Updated 05/22/19

FEDERAL PROJECT

BIDDING INSTRUCTIONS

FOR ALL PROJECTS:

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

For a Paper Bid:

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

For an Electronic Bid:

a) a completed Bid using Expedite® software and submitted via the Bid Express™ web-based service, b) an electronic Bid Guaranty (if required) or a faxed copy of a Bid Bond (with original to be delivered within 72 hours), and c) any other Certifications or Bid requirements listed in the Bid Documents as due by Bid opening.

3. Include prices for all items in the Schedule of Items (excluding non-selected alternates).
4. Bid Guaranty acceptable forms are:
   a) a properly completed and signed Bid Bond on the Department's prescribed form (or on a form that does not contain any significant variations from the Department's form as determined by the Department) for 5% of the Bid Amount or
   b) an Official Bank Check, Cashier's Check, Certified Check, U.S. Postal Money Order or Negotiable Certificate of Deposit in the amount stated in the Notice to Contractors or
   c) an electronic bid bond submitted with an electronic bid.

5. If a paper Bid is to be sent, "FedEx First Overnight" delivery is suggested as the package is delivered directly to the DOT Headquarters Building located at 16 Child Street in Augusta. Other means, such as U.S. Postal Service's Express Mail has proven not to be reliable.

IN ADDITION, FOR FEDERAL AID PROJECTS:

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

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

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

April 28, 2017
Supersedes November 05, 2014

NOTICE

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

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

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

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

NOTICE

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

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

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

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

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

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

October 16, 2001

STATE OF MAINE DEPARTMENT OF TRANSPORTATION

Bid Guaranty-Bid Bond Form

KNOW ALL MEN BY THESE PRESENTS THAT_____

_____, of the City/Town of_____and State of_____

as Principal, and_____as Surety, a

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

Business in_____and hereby held and firmly bound unto the Treasurer of

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

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

The condition of this obligation is that the Principal has submitted to the Maine Department of Transportation, hereafter Department, a certain bid, attached hereto and incorporated as a part herein, to enter into a written contract for the construction of _____

_____

_____and if the Department shall accept said bid and the Principal shall execute and deliver a contract in the form attached hereto (properly completed in accordance with said bid) and shall furnish bonds for this faithful performance of said contract, and for the payment of all persons performing labor or furnishing material in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said bid, then this obligation shall be null and void; otherwise it shall remain in full force, and effect.

Signed and sealed this_____day of_____20_____

WITNESS:

_____

_____

_____

WITNESS

_____

_____

_____

PRINCIPAL:

By_____

By:_____

By:_____

SURETY:

By_____

By:_____

Name of Local Agency: _____

SAMPLE

NOTICE

Bidders:

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

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

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

State of Maine
Department of Transportation

RFI No: _____

REQUEST FOR INFORMATION

Date _____ Time _____

Information Requested for:

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

Question(s):_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Request by:

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

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

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

NOTICE

Disadvantaged Business Enterprise Proposed Utilization

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

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

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

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

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

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

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

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

SPECIFIC INSTRUCTIONS FOR COMPLETING THE FORM:

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

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

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

Revised 1/12

DBE GOAL NOTICE FFY 2019-2021
Maine Department of Transportation
Disadvantaged Business Enterprise Program

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

For FFY 2019-21 (October 1, 2018 through September 30, 2021) MaineDOT has established an annual DBE participation goal of **2.4%** to be achieved through race/gender neutral means. This goal has been approved by the Federal Highway Administration and remains in effect through September 30, 2021. Maine DOT must meet this goal each federal fiscal year. If the goal is not met, MaineDOT must provide a justification for not meeting the goal and provide a plan to ensure the goal is met, which may include placing contract goals on certain projects that contractors will be required to meet.

MaineDOT asks all contractors, consultants and subcontractors to seek certified DBE firms for projects and to work to meet the determined 2.4% goal without the need to impose contract goals. DBE firms are listed on the MaineDOT website at:

https://www.maine.gov/mdot/civilrights/docs/dbe/WeeklyDBEVendorList.pdf

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

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MaineDOT CONTRACTOR'S DBE/SUBCONTRACTOR PROPOSED UTILIZATION FORM

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

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

Contact Person: _____ **Fax:** _____

E-mail: _____

BID DATE: _____

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

TOTAL ANTICIPATED DBE____% PARTICIPATION FOR THIS CONTRACT

WBE	DBE	Non DBE	Firm Name	Item Number & Description of Work	Quantity	Cost Per Unit/Item	Anticipated $ Value
						Subcontractor Total>	
						DBE Total >	

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

Equal Opportunity Use:

Form received:___/___/___Verified by: _____

FHWA ☐ FTA ☐ FAA ☐

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

Rev. 01/15

Maine Department of Transportation Civil Rights Office

Directory of Certified Disadvantaged Business Enterprises

Listing can be found at:

https://www.maine.gov/mdot/civilrights/dbe/

For additional information and guidance contact:

Civil Rights Office at (207) 624-3066

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

Vendor Registration

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

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
NOTICE TO CONTRACTORS

Sealed Bids addressed to the Maine Department of Transportation, Augusta, Maine 04333 and endorsed on the wrapper "Bids for **Fender System Modifications** in the Towns of **Vinalhaven - Islesboro**" will be received from contractors at the Reception Desk, MaineDOT Building, Capitol Street, Augusta, Maine, until 11:00 o'clock A.M. (prevailing time) on July 10, 2019 and at that time and place, publicly opened and read. Bids will be accepted from all bidders. The lowest responsive bidder must have completed, or successfully complete, a **(Marine Construction prequalification)**, or project specific prequalification to be considered for the award of this contract. **We now accept electronic bids for bid packages posted on the bidx.com website. Electronic bids do not have to be accompanied by paper bids. Please note: The Department will accept a facsimile of the bid bond; however, the original bid bond must then be received at the MDOT Contract Section within 72 hours of the bid opening. Until further notice, dual bids (one paper, one electronic) will be accepted, with the paper copy taking precedence.**

Description: Maine Federal Aid Project No's. 2348400 / 2382300 WINS. 023484.00 / 023823.00

Location: In Knox and Waldo Counties, project # 2348400 is located at the Islesboro Ferry Terminal. Project # 2382300 is located at the Vinalhaven Ferry Terminal.

Outline of Work: Fender System Modifications and other incidental work.

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

Plans, specifications and bid forms may be seen at the MaineDOT Building in Augusta, Maine. They may be purchased from the Department between the hours of 8:00 a.m. to 4:30 p.m. by cash, credit card (Visa/Mastercard) or check payable to Treasurer, State of Maine sent to Maine Department of Transportation, Attn.: Mailroom, 16 State House Station, Augusta, Maine 04333-0016. They also may be purchased by telephone at (207) 624-3536 between the hours of 8:00 a.m. to 4:30 p.m. Full size plans **$36.00 ($40.50** by mail). Half size plans **$18.00 ($21.00** by mail), Bid Book $10 ($13 by mail), Single Sheets $2, payment in advance, all non-refundable.

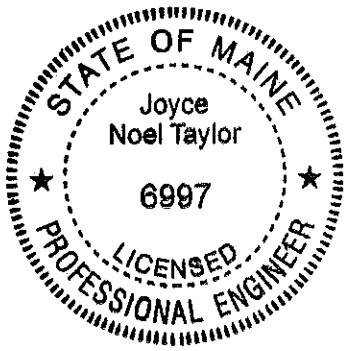
Each Bid must be made upon blank forms provided by the Department and must be accompanied by a bid bond at 5% of the bid amount or an official bank check, cashier's check, certified check, certificate of deposit, or United States postal money order in the amount of **$115,000.00** payable to Treasurer, State of Maine as a Bid guarantee. A Contract Performance Surety Bond and a Contract Payment Surety Bond, each in the amount of 100 percent of the Contract price, will be required of the successful Bidder.

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

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

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

Augusta, Maine
June 19, 2019



Joyce Noel Taylor

JOYCE NOEL TAYLOR P. E.
CHIEF ENGINEER

NOTICE

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

SPECIAL PROVISION 102.7.3
ACKNOWLEDGMENT OF BID AMENDMENTS

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

Amendment Number	Date

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

CONTRACTOR

_____ _____
Date Signature of authorized representative

_____
(Name and Title Printed)

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 023484.00 **Project(s):** 023484.00, 023823.00

SECTION: 1 Project Items

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

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars	 Cents	Bid Amount Dollars	 Cents
0010	202.01 REMOVING STRUCTURES AND OBSTRUCTIONS	LUMP SUM	LUMP SUM		_____	. _____
0020	202.071 REMOVAL AND DISPOSAL OF CRIB WORK	1.000 LS	_____	. _____	_____	. _____
0030	202.1292 REMOVE EXISTING STRUCTURAL TIMBER	LUMP SUM	LUMP SUM		_____	. _____
0040	202.14 REMOVING EXISTING RAILINGS (PROPERTY OF CONTRACTOR)	69.000 LF	_____	. _____	_____	. _____
0050	202.2111 REMOVING, STORING, AND RESETTING OBJECTS - Chock	15.000 EA	_____	. _____	_____	. _____
0060	501.201 TIMBER PILES, DELIVERED	4,050.000 LF	_____	. _____	_____	. _____
0070	501.202 TIMBER PILES, IN-PLACE	4,050.000 LF	_____	. _____	_____	. _____
0080	501.24 STEEL PIPE PILES	1,690.000 LF	_____	. _____	_____	. _____
0090	501.241 STEEL PIPE PILES - IN-PLACE	1,490.000 LF	_____	. _____	_____	. _____
0100	501.90 PILE TIPS	31.000 EA	_____	. _____	_____	. _____
0110	501.903 PILE TIPS - ROCK INJECTOR POINT	82.000 EA	_____	. _____	_____	. _____
0120	501.91 PILE SPLICES	6.000 EA	_____	. _____	_____	. _____

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 023484.00 **Project(s):** 023484.00, 023823.00

SECTION: 1 Project Items

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

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars	 Cents	Bid Amount Dollars	 Cents
0130	501.92 PILE DRIVING EQUIPMENT MOBILIZATION	LUMP SUM	LUMP SUM		_____	. _____
0140	502.2351 STRUCTURAL CONCRETE, PILE CAP - Dolphin	380.000 CY	_____	. _____	_____	. _____
0150	503.14 EPOXY-COATED REINFORCING STEEL, FABRICATED AND DELIVERED	90,200.000 LB	_____	. _____	_____	. _____
0160	503.15 EPOXY-COATED REINFORCING STEEL, PLACING	90,200.000 LB	_____	. _____	_____	. _____
0170	504.510 MISC. FABRICATION - Alum. Gangway - (40') (Islesboro)	LUMP SUM	LUMP SUM		_____	. _____
0180	504.510 MISC. FABRICATION - Alum. Gangway (29') (Islesboro)	LUMP SUM	LUMP SUM		_____	. _____
0190	504.510 MISC. FABRICATION - Alum. Gangway (29') (Vinalhaven)	LUMP SUM	LUMP SUM		_____	. _____
0200	504.510 MISC. FABRICATION - Aluminum Gangway (42') (Islesboro)	LUMP SUM	LUMP SUM		_____	. _____
0210	504.510 MISC. FABRICATION - Dolphin Ladder (Vinalhaven)	LUMP SUM	LUMP SUM		_____	. _____
0220	504.510 MISC. FABRICATION - Fender Block (Islesboro)	LUMP SUM	LUMP SUM		_____	. _____

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 023484.00 **Project(s):** 023484.00, 023823.00

SECTION: 1 Project Items

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

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars Cents	Bid Amount Dollars Cents
0230	504.510 MISC. FABRICATION - Fender Block (Vinalhaven)	LUMP SUM	LUMP SUM	_____.____
0240	504.510 MISC. FABRICATION - Pad Eye (Islesboro)	LUMP SUM	LUMP SUM	_____.____
0250	504.510 MISC. FABRICATION - Pad Eye (Vinalhaven)	LUMP SUM	LUMP SUM	_____.____
0260	504.510 MISC. FABRICATION - Remove Line Guard (Islesboro)	LUMP SUM	LUMP SUM	_____.____
0270	504.510 MISC. FABRICATION - Remove Line Guard (Vinalhaven)	LUMP SUM	LUMP SUM	_____.____
0280	504.510 MISC. FABRICATION - Shim (Vinalhaven)	LUMP SUM	LUMP SUM	_____.____
0290	504.510 MISC. FABRICATION - Spacer Plate (Islesboro)	LUMP SUM	LUMP SUM	_____.____
0300	504.510 MISC. FABRICATION - Spacer Plate (Vinalhaven)	LUMP SUM	LUMP SUM	_____.____
0310	504.601 RUBBER FENDERS - Leg Type II (Vinalhaven)	LUMP SUM	LUMP SUM	_____.____
0320	504.601 RUBBER FENDERS - Arch (Islesboro)	LUMP SUM	LUMP SUM	_____.____
0330	504.601 RUBBER FENDERS - Conical (Vinalhaven)	LUMP SUM	LUMP SUM	_____.____

Proposal ID: 023484.00 **Project(s):** 023484.00, 023823.00

SECTION: 1 Project Items

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

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars Cents	Bid Amount Dollars Cents
0340	504.601 RUBBER FENDERS - Leg Type 3 (Islesboro)	LUMP SUM	LUMP SUM	_____.____
0350	504.601 RUBBER FENDERS - Leg Type I (Vinalhaven)	LUMP SUM	LUMP SUM	_____.____
0360	504.642 SUPPORT CHAIN	14.000 EA	_____.____	_____.____
0370	504.6422 SHEAR CHAIN	28.000 EA	_____.____	_____.____
0380	504.6423 TENSION CHAIN	28.000 EA	_____.____	_____.____
0390	504.65 STEEL FENDER PANEL, CLOSED BOX, WITH UHMW WEARING SURFACE - Type 2	1.000 EA	_____.____	_____.____
0400	504.651 STEEL FENDER PANEL, CLOSED BOX, WITH UHMW WEARING SURFACE - TYPE 1	6.000 EA	_____.____	_____.____
0410	504.653 STEEL FENDER PANEL, CLOSED BOX, W/ UHMW WEARING SURFACE - EXTENSIONS	3.000 EA	_____.____	_____.____
0420	504.845 1 INCH DIAMETER SHACKLE	170.000 EA	_____.____	_____.____
0430	504.846 U BOLT DOGBONE	105.000 EA	_____.____	_____.____
0440	504.9051 ROCK ANCHOR	31.000 EA	_____.____	_____.____

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 023484.00 **Project(s):** 023484.00, 023823.00

SECTION: 1 Project Items

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

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars	 Cents	Bid Amount Dollars	 Cents
0450	504.999 REMOVE AND DISPOSE FENDER PANEL	3.000 EA				
0460	506.9106 FUSION BONDED EPOXY COATING	LUMP SUM	LUMP SUM			
0470	507.0841 STEEL PIPE HAND RAILING	LUMP SUM	LUMP SUM			
0480	507.0842 ORNAMENTAL PEDESTRIAN RAILING	LUMP SUM	LUMP SUM			
0490	514.06 CURING BOX FOR CONCRETE CYLINDERS	2.000 EA				
0500	515.20 PROTECTIVE COATING FOR CONCRETE SURFACES	450.000 SY				
0510	518.50 REPAIR OF UPWARD FACING SURFACES - TO REINFORCING STEEL < 8 IN.	10.000 SF				
0520	518.51 REPAIR OF UPWARD FACING SURFACES - BELOW REINFORCING STEEL < 8 IN.	10.000 SF				
0530	518.60 REPAIR OF VERTICAL SURFACES < 8 IN.	20.000 SF				
0540	528.08 STRUCTURAL TIMBER - Wave Screens (5300' tot.) - Vinalhaven	LUMP SUM	LUMP SUM			
0550	528.08 STRUCTURAL TIMBER - Wave Screens (5900' total) - Islesboro	LUMP SUM	LUMP SUM			

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 023484.00 **Project(s):** 023484.00, 023823.00

SECTION: 1 Project Items

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

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars	 Cents	Bid Amount Dollars	 Cents
0560	629.05 HAND LABOR, STRAIGHT TIME	120.000 HR				
0570	631.36 FOREPERSON	120.000 HR				
0580	634.1812 1" LIQUID-TIGHT FLEXIBLE CONDUIT	120.000 LF				
0590	634.189 1" PVC COATED RIGID STEEL CONDUIT	375.000 LF				
0600	634.2074 REMOVE AND RELOCATE DOLPHIN LIGHTING	1.000 EA				
0610	634.2075 REMOVE AND RELOCATE NAVIGATION LIGHTING	2.000 EA				
0620	634.2076 DOLPHIN LIGHTING	8.000 EA				
0630	634.2311 STAINLESS STEEL EXTERIOR PULL BOX	34.000 EA				
0640	634.2312 TRANSFORMER WORK	1.000 LS				
0650	634.316 #10 AWG COPPER WIRE	1,300.000 LF				
0660	634.3161 #12 AWG COPPER WIRING	695.000 LF				
0670	634.730 REMOVE EXISTING ELECTRICAL COMPONENTS	LUMP SUM	LUMP SUM			

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 023484.00 **Project(s):** 023484.00, 023823.00

SECTION: 1 Project Items

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

Contractor: _____

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price Dollars	 Cents	Bid Amount Dollars	 Cents
0680	639.20 FIELD OFFICE TYPE C	2.000 EA				
0690	645.265 NAVIGATION SIGN	1.000 EA				
0700	655.501 CATHODIC PROTECTION BY SACRIFICIAL ANODE	39.000 EA				
0710	656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LUMP SUM	LUMP SUM			
0720	659.10 MOBILIZATION	LUMP SUM	LUMP SUM			
0730	841.55 MOORING BOLLARD - Double Bitt	5.000 EA				
0740	841.56 MOORING CLEAT - Chock	20.000 EA				

Section: 1 **Total:**

Total Bid:

CONTRACT AGREEMENT, OFFER & AWARD

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

_____

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

_____

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

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, **WINS. 023484.00 / 023823.00** for **Fender System Modifications** in the towns of **Islesboro and Vinalhaven**, Counties of **Piscataquis and Knox**, Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

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

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

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before **May 22, 2020.** Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the *State of Maine Department of Transportation Standard Specifications, November 2014 Edition* and related Special Provisions.

C. Price.

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

_____

$_____ Performance Bond and Payment Bond each being 100% of the amount of this Contract.

D. Contract.

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

E. Certifications.

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

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in the Federal Contract Provisions Supplement, and the Contract are still complete and accurate as of the date of this Agreement.

2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.

3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

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

WINS. -23484.00 / 023823.00 - Fender System Modifications - in the towns of Islesboro and Vinalhaven,

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

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

As Offeror also agrees:

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

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

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

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

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

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

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

CONTRACTOR

_____	_____
Date	(Signature of Legally Authorized Representative of the Contractor)
_____	_____
Witness	(Name and Title Printed)

G. Award.

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

MAINE DEPARTMENT OF TRANSPORTATION

_____	_____
Date	By: Bruce A. Van Note, Commissioner
_____	
Witness	

CONTRACT AGREEMENT, OFFER & AWARD

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

_____

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

_____

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

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, **WINS. 023484.00 / 023823.00** for **Fender System Modifications** in the towns of **Islesboro and Vinalhaven**, Counties of **Piscataquis and Knox**, Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

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

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

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before **May 22, 2020.** Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the *State of Maine Department of Transportation Standard Specifications, November 2014 Edition* and related Special Provisions.

C. Price.

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

_____

$_____ Performance Bond and Payment Bond each being 100% of the amount of this Contract.

D. Contract.

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

E. Certifications.

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

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in the Federal Contract Provisions Supplement, and the Contract are still complete and accurate as of the date of this Agreement.

2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.

3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

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

WINS. -23484.00 / 023823.00 - Fender System Modifications - in the towns of Islesboro and Vinalhaven,

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

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

As Offeror also agrees:

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

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

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

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

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

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

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

CONTRACTOR

_____	_____
Date	(Signature of Legally Authorized Representative of the Contractor)
_____	_____
Witness	(Name and Title Printed)

G. Award.

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

MAINE DEPARTMENT OF TRANSPORTATION

_____	_____
Date	By: Bruce A. Van Note, Commissioner
_____	
Witness	

CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and **(Name of the firm bidding the job)** a corporation or other legal entity organized under the laws of the State of Maine, with its principal place of business located at **(address of the firm bidding the job)**

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

SAMPLE

A. The Work.

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

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

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

B. Time.

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

C. Price.

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

D. Contract.

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

SAMPLE

E. Certifications.

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

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the *Standard Specifications November 2014 Edition* (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.

2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.

3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

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

PIN 1234.00 South Nowhere, Hot Mix Asphalt Overlay ,

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

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

SAMPLE

As Offeror also agrees:

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

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

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

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

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

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

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

CONTRACTOR

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

SAMPLE

G. Award.

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

MAINE DEPARTMENT OF TRANSPORTATION

Date	By: Bruce A. Van Note, Commissioner
(Witness)	

BOND # _____

CONTRACT PERFORMANCE BOND
(Surety Company Form)

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

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

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

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

WITNESSES:	SIGNATURES:
	CONTRACTOR:
Signature.....	.....….....
Print Name Legibly	Print Name Legibly ...……....
	SURETY:
Signature	....……....
Print Name Legibly	Print Name Legibly .....
SURETY ADDRESS:	NAME OF LOCAL AGENCY:
.....	ADDRESS .....
.....	...……....
.....	.....……....
TELEPHONE.....	.....……....

SAMPLE

BOND # _____

CONTRACT PAYMENT BOND
(Surety Company Form)

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

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

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

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

WITNESS:	SIGNATURES:
	CONTRACTOR:
Signature…….....	.....….....
Print Name Legibly .....……..	Print Name Legibly ….....….....
	SURETY:
Signature.....	...….....….....
Print Name Legibly	Print Name Legibly ….....….....
SURETY ADDRESS:	NAME OF LOCAL AGENCY:
...….....….....	ADDRESS ….....….....
.....	…….....….....
TELEPHONE	…….....….....

SAMPLE

"General Decision Number: ME20190028 01/04/2019

Superseded General Decision Number: ME20180104

State: Maine

Construction Type: Heavy

Counties: Franklin, Knox and Lincoln Counties in Maine.

HEAVY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply

to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/04/2019

* ENGI0004-002 06/01/2018

	Rates	Fringes
POWER EQUIPMENT OPERATOR (Backhoe, Bulldozer, Excavator, Loader, Trackhoe)	$ 35.35	27.26

LABO0327-001 06/01/2018

	Rates	Fringes
LABORER: Common or General	$ 18.15	9.22

LABO0327-002 06/01/2018

	Rates	Fringes
LABORER (Flagger)	$ 18.15	9.22

SUME2014-009 01/30/2017

	Rates	Fringes
CARPENTER, Includes Form Work	$ 20.04	10.48
ELECTRICIAN	$ 24.94	9.00

IRONWORKER, STRUCTURAL.....$ 24.57 11.13

LABORER: Pipelayer.....$ 21.96 5.99

OPERATOR: Crane.....$ 24.57 6.89

TRUCK DRIVER: Dump Truck.....$ 15.40 3.09

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

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

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

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

Union Rate Identifiers

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

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

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that

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

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

Union Average Rate Identifiers

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

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

WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

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

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

Wage and Hour Administrator
U.S. Department of Labor

200 Constitution Avenue, N.W.
Washington, DC 20210

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

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

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

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

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END OF GENERAL DECISION
"

"General Decision Number: ME20190026 01/04/2019

Superseded General Decision Number: ME20180102

State: Maine

Construction Type: Heavy

County: Waldo County in Maine.

HEAVY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.60 for calendar year 2019 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.60 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2019. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts,

including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/04/2019

* ENGI0004-002 06/01/2018

	Rates	Fringes
POWER EQUIPMENT OPERATOR (Backhoe, Bulldozer, Excavator, Loader, Trackhoe)	$ 35.35	27.26

LABO0327-002 06/01/2018

	Rates	Fringes
LABORER (Flagger)	$ 18.15	9.22

SUME2014-007 01/30/2017

	Rates	Fringes
CARPENTER, Includes Form Work	$ 20.04	10.48
ELECTRICIAN	$ 24.94	9.00
IRONWORKER, STRUCTURAL	$ 24.57	11.13
LABORER: Common or General	$ 15.52	6.60
LABORER: Pipelayer	$ 21.96	5.99

OPERATOR: Crane.....$ 24.57 6.89

TRUCK DRIVER: Dump Truck.....$ 15.40 3.09

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

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

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

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

Union Rate Identifiers

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

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

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and

non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

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

Union Average Rate Identifiers

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

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

WAGE DETERMINATION APPEALS PROCESS

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

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

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

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

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

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

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

The request should be accompanied by a full statement of the interested party's position and by any information (wage

payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

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

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

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

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END OF GENERAL DECISION
"

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AUGUSTA, MAINE

VINALHAVEN & ISLESBORO FERRY TERMINALS

FENDER SYSTEM MODIFICATIONS

Vinalhaven and Islesboro, Maine
WIN 023823.00 & 023484.00

PROJECT DESCRIPTION

All work shall be governed by the Maine Department of Transportation Standard Specifications, November 2014 Edition, except for the modifications, additions, and deletions contained herein.

General Description of Work

The Vinalhaven ferry terminal project includes the installation of two turning dolphins outboard of the footprint of the existing pen complete with fender panels and site lighting. The turning dolphins shall be of concrete construction supported by anchored and post-tensioned concrete-filled steel pipe piles. Associated with this work is the installation of aluminum gangways, removal and storage of fender panels, modifications to navigational lighting, and installation of timber wave screens. Modifications to fender systems, hand railings, and head dolphins are also necessary.

The Islesboro ferry terminal project includes the installation of one mooring dolphin within the perimeter footprint of the existing pen. The work includes the removal and installation of fender panels, removal and installation of site lighting. Removal of stone-filled timber cribs are necessary to install the mooring dolphin and proposed timber wave screens. The mooring dolphin shall be of concrete construction supported by anchored and post-tensioned concrete-filled steel pipe piles. Associated with this work is the installation of aluminum gangways. Modifications to hand railings are also necessary.

Plans

The Contract Drawings are hereby incorporated into this project and are referred to as the Plans. They bear the general titles of “Vinalhaven Ferry Terminal, Fender System Modifications, WIN 023823.00” and “Islesboro Ferry Terminal, Fender System Modifications, WIN 023484.00”. The right is reserved by the Resident to make such minor corrections or alterations in the Plans as he deems necessary without change in the unit prices on the Schedule of Bid Prices of the Proposal.

SPECIAL PROVISION
SECTION 101
CONTRACT INTERPRETATION
(Definitions)

101.2 Definitions

This Subsection is added by inclusion of the following:

Terminal Manager:	The individual responsible for the ferry terminal and all terminal related coordination. Vinalhaven: Office Tel.: 207-863-2042 Islesboro: Office Tel.: 207-734-2253
Pen:	The area within the fender system where the vessel berths. Generally, includes the region between the fender panels, the loading ramp on the shore side end, and the outboard turning dolphins. For this project, the pen includes the extended area where the proposed fenders will be installed.
Mooring Dolphin:	The interior breasting/mooring structure constructed of either timber or concrete which defines the perimeter of the pen. This structure commonly includes a steel fender panel and mooring devices in the form of cleats or double bitts.
Turning Dolphin:	The outboard breasting/mooring structure constructed of either timber or concrete which defines the outer end of the pen. This structure commonly includes a steel fender panel and mooring devices in the form of cleats or double bitts. Lighting typically includes site lighting and a navigational marker.
Timber Crib:	The timber stone-filled structure which currently forms the existing perimeter of the pen and is typically used to support a fender panel, walkways, and site lighting. The timber cribs also function as partial wave screens. The advanced age of most timber cribs in service has promulgated the need to replace these structures.

SPECIAL PROVISION
SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES
(Staging Area)

104.3.15 Contractor's General Authority and Responsibilities

This Subsection is added by inclusion of the following:

No known staging area is available to the Contractor. Any staging area must not interfere or obstruct the daily operations of the Terminal.

A location for the Resident's field office will be identified on ferry terminal property. No space will be provided for the Contractor on ferry terminal property for a field office, storage or staging area.

SPECIAL PROVISION
SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES
(Progress Meetings)

104.4.3 Progress Meetings

This Subsection is amended by the addition of the following:

Progress meetings shall be held weekly or at an interval deemed necessary by the Resident. As the project progresses, the Resident may reduce the frequency of the meetings.

SPECIAL PROVISION
SECTION 104
GENERAL RIGHTS AND RESPONSIBILITIES
(Coordination with Terminal Manger)

The following Subsection is added:

104.4.11 Coordination with Terminal Manager

The Ferry Terminal is an active passenger ferry terminal with scheduled transports on a daily basis. The schedule varies by season, but generally entails several vessel visits throughout the day Sunday through Saturday. Successful completion of the proposed project will require coordination between the Contractor and the Terminal Manager on a daily basis, and on a weekly basis via project meetings to be held on-site with all stakeholders, including the local community representative. At these meetings, the Contractor will be required to provide an update on the progress of the project. In a similar manner, the Terminal Manager will provide notice of any changes to the vessel schedule to the Contractor and will advise when the pen is not available.

Construction Schedule:

The Contractor will be required to submit a detailed written construction schedule. This schedule will be monitored closely and shall be updated weekly during construction meetings. When the Contractor is prepared to commence work on site, in addition to the construction schedule, the Contractor shall provide on a regular basis a written day by day summary of the Construction activities that will occur for the upcoming three-week period. This summary will also highlight activities that will have an impact on the use of facilities in the construction and adjacent areas.

Pollution Control:

All operations carried out by the Contractor during the life of this Contract shall comply with provisions and regulations for the control of air and noise pollution. The Contractor shall make all applications and notices and comply with all appropriate provisions of the rules and regulations of Federal, State, and Local Agencies. The Contractor will also closely monitor debris and trash that is generated on site and ensure that it is properly contained and maintained. Trash must be removed regularly and as a minimum, at least weekly.

SPECIAL PROVISIONS
SECTION 104
Utilities

UTILITY COORDINATION

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

THE CONTRACTOR SHALL PLAN AND CONDUCT WORK ACCORDINGLY.

MEETING

A Preconstruction Utility Conference, as defined in Subsection 104.4.6 of the Standard Specifications **is not** required.

GENERAL INFORMATION

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

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

Overview:

Utility	Aerial	Underground
Central Maine Power Company	X	
Consolidated Communications	X	

Utility Contact Information		
Utility/Railroad	**Contact Person**	**Contact Phone**
Central Maine Power Company	Mike Vannah	207-629-5605
Consolidated Communications	Jim Scheid	207-626-2031

Temporary utility adjustments **are not** anticipated. If any unexpected utility relocations become necessary, they shall be scheduled in accordance with Section 104 of the Standard Specifications and shall be performed by the appropriate utility company in conjunction with the work by the Contractor. Should the Contractor choose to have any poles temporarily relocated, all work shall be done at the Contractor's request and expense, with no additional cost or schedule impacts to the Department.

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

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

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

For other site-specific questions, please contact Terminal Manager, Jerry Huntoon at 207-734-6935.

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

MAINTAINING UTILITY LOCATION MARKINGS

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

UTILITY SIGNING

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

SPECIAL PROVISIONS
SECTION 104
Utilities

UTILITY COORDINATION

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

THE CONTRACTOR SHALL PLAN AND CONDUCT WORK ACCORDINGLY.

MEETING

A Preconstruction Utility Conference, as defined in Subsection 104.4.6 of the Standard Specifications **is not** required.

GENERAL INFORMATION

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

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

Overview:

Utility	Aerial	Underground
Fox Islands Electric Coop., Inc.	X	
Consolidated Communications	X	

Utility Contact Information		
Utility	**Contact Person**	**Contact Phone**
Fox Islands Electric Coop., Inc.	Susanne Woodcock	207-863-4636
Consolidated Communications	Jim Scheid	207-626-2031

Temporary utility adjustments **are not** anticipated. If any unexpected utility relocations become necessary, they shall be scheduled in accordance with Section 104 of the Standard Specifications and shall be performed by the appropriate utility company in conjunction with the work by the Contractor. Should the Contractor choose to have any poles temporarily relocated, all work shall be done at the Contractor's request and expense, with no additional cost or schedule impacts to the Department.

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

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

***** Specific information regarding the line voltage can be requested from*** **Fox Islands Electric Coop., Inc.****

For other site-specific questions, please contact Terminal Manager, Janet Gale at 207-596-5460.

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

MAINTAINING UTILITY LOCATION MARKINGS

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

UTILITY SIGNING

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

December 17, 2010
Supersedes December 30, 2009

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

104.3.8.1 Electronic Payroll Submission The prime contractor and all subcontractors and lower-tier subcontractors will submit their certified payrolls electronically on this contract utilizing the Elation System web based reporting. There is no charge to the contracting community for the use of this service. The submission of paper payrolls will not be allowed or accepted. Additional information can be found at http://www.maine.gov/mdot/contractors/ under the first "Notice".

104.3.8.2 Payment Tracking The prime contractor and all subcontractors and lower-tier subcontractors will track and confirm the delivery and receipt of all payments through the Elation System

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

In-Water work consists of any activity conducted below the normal high water mark of a river, steam, brook, lake, pond or "Coastal Wetland" areas that are subject to tidal action during the highest tide level for the year which an activity is proposed as identified in the tide tables published by the National Ocean Service. http://www.oceanservice.noaa.gov/ For the full definition of "Coastal Wetlands", please refer to 38 MRSA 480-B(2)

I. In-Water work applies to Carver's Harbor proposed ferry terminal improvement project.

II. In-water work below Highest Annual Tide Elevation 6.12 (NAVD88) is allowed from August 1 to April 9 of any year. (In-water work between April 10 and July 31 is prohibited). Except that crib removal activity shall only occur between August 1 and March 15.

III. Special Conditions:

1. Special Conditions of Army Corps of Engineers Category 2 Permit (see permit and conditions in contract documents).
2. Special Conditions of Informal Endangered Species Act (Section 7) FHWA Programmatic Consultation and Essential Fish Habitat Consultation with National Marine Fisheries Service (summarized in this Special Provision 105 and ACOE permit).
3. The contractor shall hold a pre-construction meeting for each project with appropriate MaineDOT Environmental Office staff, other MaineDOT staff, and the MaineDOT construction crew or contractor(s) to review all procedures and requirements for avoiding and minimizing effects to protected species and to emphasize the importance of these measures for protecting these species and their habitat. ACOE (Jay Clement, Jay.l.clement@usace.army.mil), FHWA (Eva Birk, eva.birk@dot.gov), National Marine Fisheries Service staff (Zachary Jylkka, zachary.jylkka@noaa.gov), and NOAA Fisheries staff (Michael Johnson, mike.r.johnson@noaa.gov) shall be invited to attend these meetings.
4. The contractor shall contact Andrew Walsh of MaineDOT Environmental Office (207-215-2942) at least two weeks prior to beginning rock crib removal activities to coordinate turbidity monitoring during rock crib removal activities.
5. Any project vessel shall maintain minimum approach distances to marine mammals and sea turtles: 1,500 feet for North Atlantic right whales, and 150 feet for sea turtles, dolphins/porpoises, seals, and other large whales (no intentional approach within 100 feet for large whales).
6. The use of blasting or explosives is prohibited.
7. Disturbance of subtidal substrate outside of the area shown on permit plans is prohibited. This prohibition includes but is not limited to use of heavy machinery and placement or storage of construction materials or equipment.
8. All pile driving and pile removal activity is required to employ a 20-minute "soft start" to allow animals an opportunity to leave the project vicinity before sound pressure increases.
9. If a marine mammal or sea turtle approaches or enters within a 1,000-foot buffer of a pile driving site (shutdown zone) during pile driving activities, work shall be halted. If pile driving is halted due to the presence of a marine mammal or sea turtle, the activity may not resume or commence until either the animal has voluntarily left the shutdown zone and has been visually confirmed beyond the shutdown zone and 15 minutes have passed without re-detection of the animal. Pile driving activities include the time to install or remove a single pile or series of piles, as long as the time elapsed between uses of the pile driving equipment is no more than thirty minutes.

10. For any required pumping operations, the contractor shall use a screen on each pump intake sufficiently large enough so that the approach velocity does not exceed 6.10 m sec-1 (0.20 ft sec-1). Square or round screen face openings are not to exceed 2.38 mm (3/32 in) on a diagonal. Criteria for slotted face openings must not exceed 1.75 mm (approximately 1/16 in) in the narrow direction.
11. Any in-water lines, ropes, or chains shall be made of materials and installed in a manner to minimize or avoid the risk of entanglement by using thick, heavy, and taut lines that do not loop or entangle. Where possible, lines shall be enclosed in a rigid sleeve.
11. As a component of the SEWPCP required for each project, the Contractor shall develop and implement a Spill Prevention Control and Countermeasure Plan (SPCCP) designed to avoid any impacts from hazardous chemicals, such as diesel fuel, oil, lubricants, and other hazardous materials. All refueling or equipment maintenance shall take place away from the stream and in a careful manner that prohibits chemical or other hazardous materials from entering the water. These measures include the following:
    a. All vehicles (watercraft) carrying fuel shall have specific equipment and materials needed to contain or clean up any incidental spills at the Project site. Equipment and materials would include spill kits appropriately sized for specific quantities of fuel, shovels, absorbent pads, straw bales, containment structures and liners, and/or booms.
    b. During use, all pumps and generators shall have appropriate spill containment structures and/or absorbent pads in place.
    c. All equipment used for in-water work shall be cleaned of external oil, grease, dirt, and mud.
    d. Any leaks or accumulations of these materials would be corrected before entering the water.
12. The contractor shall employ the minimum number of vessels required to complete the work.

IV. Approvals:
1. Temporary Soil Erosion and Water Pollution Control Plan
2. Permit-by-Rule
3. Permitted Coastal Wetland Impacts (square feet), see ACOE permit for locations:

	Permanent	**Temporary**
Direct Impacts	60	0
Indirect Impacts	932	0

V. All activities are <u>prohibited</u> (including placement and removal of cofferdams unless otherwise permitted by Regulatory Agencies) below the normal high-water mark if outside the prescribed in-water work window, except for the following:

1. Work within a cofferdam constructed per MaineDOT's Standard Specifications and in adherence with the contractors approved "Soil Erosion and Water Pollution Control Plan".

NOTE: Regulatory Review and Approval is required to modify the existing In-Water work window. Requests for work window extensions must be submitted to the MaineDOT Environmental Office. Approval of requests for work window extensions is not guaranteed and may result in delays in construction schedule that are the sole responsibility of the contractor.

General Construction Note
Pier Rehabilitation
Islesboro, ME
WIN: 23484.00

During the duration of the project, the contractor is responsible for the proper disposal of any cribwork planks encountered during the project that can not be reused on site. The Contractor is responsible to have the unused planks disposed of as demolition waste at a landfill approved to accept demolition waste/debris. If the Contractor encounters any other potential demolition debris and is not sure of how to dispose, the contractor shall notify the Resident. The Resident shall contact the Senior Geologist in the Maine Department of Transportation Environmental Office (MaineDOT-ENV) at 207-624-3100 for clarification.

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

In-Water work consists of any activity conducted below the normal high water mark of a river, steam, brook, lake, pond or "Coastal Wetland" areas that are subject to tidal action during the highest tide level for the year which an activity is proposed as identified in the tide tables published by the National Ocean Service. http://www.oceanservice.noaa.gov/ For the full definition of "Coastal Wetlands", please refer to 38 MRSA 480-B(2)

I. In-Water work applies to Carver's Harbor proposed ferry terminal improvement project.

II. In-water work below Highest Annual Tide Elevation 6.12 (NAVD88) is allowed from August 1 to April 9 of any year. (In-water work between April 10 and July 31 is prohibited).

III. Special Conditions:

1. Special Conditions of Army Corps of Engineers Category 2 Permit (see permit and conditions in contract documents).
2. Special Conditions of Informal Endangered Species Act (Section 7) FHWA Programmatic Consultation and Essential Fish Habitat Consultation with National Marine Fisheries Service (summarized in this Special Provision 105 and ACOE permit).
3. The contractor shall hold a pre-construction meeting for each project with appropriate MaineDOT Environmental Office staff, other MaineDOT staff, and the MaineDOT construction crew or contractor(s) to review all procedures and requirements for avoiding and minimizing effects to protected species and to emphasize the importance of these measures for protecting these species and their habitat. ACOE (Jay Clement, Jay.l.clement@usace.army.mil), FHWA (Eva Birk, eva.birk@dot.gov), National Marine Fisheries Service staff (Zachary Jylkka, zachary.jylkka@noaa.gov), and NOAA Fisheries staff (Michael Johnson, mike.r.johnson@noaa.gov) shall be invited to attend these meetings.
4. The contractor shall contact Andrew Walsh of MaineDOT Environmental Office (207-215-2942) at least two weeks prior to beginning rock crib removal activities to coordinate turbidity monitoring during rock crib removal activities.
5. Any project vessel shall maintain minimum approach distances to marine mammals and sea turtles: 1,500 feet for North Atlantic right whales, and 150 feet for sea turtles, dolphins/porpoises, seals, and other large whales (no intentional approach within 100 feet for large whales).
6. The use of blasting or explosives is prohibited.
7. Disturbance of subtidal substrate outside of the area shown on permit plans is prohibited. This prohibition includes but is not limited to use of heavy machinery and placement or storage of construction materials or equipment.
8. All pile driving and pile removal activity is required to employ a 20-minute "soft start" to allow animals an opportunity to leave the project vicinity before sound pressure increases.
9. If a marine mammal or sea turtle approaches or enters within a 1,000-foot buffer of a pile driving site (shutdown zone) during pile driving activities, work shall be halted. If pile driving is halted due to the presence of a marine mammal or sea turtle, the activity may not resume or commence until either the animal has voluntarily left the shutdown zone and has been visually confirmed beyond the shutdown zone and 15 minutes have passed without re-detection of the animal. Pile driving activities include the time to install or remove a single pile or series of piles, as long as the time elapsed between uses of the pile driving equipment is no more than thirty minutes.

10. For any required pumping operations, the contractor shall use a screen on each pump intake sufficiently large enough so that the approach velocity does not exceed 6.10 m sec-1 (0.20 ft sec-1). Square or round screen face openings are not to exceed 2.38 mm (3/32 in) on a diagonal. Criteria for slotted face openings must not exceed 1.75 mm (approximately 1/16 in) in the narrow direction.
11. Any in-water lines, ropes, or chains shall be made of materials and installed in a manner to minimize or avoid the risk of entanglement by using thick, heavy, and taut lines that do not loop or entangle. Where possible, lines shall be enclosed in a rigid sleeve.
11. As a component of the SEWPCP required for each project, the Contractor shall develop and implement a Spill Prevention Control and Countermeasure Plan (SPCCP) designed to avoid any impacts from hazardous chemicals, such as diesel fuel, oil, lubricants, and other hazardous materials. All refueling or equipment maintenance shall take place away from the stream and in a careful manner that prohibits chemical or other hazardous materials from entering the water. These measures include the following:
    a. All vehicles (watercraft) carrying fuel shall have specific equipment and materials needed to contain or clean up any incidental spills at the Project site. Equipment and materials would include spill kits appropriately sized for specific quantities of fuel, shovels, absorbent pads, straw bales, containment structures and liners, and/or booms.
    b. During use, all pumps and generators shall have appropriate spill containment structures and/or absorbent pads in place.
    c. All equipment used for in-water work shall be cleaned of external oil, grease, dirt, and mud.
    d. Any leaks or accumulations of these materials would be corrected before entering the water.
12. The contractor shall employ the minimum number of vessels required to complete the work.

IV. Approvals:
1. Temporary Soil Erosion and Water Pollution Control Plan
2. Permit-by-Rule
3. Permitted Coastal Wetland Impacts (square feet), see ACOE permit for locations:

	Permanent	**Temporary**
Direct Impacts	60	0
Indirect Impacts	932	0

V. All activities are <u>prohibited</u> (including placement and removal of cofferdams unless otherwise permitted by Regulatory Agencies) below the normal high-water mark if outside the prescribed in-water work window, except for the following:

1. Work within a cofferdam constructed per MaineDOT's Standard Specifications and in adherence with the contractors approved "Soil Erosion and Water Pollution Control Plan".

NOTE: Regulatory Review and Approval is required to modify the existing In-Water work window. Requests for work window extensions must be submitted to the MaineDOT Environmental Office. Approval of requests for work window extensions is not guaranteed and may result in delays in construction schedule that are the sole responsibility of the contractor.

General Construction Note
Pier Rehabilitation
Vinalhaven, ME
WIN: 23823.00

During the duration of the project, the contractor is responsible for the proper disposal of any cribwork planks encountered during the project that can not be reused on site. The Contractor is responsible to have the unused planks disposed of as demolition waste at a landfill approved to accept demolition waste/debris. If the Contractor encounters any other potential demolition debris and is not sure of how to dispose, the contractor shall notify the Resident. The Resident shall contact the Senior Geologist in the Maine Department of Transportation Environmental Office (MaineDOT-ENV) at 207-624-3100 for clarification.

SPECIAL PROVISION
SECTION 105
GENERAL SCOPE OF WORK
(Submittal Requirements)

105.7.4 Submittal Requirements

This Subsection is amended by the addition of the following:

At the onset of the project, the Contractor shall provide to the Resident a submittal log, which identifies the manner by which all submittals will be organized and referenced throughout the project. The Contractor shall update the submittal log on a weekly basis or to the satisfaction of the Resident. RFIs and other correspondence may be organized in a similar manner at the discretion of the Resident. The naming convention for submittals and RFIs shall be consistent and sequential.

The Contractor shall make all submittals including but not limited to RFIs, Designs, Shop Drawings, and Working Drawings in electronic format via email and in PDF file format. All submittals shall be accompanied by a cover sheet, which identifies the submittal number, subject, and date. Revisions to submittals shall maintain the original submittal number but receive a designation which indicates the submittal has been revised.

Submittals which require the review of the Engineer of Record will be reviewed in electronic format using red-line markups to easily identify comments, corrections, or revisions. Submittal reviews will be returned in electronic format only. If hardcopies are needed by the Contractor, it will be the responsibility of the Contractor to print hardcopies to be marked-up by the Engineer of Record and return to the Contractor for its own use.

SPECIAL PROVISION
SECTION 105
GENERAL SCOPE OF WORK
(Summary of Project Requirements)

The following Subsection is added:

105.11.2 Summary of Project Requirements

A summary of the project requirements is below:

Pen Accessibility:

- Contractor must maintain the facility for safe ferry service operations at all times and for overnight mooring. The Contractor's barge and equipment shall not hinder vessel operations at any time.
- Accessibility shall also include the underwater portion of the pen which shall remain free of debris or obstruction that could damage the ferry or impede operations.

Terminal Functionality

- Contractor must maintain as operational the terminal including the site lighting, vessel electrical hook-up, hoist tower, and terminal building. Short-term temporary disconnects will be permitted with coordination and approval by the Resident.

Harbor Channel Functionality

- Contractor must maintain as operational the existing harbor channel for recreational boaters, fishermen, and general boating traffic. The Contractor's barge and equipment shall not go beyond footprint of the proposed pen limits, which includes the location of the proposed dolphin(s). At Vinalhaven, the Contractor's barge cannot lie outboard of the limits of the proposed dolphin. The barge shall be lined up parallel to the outer string of dolphins.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

MaineDOT DBE Project Attainment Target (PAT)
for this Project is N/A %

The MaineDOT seeks to meet the specified annual Disadvantaged Business Enterprise (DBE) usage goal set out by 49 CFR 26.45 through the efforts of contractors seeking to employ qualified DBE subcontractors. We seek to meet this goal by race neutral means and do not, at this time, use contract specific requirements for each project. We do however, understand the capacity of Maine's DBE community and the unique characteristics a project may have that would differ from the broad annual goal.

Taking this into consideration, the MaineDOT will review each project and develop an anticipated attainment or Project Attainment Target (PAT) based on several factors that are project specific. Those factors include:

- ☐ Scope of Work
- ☐ DBE availability according to Specification Item
- ☐ Geographic location
- ☐ DBE capacity

This PAT is developed to assist contractors to better understand the DBE participation that the MaineDOT can reasonably expect for a specific project. The PAT is NOT a mandate but an assessment of the DBE opportunities that this project could meet or exceed. MaineDOT anticipates that each contractor will make the best effort to reach or exceed the PAT for this project.

December 5, 2011
Supersedes December 1, 2010

SPECIAL PROVISION
SECTION 105
GENERAL SCOPE OF WORK
(Buy America Certification)

105.11 Federal Requirements Add the following as the third and subsequent paragraphs:

"Prior to payment by the Department, the Contractor shall provide a certification from the producer of steel or iron, or any product containing steel or iron as a component, stating that all steel or iron furnished or incorporated into the furnished product was manufactured in the United States in accordance with the requirements of the Buy America provisions of 23 CFR 635.410, as amended. Such certification shall also include (1) a statement that the iron or steel product or component was produced entirely within the United States, or (2) a statement that the iron or steel product or component was produced within the United States except for minimal quantities of foreign steel and iron valued at $ (actual value).

All manufacturing processes must take place domestically. Manufacturing begins with the initial melting and mixing, and continues through the coating stage. Any process which modifies the chemical content, the physical size and shape, or the final finish is considered a manufacturing process. These processes include rolling, extruding, machining, bending, grinding, drilling, and coating. "Coating" includes epoxy coating, galvanizing, painting, or any other coating that protects or enhances the value of the material.

A Buy America Certification is required from each manufacturer, fabricator, supplier, subcontractor, etc. that meets the "manufacturing" definition above.

Buy America does not apply to raw materials (iron ore and alloys), scrap, pig iron, or processed, pelletized, and reduced iron ore."

SPECIAL PROVISION
SECTION 107
TIME

107.1 Contract Time and Contract Completion Date

This Subsection is amended by the addition of the following:

The Contractor shall conduct his operation in such a manner that WIN 023823.00, the Vinalhaven ferry terminal project, shall be completed on or before **Friday, December 20, 2019** with Supplemental Liquidated Damages as noted and per Section 107.8 of the Standard Specifications.

The Contractor will be assessed Supplemental Liquidated Damages at the rate of five thousand dollars ($5000) per each day for each day that WIN 023823.00 is not complete after **December 20, 2019**.

Assessment of Supplemental Liquidated Damages, as noted and in Section 107.8 of the Standard Specifications, will be in addition to liquidated damages specified in Section 107.7.2 of the Standard Specifications.

The Contractor shall conduct his operation in such a manner that WIN 023484.00, the Islesboro ferry terminal project, shall be completed on or before **Friday, May 22, 2020** with Liquidated Damages as per Section 107.7.2 of the Standard Specifications.

The specified Contract completion date is **May 22, 2020**.

107.3.2 Night Work

This Subsection is amended by the addition of the following:

The Contractor shall be aware of the close proximity of the local residences and the ability of noise to carry long distances over water. The Contractor shall conduct operations so as not to generate loud noises greater than 80 dB within 500 ft of any building used for residential purposes between the hours of 10:00pm and 7:00am unless otherwise approved. Local requirements concerning noise may impose additional restrictions and must be complied with by the Contractor.

107.4.7 Limitations of Operations

The Contractor shall note that the pen is routinely occupied by the passenger ferry vessel during the day according to the published vessel schedule. The pen is only accessible to the contractor on a limited basis during the day. Night time access is also limited due to the presence of the vessel after 5:00 PM through the following morning at 7:00 AM.

The cost of these limits of operations shall be considered incidental to the Contract and no additional compensation will be made.

107.9 Project Closeout

The following is in addition to the requirements of Section 107.9:

The Contractor shall maintain at the site a set of up-to-date “As-Built” Contract Plans and these Special Provisions, upon which shall be recorded accurately as the work progresses the actual dimensions and

locations of all his work, indicating thereon all variations from the Contract Documents, including pile tip elevations. The record shall include the work of all Subcontractors. Record drawings shall be reviewed by the Resident, and the Contractor shall make all necessary changes according to the Resident's review.

Prior to final acceptance of the Work, all recorded data shall be transferred by the Contractor, to a complete set of reproducible record specifications of the Contract Drawings showing "As-Built" conditions. The As-Built drawings shall be presented using neatly color-coded markups to identify changes, modifications, or deletions to the proposed work.

The additional project closeout requirements noted in this special provision shall be considered incidental to the contract and no separate payment will be made.

SPECIAL PROVISION
SECTION 202
REMOVING STRUCTURES AND OBSTRUCTIONS
(Removing Structures and Obstructions)
(Removal and Disposal of Crib Work)
(Remove Existing Structural Timber)
(Removing, Storing, and Resetting Objects – Chock)

All work and materials shall conform to the Contract Drawings and provisions of the State of Maine, Department of Transportation, Standard Specifications, November 2014, SECTION 202, REMOVING STRUCTURES AND OBSTRUCTIONS, with the following changes:

202.01 Description

The following paragraphs are added:

Removing Structures and Obstructions shall also include removal of the concrete walkway.

Removal and Disposal of Crib Work shall include the removal of all timber members associated with the identified cribs between the top of the crib to the mudline. Where timber cribs lie in the footprint of the proposed steel pipe piles from proposed dolphins, the timbers shall be removed below the mudline to a depth sufficient to not interfere with pile driving. Removal of the timber cribs shall include removal and disposal of the stones within the crib. At Islesboro, the stones shall be relocated to an upland location as identified on the Drawings and shall become the property of the town.

Remove Existing Structural Timber shall include all timber walkways, timber stairways, timber handrails, timber breasting panels and removal of embedded timber breasting panel piles by extraction. The work will also include the removal of timber piles by extraction.

Removing, Storing, and Resetting Objects – Chock shall include the removal of the chock, its temporary on-site storage, and resetting.

The Contractor shall use extreme caution when demolishing structures. Damage caused to adjacent structures, or structures to remain, which is caused by the Contractor shall be repaired by the Contractor as directed by the Engineer at no additional cost to the Owner.

The Contractor shall not let demolished material fall into the water and all materials that do enter the water shall be immediately retrieved by the Contractor.

Timber material and/or stone material that is excavated while below the water line shall be cleaned prior to offsite removal. No dredge material shall be removed from the site.

202.07 Method of Measurement

Add the following paragraphs:

Removing Structures and Obstructions shall be measured by the lump sum, and shall include all labor, materials, incidentals, and equipment necessary to satisfactorily complete the work in accordance with the Plans and Specifications.

Removal and Disposal of Crib Work shall be measured by lump sum, and shall include all labor, materials, incidentals, and equipment necessary to satisfactorily complete the work in accordance with the Plans and Specifications. Relocation of the stones at Islesboro will not be measured separately.

Remove Existing Structural Timber shall be measured by the lump sum, and shall include all labor, materials, incidentals, and equipment necessary to satisfactorily complete the work in accordance with the Plans and Specifications.

