare within the State of Maine that warrant additional protections:

1. Lakes and tributaries that support arctic char and lake whitefish; or
2. Bogs and fens

(k) Additional PCN Requirement (Activities that do not meet the Stream Crossing BMPs):

A PCN is required for any proposed stream crossing activities that cannot comply with the below “Stream Crossing Best Management Practices (BMPs)” unless the district engineer provides the applicant written verification removing the below requirements.

1. The width of the crossing shall be greater than or equal to 1.2 times the bank full width.
2. The crossing shall be embedded greater than or equal to 2 feet and/or at least 25 percent of the conveyance’s height.
3. The crossing shall be constructed with a natural bottom substrate, as applicable.
4. The crossing shall match the gradient (i.e., slope) of the natural stream channel profile.
5. The crossing shall meet an openness ratio of greater than 0.82 feet.

For proposed stream crossings that cannot implement the above BMPs, the applicant should first coordinate with the appropriate state office to obtain required or recommended alternate stream crossing BMPs, prior to submitting a PCN to the Corps. If a stream crossing is designed to meet the standards required or recommended by the appropriate state agency for which the proposed activity is located within, those standards can serve in-lieu of these BMPs and submittal of a PCN is not required.

Note: Below are links to the stream crossing standards/guidelines for Maine that have published such standards/guidelines. Applicants are highly encouraged to contact their state for additional information regarding those requirements and/or recommendations, as state requirements may be more stringent than the above listed BMPs.

Maine Interagency Stream Crossing Guidelines: (https://www.nae.usace.army.mil/Missions/Regulatory/) - (*This is a pending document and will be published on our website when completed.*)

CoastWise: (https://www.maine.gov/dmr/sites/maine.gov.dmr/files/inline-files/CoastWiseManualJuly2023_updated.pdf)

34. Essential Fish Habitat (EFH):

Essential Fish Habitat (EFH) is defined as those waters and substrates necessary to fish for spawning, breeding, feeding or growth to maturity (16 U.S.C. 1802).
The following GPs have been determined to result in no more than minimal adverse effects, provided the permittee complies with all terms and conditions of the RGP as applicable to the activity, including all activity thresholds and activity-specific Conservation Recommendations (CRs) identified in the current EFH and Fish and Wildlife Coordination Act (FWCA) Programmatic Consultation (https://www.nae.usace.army.mil/Missions/Regulatory/Essential-Fish-Habitat/).
For non-Federal applicants whose proposed activities would be located within EFH and that do not require a PCN per the language of the RGP or per any other general or regional condition (i.e., non-notifying), the applicant shall review the current EFH and FWCA Programmatic Consultation (https://www.nae.usace.army.mil/Missions/Regulatory/Essential-Fish-Habitat/) to ensure their proposed activity complies with all applicable CRs.

a. A PCN is required for any proposed project which would exceed the activity thresholds that are included within the current EFH and FWCA Programmatic Consultation. Any proposed project that exceeds an activity threshold requires preliminary coordination/project-specific consultation.

b. For all activities which do not exceed the activity-based thresholds included within the current EFH and FWCA Programmatic Consultation, the project proponent shall implement the activity-specific applicable CRs. If the applicable CRs cannot be implemented, a PCN must be submitted to the Corps, and work may not commence until the Corps verifies the project under the applicable RGP(s).

Federal applicants should follow their own procedures for compliance with the Magnuson-Stevens Fishery Conservation and Management Act and Fish and Wildlife Coordination Act.

Note 1: For activities proposed for authorization by an RGP that requires the submittal of a PCN, applicants are encouraged to review the current EFH and FWCA Programmatic

Consultation and design their proposed activities with the activity-based thresholds and incorporate applicable CRs.

Note 2: Applicants can utilize the NMFS EFH mapper to determine if their proposed activities are located within EFH: https://www.habitat.noaa.gov/apps/efhmapper/. Applicants can also utilize the current EFH and FWCA Programmatic Consultation (https://www.nae.usace.army.mil/Missions/Regulatory/Essential-Fish-Habitat/) for guidance on non-tidal waterbodies with diadromous fish.