Removing, Storing, and Resetting Objects – Chock shall be measured by the unit, and shall include all labor, materials, incidentals, and equipment necessary to satisfactorily complete the work in accordance with the Plans and Specifications.

202.08 Basis of Payment

Add the following paragraphs:

Remove Structures and Obstructions will be paid for at the Contract lump sum price for the respective Contract items which shall be full compensation for all labor, materials, incidentals, disposal, tipping fees, and equipment necessary to satisfactorily complete the work in accordance with the Plans and Specifications.

Removal and Disposal of Crib Work will be paid for at the Contract lump sum price for the respective Contract items which shall be full compensation for all labor, materials, incidentals, disposal, tipping fees, and equipment necessary to satisfactorily complete the work in accordance with the Plans and Specifications. Relocation of the stones at Islesboro to an upland facility shall be incidental to the pay item.

Remove Existing Structural Timber will be paid for at the Contract lump sum price for the respective Contract items which shall be full compensation for all labor, materials, incidentals, disposal, tipping fees, and equipment necessary to satisfactorily complete the work in accordance with the Plans and Specifications. Payment for timber pile removal shall include the removal of the timber pile via extraction using a vibratory hammer. Pile removal may also include wire strands and braces which are incidental to the pay item.

Removing, Storing, and Resetting Objects – Chock 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. Payment shall include the removal of the chock, anchor bolts, and base grout. Bolts shall be removed below the concrete surface and filled with a non-shrink grout. The chock shall be cleaned and reset atop a new pad of grout and reset with new anchor bolts.

Payment will be made under:

Pay Item	Description	Pay Unit
202.01	Removing Structures and Obstructions	Lump Sum
202.071	Removal and Disposal of Crib Work	Lump Sum
202.1292	Remove Existing Structural Timber	Lump Sum
202.2111	Removing, Storing, and Resetting Objects – Chock	Each

SPECIAL PROVISION
SECTION 501
FOUNDATION PILES
(Timber Pile, Delivered)
(Timber Pile, In-Place)
(Pile Point)

All work and materials shall conform to the Contract Drawings and the provisions of the State of Maine Department of Transportation Standard Specifications, November 2014, SECTION 501 – FOUNDATION PILES, with the following modifications:

501.01 Description

Add the following paragraph:

The work also includes the following:

This section applies to all work necessary by the Contractor to comply with the timber pile requirements listed herein and in accordance with the drawings. Contractor shall be qualified in the field of timber pile driving and installation with a at least five years experience.

Timber piles shall be installed in conjunction with the wave screen located between dolphins.

501.011 General References

Add the following paragraph:

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

A. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
ASTM D 25 (1999e1) Round Timber Piles

B. AMERICAN WOOD PRESERVERS ASSOCIATION (AWPA)
AWPA C1 (2000) All Timber- Products - Preservative Treatment by Pressure Processes
AWPA C3 (1999) Piles - Preservative Treatment by Pressure Processes
AWPA M4 (2001) Standard for the Care of Preservative-Treated Wood Products
AWPA P5 (2002) Standard for Waterborne Preservatives
AWPA M6 (1996) Brands Used on Forest Products

Except as otherwise indicated on the drawings or specified herein, the industry standards shall apply to all work under this section. Where requirements indicate on the drawings or specified herein differ from the industry standards, the more stringent requirements shall govern.

501.015 Submittals

This Subsection is added and shall include the following:

The Contractor shall provide the submittals listed below in accordance with Section 105.70 of the MaineDOT Standard Specification. Specific components of the submittals are listed in the referenced MaineDOT SECTION 501.

1. Pile Driving Equipment
    a. Manufacturer's literature, including technical and performance literature for pile driving hammer(s), cushions, hoses, and other equipment for the piles.

2. Documentation
    a. Pile number plan and layout with numbering
    b. Installation procedure for all piles.
    c. Pile as-built survey plan.

3. Product Data:
    a. Pile Driving Equipment - Submit complete descriptions of pile driving equipment, including hammers, leads, driving helmets, cushion blocks, driving blocks, collars, extractors, and other appurtenances for approval prior to commencement of work.
    b. Timber Piles

4. Records: Submit pile driving records within seven calendar days after completion of driving.

501.018 Delivery, Storage, and Handling

A. The Contractor shall inspect each pile, upon delivery, for surface damage, cracks, blemishes, scaring and straightness. The condition of each pile shall be recorded and the delivery inspection report shall be submitted to the Contracting Officer. The Contractor shall handle the piles with ropes or nylon slings without dropping, breaking, bruising or penetrating outer surface with tools. Do not use cant dogs, peaveys, hooks or pike-poles. Protect piles from damage.

B. Store piles above the ground on blocking which is shaped or padded and prevent scaring or sagging of the piles. Storage racks shall be arranged to permit air circulation and piles shall be covered from direct sunlight. Piles shall be lowered to dunnage with crane or fork lift. Piles are not to be rolled off tines of forklift.

501.02 Materials

This Subsection is amdended with the following:

A. Provide Southern Yellow Pine timber piles, clean-peeled and treated as specified. Piles shall be in one piece. Splices will not be permitted. Each treated pile shall be branded by the producer, in accordance with AWPA M6. Wood piles shall be Southern Yellow Pine of minimum lengths required under Installation Section and shall comply with the requirements of ASTM D-25, current edition. Timber piling shall be fresh cut from sound live timber. Piles shall be cut above the ground swell. Diameters shall be measured under the bark. Piles shall taper gradually and uniformly from butt to tip, to be free of short kinks, and be straight so that a line stretched from the center of each end of the pile will fall wholly within the pile. Knots shall be sound and shall be trimmed close. No knot or knot cluster shall have an average diameter exceeding one-third (1/3) the diameter of the pile at the point where the knot occurs. Piles shall be otherwise free from defects impairing strength and durability. Piles shall be peeled. Piles are to receive creosote treatment and shall be peeled before creosoting, removing all the outer or rough bark and at least ninety percentum (90%) of the inner bark measured at any circumference. No strip of inner bark more than three quarters (3/4") wide or eight inches (8") long shall be left, and there shall be at least one inch (1") of clean wood between any two such strips. All piles shall be delivered in good condition. Piles shall have butt and tip sawed square with the axis of the pile, or the tip may be tapered to a point not less than eight inches (8") in diameter.

B. Splices will not be permitted.

C. Pile dimensions shall be as follows:
   1) Minimum pile diameter at the butt shall be 16 inches; maximum diameter shall be 18inches.
   2) Minimum pile length shall be 40 ft.

D. Pile tops shall be covered with plastic caps which are nailed to the top of piles around the circumference of the pile.

E. Preservative Treatment: Treat piles by the full-cell pressure process in accordance with AWPA C1 and AWPA C3 to the retention and penetration for marine piling, as follows:
   1) Southern Pine: Waterborne preservatives for marine use shall be CCA in accordance with AWPA P5 and with a minimum retention of 2.5 pounds per cubic foot for use UC5C in heavy industrial salt water marine application.

F. Pile Points: Steel welded-plate point shoe especially fabricated for pile driving. Provide size to fit pile tip. Fabricate boot of carbon steel fully welded.

501.043 Installation Procedures and Tolerances

The following paragraphs are added:

A. Inspect piles when delivered and when in the leads immediately before driving. Secure piles in their proper alignment.

B. Pile hammer shall be air, steam, or diesel powered, and of an approved type with 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. Driving shall be done with fixed leads which will hold the pile firmly in position and alignment and in axial alignment with the hammer. A suitable cushion block shall be used to prevent undue damage of the pile butts. Driving of piles shall be continuous without interruption until pile has been driven to final resistance or tip elevation. The tops of piles shall be cut off true and beveled at elevations shown on drawings. All broomed, crushed, or otherwise damaged materials at the head of the pile shall be removed before capping.

C. Damaged and Mis-Driven Piles: Broken or shattered piles will not be accepted. Tolerances: If the axis of any pile is installed out of plumb by more than 2 percent of the pile length, the design of the wave screen shall be modified as may be necessary to resist the resulting vertical and lateral forces. A tolerance of 3 inches (3") from the designed location shall be permitted in the installation of each pile, without reduction in load capacity of the pile group. Where piles are installed out of position in excess of this amount, the true loading on such piles shall be analytically determined from a survey which defines the actual location of the piles as driven, and using the actual eccentricity in the pile group with respect to the line of action of the applied load. Should any pile be damaged by overdriving or not conform to the tolerance of the specification, an extra pile or piles shall be driven in its place at the contractor's expense, as directed by the engineer. Piles rejected after driving may remain in the ground and cut off as directed. When a rejected pile is withdrawn, the space, if another pile is not driven into it, shall be filled solid with gravel or broken stone without payment therefor.

D. Provide pile points and driving pads as recommended by the pile manufacturer for the timber piles. If a pile fails to reach the indicated tip elevation, notify Resident immediately, provide pile record with sufficient information, and perform corrective measures as directed.

E. Piles shall be driven in the location indicated. Piles may be manipulated a maximum of 0.25 inch per foot of pile length in a direction parallel to the wave screen and 0.25 inch per foot of pile length in a direction perpendicular to the wave screen. Remove and replace with new piles those damaged, dislocated, driven below the design cutoff, or driven out of alignment.

F. The cut-off elevation shall be determined from structural plans. Cut off piles with a smooth bevel cut using pneumatic tools or sawing. Use of explosives or burning for cutting is not permitted. Pile heads at cut-off shall be level and sound.

G. Jetting or spudding of piles shall not be permitted without the approval of the Resident.

H. The test boring data shown, represents information showing conditions on the dates indicated. This boring data is not guaranteed by the Department. It is only to be used by the Contractor to the extent he desires to use same and is subject to the Contractor's verification.

FIELD TREATMENT

A. Field treat cuts, bevels, notches, refacing and abrasions made in the field in accordance with the manufacturer’s recommendations. The tops of the piles shall be covered with an approved pile top. The cover shall be applied per the manufacturer’s recommendations.

B. Given the nature and location of the wave screen, it is not necessary to counterbore holes for bolts. Drill holes for through bolts 1/16 inch larger than diameter of bolt shank. Drill holes for lag bolts not larger than body of bolt at base of tread. Piles shall have tops beveled outboard.

FIELD QUALITY CONTROL

A. When inspections result in product rejection, the Contractor shall promptly segregate and remove rejected material from the premises.

B. Each pile shall be measured for straightness prior to driving by placing a straight line from the center of the top to the center of the tip. The line shall lie entirely within the body of the pile. Piles not meeting this criteria shall be rejected.

C. Each pile shall be inspected for cracks prior to driving. Prior to final completion and acceptance of construction, each pile shall again be inspected for cracks. Cracking of the piles shall be cause for rejection. The Contractor shall be responsible for all costs incurred to replace the rejected piles.

FIELD DOCUMENTATION

A. For each driven pile, the pile driving inspector shall keep a record of the number of blows required for each foot of penetration and number of blows for the last 6 inches penetration or fraction thereof. Include in the record the pile location, the beginning and ending times of each operation during driving of the pile, model, type and size of hammer used, rate of operation, stroke or equivalent stroke for diesel hammer, including the initial stroke, final stroke and all other changes in stroke occurring during the pile driving, type and weight of driving helmet, and type and dimension of hammer cushion (capblock) and pile cushion used. Record retap data and unusual occurrences during pile driving.

B. Notify Resident 10 days prior to driving of piles. Make pile-driving records available to the Resident at the job site for a minimum of 48 hours after each day of driving.

C. The Contractor shall keep a record of each pile driven and shall furnish signed legible copies daily. The records shall give the size, length, location, type, safe load and penetration, and behavior during installation.

D. Obstructions: Contractor shall refer to the General Conditions in regard to his responsibility of obtaining all necessary information concerning actual site conditions. It is the Contractor's responsibility to deliver a complete job.

501.05 Method of Measurement

Timber Pile, Delivered will be measured by the linear foot, and shall include all labor, materials, incidentals, and equipment necessary to satisfactorily deliver the timber piles to the job site. Measurement shall include pressure treatment and inspection.

Timber Pile, In-Place will be measured by the linear foot, and shall include all labor, materials, incidentals, and equipment necessary to satisfactorily install the timber piles in their design location. Measurement shall include all work associated with the installation of the piles.

Pile Points will be measured by the unit, and shall include all labor, materials, incidentals, and equipment necessary to satisfactorily manufacture and install the pile points to the timber piles.

501.06 Basis of Payment

Timber Pile, Delivered will be paid by the linear foot, and shall include all labor, materials, incidentals, and equipment necessary to satisfactorily deliver the timber piles to the job site. Payment shall include pressure treatment and inspection.

Timber Pile, In-Place will be paid by the linear foot measured after cut off, and shall include all labor, materials, incidentals, and equipment necessary to satisfactorily install the timber piles in their design location. Payment shall include all work associated with the installation of the piles.

Pile Points will be paid by the unit, and shall include all labor, materials, incidentals, and equipment necessary to satisfactorily manufacture and install the pile points to the timber piles.

Payment will be made under:

Pay Item	Description	Pay Unit
501.201	Timber Pile, Delivered	Linear Foot
501.202	Timber Pile, In-Place	Linear Foot
501.903	Pile Point	Each

SPECIAL PROVISION
SECTION 501
FOUNDATION PILES
(Steel Pipe Piles)
(Pile Tips)
(Pile Splices)

All work and materials shall conform to the Contract Drawings and the provisions of the State of Maine Department of Transportation Standard Specifications, November 2014, SECTION 501 – FOUNDATION PILES, with the following modifications:

501.01 Description

Add the following paragraphs:

This work shall consist of furnishing and installing pipe piles; cleaning out pipe piles; furnishing and placing reinforcing cage in the pipe piles; and furnishing concrete and filling pipe piles with concrete in accordance with the plans and specifications.

Drilling, furnishing, installing, testing and tensioning rock anchors in pipe piles shall be in accordance with Special Provision 504, Rock Anchors.

501.02 Materials

This Subsection is amended with the following:

Pipe pile material shall meet the requirements of ASTM A252, Grade 3 with minimum yield strength of 45 ksi per MaineDOT Standard Specification 711.01.

Pipe pile tips shall be APF cutting shoe No. 0-14000 series or other equivalent approved shoe necessary to accommodate the Contractor's preferred pile installation method and shall meet or exceed the strength requirements of ASTM A148, Grade 90-60 for steel casings.

Pipe pile splice backup ring material shall be any steel listed in AWS Structural Steel Welding Code D1.1, Table 3.1 with the exception of 100 ksi minimum yield strength steels.

Concrete for Steel Pile pipe shall be Class A and shall meet the requirements of Section 502 - Structural Concrete.

Reinforcing steel for steel pipe piles shall meet the requirements of Section 503, Reinforcing Steel. Epoxy Coated and Grade 60.

Steel pipe pile material shall be coated with a Fusion Bonded Epoxy Coating as specified in SECTION 506 – SHOP APPLIED PROTECTIVE COATING – STEEL. The limit of fusion bonded epoxy coating applied to the steel pipe piles shall be the entire length of the pile.

Turbidity control measures shall be designed to prevent entanglement or entrapment of ESA-listed species. Pile installation shall occur within a turbidity curtain.

501.043 Installation Procedures and Tolerances

Add the following paragraphs:

The following construction tolerances apply:

(a) The pipe pile shall be within 2 inches of the plan position in the horizontal plane at the plan elevation for the top to the pile. Pulling of pipe piles into position will not be permitted.

(b) Vertical alignment of a pipe pile shall not vary from the plan alignment by more than ¼ inch per foot of length. The alignment of a battered pile shall not vary by more than ½ inch per foot of length from the prescribed batter.

(c) The rock anchor/dowel shall be drilled and installed to the depth shown on the plans in accordance with Special Provision 504, Rock Anchors.

Pipe piles not constructed within the required tolerances are unacceptable. The Contractor shall be responsible for correcting all unacceptable pipe pile installations to the satisfaction of the Resident. Materials and work necessary, including work to correct pipe piles that are out of tolerance shall be furnished without either cost to the Department or an extension of the completion dates of the project.

For all coated pipe piling the Contractor is required to provide on the driving frame HDPE lining on plumb piles to protect the coating, from incidental contact with the frame. For battered piling the frame should have the sides parallel with the batter, perpendicular to the centerline of construction, lined with HDPE sheets, and the sides perpendicular to the batter should have HDPE rollers which may be fabricated out of HDPE pipe over a pipe strut. Any bolts through the HDPE must be countersunk below the surface or located in such a manner that incidental contact between the piling and the bolt head is not possible. Alternate provisions may be made by the Contractor to protect the coating but must in the opinion of the Department provide an equivalent protection to the pipe pile coating as the HDPE system described here.

The Contractor shall handle the coated piles in a manner that does not cause impact or abrasive damage by the pile leads, installation equipment or pile installation frame. The installation frame shall be cushioned or coated to prevent damage to the coating during pile installation. If the fusion bonded coating is damaged during the pile installation operation, the Contactor shall cease pile installation and have the damage evaluated by the manufacturer's representative and repaired as per the submitted and approved field repair plan or as directed by the Resident. Do not continue advancing the repaired pile until the coating has cured. Coating that has been damaged by thermal cutting but will be embedded in the concrete pile cap need not be repaired.

Coating damaged during installation due to pile installation, cutting, welding, or other operation shall be repaired as per the submitted and approved field repair plan or as directed by the Resident and the manufacturer's representative. When necessary, coated pipe pile shall be cut in accordance with submitted and approved field process plan using an abrasive cut-off wheel suitable of cutting 5/8" minimum thickness ASTM A252, Grade 3 steel or other method approved by the Resident and the manufacturer's representative. A heat sink comprised of wet fabric in contact the coating or as required by the manufacturer, will be required adjacent to areas that will be thermal cut to minimize heat damage to the coating. The Contractor shall assure that repair personnel are available in a reasonable time period for any necessary repairs.

Add the following Sections:

501.101 Submittals and Construction Methods

No later than 30 days prior to installing the concrete filled pipe piles with rock anchors the Contractor shall submit an installation plan for review by the Department. This plan shall provide information on the following:

(1) List of proposed equipment to be used including installation equipment;

(2) Details of overall construction operation methods and sequence;

(3) Details of cleaning methods in soils and rock, including methods of removing any obstruction such as boulders or cobbles from the pipe piles;

(4) Details of methods to check the cleanliness and soundness of the rock/pipe pile interface and bearing surface;

(5) Details of reinforcement placement including support and centralization methods;

(6) Details of concrete placement; and

(7) Details of attachments for angles and anodes.

Submittals for drilling and installing rock anchors within pipe pile encasements shall be in accordance with Special Provision 504 - Rock Anchors. The Department will evaluate the pipe pile installation plan, and all procedural approvals given by the Resident shall be subject to trial in the field and shall not relieve the Contractor of the responsibility to satisfactorily complete the work as detailed in the plans and specifications. Failure by the Contractor to demonstrate adequate methods and equipment shall be reason for the Resident to require alterations in equipment and/or method by the Contractor to eliminate unsatisfactory results. Any altered methods or construction equipment shall be at the Contractors expense and incidental to this item.

501.102 Installation and Excavation

The Contractor shall maintain a construction method log during pile installation through overburden and into bedrock, cleaning, and rock anchor drilling activities. The log shall include but is not limited to the following: installation methods, advancement rates, obstructions, cleaning methods, and rock socket drilling rates, etc.

Excavated materials which are removed from pipe piles shall be disposed of by the Contractor in accordance with the applicable specifications for disposal of excavated materials.

The Contractor shall employ the turbidity curtain prior to pile installation. Upon commencement of the pile installation activities, the Contractor shall begin with a "soft-start" to allow animals within the immediate vicinity an opportunity to leave the area before sound pressure increases.

The pipe piles shall be advanced into bedrock with a cutting shoe and cleaned out to competent rock, using methods that permit the pipe pile to be socketed at the required depth into bedrock The Contractor shall perform the necessary cleaning and excavation for the pipe pile as incidental to the related Contract items. No separate payment will be made for either cleaning out/excavation of materials or different densities or employment of special tools and procedures necessary to accomplish the excavation and in an acceptable fashion. If after cleaning it is determined by the Resident that the pile is not socketed into bedrock, the pile shall be re-installed and cleaned again.

After advancing the pile into competent rock and cleaning, each pipe pile shall be inspected. Any pipe piles showing bends, crushing, kinks or other deformations that would impair the strength, efficiency, or axial capacity of the completed piles shall be replaced or repaired in a manner satisfactory to the Resident. Repairing or replacing any such damaged pipe pile as ordered by the Resident will be at no additional expense to the Department.

During rock anchor drilling, overcutting of the bedrock surface into which the pipe pile is socketed will not be permitted. If it occurs, the pipe pile shall be re-set into bedrock at no additional cost to the Department. The Contractor shall bear all costs associated with reinstalling the pipe pile if over-breakage occurs during airlifting operations or rock anchor installation operations.

501.103 Pile/Bedrock Seal and Preparation for Rock Anchor Installation

Rock anchor installation shall be in accordance with Special Provision 504 – Rock Anchors. After removal of the overburden and rock from within the pipe pile, if it is determined that overburden has contaminated the rock socket, it may be necessary to advance the pipe pile deeper into bedrock and re-install the pile as required and as directed by the Resident to ensure the finished pile is socketed into bedrock and sealed against the entry of overburden. The inside surface of the pipe pile shall be cleaned free of extraneous material prior starting rock anchor drilling. Rock anchors shall not be constructed until the pipe pile has been checked for plumbness and the pile is accepted.

During rock anchor installation, the Contractor shall maintain a positive seal of pipe pile in the bedrock to prevent entry of overburden, or piping in of overburden into the anchor drill hole or pile by installing a grout plug at no additional cost. Over-breakage of the rock surface shall be avoided so as to not destroy the seal at the bottom of the steel pipe pile and not to undercut the pipe pile tip. Pipe piles shall maintain intimate contact with bedrock after installation to preserve the axial load carrying capacity achieved by end bearing on bedrock over the entire pile tip surface area. In the event that the pile/bedrock contact is disturbed during pile installation or cleanout, the pile shall be reinstalled in accordance with project requirements at no additional cost to the department.

501.104 Obstructions

Surface and subsurface obstructions at the pipe pile locations, both internal and external, shall be removed by the Contractor. Such obstructions may include but are not limited to cobbles and boulders. Special procedures and/or tools shall be employed by the Contractor after the pipe pile cannot be advanced including, but not limited to, augers, chisels, boulder breakers, core barrels, air tools, etc. Excavating and cleaning steel pipe piles and steel casings, furnishing and placing reinforcing and steel templates in steel pipe piles and casings will not be paid for separately, but will be considered as incidental to the related pay items. Pre-boring, jetting, or other methods used to facilitate the installation of pipe piles will not be paid for separately but will be considered incidental to the contract pay item for pile in place. Full compensation for all jetting drilling providing special driving tips or heavier sections for steel piles or shells, or other work necessary to obtain the specified penetration and bearing value of the piles, and as directed by the Resident shall be considered as included in the contract unit price paid for pipe pile, and therefore no additional compensation will be allowed.

501.105 Inspection

The Contractor shall keep a daily construction record which shall be submitted to the Resident each day. The Contractor shall provide access and equipment for checking the alignment of each pipe pile and for checking the dimension, alignment and cleanliness of installation. The base of each pipe pile shall have no sediment at the time of placement of the concrete. Pipe pile cleanliness will be demonstrated by the Contractor to the satisfaction of the Resident. Concrete placement shall not begin until the Resident's approval has been obtained. The Resident shall be allowed unrestricted access.

501.106 Concrete.

Concrete for Steel Pipe Piles shall be Class A and shall meet the requirements of Section 502 - Structural Concrete. Concrete shall be placed as soon as possible after reinforcing bar placement is complete, if reinforcement is used. Concrete placement shall also meet the requirements of Subsection 501.05. Concrete placement shall be continuous from the bottom to the top elevation of the pipe pile. Concrete shall be placed through a tremie or concrete pump. The tremie discharge end shall be immersed at least 5 feet in concrete at all times after starting the flow of concrete. Any voids occurring in the top portion of the pile concrete shall be filled with dry pack mortar.

501.11 Method of Measurement

Add the following paragraphs to Paragraph (c):

Steel Pipe Piles, Delivered shall include full compensation for the delivery and on-site storage of the pipe pile prior to its installation.

Steel Pipe Piles, In-Place shall include full compensation for installing pipe pile into bedrock, concrete pile fill, and pipe pile and hole cleaning, including temporary casings, centralizers, augers, drilling equipment, air lifting equipment, jetting equipment, special tools and drilling equipment to clean the pipe pile to the depth indicated on the plans. The pay item shall also include removal and

disposal of excavated materials, and furnishing all other labor, materials, and equipment necessary to complete this work.

Installation of rock anchors in pipe piles shall be paid under Pay Item 504.905.

No separate payment shall be made for the removal of obstructions, such as cobbles, timbers, riprap or boulders. No separate payment shall be paid for earth or rock excavation, drilling, pre-augering, or other methods to clean inside the pile and advance the pile to its required tip elevation within the bedrock.

Pile Tips shall be measured under the Contract item unit.

No separate measurement will be made for pile splices which occur within the estimated length of the pile. Pile splices will only be measured for payment, at the Contract item unit, when said splices are required to achieve a pile length greater than the estimated pile length shown on the Plans due to unforeseen site conditions that warrant an additional length.

No separate measurement will be made for installation, maintenance, and removal of temporary turbidity curtains and debris booms. These items shall be incidental to the Contract.

No separate measurement will be made for surveys required to locate existing timber piles or cribs; layout the proposed piles; or monitor pile heave. Surveys shall be incidental to the Steel Pipe Pile In-Place pay item.

501.12 Basis of Payment:

Add the following paragraphs:

The accepted quantities of Pipe Piles In-Place will be paid for at the contract price per linear foot, for the measure of work completed and accepted by the Resident. Such payment shall constitute full compensation for providing all labor, materials and equipment and for all incidental items necessary for the completion of the work, as described in the paragraphs above.

The accepted quantities of Pile Tips will be paid for at the contract unit price for work completed and accepted by the Resident. Such payment shall constitute full compensation for providing all labor, materials and equipment and for all incidental items necessary for the completion of the work, as described in the paragraphs above.

Pile splices which occur within the estimated pile length shown on the Plans will not be paid for separately, but shall be incidental to the Steel Pipe, Pile In-Place pay item. Pile splices required to achieve a pile length greater than the estimated pile length shown on the Plans, shall be paid for at the Contract unit price.

Fusion bonded epoxy coating shall be paid for separately under Pay Item 506.9106, Fusion Bonded Epoxy Coating.

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

The last line and table of pay items shall be deleted and replaced with the following:

Payment will be made under:

Pay Items	Description	Pay Unit
501.24	Steel Pipe Piles (16” dia.), Delivered	Linear Foot
501.241	Steel Pipe Piles (16” dia.), In-Place	Linear Foot
501.90	Pile Tips	Each
501.91	Pile Splices	Each
501.92	Pile Driving Equipment Mobilization	Lump Sum

END OF SECTION

SPECIAL PROVISION
SECTION 502
STRUCTURAL CONCRETE
(Structural Concrete, Pile Cap - Dolphin)

All work and materials shall conform to the Contract Drawings and the provisions of the State of Maine Department of Transportation Standard Specifications, November 2014, SECTION 502 – STRUCTURAL CONCRETE, with the following modifications:

Section 502.01 Description

Add the following after the first paragraph:

This work shall consist of furnishing and placing Portland Cement Concrete for concrete waterfront structures including fill for steel pipe piles and dolphins in accordance with these Specifications and in conformity with the lines, grades, and dimensions shown on the Plans.

At Islesboro, the Contractor shall install a temporary three pile timber dolphin(s) to protect their work area during construction.

Section 502.05 Composition and Proportioning

Modify Table 1 in accordance with the following:

Concrete Class LP shall include Note 2: inclusion of Calcium Nitrite.

Modify Table 1, Note 2, in accordance with the following:

Calcium Nitrite shall be added at a rate of 5.0 gallons per cubic yard.

Section 502.1702 Quality Control Method C

The following paragraphs are added:

Quality Control for Class LP concrete elements shall be based on Method A.

Quality Control for Class A concrete elements shall be based on Method C.

Section 502.18 Method of Measurement

Add the following before the first paragraph:

Measurement of concrete for the dolphins satisfactorily placed and accepted will be measured by the cubic yard in accordance with the dimensions shown on the Plans or authorized changes in the Plans. Fill for steel pipe piles will not be measured separately but shall be incidental to the Steel Pipe Pile In-Place Pay Item, 501.241. At Islesboro, the materials, equipment, design and labor required to design and install the temporary timber dolphin cluster(s) sufficient to protect the construction of dolphin D7 will not be measured separately but will be incidental to this Contract item.

Epoxy-coated steel reinforcement will be measured separately and shall be covered under Pay Items 503.14 and 503.15.

Concrete fill for mooring double bitts will not be measured separately but shall be incidental to Pay Item 841.55.

Section 502.19 Basis of Payment

Add the following before the first paragraph:

Structural Concrete, Pile Cap - Dolphin will be paid for at the Contract cubic yard 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. At Islesboro, the full compensation for the materials, equipment, design and labor required to design and install timber dolphin cluster(s) sufficient to protect the construction of dolphin D7 will not be measured separately but will be incidental to this Contract item.

Add the following Pay Items:

Pay Item	Description	Pay Unit
502.2351	Structural Concrete, Pile Cap - Dolphin	Cubic Yard

END OF SECTION

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

CLASS OF CONCRETE	ITEM NUMBER	DESCRIPTION	P	METHOD
LP	502.2351	Structural Concrete, Pile Cap - Dolphin	$450	A
A	501.241	Steel Pipe Piles (16” Dia.) In-Place	-	C
A	518.50	Repair of Upward Facing Surfaces – to Reinforcing Steel < 8 inches	-	C
A	518.50	Repair of Upward Facing Surfaces – below Reinforcing Steel	-	C
A	518.50	Repair of Upward Vertical Surfaces < 8 inches	-	C
A	841.55	Mooring Bollard - Double Bitt	-	C

P values listed above reflect the price per cubic yard (yd^3) for all pay adjustment purposes.

SPECIAL PROVISION
SECTION 504
RUBBER FENDERS
(Leg Type 1)
(Leg Type 2)
(Conical)
(Arch)

504.01 Description

The following paragraphs are added:

This work shall consist of installing rubber buckling fenders at the locations shown on the Contract Plans, complete with stainless steel hardware. Rubber buckling fenders are in the form of "leg" style fenders and used behind proposed steel fender panels. Conical fenders are individual circular elements that will replace existing deteriorated pieces in kind. Arch fenders are trapezoidal elements intended to protect dolphin corners from direct contact with vessels.

504.015 Handling

Fenders shall be undamaged when delivered and shall be handled and stored to prevent damage, such as bending or abrading end fittings, cutting of rubber, or damage to coating of hardware. Protect fenders from exposure to damaging liquids, oils, greases and extended exposure to sunlight.

504.016 References

REFERENCES: The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

A. ASTM INTERNATIONAL (ASTM)

ASTM A 240/A 240M (2005a)	Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels for General Applications
ASTM D 1171 (1999)	Rubber Deterioration - Surface Ozone Cracking Outdoors or Chamber (Triangular Specimens)
ASTM D 2000 (2006)	Rubber Products in Automotive Applications
ASTM D 395 (2003)	Rubber Property - Compression Set
ASTM D 412 (2002)	Vulcanized Rubber and Thermoplastic Elastomers - Tension
ASTM D 471 (1998)	Rubber Property - Effect of Liquids
ASTM D 573 (2004)	Rubber - Deterioration in an Air Oven
ASTM D 575 (2001)	Rubber Properties in Compression
ASTM D 624 (2000)	Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers

ASTM D 746 (2004) Brittleness Temperature of Plastics and Elastomers by Impact

B. U.S. DEPARTMENT OF DEFENSE (DOD)

MIL-PRF-907 (2004) Antiseize Thread Compound, High Temperature

504.02 Materials

The following paragraphs are added:

FENDER CONFIGURATION:

Leg Fenders shall be extruded and shall be continuous in the length indicated. The fenders shall be attached to the structure as indicated on the drawing.

Conical Fenders shall be manufactured as one single unit. The fenders shall be attached to the structure as indicated on the drawing.

Arch Fenders shall be extruded and shall be continuous in the length indicated. The fenders shall be attached to the structure as indicated on the drawing.

ELASTOMER:

The elastomer shall be black ethylene propylene dimonomer (EPDM), as specified in ASTM D 2000, with the following properties:

A.	Minimum Tensile Strength (original) (ASTM D 412)	2000 psi
B.	Shore Hardness (Durometer) (ASTM D 412)	60 +/- 5 Shore A
C.	Modulus at 400 Percent Elongation (ASTM D 412)	900 psi
D.	Maximum Compression Set (ASTM D 395 Method B, Maximum Percent 22 Hr. at 158 Degrees F)	25 Percent (max.)
E.	Tear Resistance (ASTM D 624; DIE B Min. 150 lb/in)	200 lb/in.
F.	Minimum Elongation (ASTM D 412)	400 Percent
G.	Ozone Resistance (ASTM D 1171 Exposure Method B; 70h Bent Loop at 100 Degrees F; 50pphm)	No Cracks
H.	Low Temperature Impact Resistance (ASTM D 746 Procedure B; Non-Brittle at -67 Degrees F)	-40 Degrees F
I.	Water Absorption (ASTM D 471 Method B; 70h at 212 Degrees F.; Volume Change +5 Percent)	5 % (max.)
J.	Heat Resistance (ASTM D 573; 70h at 212 Degrees F, Ch Tensile, Elong. -25 Percent, Hardness +10)	Shall exceed requirements
K.	Compression Defl. Resistance (ASTM D 575 Method B; 3 S Dwell at 73 Degrees F)	Shall exceed requirements

CONNECTION HARDWARE:

Fender anchor bolts shall be stainless steel type 316 conforming to ASTM A 240/A 240M set into predrilled, epoxy filled holes, as shown on the contract drawings.

ANTI-SEIZE COMPOUND:

Anti-seize compound shall be in accordance with MIL-PRF-907.

504.031 Submittals

The following paragraphs are added:

Shop drawings and associated material specifications shall be submitted for review and approval. The following is a general list of the components to be included in the submittal:

A. Product Data:
   1) Fender Configuration

B. Test Reports: Tests shall have been performed on the specified fender within 5 years of submittal of the reports for approval. Test reports shall be accompanied by notarized certificates from the manufacturer certifying that the tested material is of the same type, quality, manufacture and make as that proposed to be supplied.

   1) Minimum Tensile Strength
   2) Shore Hardness (Durometer)
   3) Modulus at 400 Percent Elongation
   4) Maximum Compression Set
   5) Tear Resistance
   6) Minimum Elongation
   7) Ozone Resistance
   8) Low Temperature Impact Resistance
   9) Water Absorption
   10) Heat Resistance
   11) Compression Deflection Resistance

504.032 General Requirements

The following paragraphs are added:

ENERGY ABSORPTION:

The leg type fenders shall have the following minimum energy absorption values:

1.	Leg Type 1	381 kip-ft (516 kN-m)
2.	Leg Type 2	283 kip-ft (383 kN-m)
3.	Leg Type 3	213 kip-ft (289 kN-m)

INSTALLATION:

Install the rubber fenders in the position indicated on the drawings.

For proposed leg fenders, attach the fender to the back of the steel fender panel and position the assembly in the location shown on the drawings. Mark the hole locations on the dolphin and then reposition the assembly to the side to enable clean drilling. Drill holes into the dolphin and fill the holes with epoxy as shown on the drawings. See the drawings for drill depth estimates.

For proposed arch fenders, attach the steel support plate assembly to the dolphin, where applicable, in the location shown on the drawings. Mark the hole locations on the dolphin or steel support place and then reposition the assembly to the side to enable clean drilling. Drill holes into the dolphin or steel support plate and fill the concrete holes with epoxy as shown on the drawings. See the drawings for concrete drill depth estimates.

For proposed conical fender replacements, remove the existing fender by first removing the existing steel fender panel and chains as necessary to allow the conical fender to slide off of its anchorages. Do not damage the anchorages as they are intended to be reused. Slide the new conical fender into place and reattach the fender.

Use an anti-seize compound to coat threads of bolts prior to installing all hardware.

504.65 Method of Measurement

The following paragraphs are added:

Rubber Fenders shall be measured by the unit installed in place in accordance with the Plans. Removal and reinstallation of the existing fender panel and chains where necessary will not be measured separately, but rather shall be incidental to this pay item. Full compensation for furnishing, all labor, materials and equipment necessary to complete the work for steel plate assemblies to support the rubber fenders, where applicable, shall be incidental to this pay item. Miscellaneous hardware such as nuts and washers may be required.

502.66 Basis of Payment

The following paragraphs are added:

Payment for Rubber Fenders shall be paid for at the Contract unit price and shall include removal and disposal of the existing fender where applicable, and full compensation for furnishing, all labor, materials and equipment necessary to complete the work, including applicable steel plate assemblies.

Payment will be made under:

Pay Item	Description	Pay Unit
504.601	Rubber Fender (Leg Type 1)	Lump Sum
504.601	Rubber Fender (Leg Type 2)	Lump Sum
504.601	Rubber Fender (Leg Type 3)	Lump Sum
504.601	Rubber Fender (Conical)	Lump Sum
504.601	Rubber Fender (Arch)	Lump Sum

END OF SECTION

SPECIAL PROVISIONS
SECTION 504
STRUCTURAL STEEL
(Support Chain)
(Shear Chain)
(Tension Chain)
(1-Inch Diameter Shackle)
(U-Bolt Dogbone)
(Miscellaneous Fabrication - Pad Eye)
(Steel Fender Panel, Closed-Box, UHMW Wearing Surface (Type 1)
(Steel Fender Panel, Closed-Box, UHMW Wearing Surface (Type 2))
(Steel Fender Panel, Closed-Box, UHMW Wearing Surface (Extensions))
(Remove and Dispose Existing Fender Panel)

504.01 Description

The following paragraphs are added:

This work shall consist of installing, modifying, and/or replacing the specified number of steel fender panels with a steel closed-box fender panel faced with a UHMW low-friction wearing surface.

Steel fender panels will be installed at the locations shown on the Contract Plans, which shall include chains and miscellaneous hardware.

Steel fender panels identified to be removed and stored shall be removed in their entirety complete with the rubber buckling fenders, the chains, and any miscellaneous hardware. The assembly shall be stored at Swan's Island terminal building. Exact location to be determined.

With respect to the above work elements, the Contractor shall coordinate the work contained within this special provision with the Terminal Manager to prevent conflicts with vessel schedules. See Section 104 of the Special Provisions for more information.

504.02 Materials

The following paragraphs are added:

The steel fender panels shall have a minimum yield strength of 50 ksi and all welding shall be in accordance with AWS D1.1 latest edition standards. The steel fender panels shall be manufactured by Maritime International of Broussard, LA or an approved equal.

The steel fender panels shall have a high chemical-resistant coating suitable for severe marine exposure such as a coating comprised of a cycloaliphatic amine epoxy topped with a coat of aliphatic acrylic polyurethane. Coatings shall be manufactured by Carboline of St. Louis, MO or an approved equal.

All steel chains, pad eyes, U-bolts, and shackles shall be hot dipped galvanized grade GR 3. The socket type embedment hardware must have a 316 stainless steel female socket and an ASTM A153 hot dipped galvanized ASTM A325 embedment bolt behind the socket. All bolts shall be ASTM A325 hot dipped galvanized. Panel side female mounting sockets shall be ASTM A304 stainless steel. All hardware for mounting the fender panel including, chains, bolts, nuts, and washers shall be supplied by the fender manufacture to ensure a proper fit.

The UHMW wearing surface for the fender panels shall be made of 100% virgin material and cover the face of the panel including the faces of the bevels. The wearing surface shall be a minimum of

2.0-inches thick and black in color. The UHMW must be 2.5% UV stabilized. The UHMW materials must meet the following minimum standards as outlined in Table 1.

TABLE 1

Property	Test Method	English Unit	English Value
Density	ASTM D-792	lbs/ft³	58
Molecular Weight	Viscosimetric	g/mol	4,200,000
Yield Strength	ASTM D-638	psi	3050
Ultimate Strength	ASTM D-638	psi	5800
Elongation at Break	ASTM D-638	%	250
Hardness	ASTM D-2240	Type D	68
IZOD Impact Strength	ASTM D-4020	ft-lbs/in²	34
Tensile Impact	DIN 53448	ft-lbs/in²	1050
Sand Wheel Wear	ASTM G-65	AR-01 Steel=100	90
Static Friction	ASTM D-1894	Unitless	0.15
Dynamic Friction	ASTM D-184	Unitless	0.12
Coefficient of Thermal Exp.	ASTM D-696	°F⁻¹	0.00011
Melting Point	ASTM D-3417	°F	278-289
Water Absorption	ASTM D-570	%	nil

504.031 Submittals

The following paragraphs are added:

The steel fender panel shop drawings and associated material specifications shall be submitted for review and approval. The following is a general list of the components to be included in the fender panel submittal:

- Detailed shop drawings illustrating the arrangement and dimensions of the proposed steel closed-box fender panel, wearing surface, chains, anchorages, and hardware;
- Calculations for the proposed design of the steel closed-box fender panel and the chains;
- Welding procedures and individual qualifications and certifications;
- Catalog data sheets for the proposed paint system;
- Product liability insurance certificate;
- A list of five completed projects with the same or similar steel closed-box fender panel;
- UHMW material data sheet;
- Packing and delivery procedures;
- Pressure test report of the steel closed-box fender panel;
- Test certificates for the rubber material properties; and
- Detailed installation and handling procedures for the supplied steel closed-box fender panel.

Information regarding the miscellaneous connections shall be submitted for review and approval. The following is a general list of the components to be included in the miscellaneous connections submittal:

- Material specifications and dimensions for chains;
- Material specifications and dimensions for shackles;
- Material specifications and dimensions for U-Bolt Dogbones;

- Material specifications and dimensions for pad eyes including installation procedures and epoxy resin materials; and
- Testing procedure for performing pull-out tests of existing anchorages.

504.032 General Requirements

The following paragraphs are added:

Removal and Disposal of Existing Fender Systems

At Vinalhaven, the existing fender panels shall be removed and stored as an assembly by the Contractor. Removal of the assembly shall also include the existing buckling fenders, chains, and shackles. The Resident shall determine the re-usability of these components based on a visual assessment of corrosion and deterioration, and notify the Engineer of Record of the condition. Future reuse of these elements shall be determined prior to the Contractor's relocations and storage of these materials to Swan's Island, ME.

At Islesboro, the existing fender panel on Dolphin D6 shall be removed and stored as an assembly by the Contractor. Removal of the assembly shall also include the existing buckling fenders, chains, and shackles. The Resident shall determine the re-usability of these components based on a visual assessment of corrosion and deterioration, and notify the Engineer of Record of the condition. Future reuse of this element shall be determined prior to the Contractor's relocation and installation on Dolphin D7.

Steel Closed-Box Fender Panel

The proposed fender panel shall be of the closed-box type and be rectangular in shape with a narrower top as shown on the Contract plans. The vertical length and horizontal width of the panel shall be as called out in the project drawings. Only the flat 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 panel shall be designed to include all possible loads imparted by the vessel onto the fender and shall include, but not be limited to, two line loads at the extreme top and bottom of the flat portion of the panel. The weight of the panel with the UHMW wearing surface shall not exceed 15,000 lbs.

All external fillet welds shall be seal welds to prevent corrosion. Pressure testing shall be performed to ensure an air and water tight seal. Pressure test results must be provided to the approval engineer prior to delivery of the panels.

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.

Steel Closed-Box Fender Panel Coating System

The proposed steel closed-box panel shall receive a surface preparation in accordance with SSPC-SP10 with an anchor profile of 2.5 mils. The minimum DFT of the coating shall be 16 mils nominal and inspected per SSPC-PA2. One manufacturer shall provide the coating system to ensure compatibility between coats and quality control of the final product. The specified coating thickness of the three-coat system shall be as follows:

1st Coat: 7-8 mils of Carboguard 890 (or approved equal)
2nd Coat: 7-8 mils of Carboguard 890 (or approved equal)
3rd Coat: 2-3 mils of Carbothane 134 HG, black (or approved equal)

Chains and Hardware

The proposed chains, shackles, U-Bolt Dogbones, 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 hardware such as shackles, pad eyes, and dogbones shall be hot dipped galvanized. All chains are mandatory and must be included in the design. Chain capacities shall have a minimum factor of safety of 2.

All anchorages and pad eyes for attaching the proposed chains to mounting surface are to be included and supplied by the fender manufacturer. Holes for pad eyes shall be drilled (not flame cut). All pad eyes and mounting hardware to be hot dipped galvanized.

Dolphin Pad Eyes

Pad eyes shall be of the prescribed strength and size and installed to the depths shown on the Contract Plans. The hole diameter for the pad eye shall be in accordance with the epoxy manufacturer's recommendation so as to achieve 125% of the design tensile strength of the bolt.

When installing the pad eyes, the Contractor shall be aware of the possibility that steel reinforcement may interrupt the drilling process. Layout of the pad eyes has been determined by review of the as-built steel reinforcement drawings and the locations of the anchor rods for the mooring hardware. When normal steel reinforcement is encountered within the first 3-inches of the concrete surface, then drilling shall stop and the Contractor shall relocate the hole 2-inches to either side of the first hole attempted. Normal steel reinforcement encountered beyond 3 inches of the concrete surface can be drilled through. The objective is to achieve the prescribed depth of the pad eye hole and not encounter steel reinforcement.

When pad eyes are tested for pull-out strength, any pad eyes that fracture shall be replaced by drilling and installing a new pad eye approximately 6-inches away laterally from the broken one. Pad eyes that pullout due to debondment between the bolt shaft and the concrete hole, may be replaced by a new pad eye using the same hole, provide depth and diameter requirements for the hole are met or achieved.

UHMW Wearing Surface

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 ¾-inch by 3/4-inch chamfers.

504.033 Performance Requirements

The following paragraphs are added:

The manufacturer of the steel closed-box fender panels 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 thickness of the steel closed-box panel system shall be approximately 13 inches (+/- 2 inches) when considering the thickness of the steel box and the UHMW wearing surface.

The Contractor shall utilize steel shim plates or fender blocks as needed to make final adjustments of the standoff distance of the fender panel with relationship to the other fender panels along the pen.

504.65 Method of Measurement

The following paragraphs are added:

Support Chains, Shear Chains, Tension Chains, Shackles, U-Bolt Dogbones, and Pad Eyes shall be measured by the unit installed and accepted. Installation of Pad Eyes shall include drilling of the concrete hole (which shall include abandoning a drilled hole attempt if rebar is encountered within the first 3 inches), hole cleaning, and epoxy resin.

Steel Fender Panel, Closed-Box, w/UHMW Wearing Surface shall be measured by the unit and shall include coatings, threaded inserts, UHMW wearing surfaces, and any offsetting steel or UHMW pieces. Installation of the steel backing pipes, hardware, and contoured/beveled plates will be included in this item (whether the materials are new or salvaged).

At Vinalhaven, Remove and Dispose Existing Fender Panel shall be measured by the unit removed and stored in accordance with the Plans. Removal of the existing rubber fenders, chains, and miscellaneous hardware will not be measured separately, but rather shall be incidental to this pay item. The assembly shall be at the Swan's Island Ferry Terminal. If components of the fender panel assembly are deemed to be unusable, they shall be disposed by the Contractor at no additional charge.

At Islesboro, Remove and Dispose Existing Fender Panel shall be measured by the unit removed, stored, and re-used in accordance with the Plans. Removal of the existing rubber fenders, chains, and miscellaneous hardware will not be measured separately, but rather shall be incidental to this pay item. The assembly shall be stored on the Contractor's barge until which time it is re-installed.

502.66 Basis of Payment

The following paragraphs are added:

Support Chains, Shear Chains, Tension Chains, Shackles, U-Bolt Dogbones, and Pad Eyes 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.

Steel Fender Panel, Closed-Box, w/UHMW Wearing Surface 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.

Remove and Dispose Existing Fender Panel 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.

Payment will be made under:

Pay Item		Pay Unit
504.642	Support Chain	Each
504.6422	Shear Chain	Each
504.6423	Tension Chain	Each
504.845	1-Inch Dia. Shackle	Each
504.846	U-Bolt Dogbone	Eac
504.510	Miscellaneous Fabrication - Pad Eye	LS
504.651	Steel Fender Panel, Closed Box, UHMW Wearing Surface (Type 1)	Each
504.65	Steel Fender Panel, Closed Box, UHMW Wearing Surface (Type 2)	Each
504.653	Steel Fender Panel, Closed Box, UHMW Wearing Surface (Extensions)	Each
504.999	Remove and Dispose Existing Fender Panel	Each

SPECIAL PROVISIONS
SECTION 504
STRUCTURAL STEEL
(Miscellaneous Fabrication – Dolphin Access Ladder)
(Miscellaneous Fabrication – Shim)
(Miscellaneous Fabrication – Spacer Plate)
(Miscellaneous Fabrication – Fender Block)
(Miscellaneous Fabrication – Remove Line Guard)
(Miscellaneous Fabrication – Remove Miscellaneous Steel)

504.01 Description

This work shall consist of providing all labor, materials, equipment and supervision necessary for furnishing and installing or removing fabricated steel members including fender framing, ladders, support hangers, and plates.

Remove Line Guard shall include the metal line guards along the top edges of the concrete dolphins as noted on the drawings. Removal shall include the removal of the anchor bolt to a depth shown on the drawings and filling the void with a non-shrink grout.

This work shall conform to the requirement of the Standard Specifications Section 504 – Structural Steel.

504.02 Materials

All materials shall be delivered, stored and handled so that they are not damaged.

Miscellaneous steel fabrication, including rolled shapes and plates, shall conform to the following unless noted otherwise:

ASTM A36 (Fy = 36 KSI) for angles & plates
ASTM 572 Grade 50 (Fy = 50 KSI) for rolled S and HP shapes, channels & bars ASTM A992 (Fy = 50 KSI) for rolled W-shapes
ASTM A500 Grade B (Fy= 46 KSI) for rectangular HSS ASTM A500 Grade B (Fy= 42 KSI) for round HSS ASTM A53 Grade B (Fy= 35 KSI) for pipe

All steel hardware items, except stainless steel under this Section shall be galvanized unless noted. Galvanizing shall be by the hot dip method according to ASTM A 123 and A 153. Welding rods shall conform to AWS E70XX grade. Sizes shall be as indicated on the Contract Drawings.

504.03 Quality Assurance and Submittals

All work shall conform to the following codes and standards, except as noted:

(1) American Society for Testing and Materials (ASTM), latest edition.

(2) American Institute for Steel Construction (AISC) Specification for the Design, Fabrication and Erection of Structural Steel for Buildings, latest edition.

(3) American Welding Society (AWS).

(4) Maine State Building Code

The Contractor shall submit for approval all shop drawings prior to fabrication. Shop drawings shall include 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 drawings shall be the responsibility of the Contractor.

The Contractor shall submit for approval manufacturer's specifications on all connectors, hardware, chain, bolts and certificates of compliance with applicable ASTM specification for galvanized items.

The Contractor shall use only certified welders 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.

Completed welds will be subject to inspection and approval of an independent testing agency. Faulty welds shall be cut out and replaced at no cost to the Owner.

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 and an official of the miscellaneous metal fabricating firm or firms, certifying that all fabricated metal has been fabricated in complete accordance with this Section.

504.40 Fabrication

All products from this Section shall be fabricated in an AISC or MaineDOT certified facility. 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. All steel will be free from imperfections, dirt, loose scale, paint, oil or other foreign substances during fabrication. All material shall be fabricated to within + or – 1/16 inch of their theoretical dimensions as shown on the plans. Holes for bolts shall be located as shown on the plans and shall be drilled 1/16 inch in diameter larger than the (galvanized) bolt.

All welding shall be in accordance with AWS D1.1, Structural Welding Code – Steel (most recent edition); all bolting shall be in accordance with AISC Manual of Steel Construction (most recent edition).

All ladders, plates, and shim fabrication under this Section shall be galvanized.

504.50 Installation

Fabrication shall be stored on skids, not on ground, in such a fashion as to prevent bending, twisting, or similar damage. Fabrications shall not be dumped off a truck. 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.

Prior to installation work shall be cleaned of weld splatter, dirt and other foreign materials. Protect installed work as required from damage by subsequent building operations.

504.65 Method of Measurement

Miscellaneous steel fabrication will be measured as a lump sum.

Remove Existing Line Guard shall be measured by the linear foot, and shall include all labor, materials, incidentals, and equipment necessary to satisfactorily complete the work in accordance with the Plans and Specifications.

Remove Miscellaneous Steel item will be measured as lump sum. This measurement will include the removal of all existing miscellaneous steel, including chocks, support channels, support hangers, and all other miscellaneous steel items attached to the timber berthing fence to be removed. At Islesboro, the materials, equipment, design and labor required to replace all steel framed hoists in kind and design plans for attachment to the concrete dolphins will not be measured separately but will be incidental to this Contract item.

504.66 Basis of Payment

Miscellaneous steel fabrications will be paid for at their respective Contract unit price. This price will be full compensation for the materials, labor and equipment required to produce, coat, erect, removal of elements to allow for erection and install the miscellaneous steel fabrications shown in the contract drawings including, but not limited to, ladders, shims, spacer plates, and fender blocks.

Any steel fabrications required for the tie rod system or mooring hardware shall be considered incidental to those items and will not be paid for under miscellaneous steel fabrication.

Remove Existing Line Guard will be paid for at the Contract linear foot 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. Payment shall include the removal of the bolt to a depth below the concrete and filling void with a non-shrink grout.

Remove Miscellaneous Steel will be paid for at the respective Contract unit price. This price will be full compensation for the labor and equipment required to remove of all existing miscellaneous steel, including chocks, support channels, support hangers, and all other miscellaneous steel items attached to the timber berthing fence to be removed. At Islesboro, the full compensation for the materials, equipment, design and labor required to replace all steel framed hoists in kind and the design plans for their attachment to the concrete dolphins will not be measured separately but will be incidental to this Contract item.

Add to Payment will be made under:

Pay Item	Description	Pay Unit
504.510	Miscellaneous Fabrication – Dolphin Access Ladder	Lump Sum
504.510	Miscellaneous Fabrication – Shim	Lump Sum
504.510	Miscellaneous Fabrication – Spacer Plate	Lump Sum
504.510	Miscellaneous Fabrication – Fender Block	Lump Sum
504.510	Miscellaneous Fabrication – Remove Line Guard	Lump Sum
504.510	Miscellaneous Fabrication – Remove Miscellaneous Steel	Lump Sum

SPECIAL PROVISIONS
SECTION 504
STRUCTURAL STEEL
(Rock Anchors)

504.1 Description

This work shall include all labor, materials, equipment and supervision necessary to install rock anchors at pile locations specified and indicated on the Contract Drawings. Post-tensioned rock anchors shall conform to and be installed as detailed in these specifications and as shown on the Contract Drawings in conjunction with associated steel pipe piles or as authorized by the Resident. Post-tensioned rock anchors shall have an ultimate capacity as shown on the Contract Drawings. Installation of rock anchors shall conform to Recommendations for Prestressed Rock and Soil Anchors of the Post Tensioning Institute.

Furnishing, installing, cleaning out and filling the steel pipe piles with concrete is included under Section 501-Foundation Piles and Special Provision 501.

504.2 Qualifications

The Contractor shall submit evidence of at least three (3) successful installations within the last three (3) years of work comparable to that shown in the Contract Documents and specified herein. This evidence shall include the owners, names and phone numbers related to the installations. The Contractor shall employ labor and supervisory personnel who are experienced in this type of work. The drilling operator and foremen shall have a minimum of one (1) year experience with installing permanent rock anchors in accordance with MaineDOT & AASHTO requirements. The Contractor shall submit resumes and work experience of the technical personnel.

504.3 Submittals

At least three (3) weeks prior to the proposed date for beginning the rock anchor work the Contractor shall submit the following information to the Department for review. The Contractor will not be allowed to begin work until all related submittal requirements are satisfied.

a) Shop drawings and material certifications of the complete rock anchor assembly. The drawings shall provide details and dimensions of the threadbar, triple corrosion protection systems, anchor head, bond breaker, grout sleeve, couplings, centralizers, lengths of smooth and corrugated sheathing and their relations to the steel pipe pile, length of unbonded zone, total anchor length, design, test and lock-off loads, grout type, grout admixture, and grouting procedures. For installation of the rock anchors, Certified copies of chemical analyses, unconfined compressive strength of grout mixture, and tensile strength of steel, shall also be provided.

b) List and description of proposed equipment and methods to be used for rock anchor installation, including drilling rock anchor holes, cleaning, and checking cleanliness of drill holes, centralizing anchors, installing anchors, tremie grouting, tensioning, testing and load transfer/lock-off.

c) Sequence of installation of pipe piles, rock anchors, grouting, testing, concreting, tensioning, load transfer, and method to verify that the anchored piles are socketed into bedrock.

d) Plan for advancing the rock anchor and for controlling and mitigating overbreakage of bedrock surface; methods to ensure seal of pipe pile/bedrock interface is maintained during rock anchor installation.

e) Shop drawings detailing the monitoring system for measuring movements during performance and proof load tests; temporary structural testing frame to resist jacking forces; detailed procedures for testing anchors and procedures for load transfer to anchors including method for verifying lock-off loads. Calibration data for the load cell and/ or jacks to be used to measure the

applied test loads. Certificates for calibration shall indicate the calibrations were completed within the last 12 months.

f) During installation of the rock anchor systems, provide as-built tabulations of data for each unit, to include: identification, location, dates, depths of initial drilling and grouting, grouting pressures, anchor lengths, and any unusual events.

g) Drawing showing layout and location jacks on temporary testing frame and remote reference beam for monitoring of anchor deformation during load tests.

h) Certificate of Compliance of Conformance for anchor threadbar and plastic sheathing.

i) Submittal for anchored pipe pile installation and cleaning in accordance with Special Provision 501.

At least one (2) weeks prior to the proposed date for beginning the rock anchor proof or performance testing, the Contractor shall submit calibration documentation for jacks and pressure gages or other equipment to be used in testing and stressing. All pressure gages and jacks used shall be calibrated by a certified and approved testing laboratory which shall submit a certificate of calibration which was performed within 12 months of the start of testing. Proof and performance testing and tensioning will not be permitted until the calibration certificates are submitted. All jacks and gages shall be field calibrated monthly.

504.4 Inspection and Record Keeping

Field inspection shall be provided as follows:

1) The Contractor shall provide personnel, qualified by training and experience, to perform the required rock anchor installation and anchor tests and to monitor, record and plot the data.

2) The Resident and Engineer shall be allowed unrestricted access to observe and independently document Contractor's rock anchor work. Contractor shall provide sufficient notice of upcoming rock anchor installation, testing, and lock off operations for Resident and Engineer to be in attendance.

3) The Contractor's qualified rock anchor installation personnel shall keep a daily construction record during rock anchor installation. The daily record shall be submitted to the Resident each day.

4) The Contractors qualified rock testing technician shall conduct performance tests and proof tests as specified in Section 504.07 and submit a tabulation of loads, elongations and rebound reading, indicating times involved, to the Resident.

5) The Contractor shall be responsible for making prompt evaluations of the test data and, whenever necessary, taking immediate steps to prepare and submit a remedial plan to the Resident to correct any deficiencies in the capacities of individual members and to provide approved remedial measures at no additional cost to the Department.

Within one (1) week of completion of the installation of the rock anchors provide as-built information of data for each unit including: identification, location, dates and depths of initial drilling, grouting, tensioning, testing, and final lock-off loads, observed loads and threadbar elongation, grouting pressures, bonded and unbonded anchor lengths and any unusual events.

504.5 Materials

a) *Anchor Rods* shall consist of continuously threaded bars, Grade 150 ksi conforming to ASTM A722, Type II, cold stretched and stress relieved after the threading process, as manufactured by Dywidag Systems International, or approved equal. The diameter of the threaded bars shall be as shown on the Plans. Threadbar anchors and all exposed steel components including anchor head assembly (nuts, bar, bearing plates, wedge plates, etc.) shall be hot dipped galvanized in

accordance with ASTM A123 and A153. Exposed ends of the threadbar shall have field applied cold galvanization. Continuously threaded bar shall have triple corrosion protection and a smooth sheathing over the unbonded length. The rock anchor assembly shall be assembled by the rock anchor manufacturer.

b) *Anchor Nuts* shall be hexagonal head, heavy duty type, galvanized, conforming to ASTM A325, A29, or to bar manufacturer's specifications.

c) *Anchor Plates*, sealing caps and sealing nuts shall conform to threadbar manufacturer's recommendation. Anchor heads shall be installed with mastic corrosion inhibitor in accordance with manufacturer's specifications.

d) *Bearing Plates* shall be fabricated of steel conforming to ASTM A572 Grade 50 and be hot dipped galvanized.

e) *Welding* shall conform to the American Welding Society Standard AWS D1.1.

f) *Couplings* shall be capable of developing 100% of the ultimate tensile strength of the threadbar and shall be fully protected within the corrosion protection system.

g) *Cement Grout* for grouting the rock anchors shall be neat cement with a non-shrink additive, with a water-cement ratio no-more than 0.45 by weight. Expansion agents shall not be used. Minimum unconfined compressive strength of grout shall be 4,000 psi at time of anchor testing or stressing, or 5,000 psi 28 days. Admixtures shall be submitted to the Resident for approval. Materials for cement grout shall be in accordance with Section 502.

h) *Sheathing* shall act as the bond breaker and shall be polyvinylchloride material with a minimum compressive strength of 7,000 psi and a minimum tensile strength of 7,000 psi. Material shall be free of water-soluble chlorides and other ingredients which might enhance corrosion, hydrogen embrittlement or stress corrosion on the prestressing steel. The plastic shall be non-reactive with the grout and its ingredients. The plastic sheathing shall be gas and watertight, and resistant against chemical attacks and aging.

i) Other materials shall be those recommended by the threadbar manufacturer for the intended use.

504.6 Rock Anchors

a) The Contractor shall provide a stable, level working platform or surface to support the rock anchor drilling equipment and operation to complete the work in this Section. The Contractor shall conduct rock anchor installation in a manner that does not cause impact or damage to the pipe pile and its coating, or shall cushion or isolate the pile coating to prevent damage to the pile and its coating.

b) The rock anchor drilling equipment shall have adequate capacity. The Contractor shall provide drilling equipment including but not limited to percussive rock drills, rock core barrels, rock tools, air tools, grout pumps and other equipment necessary to install rock anchors to the size and depth shown on the plans.

c) The Contractor shall provide sufficient length of grouted anchor such that the anchor will develop the test load capacity indicated on the plans, but in no case shall the length of anchor be less than the minimum bonded length indicated on the plans. Each rock anchor shall be verified by performance or proof tests.

Anchors shall consist of a grouted anchor zone (bonded length) within the drill hole in bedrock, and a bond- free zone (unbonded length where the threadbar is prevented from bonding to rock or pile) and an anchor head assembly.

d) Pipe Pile Encasement: The rock anchor shall be installed within an open ended pipe pile encasement which will be installed in accordance with Special Provision 501 and Section 501 of the Standard Specifications. The rock anchors shall be installed below the bottom of the pile

encasement as shown on the plans. If, after cleaning, it is determined by the Resident that the pile is not socketed into bedrock, the pile shall be reinstalled and socketed into bedrock such that the entire tip surface area is bearing on bedrock and cleaned again, at no- additional cost, in accordance with Special Provision 501. Piles shall be cleaned of soil and rock to the bottom of the rock socket prior to drilling the holes for receiving the rock anchors. A grout plug shall be installed, at no additional cost in accordance with Special Provision 501, to aid in drilling the rock anchor hole.

e) Drill Holes: After piles are socketed into bedrock, and cleaned, install temporary steel drill casing by spinning, centering the casing as needed using internal pile guides (centralizers). Then drill the holes into bedrock for the rock anchors. All drill holes shall be made with the temporary steel drill casing spun into the grout plug/bedrock before rock coring. Temporary casing may be left in the piling at the option of the contractor.

   Drill holes for installation of rock anchors shall not be less than the dimension shown on the drawings. Anchors shall be fully grouted in bedrock drill holes that extend not less than 12 inches below the bottom of the anchor tendon, or as shown on plans.

   Drill holes shall have vertical tolerances in accordance with Special Provision 501 Subsection 501.043. Drill holes shall be true to permit installation of rock anchors without bending the anchors in any direction.

f) Cleaning the Drill Hole. Drilled holes shall be cleaned of all drill cuttings, sludge and debris, in accordance with Special Provision 501. The cleanliness of the drill hole shall be approved by the Resident.

g) Rock Anchor Placement and Grouting: The rock anchor assembly shall be completely ready for immediate installation prior to beginning the grout operation. The cleanliness of the final drill hole shall be approved by the Resident. Rock anchors shall be centered in the drill holes with centralizers. Grout placement shall not begin until the Resident's approval is obtained. The grout for the rock anchor shall be tremie placed by injection at the lowest point of the rock anchor. The discharge hose end shall be completely submerged in grout at all times. Grout volume shall be sufficient to return neat grout to the top of the grout plug above the bedrock once the anchor is installed.

h) Grouting tubes shall be connected to and lowered with the rock anchor. All equipment used for placing rock anchors shall be such that it will not damage the corrugated sheathing or casing.

i) Rock anchor and bond lengths shall be tremie grouted by injecting grout approximately 6 inches above the lowest point of the anchor. Grouting shall continue within the drill casing until the grout level inside the casing is 24 inches above the top of the bedrock surface and at least 120 percent of the calculated annular volume of the borehole is installed. Retract the temporary drill casing to approximately 12 inches above the top of the bedrock surface and pump an additional volume of grout sufficient to create an additional 6 inches average thickness grout plug above the bedrock surface.

j) Grouting shall be performed with sufficient pressure and flow volume to produce a grouted rock anchor zone capable of developing the load capacity indicated on the plans. Approved materials and continuous mixing and pumping equipment shall be able to produce a homogeneous in-place cement grout of the desired consistency. All oil and other rust inhibitors shall be removed from the mixing drums and pumps. Once started, grouting shall be continuous until the rock anchor bond length is completely grouted, unless approved by the Resident. Grout not placed within one (1) hour of mixing shall be wasted in an approved manner.

k) Grout Testing: 2-inch test cubes shall be made of each grout mix design used. Six (6) cubes shall be made of each mix design for every 4 anchors installed or per day of grout placement, whichever results in more cubes. At a minimum three (3) cubes shall be tested at 7 days and three (3) cubes shall be tested at 28 days. Testing shall be done in accordance with ASTM C 109.

l) During testing and tensioning, the rock anchor shall be free to move relative to the pile encasement. At no time during tensioning shall the pile compressive load exceed the ultimate pile capacity in compression, except during testing at which time the pile compressive load shall not exceed the factored design load of the piling or 0.80 times the Guaranteed Ultimate Tensile Strength of the anchor bar, whichever is smaller.

m) The rock anchor head assembly shall be installed with mastic corrosion inhibitor in accordance with the manufacturer's recommendations. All exposed surfaces of the rock anchor and head assembly shall be protected with corrosion inhibitor at all times after installation.

n) Each rock anchor head assembly shall be fully encased by the concrete pile cap in accordance with the plans.

o) If rock anchor thread bars must be cut, no torch cutting is permitted. Rock anchor bars shall be sawcut, if necessary, with an abrasive wheel saw, in accordance with manufacturer's recommendations. Torch cutting of anchors before or after installation shall be grounds for rejection of the anchor and will require replacement by the Contractor at no additional cost to the Department.

p) Any voids occurring in the top portion of pile concrete shall be filled with dry pack mortar.

504.7 Rock Anchor Testing Procedures and Criteria

a) Each rock anchor installed shall be tested, as called for on the Plans, to verify and establish its capacity. The Contractor shall be responsible for maintaining the structures during testing, and shall provide adequate shoring and bracing as required. Concrete fill will not be installed in pipe piles at the time of performance and proof testing. The Contractor shall provide a temporary testing frame to resist jacking forces and to prevent damage to pipe piles during rock anchor testing.

b) Performance and Proof Test shall be conducted in accordance with the project plans and herein:

c) The maximum test load shall be 1.33 times the design load of the rock anchor shown on the plans and shall not exceed 0.80 times the Guaranteed Ultimate Tensile Strength of the threadbar.

d) Deformation measurements shall be made to the nearest 0.001 inch using a dial indicator mounted independent of the stressing system and referenced to a remotely supported reference beam. Vertical movement of the pipe pile encasement and batter pipe piles with respect to the reference beam shall be similarly monitored.

e) Dial gages shall be used to record the movement of the rock anchor. The dial shall be capable of reading movement to 0.001 inch accuracy.

f) In order for proper execution of the test the hydraulic system should be equipped with needle valve control.

g) The Contractor shall maintain test records in accordance with Subsection 504.4 – Inspection and Recordkeeping.

h) Acceptance of rock anchors shall be at the discretion of the Resident and/or Engineer. Each rock anchor which is rejected shall be removed and replaced. Removal and replacement of rock anchors which are rejected shall be at no additional cost to the Department. Removal and replacement of anchors shall consist of all work necessary to remove concrete, reinforcement, and additional bedrock as required to complete the rework.

i) If at any time during testing a failure of any element (jack, rock anchor, bearing pile, etc.) occurs which results in a non-symmetrical loading condition, the load in the jacks shall be reduced to zero as soon as practicable. The cause of the failure shall be rectified by the Contractor prior to restarting the load test.

j) No performance or proof test shall be conducted unless the Resident or Engineer is present.

Resident shall be given a minimum of 72 hour's notice of rock anchor testing.

k) Testing Procedure:

1) The magnitude of applied test loads shall be determined with a calibrated pressure gauge or a load cell. Movements of the anchor, relative to an independent fixed reference point, shall be measured and recorded to the nearest 0.001-inch at each load increment during the load tests. The Contractor shall perform the measuring and an independent inspector appointed by the engineer or the owner representative will do recording. Field test records will be furnished to the Engineer for his review and approval.

2) A minimum of one (1) anchor per dolphin shall be performance tested. The Resident shall determine the location of the anchor to be performance tested. The remaining anchors shall be proof tested. The loading sequence for performance and proof testing shall be as provided herein. The test load (TL) shall be 1.33 times the design load.

3) The test load for both the performance and proof tests shall be held constant for 10 minutes. During the load hold, the movement of the end of the threadbar shall be measured at 1, 2, 3, 4, 5, 6, and 10 minutes. If the total movement between one minute and 10 minutes exceeds 0.04 inch, the test load shall be held for additional 50 minutes. During the load hold, the movement of the end of the threadbar shall be measured at 15, 20, 25, 30, 45, and 60 minutes. If the load is held for 60 minutes, a creep curve showing the creep movement between one minute and 60 minutes shall be plotted as a function of the logarithm of time.

4) For performance and proof tests, each increment of load shall be applied in less than one minute and held for at least one minute but not more than 2 minutes or as specified above. The observation period for the load shall start when the pump begins to apply the last increment of load. The jacking equipment, including the threadbar movement measuring system, shall be stable during all phases of the rock anchor loading operations.

5) All anchors not performance tested shall be proof tested. If 1.33 times the design load cannot be obtained, the anchor shall be replaced and retested.

6) A performance tested anchor is acceptable if:

a) The measured elastic movement exceeds 0.80 of the theoretical elongation of the unbonded length at the maximum test load; and

b) The creep movement between one and ten minutes is less than 0.04-inch.

7) A proof tested anchor is acceptable if:

a) The pattern of elastic movements is similar to that of adjacent performance tested anchors (i.e. measured elastic movement exceeds 0.80 of the theoretical elongation of the unbonded length), and

b) The creep movement between one and ten minutes is less than 0.04-inch.

7) Performance tested or proof tested anchors which fail to meet the acceptance criterion (b) will be considered acceptable if the maximum load is held for 60 minutes and the creep curve plotted from the movement data indicates a creep rate of less than 0.08-inch for the last log cycle of time.

TESTING SCHEDULES	
PERFORMANCE TEST	PROOF TEST
(AL) 0. 05T	
0.25T	
(AL) 0.05T	
0.25T	
0.50T	
(AL) 0.05T	
0.25T	
0.50T	
0.75T	
(AL) 0.05T	
0.25T	
0.50T	
0.75T	
1.00T	
(AL) 0.05T	(AL) 0.05T
0.25T	0.25T
0.50T	0.50T
0.75T	0.75T
1.00T	1.00T
1.20T	1.20T
(TL) 1.33T	(TL) 1.33T
1.00T	1.00T

T = Design force for the anchor shown on the plans
AL = Alignment load = 0.05T
TL = Test Load = 1.33T

504.8 Lock-Off Procedures

a) After acceptance of the tested anchors, install the pile reinforcing and fill the piles with concrete to within 1/2" of the top of the pipe pile.

b) Dry pack grout under the anchor bar to provide uniform bearing against the concrete fill.

c) Final stressing of the rock anchors (lock off) shall be started only after installation of rebar cages and concreting the pipe piles and once the grout has obtained sufficient strength. Do not tension rock anchors until the concrete and dry pack grout in the pile has attained a minimum compressive strength of 4,000 psi, as shown by cube or cylinder samples taken during filling operations.

d) The lock-off load shall be applied by the same calibrated jack used for performing the performance and proof tests with the lock-off load maintained while the anchor nuts on the rock anchors are permanently set.

e) One lift off test shall be performed on one anchor per dolphin immediately after all the anchors in that dolphin have been tensioned.

504.9 Method of Measurement

Rock anchors will be measured by lump sum for anchors satisfactorily placed and remaining in the completed structure. Additional length required for tensioning or for replacement of unacceptable rock anchors shall be provided at the Contractor's expense.

504.10 Basis of Payment

Rock Anchors will be paid for at the Contract unit price for the respective Contract items which shall be full compensation for furnishing, all labor, materials and equipment necessary to complete the work, including but not limited to furnishing equipment for drilling bedrock, installing, testing and tensioning rock anchors. Pay Item 504.9051 shall include full compensation for any temporary casings, augers, grouting operations, drilling equipment, or specialty tools needed to install anchors and to maintain pipe pile end bearing capacity.

Payment will be made under:

Pay Item	Description	Pay Unit
504.9051	Rock Anchors	Each

SPECIAL PROVISIONS
SECTION 504
STRUCTURAL STEEL
(Miscellaneous Fabrication - Aluminum Gangway 29')
(Miscellaneous Fabrication - Aluminum Gangway 40')
(Miscellaneous Fabrication - Aluminum Gangway 42')

All work and materials shall conform to the Contract Drawings and the provisions of the State of Maine Department of Transportation Standard Specifications, November 2014, SECTION 504 – STRUCTURAL STEEL, with the following modifications:

504.01 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 any and all other hardware required to construct gangways in accordance with these Specifications and shown on the Contract drawings.

504.011 General Requirements

A. Submit four copies of manufacturer's product data and shop drawings for review.

504.012 Design Requirements

A. The aluminum lightweight gangway shall be designed to meet the following criteria:

1. Live Load - The gangway shall be capable of sustaining a uniformly disturbed live load of 85 pounds per square foot.

2. Handrail Horizontal Load - Handrails shall be capable of withstanding a 200-pound concentrated horizontal load applied at the top of the railing.

3. Handrail Vertical Load - Handrails shall be capable of withstanding a 50-pound per-foot vertical loading applied at the top of the railing.

B. Provisions shall be made for the carriage of utilities beneath or alongside the gangway. Hangers shall be the sizes, shapes and lengths sufficient for their intended use and hot-dip galvanized in accordance with ASTM A123. Protection from galvanized action of dissimilar metals shall be provided.

504.05 Materials

A. Ramps shall be fabricated of 6000-series aluminum compatible with a marine environment. Fasteners shall be stainless steel or other material compatible with aluminum in a marine environment.

B. The walkway surface shall be of open type grating with integral non-skid properties; without, affixed cross-cleats or other mechanical devices to achieve non-skid capacity.

C. Handrail height to be 42 inches, with a horizontal safety rail installed at mid-height.

A. Transition plates shall be installed at the ends of the gangway using piano-style hinges.

B. 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.

504.07 Method of Measurement

Aluminum Gangways will be measured by the Lump Sum, and shall include all labor, materials, incidentals, and equipment necessary to satisfactorily complete the work in accordance with the Plans and Specifications. Measurement shall include furnishing and installing the gangways including transport to the terminal. Installation shall include all hardware to fasten, secure, and level the gangway(s) into place.

504.08 Basis of Payment

Aluminum Gangways will be paid for at 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.

Payment will be made under:

Pay Item	Description	Pay Unit
504.510	Miscellaneous Fabrication - Aluminum Gangway 29’	Lump Sum
504.510	Miscellaneous Fabrication - Aluminum Gangway 40’	Lump Sum
504.510	Miscellaneous Fabrication - Aluminum Gangway 42’	Lump Sum

END OF SECTION

SPECIAL PROVISION
SECTION 506
SHOP APPLIED PROTECTIVE COATING – STEEL

All work and materials shall conform to the Contract Drawings and the provisions of the State of Maine Department of Transportation Standard Specifications, November 2014, SECTION 506 – SHOP APPLIED PROTECTIVE COATING – STEEL, with the following modifications:

FUSION BONDED EPOXY COATINGS

506.40 Description

The following paragraph is added:

Fusion Bonded Epoxy Coating shall be applied to the full length of the steel pipe piles.

506.41 Materials

The following paragraph is added:

A. Fusion Bonded Epoxy Coating – Shop Applied:
   1) Fusion Bonded Epoxy Coating shall be Scotchkote 6233 Fusion Bonded Epoxy Coating as manufactured by 3M Company, or an approved equal. Any product submitted as an "approved equal" must have a Repair Coating counterpart which satisfies the Coating Materials requirement. Coating color shall be green.

B. Fusion Bonded Epoxy Repair Coating – Field Applied:
   1) Fusion Bonded Epoxy Coating shall be Scotchkote, Liquid Epoxy Coating as manufactured by 3M Company, or an approved equal, and compatible with the primary shop-applied coating system noted above and with similar color. Coating color shall be green.

506.42 Surface Preparation

The following paragraph is added:

A. Surfaces to be coated shall be prepared in accordance with ASTM A972, except as modified herein.

B. All oil, grease, and other contaminants shall be removed by SSPC SP1 (steam or solvent cleaning) prior to blasting. Remove all sharp edges, burrs, weld splatter, and gouges.

C. Surfaces to be coated shall be blast cleaned by SSPC SP10 (near white metal).
   1) Blasting material shall be a Class 1, steel abrasive angular metallic grit meeting the requirements of SSPC-AB3. Silica sand, shot, or spherical shaped abrasives shall not be permitted.
   2) The grit used for blasting shall be of proper gradation to create a profile of 2 to 4 mills. The metal shall be cleaned after blasting with clean, dry compressed air. Use of rags to remove residual dust after sandblasting shall not be permitted.

506.43 Inspection

The following paragraph is added:

Dry film thickness shall be 18 mils, which shall be achieved by no less than two coatings performed over a period of time that allows for sufficient drying of the previous coating

506.44 Basis of Payment

Add the following paragraph:

Fusion Bonded Epoxy Coating will be paid for at the lump sum price for the respective item. Payment will be full compensation for all labor, materials and equipment required to complete the surface preparation and coating work, including, but not limited to, coating and cleaning materials, staging or accessing, testing, surface preparation, cleaning, application, curing and repairs.

Payment will be made under:

Pay Item	Description	Pay Unit
506.9106	Fusion Bonded Epoxy Coating	Lump Sum

END OF SECTION

SPECIAL PROVISION
SECTION 507
RAILINGS
(Steel Pipe Hand Railing, Modify, and Reset)

507.01 Description

The following paragraph is added:

The work shall consist of modifying existing steel hand railing by removing sections of hand rail; making modifications to those sections; and resetting those sections as shown on the plans.

507.04 General

The following paragraph is added:

Steel pipe hand rails are used throughout the decks of the dolphins and provide safety for terminal operators and deck hands. The proposed modifications to the existing dolphins including changes to fender panels and chocks requires that hand rails be modified to permit mooring line arrangements and safe usage by workers.

Modifications to the hand rails will consist of some if not all of the following for each section of rail that is removed and scheduled to be modified and reset:

- Shortening the rail and placing end-caps on open-ended railings;
- Welding rail pieces together and grinding welds to provide a burr-free surface;
- Cutting anchor bolts flush with (or slightly below) the top of the concrete deck and applying a cold galvanizing paint to exposed steel rods;
- Applying galvanizing coating to modified or spliced areas; and
- Drilling, grouting, and modifying anchorages.

507.08 Method of Measurement

The following paragraph is added:

Steel Pipe Hand Railing, Modify, and Reset will be measured by the linear foot, and shall include all labor, materials, incidentals, and equipment necessary to satisfactorily complete the work. No measurement will be made for welding, galvanizing, grinding, or installing/modifying anchorages.

507.09 Basis of Payment

The following paragraph is added:

Steel Pipe Hand Railing, Modify, and Reset will be measured by the linear foot, and shall include all labor, materials, incidentals, and equipment.

Payment will be made under:

Pay Item	Description	Pay Unit
507.0842	Steel Pipe Hand Railing, Modify, and Reset	Linear Foot

END OF SECTION

SPECIAL PROVISION
SECTION 515
PROTECTIVE COATING FOR CONCRETE SURFACES
(Protective Coating for Concrete Surfaces)

All work and materials shall conform to the Contract Drawings and the provisions of the State of Maine Department of Transportation Standard Specifications, November 2014, SECTION 515 – PROTECTIVE COATING FOR CONCRETE SURFACES, with the following modifications:

Section 515.01 Description

Add the following paragraph:

All proposed dolphin concrete surfaces shall be coated with a clear protective coating.

Section 515.02 Materials

Add the following paragraph:

Materials for Protective Coating for Concrete Surfaces shall be a Type 1C – Sealer, Penetrating Silane, as listed on the MaineDOT's Qualified Products List for Concrete Sealers and Coatings.

Materials for Protective Coating for Concrete Surfaces shall be a low-viscosity, high molecular weight methyl methacrylate resin, crack healer/penetrating sealer such as the following:

1. Sealate T-70, by Transpo; or
2. KBP 204 P Seal, by KwikBond; or
3. Duraguard 401, by ChemMasters

The dolphin surfaces where the methacrylate resin is applied shall become a skid-resistant surface by the addition of silica or aluminum oxide evenly broadcasted over the wet top of dolphin coatings. Follow the manufacturer's material recommendations and installation procedures for the skid resistant materials.

Apply protective coating after concrete repairs have been performed and after paint markings have been applied. See SP 627.

Section 515.06 Basis of Payment

Add the following paragraph:

Protective Coatings will be paid for at the contract unit price per square yard. Equipment used to safely access the perimeter of the wharf and its vertical surfaces shall be incidental to the Protective Coating pay item.

Payment will be made under:

Pay Item	Description	Pay Unit
515.20	Protective Coating for Concrete Surfaces	Square Yard

END OF SECTION

SPECIAL PROVISION
SECTION 528
STRUCTURAL TIMBER
(Wave Screens)

All work and materials shall conform to the Contract Drawings and the provisions of the State of Maine Department of Transportation Standard Specifications, November 2014, with the following additions:

528.01 Description

Add the following paragraph:

The work also includes the following:

This section applies to all work necessary by the Contractor to construct the timber wave screens and all requirements listed herein and in accordance with the drawings. Contractor shall be qualified in the field of timber work and installation with a at least five years experience.

528.011 General References

Add the following paragraph:

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

A. AMERICAN WOOD-PRESERVERS' ASSOCIATION (AWPA)
- AWPA U1 (2005) User Specification for Treated Wood
- AWPA T1 (2005) Processing and Treatment Standard
- AWPA M4 (2001) Standard for the Care of Preservative-Treated Wood Products
- AWPA M6 (1996) Brands Used on Forest Products
- AWPA P5 (2005) Standard for Waterborne Preservatives

B. ASTM INTERNATIONAL (ASTM)

ASTM A 240/A 240M (2005a) Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels for General Applications

ASTM A 123 (1989; Rev. A) Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products

ASTM A 153/A 153M (1995) Zinc Coating (Hot-Dip) on Iron and Steel Hardware

ASTM A 307 (1994) Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength

ASTM F 593 (1995) Stainless Steel Bolts, Hex Cap Screws, and Studs

AMERICAN WOOD-PRESERVERS' ASSOCIATION (AWPA)

AWPA C2 (1995) Lumber, Timbers, Bridge Ties and Mine Ties – Pressure Treatment

AWPA M4 (1995) Care of Preservative-Treated Wood Products

AWPA M6 (1995) Brands Used on Forest Products

AWPA P2 (1995) Creosote Solutions

AWPA P5 (1995) Waterborne Preservatives

Except as otherwise indicated on the drawings or specified herein, the industry standards shall apply to all work under this section. Where requirements indicate on the drawings or specified herein differ from the industry standards, the more stringent requirements shall govern.

528.015 Submittals

This Subsection is added and shall include the following:

The Contractor shall provide the submittals listed below in accordance with Section 105.70 of the MaineDOT Standard Specification. Specific components of the submittals are listed in the referenced MaineDOT SECTION 501.

A. Timber preservative inspection test report. Submit the inspection report of an independent inspection agency, for approval by the Owner, that offered products complying with applicable AWPA Standards. Identify treatment on each piece by the quality mark of an agency accredited by the Board of Review of the American Lumber Standard Committee.

B. Delivery inspection list test report.

C. Provide Material Safety Data Sheets (MSDS) associated with timber preservative treatment. Contractor shall comply with all safety precautions indicated on MSDS.

D. Product Data:
   1) Timber Materials: Submit drawings of treated timber showing dimensions of cut, framed, or bored timbers

528.018 Delivery, Storage, and Handling

A. Open-stack untreated timber and lumber material on skids at least 12 in. aboveground, in a manner that will prevent warping and allow shedding of water. Close-stack treated timber and lumber material in a manner that will prevent long timbers from sagging or becoming crooked. Protect materials from weather. Handle treated timber with ropes or chain slings without dropping, breaking outer fibers, bruising, or penetrating surface with tools. Do not use cant dogs, peaveys, hooks, or pike poles. Protect timber and hardware from damage.

528.02 Materials

This Subsection is deleted and replaced with the following:

A. Timber Wave Screens

   1) Solid Sawn: Provide solid sawn timber of Southern Yellow Pine, Structural Grade or better with a minimum allowable flexural strength (Fb) of 1200 psi, and identified by the grade mark of a recognized association or independent inspection agency using the specific grading requirements of an association recognized as covering the species used. The association or independent inspection agency shall be certified by the Board of Review, American Lumber Standards Committee, to grade the species used.

   2) Preservative Treatment: Fabricate timber before administering preservative treatment. Treated timber shall be branded, by the producer, in accordance with AWPA M6. Treat wood to be used in contact with salt water or salt water splash in accordance with AWPA U1 and AWPA T1 with water-borne preservative (CCA). The Use Category shall be UC5A for commodity specification G, Marine (Salt Water) Applications. Preservative retention shall be 2.5 pcf. The Contractor shall be responsible for the quality of treated wood products.

B. Hardware: Bolts with necessary nuts and washers shall conform to ASTM A325. Bolts and nuts shall be galvanized in accordance with ASTM A123 or ASTM A153 as applicable. Provide bolts with washers under nut and head.

528.043 Installation Procedures and Tolerances

The following paragraphs are added:

CONSTRUCTION

Use timber members that have been cut, beveled, and faced prior to plant preservative treatment. In addition to the contract clause entitled "Accident Prevention" provide protective equipment for personnel fabricating, field treating, or handling materials treated with creosote or water-borne salts.

FRAMING

Cut and frame lumber and timber so that joints will fit over contact surface. Secure timbers and piles in alignment. Open joints are unacceptable. Make lead hole 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 for boat or wire spikes with a bit of the same diameter or smallest dimension of the spike to prevent splitting. Counterbore for countersinking wherever smooth faces are indicated or specified.

FRAMED BENTS

A. Cross Bracing, Wales, and Vertical Timbers

1. Align bents before bracing is placed. Provide bracing of sufficient length to provide a minimum distance of 8 inches between outside bolt and end of brace. Bracing and girts shall bear firmly against piles or timber to which secured. Place fillers to avoid bending the bracing more than one inch out of line when bracing bolts or other fastenings are drawn up tight. Built-up fillers will not be permitted. Make filler a single piece of the same treated lumber as that in the brace, with a width of at least 6 inches and a length of at least 12 inches. Bolt ends of bracing through pile, post, or cap with a bolt of at least one inch diameter, unless otherwise shown on the drawings.

B. Fastening

1. 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 retightening. Provide timber connectors of types indicated. Force toothed-ring and spike-grid connectors and clamping plates into the contact surfaces of timbers joined by means of proper pressure tools; at joints, embed connectors of these types simultaneously and uniformly.

FIELD TREATMENT

A. Timberwork

1. Field treat cuts, bevels, notches, refacing and abrasions made in the field in treated timbers in accordance with AWPA M4 and MSDS. Wood preservatives are restricted use pesticides and shall be applied according to applicable standards. Trim cuts and abrasions before field treatment. Paint depressions or openings around bolt holes, joints, or gaps including recesses formed by counterboring, with hot creosote oil; and after bolt or screw is in place, fill with hot pitch or a bitumastic compound.

B. Galvanized Surfaces

1. 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 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. Compound paint with a suitable vehicle in a ratio of one part zinc oxide to four parts zinc dust by weight.

528.08 Method of Measurement

Structural Timber – Wave Screen will be measured by the lump sum, and shall include all labor, materials, incidentals, and equipment necessary to satisfactorily install the timber wave screen. Measurement shall include pressure treatment, hardware connections, and inspection.

528.09 Basis of Payment

Structural Timber – Wave Screen will be paid by the Contract Lump Sum price, and shall include all labor, materials, incidentals, and equipment necessary to satisfactorily install the timber wave screen at the job site. Payment shall include pressure treatment and inspection.

Timber piles will be paid for separately under Pay Item 501.202, Timber Pile, In-Place.

Payment will be made under:

Pay Item	Description	Pay Unit
528.08	Structural Timber – Wave Screens	Lump Sum

SPECIAL PROVISION
SECTION 533
NON-SHRINK GROUT

533.01 Description

The work covered by this document consists of furnishing all equipment, materials, labor and performing all operations required for the installation of fluid, high strength, non-shrink grouts as directed by the engineer or owner.

533.02 Quality Assurance

The manufacturer shall have been in the business of manufacturing similar products for over ten years, maintain a strict quality assurance program, offer technical services and provide representative at the jobsite for product training, prior to product installation, upon written request.

The contractor shall submit to the engineer or owner, at least three job references where the contractor has successfully completed similar applications.

533.03 Materials

Non-shrink grout cementitious grout shall be a fluid consistency, pre-packaged, cement-based grout requiring only the addition of potable water. The manufacturer shall be ISO 9001 certified and have at least 10 years experience in the manufacture of precision cement-based grouts. The manufacturer shall offer technical services and provide a representative at the jobsite for product training prior to product installation upon five days advance notice.

The grout material shall meet the following typical performance criteria when cured at 73°F (23°C):

1. Grout shall not contain metallic aggregate, expansive cement, or gas generating additives such as aluminum powder.
2. Grout shall contain air release aggregate to generate positive expansion.
3. Early Height Change, ASTM C 827 0.0 to 4.0%
4. Hardened Height Change, ASTM C 1090 0.0 to 0.3%
5. Effective Bearing Area 95%
6. Compressive Strength, ASTM C 942
   1 Day 3500 psi
   7 Days 6500 psi
   28 Days 8000 psi
7. Bond Strength, ASTM C 882 28 Days 2000 psi (13.8 MPa)
8. Consistency, ASTM C 939 20 – 30 seconds
9. Working Time 30 minutes
10. Application Temperature 40°F to 90°F (4°C to 32°C)
11. Material Temperature 40°F to 90°F (4°C to 32°C)
12. Meets performance requirements of ASTM C 1107-02, Grades A, B and C for 30 minutes at 40°F to 90°F (4°C to 32°C).

Three references of successfully completed projects of similar nature and scope of the work detailed in this specification shall be provided, as well as a minimum ten year history of use in the industry. The testing laboratory shall certify to any modifications made to tests performed and provide details of modifications.

533.04 Delivery, Storage, and Handling

All materials shall be delivered to the jobsite in their original, unopened packages, clearly labeled with the manufacturer's identification, printed instructions and batch code.

Store and condition the specified product in accordance with the appropriate product data sheet.

For handling instructions, refer to the Material Safety Data Sheet.

533.05 Concrete Surfaces

Completely remove all oil, grease, laitance and other contaminants. Blow surfaces free of dust and debris using oil-free compressed air.

Prior to placement, soak concrete surfaces thoroughly for a minimum of eight hours to an optimum 24 hours with potable water. Concrete shall be saturated and free of standing water at time of placement.

533.06 Metal Surfaces

Surface shall be clean, free of oil, grease, rust and other contaminants.

533.07 Environmental Conditions

Condition and maintain all materials and surfaces that contact grout to between 40°F to 90°F (4°C to 32°C). Shade from direct sunlight as necessary.

533.071 Cold Weather Grouting

Low temperatures delay the set, increase working time and delay the strength development of cement-based products. The procedures below may compensate for these conditions.

A. Materials shall be conditioned as necessary so that the mixed grout is between 40°F to 80°F (4°C to 27°C). Due to the mass of palletized material. up to 72 hours of conditioning may be required. Store grout in an indoor or tarped and heated area when required.
B. All surfaces in contact with grout must be preconditioned and maintained at a temperature between 40°F to 90°F (4°C to 32°C) for at least 24 hours.
C. Heating shall be accomplished by indirect exposure. Heated enclosures must be windproof and weatherproof. Combustion heaters must be vented and shall not be permitted to heat and dry the concrete locally.
D. Grout temperature shall be maintained above 40°F (4°C) until the grout reaches 1000 psi (6.9 MPa).
E. Gradually reduce temperature of grout to ambient temperature to avoid thermal shock.

533.072 Hot Weather Grouting

High temperatures accelerate the set, decrease working time, and accelerate the strength gain of cement-based products. The procedures below may compensate for these conditions.

A. Materials should be pre-conditioned so that the grout mix temperature is between 50°F (10°C) and 95°F (35°C). Due to the mass of palletized material, up to 72 hours of pre-conditioning may be required. Store grout in a shaded area out of direct sunlight.

B. All surfaces in contact with cement based grout shall be pre-conditioned and maintained below 95°F (35°C) for a minimum of 24 hours. Pre soaking of surfaces, mixing of equipment and wheelbarrows with cold or iced water will facilitate cooling of surfaces.
C. Mix grout using cold or iced water. Do not put ice directly in with grout during mixing.
D. Provide shading during grout placement and where feasible, place grout when temperatures are decreasing, at night or early morning. Provide protection from excessive wind to reduce rapid drying and evaporation of water from exposed grout surfaces.
E. Begin wet cure immediately after grout takes initial set and continuously wet cure all exposed grout surfaces using wet rags, burlap or burlene. Place plastic sheeting over material used for wet cure to ensure continuous wet cure. Monitor condition of material used for wet cure to ensure drying does not occur.
F. After a minimum 24 hour continuous wet cure, continue wet cure for an additional 48 hours or coat all exposed grout surfaces with an approved curing compound meeting the water retention requirements of ASTM C 309.

533.08 Equipment

All necessary tools, equipment and materials shall be as close as possible to the area being grouted, such as mortar mixers, measuring containers, trowels and grout.

Appropriate clothing and safety equipment shall be worn to avoid breathing dust and prevent eye and skin contact with both dry and mixed grout.

Wheelbarrows, buckets, shovels and pumps shall be clean, dampened and readily available for transporting mixed grout.

Provide headbox and plunger when pouring grout. Provide backboard, ram and hammer when dry-pack grouting.

An ample source of potable water shall be available for preconditioning, mixing, cleaning and curing.

533.09 Mixing

Mortar Mixer (Stationary Barrel with Moving Paddles)

A. Provide an adequate number of mortar mixers in good operating condition for uninterrupted placement. Do not exceed one-half the maximum capacity of the mortar mixer.
B. Pre-wet mortar mixer, empty excess water.
C. Start by adding the minimum amount of premeasured potable water to mixer. While mixing, slowly add grout and mix to a uniform consistency.
D. Mix thoroughly for approximately five minutes. To achieve desired consistency, add remaining water as necessary. Do not exceed maximum water content as stated on product packaging or add an amount that will cause segregation.
E. Do not mix more material than can be placed within the working time of the grout. Do not retemper the mix by adding additional water.
F. Transport mixed material by wheelbarrow or buckets, taking care not to allow material to segregate.
G. For puts requiring aggregate extension, add clean, damp coarse aggregate meeting the requirements of ASTM C 33 before final water adjustment.

533.10 Pumping Procedures

The type and size of pump discharge line used are dependent on the parameters of each installation. Contact the pump and group manufacturers for recommendations. The proposed pumping equipment and procedures shall be submitted for approval. Pump grout at less than fluid consistency.

Pumping raises the grout temperature and shortens the working time while reducing its consistency. Keep mix temperature as cool as necessary, except in cold weather.

The grout shall be mixed to a consistency that will not segregate while pumping.

The grout shall be passed through a #4 screen prior to placement into the pump hopper.

Before pumping, determine the working time under jobsite conditions. Pumpability shall be determined by field testing.

The pump shall be positioned to minimize the pumping distance. Keep the discharge line as close to horizontal as possible. All hose connections must be watertight.

Immediately prior to pumping, the pump and lines shall be primed with a priming slurry leaving hopper empty to prevent overwatering.

Once the pumping has begun, it is important not to use any of the priming slurry from the discharge lines. Grout shall not be used until a uniform consistency is obtained at the discharge nozzle.

Provide an adequate volume of mixed grout to keep the pump hopper at least half full. The grout shall be placed into pump hopper in a manner to prevent air entrapment.

The discharge nozzle shall be withdrawn only while pumping, keeping it submerged within the grout at all times.

533.11 Curing

Grout shall be wet cured for a minimum of three days, or coated with an approved curing compound after a minimum 24 hour wet cure. Grout shall be protected from excessive evaporation with wet rags prior to set.

The grout shall be protected from wind, rain, freezing and vibration until a minimum compressive strength of 1000 psi (6.9 MPa) is achieved.

533.12 Basis of Payment

Any grout work shall be considered incidental to the work being performed.

SPECIAL SPECIFICATIONS
SECTION 634
HIGHWAY LIGHTING

The provisions of Section 634 of the Standard Specifications shall apply with the following additions and modifications.

634.01 Description

This work shall consist of furnishing and installing the following in accordance with these specifications and plans.

1. Relocation of existing navigation lights and support structures.
2. Provision of new support structure for relocated existing navigation lights.
3. Provision of replacement lamps and lenses for existing navigation lights.
4. Provision of new dolphin lighting poles and luminaires.
5. Provision of NEMA 4X stainless steel wiring boxes.
6. Provision of rigid PVC coated steel conduit.
7. Provision of flexible PVC coated steel conduit.
8. Provision of wiring conductors to serve dolphin lighting luminaires, and to serve navigation lights.
9. Ground of new electrical systems.
10. Removals of existing wiring boxes, conduit, and wiring conductors.

634.02 General

Where the Contract documents permit the selection from several product options, and where it becomes necessary to authorize a substitution, the Contractor shall not proceed with purchases until coordination of all interface requirements has been checked and satisfactorily established. Substitutions are subject to approval by the Authority or designated representative per the requirements of the Contract documents.

Refer to Supplemental Specification Section 100 for required construction sequencing.

Refer to the Structural Contract Plans for the exact routing of conduits to be installed under the pier deck. The Electrical Contract Plans show schematic arrangements only.

634.021 Materials

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

Steel Conduit	715.02
Non-Metallic Conduit	715.03
Metallic Junction and Fuse Box	715.05
Secondary Wiring	715.07
Service Equipment	715.11
Anchor Bolts	720.07

634.022 Equipment List and Drawings

Provide scale drawings and details for anchor bolt installation methods.

634.03 General

Coordinate conduit locations with existing conditions and other utilities. Where conflicts are found make all practical efforts to install new work to produce a minimum impact on existing conditions.

635.04 Cable Installation

Provide factory-fabricated wire of the size, rating, material and type as required for each branch circuit. Where not indicated, provide proper selection as determined by installer to comply with installation requirements and with NEC standards. Building wire in conduit shall be 600 volt class Type THWN-2 or Type XHHW-2, as manufactured by *Southwire* or approved equal. Conductors shall be rated 90º C with moisture and heat-resistant thermoset cross-linked polyethylene insulation.

634.041 Conduit

Conduit shall be PVC coated rigid steel. Exposed conduit threads shall be entirely coated with PVC to prevent corrosion.

Box and equipment connections at exterior locations shall be made with liquid-tight flexible steel conduit comprised of single strip, continuous, flexible interlocked, double-wrapped steel, galvanized inside and outside; forming smooth internal wiring channel; with liquid-tight jacket of flexible polyvinyl chloride (PVC), and with liquid-tight connectors.

Provide corrosion-resistant stainless steel strut members as manufactured by *Unistrut*, series P1001 SS, or approved equal for conduit support where exposed on concrete piers. Provide stainless steel hardware and stainless steel conduit clamps for all exposed conduit mounting applications.

634.042 Metallic Conduit Installation

Install conduit and tubing products as required, in accordance with manufacturer's written instructions, applicable requirements of NEC and National Electrical Contractors Association's "Standard of Installation", and in accordance with recognized industry practices to ensure that products serve intended function.

634.044 Pull Boxes:

Exterior pull boxes installed exposed at dolphins shall be UL listed NEMA 4X 316 stainless steel with stainless steel hardware. Provide size per NEC for the given number of entrance/exit conduits, but shall not be smaller in size than 16” x 16” x 8”.

634.053 Re-Installation of Existing Navigation Lights:

The Contractor shall install relocated existing navigation light support structures, with attached existing navigation lights, to make them fully operational. The Contractor will be required to:

a. Remove the existing navigation light support structure with the attached navigation light.
b. Install the relocated navigation light with its support structure with new anchor bolts and nuts as specified on the plans.
c. Provide replacement lenses for the navigation lights as specified on the plans.
d. Provide circuit wiring to the relocated navigation lights.

634.054 Re-Installation of Existing Dolphin Lights:

The Contractor shall install relocated existing dolphin light poles, with attached existing luminaires, to make them fully operational. The Contractor will be required to:

a. Remove the existing dolphin light poles with the attached luminaires.
b. Install the relocated dolphin light poles new anchor bolts and nuts as specified on the plans.
c. Provide circuit wiring to the relocated dolphin lights.

634.055 New Dolphin Lighting Poles:

The Contractor shall dolphin lighting poles with attached luminaires. The Contractor will be required to:

a. Provide 10-foot tall, 4-inch square, aluminum lighting poles with bronze anodized finish. Provide anchor bolts in sizes as recommended by the pole manufacturer. Lighting poles shall be provided in conformance with EPA and weight ratings for luminaires as specified in the

MDOT Standard Specifications. Lighting poles shall be as manufactured by *Valmont,* or approved equal.

b. Provide a single luminaire per each dolphin lighting pole. Luminaires shall utilize LED lamp sources, with 4000K color temperature. Luminaire optical distribution pattern shall be IESNA Type IV. Luminaires shall be UL listed for wet locations with an IP66 rating, and shall have been tested according to IESNA LM-79 and IESNA LM-80. Luminaires shall be provided with a die-cast aluminum housing with bronze finish color. Provide an integral non-dimming universal voltage LED driver rated for 120-240 volts. Provide a twistlock photocell control. Luminaires shall be as manufactured by *RAB Lighting*, model # WPLED-4T-78-N/PCT, or approved equal.

c. Provide circuit wiring to the relocated navigation lights.

634.081 Grounding and Bonding:

Furnish labor and material to provide grounding facilities for the electrical installation as required by all inspecting and jurisdictional authorities as herein specified. The following are included, but not limited to, as items requiring grounding:

- Conduits, boxes and other conductor enclosures. Neutral or identified conductor of interior wiring system.
- Metallic cabinets and auxiliary systems cabinets.

Conduit Grounding: All grounding bushings within all enclosures, including equipment enclosures, shall be wired together and connected internally to the enclosure grounding lug or grounding bus with bare copper conductor. Grounding conductors sized in accordance with NEC shall be used with all grounding bushings.

Equipment Grounding: All electrical equipment shall be grounded. Most other equipment will be furnished with grounding pads or grounding lugs. All ground connections shall be cleaned immediately prior to connection. The Contractor shall provide all grounding material required but not furnished with the equipment.

No grounding conductor shall be smaller than 12 AWG wire unless it is a part of an acceptable cable assembly.

634.092 Method of Measurement:

Measurement for work associated with the installation of the relocated navigation lights and supporting structures as shown on the Plan drawings and described herein will be per each item.

Measurement for work associated with the relocation of existing dolphin lighting poles as shown on the Plan drawings and described herein will be per each item.

Measurement for work associated with the provision of new dolphin lighting poles as shown on the Plan drawings and described herein will be per each item.

Measurement for work associated all work associated with the provision of new NEMA 4X wiring boxes as shown on the Plan drawings and described herein will be per each item.

Measurement for work associated with the existing transformers as shown on the Plan drawings and described herein will be made as lump sum.

Measurement for the installation of the wire as described herein will be per foot, to the nearest 10 foot interval per run.

Measurement for the installation of PVC coated rigid conduit as shown on the Plan drawings and described herein will be per linear foot actually furnished, installed, and accepted at the Contract price per linear foot.

Measurement for installing the Liquid Tight Metallic Flexible Conduit as shown on the Plan drawings and described herein will be per foot actually furnished, installed, and accepted at the Contract price per linear foot.

Measurement for work associated all work associated with removals of existing electrical boxes, conduit, and wiring as shown on the Plan drawings and described herein will be made as lump sum.

634.093 Basis of Payment:

Payment for the accepted quantity of Liquid Tight Flexible Metallic Conduit as shown on the Plan drawings and described herein will be per linear foot actually furnished, installed, and accepted at the Contract price per linear foot. This price shall include the cost of: furnishing and installing the conduit; and fittings; grounding and bonding connections, and all materials, labor, equipment and incidentals necessary to complete the work.

Payment for the accepted quantity of PVC coated rigid steel conduit as shown on the Plan drawings and described herein will be per linear foot actually furnished, installed, and accepted at the Contract price per linear foot. This price shall include the cost of: furnishing and installing the conduit; pull string, fittings, grounding and bonding connections, test cleaning interiors of conduits and all materials, labor, equipment and incidentals necessary to complete the work.

Payment for the accepted quantity of relocated navigation lighting poles will be per each item. This payment shall include installation of the relocated support structure and anchor base, reinstallation of the existing luminaire, replacement of the luminaire lenses, replacement of the luminaire lamps, grounding and bonding connections, and all materials, labor, equipment and incidentals necessary to complete the work.

Payment for the accepted quantity of relocated dolphin lighting poles will be per each item. This payment shall include installation of the relocated lighting pole and anchor base, reinstallation of the existing luminaire, grounding and bonding connections, and all materials, labor, equipment and incidentals necessary to complete the work.

Payment for the accepted quantity of new dolphin lighting poles will be paid per each item. This payment shall include the installation of the new lighting pole and foundation base, installation of the new luminaire, grounding and bonding connections, and all materials, labor, equipment and incidentals necessary to complete the work.

Payment for installing the NEMA 4X wiring pull boxes as shown on the Plan drawings and described herein will be per each item. It shall include the furnishing, installation, mounting of the boxes, and the drilling of holes into the box for conduits, grounding and bonding connections, and all materials, labor, equipment and incidentals necessary to complete the work.

Payment for work associated with transformers as shown on the Plan drawings and described herein will be per lump sum. It shall include the replacement of the existing 15kVA, single-phase transformer, modifying the existing primary and secondary wiring to accommodate floor mounting of the transformer on the deck, as well as grounding and bonding connections. The work shall also include cleaning and painting the existing 45kVA 3-phase transformer enclosure. The work shall include all materials, labor, equipment and incidentals necessary to complete the work.

Payment for the accepted quantity of wire as described herein will be per foot, to the nearest 10 foot interval per run. It shall include the furnishing, installation, routing, termination, splices and connection of the wire per the wiring schedule, and all materials, labor, equipment and incidentals necessary to complete the work.

Payment for work associated with system grounding as shown on the Plan drawings and described herein will be per lump sum. It shall include grounding connections for conduit, boxes, dolphin lighting poles, navigation lighting support structures and luminaires, and all materials, labor, equipment and incidentals necessary to complete the work.

Payment for work associated with electrical removals as shown on the Plan drawings and described herein will be per lump sum. It shall include the removal of conduits, boxes, and associated wiring, and all materials, labor, equipment and incidentals necessary to complete the work.

Payments will be made under:

Pay Item	Description	Pay Unit
634.1812	1” Liquid Tight Flexible Conduit	Linear Foot
634.189	1” PVC Coated Rigid Steel Conduit	Linear Foot
634.2074	Remove and Relocate Dolphin Lighting	Each
634.2075	Remove and Relocate Navigation Lighting	Each
634.2076	Dolphin Lighting	Each
634.2311	Stainless Steel Exterior Wiring Pull Box	Each
634.2312	Transformer Work	Lump Sum
634.316	#10 AWG Copper Wiring	Linear Foot
634.3161	#12 AWG Copper Wiring	Linear Foot
634.730	Remove Existing Electrical Components	Lump Sum

END OF SECTION

SPECIAL PROVISION
SECTION 645
HIGHWAY SIGNING
(Navigation Sign)

All work and materials shall conform to the Contract Drawings and the provisions of the State of Maine Department of Transportation Standard Specifications, Revision November 2014, SECTION 645 – HIGHWAY SIGNING with the following additions:

645.01 Description

The following paragraph is added:

This section applies to the navigation sign to be installed on the outer-most turning dolphin by the Contractor. The sign material shall be an aluminum sheet.