35. **Invasive Species:**
The introduction, spread, or the increased risk of invasion of invasive plant or animal species on the project site, into new or disturbed areas, or into areas adjacent to the project site caused by the site work shall be prevented. Native, non-invasive vegetation must be used for revegetation unless otherwise authorized by the Corps, and shall not contain any species listed in Appendix K ("Invasive and Other Unacceptable Plant Species") of the current *New England District Compensatory Mitigation Standard Operating Procedures* and any superseding versions thereof (https://www.nae.usace.army.mil/Missions/Regulatory/Mitigation/). Information about how to avoid the spread of invasive species can be found at: https://www.nae.usace.army.mil/Missions/Regulatory/Invasive-Species.

36. **General Permit Documentation On-Site:**
The permittee shall ensure that a copy of their verification letter (for notifying GPs only) and applicable RGP with all applicable GCs are at the worksite whenever work is being performed, and that all personnel performing work are fully aware of its terms and conditions.

37. **Abandonment:**
If the permittee decides to abandon the activity authorized by a RGP, unless such abandonment is merely the transfer of property to another party, the permittee may be required to restore the area to the satisfaction of the Corps.

38. **Expiration of Regional General Permits:**
If an RGP is not modified or reissued within five years of its effective date, it automatically expires and becomes null and void. Activities which have commenced (i.e, are under construction) or are under contract to commence in reliance upon an RGP will remain authorized provided the activity is completed within twelve months of the date of an RGP's expiration, modification, or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend, or revoke the authorization. Activities completed under the authorization of an RGP which was in effect at the time the activity was completed continue to be authorized by that RGP.

Section V: District Engineer's Decision

1. In reviewing the pre-construction notification for the proposed activity, the district engineer will determine whether the activity authorized by the Maine General Permit will result in more than minimal individual or cumulative adverse environmental effects or maybe contrary to the public interest. If a project proponent requests authorization by a specific General Permit, the district engineer should issue the General Permit verification for that activity if it meets the terms and conditions of that General Permit, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the single and complete crossings of waters of the United States that require pre-construction notifications to determine whether they individually satisfy the terms and conditions of the RGP(s), as well as the cumulative effects caused by all of the crossings of waters of the United States authorized by a RGP. If an applicant requests a waiver of an applicable limit, the district engineer will only grant the waiver upon a written determination that the RGP activity will result in only minimal individual and cumulative adverse environmental effects.

2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the RGP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by a RGP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the RGP activity, the type of resource that will be affected by the RGP activity, the functions provided by the aquatic resources that will be affected by the RGP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the RGP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add activity-specific conditions to the RGP authorization to address site-specific environmental concerns.

3. If the proposed RGP activity includes a loss of waters greater than the thresholds outlined in the New England Compensatory Mitigation Guidance, the prospective permittee should submit a mitigation proposal with the pre-construction notification. Applicants may also propose compensatory mitigation for RGP activities with smaller impacts, or for impacts to other types of waters. However, compensatory mitigation shall not be required for activities authorized by RGP 27 because those activities must result in net increases in aquatic resource functions and services (see the text of RGP 27). The district engineer will consider any proposed compensatory mitigation or other

mitigation measures the applicant has included in the proposal when determining whether the net adverse environmental effects of the proposed RGP activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the proposed activity complies with the terms and conditions of the RGP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the RGP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the pre-construction notification, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan and determine whether the proposed mitigation would ensure that the RGP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the RGP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the RGP activity can proceed under the terms and conditions of the RGP, including any activity-specific conditions added to the RGP authorization by the district engineer.