645.02 General

The following paragraph is added:

The navigation sign shall be fabricated to the dimensions shown on the plans using black lettering on a reflective white background.

645.021 Materials

The navigation sign shall be fabricated of aluminum sheet in accordance with MaineDOT Material Specification 719.05, supported in accordance with Specification Section 720.08, and fastened in accordance with Specification 719.075, with the exception that hardware shall be fastened to the back of the steel fender panel. Background and lettering shall be of high-intensity material reflectorized material in accordance with MaineDOT Specification 719.02.

645.022 Submittals

The Contractor shall submit a shop drawing which illustrates the sign dimensions and lists the materials for fabrication for review and approval.

645.08 Method of Measurement

Navigation Sign will be measured by the unit, and shall include all labor, materials, incidentals, and equipment necessary to satisfactorily complete the work in accordance with the Plans and Specifications. Measurement shall include furnishing and installing the sign including the all connection hardware.

645.09 Basis of Payment

Navigation Sign 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.

Payment will be made under the following Pay Item:

Pay Item	Description	Pay Unit
645.265	Navigation Sign	Each

END OF SECTION

SPECIAL PROVISION
SECTION 655
ELECTRICAL WORK
(Cathodic Protection by Sacrificial Anodes)

All work and materials shall conform to the Contract Drawings and the provisions of the State of Maine Department of Transportation Standard Specifications, November 2014, SECTION 655 – ELECTRICAL WORK, with the following additions:

655.01 Description

This section applies to all necessary steps taken by the Contractor to comply with the cathodic protection requirements listed herein and in accordance with the Plans. Contractor shall be qualified in the field of cathodic protection with a successful track record of at least five years.

Anodes shall be placed on all proposed steel pipe piles at the dolphin(s), as well as upon the proposed steel fender panel(s). The anodes shall be located on the backside of these elements away from the pen so as to prevent damage by vessels.

655.02 References

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)
- ASTM A 36 (1992) Carbon Structural Steel
- ASTM A 307 (2004) Carbon Steel Bolts and Studs
- ASTM A 563 (2007) Carbons and Alloy Steel Nuts
- ASTM F 436 (2010) HardenedSteel Washers

AMERICAN WELDING SOCIETY (AWS)
- AWS D3.6M (1999) Specifications for Underwater Welding

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
- NFPA 70 (2005) National Electrical Code

655.03 Related Requirements

The Cathodic Protection System installation shall conform to the applicable rules of NFPA 70 and all applicable Federal, State, and local codes. The Cathodic Protection System shall be constructed in accordance with the design requirements set forth in the referenced NACE International and ASTM documents. All materials shall be installed and used in accordance with the recommendations of the manufacturer and safety procedures.

655.04 Submittals

Submit the following in accordance with Section 105.7, Working Drawings, of the State of Maine Department of Transportation Standard Specifications, November 2014:

Anode Data. Submit the following components as part of this submittal package:

A. Product Data: Manufacturer's data, catalog cuts, and other descriptive data shall be submitted for approval, which shall include the following:

   1) Anode dimensions and weight, including core details, illustrated in a shop drawing, and

2) Anode chemical composition

655.05 Materials

All materials shall conform to the requirements set forth herein or as designated on the Plans, unless otherwise specified. All materials must be new, free from defects and shall be of the best commercial quality for the purpose specified. All necessary items and accessories not shown on the Plans or specified herein, but which are required to fully carry out the specified intent of the work, shall be furnished without additional cost to the Department.

Anodes for Steel Pipe Piles and Fender Panels:

This project utilizes Type III Aluminum anodes. Aluminum anodes shall not contain any mercury. The location of the anodes is illustrated in the Plans.

A. Anode Dimensions and Weight

Anode Weight: 80 lbs
Anode Length: 3 ft (max.)
Anode Width: 4 in. (max., either direction)

B. Anode Chemical Composition

1) The aluminum alloy shall have the following composition (% by weight)

Zinc	2.80% to 3.50%
Indium	0.01% to 0.02%
Silicon	0.08% to 0.20% (max)
Aluminum	Remainder

2) Test efficiency of the aluminum alloy in seawater shall not be less than 85% on a 100% efficiency of 1150 ampere-hours per pound. The aluminum alloy shall have an open circuit potential in seawater of not less than -1.15 volts versus a copper-copper sulfate reference electrode.

C. Anode Core

1) The anodes shall have a continuous 1/4-inch flat-bar core with 90 degree bends as shown on the plans. The core member shall be dimensioned to allow a minimum stand-off from the pile 3 in. after its installation. The steel shall comply with ASTM A 36

2) The core of the anode shall be located in the center of the anode casting along the anode longitudinal axis.

3) To facilitate proper bonding of the aluminum alloy to the steel core during casting, the surface of the steel shall be prepared by a dry blast cleaning process. Rust discoloration and/or visible surface contamination shall not be permitted. Surface preparation shall be SSPC SP6 (commercial blast) or better.

D. Anode Surface Irregularities

1) Shrinkage depressions on the anode surface shall not exceed 10 percent of the nominal height of the anode as measured from the uppermost corner to the bottom of the depression.

2) Not more than 1 percent of the total surface of the anode casting shall be contaminated with nonmetallic inclusions visible to the naked eye.

3) The straightness of the anode shall not deviate more than 2 percent of the anode nominal length from the longitudinal axis of the anode.

4) Within the aluminum section transverse cracks of unlimited length and depth are permitted if width does not exceed 5 mm and there are not more than 10 cracks per anode. Small dense cracks shall be considered one crack and cracks of 0.5 mm width or less shall be ignored. Longitudinal cracks are not permitted in any length except in the final "topping-up" metal at shrinkage depressions.

Steel Hardware:

A. Threaded Rod: Shall be ASTM A307, course thread

B. Nuts: Shall be ASTM A563, to match threaded rod

C. Washers: Shall be ASTM F436

655.06 Installation

Unless otherwise indicated, all materials shall be installed in accordance with the manufacturer's recommendations, safety procedures and as directed by the Resident. Installation shall conform to NFPA 70.

A. Anode Connections

1) The anodes shall be installed vertically via bolted connections, at the depths and locations indicated on the drawing set. The threaded studs shall be welded to the flange of the pile per AWS D3.6M.

2) The area on each pile where the anode is to be welded shall be cleaned to bare metal just prior to welding the anode. The weld for each anode shall be capable of fully supporting the anode weight.

3) The anode shall be maintained free of oils, chemicals, paint, petroleum products and other foreign chemicals or coatings. All coatings, wrapping and protective shipping material shall be removed from the anode prior to installation.

4) The State may perform a visual underwater inspection of the anode installations. A written report will be submitted indicating which anodes were inspected and the approval of the workmanship. Unacceptable workmanship shall be reworked to the approval of the Resident at no additional cost to the Government before final payment shall be made.

B. Anode Attachment

1) Anodes shall be attached to the piles via bolted connections. A system of double-nutted connections shall be used to attach the anodes to the piles.

655.07 Field Quality Control

Field tests shall be witnessed by the Resident. Advise the Resident at least five days prior to performing field tests.

655.08 Method of Measurement

Cathodic Protection by Sacrificial Anodes will be measured by the unit, and shall include all labor, materials, incidentals, and equipment necessary to satisfactorily complete the work in accordance with the Plans and Specifications. Measurement shall include furnishing and installing the anodes including the threaded rod connection and all hardware.

655.09 Basis of Payment

Cathodic Protection by Sacrificial Anodes 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.

Payment will be made under the following Pay Item:

Pay Item	Description	Pay Unit
655.501	Cathodic Protection by Sacrificial Anodes	Each

END OF SECTION

SPECIAL PROVISIONS
SECTION 841
MOORING HARDWARE
(Mooring Bollard - Double Bitt)
(Mooring Cleat - Chock)

841.01 Description

Provide all labor, materials, equipment and supervision necessary for the installation of new double bitts and chocks.

841.02 Materials

Mooring double bitts and chocks located dolphins shall be cast steel manufactured by J.C. MacElroy Co., Inc. of New York or approved equal. Mooring hardware shall be cast carbon steel in compliance with ASTM A27/A27M, Grade 65-35.

Removal and resetting chocks shall comply with Section 202 – Demolition.

Mooring hardware shall be stored in a secure area as necessary to prevent loss and damage to protective coating. All existing bollards shall be inspected by the Owner and/or Engineer after removal due to demolition for acceptance for reuse. The Contractor shall take all precautions not to damage the existing hardware during demolition.

Anchor bolts and hardware shall conform to Section 504 – Structural Steel. Concrete work shall conform to Section 502 – Structural Concrete.

Grout work shall conform to Section 533 – Grout.

New mooring hardware shall be shop coated and shall receive a surface preparation in accordance with SSPC-SP10 with an anchor profile of 2.5 mils. The minimum DFT of the coating shall be 16 mils nominal and inspected per SSPC-PA2. One manufacturer shall provide the coating system to ensure compatibility between coats and quality control of the final product. The specified coating thickness of the three-coat system shall be as follows:

1st Coat: 7-8 mils of Carboguard 890 (or approved equal)
2nd Coat: 7-8 mils of Carboguard 890 (or approved equal)
3rd Coat: 2-3 mils of Carbothane 134 HG, black (or approved equal)

841.03 Submittals

Manufacturer's literature on all new mooring double bitts and chocks with make, model, and certified load capacity with directions of load indicated, method and orientation of installation, and size, type and location of fasteners.

841.04 Installation

Anchor bolts shall be of the size, type and location as recommended by the mooring item manufacturer. Where existing mooring items are to be used, the size and location of the anchor bolts shall be as determined from the anchor bolt holes. Embedment of anchor bolts shall be as detailed on the Drawings. Contractor shall verify bolt spacing for new and existing mooring hardware.

Prior to placement of concrete, areas of mooring hardware shall be formed out of concrete pour. Contractor shall verify orientation. Just prior to setting of mooring hardware, a bed of high-strength, non-shrink grout shall be placed to seal mooring hardware into position. Contractor is to ensure no voids are

created beneath the mooring hardware. After mooring hardware is set and tightened down, excess grout shall be cleaned off immediately.

841.05 Method of Measurement

Mooring Bollard - Double Bitts will be measured by the unit, and shall include all labor, materials, incidentals, and equipment necessary to satisfactorily complete the work in accordance with the Plans and Specifications. Measurement shall include furnishing and installing the cast steel double bitt, protective coating, fastening hardware, and grout bed.

Mooring Cleat - Chocks will be measured by the unit, and shall include all labor, materials, incidentals, and equipment necessary to satisfactorily complete the work in accordance with the Plans and Specifications. Measurement shall include furnishing and installing the cast steel chock, protective coating, fastening hardware, and grout bed.

841.06 Basis of Payment

The accepted quantity of double bitts and chocks shall be paid for at the Contract unit price each, which shall be full compensation for all materials, equipment, labor and incidentals necessary for furnishing and installing the mooring hardware as shown on the contract drawings.

Payment will be made under:

Pay Item	Description	Pay Unit
841.55	Mooring Bollard - Double Bitt	Each
841.56	Mooring Cleat - Chock	Each

June 03, 2019
Supersedes June 13, 2018

STANDARD DETAIL UPDATES

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

Detail #	Description	Revision Date
501(02)	Pipe Pile Splice	3/05/2015
501(03)	H – Pile Splice	3/05/2015
504(07)	Diaphragm & Cross Frame Notes	10/13/2015
504(10)	Drip Bar Details	9/06/2017
505(01)	Shear Connectors	10/24/2016
507(13)	Steel Bridge Railing	6/03/2015
507(14)	Steel Bridge Railing	6/03/2015
507(31)	Barrier – Mounted Steel Bridge	8/06/2015
526(02)	Temporary Concrete Barrier	2/01/2015
526(02)	Temporary Concrete Barrier	2/01/2018
609(9)	Concrete Slip Form Curb	5/06/2018
626(07)	Conduit Trench for Traffic Signals, Highway Signing and Lighting	5/17/2018
645(06)	H-Beam Posts Highway Signing	1/09/2018
652(06)	Construction Signs	10/24/2016
652(12)	Construction Traffic Control	10/24/2016
802(05)	Roadway Culvert End Slope Treatment	1/03/2017
801(11) – 801(26)	ADA Standard Details	6/03/2019

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

SECTION 101
CONTRACT INTERPRETATION

101.1 Abbreviations Revise the definition of AWPA to "**American Wood Protection Association**".

101.2 Definitions
Page 1-5 – Remove the definition of Bridge in its entirety and replace with:
"**Bridge A structure that is erected over a depression or an obstruction, such as water, a highway or a railway, and has an opening measured along the centerline of the Roadway of more than 20 feet between: The faces of abutments; spring line of arches; extreme ends of openings of box culverts, pipes or pipe arches; or the extreme ends of openings for multiple box culverts, pipes or pipe arches**."

Page 1-12 – Remove the definition of Large Culvert in its entirety and replace with:
"**Large Culvert Any structure not defined as a Culvert or Bridge that provides a drainage or non-drainage opening under the Roadway or Approaches to the Roadway, with an opening that is 5 feet but less than 10 feet**."

Remove the definition of Minor Span in its entirety and replace with:
"**Minor Span Same definition as Bridge, except having an opening of between 10 feet and 20 feet, inclusive**."

SECTION 103
AWARD AND CONTRACTING

Amend this Section by adding the following:

"103.1a Tie Bids - In the case where two responsive bids from responsible bidders are equal monetarily, the Department shall determine the apparent low bidder by flipping a coin. The coin shall have sides clearly marked as heads and tails. The contractor whose first letter in their official company name that comes first in the alphabet shall be heads.

If there are three bids, each bidder will flip the coin and the bidder with the odd toss will be the winner. (i.e. if the results are two heads and a tails, the bidder who had tails is the winner). For a three way tie, bidders may flip their own coin or have the Contracts Engineer flip for them.

The coin flip will occur at the next bid opening by the Contracts and Specifications Engineer or a designee. The tied bidders may attend the coin flip in person or watch on the internet as they choose."

In 103.3.2 Notice of Determination Revise this section by removing sections A – M and replacing with the following A - K:

(A) Default(s) or termination(s) on past or current Contracts.

(B) Failure on past or current Contracts to pay or settle all bills for labor, Materials or services;
to comply with directives of the Department, to fulfill warranty obligations, or to provide Closeout Documentation.

(C) "Below Standard" performance as determined from the Department's Contractor's Performance Rating process.

(D) Insufficient bonding capability or Inability of the Contractor to obtain or retain performance or Payment Bonds meeting MDOT requirements, or a pattern of unsupported Claims.

(E) Failure to accept an Award of a Contract made by the Department.

(F) Failure to provide information requested by the Department in a timely manner.

(G) Debarment, suspension or a denial of prequalification or 'award of contract' by any federal, State, or local governmental procurement agency or the Contractor's Agreement to refrain from Bidding as part of the settlement with any such agencies or any of the reasons contained in Section 102.02 of the "Rules Regarding Debarment of Contractors", Maine Department of Transportation Register 17-229, Chapter 102 (October 2, 1985).

(H) Failure to demonstrate ability to do work to the satisfaction and at the sole discretion of the Department.

(I) Number of personnel working directly for the Contractor with applicable knowledge and experience is significantly below industry standards.

(J) Safety Record, Environmental Record, Civil Rights or Equal Opportunity Record significantly below industry standards.

(K) Serious misconduct that the Department reasonably determines will substantially and adversely affect the cost, quality or timeliness of Work, or the safety of Workers or the public, any deceptive, evasive or fraudulent statements or omissions contained in the Application, made or omitted at any interview or hearing, or otherwise made to or omitted from the Department; or any other substantial deficiencies in experience or conduct that are clearly below industry standards and that clearly demonstrate in the sole discretion of the Department, that the Contractor is "Not Qualified".

SECTION 104
GENERAL RIGHTS AND RESPONSIBILITES

This Section shall be amended by adding the following two sub-sections:

104.3.8.1 Electronic Payroll Submission **On federally funded projects the prime contractor, all subcontractors, and lower-tier subcontractors will submit their certified payrolls electronically utilizing the Elations system. There is no charge to the contracting community for the use of this service. The submission of paper payrolls will not be allowed or accepted. Additional information can be found at** http://www.maine.gov/mdot/contractors/ **under the "Bidder Info" go to "Electronic Payroll System."**

104.3.8.2 Payment Tracking **On federally funded projects the prime contractor and all subcontractors and lower-tier subcontractors will track and confirm the delivery and receipt of all payments through the Elation System**

104.4.10 Coordination of Road Closure / Bridge Closure / Bridge Width Restrictions
Revise the last sentence by adding a period after 'Resident'; remove the "and" after Resident; and adding "**not covered by Pay Items**" between 'costs' and 'will'. So that the last paragraph reads "**All Newspaper notices, radio announcements and any notifications will be subject to the approval of the Resident. All costs not covered by Pay Items will be considered incidental to the Contract**.".

104.5.5 Prompt Payment of Subcontractors Add the following paragraph to this subsection:

C. Payment Tracking Federal Projects **On federally funded projects, the prime contractor, subcontractors and lower-tier subcontractors will track and confirm the delivery and receipt of all payments through the Elation System. They will be responsible for entering all payments to all sub and lower tier contractors. MaineDOT will run a query monthly to ensure that contractors are complying and generate an e-mail to contractors who have not responded to confirm receipt of MaineDOT payment or contractor payment to lower tier subcontractors.**

SECTION 105
GENERAL SCOPE OF WORK

105.2.5 Compliance with Health and Safety Laws Remove the second paragraph of this subsection in its entirety and replace with:

"**For related provisions, see Sections 105.2.3 – Project Specific Emergency Planning, 105.3 – Traffic Control and Management and 105.4 – Maintenance of work**."
105.4.5 Special Detours Remove this subsection in its entirety and replace with:

"105.4.5 Maintenance of Existing Structures When a new Bridge or Minor Span is being installed on a new alignment and the existing structure is to remain in service, the Department will maintain the existing structure and the portions of the roadway required for maintaining traffic until such time that the new structure is opened to traffic and the existing structure is taken out of service. A similar situation exists when a new Bridge or Minor Span is being installed on the same alignment as the existing structure, requiring a temporary detour to be installed by the Contractor per Section 510, Special Detours, prior to removal of the existing structure. In this case, the Department will maintain the existing structure and the portions of the existing roadway required for maintaining traffic until such time that either the temporary detour is opened to traffic or the Contractor begins any work on the existing structure, including, but not limited to, repairs, modifications, moving, demolition or removal. In either case, once the new structure or temporary detour is opened to traffic, or the Contractor begins any work on the existing structure, the Contractor shall be solely responsible for all maintenance of the existing structure and the portions of the existing approaches that lie outside the new roadway or the temporary detour, respectively. This specification is not intended to supersede Standard Specification Section 104.3.11, Responsibility for Property of Others."

105.6.2.4 Department Verification Add the following to the end of the first sentence:
"**or other approved method, such as reference staking, to allow the Department to independently verify the accuracy of the work, as approved by the Department."**

SECTION 106
QUALITY

106.3.4 Storage Revise this Section by adding the following sentence after the first sentence:
"Materials shall not be stored under or in close proximity to Highway Structures unless the Contractor receives written permission from the Resident."

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

Revise Subsection C by replacing the last sentence with the following:

Approval of both standard and project specific QCPs shall be as outlined in paragraph B above, with the exception that the initial 14 day review period for standard plans will begin on March 1, and that the supplemental project specific QCP for the project shall be submitted a minimum of 14 days prior to any related work being performed with an initial review period of 7 days.

SECTION 107
TIME

107.7.2 SCHEDULE OF LIQUIDATED DAMAGES

Revise this section by removing the numbers in the chart and replace with the following:

Original Contract Amount			Per Diem Amount of Liquidated Damages
From More Than		To and Including	Calendar Day
$ 0	**to**	**$ 100,000.00**	**$250.00**
$ 100,000.00	**to**	**$ 250,000.00**	**$500.00**
$ 250,000.00	**to**	**$ 500,000.00**	**$650.00**
$ 500,000.00	**to**	**$1,000,000.00**	**$800.00**
$1,000,000.00	**to**	**$2,000,000.00**	**$1,000.00**
$2,000,000.00	**to**	**$4,000,000.00**	**$1,200.00**
$4,000,000.00	**and**	**More**	**$2,100.00**

SECTION 108
PAYMENT

108.3 Retainage - Remove the paragraph beginning with " The Contractor may withdraw…" in its entirety.

108.4.1 Price Adjustment for Hot Mix Asphalt:
Remove this section in its entirety and replace with the following

For all contracts with hot mix asphalt in excess of 500 tons total, a price adjustment for performance graded binder will be made for the following pay items:

Item 403.102 Hot Mix Asphalt – Special Areas
Item 403.206 Hot Mix Asphalt - 25 mm
Item 403.207 Hot Mix Asphalt - 19 mm
Item 403.2071 Hot Mix Asphalt - 19 mm (Polymer Modified)
Item 403.2072 Hot Mix Asphalt - 19 mm (Asphalt Rich Base)
Item 403.208 Hot Mix Asphalt - 12.5 mm
Item 403.2081 Hot Mix Asphalt - 12.5 mm (Polymer Modified)
Item 403.209 Hot Mix Asphalt - 9.5 mm (sidewalks, drives, & incidentals)
Item 403.210 Hot Mix Asphalt - 9.5 mm
Item 403.2101 Hot Mix Asphalt - 9.5 mm (Polymer Modified)
Item 403.2102 Hot Mix Asphalt - 9.5 mm (Asphalt Rich Base)

Item 403.2104 Hot Mix Asphalt - 9.5 mm (Thin Lift Surface Treatment)
Item 403.21041 Hot Mix Asphalt - 9.5 mm (Polymer Modified Thin Lift Surface Treatment)
Item 403.211 Hot Mix Asphalt – Shim
Item 403.2111 Hot Mix Asphalt – Shim (Polymer Modified)
Item 403.212 Hot Mix Asphalt - 4.75 mm (Shim)
Item 403.213 Hot Mix Asphalt - 12.5 mm (base and intermediate course)
Item 403.2131 Hot Mix Asphalt - 12.5 mm (base and intermediate course Polymer Modified)
Item 403.2132 Hot Mix Asphalt - 12.5 mm (Asphalt Rich Base and intermediate course)
Item 403.214 Hot Mix Asphalt - 4.75 mm (Surface)
Item 403.235 Hot Mix Asphalt (High Performance Rubberized HMA)
Item 403.301 Hot Mix Asphalt (Asphalt Rubber Gap-Graded)
Item 404.70 Colored Hot Mix Asphalt – 9.5mm (Surface)
Item 404.72 Colored Hot Mix Asphalt – 9.5mm (Islands, sidewalks, & incidentals)
Item 461.13 Light Capital Pavement
Item 461.210 9.5 mm HMA - Paver Placed Surface
Item 462.30 Ultra-Thin Bonded Wearing Course
Item 462.301 Polymer Modified Ultra-Thin Bonded Wearing Course

Price adjustments will be based on the variance in costs for the performance graded binder component of hot mix asphalt. They will be determined as follows:

The quantity of hot mix asphalt for each pay item will be multiplied by the performance graded binder percentages given in the table below times the difference in price between the base price and the period price of asphalt cement. Adjustments will be made upward or downward, as prices increase or decrease.

Item 403.102–6.2%
Item 403.206–4.8%
Item 403.207–5.2%
Item 403.2071–5.2%
Item 403.2072–5.8%
Item 403.208–5.6%
Item 403.2081–5.6%
Item 403.209–6.2%
Item 403.210–6.2%
Item 403.2101–6.2%
Item 403.2102–6.8%
Item 403.2104–6.2%
Item 403.21041–6.2%
Item 403.211–6.2%
Item 403.2111–6.2%
Item 403.212–6.8%
Item 403.213–5.6%
Item 403.2131–5.6%

Item 403.2132–6.2%
Item 403.214–6.8%
Item 403.235–5.5%
Item 403.301–6.2%
Item 404.70–6.2%
Item 404.72–6.2%
Item 461.13–6.7%
Item 461.210 – 6.4%
Item 462.30–0.0021 tons/SY
Item 462.301–0.0021 tons/SY

Hot Mix Asphalt: The quantity of hot mix asphalt will be determined from the quantity shown on the progress estimate for each pay period.

Base Price: The base price of performance graded binder to be used is the price per standard ton current with the bid opening date. This price is determined by using the average New England Selling Price (Excluding the Connecticut market area), as listed in the Asphalt Weekly Monitor.
Period Price: The period price of performance graded binder will be determined by the Department by using the average New England Selling Price (Excluding the Connecticut market area), listed in the Asphalt Weekly Monitor current with the paving date. The maximum Period Price for paving after the adjusted Contract Completion Date will be the Period Price on the adjusted Contract Completion Date.

SECTION 109
CHANGES

109.5.1 Definitions - Types of Delays
Delete Paragraph 'A' in its entirety and replace with:

"**A. Excusable Delay Except as expressly provided otherwise by this Contract, an "Excusable Delay" is a Delay to the Critical Path that is directly and solely caused by (1) a weather related Event of such an unusually severe nature that a Federal Emergency Disaster is declared. The Contractor will only be entitled to an adjustment of time if the Project falls within the geographic boundaries prescribed under the disaster declaration. or (2) a flooding event at the effected location of the Project that results in a Q25 headwater elevation, or greater, but less than a Q50 headwater elevation. Theoretical headwater elevations will be determined by the Department; actual headwater elevations will be determined by the Contractor and verified by the Department or (3) An Uncontrollable Event**."

SECTION 110
INDEMNIFICATION, BONDING AND INSURANCE

110.3.9 Administrative & General Provisions

B. Defense of Claims Amend this section by adding the following sentence to the end:
"The Contractor's insurer shall name the Department of Transportation as a released party (Releasee") on any release or settlement agreement for settled claims."

APPENDIX A TO DIVISION 100

Remove Section D in its entirety as this is now covered in Section 105.10 EQUAL OPPORTUNITY AND CIVIL RIGHTS.

SECTION 203
EXCAVATION AND EMBANKMENT

203.02 Materials

At the bottom of page 2-12, add as the first item in the list:

Crushed Stone, ¾ inch 703.13

203.042 Rock Excavation and Blasting

On page 2-16, add the word "**No**" to the third sentence in Section 5 Submittals, Subsection V, 1 so that it reads:
"***No* blasting products will be allowed on the job site if the date codes are missing**."

203.09 Preparation of Embankment Area Revise the first sentence of the second paragraph so that it reads:
"When fill material is placed against existing slopes or previously placed fill, the interface shall be continuously benched by excavating steps of sufficient width to permit operations of placing and compacting the additional material."

SECTION 304
AGGREGATE BASE AND SUBBASE COURSE

Remove Section 304.02 entirely and replace with the following:

"**304.02 Aggregate Aggregates shall conform to the requirements specified in the following**

Subsections of Division 700 - Materials:

Aggregate Base	Type A & B	703.06 a
Aggregate Base	Type C	703.06 b
Aggregate Subbase	Type D & E	703.06 c

Aggregate for base or subbase courses shall be material meeting the aggregate type requirements specified in the following table.

Material	Aggregate Type (Subsection 703.06)
Base Course, Crushed	**[1]A, B or C**
Subbase Course, Gravel	**[1]D**
Subbase Course, Gravel, Below 9"	**[2]D or E**
[1]Will be designated on the plans **[2]Contractor's option**	

When designated on the plans, Type E Subbase may be used 9 inches below and lower beneath the pavement

For The various classes of base and subbase, at the time it is deposited on the roadbed shall conform to the gradation requirements of the contract. The Department will obtain samples from the roadbed for Acceptance prior to compaction Oversized stones shall be removed from the aggregate before depositing on the roadway.
Oversized stones for the various types are as follows: Type A will not pass a 2 inch square mesh sieve
Type B and Type C will not pass a 4 inch square mesh sieve
Type D and E will not pass a 6 inch square mesh sieve. "

304.04 Shaping, Compacting, and Stabilizing Revise the first paragraph in this section by removing "according to AASHTO T 224" and "(An Adjustment Chart/Spreadsheet for this correction is available upon request). " so that it reads:

304.04 Shaping, Compacting and Stabilizing Compaction of each layer of base and subbase shall continue until a density of not less than 95% of the maximum density has been achieved for the full width and depth of the layer. The maximum density shall be determined in accordance with AASHTO T180, Method C or D, correcting for oversize particles except mixtures may have 40 percent or less retained on the ¾ inch sieve. Field density tests will be performed by the Department in accordance with AASHTO T 310.

SECTION 307
FULL DEPTH RECYCLED PAVEMENT

Remove this Section in its entirety and replace with:

SECTION 307
FULL DEPTH RECYCLING
(UNTREATED OR TREATED WITH EMULSIFIED ASPHALT STABILIZER)

307.01 Description **This work shall consist of pulverizing a portion of the existing roadway structure into a homogenous mass, adding an emulsified asphalt stabilizer (if required) to the depth of the pulverized material specified in the contract, placing and compacting this material to the lines, grades, and dimensions shown on the plans or established by the Resident.**

MATERIALS

307.02 Pulverized Material **Pulverized material shall consist of the existing asphalt pavement layers and one inch or more as specified of the underlying gravel, pulverized and blended into a homogenous mass. Pulverized material will be processed to 100% passing a 2 inch square mesh sieve.**

307.021 New Aggregate and Additional Recycled Material **New aggregate, if required by the contract, shall meet the requirements of Subsection 703.10 - Aggregate for Untreated Surface Course and Leveling Course, Type A. Aggregate Subbase Course Gravel Type D processed to 100 percent passing a 2 inch square mesh sieve and meeting the requirements of 703.06 – Aggregate for Base and Subbase may be used in areas requiring depths greater than 2 inches. New aggregate, will be measured and paid for under the appropriate item.**

Recycled material, if required, shall consist of salvaged asphalt material from the project or from off-site stockpiles that has been processed before use to 100 percent passing a 2 inch square mesh sieve. Recycled material shall be conditionally accepted at the source by the Resident. It shall be free of winter sand, granular fill, construction debris, or other materials not generally considered asphalt pavement.

Recycled material generated and salvaged from the project shall be used within the roadway limits to the extent it is available as described in 307.09. No additional payment will be made for material salvaged from the project.

Recycled material supplied from off-site stockpiles shall be paid for as described in the contract, or by contract modification.

307.022 Emulsified Asphalt Stabilizer. If required, the emulsified asphalt stabilizer shall be grade MS-2, MS-4, SS-1, or CSS-1 meeting the requirements of Subsection 702.04 Emulsified Asphalt.

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

307.024 Portland Cement **If required, Portland Cement shall be Type I or II meeting the requirements of AASHTO M85.**

307.025 Hydrated Lime **If required, Hydrated Lime shall meet the requirements of AASHTO M216.**

EQUIPMENT

307.03 Pulverizer **The pulverizer shall be a self-propelled machine, specifically manufactured for full-depth recycling work and capable of reducing the required existing materials to a size that will pass a 2 inch square mesh sieve. The machine shall be equipped with standard automatic depth controls and must maintain a consistent cutting depth and width. The machine also shall be equipped with a gauge to show depth of material being processed.**

307.04 Liquid Mixer Unit or Distributor. If treatment of the recycled layer with emulsified asphalt is required by the contract, a liquid mixing unit or distributor shall be used to introduce the emulsified asphalt stabilizer into the pulverized material. The mixing unit shall contain a liquid distribution and mixing system which has been specifically manufactured for full-depth recycling work, capable of mixing the pulverized material with an evenly metered distribution of emulsified asphalt into a homogeneous mixture, to the depth and width required.

The mixing unit shall be designed, equipped, maintained, and operated so that emulsified asphalt stabilizer at constant temperature may be applied uniformly on variable widths of pulverized material up to 6 feet at readily determined and controlled rates from 0.01 to 1.06 gal/yd^2 with uniform pressure and with an allowable variation from any specified rate not to exceed 0.01 gal/ yd^2. Mixing units shall include a tachometer, pressure gages, and accurate volume measuring devices or a calibrated tank and a thermometer for measuring temperatures of tank contents.

307.041 Cement or Lime Spreader **If required by the contract, spreading of the Portland Cement or Hydrated Lime shall be done with a spreader truck designed to spread dry particulate (such as Portland Cement or Lime) or other approved means to insure a uniform distribution across the roadway and minimize fugitive dust. Pneumatic application, including through a slotted pipe, will not be permitted. Other systems that have been developed include fog systems, vacuum systems, etc. Slurry applications may also be accepted. The Department reserves the right to accept or reject the method of spreading cement. The Contractor shall provide a method for verifying that the correct amount of cement is being applied.**

307.05 Placement Equipment **Placement of the Full Depth recycled material to the required slope and grade shall be done with an approved highway grader or by another method approved by the Resident.**

307.06 Rollers **The full depth recycled material shall be rolled with a vibratory pad foot roller, a vibratory steel drum soil compactor and a pneumatic tire roller. The pad foot roller drum**

shall have a minimum of 112 tamping feet 3 inches in height, a minimum contact area per foot of 17 inch^2, and a minimum width of 84 inches. The vibratory steel drum roller shall have a minimum 84 inch width single drum. The pneumatic tire roller shall meet the requirements of Section 401.10 and the minimum allowable tire pressure shall be 85 psi.

MIX DESIGN

If treatment of the recycled layer with emulsified asphalt is required by the contract, the Department will supply a mix design for the emulsified asphalt stabilized material based on test results from pavement and soil analysis taken to the design depth. The Department will provide the following information prior to construction:

1. **Percent of emulsified asphalt to be used.**
2. **Quantity of lime or cement to be added.**
3. **Optimum moisture content for proper compaction.**
4. **Additional aggregate (if required).**

After a test strip has been completed or as the work progresses, it may be necessary for the Resident to make necessary adjustments to the mix design. Changes to compensation will be in accordance with the Mix Design Special Provision.

CONSTRUCTION REQUIREMENTS

307.06 Pulverizing The entire depth of existing pavement shall be pulverized together with 1 inch or more of the underlying gravel into a homogenous mass. All pulverizing shall be done with equipment that will provide a homogenous mass of pulverized material, processed in-place, which will pass a 2 inch square mesh sieve.

307.07 Weather Limitations Full depth recycled work shall be performed when;

- **A. Recycling operations will be allowed between May 15th and September 15th inclusive in Zone 1 - Areas north of US Route 2 from Gilead to Bangor and north of Route 9 from Bangor to Calais. Recycling will be allowed between May 1st and September 30th inclusive in Zone 2 - Areas south of Zone 1 including the US Route 2 and Route 9 boundaries.**
- **B. The atmospheric temperature, as determined by an approved thermometer placed in the shade at the recycling location, is 50°F and rising.**
- **C. When there is no standing water on the surface.**
- **D. During generally dry conditions, or when weather conditions are such that proper pulverizing, mixing, grading, finishing and curing can be obtained using proper procedures, and when compaction can be accomplished as determined by the Resident.**
- **E. When the surface is not frozen and when overnight temperatures are expected to be above 32°F.**
- **F. Wind conditions are such that the spreading of lime or cement on the roadway ahead of the recycling machine will not adversely affect the operation.**

307.08 Surface Tolerance **The complete surface of the Full Depth Recycled course shall be shaped and maintained to a tolerance, above or below the required cross sectional shape, of ⅜ inch.**

307.09 Full Depth Recycling Procedure **New aggregate or recycled material meeting the requirements of Section 307.021 - New Aggregate and Additional Recycled Material, shall be added as necessary to restore cross-slope and/or grade before pulverizing. Locations will be shown on the plans or described in the construction notes. The Resident may add other locations while construction of the project is in progress. The Contractor will use recycled material to the extent it is available, in lieu of new aggregate. The material shall then be pulverized, processed, and blended into a homogeneous mass passing a 2 inch square mesh sieve. Material found not pulverized down to a 2 inch size will be required to be reprocessed by the recycler with successive passes until approved by the Resident.**

Should the Contractor be required to add new aggregate or recycled material to restore cross-slope and/or grade after the initial pulverizing process, those areas will require re-processing to blend into a homogenous mass passing a 2 in square mesh sieve.

Sufficient water shall be added during the recycling process to maintain optimum moisture for compaction.

The resultant material from the initial pulverizing processes shall be graded and compacted to the cross-slope and profile shown on the plans or as directed by the Resident. The Contractor will also be responsible for re-establishing the existing profile grade. The completed surface of the full depth recycled course shall be shaped and maintained to a tolerance, above or below the required cross sectional shape, of ⅜ inch. Areas not meeting this tolerance will be repaired as described in Section 307.091. The initial pulverizing process density requirements will be the same as Section 307.101 unless otherwise directed by the Resident.

Additives, if required, shall be introduced following completion of the initial pulverizing and blending process. Emulsified asphalt stabilizer shall be incorporated into the top of the processed material as specified in section 307.04 to the depth specified in the contract by use of the liquid mixer unit or a distributor, at the rate specified in the mix design. The emulsified asphalt shall then be uniformly blended into a homogeneous mass until an apparent uniform distribution has occurred. The rate of application may be adjusted as necessary by the Resident. Cement or lime shall be introduced as described in section 307.041. The resultant material shall be graded and compacted to the cross-slope and profile shown on the plans or as directed by the Resident. The Contractor will also be responsible for re-establishing the existing profile grade.

After final compaction, the roadway surface shall be treated with a light application of water, and rolled with pneumatic-tired rollers to create a close-knit texture. The finished layer shall be free from:

A. Surface laminations.
B. Segregation of fine and coarse aggregate.

C. Corrugations, centerline differential, potholes, or any other defects that may adversely affect the performance of the layer, or any layers to be placed upon it.

The Contractor shall protect and maintain the recycled layer until a lift of pavement is applied. Any damage or defects in the layer shall be repaired immediately. An even and uniform surface shall be maintained. The recycled surface shall be swept prior to hot mix asphalt overlay placement.

307.091 Repairs **Repairs and maintenance of the recycled layers, resulting from damage caused by traffic, weather or environmental conditions, or resulting from damage caused by the Contractor's operations or equipment, shall be completed at no additional cost to the Department.**

For recycled layers stabilized with emulsified asphalt, low areas will be repaired using a hot mix asphalt shim. Areas up to 1 inch high can be repaired by milling or shimming with hot mix asphalt. Areas greater than 1 inch high will be repaired using a hot mix asphalt shim. All repair work will be done with the Resident's approval at the Contractor's expense.

TESTING REQUIREMENTS

307.10 Quality Control **The Contractor shall operate in accordance with the approved Quality Control Plan (QCP) to assure a product meeting the contract requirements. The QCP shall meet the requirements of Section 106.4 - Quality Control and this Section. The Contractor shall not begin recycling operations until the Department approves the QCP in writing.**
Prior to performing any recycling process, the Department and the Contractor shall hold a Pre-recycle conference to discuss the recycling schedule, type and amount of equipment to be used, sequence of operations, and traffic control. A copy of the QC random numbers to be used on the project shall be provided to the Resident. All field supervisors including the responsible onsite recycling process supervisor shall attend this meeting.

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

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

The Project Superintendent shall be named in the QCP, and the responsibilities for successful implementation of the QCP shall be outlined.
The Contractor shall sample, test, and evaluate the full depth reclamation process in accordance with the following minimum frequencies:

MINIMUM QUALITY CONTROL FREQUENCIES

Test or Action	Frequency	Test Method
Density	1 per 1000 feet / lane	AASHTO T 310
Air Temperature	4 per day at even intervals	
Surface Temperature	At the beginning and end of each days operation	
Yield of all materials (Daily yield, yield since last test, and total project yield.)	1 per 1000 ft/lane	

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

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

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

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

307.101 Test Strip The contractor shall assemble all items of equipment for the recycling operation on the first day of the recycling work. The Contractor shall construct a test strip for the project at a location approved by the Resident. The Responsible onsite Recycling Supervisor will work with Department personnel to determine the suitability of the mixed material, moisture control within the mixed material, and compaction and surface finish. The test strip section is required to:

A. Demonstrate that the equipment and processes can produce recycled layers to meet the requirements specified in these special provisions.
B. Determine the effect on the gradation of the recycled material by varying the forward speed of the recycling machine and the rotation rate of the milling drum.

C. Determine the optimum moisture necessary to achieve proper compaction of the recycled layer.
D. Determine the sequence and manner of rolling necessary to obtain the compaction requirements and establish a target density. The Contractor and the Department will both conduct testing with their respective gauges at this time.

The test strip shall be at least 300 feet in length of a full lane-width (or a half-road width). Full recycling production will not start until a passing test strip has been accomplished. If a test strip fails to meet the requirements of this specification, the Contractor will be required to repair or replace the test strip to the satisfaction of the Resident. Any repairs, replacement, or duplication of the test strip will be at the Contractor's expense.

After the test strip has been pulverized, and the roadway brought to proper shape, the Contractor shall add water until it is determined that optimum moisture has been obtained. The test strip shall then be rolled using the specified compaction equipment as directed until the density readings show an increase in dry density of less than 1 pcf for the final four roller passes of each roller. The Contractor and Department will each determine a target density using their respective gauges by performing several additional density tests and averaging them. The average of these tests will be used as the target density of the recycled material for QC and Acceptance purposes.

Following completion of the test strip, compaction of the material shall continue until a density of not less than 98 percent of the test strip target density has been achieved for the full width and depth of the layer. During the construction and compaction of the Full Depth Recycled base, should three consecutive Acceptance test results for density fail to meet a minimum of 95 percent of the target density, or exceed 102 percent of target density, a new test strip shall be constructed.

ACCEPTANCE TEST FREQUENCY

Property	Frequency	Test Method
In-place Density	1 per 2000 ft / lane	AASHTO T 310

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

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

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

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

Payments will be made under:

Pay Item	**Pay Unit**
307.331 Full Depth Recycled Pavement (Untreated)	**Square Yard**
307.332 Full Depth Recycled Pavement (with Emulsified Asphalt Stabilizer) 5 in. depth	**Square Yard**
307.333 Full Depth Recycled Pavement (with Emulsified Asphalt Stabilizer) 6 in. depth	**Square Yard**

SECTION 411
UNTREATED AGGREGATE SURFACE COURSE

411.02 – Aggregate Add the following to the end of the first sentence: **"- Type A"**

SECTION 501
FOUNDATION PILES

501.05 – Method of Measurement

b. Piles Furnished – After the second sentence, add the sentence **"Measurement will not include any pile tips"**.

c. Piles in Place – Add the sentence to the end of the second paragraph, **"Measurement will include the pile tips"**.

d. Pile Tips – Add the words "**on the Pile**" to the end of the sentence.

SECTION 502
STRUCTURAL CONCRETE

502.05 Composition and Proportioning

Replace Table 1 with

TABLE 1

Concrete CLASS	Minimum Compressive Strength (PSI)	Permeability as indicated by Surface Resistivity (KOhm-cm)	Entrained Air (%)		Notes
		LSL	LSL	USL	
S	3,000	N/A	N/A	N/A	4,5
A	4,000	14	6.0	9.0	1,4,5
P	-----	-----	5.5	7.5	1,2,3,4
LP	5,000	17	6.0	9.0	1,4,5
Fill	3,000	N/A	6.0	9.0	4,5

In the list of information submitted by the contractor for a mix design:

Item J Replace "Target Coulomb Value." with "Target KOhm-cm Value."

Note #1 - Remove, **"…Standard Specification Section 711.05, Protective Coating for Concrete Surfaces, and per the manufacturer's recommendations, at no additional cost to the Department."** and replace with, **"…Standard Specification Section 515, Protective Coating for Concrete Surfaces, at no additional cost to the Department."**

502.1703 Acceptance Methods A and B

In the paragraph that starts with "The Department will take Acceptance…" Remove the word chloride from chloride permeability in the last sentence.

Replace the paragraph starting with "Rapid Chloride Permeability specimens…" With the following:

"Surface Resistivity specimens will be tested by the Department in accordance with AASHTO TP-95 at an age ≥ 56 days. Four 4 inch x 8 inch cylinders will be cast per sublot placed. The average of three concrete specimens per sublot will constitute a test result and this average will be used to determine the permeability for pay adjustment computations."

502.1706 Acceptance Method C

Remove in its entirety and Replace with:

502.1706 Acceptance Method C The Department will determine the acceptability of the concrete through Acceptance testing. Acceptance tests will include compressive strength, air content and permeability. Method C concrete not meeting the requirements listed in Table 1 shall be removed and replaced at no cost to the Department. At the Department's sole discretion, material not meeting requirements may be left in place and paid for at a reduced price as described in Section 502.195.

502.1707 Resolution of Disputed Acceptance Test Results

Section B

Remove "Rapid Chloride" from the section heading.

In paragraph 4 replace T-277 with TP-95

502.192 Pay Adjustment for Chloride Permeability

Remove "Chloride" from the heading and from the first sentence.

Replace the sentence that starts with "values greater than…" and replace with "values less than 10 KOhms-cm for Class A concrete or 11 KOhms-cm for Class LP concrete shall be subject to rejection and replacement, at no additional cost to the Department."

502.194 Pay Adjustments for Compressive Strength, Chloride Permeability and Air Content, Methods A and B

Remove the word "Chloride" from the section heading and from the equation for CPF.

502.195 Pay Adjustment Method C

In Table 6: Method C Pay Reductions (page 5-53)
Under "Entrained Air" for "Class Fill", in the first line,
change from "< 4.0 (Removal)" to **"< 4.5 (Removal)**"

In Table 6: Method C PAY REDUCTIONS, revise the Chloride Permeability section by removing it in its entirety and replacing it with:

Surface Resistivity {Permeability in Kohm-cms and Pay Reduction per CY}			
15-16 ($50)	13 ($25)	N/A	N/A
13-14 ($75)	12($50)	N/A	N/A
12 ($100)	11 ($75)	N/A	N/A
11 ($125)	10 ($100)	N/A	N/A
< 11 (Removal)	< 10 (Removal)	N/A	N/A

SECTION 503
REINFORCING STEEL

503.06 Placing and Fastening Revise this Subsection by removing, in its entirety, the paragraph which begins, "Stainless steel reinforcement shall not be tied to any other type of reinforcement……"

SECTION 504
STRUCTURAL STEEL

504.06 Inspection Revise this section by removing the last sentence in the first paragraph which reads "Make the results of all measurements and testing available to the QAI." And replace with "**Provide a copy of all measurements and testing to the QAI**."

504.08 Rejections Amend this section by adding the following sentences to the end of the 1st paragraph: "**Structural Defects: Repair structural defects only with the approval of the Fabrication Engineer. Submit a nonconformance report (NCR) to the Fabrication Engineer with a proposed repair procedure. Do not perform structural repairs without an NCR that has been reviewed by the Fabrication Engineer. Give the QAI adequate notice prior to beginning structural repairs**."

504.13 Unpainted Steel Revise this section by removing the third sentence which reads "Clean steel that is abrasive-blast cleaned prior to fabrication in accordance with SSPC-SP 1 Solvent Cleaning after fabrication is complete." And replace it with: "**Clean steel that is abrasive cleaned prior to fabrication in accordance with SSPC-SP 6 shall be cleaned in accordance with SSPC-SP 1 Solvent Cleaning after fabrication is complete.**"

504.26 Welding Remove the second paragraph beginning with "The range of heat…." in its entirety.

504.29 Welding ASTM A 709 HPS 70W Steel. Remove the third paragraph beginning with "Make Weld runoff tabs…" in its entirety.

504.55 Field Welding Revise the first paragraph by replacing the word "Resident" with "**Fabrication Engineer**".

504.60 Holes for Base Plates Revise this section by removing the second sentence and replacing it with "**The roughness shall not exceed condition of AWS C4.1-77, Sample 4**."

504.64 Non Destructive Testing-Ancillary Bridge Products and Support Structures Revise the first sentence under number 1 by adding "**fillet or partial penetration welds on**" between the words "of" and "each" so the first sentence reads " Examine ten percent of fillet or partial penetration welds on each production lot using Magnetic Particle (MT) inspection".

SECTION 506
SHOP APPLIED PROTECTIVE COATING - STEEL

Revise this section by removing the subsection THERMAL SPRAY COATING entirely and replace with: THERMAL SPRAY COATING

506.30 Description This work shall consist of surface preparation and application of Thermal Spray Coatings (TSC) in accordance with the Plans and this Specification. Application of TSC to steel substrate shall be done in accordance with requirements, recommendations and appendices of the current Joint Standard *NACE NO. 12/AWS C2.23M/SSPC-CS 23.00, Specification for the Application of Thermal Spray Coatings (Metallizing) of Aluminum, Zinc, and Their Alloys and Composites for the Corrosion Protection of Steel* (The Standard) and this Specification.

The applicator shall have a minimum of five years of experience and shall provide copies of application procedures, operator qualifications, QC Manuals and repair procedures.

506.31 Submittals Submit an application procedure and QC Plan for review by the Department prior to beginning work. Submit a certified analysis of the feedstock to the Department. Submit sample copies of QC records for review. Submit copies of applicator qualifications, job history, etc. Provide the name and qualifications of the QCI.

506.32 Surface Preparation Prior to abrasive blast cleaning, round all corners exposed in the assembled product to approximately a 3/32 inch radius. A series of tangents to the approximate radius will be considered acceptable. Remove hardened condition on thermal cut surfaces. Abrasive blast clean all surfaces to be coated in accordance with The Standard and *SSPC-SP 5, White Metal Blast Cleaning* (SP 5). Use SSPC-VIS. 1 as a visual standard to determine acceptable cleanliness. Inspect the substrate immediately before spray application.

The anchor profile shall be per The Standard (minimum 2.5 mils). Measure and record the anchor profile in accordance with *ASTM D4417 Method B or C (Replica Tape) or both* on each plane to be sprayed or at 120 ° intervals on pipe or tube. Measure at the frequency in The Standard. Angular blast media shall conform with The Standard. If the anchor profile fails to meet the minimum required profile, re-blast the substrate until the required anchor profile is achieved.

If compressed air is used for abrasive blast cleaning, perform a blotter test in accordance with *ASTM D4285* at the beginning of each shift. Empty moisture traps at the beginning of each shift and at any time thereafter when moisture appears to be present on the substrate. Notify the QAI prior to performing the test in order that the QAI can witness the blotter test.

506.33 TSC Requirements The coating thickness shall be a minimum of 14 mils. The DFT on faying surfaces shall not exceed the thickness tested for Class B slip coefficient rating. The TSC shall have a minimum tensile bond per The Standard. Test the tensile bond in accordance with ASTM D4541. The frequency of testing shall be per The Standard. The test

location will be as directed by the QAI. The specified tensile force shall be applied to the TSC and removed. If the test does not reveal a failure of the TSC, the tensile bond shall be considered acceptable. Repair or recoat unacceptable work. Tensile testing may be performed on witness panels coated by each technician on each shift TSC is applied; notify the QAI so witness panel coating may be observed.

Perform a bend test as described The Standard, at the beginning of each shift. If the bend test fails, take corrective action and perform another test. After performing the bend test successfully a number of times, the Fabrication Engineer may reduce the frequency of testing. Document the results of the tensile bond test and bend test and provide the results to the Department. Satisfactory bend test results with 7-12 mils thickness will be acceptable.

The TSC shall have a uniform appearance, free from blistering, cracks, loose particles, or exposed steel substrate when examined with 10-X magnification.

506.34 TSC Application Record the batch and lot numbers of the consumables. Measure ~~the~~ environmental conditions in the immediate vicinity of ~~the~~ piece(s) being coated during the coating operation and during the entire cure period for intermediate and top coat. Provide two data loggers capable of measuring ambient humidity and temperature. The data loggers shall come with software that can download the data onto a computer. Print out the data and provide a copy to the QAI for review prior to applying the subsequent coat of paint. Place the data loggers in the immediate vicinity of the coating operation during the entire application and curing cycle. The data will be used to determine that the cure/recoat time requirements for each coat have been met. Failure to comply will result in the coating being cured for the maximum time necessary to assure adequate cure as determined by the Fabrication Engineer.

506.35 Seal Coat and Top Coat Application (Paint) Apply a wash primer and/or seal coat of 2 to 3 mils thickness. The seal coat shall be compatible with an epoxy intermediate coat and a polyurethane top coat from the NEPCOAT QPL. Provide certification of compatibility between the seal coat and intermediate coat from the intermediate coat/top coat manufacturer. Top flanges of beams requiring shear connectors shall receive a seal coat only.

506.36 Materials Provide materials in accordance with 506.11.

506.37 Mixing and Application Mix and apply in accordance with 506.14.

506.38 Dry Film Thickness Measure and record the DFT in accordance with 506.15.

506.39 Touch-up and Repairs Repair damage to TSC by re-blasting the damaged area and re-applying TSC in accordance with this Specification. Perform touch-up and repairs to paint in accordance with 506.16.

SECTION 507
RAILINGS

507.07 Aluminum Bridge Railing Amend the paragraph beginning with "Welding shall be done in conformance…" by adding after "Aluminum D1.2" the words "(AWS D1.2)" . Add the following as a new paragraph after this paragraph:

"**All welds shall be inspected and conform with AWS D1.2, Clause 5, Inspection. 100% of welds shall be visually examined (VT). In addition to VT, 10% of all partial joint penetration (PJP) and fillet welds shall be dye penetrant tested (PT); locations to be PT examined will be designated by the QAI. 25% of complete joint penetration (CJP) welds shall be either, ultrasonic tested (UT) or PT based on the thinner material in the welded joint; joints with thinner material thicknesses less than 0.25 inch shall be PT examined and joints with thinner material thickness equal or greater than 0.25 inch shall be UT examined. Locations to be UT examined will be designated by the QAI. Extent of testing shall conform with AWS D1.2, Clause 5**."

SECTION 510
SPECIAL DETOURS

510.032 Geometric and Approach Design a. Horizontal alignment
The third paragraph of this section is revised to read as follows:

"The roadway width shall be increased on curved portions of the Special Detour to account for the off tracking characteristics of WB-62 vehicle in accordance with **the AASHTO publication A Policy On Geometric Design of Highways and Streets (the Green Book), chapter 3 table entitled Design Widths of Pavements for Turning Roadways."**

SECTION 527
ENERGY ABSORBING UNIT

527.02 Materials This section is revised to read as follows.

527.02 Materials Work Zone Crash Cushions must comply with NCHRP Report 350. Work Zone Crash Cushions shall be selected from MaineDOT's Qualified Products List of Crash Cushions / Impact Attenuators, or an approved equal.

SECTION 534
PRECAST STRUCTURAL CONCRETE

534.14 Process Control Test Cylinders
Revise this subsection to read:

"**534.14 Acceptance and Quality Control Testing of Concrete Refer to Section 712.061**."

534.20 Installation of Precast Units revise this section by removing the first two paragraphs and replacing them with:

534.20 Installation of Precast Units **When footings are required, install the precast units on concrete footings that have reached a compressive strength of at least 3,000 psi. Construct the completed footing surface to the lines and grades shown on the Plans. When checked with a 10 foot straightedge, the surface shall not vary more than one-quarter inch in 10 feet. The footing keyway shall be filled with a Department-approved non-shrink flowable cementitious grout with a design compressive strength of at least 5,000 psi.**

Three sided frame and box culvert joints shall be sealed with a Department-approved flexible joint sealant in accordance ASTM C990. Joints shall be closed tight. Culvert units shall be equipped with joint closure mechanisms to draw units together and close joints to the required opening.

SECTION 535
PRECAST, PRESTRESSED CONCRETE SUPERSTRUCTURE

Section 535.08 – Quality Assurance

Revise the second paragraph to read:

"The QAI will perform acceptance sampling and testing and will witness or review documentation, workmanship and testing to assure the Work is being performed in accordance with the Contract Documents."

Section 535.15 - Process Control Test Cylinders

Revise the first paragraph to read:

"**535.15 Acceptance and Quality Control Testing of Concrete** **Acceptance of structural precast/prestressed units, for each day's production, will be determined by the Department, based on compliance with this specification and satisfactory concrete testing results. At least once per week, the QAI will make 2 concrete cylinders (6 cylinders when the Contract includes permeability requirements) for use by the Department; cylinders shall be standard cured in accordance with AASHTO T23 (ASTM C31). The QAI will perform entrained air content and slump flow testing, determine water-cement ratio and determine temperature of the sampled concrete at the time of cylinder casting. All testing equipment required by the QAI to perform this testing shall be provided in accordance with Standard Specification Section 502.041, Testing Equipment. In addition, the Contractor shall provide a slump cone meeting the requirements of AASHTO T 119. Providing and maintaining testing and curing equipment shall be considered incidental to the work and no additional payment will be made."**

Insert the following as the second paragraph of Section 535.15:

"Quality Control concrete test cylinders shall be made for each day's cast and each form bed used. Cylinders tested to determine strand release strength and design strength shall be field cured in accordance with AASHTO T23 (ASTM C31). 28 day cylinders shall be standard cured. Record unit identification, entrained air content, water-cement ratio, slump flow and temperature of the sampled concrete at the time of cylinder casting."

SECTION 603
PIPE CULVERTS AND STORM DRAINS

603.02 Materials Amend this section by adding the following two paragraphs to the end:

"Reinforced Concrete Pipe (RCP) with inside diameters of 10 ft. (120in) or greater shall be designed, fabricated and accepted in accordance with Section 534- Precast Structural Concrete.

All Pipes or Culverts with inside diameters of 10 ft. (120in) or greater shall be designed using the current version of the AASHTO LRFD Bridge Design Specifications with Maine Modified HL-93 for Strength 1."

SECTION 604
MANHOLES, INLETS CATCH BASINS

604.04 Adjusting Catch Basins and Manholes**,**

Add the following paragraph to the end of 604.04 b:

The Department will allow the use of metal ring inserts set into the manhole top frame or composite risers placed beneath the manhole frame to adjust manhole slope and grade for paving projects. The use of metal ring inserts shall be in accordance with 604.04 d. Ring Insert Requirements. The use of composite risers shall be in accordance with 604.04 e. Composite Riser Requirements.

Add the following paragraph after the first paragraph of 604.04 c:

The Department will allow the use of metal ring inserts set into the manhole top frame or composite risers placed beneath the manhole frame to adjust manhole slope and grade for paving projects. The use of metal ring inserts shall be in accordance with 604.04 d. Ring Insert Requirements. The use of composite risers shall be in accordance with 604.04 e. Composite Riser Requirements.

Add the following sections to 604.04:

d. Ring Insert Requirements Ring inserts to adjust manhole top frame slope and grade will are allowed in accordance with the following requirements:

1) **Materials**

   i. **All ring inserts must be made of iron. *Multiple ring inserts will not be allowed.* The single ring insert may be any height up to a maximum of 2 inches tall.**

ii. Ring inserts shall not be welded to the manhole frame to prevent brittle failure of the cast iron frame.

iii. Ring inserts shall be fastened to the manhole frame using liquid steel-filled epoxy such as Loctite Fixmaster Steel Liquid or equivalent. The epoxy shall be installed in accordance with the manufacturer's recommendations.

2) Where Ring Inserts May/May Not Be Used

i. MaineDOT will allow the use of a single manhole ring insert to raise manholes on state and state-aid highways.

ii. *Manhole ring inserts may not be used along state and state-aid highway sections where the speed limit is 40 miles per hour or more.* The standard brick and mortar or flat composite risers beneath the manhole frame must be used at these locations.

3) Construction Requirements For The Use of Iron Manhole Ring Inserts

i. Wherever iron ring inserts are used to raise manhole top elevations, the rings shall be fastened to the existing manhole frame using liquid steel-filled epoxy. The liquid steel-filled epoxy shall be placed evenly around the entire manhole frame before placing the ring insert. *Unbonded ring inserts will not be allowed*. If the manufacturer's recommended construction practices result in loose or unacceptable manhole cover restraint, standard brick and mortar or flat composite risers beneath the manhole frame must be used at these locations.

e. Composite Riser Requirements Flat or beveled, doughnut-shaped, composite risers placed beneath the manhole frame to adjust slope and grade are allowed. The composite riser shall be fastened to both the top of the concrete cone and bottom of the manhole frame with the manufacturer's recommended epoxy. Composite risers may be used at all locations on state and state-aid highways under any legal speed limit without restriction.

SECTION 606
GUARDRAIL

606.09 Basis of Payment Amend the first sentence of the eighth paragraph of this subsection by removing the word "meter" and replace it with "linear foot".

SECTION 608
SIDEWALKS

608.021 Sidewalk Materials Revise this section by removing the second paragraph which begins with "Portland cement concrete shall…" in its entirety and replace with **"Portland cement concrete shall be Class A and meet the requirements of Section 502, Structural Concrete."**

SECTION 609
CURB

609.03 Vertical Stone Curb, Terminal Section and Transition Sections and Portland Cement Concrete Curb, Terminal Sections and Transition Sections
Amend this section by adding the following paragraph to the end of it:
"The Contractor may elect to substitute concrete to backfill Stone Curbing or Stone Edging at their option. If the concrete backfill option is elected, the following is added to Standard Specification 609 – Curb"

609.02 Materials Amend this section by adding the following to it:

Portland cement and Portland Pozzolan Cement	**701.01**
Water	**701.02**
Fine Aggregate for Concrete	**703.01**
Coarse Aggregate for Concrete	**703.02**

The Contractor shall submit a concrete mix design for the Portland Cement Concrete to the Resident, with a minimum designed compressive strength of 3000 psi Class Fill concrete.

609.10 Basis of Payment Revise by changing the fifth paragraph which begins with "There will be no separate payment…" this section by removing the word "cement" and replacing it with "**concrete fill, mortar**".

SECTION 619
MULCH

619.07 Basis of Payment Amend this section by adding the words "**; Bark Mulch and Erosion Control Mix will be paid for by the Cubic Yard;**" into the first sentence so that it reads:

"The accepted areas mulched will be paid for at the contract price per unit**; Bark Mulch and Erosion Control Mix will be paid for by the Cubic Yard;** which shall be full compensation for furnishing and spreading the hay or straw and mulch binder, cellulose fiber mulch, bark mulch or erosion control mix.

Revise the second sentence by removing " **for pay item 619.1201"** So that it reads:

"When Mulch is measured in Bales, each bale will be paid for at 60% of the contract price per Unit".

Revise this section by removing all pay items and replace them with the following:

619.12 Mulch	**Unit**
619.13 Bark Mulch	**Cubic Yard**
619.14 Erosion Control Mix	**Cubic Yard**

SECTION 621
LANDSCAPING

621.0002 Materials - General
In the list of items change "Organic Humus" to "**Humus**".

621.0019 Plant Pits and Beds

c Class A Planting
In the third paragraph beginning with " The plant pit…" change "½ inch" to "**1 inch**"

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

626.02 General Amend the Material list by adding the following to the list:

Gravel Borrow	703.20

Revise the Material List by removing:

Prewired Conduit	715.04
Metallic Junction and Fuse Box	715.05

626.021 Miscellaneous Material Amend this section by adding the following to the end of it:

"**All concrete for concrete encasement of conduit shall be Fill Class concrete in accordance with the applicable requirements of Section 502 – Structural Concrete."**

Amend the third paragraph that begins with "If grouting is necessary…" by adding "**included on the Qualified Product List and**" after the word "material".

626.03 General Amend this section by adding the following section to the end of it

"626.0301 Electrical Supply Lines and Service Connections The following requirements shall apply to Electric Supply Lines and Service Connections feeding traffic signalization equipment control boxes and lighting breaker boxes.

Whenever possible, the meter and breaker panel feeding traffic signal control boxes or lighting control boxes shall be constructed within 30 feet of the service drop pole.

All underground service connections that are constructed in trenches and carrying Secondary Utility Power to a MaineDOT meter and breaker panel, or, directly to MaineDOT traffic signalization control cabinets or lighting breaker boxes shall be in Rigid Metal Conduit or concrete encased PVC conduit.

Where trenchless technologies are employed to install the service connection conduit, Schedule 120 PVC conduit shall be used for the trenchless bore section of conduit. In addition, concrete encasement shall be used for any PVC conduit placed in trench sections and carrying Secondary Utility Power more than 10 feet before or after the limits of the trenchless bore conduit.

The construction practices described above shall be used for service connections up to a maximum of 600 feet. There may be rare exceptional cases where the service connection must exceed 600 feet. In these cases, the power companies may require primary power be run over 600 feet for the purpose of power consumption and dependable service. These cases will be evaluated on a case-by-case basis for alternate power feed methods and/or the need for steel or concrete encased conduit."

626.031 Conduit Revise this section by removing the second paragraph which begins with "Trenches for conduits…" and replace it with the following:

"**Trenches for conduits shall be excavated to a width that will permit proper installation of the conduit and to a minimum depth of 3 feet below finish grade as measured from the top of the conduit. If deeper depths are required, the conduit shall be installed at the depth shown on the plans or as directed. Conduit shall not interfere with poles, guardrail posts, sign foundations or other objects."**

Amend the third paragraph which begins with "All junction or pull boxes…" by adding "**concrete, in accordance with the applicable requirements of Section 502 – Structural Concrete,**" after Class LP.

Revise the fifth paragraph which begins with "After the trench has been…" by adding the following to the end of it:

"**Where concrete encasement is required around the conduit, backfilling with approved material may begin adjacent to and above the encased conduit no sooner than 24 hours after concrete placement."**

Remove the following:

"**All underground conduit shall be placed to at least the depth shown on the plans and shall not interfere with poles, guardrail posts, sign foundations or other objects."**

Revise the paragraph beginning with "All conduit ends shall…" by removing "Prewired Conduit shall be sealed during construction to prevent entry of moisture, dirt, or rocks."

626.033 Polyvinylchloride Conduit Installation Amend the first paragraph of this section which begins with "Polyvinylchloride conduit and High Density…" by adding the following to the end of it:

"**In addition, PVC conduit used for Electrical Supply Lines and Services constructed as underground service connections in trenches and carrying Secondary Utility Power to a MaineDOT meter and breaker panel, or, directly to MaineDOT traffic signalization control cabinets or lighting breaker boxes shall be concrete encased. When trenchless technologies are used to install PVC conduit, concrete encasement shall not be required.**

Concrete encasement shall consist of a minimum of 4 inches of concrete above, below and on both sides of the conduit that shall have a minimum compressive strength of 3000 psi and a maximum aggregate size of 1-inch (Fill Class concrete). The concrete encasement may be backfilled no sooner than 24 hours after placement. "

"NON-METALLIC UNDER PAVEMENT CONDUIT INSTALLATION

Where noted on the drawings, non-metallic under pavement conduit of schedule 80 or greater rating shall be provided to facilitate conduit crossing of the existing highway and ramps without disruption to the existing highway and ramp pavement surface. The non-metallic under pavement conduit shall be hydraulically jacked or directional bored below the highway and ramp at a depth of not less than (36 inches). Under pavement conduit shall extend for a distance of (10 feet) beyond the highway or ramp edge at each side."

Amend the sixth paragraph which begins with "Where PVC conduit runs are…" by changing "3 inch minimum bedding" to "**6 inch minimum bedding**".

626.034 Concrete Foundations

Revise this section by removing the third paragraph which begins with "In the absence of Design Requirements…" in its entirety and replace with the following:

"In the absence of design requirements being provided on the plans, the Contractor shall prepare and submit the foundation design(s) to the Department for review. The Contractor may propose an alternate shallow spread footing or drilled shaft configuration/design than that set forth on the drawings. Design shall be in accordance with AASHTO LRFD Specifications for Structural Supports for Highway Sign, Luminaires and Traffic Signals, current edition; AASHTO LRFD Bridge Design Specifications, current edition; and FHWA-NHI-10-016 Drilled Shafts, Construction Procedures and Design Methods, current edition. Where conflicting requirements occur, the more stringent requirements shall govern. In addition to other design requirements, foundation design shall account for Torsion for which a

minimum Factor of Safety equal to 1.2 shall be achieved. In evaluating axial capacity and torsional resistance in cohesionless soils, load transfer coefficient or side resistance coefficient (beta, β) will be used in accordance with Subsection 13.3.5.1 of FHWA-NHI-10-016, with beta determined in accordance with Equations 13-13 and 13-11 for silty sands to sandy silts (with varying amounts of gravel). The design criteria for the resistance of drilled shaft and spread footing foundations against overturning, sliding and bearing capacity failure shall meet the requirements of Section 4 of AASHTO LRFD Bridge Design Specifications, current edition. The structural design of foundations shall meet the requirements of AASHTO LRFD Bridge Design Specifications, current edition. The Contractor shall submit to the Department for review, three (3) copies of detailed plans and calculations of the proposed design. Design shall be prepared and sealed by a Professional Engineer licensed in the State of Maine. Construction of foundation(s) shall not commence until the Department has reviewed the foundation design."

On Page 6-85, add the following paragraph before the paragraph beginning with "Drilled shafts shall not be…".

" No foundation design will be required for 18- and 24-inch diameter foundations for structures less than 30-feet tall and with no projecting arms. A foundation design prepared by a Professional Engineer licensed in accordance with the laws of the State of Maine will be required for all other foundations Precast foundations will be permitted for 18 and 24-inch diameter foundations for structures less than 30-feet tall and with no projecting arms. Where precast foundations are permitted flowable concrete fill shall be used as backfill in the annular space, and placed from the bottom up. Construction of precast foundations shall conform to the Standard Details and all requirements of Section 712.061 except that the concrete shall have a minimum permeability of 17 kOhm-cm and the use of calcium nitrite will not be required. "

On Page 6-86, Revise the paragraph beginning with "Concrete for drilled shafts…" so that a portion of it reads as follows:

"….The Contractor shall provide temporary dewatering of excavations for foundations such that concrete is placed in the dry. **Concrete for drilled shafts shall be placed in accordance with Section 502.10 as temporary casing is withdrawn to prevent debris from contaminating the foundation and to ensure concrete is cast against the surrounding soil. Concrete for drilled shafts and spread footings shall be Class LP in accordance with Section 502 - Structural Concrete. Precast foundations will not be permitted except as specified above in this Section.** Backfill for spread footing foundations shall be Gravel Borrow meeting the requirements of Section 703.20 - Gravel Borrow….."

626.05 Basis of Payment Amend this section by removing the following paragraphs:
The one which starts with "Payment will be made for the total number of linear feet of prewired conduit…"
The one which starts with "Prewired conduit within the foundations…"

Amend this subsection by adding the following paragraph and Pay Items:

"**Payment will be made for the total number of linear feet of under pavement conduit actually furnished, installed and accepted at the contract price per linear foot. This price shall include the cost of: furnishing and installing the conduit; excavating; furnishing special backfilling materials, pull wire, fittings, grounding and bonding; test cleaning interiors of conduits and all materials, labor, equipment and incidentals necessary to complete the work**."

Pay Item		**PayUnit**
626.221	**Non-metallic Conduit, Concrete Encased**	**Linear Foot**
626.251	**Non-Metallic Under pavement Conduit (Schedule 80 or greater rating)**	**Linear Foot**

Remove the following Pay Items:

626.23	Prewired Conduit Secondary Wiring	Linear Foot
626.24	Prewired Conduit Primary Wiring	Linear Foot

SECTION 627
PAVEMENT MARKINGS

Revise this section by removing it in its entirety and replacing with the following:

627.01 Description This work shall consist of furnishing and placing reflectorized pavement lines and markings, removing pavement lines and markings, and furnishing and applying reflectorized paint to curbing in reasonably close conformity with the plans and as designated.

627.02 Materials Materials shall conform to the requirements specified in the following Sections of Division 700 - Materials.

Pavement Marking Paint	**708.03**
Reflectorized Plastic Pavement Marking	**712.05**

Temporary Bi-directional Yellow Delineators shall be Temporary Object Markers (T.O.M.) as manufactured by the Davidson Plastic Company, 18726 East Valley Highway, Kent, WA 98031 or an approved equal.

627.04 General All pavement lines and markings shall be applied in accordance with the latest edition of Manual on Uniform Traffic Control Devices.

Longitudinal lines placed on tangent roadway segments shall be straight and true. Longitudinal lines placed on curves shall be continuous smoothly curved lines consistent with the roadway alignment. All pavement markings placed shall meet the tolerance limits shown on the plans.

Unless otherwise shown on the plans, non-interstate lines shall be 4 inches wide and broken lines shall consist of alternate 10 foot painted line segments and 30 foot gaps. On controlled access divided highways and on the interstate system lines shall be 6 inches wide and broken lines shall consist of alternate 15 foot painted line segments and 25 foot gaps. Width tolerance shall be +/- ¼ inch.

Temporary pavement marking lines, defined in Special Provision Section 652, Maintenance of Traffic, Temporary Centerline, will be applied as many times as necessary to properly delineate traffic lanes for the safe passage of traffic. Bi-directional delineators may be used in place of temporary lines, except where specified otherwise in Special Provision 652 Maintenance of Traffic, Temporary Centerline. Delineators will be applied at 40 foot intervals.

In overnight lane closure areas that are not to be overlaid, temporary plastic lines or raised pavement markers shall be used through the length of the taper.

Newly painted lines, markings and curb shall be protected from traffic by the use of cones, stationary vehicles or other approved methods until the paint is dry.

627.05 Preparation of Surface Immediately before applying the pavement marking paint to the pavement or curb, the surface shall be dry and entirely free from dirt, grease, oil, or other foreign matter.

Surface preparation for application of plastic markings shall conform to the manufacturer's recommendations.

627.06 Application Prior to applying paint for final pavement lines, the Contractor shall perform a test for paint thickness by furnishing and placing a piece of smooth, clean metal with an area of at least 144 in² in the path of the striping truck. The striping truck shall be passed over the piece of metal, painting the surface as it passes, without applying beads. The result of this test will be used to determine the pressure setting and speed of the truck when applying paint to obtain the specified thickness. Additional paint thickness testing may be required on the final paint markings. The wet thickness of paint without beads on final pavement lines shall be a minimum of 16 mils.

On other final pavement markings and on curb, where the paint is applied by hand painting or spraying, application shall be in two uniform covering coats, each at least 10 mils thick. Before the second coat of paint has dried, the glass beads shall be applied by a pressure system that will force the glass beads onto the undried paint as uniformly as possible.

Glass beads shall be applied to the final and temporary pavement lines, marking and curb at a sufficient rate and in sufficient quantity to assure complete and uniform coverage of hand painted surfaces and achieve proper reflectivity.

Permanent and temporary white lines and markings shall have a minimum final reflectivity value of 250 millicandelas per square meter per lux (mcd/m²/lux) and permanent and temporary yellow lines and markings shall have a minimum final reflectivity value of 150

millicandelas per square meter per lux (mcd/m²/lux), as measured by the Department. Measurements taken to determine reflectivity shall be done within 4 weeks after final placement.

If the final reflectivity values are less than the described minimums, the Contractor shall repaint those areas not meeting required reflectivity at no cost to the Department. If the final reflectivity values are less than the described minimums after the second attempt, the Contractor will submit in writing a plan of action to meet the reflectivity minimums prior to continuing any work. Once the plan has been reviewed and approved by the Department, the Contractor shall re apply at no cost to the Department.

Temporary painted lines and markings shall be applied as specified for permanent painted lines, except that the thickness shall be a minimum of 16 mils.

Temporary pliant polymer marking material shall be used for temporary markings on the final pavement and on pavements not to be resurfaced when such pavement markings do not conform to the final pavement markings pattern.

The plastic final pavement lines and markings shall be applied in accordance with the manufacturer's recommendations by the inlay method of application.

627.07 Establishment Period Inlaid plastic pavement lines and marking material furnished and installed under this contract for final pavement markings shall still be subject to a six-month period of establishment.

The period of establishment shall commence as soon as the plastic pavement lines and markings are complete and in place and shall continue for six months. At the end of the establishment period, a minimum of 95% of the plastic pavement lines and markings shall still be in place to be acceptable.

If less than 95% of the plastic pavement lines and markings are in place after six months, the Contractor shall replace all unsatisfactory plastic pavement lines and markings on the project without additional payment. Plastic pavement lines and markings designated for replacement shall be installed according to these specifications, unless otherwise directed. Plastic pavement lines and markings replaced at the end of the six month establishment period will not be subject to a further establishment period.

627.08 Removing Lines and Markings When it is necessary to remove pavement lines and markings, it shall be done by high pressure water, grinding or other approved acceptable means. The method chosen must be capable of completely eradicating the existing line or marking without excessive damage to the pavement. Burning and the use of solvents to remove temporary markings from final pavement or from existing pavement not to be resurfaced will not be permitted.

627.09 Method of Measurement The quantity of pavement marking lines identified in the contract as a plan quantity pay item, the measurement of payment will be the number of

feet shown in the Schedule of Items. This quantity will be considered final and no adjustments will be made except when changes resulting in increases or decreases are made by the Resident.

The accepted quantity of temporary or permanent pavement marking lines when identified in the contract as a linear foot item shall be measured and paid for at the contract unit price per linear foot for the total amount applied and accepted.

Double yellow centerline, broken or solid, will be considered one line for measurement purposes. The measurement of broken lines will include the gaps when painted and will not include the gaps when plastic. Double Yellow Centerline, broken or solid shall not be paid through intersections or side roads and will be paid for the actual length of painted line.

Broken white lines will include the gaps when painted and will not include the gaps when plastic inlaid pavement lines are applied. Yellow or white solid edge lines and will not be paid through intersections or side roads and will be measured by the actual length of painted line.

Temporary pavement marking lines shall not be paid through intersections or side roads and will be measured per linear foot of actual length of painted and accepted.

Reflectorized curb will be measured or computed by the square foot of curb surface actually painted and reflectorized.

The accepted quantity of removing existing pavement markings will be measured by the square foot.

Temporary Bi-directional Yellow Delineators will be measured by each unit, complete in place, maintained, and accepted.

<u>627.10 Basis of Payment</u> The accepted quantity of pavement marking lines identified in the contract as a plan quantity pay item will be paid for at the contract unit price for plan quantity. No adjustment will be made to the quantity for payment, except as described 627.09 Method of Measurement

The quantity of permanent or temporary pavement marking lines identified in the contract paid by the linear foot will be measured for payment as described under section 627.09 Method of Measurement.

All other permanent pavement markings will be paid for at the contract unit price per square foot in accordance with 627.09 Method of Measurement.

If allowed by Special Provision, the Contractor may utilize Temporary Bi-Directional Yellow and White (as required) Delineators. When utilized, payment will be made as temporary pavement marking lines, measured and paid at the contract unit price per linear foot. Such payment will include as many applications as required and removal.

Payment for final plastic pavement lines and markings will be made in two parts. The first payment of 75% will be made when plastic pavement lines and markings are placed. The payment of the remaining 25% will be made at the end of the establishment period for all plastic line and pavement markings accepted.

The accepted quantity of any pavement marking lines will be paid for at the contract unit price and will include as many applications as required and removal when required.

The accepted quantity of Temporary Bi-directional Yellow Delineators will be paid for at the contract unit price.

Payment will be made under:

Pay Item		Pay Unit
627.18	12 inch Solid White Pavement Marking Line	Linear Foot
627.711	White or Yellow Pavement Marking Line - Plan Quantity	Linear Foot
627.733	4" White or Yellow Painted Pavement Marking Line	Linear Foot
627.744	6" White or Yellow Painted Pavement Marking Line	Linear Foot
627.75	White or Yellow Pavement & Curb Marking	Square Foot
627.77	Removing Existing Pavement Marking	Square Foot
627.78	Temporary 4" Painted Pavement Marking Line, White or Yellow	Linear Foot
627.781	Temporary 6" Painted Pavement Marking Line, White or Yellow	Linear Foot
627.407	Reflectorized Plastic, White or Yellow Pavement Marking	Square Foot
627.4071	Reflectorized Plastic, White or Yellow Pavement Marking Line - Plan Quantity	Linear Foot
627.811	Temporary Bi-directional Yellow Delineators	Each

SECTION 634
HIGHWAY LIGHTING

Revise this section by removing this section in its entirety and replace with the following:

634.01 Description **This work shall consist of furnishing and installing a highway lighting system or modifying or removing an existing highway lighting system, including the design of Light Standards, in accordance with these specifications and in reasonably close conformity with the plans.**

634.02 General **All material furnished by the Contractor shall be new unless otherwise specified. Substitutes for specified material may be accepted, upon approval of the Fabrication Engineer. Substitutes shall provide equal or better service. Where an existing system is to be modified, the existing material shall be removed, upgraded, or disposed of as shown on the plans or as directed.**

All electrical equipment shall conform to NEMA, UL, or EIA standards, wherever applicable. In addition, all materials and workmanship shall conform to the requirements of the NEC, the local electrical Utility Company, and all local ordinances, which may apply.

634.021 Materials Materials shall meet the requirements specified in the following Section of Division 700 - Materials:

Steel Conduit	**715.02**
Non-metallic Conduit	**715.03**
Prewired Conduit	**715.04**
Metallic Junction and Fuse Box	**715.05**
Secondary Wiring	**715.07**
Luminaires, Lamps and Ballast	**715.08**
Luminaires, Lamp and Ballast for High Mast Lighting	**715.09**
Photo Electric Control	**715.10**
Service Equipment	**715.11**
Lowering System for High Mast Lighting	**715.12**
Aluminum Supports	**720.01**
Aluminum Mast Arm and Bracket Arm	**720.02**
Steel Supports	**720.03**
Steel Mast Arm and Bracket Arm	**720.04**
High Mast Light Standard	**720.05**
Steel H-beam Poles	**720.06**
Anchor Bolts	**720.07**
Wood Ornamental Light Standard	**720.09**
Wood Utility Pole	**720.10**
Mast Arm for Wood Utility Pole	**720.11**
Breakaway Devices	**721.01**

Transformer enclosures shall conform to NESC requirements. They shall be approximately 46 inches high, 42 inches wide and 42 inches deep. Dimensions should be verified with the electrical Utility Company before ordering. Clearances shall be provided as required by the NESC. The enclosure shall be painted inside and outside with one coat of red iron-oxide primer and a finish coat of gray baked enamel. Doors shall be furnished with padlock lugs.

The electric portable power unit shall be a heavy-duty reversing electric motor for the voltage and frequency shown on the plans and shall have a remote control.

The following are the minimum requirements for the high mast lighting lowering system:

Ball bearing motor
Grounded frame
Torque limiter
Power unit mounting frame

Coupling to winch drive shaft
Remote control unit with cable
Cable with twist lock receptacle and plug for operator of power unit

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 hot-dipped galvanized in accordance with ASTM A153.

Screened sand for bedding and covering direct buried cables shall meet the requirements of Section 703.14, except that there shall be 0-10% passing the No. 200 sieve.

634.022 Equipment List and Drawings Unless otherwise permitted in writing, the Contractor shall submit for review a list of equipment and materials which is proposed to be furnished. The list shall include the name of manufacturer, size, and identifying number of each item and other necessary data, including detailed scale drawings, wiring diagrams of special equipment and any proposed minor deviations from the plans. If requested, the Contractor shall submit sample articles of the material proposed for use. All of the above data except sample articles, shall be submitted in duplicate. Following checking, correction, and approval, not less than two complete sets of approved drawings shall be submitted. The Department will not be liable for material purchased, labor performed, or work delayed before such review. Where electrical equipment is to be constructed as shown on the plans, the submission of detailed drawings and diagrams will not be required.

Upon completion of the work, the Contractor shall submit three complete sets of corrected plans showing all construction changes.

634.023 Miscellaneous Material Insulating tape shall be of the self-bonding type. Jacket tape shall be of the water-resisting type. Friction tape shall be rubber-impregnated, woven cotton fabric.

634.024 Light Standards The terms "conventional standard" or "conventional light standard" shall mean the assembled metal base flange, transformer base or breakaway device, metal columnar shaft, metal overhanging bracket arm and incidental hardware.

The term "high mast pole" shall mean the assembled base plate flange, metal columnar shaft, luminaire tenon, mounting and lowering device and incidental hardware. For purposes of this specification, a structure shall be considered a high mast pole if the pole height, from base plate to the center of the luminaire, exceeds 55 feet.

The design, materials and fabrication of Light Standards shall meet the requirements of the current edition of AASHTO "LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals" and interims thereto, as noted below except as otherwise indicated within these specifications or on the plans.

Light Standards with a luminaire mounting height in excess of 55 feet (high mast pole) shall be designed using the following criteria:

- **Basic wind speeds based on a 1700-year mean recurrence interval**
- **K_z as specified in Table C3.8.4-1 (Height and Exposure Factors)**
- **K_d as specified in Table 3.8.5-1 (Directionality Factors)**
- **G as 1.14, minimum (Gust Factor)**
- **C_d as specified in Table 3.8.7-1 (Wind Drag Coefficients)**
- **Fatigue Importance Category I with V_{mean} having a range of 9 mph < V_{mean} ≤ 11 mph.**

Light Standards with a luminaire mounting height of 55 feet or less shall be designed using the following criteria:

- **Basic wind speeds based on a 700-year mean recurrence interval**
- **K_z as specified in Table C3.8.4-1 (Height and Exposure Factors)**
- **K_d as specified in Table 3.8.5-1 (Directionality Factors)**
- **G as 1.14, minimum (Gust Factor)**
- **C_d as specified in Table 3.8.7-1 (Wind Drag Coefficients)**
- **Fatigue analysis is not required**

For structural design purposes the luminaire mounting height for roadside installation is defined as the distance from the center of luminaire to the base plate bottom. For Light Standards mounted on structures and approaches to structures, the luminaire mounting height shall be defined and measured as the distance of the center of the luminaire to one of the following:

a. For bridges over bodies of water Above the prevailing water level or, in the case of tidal waters, above mean high tide.

b. For overpass structures Above the lower roadway level.

c. For approach ramps Above the average adjacent ground level, if said ground level is more than 10 feet below the base of the light standard.

The design weight of luminaires shall be 60 pounds with an effective projected area of 2.5 ft², except that pole top-mounted luminaires shall have an effective projected area of 5.0 ft².

Light Standards mounted on a bridge structure or Light Standards fabricated with aluminum shall be equipped with an approved damping or energy-absorbing device.

Deflections of Light Standards and bracket arms shall be limited as follows:

a. Conventional Light Standards shall be able to support a 500 pound transverse load, applied at 18 inches below the pole top with a maximum deflection of 5% of the nominal pole length. A computer simulation or detailed computation using Service I load combination (as specified in the AASHTO LRFD Specification for Structural Supports for Highway Signs, Luminaires, and Traffic Signals) establishing a maximum of 7% deflection of the nominal pole length may be used as an alternate method.

b. Bracket arms shall be able to support a horizontal load, perpendicular to the axial vector of the arm, of 50 pounds and a concurrent vertical load of 100 pounds, both loads applied at the luminaire tenon, without developing a measurable permanent set.

c. High mast Light Standards shall have a maximum deflection of 7% of the nominal pole length under full design load when equipped with four luminaires.

Conformance to the above deflection criteria for Light Standards, bracket arms and high mast Light Standards shall be substantiated by detailed computations or computer simulation, accompanied by written methodology, or actual tests on materials produced for delivery under a Maine Department of Transportation contract.

The base plates of Light Standards shall have workable leveling nuts beneath and above them with flat washers against both nuts, when erected. The distance between the bottom of the base plate and top of the foundation shall not exceed twice the diameter of the anchor bolts. Grout, or other material, shall not be placed between the base plate and foundations.

Approval for deviations from the plans and/or specifications shall be requested in writing and shall be approved by the Fabrication Engineer before being incorporated in the manufacturer's drawings. Requests for substitution for all specified material shall be submitted in writing with full documentation (specifications, mill certifications, etc.) enabling the Department to evaluate the proposal.

A Certificate of Compliance shall be provided for all applicable materials noted in Section 634.021 – Materials, in accordance with the requirements of the General Statement of Division 700 Materials. Shop certification in accordance with Section 504.04 is required.

<u>634.025 Conventional Light Standards</u> After execution of the contract for conventional Light Standard(s), and before any shop work is commenced, the Contractor shall submit for approval the manufacturer's drawings of all standards and accessories proposed to be furnished and erected under this contract. The drawings shall be of sufficient detail to indicate material and/or dimensional conformance with these specifications and the plans. Each drawing shall contain a reference to the design criteria and certification that the design criteria have been met for the Light Standards, including bracket arms and associated hardware, fittings and breakaway devices, as submitted. A Professional Engineer licensed in accordance with the State of Maine regulations shall sign the certification under their official seal. The drawings shall use the same units as found in the project plans.

It is the intent of these specifications that the Contractor shall be fully responsible for the adequacy of the sizes, wall thickness, materials and connections of the Light Standards, including bracket arms and associated hardware, fittings and breakaway devices. Approval of the drawings will signify only approval of the material(s), mounting heights(s) and bracket arm length(s).

634.026 High Mast Light Standard For all high mast Light Standards, as defined in this Section, the Contractor shall submit for approval, in addition to the manufacturer's drawings, 3 sets of the design computations, including fatigue considerations consistent with AASHTO requirements. Approval of the drawings and computations will signify approval of all structurally significant details of the Light Standard and if any, the luminaire mounting and lowering device. All drawings and computations shall be signed by a Professional Engineer licensed in accordance with the State of Maine regulations. Approval will be based on the applicable provisions of Section 105.7.

The shaft shall be provided with an equipment access opening approximately 2 ft² and centered approximately 2 feet above the base. The access opening shall be reinforced to maintain the full design strength of the shaft and shall be provided with a hinged, removable, access door equipped with a vandal proof means of being locked in place. A positive means of internal grounding shall be provided inside of the access door.

All shaft sections shall be one plate thickness, except that a doubler plate may be used around the equipment access opening. The walls of polygonal shafts shall have an inside corner radius to wall thickness ratio not less than 2.

The Contractor may propose a galvanized and painted pole, in lieu of using weathering type steel. The steel shall be a base metal listed in the current edition of the AWS Structural Welding Code, D1.1. Paint color will be designated by the Fabrication Engineer. Galvanizing and surface preparation shall be in accordance with Section 504 and paint shall be a two-coat system designed for use on galvanized surfaces approved by the Engineer. The Contractor shall supply sufficient additional coating material and instructions for touchup work.

634.027 Breakaway Supports Breakaway supports, approved by the Engineer, shall be supplied for use at all locations designated as breakaway. Breakaway Support Certification of both breakaway and structural adequacy shall be provided by the Manufacturer. Design calculations or test data of production samples to support certification shall be provided. Breakaway support components shall provide the same or greater structural strength than the support post or pole utilizing the breakaway device. Breakaway couplings shall not be used in conjunction with transformer bases. Breakaway devices must include a reaction plate connecting all anchor bolts under the breakaway device. Poles containing conductors must contain a fusible breakaway device disconnecting all ungrounded conductors simultaneously

Breakaway devices are subject to the applicable provisions of Section 721 - Breakaway Devices.

634.03 General **The location of the roadway lighting systems and other incidental work will be shown on the plans. They are diagrammatic only, but shall be followed as closely as actual conditions at the site and the work of other Contractors will permit. As the work progresses, the drawings may be revised or supplemented by the Resident, and the Contractor shall perform the work required by such revisions or supplements without additional compensation, except as provided in Section 109.**

Work shall be scheduled to assure that each highway lighting system shall be completed and ready for operation upon completion of the corresponding section of the roadway or as specified in Special Provision 107.

Before proceeding with any work under this Contract, the Contractor shall conduct continuity and insulating tests to establish the integrity of cable runs already in place. The Contractor shall report all cable faults to the Resident. In cases faults are located while contract work is in progress and the Contractor does not report them, the Contractor will be responsible for correcting those faults without extra compensation.

634.031 Foundations **Foundations for Highway Lighting shall meet the requirements of Section 626 – Foundations, Conduit, and Junction Boxes for Highway Lighting, Traffic Signals, and Highway Lighting.**

634.04 Cable Installation **The Contractor shall pull all wires through conduits without overstressing or stretching any wire or scoring, cutting, twisting or damaging the protective covering or insulation. When pulling cable into conduits, if the strain on the cables is likely to prove excessive, the Contractor shall use soapstone powder or listed cable pulling lubricant as a lubricant. Where two or more cables are to occupy the same conduit, they shall be drawn in together and kept parallel to each other by the use of a pulling head. No aluminum wire shall be installed underground for primary and secondary wiring.**

Both ends of each length of cable shall be sealed to prevent the entrance of moisture during shipment or during outdoor storage. Defective and damaged cable will be rejected and shall be replaced at no cost to the State.

Secondary wiring shall be installed as shown on the plans. Secondary wiring shall not be spliced underground. Splicing shall only occur in above ground hand holes and transformer bases. The wire for secondary circuits, which is pulled through ducts, shall be fed slack from the feed end. Secondary wiring being pulled through a junction box shall be provided with enough slack for the center of the cable to be positioned a minimum of one (1) foot outside the top of the junction box

Cables in junction boxes shall be provided with enough slack for the center of the cable to be positioned a minimum of one (1) foot outside the top of the junction box and shall be arranged as directed. After cables have been installed, the end of each section of cable in Light Standards and panel boxes shall be carefully sealed with DAC Heavy Duty KWIK Foam Polyurethane Sealant, Minimum Expanding or an approved equal. Sealant shall penetrate a

minimum of four (4) inches into the conduit. All wiring shall be finished to provide a neat and orderly appearance. Ends of cable not connected to any device shall be insulated and sealed.

There will be no underground splicing of power conductors.

The trench for direct-buried cable shall be excavated to the width and depth shown on the plans or as directed.

Placement of the sand bedding shall be coordinated with the installation of the cables. After the cables and screened sand have been placed, the remainder of the trench shall be promptly backfilled with selected excavated material. Surplus material shall be disposed of as directed and the surface of the trench shall be loamed and seeded in accordance with Sections 615 and 618.

When connecting sockets, outlets and other similar equipment, the most accessible bare parts of each piece of equipment shall be connected to the grounded neutral. In order to ensure this has been done, each piece of equipment shall be tested after installation, under the supervision of the Resident, with a test lamp or other instrument, one leg of which has been connected to a definite ground, or by other approved means of testing.

All cables in junction boxes and Light Standards shall be tested for circuit connections, which shall be in conformity with those indicated on the plans. After verification of circuit connections, all cables in junction boxes, light standards and service panels shall be provided with individual metal tags, die-stamped with a phase designated A or B, as applicable. The tags shall be securely attached to the cables.

Splices to form continuous circuits shall be made by the Contractor and will only be permitted in accessible above ground locations. All other splices shall be made with approved crimp-type connectors.

Conductors shall not be pulled into conduit until pull boxes are set to grade, crushed rock sumps installed, grout placed around the conduit, concrete bottom of pull boxes placed and the metallic conduit bonded.

Where roadways are to remain open to traffic and existing lighting systems are to be modified, the existing lighting system shall remain in operation and the final connection to the modified circuit shall be made so that the modified circuit will be in operation by nightfall of the same day.

<u>634.05 Erecting Light Standard</u> To provide continuously aligned lamp post installations, Light Standards shall be located in accordance with the details governing the spacings and setbacks shown on the plans, unless otherwise directed.

The bracket arms shall be set normal to the edge of the roadway, unless otherwise directed. The bracket shall be assembled and attached to the shaft before the light standard is erected. If it is anticipated that there will be a period in excess of 24 hours between the erection of the

Light Standards and the installation of the luminaires, the Contractor shall install a weight, weighing between 50 to 75 pounds, at the outboard end of each bracket arm. This weight shall be designed and fastened in such a way that it will not pose a hazard to persons or vehicles passing beneath it.

Light Standards shall be erected in a vertical position, with a maximum deviation from the vertical of ¼ inch in 5 feet, using either the leveling nuts provided with the anchor bolts or the breakaway couplings. Once the Light Standard is in its final position, the top nuts shall be tightened as follows:

a. Anchor Bolts with Breakaway Couplings The manufacturer's recommendation shall be used.

b. Anchor Bolts without Breakaway Couplings the nut shall be tightened to snug tight condition by utilizing the full effort of a worker using a standard spud wrench or comparable tool. After all nuts have been brought to a snug tight condition, each nut shall be tightened an additional 1/3 turn using an impact wrench, torque wrench or large crescent wrench.

A minimum of 2 bolt threads shall project beyond the outside face of the nut.

Nuts for bolts other than anchor bolts shall be tightened as outlined under b. above, for anchor bolts.

The bottom of all transformer bases shall be coated with a bitumen-mastic, epoxy paint.

When foundations and anchor bolts for Light Standards have been installed by others, the Contractor shall verify the anchor bolt dimensions at each location so that bases will be furnished with the proper bolt holes.

Wires in the shaft shall be supported with a Kellum-type, braided, strain-relief grip attached to a "J" hook mounted inside the shaft near the top.

Wood Ornamental Light Standards shall be installed as shown on the plans.

634.051 Removing Light Standards Before removing Light Standards, the luminaires shall be removed from the Light Standards and disposed of as noted on the plans.

Care shall be exercised in removing and transporting the Light Standards. The Contractor will be required to replace, at their expense, all equipment damaged or destroyed by their operations.

634.052 Portable Power Unit for Lowering Luminaires The number of portable electric power units with remote control required for operation of the high mast luminaire lowering system, will be 1 for every 10 high mast poles, or as shown on the plans.

634.06 Luminaires **Luminaires shall not be installed until the lamp socket position has been inspected and approved for conformance with the manufacturer's recommended position for the specified distribution. All luminaires shall be adjusted to produce the maximum illumination on the roadway surface and shall be full IES cutoff.**

The connections between the luminaires and connector kits shall be made with single conductor, number 12 wires AWG copper stranded THHN, minimum size. A 14 inch long Teflon sleeve shall be placed over each end of each conductor in the luminaire.

Installation of a connector kit, fused or non-fused, shall be in accordance with the manufacturer's instructions to provide watertight connections.

634.061 Under-Bridge Lighting **Under-bridge lighting shall be installed in accordance with the plans and specifications, or as directed.**

Circuits shall be fused in fuse boxes with 5-ampere cartridge-type, midget fuses, ⅜ inch diameter and 1½ inches long, unless otherwise indicated on the plans. Wiring connections in the under-bridge lighting units shall be made with 300°F wire.

All under bridge lighting, luminaires shall be installed and adjusted for maximum illumination of the roadway surface. The beam angle shall be adjusted as indicated on the plans.

In vehicular undercrossings, underpass lights shall be placed in operation as soon as practicable after falsework has been removed from the structure. Lighting for pedestrian structures shall be placed in operation before opening the structure to pedestrian traffic.

634.08 Service **The Contractor shall install metal conduit riser with entrance cap, entrance switch, multiple control relay, and other equipment as shown on the plans.**

The lighting system will be supplied with electrical power by the local power company. The type of service will be single phase, three wire, 240/480 volt or the voltage indicated on the plans, 60 hertz, alternating current. The meter trim will include a bypass handle to allow the power company to change the meter without disconnecting the power. An external, standalone breaker capable of shutting off the lighting control cabinet or signals will be provided to disconnect power to the control cabinet. No power shall be routed in or out of the control cabinet before this breaker The power company will make all connections of the roadway lighting system cables at the power company's service pole. The Contractor shall notify the power company at least two weeks in advance of the time they intend to start construction at each of the sites and shall make all necessary arrangements with the power company for the required installation.

Roadway lighting cabinets shall be installed on stub poles with doors accessible from the roadway. All connections to equipment and terminals shall be neat and orderly conforming to the requirements specified.

Details for the fabrication and installation of service poles with cabinets and other equipment are shown on the plans.

Transformer enclosures used to protect overhead type transformers mounted on concrete pads shall be installed as shown on the plans. Transformers will be furnished by the power company.

All meter mounting devices shall be installed so that the meters will be upright (plumb). They shall be installed with the top of the meter not less than 48 inches nor more than 60 inches from the floor to the final grade. Exceptions to this height requirement will be made where special permission has been given to install group or modular metering, overall metering enclosures, or pole-mounted meters. Level grade shall be maintained for a minimum of 3 feet in front of the meter enclosure to provide a safe working space. In order to meet this requirement on uneven terrain, as an option, the Contractor may install a pressure-treated wood platform.

For any non-residential (industrial or commercial) self-contained meter socket the by-pass requirements are single phase, 100 or 150 amp, single handle lever operated.

The Contractor shall meet all requirements and regulations of Utility Companies when installing equipment on their poles and for the service connection. It is the responsibility of the Contractor to contact the appropriate Utility to determine their specific requirements.

634.081 Bonding and Grounding All metal conduit ends, Light Standards, luminaires, control cabinets, and exposed noncurrent carrying metal parts of fixed equipment shall be connected to the grounding conductor. All grounding and bonding shall conform to the current provisions of the NEC.

634.09 Testing Before acceptance of the work the Contractor shall cause the following tests to be made on all lighting circuits, by a licensed electrician. The tests do not need to be performed in the presence of the Resident, but the test results shall be recorded on the Highway Lighting Quality Control Check List and submitted to the Resident by the Contractor for acceptance. The form shall be signed by the licensed electrician certifying that the highway lighting meet the requirements of section 634.09.

a. Continuity Each circuit shall be tested for continuity.

b. Ground Each circuit shall be tested for grounds.

c. Resistance The resistance to ground on non-ground conductors shall be at least five megaohm at 60°F measured with a 1,000 volt megger. The ground resistance shall not be more than 25 ohms.

d. Voltage Voltage readings shall be made at each service pole, in the load contractor, with load and without load, and at each fixture with load.

e. Current Current readings shall be made on the load side of each load contractor phase and neutral. Readings shall be made at night with lighting systems in normal operation.

f. Test Data Electrical test data obtained from the above tests shall be furnished in writing.

g. Operational Test The Contractor shall conduct an operational test for the completed installation under normal operating conditions. This operational test shall have a duration of not less than two full days. The Resident shall be the sole authority to judge the adequacy of the length of the testing period in order to assure the satisfactory operation of the entire system or any of its sections. The work will not be accepted until the operational test has been successfully completed.

h. Functional Test With all equipment connected to the wiring system, a functional test shall be performed by the Contractor, in the presence of the Resident, to demonstrate that the system and all parts thereof function as specified. All defective materials or faulty installations shall be corrected by repairs or replacements by the Contractor to the satisfaction of the Resident at no additional cost.

Lighting circuits shall be subjected to such other tests as may be required and it shall be the responsibility of the Contractor to ascertain what tests are required and to perform these tests in the presence of the Resident. All tests shall be performed at the expense of the Contractor. Cost for power to conduct tests shall be paid by the Contractor.

634.091 Acceptance All systems shall be complete and in operation to the satisfaction of the Resident at the time of acceptance of the work.

The Contractor shall be responsible for the proper performance in service, in whole or in part, of the various lighting systems and all other electrical installations furnished and installed under this Contract and shall correct, at their own expense, all deficiencies in the operation which may arise prior to acceptance of the work. The Contractor shall be responsible for the cost of power until the work is accepted.

634.092 Method of Measurement Highway lighting system will be measured by the lump sum.

Light Standards will be measured by the single unit, complete in place and accepted.

The quantity of luminaires for high mast lighting will be measured by each single unit.

634.093 Basis of Payment The accepted quantity of Light Standards will be paid for at the contract unit price each for the number of units of the respective types. Payment shall be full compensation for the Light Standard and breakaway transformer base or breakaway device, bracket arm and all incidentals necessary to complete the work, including design of the Light Standards. Conduits, junction boxes, and foundations will be paid for under Section 626.

Payment for furnishing and installing luminaires for high mast lighting will be made for the accepted quantity at the contract unit price each, which shall include luminaire, ballast, lamp, and incidentals necessary to complete the work, including design of the high mast lighting.

The accepted highway lighting system will be paid for at the contract lump sum price for the complete lighting system shown on the plans, except that luminaires for high mast lighting and Light Standards will be paid for at the contract unit price each.

Lump sum payment for highway lighting system shall be full compensation for furnishing, installing and erecting: ballast, lamps, wiring in underground conduit, pole wiring, and all other wiring (except prewired conduit), transformer enclosures, luminaires (except luminaires for high mast lighting), break-away devices when applicable, all identification tags, and all materials, labor, equipment, tools, miscellaneous hardware and incidentals necessary to complete the work. Payment shall also include removing and resetting light standards, installing breakaway devices on existing poles, disposing of unused light standards, as noted on the plans, and for furnishing portable electric power units.

No separate payment will be made for bonding, grounding and ground rods; these costs shall be included in the contract price for conduit, light standards, service panels, or other items requiring bonding and grounding.

Trenching for direct buried cable will be incidental to highway lighting system and shall include excavating, furnishing and placing screened sand and backfilling.

Payment will be made under:

Pay Item		Pay Unit
634.160	Highway Lighting	Lump Sum
634.164	Luminaires for High Mast Lighting	Each
634.2041	Luminaires	Each
634.206	Light Standard for Post Top Luminaire	Each
634.207	High Mast Light Standard	Each
634.209	Wood Ornamental Light Standard	Each
634.210	Conventional Light Standard	Each

SECTION 643
TRAFFIC SIGNALS

Revise this section by removing this section in its entirety and replace with the following:

643.01 Description This work shall consist of furnishing and installing all equipment necessary for the erection and operation of a traffic signal, including traffic signal structures, flashing beacon,

temporary traffic signal or modification of a traffic signal, all in reasonably close conformity with the plans.

643.02 General All equipment shall be new unless otherwise specified. Requests for substitution of any specified material shall be submitted in writing with all documentation (specifications, mill certifications, etc.) in order to enable the Department to evaluate the proposal. Substitutes for specified material may be accepted upon approval by the Fabrication Engineer. Functionally, any substitute shall give equal or better service than the specified material. Existing signal equipment to be used shall be cleaned, repainted, and reconditioned as noted on the plans. All equipment, installation of equipment and other incidental work shall conform to the latest applicable provisions of: NEC, MUTCD, NESC, NEMA, and the ITE Standards for traffic control equipment. All work shall be done to the satisfaction of the Resident. The meaning of specific terms shall be as defined in MUTCD, NESC, and the ITE Standards for traffic control equipment.

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

Steel Conduit	715.02
Non-metallic Conduit	715.03
Prewired Conduit	715.04
Metallic Junction and Fuse Box	715.05
Secondary Wiring	715.07
Vehicular Signal Indications	718.01
Pedestrian Signal Indications	718.02
Signal Mounting	718.03
Vehicular Loop Detectors	718.04
Microwave Detectors	718.05
Pedestrian Detectors	718.06
Controllers	718.07
Controller Cabinet	718.08
Flasher	718.09
Program Selection	718.10
Contacts and Relays	718.11
Conductors	718.12
Aluminum Supports	720.01
Aluminum Mast Arm and Bracket Arm	720.02
Steel Supports	720.03
Steel Mast Arm and Bracket Arm	720.04
Anchor Bolts	720.07
Wood Utility Pole	720.10

643.022 Paint Aluminum paint shall conform to AASHTO M69, Type II. Green or yellow enamel paint, as indicated on the plans, shall meet or exceed the latest Federal Specification TT-E-489. The color shall match Federal Color Standard Number 14062.

643.023 Traffic Signal Structures The design, materials and fabrication of Traffic Signal Structures shall meet the requirements of the current edition of AASHTO "LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals" and interims thereto, as noted below except as otherwise indicated within these specifications or on the plans.

All poles and mast arms shall be designed using the following criteria:

- Basic wind speeds based on a 700-year mean recurrence interval
- K_z as specified in Table C3.8.4-1 (Height and Exposure Factors)
- K_d as specified in Table 3.8.5-1 (Directionality Factors)
- G as 1.14, minimum (Gust Factor)
- C_d as specified in Table 3.8.7-1 (Wind Drag Coefficients)
- Deflection requirements as specified in Section 10.4

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).

All Traffic Signal Structures with mast or bracket arms shall be equipped with an approved damping or energy-absorbing device.

After execution of the contract and before any shop work is commenced, the Contractor shall submit for approval the manufacturer's drawings, including design computations and fatigue computations, of all Traffic Signal Structures proposed to be furnished and erected under this Contract. The drawings shall be of sufficient detail to indicate material and dimensional conformance with these specifications and the plans. Each drawing shall contain a reference to the design criteria and a certification that the design criteria have been met for the Traffic Signal Structures, including poles, mast arms and associated hardware and fittings, as submitted. The certification shall be signed by a Professional Engineer licensed in accordance with State of Maine regulations under their official seal.

It is the intent of these specifications that the Contractor shall be fully responsible for the adequacy of the sizes, wall thicknesses, materials and connections of the Traffic Signal Structures, including poles, mast arms and associated hardware and fittings. Approval of the drawings by the Fabrication Engineer will signify only approval of the materials, mounting height(s) and mast arm length(s). Approval of deviations from the plans and/or specifications shall be requested in writing and approved by the Fabrication Engineer before being incorporated in the manufacturer's drawings.

The Contractor shall furnish and install all electrical fittings, pipe, switches, fuses, and such other material necessary to install the equipment properly and securely. All equipment shall conform to the applicable code and be of first-class workmanship. All electrical fittings shall be complete with weatherproof gaskets.

A Certificate of Compliance shall be provided for all applicable materials noted in Section 634.021 – Materials, in accordance with the requirements of the General Statement of Division 700 Materials. Shop certification in accordance with Section 504.04 is required.

643.024 Miscellaneous Materials Span wire shall be minimum $^{5}/_{16}$ inch diameter, minimum, 7 strand, extra-high strength, galvanized steel wire. Anchors shall be power installed and sized according to strain and soil conditions. All hardware, such as strand vise feed-thru dead ends, preforming guy grip dead ends and angle thimble-eye bolts, shall be standard pole line hardware.