4. If the district engineer determines that the adverse environmental effects of the proposed RGP activity are more than minimal, then the district engineer will notify the applicant either:
(a) that the activity does not qualify for authorization under the RGP and instruct the applicant on the procedures to seek authorization under an individual permit;

(b) that the activity is authorized under the RGP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or

(c) that the activity is authorized under the RGP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day pre-construction notification review period (unless additional time is required to comply with general conditions 16, 18, 20, and/or 31), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not

practicable or not necessary to ensure timely completion of the required compensatory mitigation.

Further Information:

1. District engineers have authority to determine if an activity complies with the terms and conditions of an RGP.

2. RGPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.

3. RGPs do not grant any property rights or exclusive privileges.

4. RGPs do not authorize any injury to the property or rights of others.

5. RGPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

SECTION VI: Definitions and Acronyms

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

Discharge: The term “discharge” means any discharge of dredged or fill material into waters of the United States.

Ecological reference: A model used to plan and design an aquatic ecosystem restoration, enhancement, or establishment activity under RGP 27. An ecological reference may be based on: (1) the structure, functions, and dynamics of an aquatic ecosystem type or a riparian area type that currently exists in the region; (2) the structure, functions, and dynamics of an aquatic ecosystem type or riparian area type that existed in the region in the past; and/or (3) indigenous and local ecological knowledge that apply to the aquatic ecosystem type or riparian area type (i.e., a cultural ecosystem). Cultural ecosystems are ecosystems that have developed under the joint influence of natural processes and human management activities (e.g., fire stewardship). An ecological reference takes into account the range of variation of the aquatic habitat type or riparian area type in the region.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

High Tide Line: The line of intersection of the land with the water’s surface at the maximum height reached by a rising tide. The high tide line may be determined, in the

absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete nonlinear project in the Corps Regulatory Program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance, but are still reasonably foreseeable.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. The loss of stream bed includes the acres of stream bed that are permanently adversely affected by filling or excavation because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters or wetlands for determining whether a project may qualify for an RGP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities that do not require Department of the Army authorization, such as activities eligible for exemptions under section 404(f) of the Clean Water Act, are not considered when calculating the loss of waters of the United States.

Nature-based solutions: Actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits.

Navigable waters: Waters subject to section 10 of the Rivers and Harbors Act of 1899. These waters are defined at 33 CFR part 329. Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the RGPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of flowing or standing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of “open waters” include rivers, streams, lakes, and ponds. Ordinary High Water Mark: The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Perennial stream: A perennial stream has surface water flowing continuously year round during a typical year.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit. Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms.

Preservation does not result in a gain of aquatic resource area or functions. Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource.

Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands next to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term “single and complete project” is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of RGP authorization. However, individual channels in a braided stream or river, or

individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Single and complete non-linear project: For non-linear projects, the term “single and complete project” is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete non-linear project must have independent utility (see definition of “independent utility”). Single and complete non-linear projects may not be “piecemealed” to avoid the limits in an RGP authorization.

Special Aquatic Sites (SAS): means wetlands, mudflats, vegetated shallows, coral reefs, riffle and pool complexes, sanctuaries, and refuges as defined at 40 CFR 230.40 through 230.45 and 33 CFR 330.2.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment. Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff. Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock, inorganic particles that range in size from clay to boulders. The substrate may also be comprised, in part, of organic matter, such as large or small wood fragments, leaves, algae, and other organic materials. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream’s course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized jurisdictional stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a jurisdictional wetland that is inundated by tidal waters. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the

gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line.

Tribal lands: Any lands title to which is either: 1) held in trust by the United States for the benefit of any Indian tribe or individual; or 2) held by any Indian tribe or individual subject to restrictions by the United States against alienation.

Tribal rights: Those rights legally accruing to a tribe or tribes by virtue of inherent sovereign authority, unextinguished aboriginal title, treaty, statute, judicial decisions, executive order or agreement, and that give rise to legally enforceable remedies.
Vegetated shallows:

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the RGPs, a waterbody is a “water of the United States.” If a wetland is adjacent to a waterbody determined to be a water of the United States, that waterbody and any adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)).