Guying of poles shall meet the requirements of Grade "B" Construction as defined in the NESC. Guys shall be installed in line with the direction of pull. Anchors shall be power installed so that the centerline of the anchor rod will be within 10° of the line of the guy wire. The holding capacity of the anchor shall be 1.25 times the calculated load on the guy wire. Guy wires shall be utility grade and the maximum working stress shall not exceed half of the maximum ultimate tensile strength of utility grade guy strand. Where bedrock is encountered, rock anchors shall be used.

Pipe standoffs for sidewalk anchors shall be galvanized steel pipe sized according to the offset distance from anchor to pole and shall be fitted with standard guying hardware.

Messenger wire shall be ¼ inch diameter, 7 strand, extra-high strength, galvanized steel wire, unless otherwise specified.

LED lamps shall have a regulated power supply designed to electrically protect the diodes. The lamp shall be watertight and sealed to eliminate contaminants. The lamps shall be capable of operating at ambient air temperatures of -40°F to 140°F.

Lamp life shall be a minimum of 100,000 hours of continuous operation. They shall be manufactured using the Allen Gap Technology. Power consumption for 12 inch indications including power supply shall not exceed 20w.

643.03 General Installation details will be shown on the plans and/or specifications. The location shown for all equipment and vehicle detectors is approximate; final locations will be determined in the field.

During installation, all heads installed but not operating shall be covered or otherwise concealed from view.

The requirements of certain Sections of this specification may be waived for temporary traffic signals and traffic signal modifications, if so noted on the plans.

643.04 Poles Wood poles shall be placed in the ground to a depth of 20% of their overall length, with a maximum deviation from the vertical of ¼ inch in 5 feet.

After each wood pole has been set in the ground and plumbed, the space around the pole shall be backfilled with selected earth or sand, free of rocks and other deleterious material, placed in layers approximately 4 inches thick. Each layer shall be moistened and thoroughly compacted.

Traffic Signal Structures shall be erected in a vertical position, with a maximum deviation from the vertical of ¼ inch in 5 feet using the leveling nuts provided with the anchor bolts. Once the poles have been plumbed, the top nuts shall be tightened by bringing the nut to a snug tight condition using the full effort of a worker using a spud wrench or compatible tool. After all nuts have been brought to a snug, tight condition, each nut shall be tightened an additional one-third turn, using an impact wrench, torque wrench or large crescent wrench. A minimum of two full threads shall project beyond the outside face of the nut. Nuts and bolts, other than anchor bolts, shall also be tightened by the above procedure.

When foundations and anchor bolts have been installed by others, the Contractor shall verify the anchor bolt dimensions at each location so that bases will be furnished with properly located and sized bolt holes.

Wires in poles shall be supported with a Kellum-type, braided, strain-relief grip attached to a "J" hook mounted inside the pole near the top.

643.041 Foundations Foundations for Traffic Signal Structures shall meet the requirements of Section 626 – Foundations, Conduit, and Junction Boxes for Highway Lighting, Traffic Signals, and Highway Lighting.

643.05 Loop Detector and Loop Detector Wire Installation The detector unit shall be located in the controller. No more than four loops shall be connected to a single detector amplifier.

Detectors shall be installed according to the manufacturer's recommendation, subject to approval. Each detector shall be supplied complete with comprehensive installation instructions. The pavement slot for wire shall be 2 to 3 inches below the finished surface and not closer than 18 inches from the edge of pavement or the curb. The right-angle corners of the pavement slot shall be chamfered to eliminate sharp bends in the loop wires.

Loop detector wire shall be number 14 or number 12 AWG copper conductors drawn through vinyl plastic tubing approximately ¼ inch in diameter. All pulse loop "approach" wiring shall be insulated red and shall be permanently marked "A", "B", "C", or "D", according to the "approach" guidelines in the controller cabinet. All pulse loop "presence" wiring shall be insulated black and shall be permanently marked according to the "presence" guidelines in the controller cabinet. All loop lead-ins shall be of the same conductor with no splicing. The lead-in from the amplifier to the beginning of the loop shall be shielded pairs, as shown on the plans.

All debris and moisture shall be removed from the loop pavement slot before installation of loop wires. The pavement slot shall be filled to the road surface with an approved sealing compound to form a waterproof bond with the pavement after installing the wire loop.

Detector conductors shall not be housed in the same jacket as the signal conductors.

643.06 Microwave Detector Installation The microwave detector shall be installed in accordance with the manufacturer's recommendations. A four-conductor wire shall be installed from the

microwave unit to the controller. All angles and adjustment of patterns shall be the responsibility of the Contractor. The detectors shall operate in either pulse or presence mode.

643.07 Span Wire, Messenger Wire, and Guy Wire All span wire, messenger wire, and guy wire installations shall be in conformance with the requirements of the Utility Companies, when installed on Utility Facilities.

All span wire hanging traffic signals permanent or temporary will have a bottom tether wire to prevent the signal from excessive swinging

All span wires, messenger wires, guy wires, terminal boxes, controller cabinets, or any other metallic surface that might be contacted by people, shall be bonded to ground.

All sidewalk guy wires and slant guy wires installed in a sidewalk area shall be equipped with full-round or half-round guy guards.

643.08 Conduit All conductors under roadways from the controller to the mast arm poles shall be 3 inch schedule 80 PVC.

643.09 Service Connection The Contractor shall furnish and install the necessary electrical service as directed by the Utility Company. The Contractor shall make all arrangements for the service connection and be responsible for all charges incurred thereby.

Under no condition shall any equipment, except that shown on the plans, be installed on any Utility Facilities.

Traffic signal services shall have an automatic transfer switch such as a GENERLINK model MA23/24 – S installed, this will be required on traffic signals only not beacons or dynamic signs.

Whenever a service connection is to be made, the Contractor shall contact the Utility Company involved and inform them of the location, pole number, and time proposed for the service connection.

The traffic cabinet shall be marked with:

An appropriate arc flash plaque or decal with the following information
Flash hazard boundary
Cal/cm2 hazard at 18 inches
PPE level
Shock hazard when cover is off
Limited approach boundary
Restricted approach boundary
The prohibited approach boundary

This shall be located on the outside of the equipment and shall be visible, weatherproof, and fade resistant, and not easily removed.

The Contractor shall be responsible for all outstanding bills for preliminary work done by the Utility Company during the installation of the traffic signal system, to facilitate the service connection.

A service ground rod shall be installed if the service meter trim is not grounded.

The Contractor shall be responsible for grounding the system to 5 OHMS or less. The grounding shall be performed using a ground meter with reference grounds. All testing will be done in the presence of the Resident.

All meter mounting devices shall be installed so that the meters will be upright (plumb). They shall be installed with the top of the meter not less than 48 inches nor more than 60 inches from the floor to the final grade. Exceptions to this height requirement will be made where special permission has been given to install group or modular metering, overall metering enclosures, or pole-mounted meters. Level grade shall be maintained for a minimum of 3 feet in front of the meter enclosure to provide a safe working space. In order to meet this requirement on uneven terrain, as an option, the Contractor may install a pressure-treated wood platform.

For any non-residential (industrial or commercial) self-contained meter socket the by-pass requirements are single phase, 100 or 150 amp, single handle lever operated.

The Contractor shall meet all requirements and regulations of Utility Companies when installing equipment on their poles and for the service connection. It is the responsibility of the Contractor to contact the appropriate Utility to determine their specific requirements.

643.10 Wiring The Contractor shall furnish and install sufficient cable and wire to operate the system properly as shown on the plans and as directed.

The following color code shall be used where possible:

Red Wire	Red, artery
Orange Wire	Yellow, artery
Green Wire	Red, side street
Orange with Tracer	Yellow, side street
Green with Tracer	Green, side street
White and white with tracer	Common for all signals and bond
Blue	All steady burning arrows
Blue with Tracer	Intermittent arrows
Remaining	Detectors and pedestrian signals

The white wire and white wire with tracer shall be used for all common connections and it shall be continuously connected to ground at the controller.

There shall be no wire splices. Connections shall be made on a terminal board inside a watertight galvanized steel or aluminum junction box or in an aerial terminal enclosure with protective cover rated for 600 volts.

Spade type copper terminal ends shall be used to attach all conductors to terminals. All exposed metal parts, including service conduit and the controller cabinet shall be bonded and grounded.

Not more than 3 conductors shall be brought to any one terminal. Terminals shall be mounted to face the cabinet door.

The number and size of conductors required in each cable will be indicated on the plans.

643.11 Vertical Clearance Unless otherwise specified on the plans and/or specifications, vertical clearances for vehicular and pedestrian heads shall be in conformity with the MUTCD. All clearances shall be uniform among each type of head or mounting scheme. Clearance for span wire mounted flashing beacon heads shall be a minimum of 17 feet and a maximum of 18 feet.

643.12 Painting Unless otherwise indicated, all exterior parts of the following equipment shall be delivered to the project finished with green or yellow enamel:

Vehicular Signal Heads
Pedestrian Signal Heads
Pedestrian Push Button Detectors

The outside of the steel controller cabinet shall be painted with aluminum paint.

The Contractor shall apply one coat of green enamel to all existing equipment designated on the plans to be painted. The Contractor shall touch up all scratches on exposed surfaces of new equipment with matching enamel after the equipment has been installed.

All exposed signal parts to be painted shall be cleaned and shall be dry when the paint is applied. No painting shall be done in damp weather nor when the air temperature is below 40°F, unless otherwise permitted.

The Contractor shall identify recently painted equipment with "Wet Paint" signs, and shall be responsible for all claims for damages resulting from contact with wet paint surfaces.

643.13 Power Factor In the event that the equipment is of such design that the power factor is reduced below the requirement of the Utility Company, the Contractor shall furnish and install, without further charge, all equipment necessary to restore the power factor to a satisfactory percentage. Such equipment shall be accessible and shall not be mounted on the Utility Facilities.

643.14 Field Tests Before acceptance of the work, the Contractor shall conduct the following tests on all traffic signal equipment and circuits, by a licensed electrician. The tests do not need to be performed in the presence of the Resident, but the test results shall be recorded on the Traffic Signal Quality Control Check List and submitted to the Resident by the Contractor for acceptance.

The form shall be signed by the licensed electrician certifying that the signal equipment and circuits meet the requirements of section 634.14.

a. Continuity Each circuit shall be tested for continuity.

b. Ground Each circuit shall be tested for grounds.

c. Megger Megger tests at 500 volts DC shall be made on each circuit between the circuit and a ground. The insulation resistance shall not be less than 10 megaohms on all circuits, except for inductive loop detector circuits, which shall have an insulation resistance value of not less than 100 megaohms.

d. Loop Inductance A loop test meter shall be used to determine that the inductance of the installed loop and lead-in are within the tuning range recommended by the loop detector manufacturer.

e. Functional A functional test shall be made in which it is demonstrated that each part of the system functions as specified.

The functional test for each new or modified traffic signal and flashing beacon shall consist of not less than 10 days of continuous satisfactory operation. If unsatisfactory performance of the system develops, the condition shall be corrected and the test shall be repeated until the 10 days of continuous satisfactory operation is obtained.

The initial operation shall be made between 9:00 A.M. and 2:00 P.M. unless specified otherwise. Before initial operation, all equipment shown on the plans shall be installed and operable.

Initial operation of new or modified traffic signal systems shall be made only after all traffic signal circuits have been thoroughly tested as specified above.

During the test period all costs except electrical energy shall be the Contractor's responsibility.

Functional tests shall start on any working day except Monday, Friday, Saturday, Sunday or the day preceding a legal holiday.

Shutdown caused by a power interruption shall not constitute discontinuity of the functional test, however, the test shall continue after power is restored.

643.15 Timing The controller shall be timed as noted on the plans. The Contractor shall notify the Resident, at least 1 week in advance, of their intention to initially operate the signals.

At the time of initial operation of the new signals, the Contractor shall provide police protection from the local police department at the Contractor's expense until the Contractor demonstrates to the Resident that the signal operates in conformance with this specification.

643.16 Final Cleaning Up After all work has been completed, the Contractor shall remove all barriers, "Wet Paint" signs, equipment and all debris which has accumulated during the work.

Unless otherwise specified in the plans, the Contractor shall remove and deliver all unused signal equipment and wiring to the State of Maine, Department of Transportation, as directed by the Resident. The Contractor shall notify the State Traffic Engineer (207-624-3620) as to time and date of such delivery. (Deliveries will be accepted Monday through Friday between the hours of 7:00 A.M. and 4:00 P.M. only.) Notification shall precede delivery by a minimum of 24 hours.

643.17 Documents The Contractor shall furnish two operation and maintenance manuals for all controller units, auxiliary equipment, vehicle detector sensor units, control units, and amplifiers. Documents shall be delivered with the controller at the time of testing. Each manual must include, but need not be limited to the following:

a. An explanation of the theory of operation, including a functional description and a detailed circuit description.

b. A schematic diagram of each unit. A cabinet wiring diagram including all field wiring and pin locations and designations for all plug type connectors. If any circuit changes are made in the field, the changes shall be noted on the schematic diagrams.

c. A trouble shooting and preventive maintenance procedure including both field and bench trouble shooting analysis.

d. A parts list including a pictorial diagram showing the location and identification of each component on the chassis or circuit board.

e. A drawing of the controller cabinet interior showing the location of all shelves, terminal blocks, relays, timers, loop amplifiers.

In addition, manufacturer's warranties and guarantees for materials shall be delivered to the Resident before acceptance of the project.

643.18 Method of Measurement Traffic signals, traffic signal modifications, interconnect wire, video detection system, traffic signal control system, and flashing beacons will each be measured for payment by the lump sum in place. Temporary traffic signals will be measured for payment by the lump sum, satisfactorily installed, operated, and removed.

Pedestal poles, strain poles, combination poles, and mast arm poles with mast arms will be measured by each unit.

Each loop detector installed, connected to appropriate phases in the controller cabinet, complete and operational will be measured by the unit.

Excavation in solid ledge rock for replacement of wood poles will be measured by the cubic yard. The depth of measurement will be to the bottom of the pole, and the diameter of measurement will be the pole diameter plus 30 inches.

643.19 Basis of Payment Traffic signal modifications, traffic signals, interconnect wire and flashing beacons will be paid for at the contract lump sum price, which payment will be full compensation for furnishing and installing all materials, both new and reused, including, but not limited to wood poles, span wire, tether wires, backplates, visors, guys, controllers, vehicular heads, pedestrian heads, flashing beacons, wiring, cable, pole risers, LED lamps, and all appurtenances and incidentals, including design of the Traffic Signal Structures, required for a complete functioning installation and for furnishing all tools and labor necessary for completing the installation. Conduits, junction boxes, and foundations will be paid for under Section 626.

Pedestal poles, strain poles, combination poles and mast arm poles with mast arms will be paid for at the contract unit price each which payment shall be full compensation for furnishing and installing all materials, tools and labor necessary to erect the poles.

Payment for temporary traffic signals shall include compensation for the removal of the system upon completion of the work. All materials used for temporary traffic signals will remain the property of the Contractor. Operating the controller by hand will be paid for under Section 629.

Payment will be made for each Loop Detector at contract price, which will be full compensation for materials, labor, and equipment for each loop installed and fully operational.

Traffic signal control system will be paid for at the contract lump sum price, which payment will be full compensation for furnishing and installing all materials, including, but not limited to local intersection traffic signal controller, controller cabinets, on-street master controller, supervisory PC software, and all appurtenances and incidentals required for a complete functioning installation.

Video detection system will be paid for at the contract lump sum price, which payment will be full compensation for furnishing and installing all materials, including, but not limited to video processing unit, video cameras, supervisory PC software, and all appurtenances and incidentals required for a complete functioning installation.

Payment for excavation of solid bedrock for the placement of wood poles will be made under Item 206.07.

Payment will be made under:

Pay Item		Pay Unit
643.60	Flashing Beacon at:	Lump Sum
643.71	Traffic Signal Modification:	Lump Sum
643.72	Temporary Traffic Signal:	Lump Sum
643.80	Traffic Signals at: ___	Lump Sum
643.81	Traffic Signal Control System	Lump Sum

643.83	Video Detection System	Lump Sum
643.86	Traffic Signal Loop Detector	Each
643.90	Interconnect Wire Between:	Lump Sum
643.91	Mast Arm Pole	Each
643.92	Pedestal Pole	Each
643.93	Strain Pole	Each
643.94	Dual Purpose Pole	Each

SECTION 645
HIGHWAY SIGNING

Revise this section by removing this section in its entirety and replace with the following:

645.01 Description **This work shall consist of designing, furnishing and installing new signs, sign supports, delineators, Polyvinylchloride (PVC) Pipe and breakaway devices and removing, relocating and/or modifying existing signs and sign supports, in accordance with these specifications and in reasonably close conformity with the Contract Plans.**

645.02 General **All equipment shall be new unless otherwise specified. Requests for substitution of any specified material shall be submitted in writing with all documentation (specifications, mill certifications, etc.) in order to enable the Department to evaluate the proposal. Substitutes for specified material may be accepted, upon approval of the Fabrication Engineer. Substitutes shall give equal or better service than the specified material. Where an existing system is to be modified, the existing material shall be removed, upgraded, or disposed of as directed by the contract documents.**

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

Polyvinylchloride (PVC) Pipe	**706.08**
Reflective Sheeting	**719.01**
Demountable High Intensity Reflectorized Letters, Numerals, Symbols and Borders	**719.02**
Aluminum Extrusions	**719.03**
Aluminum Sheets	**719.04**
Plywood	**719.05**
Demountable Reflectorized Delineators	**719.06**
Assembly Hardware	**719.07**
Aluminum Supports	**720.01**
Steel Supports	**720.03**
Steel H-beam Poles	**720.06**

Anchor Bolts	**720.07**
U-Channel Posts	**720.08**
Wood Sign Posts	**720.12**

Paint for the edge and back of plywood and field coat paint for wood sign posts shall be an exterior grade dark green enamel conforming to Federal Specifications TT-P-71b.

Materials shall meet the gradation requirements only of the following:

Aggregate for Untreated Surface Course and Leveling Course	**703.10**
Underdrain Backfill Material	**703.22**

645.022 Sign Layout Drawings The Contractor shall submit 3 sets of sign-face, layout-detail, and scale drawings. Fabrication of the signs shall not begin until the Contractor has received approval of these drawings. The drawings shall contain complete detailed information and dimensions. One set of drawings will be returned to the Contractor, who will submit corrected drawings, if required. The drawings shall be detailed using the same units used on the Contract Plans.

645.023 Sign Support Structures The design, materials and fabrication of Sign Support Structures shall meet the requirements of the current edition of AASHTO "LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals" and interims thereto, as noted below except as otherwise indicated within these specifications or on the Contract Plans.

Beam-mounted roadside sign supports and associated signs and hardware shall be designed using the following criteria:

- **Basic wind speeds based on a 300-year mean recurrence interval**
- **K_z as specified in Table C3.8.4-1 (Height and Exposure Factors)**
- **K_d as specified in Table 3.8.5-1 (Directionality Factors)**
- **G as 1.14, minimum (Gust Factor)**
- **C_d as specified in Table 3.8.7-1 (Wind Drag Coefficients)**

Bridge-mounted, bridge-type, cantilever, and butterfly-type sign supports and associated signs and hardware and all sign support structures supporting variable message signs shall be designed using the following criteria:

- **Basic wind speeds based on a 1700-year mean recurrence interval**
- **K_z as specified in Table C3.8.4-1 (Height and Exposure Factors)**
- **K_d as specified in Table 3.8.5-1 (Directionality Factors)**
- **G as 1.14, minimum (Gust Factor)**
- **C_d as specified in Table 3.8.7-1 (Wind Drag Coefficients)**
- **Deflection requirements as specified in Section 10.4**

Cantilever and butterfly-type sign supports and all structures supporting variable message signs shall be classified as Fatigue Category I. Bridge-type sign supports shall be classified as

Fatigue Category II. Fatigue Importance Factors shall be as specified in Table 11.6-1 (Fatigue Importance Factors).

For bridge-mounted sign supports (including approaches to bridge structures), the mounting height shall be measured as the distance of the mounted sign(s) center of gravity to one of the following:

For bridges over bodies of water: above the prevailing water level or, in the case of tidal waters, above mean high tide.

For overpass structures: above the lower roadway level.

For approach ramps: above the average adjacent ground level, if said ground level is more than 10 feet below the base of the structure.

All cantilever and butterfly type sign support structures shall be equipped with an approved damping or energy-absorbing device.

For aluminum construction, welding shall conform to the current edition of AWS Structural Welding Code, Aluminum, D1.2 for aluminum construction.

After execution of the contract and before any shop work has commenced, the Contractor shall submit for approval the drawings, and design and fatigue computations if prescribed below, for all Sign Support Structures proposed to be furnished and erected under this contract. The drawings shall be of sufficient detail to indicate material and/or dimensional conformance with these specifications and the Contract Plans and, in the case of bridge, cantilever and butterfly type sign supports, shall be sufficiently detailed to show all significant structural details.

Approval for deviations from the Contract Plans and/or Specifications shall be requested in writing and shall be approved by the Fabrication Engineer before being incorporated in the manufacturer's drawings. Requests for substitution of all specified material shall be submitted in writing, with full documentation (specifications, mill certification, etc.) enabling the Department to evaluate the proposal.

Sign Support Structures and anchor bolts shall meet the requirements specified in Section 720 as well as the current edition of AASHTO "LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals" and interims thereto.

A Certificate of Compliance shall be provided for all applicable materials noted in Section 645.021 – Materials, in accordance with the requirements of the General Statement of Division 700 - Materials.

a. Beam-Mounted Roadside Signs **The beams for beam-mounted roadside signs shall be of the size, material and shape designated in the Contract Documents. The Contractor shall be fully responsible for the adequacy and design of any structural**

details not shown on the Contract Plans, and each drawing shall contain a reference to the design criteria. A Professional Engineer licensed in accordance with the State of Maine regulations shall sign the certification under their official seal that said design criteria have been met by all parts of the structure designed and/or detailed by the Contractor. Approval of the drawings will signify only approval of the size, material and length of the beam.

b. Bridge-Mounted Sign Supports Bridge-mounted sign supports shall be constructed to the configuration and sizes and of the material shown on the Contract Documents. Approval will be based on the applicable provisions of Section 105.7 - Working Drawings. Fastening sign panels directly to steel or aluminum members shall be as described in Section 719.07, as well as other applicable Sections, Plans and Specifications.

c. Bridge-Type, Cantilever, and Butterfly-Type Sign Supports The Contractor shall be responsible for the design of the Sign Support Structures for bridge-type, cantilever and butterfly-type sign supports in accordance with this specification.

Signs shall be placed on the Sign Support Structure such that the bottom edges are aligned (unless written consent from the Fabrication Engineer is obtained), while accommodating the minimum height requirement - see Section 645.06. The Contractor shall use the Contract Plans in order to determine the approximate horizontal placement of signs. Installation shall be in accordance with Section 645.06 - Installation of Type I Signs. The structure and foundation shall be designed to accommodate an additional theoretical sign load on each structure. This additional theoretical sign load for each sign shown in the contract documents shall be computed by: For single signs increasing the sign widths an additional 25% without changing the horizontal midpoint of the sign; for multiple signs the sign widths shall be increased 25% toward the outside sign edges. The height of all signs shall be increased 25% without changing the bottom edge elevation of the signs.

Bridge-type Sign Support Structures shall be designed using either a tri-chord or four-chord truss structure as the overhead member. Each of the two upright members supporting the bridge-type overhead truss member shall consist of a minimum of two vertical legs. A four chord truss configuration shall be required if the Contract Documents specify placing signs on both sides of the overhead structure (two way traffic beneath structure). Cantilever and butterfly-type structures shall be designed using either a tri-chord or four-chord overhead truss member. The upright member of a cantilever or butterfly-type support structure shall have a maximum horizontal deflection in accordance with Section 10.4.2.1 of the current edition of the AASHTO "LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals", and interims thereto.

The base plates of uprights for all types of Sign Support Structures shall have heavy hex leveling nut with 2 hardened flat washers. The distance between the bottom of the base plates to the top of the foundations shall not exceed twice the diameter of the

anchor bolts. Grout, or other materials, shall not be placed between base plates and the top of foundations.

In addition to the required detail drawings, the Contractor shall submit 3 copies of the design and fatigue computations meeting the all applicable requirements of this specification or the Contract Plans for each Sign Support Structure. Erection lifting points shall be clearly depicted on the shop drawing. The computations shall be sufficiently detailed to allow the Engineer to review the computations. Computer printouts will not be accepted unless they meet the above criteria. All plans and design calculations for sign support structures and foundations shall be sealed by a Professional Engineer licensed in accordance with the State of Maine regulations. Approval will be based on the applicable provisions of Section 105.7 - Working Drawings.

Overhead sign panel mounting devices shall be designed accommodating the requirements of appropriate sign panel tilting included in this specification. The design of this assembly shall include fastening sign panels directly to steel or aluminum members as further described in Section 719.07, as well as other applicable Sections, Plans and Specifications.

d. Breakaway Supports for Sign Supports Breakaway supports for sign supports will be required only for those locations indicated on the Contract Plans. Breakaway supports, approved by the Resident, using load-concentrating couplings shall be supplied for use at all locations designated as breakaway. Breakaway Support Certification of both breakaway and structural adequacy shall be provided by the Manufacturer. Design calculations or test data of production samples to support certification shall be provided. Breakaway support components shall provide the same or greater structural strength as the support post or pole utilizing the breakaway device. On multi-pole sign supports designated as breakaway, each pole shall be equipped with breakaway hinges immediately below the lower edge of the sign. Hinges relying on the friction between the hinge and the pole face for transmitting the design moment will not be accepted for use. Breakaway devices are subject to the applicable provisions of Section 721.

645.024 Bridge, Cantilever and Butterfly Support Structure Foundations Foundations for Highway Signing structures shall meet the requirements of Section 626 – Foundations, Conduit, and Junction Boxes for Highway Lighting, Traffic Signals, and Highway Lighting.

645.03 Classification of Signs Sign sizes, color and legend designs shall conform to these specifications, the Contract Plans, and MUTCD requirements. The signs are classified according to the intended use as follows:

a. Sign Type I guide signs shall consist of high intensity prismatic, reflectorized sheeting or reflectorized, demountable letters, numerals, symbols and border mounted

on a high intensity prismatic, reflective sheeting background adhered to a sign panel constructed of extruded aluminum planks.

b. Sign Type I regulatory, warning, and route marker assembly signs shall consist of high intensity prismatic, reflective sheeting letters, numerals, symbols, and border on a high intensity prismatic, reflective sheeting background adhered to a sign panel constructed of sheet aluminum.

c. Sign Type II guide signs shall consist of high intensity prismatic, reflective sheeting letters, numerals, symbols and border on a high intensity prismatic, reflective sheeting background attached to a sign panel constructed of plywood.

d. Sign Type II regulatory, warning and route marker assembly signs shall consist of high intensity prismatic reflective sheeting letters, numerals, symbols and border on a high intensity prismatic reflective sheeting background adhered to a sign panel constructed of sheet aluminum or plywood.

645.04 Fabrication of Type I Guide Signs

a. Panels The panels for this type sign shall be shop-fabricated from aluminum planks to the sizes designated on the approved shop drawings. Cut edges shall be true, smooth, and free from burrs or ragged breaks. Flame cutting will not be permitted. Bolt holes may be drilled to finished size or punched to finished size, provided the diameter of the punched hole is at least twice the thickness of the metal being punched.

Fabrication of extruded aluminum sign planks, including punching or drilling holes and cutting to length, shall be completed before the metal degreasing and the application of the reflective sheeting. The bolts required for fastening the extruded aluminum planks together shall conform to the designs used in standard commercial processes for the type of extruded aluminum panels to be used as approved.

All route shields shall be on an overlay aluminum sheet of 0.080 inch minimum thickness and shall be in full color with reflective background; they shall not have demountable numerals and borders.

b. Reflective Sheeting The high intensity prismatic reflective sheeting shall be applied to the extruded aluminum plank in accordance with the current recommendations of the sheeting Manufacturer.

The reflective sheeting shall cover the complete panel and shall not be trimmed to conform to the border. The reflective sheeting shall overlap into the side recess of the individual planks. There shall be no paint applied to the sign panels. The surface of all completed sign panels shall be flat and free of defects. Extruded aluminum molding shall be placed on the edges of the extruded panels, as shown on the Contract Plans.

c. Text **The design of upper and lower case letters, numerals and symbols, and the arrangement and spacing of texts shall be as provided on the Contract Plans and in conformance with the MUTCD and Standard Highway Signs.**

Text for Guide Signs shall be composed of demountable letters, numerals, symbols, and borders and shall be high-intensity prismatic, reflective sheeting. The demountable text shall be applied to the panels by use of aluminum pop rivets, in accordance with standard commercial processes, as approved. All demountable letters, numerals, symbols, and borders shall be the same manufacturer's make for the entire project. Cutout high-intensity, reflective sheeting text shall be applied to the sign panel with a pre-coated, adhesive backing.

645.041 Fabrication of Type I Regulatory, Warning and Route Marker Assembly Signs and Type II Sheet Aluminum Regulatory, Warning and Route Marker Assembly Signs

a. Panels **Sheet aluminum sign panels shall be shop-fabricated to the size shown on the Contract Plans. The corners shall be rounded to the indicated radius where shown.**

Bolt holes may be drilled or punched to finished size provided the diameter of the punched hole is at least twice the thickness of the metal being punched. Cut edges shall be true, smooth, and free from burrs or ragged breaks. Flame cutting will not be permitted. Punching or drilling of holes and cutting to size shall be completed before metal degreasing and the application of reflective sheeting.

b. Reflective Sheeting **The high intensity prismatic reflective sheeting shall be applied to the sheet aluminum sign panels in accordance with the current recommendations of the sheeting Manufacturer. The reflective sheeting colors shall conform to the MUTCD Standard Highway Sign colors for each type of sign. Surface of all panels shall be flat and free from defects.**

c. Text **The text for regulatory, warning, confirmation and route marker assembly signs shall be composed of: High intensity prismatic, reflective sheeting letters, numerals, symbols and borders; or the silver letters may be formed by applying transparent ink to the reflective sheeting background where the silk screen process is used; or other methods to form the text may be used, when approved in advance.**

645.042 Fabrication of Type II Guide Signs and Type II Plywood, Regulatory, Warning and Route Marker Assembly Signs

a. Panels **Fabrication of all sign panels from high-density, overlaid plywood shall be performed in a uniform manner. All fabrication, including cutting, drilling, and edge routing, shall be completed prior to painting and application of reflective sheeting to the high-density, overlaid plywood. Panels shall be cut to size and shall be plywood. Panels shall be cut to size and shall be free of warping, open checks, open splits, open joints, open cracks, loose knots and other defects resulting from fabrication. Corners shall be left square. The surface of all sign panels shall be flat.**

The edge and back of the plywood shall be painted with an exterior grade dark green paint.

b. Blanks **Sign blanks shall be cut to shape using a saw blade that does not tear plywood grain. Holes shall be clean-cut and uniform. All cracks, open checks, open splits and other defects occurring on the edge surfaces shall be filled with a synthetic wood filler and sanded smooth prior to sealing and painting. The sign blank edges shall be sealed using an approved sealer/primer. The edges shall then be painted with an exterior grade, dark green paint.**

The surface shall not be painted before application of reflective sheeting. Before applying reflective sheeting, dirt or wax shall be removed by one of the following methods:

1. The surface shall be buffed lightly with solvent-soaked steel wool, fine or medium, using organic solvents, such as lacquer thinner, xylol, heptane, benzene or naphtha, and wiped dry with clean cloths.

2. The panel shall be sanded lightly with fine-grade paper, cleaned with solvent, and wiped dry using clean cloths.

c. Reflective Sheeting **The High intensity prismatic reflective sheeting shall be applied directly to the cleaned high-density surface in accordance with the recommendations of the reflective sheeting manufacturer.**

d. Text **The text for regulatory, warning, confirmation and route marker assembly signs shall be composed of cutout, High intensity prismatic reflective sheeting letters, numerals, symbols and borders or the silver letters may be formed by applying transparent ink to the reflective sheeting background where the silk screen process is used. Other methods to form the text may be used when approved in advance.**

The design of the letters, numerals, and symbols, the spacing of the text and the size and spacing of the border shall conform to the MUTCD and Standard Highway Signs.

645.06 Installation of Type I Signs **The sign locations shown on the Contract Plans are approximate; exact locations will be determined in the field by the Resident. Signs stockpiled before erection shall be stored in a vertical position and completely covered to avoid staining, weathering, and dirt accumulation.**

a. Sign Supports **Poles for single and multiple support beam-mounted roadside signs shall be erected plumb, using the leveling nuts supplied with the anchor bolts. When signs are supported by more than one pole, all poles shall be carefully aligned to avoid warping of the sign panel.**

Bridge-mounted sign supports shall be fabricated and assembled in accordance with the details as shown on the Contract Plans and with Section 504. Additionally, if required to be painted, bridge-mounted sign supports shall be painted in accordance with Section 506.

Bridge-type, butterfly and cantilever-type sign supports and their foundations shall be constructed, assembled and erected, in accordance with the manufacturer's details, as approved. All horizontal supports spanning the roadway shall be level and shall have permanent camber as described in Section 10.5 of the current edition of AASHTO "LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals", and interims thereto. If, at any time after their erection, bridge-type, butterfly or cantilever-type sign supports are to remain for a period in excess of 72 hours without the sign(s) for which they were designed being in place, suitable vibration damping devices, approved by the Resident, shall be installed until such time as the sign(s) can be erected.

Where aluminum surfaces are in contact with concrete or dissimilar metals, the contacting surface shall be thoroughly coated with an approved aluminum impregnated caulking compound, or the surfaces shall be separated by another approved material. Before signs are attached, aluminum sign supports shall be cleaned of all dirt and discoloration using methods recommended by the manufacturer.

b. Sign Panels Extruded aluminum planks for sign panels shall be bolted together, as indicated on the Contract Plans. Extruded aluminum molding shall be placed on the edges of the extruded panels. Sign panels shall be attached to the posts to provide the vertical and horizontal clearances from the roadway as indicated on the Contract Plans. Sign panels on overhead structures shall provide a minimum vertical clearance of 18 feet to the highest point of the roadway surface under the sign(s). Sign panels on bridge-mounted sign supports shall be installed with the bottom edge of the sign approximately 4 inches above the bottom of the bridge beam.

Sign panels mounted over the roadway shall tilt in the direction of the approaching traffic in such a manner that the angle between the sign face and the roadway grade, at the sign location shall be 85º +/- 3º.

Ground-mounted signs located 4 to 30 feet from the edge of shoulder shall form an angle of 93º between the approach roadway and the sign.

Signs located more than 30 feet from the edge of the shoulder shall form an angle between the approach roadway and the sign face equal to 87º -1º for each additional 10 feet beyond 30 feet.

Unless otherwise shown on the Contract Plans, or designated by the Resident, a minimum lateral clearance of 4 feet shall be provided between the edge of the shoulder and the edge of any sign panel.

The elevation of the bottom edge of guide sign panels shall be 7 feet above the elevation of the edge of the traveled way, at the sign location, or in case of a curb section, 7 feet above the elevation of the outer edge of the roadway, unless authorized otherwise.

Signs located 30 feet or more from the edge of traveled way shall be 5 feet above the elevation of the edge of shoulder.

In the event that a second sign is to be placed under the main sign, the elevation of the bottom edge of the principal sign shall be a minimum of 8 feet above the outer edge of the traveled way, or a minimum of 8 feet above the edge of the traveled way, in curbed sections; the bottom edge of the second sign must be at least 5 feet above the edge of the traveled way.

The elevation of the bottom edge of the regulatory, warning and route marker sign panels shall be 6 feet above the elevation of the edge of the pavement, or edge of roadway in curbed sections, at the sign location. The elevation of the bottom edge of these sign panels above the elevation of the edge of the pavement on all crossing or connecting roadways shall be 5 feet in rural areas or 7 feet in urban areas. Field conditions may require some variation in elevations, as directed.

Each sign shall have at least two fasteners connecting it to the sign poles, except signs of 1 foot or less in height may have one fastener.

645.061 Installation of Type II Signs The exact sign locations will be determined in the field. Signs stockpiled before erection shall be stored in a vertical position and completely covered to avoid staining, weathering, and dirt accumulation.

When a steel pole is to be used, before any shop work is commenced, the Contractor shall submit 3 sets of the manufacturer's drawings of all standards and accessories proposed to be furnished and erected under this contract. The drawings shall be of sufficient detail to indicate material and/or dimensional conformance with these specifications and the contract drawings. Each drawing shall contain a reference to the design criteria and certification that the design criteria have been met for current edition of the AASHTO "LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals", and interims thereto, for bracket arms and associated hardware, fittings and breakaway devices, as submitted. A Professional Engineer licensed in accordance with the State of Maine regulations shall sign the certification under their official seal. The drawings shall use the same units as found in the Contract Plans. It is the intent of these specifications that the Contractor shall be fully responsible for the adequacy of the sizes, wall thickness, materials and connections of the standards, bracket arms and associated hardware, fittings and breakaway devices. Approval of the drawings will signify only approval of the material(s), mounting heights(s) and bracket arm length(s).

a. Sign Supports Support posts for Type II signs shall be U-channel posts weighing 2½ pounds per foot for signs of less than 6.24 ft² in area, 4 inch by 4 inch wood posts or two U-channel posts weighing 2½ lb/ft for signs of area 6.24 ft² to 9 ft², 4 inch by 6 inch wood posts

for signs of area 9 ft² to 16 ft², and 6 inch by 6 inch wood posts for signs of area over 16 ft². All signs 60 inches wide or wider shall be mounted on two wood posts. Wood posts shall be set to a depth of 4 feet. U-channel posts shall be set to a minimum depth of 30 inches. Leading signs less than 9 ft² on the apex of islands will be installed on U-channel posts. Solar powered sign mounted beacon arrays shall be mounted on galvanized steel poles. Any signs installed on/in an island, shall be installed in a PVC sleeve of the appropriate size for the type of post being installed, as shown in the standard details.

When it is necessary to set sign posts in bedrock, holes shall be excavated to the required depth and size at the locations indicated on the Contact Plans. The excavated material will be satisfactorily disposed of, as directed, and the posts set to the required depth.

When installing pressure-treated sign posts, the cut end of the posts shall not be buried in the ground.

Backfilling around the posts shall be with excavated material unless the excavated material is considered unsatisfactory, in which case the backfill shall be granular material conforming to the requirements of Section 703.19 - Granular Borrow. Backfill shall be thoroughly tamped in layers not exceeding 8 inches in depth.

When directed, the area around the posts shall be loamed and seeded in accordance with the applicable provisions of Section 615 and Section 618.

The Contractor shall be responsible for and shall repair all damage to underground drainage structures, utilities, or lighting conduits encountered during placing the posts.

<u>b. Mounting</u> Type II signs shall be mounted using assembly hardware specified in Section 719.07.

PVC pipe shall be installed in all locations where sign posts are to be placed in paved islands and shall have an inside diameter of 12 inches. For sleeves that are to be utilized for U-channel posts, the PVC pipe shall have a minimum length of 3 feet. For sleeves that are to be utilized for wood posts, the PVC pipe shall have a minimum length of 5 feet.

Installation of the PVC pipe shall occur prior to paving of the island. The pipe shall be placed at a depth so that the top of the pipe shall have no more than a 1 inch reveal from finished surface pavement. Once placed, the pipe shall be backfilled around the outside diameter in layers that are thoroughly compacted and that do not exceed a depth of 8 inches.

Once installed and backfilled, the pipe shall be completely filled to the top of the pipe with material that meets the gradation requirements of Aggregate for Untreated Surface Course and Leveling Course Type A or Type B or Underdrain Backfill Material.

<u>645.062 Installation of Delineators</u> Posts for delineators shall be erected so that posts and assemblies will be plumb. All posts, which are bent or otherwise damaged, shall be removed

and properly replaced. Posts shall be driven 4 feet from the outside edge of shoulder, 4 feet from the face of curb and 4 feet from the normal edge of shoulder in guardrail sections. A suitable driving cap shall be used and after driving, the top of the post shall have substantially the same cross sectional dimensions as the body of the post.

When bedrock is encountered in erecting posts, the depth to be drilled into the rock shall be determined by the Resident.

After the posts are driven, delineators shall be mounted 4 feet above the elevation of the edge of the traveled way. In the event that a delineator is required to be installed on a bridge structure, it shall be installed by use of a bracket as shown on the Contract Plans.

Sign support posts to be installed in the sleeve shall be plumbed and set in the material which shall be compacted or tamped around the post. The posts shall be placed so that there is a 2 foot maximum distance from the bottom of the retro-reflective strip on the sign post to the paved travelway or shoulder surface. For wooden posts only, 4 feet of the post shall be placed in the sleeve. Other sign support post installation requirements shall be followed as per Section 645 of the Standard Specifications.

645.063 Installation of Breakaway Devices Breakaway devices shall be installed at locations indicated on the Contact Plans by an approved method. Each sign and pole shall be carefully demounted for reinstallation at the same or at a new location. Manufacturer's installation information shall be provided on the project.

If required, poles shall be cut in such a manner that no rough edges will remain. No flame cutting will be permitted. Cut edges on steel poles shall be painted in accordance with Section 645.07.

Existing foundations shall be modified for attachment of the breakaway device as shown on the Contract Plans or approved.

Breakaway devices shall be attached to new foundations in accordance with the recommendations of the breakaway device manufacturer and as approved.

645.064 Installation of Sign Mounted Beacon Array Beacons installation shall conform to current MUTCD standards.

Battery and solar assembly shall be of sufficient size to power sign for 7 days without solar charging. Batteries shall be gel cell or absorbed glass mat (AGM) batteries. Solar panel shall be installed facing true south and 60 degrees from vertical.

Connections to service shall be in accordance with section 643.09.

The cabinet should be positioned on the side of the pole farthest from traffic. Only aluminum and steel cabinets will be accepted. All exposed wiring shall be in accordance with section 715.11.

All wiring shall be in accordance with section 718.01-c.

Beacon Array shall meet testing requirements outlined in sections 643.14 a, b, and e.

645.07 Demounting and Reinstalling Existing Signs and Poles **Signs and poles designated to be demounted and not designated to be reinstalled, except those designated to be demounted by others, shall be delivered to the Resident.**

Existing sign panels, poles, foundations, and sign hardware, damaged because of the Contractor's operations shall be replaced or repaired by the Contractor to the satisfaction of the Resident.

New or relocated regulatory, warning, confirmation or route marker assembly signs shall be installed the same working day as the corresponding existing signs are demounted. All new or relocated guide signs shall be installed within two working days of the time the corresponding existing sign is demounted. Before the Contractor demounts any regulatory or warning sign, they shall erect a similar easel mounted sign at a designated location. The Contractor shall maintain this temporary sign in place until the permanent sign is installed.

Existing signs and poles shall be reinstalled in accordance with the applicable requirements for installing new signs and poles.

Relocated steel posts and clamps shall be field painted two coats after the posts have been erected. The first coat shall be a zinc-dust primer paint meeting Federal Specification TT-P-641B Type II. The second coat shall be bright aluminum paint, aluminum-dust Type II, Class 3 brightness, meeting Federal Specification TT-A-468 with a minimum of 2 lb/gal, with vehicle meeting or exceeding Federal Specification TT-V-109. Scratches shall be touched up after the erection of the sign panels. The touchup shall be with both primer and finish coat. Sign pole surfaces to be painted shall be cleaned and dry when the paint is applied. No painting shall be done in damp weather nor when the air temperature is below 40°F.

645.08 Method of Measurement **Demount Signs, Demount Poles, Reinstall Signs, and Reinstall Poles will be measured by each unit.**

Bridge-type, cantilever and butterfly-type Sign Support Structures, including the foundations and sign panels, complete in place, as called for on the Contract Plans, will be measured by each unit.

Bridge-Mounted Guide Signs, including supports, will be measured by each unit in place.

Breakaway devices (1 per pole) shall be measured by the unit complete in place and accepted.

The area of roadside guide signs, regulatory, warning, confirmation and route marker assembly signs of the respective types, will be measured by the area in square feet, computed

to nearest hundredth of a square foot, as determined by the overall height multiplied by the overall width.

Aluminum poles for roadside guide signs, Type I will be measured by the number of units of each diameter, complete in place. Steel H-beam poles will be measured for payment by the pound, determined from the nominal weight per foot for each size and the lengths as indicated on the Contract Plans.

Demountable reflectorized delineators will be measured by the number of units of each type in place.

All beacons installed on an individual post/pole shall constitute a single installation. Each installation will be measured for payment by the lump sum in place

645.09 Basis of Payment The accepted demounted signs and demounted poles will be paid for at the contract unit price each for the respective item specified. Such price will be full compensation for delivering signs and poles not to be reinstalled to a site designated by the Resident, and all other incidentals necessary to complete the work.

The accepted reinstalled signs or reinstalled poles will be paid for at the contract unit price each. Such price will be full compensation for furnishing new hardware, when required, and all incidentals necessary to complete the installations. All signs or poles designated to be reinstalled that are damaged by the Contractor shall be replaced by the Contractor with new signs or poles conforming to the applicable Specifications at no additional cost to the State.

The accepted bridge-type, cantilever and butterfly-type Sign Support Structures will be paid for at the contract lump sum price for the respective items. Such price will be full compensation for the signs, support structures, foundations, and incidentals necessary to complete the work, including design of the sign supports.

The accepted guide signs-overpass mounted, will be paid for at the contract lump sum price for the respective items, which price will be full compensation for the signs, supports and incidentals necessary to complete the work, including design of the sign supports.

The accepted roadside guide signs and regulatory, warning, confirmation, and route marker assembly signs will be paid for at the contract unit price per square foot. Such payment will be full compensation for furnishing and installing signs, assembly hardware, and all incidentals necessary to complete the work, including design of the sign supports.

The accepted aluminum poles will be paid for at the contract unit price each for the specified diameter, complete in place.

The accepted demountable reflectorized delineators will be paid for at the contract unit price each for the type specified, which payment will be full compensation for delineator and post or bridge rail mounting, complete in place.

Payment for breakaway devices shall be full compensation for furnishing and installing the device, all required pole cutting, for adapting the pole to the breakaway device, for adapting the concrete base to the breakaway device and all other incidentals necessary to complete the work. Separate payment will be made at the respective contract unit prices for demounting and reinstalling the signs and the poles at multi-pole installations. At single-pole installations, separate payment will be made at the respective contract unit prices for demounting and reinstalling the poles only.

The accepted quantity of steel H-beam poles will be paid for at the contract unit price per pound, complete in place as shown on the Contract Plans or as designated.

Furnishing and installing posts for Type II signs, including earth excavation and backfilling, furnishing and placing assembly hardware, backfilling material, loam, seed and other incidentals, will not be paid for directly but will be considered incidental to the cost of the signs they support.

Sign Mounted Beacon Arrays will be paid for at the contract lump sum price, which payment will be full compensation for furnishing all materials including, but not limited to the LED-arrays, flasher, timer, controller cabinets, wiring, pedestrian push buttons, solar panels, batteries, radio devices, radar units, and all appurtenances and incidentals required for a complete and functioning installation and for furnishing all tools and labor necessary for completing the installation. Array must meet all testing and connection requirements of this section

All work, PVC Pipe, Aggregate for Untreated Surface Course and Leveling Course, Underdrain Backfill Material and other materials furnished to install, backfill around, and fill the sleeve in the island and place the sign post in the sleeve shall be incidental to the Section 645 Items.

Payment for excavation of solid bedrock for the placement of wood poles will be made under Item 206.07.

Payment will be made under:

Pay Item		Pay Unit
645.103	Demount Guide Sign	Each
645.106	Demount Regulatory, Warning, Confirmation and Route Marker Assembly Sign	Each
645.108	Demount Pole	Each
645.113	Reinstall Guide Sign	Each
645.116	Reinstall Regulatory, Warning, Confirmation and Route Marker Assembly Sign	Each
645.118	Reinstall Pole	Each
645.12	Overhead Guide Sign: (STA X + XXX)	Lump Sum
645.13	Bridge Overpass-Mounted Guide Sign:	Lump Sum

	(STA X + XXX) (Left/Right XX)	
645.14	**Special Work No.: ___**	**Lump Sum**
645.15	**Cantilever Guide Sign: (STA X + XXX)**	**Lump Sum**
645.161	**Breakaway Device Single Pole**	**Each**
645.162	**Breakaway Device Multi Pole**	**Each**
645.251	**Roadside Guide Signs, Type I**	**Square Foot**
645.261	**Bridge Guide Sign, Type I**	**Square Foot**
645.271	**Regulatory, Warning, Confirmation and Route Assembly Sign, Type I**	**Square Foot**
645.281	**5 Inch Aluminum Pole**	**Each**
645.282	**6 Inch Aluminum Pole**	**Each**
645.283	**7 Inch Aluminum Pole**	**Each**
645.284	**8 Inch Aluminum Pole**	**Each**
645.285	**10 Inch Aluminum Pole**	**Each**
645.286	**12 Inch Aluminum Pole**	**Each**
645.289	**Steel H-Beam Poles**	**Pounds**
645.291	**Roadside Guide Signs Type II**	**Square Foot**
645.292	**Regulatory, Warning, Confirmation and Route Marker Assembly Signs Type II**	**Square Foot**
645.301	**Demountable Reflectorized Delineator, Single**	**Each**
645.302	**Demountable Reflectorized Delineator, Double**	**Each**
645.305	**Sign Mounted Beacon Array**	**Lump Sum**

SECTION 639
ENGINEERING FACILITIES

Revise this section by removing this section in its entirety and replace with the following:

639.01 Description **This work shall consist of providing, erecting, lighting, equipping and maintaining buildings to be solely used by the Resident and other assigned Department representatives as a field office. Upon completion of the work, the buildings and equipment shall remain the property of the Contractor.**

639.02 Materials **Materials for buildings shall be of good quality customarily used in standard frame house or office trailer construction.**

639.03 General **The building of the type called for shall be provided before the start of work, and shall remain until work is completed and accepted, unless earlier removal is authorized. The location shall be approved by the Resident and should be adjacent or virtually adjacent to the Project.**

A fire extinguisher shall be provided in each building or office trailer for electrical and chemical fires and effective on all solvents used in the building.

Walls, roof, floor, windows, and doors shall be tightly constructed to the required area.

Furnishings shall be supplied as called for. Doors shall be equipped with locks and all keys shall be in the possession of the Resident. Windows shall be equipped with latches so they may be locked on the inside. Window screens and screen doors shall be supplied when necessary. Adequate desk and desk space shall be provided. If a portable table is supplied, it should be adjustable to accommodate the various heights of employees. A 5-way adjustable office chair shall be provided in the quantities listed.

639.04 Field Offices **Field Offices are designated Type A, Type B, or Type C. Buildings, including trailers, may be provided if they substantially equal or exceed the following requirements. Air conditioning, appropriate to the building size, shall be provided in all field offices.**

The walls, roof, and floor of the building shall be completely insulated with a minimum insulation value of R-15. Office trailers shall be either new or in very good used condition. The interior walls shall be covered with suitable wall paneling. The entire office trailer shall be for the exclusive use of the Resident. The office trailer shall be winterized and completely enclosed at the bottom, if the trailer will be used in cold weather.

Other types of buildings and facilities may be furnished of equal or better quality.
A public work area will be provided in the field office that shall be designed and constructed so that individuals with disabilities can approach, enter, and exit this area.

At least one accessible route to the field office shall be provided from accessible parking. The accessible route shall comply with the Americans with Disabilities Act Accessibility Guidelines (ADAAG) and this specification.

The minimum clear width of an accessible route shall be 36 inches except at doors. The least possible slope shall be used for an accessible route. An accessible route with a running slope greater than 1:20 shall be considered a ramp. Maximum ramp slope is 1:12. The maximum rise for any run of a ramp shall be 30 inches and the minimum clear width shall be 36 inches. Nowhere shall the cross slope of an accessible route exceed 1:50. Changes in level up to ¼ inch may be vertical and without edge treatment. Changes in level between ¼ inch and ½ inch shall be beveled with a slope no greater than 1:2. Ramp floor surfaces shall be stable, firm, and slip-resistant.

Ground floor surfaces along accessible routes and in accessible rooms and spaces including floors, walks, ramps, stairs, and curb ramps, shall be stable, firm, and slip-resistant.

The main door to the public work area shall have a minimum clear opening of 32 inches with the door opened 90 degrees, measured between the face of door and the opposite stop. Minimum maneuvering clearances at doors shall be provided. The floor or ground area within the required clearances shall be level and clear.

The handle and other operating devices on accessible doors shall have a shape that is easy to grasp with one hand and does not require tight grasping. Lever-operated mechanisms push type mechanisms, and U-shaped handles are acceptable designs. Hardware required for accessible door passage shall be mounted no higher than 48 inches above finished floor.
A minimum of 3 parking spaces will be supplied for Class B & C Field Offices and 6 for Class A. One wheelchair accessible parking space shall be located on the shortest accessible route of travel from adjacent parking to an accessible entrance.

Level landings shall be provided at bottom and top of each run. The landing shall be at least as wide as the ramp run leading to it with a minimum length of 60 inches.

If a ramp run has a rise greater than 6 inches or a horizontal projection greater than 72 inches, then it shall have handrails on both sides. Handrails shall have the following features:

1) Handrails shall be provided along both sides of ramp segments. The inside handrail on switchback ramps shall always be continuous.

2) If handrails are not continuous, they shall extend at least 12 inches beyond the top and bottom of the ramp segment and shall be parallel with the floor or ground surface.

4) The clear space between the handrail and the wall shall be 1½ inch.

5) Gripping surfaces shall be continuous.

6) Top of handrail gripping surfaces shall be mounted between 34 and 38 inches above ramp surfaces.

6) Ends of handrails shall be either rounded or returned smoothly to floor, wall, or post.

7) Handrails shall not rotate within their fittings.

8) The diameter or width of the gripping surfaces of a handrail shall be 1¼ to 1½ inch, or the shape shall provide an equivalent gripping surface.

Firm and sturdy steps shall also be provided with 7 inch maximum riser and 11 inch minimum depth, and at least one handrail extending from the top of the steps to a minimum 12 inches beyond the bottom of the steps.

The Contractor will make reasonable effort(s) to provide wheelchair accessible toilet facilities when "portable" facilities are provided.

The Contractor shall provide wheelchair accessible toilet facilities when flush type facilities, that is, those with running water, are provided; and the Contractor shall provide wheelchair accessible portable facilities, if used, when the contract duration exceeds two continuous construction seasons.

In addition to the facilities previously specified in this subsection, each field office shall meet the following minimum requirements:

Description	Quantity		
	Type A	Type B	Type C
Floor Area (Outside Dimension) - ft^2	312	220	125
Inside Wall Height – feet	7	7	7
Window Area - ft^2	55	35	35
Drafting Table Surface Area - ft^2	15	15	15
Drafting Stools - each	2	1	1
Office Desks - each	2	1	1
Ergonomic Swivel Chairs -ea (5-way adjustable)	3	2	2
Folding Chairs - each	3	2	2
Lighting Units - each	4	2	2
Electric Wall Outlets - each	6	4	3
Power Strip Surge Protectors - each	3	2	1
Wall Closets - each	1	1	1
Plan Rack for minimum of 6 sets of plans	1	1	0
Toilet Facility	1	1	1
Wastebaskets - each	2	2	1

All windows shall be provided with shades or blinds.

The toilet facility shall be for the exclusive use of State personnel. If requested, the Contractor will supply a lock to ensure exclusive use.

The Resident will have the option to reject any furniture or supplies provided to the field office based on general condition.

One hundred ten volt, 60 cycle, continuous electric service shall be supplied for lighting and 15 amp duplex wall outlets. Lighting shall consist of florescent light units with rapid start bulbs or LED shop style lights located over the work areas for a minimum of 50 foot candles overall. At least one external light source will be provided.

Drafting surfaces shall be 40 inches above the floor and have shelves beneath. Shelves for plans and rolls shall also be furnished overhead. Drafting stools shall be approximately 28 inches high.

Desks shall be single or double pedestal standard office type, and shall be in addition to "built-in" type desks in the office trailer.

Field offices shall be furnished with one four-drawer letter size metal filing cabinet.

Wall closets shall be 21 inches wide, 15 inches deep, and at least 4 feet high.

Each office shall be furnished with a broom, dustpan, sweeping compound, trash bags, and with cleaning material for cleaning glass. If the field office is carpeted, then a vacuum cleaner will be provided. The contractor will be responsible for disposing of trash from the field office.

The Contractor shall provide a fully functional wireless desktop copier/scanner/printer, capable of copying field books, for the Resident's use during the project. All maintenance and supplies, except paper, shall be the responsibility of the Contractor.

The Contractor shall provide bottled water and a microwave for the duration of the project. All maintenance and supplies shall be the responsibility of the Contractor. Alternate source of water, such as a water cooler, may be provided as approved by resident.

The Contractor shall provide a 4 cubic-foot refrigerator in the field office for the duration of the project.

Each office shall be furnished with a 10-person general-purpose first aid kit. The first aid kit shall be periodically inspected and refilled as necessary.

639.08 Heat Heat appropriate to the building size shall be supplied by the Contractor to maintain an acceptable room temperature during occupancy.

639.091 Broadband Connection The contractor will supply one computer broadband connection, modem lease and router. The router shall have wireless access and be 802.11n or newer capable. The type of connection supplied will be contingent upon the availability of services (i.e. DSL or Cable Broadband). It shall be the contractor's option to provide dynamic or static IP addresses through the service. The selected service will have a minimum download connection of 5.0 Mbps and 1.0 Mbps upload. The contractor shall be responsible for the installation charges and all reinstallation charges following suspended periods. Monthly service and maintenance charges shall be billed by the Internet Service Provider (ISP) directly to the contractor.

639.10 Method of Measurement Field office will be measured by the unit or lump sum for each building provided, equipped and maintained satisfactorily.

639.11 Basis of Payment The accepted quantity of field office will be paid for at the contract unit price each or lump sum which payment shall be full compensation for furnishing until contract completion, erecting, equipping, maintaining, furnishing electricity, heating, installing and maintaining toilet facilities and if necessary removing the buildings or office trailers.

Payment for these items will be made in 3 parts; the first payment of ½ to be made after the Contractor has supplied the building or office trailer and it has been approved. The remaining payments shall be made at intervals as follows:

A second payment of ¼ shall be made when one-half of the anticipated work has been completed.

The final payment of the remaining ¼ shall be made upon completion of the work.

Payment will be made under:

Pay Item		Pay Unit
639.18	Field Office, Type A	Each
639.19	Field Office, Type B	Each
639.20	Field Office, Type C	Each

SECTION 643
TRAFFIC SIGNALS

643.01 Description Revise this Section by removing in its entirety and replacing it with:

643.01 Description This work shall consist of furnishing and installing all equipment necessary for the erection and operation of a traffic signal, including traffic signal structures, flashing beacon, temporary traffic signal or modification of a traffic signal, all in reasonably close conformity with the plans.

643.02 General All equipment shall be new unless otherwise specified. Requests for substitution of any specified material shall be submitted in writing with all documentation (specifications, mill certifications, etc.) in order to enable the Department to evaluate the proposal. Substitutes for specified material may be accepted upon approval by the Fabrication Engineer. Functionally, any substitute shall give equal or better service than the specified material. Existing signal equipment to be used shall be cleaned, repainted, and reconditioned as noted on the plans. All equipment, installation of equipment and other incidental work shall conform to the latest applicable provisions of: NEC, MUTCD, NESC, NEMA, and the ITE Standards for traffic control equipment. All work shall be done to the satisfaction of the Resident. The meaning of specific terms shall be as defined in MUTCD, NESC, and the ITE Standards for traffic control equipment.

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

Steel Conduit	**715.02**
Non-metallic Conduit	**715.03**
Prewired Conduit	**715.04**
Metallic Junction and Fuse Box	**715.05**
Secondary Wiring	**715.07**
Vehicular Signal Indications	**718.01**
Pedestrian Signal Indications	**718.02**
Signal Mounting	**718.03**

Vehicular Loop Detectors	**718.04**
Microwave Detectors	**718.05**
Pedestrian Detectors	**718.06**
Controllers	**718.07**
Controller Cabinet	**718.08**
Flasher	**718.09**
Program Selection	**718.10**
Contacts and Relays	**718.11**
Conductors	**718.12**
Aluminum Supports	**720.01**
Aluminum Mast Arm and Bracket Arm	**720.02**
Steel Supports	**720.03**
Steel Mast Arm and Bracket Arm	**720.04**
Anchor Bolts	**720.07**
Wood Utility Pole	**720.10**

643.022 Paint **Aluminum paint shall conform to AASHTO M69, Type II. Green or yellow enamel paint, as indicated on the plans, shall meet or exceed the latest Federal Specification TT-E-489. The color shall match Federal Color Standard Number 14062.**

643.023 Traffic Signal Structures **The design, materials and fabrication of Traffic Signal Structures shall meet the requirements of the current edition of AASHTO "LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals" and interims thereto, as noted below except as otherwise indicated within these specifications or on the plans.**

All poles and mast arms shall be designed using the following criteria:

- **Basic wind speeds based on a 700-year mean recurrence interval**
- **K_z as specified in Table C3.8.4-1 (Height and Exposure Factors)**
- **K_d as specified in Table 3.8.5-1 (Directionality Factors)**
- **G as 1.14, minimum (Gust Factor)**
- **C_d as specified in Table 3.8.7-1 (Wind Drag Coefficients)**
- **Deflection requirements as specified in Section 10.4**

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).

All Traffic Signal Structures with mast or bracket arms shall be equipped with an approved damping or energy-absorbing device.

After execution of the contract and before any shop work is commenced, the Contractor shall submit for approval the manufacturer's drawings, including design computations and

fatigue computations, of all Traffic Signal Structures proposed to be furnished and erected under this Contract. The drawings shall be of sufficient detail to indicate material and dimensional conformance with these specifications and the plans. Each drawing shall contain a reference to the design criteria and a certification that the design criteria have been met for the Traffic Signal Structures, including poles, mast arms and associated hardware and fittings, as submitted. The certification shall be signed by a Professional Engineer licensed in accordance with State of Maine regulations under their official seal.

It is the intent of these specifications that the Contractor shall be fully responsible for the adequacy of the sizes, wall thicknesses, materials and connections of the Traffic Signal Structures, including poles, mast arms and associated hardware and fittings. Approval of the drawings by the Fabrication Engineer will signify only approval of the materials, mounting height(s) and mast arm length(s). Approval of deviations from the plans and/or specifications shall be requested in writing and approved by the Fabrication Engineer before being incorporated in the manufacturer's drawings.

The Contractor shall furnish and install all electrical fittings, pipe, switches, fuses, and such other material necessary to install the equipment properly and securely. All equipment shall conform to the applicable code and be of first-class workmanship. All electrical fittings shall be complete with weatherproof gaskets.

A Certificate of Compliance shall be provided for all applicable materials noted in Section 634.021 – Materials, in accordance with the requirements of the General Statement of Division 700 Materials. Shop certification in accordance with Section 504.04 is required.

643.024 Miscellaneous Materials **Span wire shall be minimum $^{5}/_{16}$ inch diameter, minimum, 7 strand, extra-high strength, galvanized steel wire. Anchors shall be power installed and sized according to strain and soil conditions. All hardware, such as strand vise feed-thru dead ends, preforming guy grip dead ends and angle thimble-eye bolts, shall be standard pole line hardware.**

Guying of poles shall meet the requirements of Grade "B" Construction as defined in the NESC. Guys shall be installed in line with the direction of pull. Anchors shall be power installed so that the centerline of the anchor rod will be within 10° of the line of the guy wire. The holding capacity of the anchor shall be 1.25 times the calculated load on the guy wire. Guy wires shall be utility grade and the maximum working stress shall not exceed half of the maximum ultimate tensile strength of utility grade guy strand. Where bedrock is encountered, rock anchors shall be used.

Pipe standoffs for sidewalk anchors shall be galvanized steel pipe sized according to the offset distance from anchor to pole and shall be fitted with standard guying hardware.

Messenger wire shall be ¼ inch diameter, 7 strand, extra-high strength, galvanized steel wire, unless otherwise specified.

LED lamps shall have a regulated power supply designed to electrically protect the diodes. The lamp shall be watertight and sealed to eliminate contaminants. The lamps shall be capable of operating at ambient air temperatures of -40°F to 140°F.

Lamp life shall be a minimum of 100,000 hours of continuous operation. They shall be manufactured using the Allen Gap Technology. Power consumption for 12 inch indications including power supply shall not exceed 20w.

643.03 General Installation details will be shown on the plans and/or specifications. The location shown for all equipment and vehicle detectors is approximate; final locations will be determined in the field.

During installation, all heads installed but not operating shall be covered or otherwise concealed from view.

The requirements of certain Sections of this specification may be waived for temporary traffic signals and traffic signal modifications, if so noted on the plans.

643.04 Poles Wood poles shall be placed in the ground to a depth of 20% of their overall length, with a maximum deviation from the vertical of ¼ inch in 5 feet.

After each wood pole has been set in the ground and plumbed, the space around the pole shall be backfilled with selected earth or sand, free of rocks and other deleterious material, placed in layers approximately 4 inches thick. Each layer shall be moistened and thoroughly compacted.

Traffic Signal Structures shall be erected in a vertical position, with a maximum deviation from the vertical of ¼ inch in 5 feet using the leveling nuts provided with the anchor bolts. Once the poles have been plumbed, the top nuts shall be tightened by bringing the nut to a snug tight condition using the full effort of a worker using a spud wrench or compatible tool. After all nuts have been brought to a snug, tight condition, each nut shall be tightened an additional one-third turn, using an impact wrench, torque wrench or large crescent wrench. A minimum of two full threads shall project beyond the outside face of the nut. Nuts and bolts, other than anchor bolts, shall also be tightened by the above procedure.

When foundations and anchor bolts have been installed by others, the Contractor shall verify the anchor bolt dimensions at each location so that bases will be furnished with properly located and sized bolt holes.

Wires in poles shall be supported with a Kellum-type, braided, strain-relief grip attached to a "J" hook mounted inside the pole near the top.

643.041 Foundations Foundations for Traffic Signal Structures shall meet the requirements of Section 626 – Foundations, Conduit, and Junction Boxes for Highway Lighting, Traffic Signals, and Highway Lighting.

643.05 Loop Detector and Loop Detector Wire Installation **The detector unit shall be located in the controller. No more than four loops shall be connected to a single detector amplifier.**

Detectors shall be installed according to the manufacturer's recommendation, subject to approval. Each detector shall be supplied complete with comprehensive installation instructions. The pavement slot for wire shall be 2 to 3 inches below the finished surface and not closer than 18 inches from the edge of pavement or the curb. The right-angle corners of the pavement slot shall be chamfered to eliminate sharp bends in the loop wires.

Loop detector wire shall be number 14 or number 12 AWG copper conductors drawn through vinyl plastic tubing approximately ¼ inch in diameter. All pulse loop "approach" wiring shall be insulated red and shall be permanently marked "A", "B", "C", or "D", according to the "approach" guidelines in the controller cabinet. All pulse loop "presence" wiring shall be insulated black and shall be permanently marked according to the "presence" guidelines in the controller cabinet. All loop lead-ins shall be of the same conductor with no splicing. The lead-in from the amplifier to the beginning of the loop shall be shielded pairs, as shown on the plans.

All debris and moisture shall be removed from the loop pavement slot before installation of loop wires. The pavement slot shall be filled to the road surface with an approved sealing compound to form a waterproof bond with the pavement after installing the wire loop.

Detector conductors shall not be housed in the same jacket as the signal conductors.

643.06 Microwave Detector Installation **The microwave detector shall be installed in accordance with the manufacturer's recommendations. A four-conductor wire shall be installed from the microwave unit to the controller. All angles and adjustment of patterns shall be the responsibility of the Contractor. The detectors shall operate in either pulse or presence mode.**

643.07 Span Wire, Messenger Wire, and Guy Wire **All span wire, messenger wire, and guy wire installations shall be in conformance with the requirements of the Utility Companies, when installed on Utility Facilities.**

All span wire hanging traffic signals permanent or temporary will have a bottom tether wire to prevent the signal from excessive swinging

All span wires, messenger wires, guy wires, terminal boxes, controller cabinets, or any other metallic surface that might be contacted by people, shall be bonded to ground.

All sidewalk guy wires and slant guy wires installed in a sidewalk area shall be equipped with full-round or half-round guy guards.

643.08 Conduit **All conductors under roadways from the controller to the mast arm poles shall be 3 inch schedule 80 PVC.**

643.09 Service Connection **The Contractor shall furnish and install the necessary electrical service as directed by the Utility Company. The Contractor shall make all arrangements for the service connection and be responsible for all charges incurred thereby.**

Under no condition shall any equipment, except that shown on the plans, be installed on any Utility Facilities.

Traffic signal services shall have an automatic transfer switch such as a GENERLINK model MA23/24 – S installed, this will be required on traffic signals only not beacons or dynamic signs.

Whenever a service connection is to be made, the Contractor shall contact the Utility Company involved and inform them of the location, pole number, and time proposed for the service connection.

The traffic cabinet shall be marked with:

An appropriate arc flash plaque or decal with the following information
Flash hazard boundary
Cal/cm2 hazard at 18 inches
PPE level
Shock hazard when cover is off
Limited approach boundary
Restricted approach boundary
The prohibited approach boundary

This shall be located on the outside of the equipment and shall be visible, weatherproof, and fade resistant, and not easily removed.

The Contractor shall be responsible for all outstanding bills for preliminary work done by the Utility Company during the installation of the traffic signal system, to facilitate the service connection.

A service ground rod shall be installed if the service meter trim is not grounded.

The Contractor shall be responsible for grounding the system to 5 OHMS or less. The grounding shall be performed using a ground meter with reference grounds. All testing will be done in the presence of the Resident.

All meter mounting devices shall be installed so that the meters will be upright (plumb). They shall be installed with the top of the meter not less than 48 inches nor more than 60 inches from the floor to the final grade. Exceptions to this height requirement will be made where special permission has been given to install group or modular metering, overall metering enclosures, or pole-mounted meters. Level grade shall be maintained for a minimum of 3 feet in front of the meter enclosure to provide a safe working space. In order to meet this

requirement on uneven terrain, as an option, the Contractor may install a pressure-treated wood platform.

For any non-residential (industrial or commercial) self-contained meter socket the by-pass requirements are single phase, 100 or 150 amp, single handle lever operated.

The Contractor shall meet all requirements and regulations of Utility Companies when installing equipment on their poles and for the service connection. It is the responsibility of the Contractor to contact the appropriate Utility to determine their specific requirements.

643.10 Wiring The Contractor shall furnish and install sufficient cable and wire to operate the system properly as shown on the plans and as directed.

The following color code shall be used where possible:

Red Wire	**Red, artery**
Orange Wire	**Yellow, artery**
Green Wire	**Red, side street**
Orange with Tracer	**Yellow, side street**
Green with Tracer	**Green, side street**
White and white with tracer	**Common for all signals and bond**
Blue	**All steady burning arrows**
Blue with Tracer	**Intermittent arrows**
Remaining	**Detectors and pedestrian signals**

The white wire and white wire with tracer shall be used for all common connections and it shall be continuously connected to ground at the controller.

There shall be no wire splices. Connections shall be made on a terminal board inside a watertight galvanized steel or aluminum junction box or in an aerial terminal enclosure with protective cover rated for 600 volts.

Spade type copper terminal ends shall be used to attach all conductors to terminals. All exposed metal parts, including service conduit and the controller cabinet shall be bonded and grounded.

Not more than 3 conductors shall be brought to any one terminal. Terminals shall be mounted to face the cabinet door.

The number and size of conductors required in each cable will be indicated on the plans.

643.11 Vertical Clearance Unless otherwise specified on the plans and/or specifications, vertical clearances for vehicular and pedestrian heads shall be in conformity with the MUTCD. All clearances shall be uniform among each type of head or mounting scheme. Clearance for span wire mounted flashing beacon heads shall be a minimum of 17 feet and a maximum of 18 feet.

643.12 Painting **Unless otherwise indicated, all exterior parts of the following equipment shall be delivered to the project finished with green or yellow enamel:**

Vehicular Signal Heads
Pedestrian Signal Heads
Pedestrian Push Button Detectors

The outside of the steel controller cabinet shall be painted with aluminum paint.

The Contractor shall apply one coat of green enamel to all existing equipment designated on the plans to be painted. The Contractor shall touch up all scratches on exposed surfaces of new equipment with matching enamel after the equipment has been installed.

All exposed signal parts to be painted shall be cleaned and shall be dry when the paint is applied. No painting shall be done in damp weather nor when the air temperature is below 40°F, unless otherwise permitted.

The Contractor shall identify recently painted equipment with "Wet Paint" signs, and shall be responsible for all claims for damages resulting from contact with wet paint surfaces.

643.13 Power Factor **In the event that the equipment is of such design that the power factor is reduced below the requirement of the Utility Company, the Contractor shall furnish and install, without further charge, all equipment necessary to restore the power factor to a satisfactory percentage. Such equipment shall be accessible and shall not be mounted on the Utility Facilities.**

643.14 Field Tests **Before acceptance of the work, the Contractor shall conduct the following tests on all traffic signal equipment and circuits, by a licensed electrician. The tests do not need to be performed in the presence of the Resident, but the test results shall be recorded on the Traffic Signal Quality Control Check List and submitted to the Resident by the Contractor for acceptance. The form shall be signed by the licensed electrician certifying that the signal equipment and circuits meet the requirements of section 634.14.**

a. Continuity **Each circuit shall be tested for continuity.**

b. Ground **Each circuit shall be tested for grounds.**

c. Megger **Megger tests at 500 volts DC shall be made on each circuit between the circuit and a ground. The insulation resistance shall not be less than 10 megaohms on all circuits, except for inductive loop detector circuits, which shall have an insulation resistance value of not less than 100 megaohms.**

d. Loop Inductance **A loop test meter shall be used to determine that the inductance of the installed loop and lead-in are within the tuning range recommended by the loop detector manufacturer.**

e. Functional **A functional test shall be made in which it is demonstrated that each part of the system functions as specified.**

The functional test for each new or modified traffic signal and flashing beacon shall consist of not less than 10 days of continuous satisfactory operation. If unsatisfactory performance of the system develops, the condition shall be corrected and the test shall be repeated until the 10 days of continuous satisfactory operation is obtained.

The initial operation shall be made between 9:00 A.M. and 2:00 P.M. unless specified otherwise. Before initial operation, all equipment shown on the plans shall be installed and operable.

Initial operation of new or modified traffic signal systems shall be made only after all traffic signal circuits have been thoroughly tested as specified above.

During the test period all costs except electrical energy shall be the Contractor's responsibility.

Functional tests shall start on any working day except Monday, Friday, Saturday, Sunday or the day preceding a legal holiday.

Shutdown caused by a power interruption shall not constitute discontinuity of the functional test, however, the test shall continue after power is restored.

643.15 Timing **The controller shall be timed as noted on the plans. The Contractor shall notify the Resident, at least 1 week in advance, of their intention to initially operate the signals.**

At the time of initial operation of the new signals, the Contractor shall provide police protection from the local police department at the Contractor's expense until the Contractor demonstrates to the Resident that the signal operates in conformance with this specification.

643.16 Final Cleaning Up **After all work has been completed, the Contractor shall remove all barriers, "Wet Paint" signs, equipment and all debris which has accumulated during the work.**

Unless otherwise specified in the plans, the Contractor shall remove and deliver all unused signal equipment and wiring to the State of Maine, Department of Transportation, as directed by the Resident. The Contractor shall notify the State Traffic Engineer (207-624-3620) as to time and date of such delivery. (Deliveries will be accepted Monday through Friday between the hours of 7:00 A.M. and 4:00 P.M. only.) Notification shall precede delivery by a minimum of 24 hours.

643.17 Documents **The Contractor shall furnish two operation and maintenance manuals for all controller units, auxiliary equipment, vehicle detector sensor units, control units, and**

amplifiers. Documents shall be delivered with the controller at the time of testing. Each manual must include, but need not be limited to the following:

a. An explanation of the theory of operation, including a functional description and a detailed circuit description.

b. A schematic diagram of each unit. A cabinet wiring diagram including all field wiring and pin locations and designations for all plug type connectors. If any circuit changes are made in the field, the changes shall be noted on the schematic diagrams.

c. A trouble shooting and preventive maintenance procedure including both field and bench trouble shooting analysis.

d. A parts list including a pictorial diagram showing the location and identification of each component on the chassis or circuit board.

e. A drawing of the controller cabinet interior showing the location of all shelves, terminal blocks, relays, timers, loop amplifiers.

In addition, manufacturer's warranties and guarantees for materials shall be delivered to the Resident before acceptance of the project.

643.18 Method of Measurement Traffic signals, traffic signal modifications, interconnect wire, video detection system, traffic signal control system, and flashing beacons will each be measured for payment by the lump sum in place. Temporary traffic signals will be measured for payment by the lump sum, satisfactorily installed, operated, and removed.

Pedestal poles, strain poles, combination poles, and mast arm poles with mast arms will be measured by each unit.

Each loop detector installed, connected to appropriate phases in the controller cabinet, complete and operational will be measured by the unit.

Excavation in solid ledge rock for replacement of wood poles will be measured by the cubic yard. The depth of measurement will be to the bottom of the pole, and the diameter of measurement will be the pole diameter plus 30 inches.

643.19 Basis of Payment Traffic signal modifications, traffic signals, interconnect wire and flashing beacons will be paid for at the contract lump sum price, which payment will be full compensation for furnishing and installing all materials, both new and reused, including, but not limited to wood poles, span wire, tether wires, backplates, visors, guys, controllers, vehicular heads, pedestrian heads, flashing beacons, wiring, cable, pole risers, LED lamps, and all appurtenances and incidentals, including design of the Traffic Signal Structures, required for a complete functioning installation and for furnishing all tools and labor necessary for completing the installation. Conduits, junction boxes, and foundations will be paid for under Section 626.

Pedestal poles, strain poles, combination poles and mast arm poles with mast arms will be paid for at the contract unit price each which payment shall be full compensation for furnishing and installing all materials, tools and labor necessary to erect the poles.

Payment for temporary traffic signals shall include compensation for the removal of the system upon completion of the work. All materials used for temporary traffic signals will remain the property of the Contractor. Operating the controller by hand will be paid for under Section 629.

Payment will be made for each Loop Detector at contract price, which will be full compensation for materials, labor, and equipment for each loop installed and fully operational.

Traffic signal control system will be paid for at the contract lump sum price, which payment will be full compensation for furnishing and installing all materials, including, but not limited to local intersection traffic signal controller, controller cabinets, on-street master controller, supervisory PC software, and all appurtenances and incidentals required for a complete functioning installation.

Video detection system will be paid for at the contract lump sum price, which payment will be full compensation for furnishing and installing all materials, including, but not limited to video processing unit, video cameras, supervisory PC software, and all appurtenances and incidentals required for a complete functioning installation.

Payment for excavation of solid bedrock for the placement of wood poles will be made under Item 206.07.

Payment will be made under:

Pay Item		Pay Unit
643.60	Flashing Beacon at:	Lump Sum
643.71	Traffic Signal Modification:	Lump Sum
643.72	Temporary Traffic Signal:	Lump Sum
643.80	Traffic Signals at: __	Lump Sum
643.81	Traffic Signal Control System	Lump Sum
643.83	Video Detection System	Lump Sum
643.86	Traffic Signal Loop Detector	Each
643.90	Interconnect Wire Between:	Lump Sum
643.91	Mast Arm Pole	Each
643.92	Pedestal Pole	Each
643.93	Strain Pole	Each
643.94	Dual Purpose Pole	Each

SECTION 652
MAINTENANCE OF TRAFFIC

652.2.4 Other Devices Revise this Section by removing the following paragraph:
" STOP/SLOW paddles shall be the primary and preferred hand held signaling device. Flags shall be limited to Emergencies. The paddle shall have an octagonal shape and be at least 18 inches wide with letters at least 6 inches high and should be fabricated from semi-rigid material"

And replace with these paragraphs:

"Flaggers shall use a STOP / SLOW hand held paddle as the primary and preferred hand signaling device. Flags shall only be limited to emergencies.
STOP / SLOW paddles shall have high intensity prismatic retro reflective sheeting, have an octagonal shape on a rigid handle and shall be at least 18 inches wide with letters at least 6 inches high and shall be constructed from light semi-rigid material. The STOP (R1-1) face shall have white letters and a white border on a red background. The SLOW (W20-8) face shall have black letters and a black border on an orange background.
STOP / SLOW paddles shall also incorporate either white or red flashing lights on the STOP face and white or yellow flashing lights on the SLOW face of the paddle and always be in use. Paddles must conform to any of the following patterns:
A. Two white or red lights (colors shall be all white or all red), one centered vertically above and one centered vertically below the STOP legend; and/or two white or yellow lights (colors shall be all white or all yellow), one centered vertically above and one centered vertically below the SLOW legend;
B. Two white or red lights (colors shall be all white or all red), one centered horizontally on each side of the STOP legend; and/or two white or yellow lights (colors shall be all white or all yellow), one centered horizontally on each side of the SLOW legend;
C. One white or red light centered below the STOP legend; and/or one white or yellow light centered below the SLOW legend;
D. A series of eight or more small all white or all red lights no larger than 1/4 inch in diameter along the outer edge of the paddle, arranged in an octagonal pattern at the eight corners of the border of the STOP face; and/or a series of eight or more small all white or all yellow lights no larger than 1/4 inch in diameter along the outer edge of the paddle, arranged in a diamond pattern along the border of the SLOW face; or
E. A series of white lights forming the shapes of the letters in the legend.
Flashing light patterns shall be compliant with Section 6E.03 Hand Signaling Devices in the most current version of the Manual on Uniform Traffic Control Devices.
All flashing light patterns on the STOP / SLOW paddle shall be visible from a minimum distance of 1000 feet."

652.3.3 Submittal of Traffic Control Plan On page **6-148**, note **f,** in the last sentence revise the "105.2.2" to "105.2.3" so that the last sentence reads, "**For a related provision, see Section 105.2.3 – Project Specific Emergency Planning**.".

652.3.4 General Revise the eighth paragraph by removing "Earth Berm" and replace it with "**Concrete Barrier**".

Amend this section by adding the following paragraph before the paragraph beginning with "Special Detours and temporary structures…":

"A temporary ramp shall be constructed with HMA at the ends of the roadway section paved or milled each day. The use of millings or RAP will not be allowed, but cold patch may be temporarily utilized until HMA plants are open for the season. The maximum ramp change in elevation shall not exceed 4" vertical. For Interstate Highways or roadways with speed limits equaling or exceeding 50 mph; temporary ramps shall be constructed at a length of eight feet per inch of transition depth. For roadways with speed limits less than 50 mph and greater than 25 mph, temporary ramps shall be constructed at a length of four feet per inch of transition depth. For roadways with speed limits 25 mph or less, temporary ramps shall be constructed at a length of two feet per inch of transition depth. Materials, placement, maintenance, and removal shall be incidental to contract items."

652.4 Flaggers Revise this section by removing the first paragraph, and replace it with the following"

"The Contractor shall furnish flaggers as required by the TCP or as otherwise specified by the Resident. All flaggers must have successfully completed a flagger test approved by the Department and administered by a Department-approved Flagger-Certifier. All flaggers must carry an official certification card with them at all times while flagging.

For daytime conditions, flaggers shall wear a top (vest, shirt or jacket) that is orange, yellow, yellow-green, or fluorescent versions of these colors meeting ANSI 107-2004, Class 2 or Class 3, along with a hardhat with 360 ° retro-reflectivity.
For nighttime conditions, flaggers shall wear all Class 3 apparel, meeting ANSI 107-2004, including a Class 3 top (vest, shirt or jacket) and a Class E bottom (pants or coveralls), shall be worn along with a hardhat with 360 ° retro-reflectivity and shall be visible at a minimum distance of 1000 ft. Flagger stations must be illuminated in nighttime conditions to assure visibility and will be specifically addressed in detail in the Contractor's TCP".
652.41 TRAFFIC OFFICERS
Revise this subsection so that the subsection number and title is

"**652.4.1 TRAFFIC OFFICERS** "

652.6.1 Daylight Work Times Revise this section by removing the word "table" in the first sentence and replacing it with "times procured". Also remove the link http://www.sunrisesunset.com/usa/Maine.asp and replace with https://www.sunrisesunset.com/usa/Maine/.

SECTION 656

TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL

656.3.4 Water Pollution Control Requirements Revise this section by adding the following to the end:

" **g. Water withdrawals for dust control or moisture control for compaction is prohibited from waterbodies in Maine that have identified invasive plant infestations. For current information and a map of waterbodies where withdrawal is prohibited, visit the DEP website**; https://www.maine.gov/dep/water/invasives/ . **Under the heading, "Control" there is a link to infested waterbodies**. "

656.5.2 If No Pay Item Add the following to the end of the first paragraph:
"Failure by the Contractor to follow Standard Specification or Special Provision - Section 656 will result in a violation letter and a reduction in payment as shown in the schedule list in 656.5.1. The Department's Resident or any other representative of The Department reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Department shall not be held responsible for any delay in the work due to any suspension under this item."

SECTION 660
ON-THE-JOB TRAINING

660.06 Method of Measurement

Remove the first sentence in its entirety and replace with " **The OJT item will be measured by the number of OJT hours by a trainee who has successfully completed an approved training program.**"

660.07 Basis of payment to the Contractor
Remove the last word in the first sentence so that the first sentence reads " The OJT shall be paid for once successfully completed at the contract unit price per **hour**."

Payment will be made under
Change the Pay Item from "660.22" to "**660.21**" and change the Pay Unit from "Each" to "**Hour**".

SECTION 672
PRECAST CONCRETE BLOCK GRAVITY WALL

672.031 Concrete Units Revise this section by making the following changes:
In the second paragraph remove "A" and underline "**Materials**".
In the third paragraph remove "B" and underline "**Quality Control and Quality Assurance**".
Revise this section by removing the paragraph "C Construction…" and replacing it with:

"**Construction. Construction requirements are modified as follows:**

Add the following paragraph at the end of the Construction section:

Face texture of the units shall be a formed finish on all exposed surfaces. Pigment shall be added during the casting process of the concrete unit to achieve a consistent shade of gray or other color as determined by the Resident.

Curing. Curing requirements are modified as follows:

Replace the first sentence in the paragraph which begins "Forms shall remain …" with the following:

The forms shall remain in place until the concrete has gained sufficient strength such that removal of the forms and subsequent handling will not damage the units."

In the paragraph beginning with "D" remove "D" and underline "**Concrete Testing**".
In the paragraph beginning with "E" remove the "E" and underline "**Tolerences**". Also in this paragraph add "**Replace Tolerance contents in 712.061 with the following**:" after Tolerances.

672.035 Backfill Material– Revise this section by adding the following after the second paragraph:
Backfill materials shall meet the criteria in the following table.

Base Polymer	Property	Criteria	Test Method
Polyester (PET)	pH	3< pH < 9	AASHTO T-289
Polyolefin (PP & HDPE)	pH	pH > 3	AASHTO T-289

672.04 Design Requirements – Revise this section by replacing items 2 and 3 in the second paragraph with the following:

2. FHWA-NHI-10-024 and FHWA-NHI-10-025, Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes, Volumes I and II, current edition.

3. FHWA-NHI-09-087 Corrosion/Degradation of Soil Reinforcements for Mechanically Stabilized Earth Walls and Reinforced Soil Slopes, current edition.

SECTION 673
WETCAST SMALL LANDSCAPE BLOCK WALL

673.031 Concrete Units Revise this section by making the following changes:
In the second paragraph remove "A" and underline "**Materials**".
In the third paragraph remove "B" and underline "**Quality Control and Quality Assurance**".
Revise this section by removing the paragraph "C Construction…" and replacing it with:

"**Construction** **Add the following paragraph at the end of the Construction section:**
Face texture of the units shall be a formed finish on all exposed surfaces. Pigment shall be added during the casting process of the concrete unit to achieve a consistent shade of gray or other color as determined by the Resident.

Curing. **Curing requirements are modified as follows:**
Replace the first sentence in the paragraph which begins "Forms shall remain …" with the following:
The forms shall remain in place until the concrete has gained sufficient strength such that removal of the forms and subsequent handling will not damage the units."

In the paragraph beginning with "D" remove "D" and underline "**Concrete Testing**".
In the paragraph beginning with "E" remove the "E" and underline "**Tolerences**". Also in this paragraph add "**Replace Tolerance contents in 712.061 with the following**:" after Tolerances.

673.035 Backfill Material – Revise this section by adding the following after the second paragraph:

Backfill materials shall meet the criteria in the following table.

Base Polymer	Property	Criteria	Test Method
Polyester (PET)	pH	3< pH < 9	AASHTO T-289
Polyolefin (PP & HDPE)	pH	pH > 3	AASHTO T-289

673.04 Design Requirements – Revise this section by replacing items 2 and 3 in the second paragraph with the following:

2. **FHWA-NHI-10-024 and FHWA-NHI-10-025, Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes, Volumes I and II, current edition.**
3. **FHWA-NHI-09-087 Corrosion/Degradation of Soil Reinforcements for Mechanically Stabilized Earth Walls and Reinforced Soil Slopes, current edition**

SECTION 674
PREFABRICATED CONCRETE MODULAR GRAVITY WALL

674.02 Materials Amend this section by replacing the last sentence in the first paragraph which begins with "Materials shall…"with the following: "**Modify requirements in 712.061 as follows:**".

Amend this section by adding the following after "Concrete Units:" and before the paragraph beginning with "Tolerances ".

Concrete shall be Class P. The concrete shall contain a minimum of 5.5 gallons per cubic yard of calcium nitrite solution.

The minimum permeability of the concrete as indicated by Surface Resistivity shall be 17 KOhm-cm.

Defects Defects which may cause rejection of precast units include, but are not limited to, the following:
Any discontinuity (crack, rock pocket, etc.) of the concrete which could allow moisture to reach the reinforcing steel.
Rock pockets or honeycomb over 6 square inches in area or over 1 inch deep.
Edge or corner breakage exceeding 12 inches in length or 1 inch in depth.
Any other defect that clearly and substantially impacts the quality, durability, or maintainability of the structure, as determined by the Fabrication Engineer.

Repair honeycombing, ragged or irregular edges and other non-structural or cosmetic defects using a patching material from the MaineDOT Qualified Products List (QPL). The repair, including preparation of the repair area, mixing and application and curing of the patching material, shall be in accordance with the manufacturer's product data sheet. Corners that are not exposed in the final product may be ground smooth with no further repair necessary if the depth of the defect does not exceed 1/2 inch. Remove form ties and other hardware to a depth of not less than 1 inch from the face of the concrete and patch the holes using a patching material from the MaineDOT QPL.

Repair structural defects only with the approval of the Fabrication Engineer. Submit a nonconformance report (NCR) to the Fabrication Engineer with a proposed repair procedure. Do not perform structural repairs without an NCR that has been reviewed by the Fabrication Engineer. Structural defects include, but are not be limited to, exposed reinforcing steel or strand, cracks in bearing areas, through cracks and cracks 0.013 inch in width that extend more than 12 inches in length in any direction. Give the QAI adequate notice prior to beginning any structural repairs.

SECTION 677
MECHANICALLY STABILIZED EARTH RETAINING WALL

677.03 Design Requirements – Revise this section by replacing items 6, 7 and 8 in the second paragraph with the following:

6. **FHWA-NHI-10-024, Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes, Volumes I, current edition.**
7. **FHWA-NHI-10-025, Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes, Volumes II, current edition.**
8. **FHWA-NHI-09-087 Corrosion/Degradation of Soil Reinforcements for Mechanically Stabilized Earth Walls and Reinforced Soil Slopes, current edition**

On page 6 - 203 change “636.041” to “677.041”

Amend 677.042 Precast Panel Tolerances and Surface Finish by the addition of the following:

Defects **Defects which may cause rejection of precast units include, but are not limited to, the following:**

Any discontinuity (crack, rock pocket, etc.) of the concrete which could allow moisture to reach the reinforcing steel.
Rock pockets or honeycomb over 6 square inches in area or over 1 inch deep.
Edge or corner breakage exceeding 12 inches in length or 1 inch in depth.
Any other defect that clearly and substantially impacts the quality, durability, or maintainability of the structure, as determined by the Fabrication Engineer.

Repair honeycombing, ragged or irregular edges and other non-structural or cosmetic defects using a patching material from the MaineDOT Qualified Products List (QPL). The repair, including preparation of the repair area, mixing and application and curing of the patching material, shall be in accordance with the manufacturer's product data sheet. Corners that are not exposed in the final product may be ground smooth with no further repair necessary if the depth of the defect does not exceed 1/2 inch. Remove form ties and other hardware to a depth of not less than 1 inch from the face of the concrete and patch the holes using a patching material from the MaineDOT QPL.

Repair structural defects only with the approval of the Fabrication Engineer. Submit a nonconformance report (NCR) to the Fabrication Engineer with a proposed repair procedure. Do not perform structural repairs without an NCR that has been reviewed by the Fabrication Engineer. Structural defects include, but are not be limited to, exposed reinforcing steel or strand, cracks in bearing areas, through cracks and cracks 0.013 inch in width that extend more than 12 inches in length in any direction. Give the QAI adequate notice prior to beginning any structural repairs.

SECTION 681
PRECAST AGGREGATE-FILLED, CONCRETE BLOCK GRAVITY WALL

681.031 Concrete Units Revise this section by making the following changes:
In the second paragraph remove "A" and underline "**Materials**".
In the third paragraph remove "B" and underline "**Quality Control and Quality Assurance**".
In the fourth paragraph remove "C" and underline "**Construction**".
In the fifth paragraph remove "D" and underline "**Concrete Testing**".
In the sixth paragraph remove the "E" and underline "**Tolerences**".

SECTION 702
BITUMINOUS MATERIAL

702.01 Asphalt Cement - Remove this section in its entirety and replace with the following:
Performance-Graded Asphalt Binder (PGAB) that has not been modified with polymer shall conform to the requirements of AASHTO M 320. Polymer modified binder shall meet the requirements of AASHTO M 332 and AASHTO R 92, except that the percent difference in nonrecoverable creep compliance, Jnrdiff, shall not be enforced. Performance-Graded Asphalt Binder shall not contain re-refined engine oil bottoms (REOB).
The Contractor shall arrange for the Supplier to furnish the following items to the

Department's Asphalt Pavement Engineer:
a. A Quality Control Plan that conforms to the requirements of AASHTO R 26 "Certifying Suppliers of Performance-Graded Asphalt Binders" and

b. A CERTIFICATE OF ANALYSIS for all asphalt materials furnished for use on the project. The Certificate shall include the actual test results of the material in storage from which the shipments are being made. Certificates shall be supplied for each lot, batch, or blend of each type and grade of material. A new certificate shall be issued at least every 30 days or upon receiving or manufacture of a new material. The original of each Certificate of Analysis shall be mailed to the Departments Asphalt Pavement Engineer.

The Contractor shall give the supplier sufficient notice of orders to permit testing and certification. Material not certified will not be accepted for use.
Deliveries of asphalt materials shall be accompanied by a Bill of Lading containing the information required under Section l08.1.3 f. The Bill of Lading shall include the applicable certificate number and shall include a printed or stamped statement such as the following: "THIS IS TO CERTIFY THAT THE ASPHALT MATERIAL REPRESENTED BY THIS LOADING INVOICE CONFORMS TO THE SPECIFICATIONS OF THE PURCHASER FOR THE MATERIAL TYPE AND GRADE STATED THEREON."
In the event an intermediate hauler of the asphalt material is involved, a copy of their own delivery slip shall be furnished, as well as a copy of the supplier's loading invoice. The hauler's delivery slip and the supplier's loading invoice shall be cross-referenced by use of their respective serial numbers.
All non-bituminous components added to the binder prior to the sampling point for binder certification shall be included on the asphalt binder Certificate of Analysis identifying their presence. All non-bituminous components added after the certification sampling point and prior to transport shall be included on the Bill of Lading. All non-bituminous components added to the binder at the HMA plant shall be identified on the mix plant documentation and accompanied by test results and certification showing the effect of the additives introduced, if any.

702.04 Emulsified Asphalt

Revise this Section by removing the first paragraph in its entirety and replace with the following:

Emulsified Asphalt shall conform to the requirements of AASHTO M 140. Cationic emulsified asphalt shall conform to the requirements of AASHTO M 208. Anionic emulsified asphalt Grade RS-1h shall conform to the requirements in the following table:

Type	Rapid-Setting	
Grade	RS-1h	
Tests on Emulsions	min	max
Viscosity, Saybolt Furol at 25°C SFS	20	100
Storage Stability test, 24-h, %[A]	-	1.0
Demulsibility, 35 ml, 0.02 *N* $CaCl_2$, %	60	-

Sieve Test, %[A]	**-**	**0.10**
Residue by distillation, %	**55**	**-**
Tests on Residue from Distillation Test	**min**	**max**
Penetration, 25°C 100g, 5 s	**40**	**90**
Ductility, 25°C 5 cm/min, cm	**40**	**-**
Solubility in trichloroethylene or n-propyl bromide, %	**97.5**	**-**

[A] This requirement is waived if successful application of material has been achieved in the field.

SECTION 703
AGGREGATES

703.01 Fine Aggregate for Concrete Replace the second paragraph with the following:

"All fine aggregate shall be free from injurious amounts of organic impurities. Should the fine aggregate, when subjected to the colorimetric test for organic impurities, AASHTO T 21, produce a color darker than organic plate number 3, the fine aggregate shall be rejected."

703.0201 Alkali Silica Reactive Aggregates. Remove this section in its entirety and replace with the following:

All coarse and fine aggregates proposed for use in concrete shall be tested for Alkali Silica Reactivity (ASR) potential under AASHTO T 303 (ASTM C 1260), Accelerated Detection of Potentially Deleterious Expansion of Mortar Bars Due to Alkali-Silica Reaction, prior to being accepted for use. Acceptance will be based on testing performed by an accredited independent lab submitted to the Department. Aggregate submittals will be required on a 5-year cycle, unless the source or character of the aggregate in question has changed within 5 years from the last test date.

As per AASHTO T 303 (ASTM C 1260): Use of a particular coarse or fine aggregate will be allowed with no restrictions when the mortar bars made with this aggregate expand less than or equal to 0.10 percent at 30 days from casting. Use of a particular coarse or fine aggregate will be classified as potentially reactive when the mortar bars made with this aggregate expand greater than 0.10 percent at 30 days from casting. Use of this aggregate will only be allowed with the use of cement-pozzolan blends and/or chemical admixtures that result in mortar bar expansion of less than 0.10 percent at 30 days from casting as tested under ASTM C 1567.

Acceptable pozzolans and chemical admixtures that may be used when an aggregate is classified as potentially reactive include, but are not limited to the following:

Class F Coal Fly Ash meeting the requirements of AASHTO M 295.
Ground Granulated Blast Furnace Slag (Grade 100 or 120) meeting the requirements of AASHTO M 302.

Densified Silica Fume meeting the requirements of AASHTO M 307.
Lithium based admixtures

Metakaolin

Pozzolans or chemical admixtures required to offset the effects of potentially reactive aggregates will be incorporated into the concrete at no additional cost to the Department.

703.06 Aggregate for Base and Subbase - Remove the first two paragraphs in their entirety and replace with these:
"**The following shall apply to Sections (a.) and (c.) below. The material shall have a Micro-Deval value of 25.0 or less as determined by AASHTO T 327. If the Micro- Deval value exceeds 25.0, the Washington State Degradation DOT Test Method T113, Method of Test for Determination of Degradation Value (January 2009 version) shall be performed, except that the test shall be performed on the portion of the sample that passes the ½ in sieve and is retained on the No. 10 sieve. If the material has a Washington Degradation value of less than 15, the material shall be rejected.**

The material used in Section (b.) below shall have a Micro-Deval value of 25.0 or less as determined by AASHTO T 327. If the Micro-Deval value exceeds 25.0 the material may be used if it does not exceed 25 percent loss on AASHTO T 96, Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine. "

703.081 RAP for Asphalt Pavement
Remove this section in its entirety and replace with the following:

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

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

The maximum allowable percent of RAP shall be determined by the asphalt content, the percent passing the 0.075 mm sieve, the ratio between the percent passing the 0.075 mm sieve and the asphalt content, and Coarse Micro-Deval loss values as tested by the Department. The maximum percentage of RAP allowable shall be the lowest percentage as determined according to Table 4 below:

Table 4: Maximum Percent RAP According to Test Results

Classification	Maximum RAP Percentage Allowed	Asphalt content standard deviation	Percent passing 0.075 mm sieve standard deviation	Percent passing 0.075 mm sieve / asphalt content ratio	Residual aggregate M-D loss value

Class III	**10%**	**≤ 1.0**	**N/A**	**≤ 4.0**	**≤ 18**
Class II	**20%**	**≤ 0.5**	**≤ 1.0**	**≤ 2.8**	
Class I	**30%**	**≤ 0.3**	**≤ 0.5**	**≤ 1.8**	

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

Table 5: RAP Verification Limits

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

For specification purposes, RAP will be categorized as follows:

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

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

Class I – A maximum of 20.0 percent Class I RAP may be used in any base, intermediate base, surface, or shim mixture without requiring a change to the specified asphalt binder. A maximum of 30.0 percent Class I RAP may be used in in any base or intermediate base mixture provided that a PG 58-28 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.

703.19 Granular Borrow

Remove the gradation requirements table, and replace with the following:

Sieve Designation	Percentage by Weight Passing Square Mesh Sieves	
	Material for Underwater Backfill	Material for Embankment Construction
6 inch	100	
No. 40	0-70	0-70
No. 200	0-7.0	0-20.0

703.33 Stone Ballast - In the third paragraph, remove the words " less than" before 2.60 and add the words "or greater" after 2.60.

SECTION 705
JOINT MATERIAL

705.03 Flexible Watertight Gaskets Revise this section by deleting it in its entirety and replace with "**Flexible gaskets, either rubber or plastic, shall conform to ASTM C990**"

SECTION 708
PAINTS AND PRESERVATIVES

708.05 Timber Preservative Revise this section by removing it in its entirety and replacing with: "**Timber preservatives shall conform to the requirements of AASHTO M 133 and AWPA Standard U1. All preservatives shall meet the requirements of the US EPA regulations under the Federal Insecticide, Fungicide and Rodenticide Act."**

SECTION 709
REINFORCING STEEL AND WELDED STEEL WIRE FABRIC

709.01 Reinforcing Steel Revise this section by removing the sentence starting with "The chemical composition…" in the third paragraph and replace it with the following:
"**The chemical composition shall conform to one of the types listed in Table 2 of ASTM A955 or UNS S32304 Duplex**."

SECTION 710
FENCE AND GUARDRAIL

710.07 Guardrail Posts Amend subsection 'a' by removing the words "white oak", "cedar", "tamarack", "maple", "beech", "birch" and "red oak" from the first sentence. Also in the first sentence, place an "**or**" between "pine" and "eastern hemlock". In the second sentence remove the words "well seasoned". Remove the sentence beginning with "Wood posts and offset brackets…" and replace it with: "**Wood posts and offset brackets shall be preservative treated in accordance with the requirements of AASHTO M 133 and AWPA U1, UC4A Commodity Specification A: Sawn Products**."

SECTION 712
MISCELLANEOUS HIGHWAY MATERIAL

712.061- Structural Precast Concrete Units

Under the heading, Quality Control and Quality Assurance, revise the fourth paragraph to read:

"Acceptance is the prerogative of the Department. The Department will conduct Quality Assurance (QA) in accordance with Standard Specification Subsection 106.5. Testing deemed necessary by the Department that is in addition to the minimum testing requirements will be scheduled to minimize interference with the production schedule. The QAI will perform acceptance sampling and testing and will witness or review documentation, workmanship and testing to assure the Work is being performed in accordance with the Contract Documents."

Under the heading, Construction, revise the paragraph beginning with " Recess inserts one inch…" by removing the first sentence and replacing it with "**Recess metal inserts and form ties a minimum of one inch, unless noted otherwise in the Contract**."

Under the heading, Concrete Testing, revise the first paragraph to read as the following two paragraphs:

"Concrete Testing Acceptance of structural precast units, for each day's production, will be determined by the Department, based on compliance with this specification and satisfactory concrete testing results.

At least once per week, the QAI will make 2 concrete cylinders (6 cylinders when the Contract includes permeability requirements) for use by the Department; cylinders shall be standard cured in accordance with AASHTO T23 (ASTM C31). The QAI will perform

entrained air content and slump flow testing, determine water-cement ratio and determine temperature of the sampled concrete at the time of cylinder casting. All testing equipment required by the QAI to perform this testing shall be in accordance with Standard Specification Section 502.041, Testing Equipment. In addition, the Contractor shall provide a slump cone meeting the requirements of AASHTO T 119. Providing and maintaining testing and curing equipment shall be considered incidental to the work and no additional payment will be made.

Quality Control test cylinders shall be made and tested in accordance with the following standards:

AASHTO T 22 (ASTM C39) Test Method for Compressive Strength of Cylindrical Concrete Specimens

AASHTO T23 (ASTM C31) Practice for Making and Curing Concrete Test Specimens in Field

AASHTO T141 (ASTM C172) Practice for Sampling Freshly Mixed Concrete
AASHTO T152 (ASTM C231) Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
AASHTO T196 (ASTM C173) Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method
ASTM C1064 Test Method for Temperature of Freshly mixed Portland Cement Concrete
ASTM C1611 Standard Test Method for Slump Flow of Self-Consolidating Concrete"

Under the heading, Concrete Testing, **delete** the paragraph that begins:
"At least once per week, the Contractor shall make 2 concrete cylinders..…for use by the Department….."

Under the heading, Concrete Testing, revise the paragraph beginning with "Perform compressive strength testing…" by replacing the word "transfer" with the word "**stripping**".

Under the heading, Surface Finish and Repairs, Revise this section by removing it and replacing it with:

"**Surface Finish and Repairs. Exposed surfaces shall be finished and repaired in conformance with the referenced specification. If the finish is not specified, then surfaces shall have a uniform appearance; make repairs to remove and blend fins, patch minor spalls, tie holes, handling device recesses, entrapped air pockets, honeycombing, ragged or irregular edges and other non-structural or cosmetic defects using a patching material from the MaineDOT Qualified Products List (QPL). The repair, including preparation of the repair area, mixing and application and curing of the patching material, shall be in accordance with the manufacturer's product data sheet. Corners not exposed in the final product may be ground smooth with no further repair necessary, if the depth of the defect does not exceed one-half inch. Remove form ties and other hardware to a depth of not less than one inch from the face of the concrete and patch the holes using a patching material from the MaineDOT QPL.**

Repair of structural defects: Structural defects include, but are not be limited to, exposed reinforcing steel, cracks in bearing areas, through cracks and cracks 0.013 inch in width that extend more than 12 inches in length in any direction. Repair structural defects only with the approval of the Fabrication Engineer. Submit a nonconformance report (NCR) to the Fabrication Engineer with a proposed repair procedure. Do not perform structural repairs without an NCR that has been reviewed by the Fabrication Engineer. Give the QAI adequate notice prior to beginning any structural repairs."

SECTION 713
STRUCTURAL STEEL AND RELATED MATERIAL

Section 713.01- Structural Steel Revise this Section by removing the sentence:
" Impact test sampling and testing procedures shall be in accordance with AASHTO T."
And replace it with: **"Impact test sampling and testing procedures shall be in accordance with AASHTO T 243 M/T 243 and AASHTO T 244."**

713.02 High Strength Bolts Revise this section by adding "**F3125, Grade**" after "ASTM" in the first and fifth paragraphs. In the fifth paragraph, remove "They shall meet the chemical and mechanical requirements of ASTM A 325"

SECTION 717
ROADSIDE IMPROVEMENT MATERIAL

717.02 Agricultural Ground Limestone

In the table after the third paragraph which starts with "Liquid lime…" change the Specification for Nitrogen (N) from "15.5 percent of which 1% is from ammoniac nitrogen and 14.5 /5 is from Nitrate Nitrogen" to read "**15.5 % of which 1% is from Ammoniacal Nitrogen and 14.5 % is from Nitrate Nitrogen**"
717.061 Erosion Control Blankets Revise this section by removing it in its entirety and replacing it with the following:

"**717.061 Erosion Control Blankets Shall consist of a machine produced rolled blanket of biodegradable fibers, evenly distributed over the entire area of blanket, of a consistent thickness, sewn into a biodegradable mesh on the top and bottom surface using a cotton blend thread. The blanket shall remain in place when subject to shear stress of 1.55 lb/ft^2. The blanket shall remain intact until grass is established. The blanket shall be a product currently listed on the department's Qualified Products List (QPL) of Erosion Control Products. See Section 618.10 - Seeding, Maintenance and Acceptance."**

SECTION 720
STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS

720.01 Aluminum Supports Revise the first paragraph by removing the words ”light standards” from the last sentence. Amend this paragraph by adding **“(AWS D1.2)”** after “Aluminum D1.2”.
Further amend this section by adding the following as a new second paragraph:

“All welds shall be inspected and conform with AWS D1.2, Clause 5, Inspection. 100% of welds shall be visually examined (VT). In addition to VT, 10% of all partial joint penetration (PJP) and fillet welds shall be dye penetrant tested (PT); locations to be PT examined will be designated by the QAI. 25% of complete joint penetration (CJP) welds shall be ultrasonic tested (UT) or PT based on the thinner material in the welded joint; joints with thinner material thicknesses less than 0.25 inch shall be PT examined and joints with thinner material thickness equal or greater than 0.25 inch shall be UT examined. Locations to be UT examined will be designated by the QAI. Extent of testing shall conform with AWS D1.2, Clause 5.”

720.02 Aluminum Mast Arm and Bracket Arm Revise the first paragraph by removing the words ”light standards” from the last sentence. Amend this paragraph by adding **“(AWS D1.2)”** after “Aluminum D1.2”.
Further amend this section by adding the following as a new second paragraph:

“All welds shall be inspected and conform with AWS D1.2, Clause 5, Inspection. 100% of welds shall be visually examined (VT). In addition to VT, 10% of all partial joint penetration (PJP) and fillet welds shall be dye penetrant tested (PT); locations to be PT examined will be designated by the QAI. 25% of complete joint penetration (CJP) welds shall be ultrasonic tested (UT) or PT based on the thinner material in the welded joint; joints with thinner material thicknesses less than 0.25 inch shall be PT examined and joints with thinner material thickness equal or greater than 0.25 inch shall be UT examined. Locations to be UT examined will be designated by the QAI. Extent of testing shall conform with AWS D1.2, Clause 5.”

720.10 Wood Utility Pole Amend the first sentence in this section by adding “**, Red Pine**” after “Douglas Fir”.

Replace the paragraph beginning with “Wood Utility poles…” with:
“**Wood Utility poles shall be pressure treated, after fabrication in accordance with AASHTO Specifications M 133 and AWPA U1, UC4B, Commodity Specification D: Poles**.”

720.12 Wood Sign Posts Remove the first sentence and replace with “**Wood sign posts shall be rectangular, straight and sound timber, cut from live growing native spruce, red pine, hemlock or cedar trees, free from loose knots or other structurally weakening defects of importance, such as shake or holes or heart rot**.”

Remove the paragraph beginning with “When pressure treated sign posts are called for on the plans …” with “**When pressure treated sign posts are called for on the plans, the wood shall be Yellow Pine, Number 2 or better, or the species listed above. The pressure treated wood shall meet AASHTO M 133 and AWPA Standard U1, UC4A, Commodity Specification A: Sawn Products.**”

APPENDIX A TO DIVISION 100

SECTION 1 - BIDDING PROVISIONS

A. Federally Required Certifications By signing and delivering a Bid, the Bidder certifies as provided in all certifications set forth in this Appendix A - Federal Contract Provisions Supplement including:

- Certification Regarding No Kickbacks to Procure Contract as provided on this page 1 below.
- Certification Regarding Non-collusion as provided on page 1 below.
- Certification Regarding Non-segregated Facilities as provided by FHWA Form 1273, section III set forth on page 21 below.
- "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion" as provided by FHWA Form 1273, section XI set forth on page 32 below.
- "Certification Regarding Use of Contract Funds for Lobbying" as provided by FHWA Form 1273, section XII set forth on page 35 below.

Unless otherwise provided below, the term "Bidder", for the purposes of these certifications, includes the Bidder, its principals, and the person(s) signing the Bid. Upon execution of the Contract, the Bidder (then called the Contractor) will again make all the certifications indicated in this paragraph above.

CERTIFICATION REGARDING NO KICKBACKS TO PROCURE CONTRACT Except expressly stated by the Bidder on sheets submitted with the Bid (if any), the Bidder hereby certifies, to the best of its knowledge and belief, that it has not:

(A) employed or retained for a commission, percentage, brokerage, contingent fee, or other consideration, any firm or person (other then a bona fide employee working solely for me) to solicit or secure this contract;

(B) agreed, as an express or implied condition for obtaining this contract, to employ or retain the services of any firm or person in connection with carrying out the contract, or;

C) paid, or agreed to pay, to any firm, organization, or person (other than a bona fide employee working solely for me) any fee, contribution, donation, or consideration of any kind for, or in connection with, procuring or carrying out the contract;

By signing and submitting a Bid, the Bidder acknowledges that this certification is to be furnished to the Maine Department of Transportation and the Federal Highway Administration, U.S. Department of Transportation in connection with this contract in anticipation of federal aid highway funds and is subject to applicable state and federal laws, both criminal and civil.

CERTIFICATION REGARDING NONCOLLUSION Under penalty of perjury as provided by federal law (28 U.S.C. §1746), the Bidder hereby certifies, to the best of its knowledge and belief, that:

> the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with the Contract.

For a related provisions, see Section 102.7.2 (C) of the Standard Specifications - "Effects of Signing and Delivery of Bids" - "Certifications", Section 3 of this Appendix A entitled "Other Federal Requirements" including section XI - "Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion" and section XII. - "Certification Regarding Use of Contract Funds for Lobbying."

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B. Bid Rigging Hotline To report bid rigging activities call: **1-800-424-9071**

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

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SECTION 2 - FEDERAL EEO AND CIVIL RIGHTS REQUIREMENTS

Unless expressly otherwise provided in the Bid Documents, the provisions contained in this Section 2 of this "Federal Contract Provisions Supplement" are hereby incorporated into the Bid Documents and Contract.

A. Nondiscrimination & Civil Rights - Title VI The Contractor and its subcontractors shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the Department deems appropriate. The Contractor and subcontractors shall comply with Title VI of the Civil Rights Act of 1964, as amended, and with all State of Maine and other Federal Civil Rights laws.

For related provisions, see Subsection B - "Nondiscrimination and Affirmative Action - Executive Order 11246" of this Section 2 and Section 3 - Other Federal Requirements of this "Federal Contract Provisions Supplement" including section II - "Nondiscrimination" of the "Required Contract Provisions, Federal Aid Construction Contracts", FHWA-1273.

B. Nondiscrimination and Affirmative Action - Executive Order 11246 Pursuant to Executive Order 11246, which was issued by President Johnson in 1965 and amended in 1967 and 1978, this Contract provides as follows.

The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its efforts to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

Ensure and maintain a working environment free of harassment, intimidations, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all forepersons, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its union have employment opportunities available, and to maintain a record of the organization's responses.

Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.

Provide immediate written notification to the Department's Civil Rights Office when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Design-Builder's efforts to meet its obligations.

Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under B above.

Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligation; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Forepersons, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractor's and Subcontractors with whom the Contractor does or anticipates doing business.

Direct its recruitment efforts, both orally and written to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later that one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above describing the openings, screenings, procedures, and test to be used in the selection process.

Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth, both on the site and in other areas of a Contractor's workforce.

Validate all tests and other selection requirements.

Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

Ensure that all facilities and company activities are non segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction Contractor's and suppliers, including circulation of solicitations to minority and female Contractor associations and other business associations.

Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

C. Goals for Employment of Women and Minorities Per Executive Order 11246, craft tradesperson goals are 6.9% women and .5% minorities employed. However, goals may be adjusted upward at the mutual agreement of the Contractor and the Department. Calculation of these percentages shall not include On-the-Job Training Program trainees, and shall not include clerical or field clerk position employees.

For a more complete presentation of requirements for such Goals, see the federally required document "Goals for Employment of Females and Minorities" set forth in the next 6 pages below.

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Start of GOALS FOR EMPLOYMENT OF FEMALES AND MINORITIES
Federally Required Contract Document

§60-4.2 Solicitations

(d) The following notice shall be included in, and shall be part of, all solicitations for offers and bids on all Federal and federally assisted construction contracts or subcontracts in excess of $10,000 to be performed in geographical areas designated by the Director pursuant to §60-4.6 of this part (see 41 CFR 60-4.2(a)):

Notice of Requirement for Affirmative Action to Ensure Equal Opportunity (Executive Order 11246)

1. The Offeror's or bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

Goals for female participation in each trade	6.9%

Goals for minority participation for each trade

Maine	
001 Bangor, ME	0.8%
Non-SMSA Counties (Aroostook, Hancock, Penobscot, Piscataquis, Waldo, Washington)	
002 Portland-Lewiston, ME	
SMSA Counties: 4243 Lewiston-Auburn, ME (Androscoggin)	0.5%
6403 Portland, ME (Cumberland, Sagadahoc)	0.6%

Non-SMSA Counties: 0.5%
(Franklin, Kennebec, Knox, Lincoln, Oxford, Somerset, York)

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non federally involved construction.

The contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be in violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer identification number of the subcontractor, estimated dollar amount of the subcontract; estimated started and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in this Notice, and in the Contract resulting from this solicitation, the "covered area" is (insert description of the geographical areas where the contract is to be performed giving the state, county and city, if any).

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

1. As used in these specifications:

   a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;

   b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;

   c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department form 941;

   d. "Minority" includes:

(i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
(ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
(iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
(iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of the North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the Contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the contractor, is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors for Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7 a. through p. of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical areas where the work is being performed. Goals are published periodically in the Federal Register in notice form and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specific.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant, thereto.

6. In order for the non working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as expensive as the following:

   a. Ensure and maintain a working environment free of harassment, intimidation, coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, when possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

   b. Establish and maintain a current list of minority and female recruitment sources provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organization's responses.

   c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment sources or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.

   d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

   e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources complied under 7b above.

f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

i. Direct its recruitment, efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing prior to the date for the acceptance of applications for apprenticeship or the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on site and in other areas of a Contractor's work force.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are non segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitation to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7 a through p.). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7 a through p. of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program and reflected in the Contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions take on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both make and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, specific minority group of women is underutilized.)

10. The Contractor shall not use the goals and timetables or affirmative action even through the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementation regulations by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.6.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g. mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and location sat which the work was performed. Records be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

End of GOALS FOR EMPLOYMENT OF FEMALES AND MINORITIES
Federally Required Contract Document

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D. Section '**D Disadvantaged Business Enterprise (DBE) Requirements**' is removed in its entirety. The DBE material is in:

Section 105.10 EQUAL OPPORTUNITY AND CIVIL RIGHTS.

SECTION 3 - OTHER FEDERAL REQUIREMENTS

Unless expressly otherwise provided in the Bid Documents, the provisions contained in this Section 3 of this "Federal Contract Provisions Supplement" are hereby incorporated into the Bid Documents and Contract.

A. Buy America

If the cost of products purchased for permanent use in this project which are manufactured of steel, iron or the application of any coating to products of these materials exceeds 0.1 percent of the contract amount, or $2,500.00, whichever is greater, the products shall have been manufactured and the coating applied in the United States. The coating materials are not subject to this clause, only the application of the coating. In computing that amount, only the cost of the product and coating application cost will be included.

Ore, for the manufacture of steel or iron, may be from outside the United States; however, all other manufacturing processes of steel or iron must be in the United States to qualify as having been manufactured in the United States.

United States includes the 50 United States and any place subject to the jurisdiction thereof.

Products of steel include, but are not limited to, such products as structural steel, piles, guardrail, steel culverts, reinforcing steel, structural plate and steel supports for signs, luminaries and signals.

Products of iron include, but are not limited to, such products as cast iron grates.

Application of coatings include, but are not limited to, such applications as epoxy, galvanized and paint.

To assure compliance with this section, the Contractor shall submit a certification letter on its letterhead to the Department stating the following:

> "This is to certify that products made of steel, iron or the application of any coating to products of these materials whose costs are in excess of $2,500.00 or 0.1 percent of the original contract amount, whichever is greater, were manufactured and the coating, if one was required, was applied in the United States."

B. Materials

a. Convict Produced Materials References: 23 U.S.C. 114(b)(2), 23 CFR 635.417

Applicability: FHWA's prohibition against the use of convict material only applies to Federal-aid highways. Materials produced after July 1, 1991, by convict labor may only be incorporated in a Federal-aid highway construction project if: 1) such materials have been produced by convicts who are on parole, supervised release, or probation from a prison; or 2) such material has been produced in a qualified prison facility, e.g., prison industry, with the amount produced during any 12-month period, for use in Federal-aid projects, not exceeding the amount produced, for such use, during the 12-month period ending July 1, 1987.

Materials obtained from prison facilities (e.g., prison industries) are subject to the same requirements for Federal-aid participation that are imposed upon materials acquired from other sources. Materials manufactured or produced by convict labor will be given no preferential treatment.

The preferred method of obtaining materials for a project is through normal contracting procedures which require the contractor to furnish all materials to be incorporated in the work. The contractor selects the source, public or private, from which the materials are to be obtained (23 CFR 635.407). Prison industries are prohibited from bidding on projects directly (23 CFR 635.112e), but may act as material supplier to construction contractors.

Prison materials may also be approved as State-furnished material. However, since public agencies may not bid in competition with private firms, direct acquisition of materials from a

prison industry for use as State-furnished material is subject to a public interest finding with the Division Administrator's concurrence (23 CFR 635.407d). Selection of materials produced by convict labor as State-furnished materials for mandatory use should be cleared prior to the submittal of the Plans Specifications & Estimates (PS&E).

b. Patented/Proprietary Products References: 23 U.S.C. 112, 23 CFR 635.411

FHWA will not participate, directly or indirectly, in payment for any premium or royalty on any patented or proprietary material, specification, or process specifically set forth in the plans and specifications for a project, unless:

- the item is purchased or obtained through competitive bidding with equally suitable unpatented items,
- the STA certifies either that the proprietary or patented item is essential for synchronization with the existing highway facilities or that no equally suitable alternative exists, or
- the item is used for research or for a special type of construction on relatively short sections of road for experimental purposes. States should follow FHWA's procedures for "Construction Projects Incorporating Experimental Features" (expermnt.htm) for the submittal of work plans and evaluations.

The primary purpose of the policy is to have competition in selection of materials and allow for development of new materials and products. The policy further permits materials and products that are judged equal may be bid under generic specifications. If only patented or proprietary products are acceptable, they shall be bid as alternatives with all, or at least a reasonable number of, acceptable materials or products listed; and the Division Administrator may approve a single source if it can be found that its utilization is in the public interest.

Trade names are generally the key to identifying patented or proprietary materials. Trade name examples include 3M, Corten, etc. Generally, products identified by their brand or trade name are not to be specified without an "or equal" phrase, and, if trade names are used, all, or at least a reasonable number of acceptable "equal" materials or products should be listed. The licensing of several suppliers to produce a product does not change the fact that it is a single product and should not be specified to the exclusion of other equally suitable products.

c. State Preference References: 23 U.S.C. 112, 23 CFR 635.409

Materials produced within Maine shall not be favored to the exclusion of comparable materials produced outside of Maine. State preference clauses give particular advantage to the designated source and thus restrict competition. Therefore, State preference provisions shall not be used on any Federal-aid construction projects.

This policy also applies to State preference actions against materials of foreign origin, except as otherwise permitted by Federal law. Thus, States cannot give preference to in-State material sources over foreign material sources. Under the Buy America provisions, the States are

permitted to expand the Buy America restrictions provided that the STA is legally authorized under State law to impose more stringent requirements.

d. State Owned/Furnished/Designated Materials References: 23 U.S.C. 112, 23 CFR 635.407

Current FHWA policy requires that the contractor must furnish all materials to be incorporated in the work, and the contractor shall be permitted to select the sources from which the materials are to be obtained. Exceptions to this requirement may be made when there is a definite finding, by MaineDOT and concurred in by Federal Highway Administration's (FHWA) Division Administrator, that it is in the public interest to require the contractor to use materials furnished by the MaineDOT or from sources designated by MaineDOT. The exception policy can best be understood by separating State-furnished materials into the categories of manufactured materials and local natural materials.

Manufactured Materials When the use of State-furnished manufactured materials is approved based on a public interest finding, such use must be made mandatory. The optional use of State-furnished manufactured materials is in violation of our policy prohibiting public agencies from competing with private firms. Manufactured materials to be furnished by MaineDOT must be acquired through competitive bidding, unless there is a public interest finding for another method, and concurred in by FHWA's Division Administrator.

Local Natural Materials When MaineDOT owns or controls a local natural materials source such as a borrow pit or a stockpile of salvaged pavement material, etc., the materials may be designated for either optional or mandatory use; however, mandatory use will require a public interest finding (PIF) and FHWA's Division Administrator's concurrence.

In order to permit prospective bidders to properly prepare their bids, the location, cost, and any conditions to be met for obtaining materials that are made available to the contractor shall be stated in the bidding documents.

Mandatory Disposal Sites Normally, the disposal site for surplus excavated materials is to be of the contractor's choosing; although, an optional site(s) may be shown in the contract provisions. A mandatory site shall be specified when there is a finding by MaineDOT, with the concurrence of the Division Administrator, that such placement is the most economical or that the environment would be substantially enhanced without excessive cost. Discussion of the mandatory use of a disposal site in the environmental document may serve as the basis for the public interest finding.

Summarizing FHWA policy for the mandatory use of borrow or disposal sites:

- mandatory use of either requires a public interest finding and FHWA's Division Administrator's concurrence,
- mandatory use of either may be based on environmental consideration where the environment will be substantially enhanced without excessive additional cost, and
- where the use is based on environmental considerations, the discussion in the environmental document may be used as the basis for the public interest finding.

Factors to justify a public interest finding should include such items as cost effectiveness, system integrity, and local shortages of material.

C. Standard FHWA Contract Provisions - FHWA 1273

Unless expressly otherwise provided in the Bid Documents, the following "Required Contract Provisions, Federal Aid Construction Contracts", FHWA-1273, are hereby incorporated into the Bid Documents and Contract.

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Cargo Preference Act : Contractor and Subcontractor Clauses. "Use of United States-flag vessels: The contractor agrees—"(1) To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels."(2) To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590."(3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract."(Reorganization Plans No. 21 of 1950 (64 Stat. 1273) and No. 7 of 1961 (75 Stat. 840) as amended by Pub. L. 91-469 (84 Stat. 1036) and Department of Commerce Organization Order 10-8 (38 FR 19707, July 23, 1973)) [42 FR 57126, Nov. 1, 1977]

The Cargo Preference Act requirements apply to materials or equipment that are acquired for a specific Federal-aid highway project. In general, the requirements are not applicable to goods or materials that come into inventories independent of an FHWA funded-contract. For example, the requirements would not apply to shipments of Portland cement, asphalt cement, or aggregates, as industry suppliers and contractors use these materials to replenish existing inventories. In general, most of the materials used for highway construction originate from existing inventories and are not acquired solely for a specific Federal-aid project. However, if materials or equipment are acquired solely for a Federal-aid project, then the Cargo Preference Act requirements apply."

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Start of FHWA 1273 REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS (As revised through May 1, 2012)

FHWA-1273 -- Revised May 1, 2012

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Nonsegregated Facilities
IV. Davis-Bacon and Related Act Provisions
V. Contract Work Hours and Safety Standards Act Provisions
VI. Subletting or Assigning the Contract
VII. Safety: Accident Prevention
VIII. False Statements Concerning Highway Projects
IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
X. Compliance with Governmentwide Suspension and Debarment Requirements
XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment,

termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability.

The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women.

Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even

though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

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

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH–1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act),

daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a “Statement of Compliance,” signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a

different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;
(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1**. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

End of FHWA 1273

The United States Department of Transportation (USDOT) Standard Title VI/Non-Discrimination Assurances

DOT Order No. 1050.2A

The ***Maine Department of Transportation*** (herein referred to as the "Recipient"), **HEREBY AGREES THAT**, as a condition to receiving any Federal financial assistance from the U.S. Department of Transportation (DOT), through the ***Federal Highway Administration (FHWA***), is subject to and will comply with the following:

Statutory/Regulatory Authorities

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin);
- 49 C.F.R. Part 21 (entitled Non-discrimination In Federally-Assisted Programs Of The Department Of Transportation-Effectuation Of Title VI Of The Civil Rights Act Of 1964);
- 28 C.F.R. Section 50.3 (U.S. Department of Justice Guidelines for Enforcement of Title VI of the Civil Rights Act of 1964);

The preceding statutory and regulatory cites hereinafter are referred to as the "Acts" and "Regulations," respectively.

General Assurances

In accordance with the Acts, the Regulations, and other pertinent directives, circulars, policy, memoranda, and/or guidance, the Recipient hereby gives assurance that it will promptly take any measures necessary to ensure that:

> *"No person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity, "for which the Recipient receives Federal financial assistance from DOT, including the* ***FHWA****.*

The Civil Rights Restoration Act of 1987 clarified the original intent of Congress, with respect to Title VI and other Non-discrimination requirements (The Age Discrimination Act of 1975, and Section 504 of the Rehabilitation Act of 1973), by restoring the broad, institutional-wide scope and coverage of these non-discrimination statutes and requirements to include all programs and activities of the Recipient, so long as any portion of the program is Federally assisted.

Specific Assurances

More specifically, and without limiting the above general Assurance, the Recipient agrees with and gives the following Assurances with respect to its Federally assisted ***Highway Program***:

1. The Recipient agrees that each "activity," "facility," or "program," as defined in §§ 21.23(b) and 21.23(e) of 49 C.F.R. § 21 will be (with regard to an "activity") facilitated, or will be (with regard

to a "facility") operated, or will be (with regard to a "program") conducted in compliance with all requirements imposed by, or pursuant to the Acts and the Regulations.

2. The Recipient will insert the following notification in all solicitations for bids, Requests For Proposals for work, or material subject to the Acts and the Regulations made in connection with all ***Federal-Aid Highway Program activities*** and, in adapted form, in all proposals for negotiated agreements regardless of funding source:

> "The ***Maine Department of Transportation***, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 US.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award."

3. The Recipient will insert the clauses of Appendix A and E of this Assurance in every contract or agreement subject to the Acts and the Regulations.

4. The Recipient will insert the clauses of Appendix B of this Assurance, as a covenant running with the land, in any deed from the United States effecting or recording a transfer of real property, structures, use, or improvements thereon or interest therein to a Recipient.

5. That where the Recipient receives Federal financial assistance to construct a facility, or part of a facility, the Assurance will extend to the entire facility and facilities operated in connection therewith.

6. That where the Recipient receives Federal financial assistance in the form, or for the acquisition of real property or an interest in real property, the Assurance will extend to rights to space on, over, or under such property.

7. That the Recipient will include the clauses set forth in Appendix C and Appendix D of this Assurance, as a covenant running with the land, in any future deeds, leases, licenses, permits, or similar instruments entered into by the Recipient with other parties:

   a. for the subsequent transfer of real property acquired or improved under the applicable activity, project, or program; and
   b. for the construction or use of, or access to, space on, over, or under real property acquired or improved under the applicable activity, project, or program.

8. That this Assurance obligates the Recipient for the period during which Federal financial assistance is extended to the program, except where the Federal financial assistance is to provide, or is in the form of, personal property, or real property, or interest therein, or structures or improvements thereon, in which case the Assurance obligates the Recipient, or any transferee for the longer of the following periods:

a. the period during which the property is used for a purpose for which the Federal financial assistance is extended, or for another purpose involving the provision of similar services or benefits; or
b. the period during which the Recipient retains ownership or possession of the property.

9. The Recipient will provide for such methods of administration for the program as are found by the Secretary of Transportation or the official to whom he/she delegates specific authority to give reasonable guarantee that it, other recipients, sub-recipients, sub-grantees, contractors, subcontractors, consultants, transferees, successors in interest, and other participants of Federal financial assistance under such program will comply with all requirements imposed or pursuant to the Acts, the Regulations, and this Assurance.

10. The Recipient agrees that the United States has a right to seek judicial enforcement with regard to any matter arising under the Acts, the Regulations, and this Assurance.

By signing this ASSURANCE, the ***Maine Department of Transportation*** also agrees to comply (and require any sub-recipients, sub-grantees, contractors, successors, transferees, and/or assignees to comply) with all applicable provisions governing the ***FHWA and USDOT*** access to records, accounts, documents, information, facilities, and staff. You also recognize that you must comply with any program or compliance reviews, and/or complaint investigations conducted by the ***FHWA and USDOT***. You must keep records, reports, and submit the material for review upon request to ***FHWA and USDOT***, or its designee in a timely, complete, and accurate way. Additionally, you must comply with all other reporting, data collection, and evaluation requirements, as prescribed by law or detailed in program guidance.

The ***Maine Department of Transportation*** gives this ASSURANCE in consideration of and for obtaining any Federal grants, loans, contracts, agreements, property, and/or discounts, or other Federal-aid and Federal financial assistance extended after the date hereof to the recipients by the U.S. Department of Transportation under the ***Federal Aid Highway Program***. This ASSURANCE is binding on [***insert State***], other recipients, sub-recipients, sub-grantees, contractors, subcontractors and their subcontractors', transferees, successors in interest, and any other participants in the ***Federal Aid Highway Program***. The person(s) signing below is authorized to sign this ASSURANCE on behalf of the Recipient.

MAINE DEPARTMENT OF TRANSPORTATION
(*Name of Recipient*)

by _____
Bruce A. Van Note, Commissioner

DATED 2/13/19

APPENDIX A

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. **Compliance with Regulations**: The contractor (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, ***Federal Highway Administration (FWHA)***, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. **Non-discrimination**: The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment**: In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.

4. **Information and Reports**: The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the ***FHWA*** to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Recipient or the ***FHWA***, as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance**: In the event of a contractor's noncompliance with the Non discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the ***FHWA*** may determine to be appropriate, including, but not limited to:

    a. withholding payments to the contractor under the contract until the contractor complies; and/or
    b. cancelling, terminating, or suspending a contract, in whole or in part.

6. **Incorporation of Provisions**: The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the Recipient or the ***FHWA*** may direct as a means of enforcing such provisions including sanctions for

noncompliance. Provided, that if the contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the United States.

APPENDIX B

CLAUSES FOR DEEDS TRANSFERRING UNITED STATES PROPERTY

The following clauses will be included in deeds effecting or recording the transfer of real property, structures, or improvements thereon, or granting interest therein from the United States pursuant to the provisions of Assurance 4:

NOW, THEREFORE, the U.S. Department of Transportation as authorized by law and upon the condition that the ***Maine Department of Transportation*** will accept title to the lands and maintain the project constructed thereon in accordance with ***23 U.S. Code § 107***, the Regulations for the Administration of ***the Federal Aid Highway Program***, and the policies and procedures prescribed by the ***FHWA*** of the U.S. Department of Transportation in accordance and in compliance with all requirements imposed by Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the U.S Department of Transportation pertaining to and effectuating the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252; 42 U.S.C. § 2000d to 2000d-4), does hereby remise, release, quitclaim and convey unto the ***Maine Department of Transportation*** all the right, title and interest of the U.S. Department of Transportation in and to said lands described in Exhibit A attached hereto and made a part hereof.

(HABENDUM CLAUSE)

TO HAVE AND TO HOLD said lands and interests therein unto ***Maine Department of Transportation*** and its successors forever, subject, however, to the covenants, conditions, restrictions and reservations herein contained as follows, which will remain in effect for the period during which the real property or structures are used for a purpose for which Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits and will be binding on the ***Maine Department of Transportation***, its successors and assigns.

The ***Maine Department of Transportation***, in consideration of the conveyance of said lands and interests in lands, does hereby covenant and agree as a covenant running with the land for itself, its successors and assigns, that (1) no person will on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination with regard to any facility located wholly or in part on, over, or under such lands hereby conveyed [,] [and]* (2) that the ***Maine Department of Transportation*** will use the lands and interests in lands and interests in lands so conveyed, in compliance with all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the U.S. Department of Transportation, Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations and Acts may be amended [, and (3) that in the event of breach of any of the above-mentioned non-discrimination conditions, the Department will have a right to enter or re-enter said lands and facilities on said land, and that above described land and facilities will thereon revert to and vest in and become the absolute property of the U.S. Department of Transportation and its assigns as such interest existed prior to this instruction].*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary in order to make clear the purpose of Title VI.)

APPENDIX C

CLAUSES FOR TRANSFER OF REAL PROPERTY ACQUIRED OR IMPROVED UNDER THE ACTIVITY, FACILITY, OR PROGRAM

The following clauses will be included in deeds, licenses, leases, permits, or similar instruments entered into by the ***Maine Department of Transportation*** pursuant to the provisions of Assurance 7(a):

A. The (grantee, lessee, permittee, etc. as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree [in the case of deeds and leases add "as a covenant running with the land"] that:

    1. In the event facilities are constructed, maintained, or otherwise operated on the property described in this (deed, license, lease, permit, etc.) for a purpose for which a U.S. Department of Transportation activity, facility, or program is extended or for another purpose involving the provision of similar services or benefits, the (grantee, licensee, lessee, permittee, etc.) will maintain and operate such facilities and services in compliance with all requirements imposed by the Acts and Regulations (as may be amended) such that no person on the grounds of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities.

B. With respect to licenses, leases, permits, etc., in the event of breach of any of the above Non-discrimination covenants, ***Maine Department of Transportation*** will have the right to terminate the (lease, license, permit, etc.) and to enter, re-enter, and repossess said lands and facilities thereon, and hold the same as if the (lease, license, permit, etc.) had never been made or issued.*

C. With respect to a deed, in the event of breach of any of the above Non-discrimination covenants, the ***Maine Department of Transportation*** will have the right to enter or re-enter the lands and facilities thereon, and the above described lands and facilities will there upon revert to and vest in and become the absolute property of the ***Maine Department of Transportation*** and its assigns.*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

APPENDIX D

CLAUSES FOR CONSTRUCTION/USE/ACCESS TO REAL PROPERTY ACQUIRED UNDER THE ACTIVITY, FACILITY OR PROGRAM

The following clauses will be included in deeds, licenses, permits, or similar instruments/agreements entered into by the ***Maine Department of Transportation*** pursuant to the provisions of Assurance 7(b):

A. The (grantee, licensee, permittee, etc., as appropriate) for himself/herself, his/her heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby covenant and agree (in the case of deeds and leases add, "as a covenant running with the land") that (1) no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over, or under such land, and the furnishing of services thereon, no person on the ground of race, color, or national origin, will be excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination, (3) that the (grantee, licensee, lessee, permittee, etc.) will use the premises in compliance with all other requirements imposed by or pursuant to the Acts and Regulations, as amended, set forth in this Assurance.

B. With respect to (licenses, leases, permits, etc.), in the event of breach of any of the above Non discrimination covenants, the ***Maine Department of Transportation*** will have the right to terminate the (license, permit, etc., as appropriate) and to enter or re-enter and repossess said land and the facilities thereon, and hold the same as if said (license, permit, etc., as appropriate) had never been made or issued.*

C. With respect to deeds, in the event of breach of any of the above Non-discrimination covenants, the ***Maine Department of Transportation*** will there upon revert to and vest in and become the absolute property of the ***Maine Department of Transportation*** and its assigns.*

(*Reverter clause and related language to be used only when it is determined that such a clause is necessary to make clear the purpose of Title VI.)

APPENDIX E

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures Non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of Limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

Environmental Summary Sheet

WIN: 23484.00 **Date Submitted: 6/5/2019**
Town: Islesboro
CPD Team Leader: Danielle Tetreau
ENV Field Contact: Valerie Derosier

NEPA Complete: Programmatic Categorical Exclusion (CE) 23 CFR 771.117.c.23 issued on 4/4/2019

☒ **Section 106**
No effect: SHPO Concurrence 10/4/2018
Section 106 Resources: none

☒ **Section 4(f) and 6(f)**
Section 4(f)
Review Complete - No use
Section 6(f)
Not Applicable - No takes

☐ **Maine Department of Inland Fisheries and Wildlife Essential Habitat**
Not Applicable **Timing Window:** Not Applicable

☒ **Section 7**
Informal Consultation - May affect, not likely to adversely affect
Species of Concern: Atlantic salmon DPS
Atlantic sturgeon GOM DPS
shortnose sturgeon
northern long-eared bat: no effect, no tree clearing.

☒ **Essential Fish Habitat**
Adverse Effect, not substantial: abbreviated consultation complete 4/4/2019.
Species of Concern: Multi-species, coastal EFH.

☒ **Maine Department of Conservation/Public Lands, Submerged Land Lease**
Applicable - MaineDOT Legal Office managing the Submerged Land Lease Modification.

☐ **Maine Land Use Regulation Commission**
Not Applicable

☒ **Maine Department of Environmental Protection**
Permit By Rule (PBR) – Section 11
**Applicable Standards and Permits are included with the contract*

☒ **Army Corps of Engineers: Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act.**
Category 2 Corps Permit #NAE-2019-00569
-Work Start Notification Form to be completed by ENV Field Contact and submitted to ACOE with copy to Danielle Tetreau
-Compliance Certification Form to be completed by ENV Field Contact and submitted to ACOE w/ copy to Danielle Tetreau

☐ **Stormwater Review**
Not Applicable

☒ **Special Provisions Required**

Special Provision 105-Timing of Work Restriction	N/A☐	Applicable☒
General Note for Hazardous Waste	N/A☐	Applicable☒
Standard Specification 656-Erosion Control Plan	N/A☐	Applicable☒
Special Provision 656-Minor Soil Disturbance	N/A☒	Applicable☐
Special Provision 203-Dredge Spec	N/A☒	Applicable☐
Special Provision 203-Hazardous Waste	N/A☒	Applicable☐

**All permits and approvals based on plans/scope as of: 4/2/2019*

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

REPLY TO ATTENTION OF

MAINE GENERAL PERMIT (GP)
AUTHORIZATION LETTER AND SCREENING SUMMARY

ENVIRONMENTAL OFFICE
MAINE DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION
AUGUSTA, MAINE 04333

CORPS PERMIT # NAE-2019-00569
CORPS GP ID# 19-138
STATE ID# PBR

DESCRIPTION OF WORK:
Upgrade the existing state ferry terminal facility in West Penobscot Bay at Islesboro, Maine. Regulated work includes the addition of a mooring dolphin, a wave screen, improved fender systems, elevated walkways between all dolphins, and modifications to the existing lighting system and removal of existing stone filled timber cribs and a number of connecting walkways. New piling installations will result in a total of 69 s.f. of permanent tidal bottom impact. This work is shown on the attached plans entitled "PROPOSED FERRY
Project Description Continued on Page 2

LAT/LONG COORDINATES : 44.280640° N -68.943028° W USGS QUAD: ISLESBORO, ME

I. CORPS DETERMINATION:
Based on our review of the information you provided, we have determined that your project will have only minimal individual and cumulative impacts on waters and wetlands of the United States. **Your work is therefore authorized by the U.S. Army Corps of Engineers under the Federal Permit, the Maine General Permit (GP).** http://www.nae.usace.army.mil/Portals/74/docs/regulatory/StateGeneralPermits/ME/Maine_General_Permit_2015.pdf

You must perform the activity authorized herein in compliance with all the terms and conditions of the GP [including any attached Additional Conditions and any conditions placed on the State 401 Water Quality Certification including any required mitigation]. Please review the enclosed GP carefully, including the GP conditions beginning on page 5, to familiarize yourself with its contents. You are responsible for complying with all of the GP requirements; therefore you should be certain that whoever does the work fully understands all of the conditions. You may wish to discuss the conditions of this authorization with your contractor to ensure the contractor can accomplish the work in a manner that conforms to all requirements.

If you change the plans or construction methods for work within our jurisdiction, please contact us immediately to discuss modification of this authorization. This office must approve any changes before you undertake them.

Condition 38 of the GP (page 16) provides one year for completion of work that has commenced or is under contract to commence prior to the expiration of the GP on October 13, 2020. You will need to apply for reauthorization for any work within Corps jurisdiction that is not completed by October 13, 2021.

This authorization presumes the work shown on your plans noted above is in waters of the U.S. Should you desire to appeal our jurisdiction, please submit a request for an approved jurisdictional determination in writing to the undersigned.

No work may be started unless and until all other required local, State and Federal licenses and permits have been obtained. **This includes but is not limited to a Flood Hazard Development Permit issued by the town if necessary.**

II. STATE ACTIONS: PENDING [X], ISSUED [ ], DENIED [ ] DATE_____

APPLICATION TYPE: PBR: X , TIER 1: ____, TIER 2 : ____, TIER 3: ____, LURC: ____ DMR LEASE: ____ NA: ____

III. FEDERAL ACTIONS:

JOINT PROCESSING MEETING: 3/15/19 LEVEL OF REVIEW: CATEGORY 1: ____ CATEGORY 2: X

AUTHORITY (Based on a review of plans and/or State/Federal applications): SEC 10 X , 404 ____ 10/404 ____, 103 ____

EXCLUSIONS: The exclusionary criteria identified in the general permit do not apply to this project.

FEDERAL RESOURCE AGENCY OBJECTIONS: EPA NO , USF&WS NO , NMFS NO

If you have any questions on this matter, please contact my staff at 207-623-8367 at our Augusta, Maine Project Office. In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0

Jay L. Clement

JAY L. CLEMENT
SENIOR PROJECT MANAGER
MAINE PROJECT OFFICE

for Jay L Clement 5/29/19

LINDSEY E. LEFEBVRE DATE
CHIEF, PERMITS & ENFORCEMENT BRANCH
REGULATORY DIVISION

US Army Corps
of Engineers ®
New England District

Project Description Continued from Page 1

TERMINAL IMPROVEMENTS/MODIFICATIONS" in two sheets dated "OCTOBER 9, 2018", "ISLESBORO FERRY TERMINAL, FENDER SYSTEM MODIFICATIONS, ISLESBORO, WALDO COUNTY" in one sheet dated "FEBRUARY 15, 2019" and "ISLESBORO FERRY TERMINAL" in 17 sheets dated "02/19".

PLEASE NOTE THE FOLLOWING CONDITIONS FOR DEPARTMENT OF THE ARMY GENERAL PERMIT NO. NAE-2019-00569

1. This authorization requires you to 1) notify us before beginning work so we may inspect the project, and 2) submit a Compliance Certification Form. You must complete and return the enclosed Work Start Notification Form(s) to this office at least two weeks before the anticipated starting date. You must complete and return the enclosed Compliance Certification Form within one month following the completion of the authorized work and any required mitigation (but not mitigation monitoring, which requires separate submittals).

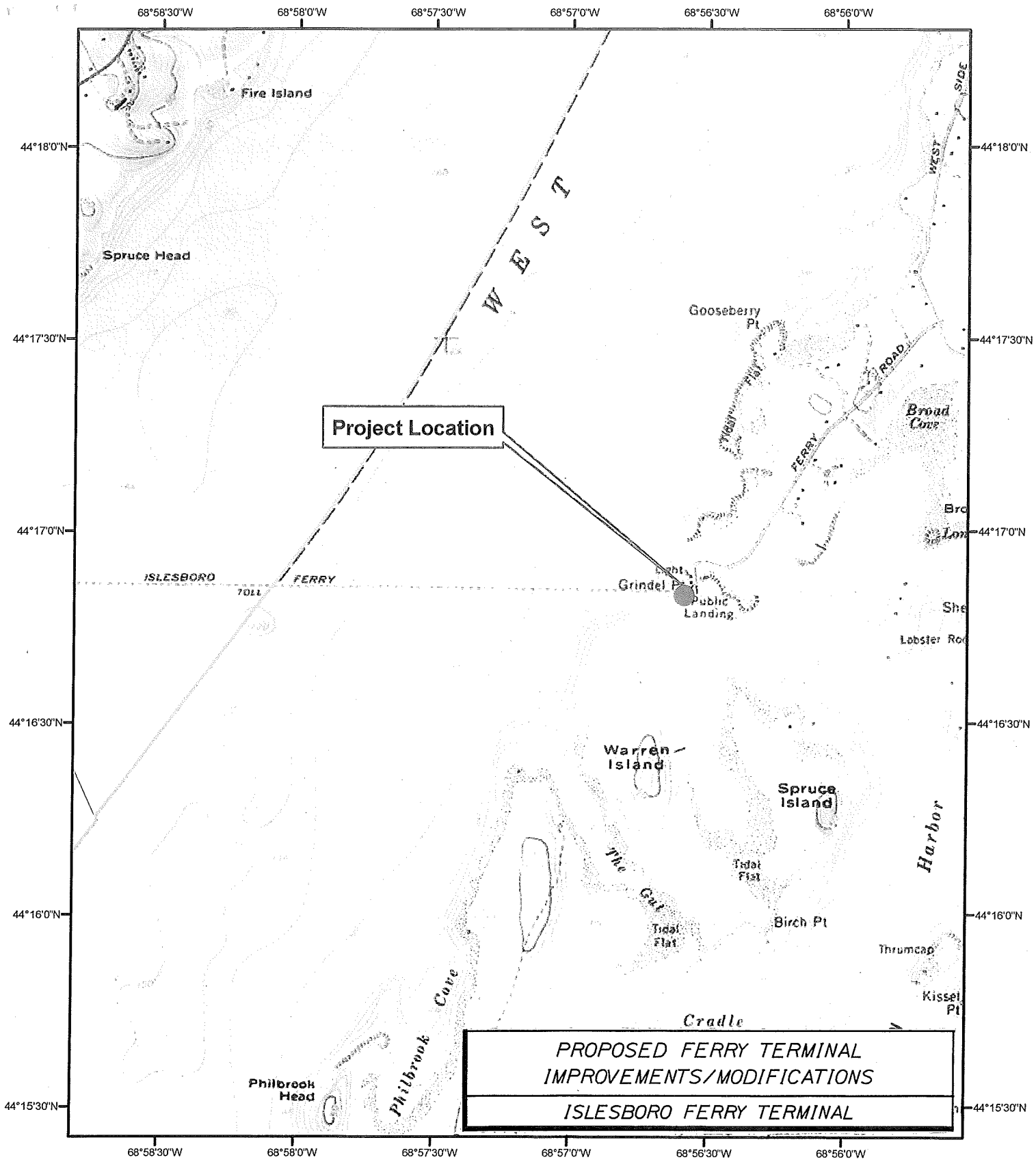
2. The permittee shall assure that a copy of this permit is at the work site whenever work is being performed and that all personnel performing work at the site of the work authorized by this permit are fully aware of the terms and conditions of the permit. This permit, including its drawings and any appendices and other attachments, shall be made a part of any and all contracts and sub-contracts for work which affects areas of Corps of Engineers' jurisdiction at the site of the work authorized by this permit. This shall be done by including the entire permit in the specifications for the work. If the permit is issued after construction specifications but before receipt of bids or quotes, the entire permit shall be included as an addendum to the specifications. The term "entire permit" includes permit amendments. Although the permittee may assign various aspects of the work to different contractors or sub-contractors, all contractors and sub-contractors shall be obligated by contract to comply with all environmental protection provisions of the entire permit, and no contract or sub-contract shall require or allow unauthorized work in areas of Corps of Engineers jurisdiction.

3. In water work shall be conducted between August 1 and April 9 of any year in order to minimize potential impacts to fisheries and local water quality.

4. In accordance with the Project Verification Form supporting the work described in this permit (countersigned by National Marine Fisheries Service on February 20, 2019), the permittee shall comply with all designated Project Design Criteria (PDCs).

5. The permittee is required to mark the ferry terminal facility in accordance with appropriate US Coast Guard Regulations and to contact 1st Coast Guard District, Aids to Navigation Office at (617) 223-8347.

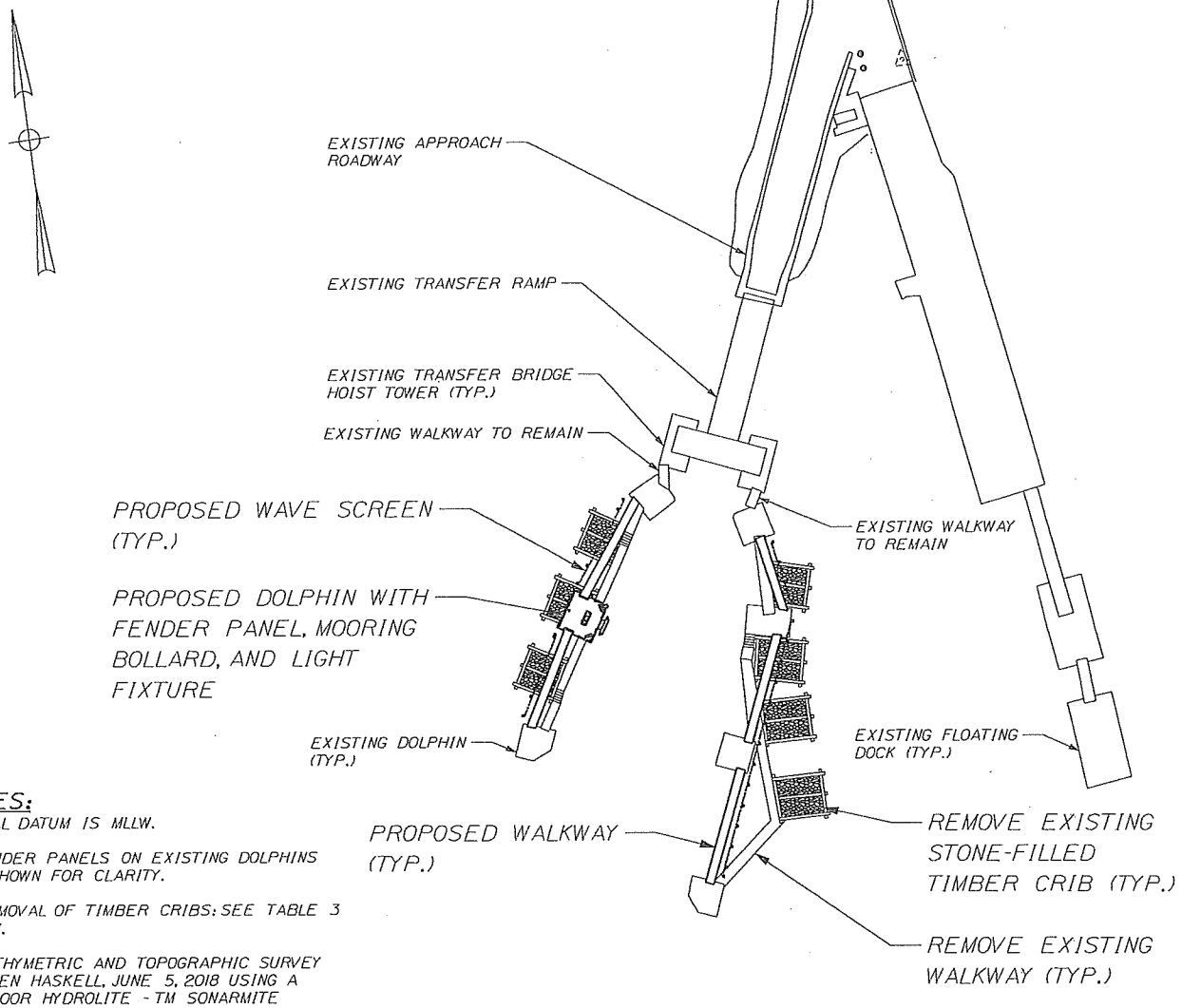
6. In order to minimize potential impacts to Essential Fish Habitat (EFH), the permittee shall perform ocular monitoring of any turbidity releases associated with rock crib removal. Estimated high extent of turbidity plumes during crib removal will be recorded. Maine DOT will provide National Marine Fisheries Service (NMFS) staff with representative video footage of typical project conditions, including plume extent, during crib removal to aid in future EFH consultations. Point of contact at NMFS is Mike Johnson at mike.r.johnson@noaa.gov; 978-281-9130.



October 9, 2018

MaineDOT 23484.00
Islesboro Ferry Terminal Improvements

Project Location: 44.28064, -68.943028



NOTES:

1. TIDAL DATUM IS MLLW.
2. FENDER PANELS ON EXISTING DOLPHINS NOT SHOWN FOR CLARITY.
3. REMOVAL OF TIMBER CRIBS: SEE TABLE 3 BELOW.
4. BATHYMETRIC AND TOPOGRAPHIC SURVEY BY OWEN HASKELL, JUNE 5, 2018 USING A SEAFLOOR HYDROLITE - TM SONARMITE SINGLE BEAM ECHO SOUNDER, AND A CARLSON RTK GPS.

ENVIRONMENTAL IMPACT AREAS:

1. AERIAL FOOTPRINT AREA (NON-MUDLINE):

ITEM	SIZE	AREA
DOLPHIN	14' x 14'	196 sq. ft.
WALKWAY (5 TOTAL)	35' x 3'	525 sq. ft.
WAVE SCREEN	180' x 2'	360 sq. ft.
TOTAL AREA		1081 sq. ft.

2. MUDLINE FOOTPRINT AREA:

ITEM	SIZE	AREA
DOLPHIN PILES	10 x 16"ϕ	14 sq. ft.
WAVE SCREEN PILES	70 x 12"ϕ	55 sq. ft.
TOTAL AREA		69 sq. ft.

3. CRIB REMOVALS AREA:

ITEM	SIZE	AREA
TIMBER CRIB (7 TOTAL)	15' x 15'	1,575 SQ. FT.

PLAN

SCALE: 1" = 30'-0"

30 0 30 60

Scale of Feet

HNTB

MaineDOT

WIN: 023484.00

PROPOSED FERRY TERMINAL IMPROVEMENTS/MODIFICATIONS	WATERFRONT GENERAL PLAN	FIGURE 1
ISLESBORO FERRY TERMINAL	DESIGNER: CRAIG R. MORIN, P.E. DATE: OCTOBER 9, 2018	

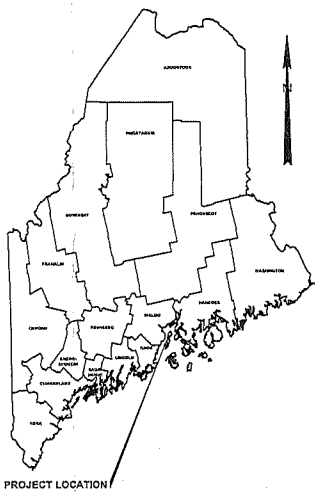
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

TOWN OF ISLESBORO
WALDO COUNTY

ISLESBORO FERRY TERMINAL

FENDER SYSTEM MODIFICATIONS

WIN: 023484.00



INDEX OF SHEETS

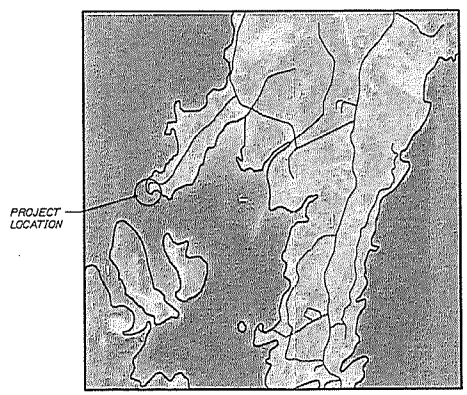
SHEET	NO.	TITLE
GENERAL		
G01	1	TITLE SHEET
G02	2	GENERAL NOTES AND DESIGN CRITERIA
G03	3	EXISTING CONDITIONS
G04	4	BORING LOGS I
G05	5	BORING LOGS II
MARINE PLANS		
S01	6	SITE PLAN
S02	7	BERTH PLAN
S03	8	DOLPHIN FOUNDATION PLAN
S04	9	DOLPHIN FOUNDATION DETAILS
S05	10	DOLPHIN DETAILS PLAN AND ELEVATION
S06	11	DOLPHIN DETAILS MOORING HARDWARE
S07	12	DOLPHIN DETAILS FENDER SYSTEM I
S08	13	DOLPHIN DETAILS FENDER SYSTEM II
S09	14	DOLPHIN DETAILS MISCELLANEOUS
S10	15	WAVE SCREEN PLAN AND ELEVATION
S11	16	GANGWAY PLAN AND ELEVATION
ELECTRICAL PLANS		
E01	17	ELECTRICAL PLAN
E02	18	ELECTRICAL DETAILS

THE PROFESSIONAL ENGINEER WHOSE STAMP APPEARS ON THIS COVER SHEET BEARS RESPONSIBILITY FOR THE FOLLOWING SHEETS WITHIN THIS DRAWING SET:

GENERAL	G01-G03
STRUCTURAL PLANS	S01-S11

ADDITIONAL WORK APPEARS WITHIN THIS DRAWING SET AND IS THE RESPONSIBILITY OF THE FOLLOWING ORGANIZATIONS, WHOSE STAMP APPEARS ON THOSE INDIVIDUAL SHEETS:

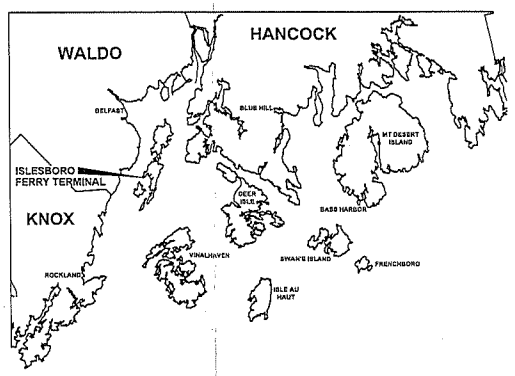
GENERAL	G04-G05	GEOTECHNICAL BORING LOGS	SCHONEWALD ENGINEERING
ELECTRICAL PLANS	E01-E02	ELECTRICAL DESIGN	BARTLETT DESIGN, INC.



LOCATION MAP

1/2 0 1/2 1

Scale In Miles



98% PS&E
February 15, 2019

HNTB

WIN 023484.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED | DATE

COMMISSIONER:

CHIEF ENGINEER:

PROJECT INFORMATION

PROGRAM	MULTIMODAL
PROJECT MANAGER	ADELE GOENEAU II
DESIGNER	CRAIG R. MORIN, P.E.
CONSULTANT	HNTB CORPORATION
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

SIGNATURE

12209

P.E. NUMBER

DATE

ISLESBORO FERRY TERMINAL
FENDER SYSTEM MODIFICATIONS

ISLESBORO WALDO COUNTY

TITLE SHEET

SHEET NUMBER

G01

1 OF 18

Filename: ...\02 CADD\001_Title.dgn Division: Username: Date:2/15/2019

GENERAL NOTES

1. These notes contain general information and are not complete for construction purposes. Contractor shall verify information given here with specifications and other drawings and bring any conflicts to the Engineer's attention before beginning work.

2. All dimensions and details shall be verified by the Contractor prior to construction.

3. Contractor shall provide and maintain horizontal and vertical controls in the Maine state plane coordinate system.

4. Upon project completion, the Contractor shall relocate the MaineDOT field office to the parking lot of the Islesboro ferry terminal. Payment shall be incidental to the Contract.

5. During the duration of the project, the contractor is responsible for the proper disposal of any cribwork planks encountered during the project that can not be reused on site. The Contractor is responsible to have the unused planks disposed of as demolition waste at a landfill approved to accept demolition waste/debris. If the Contractor encounters any other potential demolition debris and is not sure of how to dispose, the contractor shall notify the Resident. The Resident shall contact the Senior Geologist in the Maine Department of Transportation Environmental Office (MaineDOT-ENV) at 207-624-3100 for clarification.

SPECIFICATIONS AND CODES

1. Project specifications titled, "Special Provisions For: Vinalhaven Ferry Terminal Fender System Modifications", dated February 15, 2019.

2. State of Maine, Department of Transportation, Standard Specifications, Highways and Bridges, 2014, including all supplemental specifications and special provisions.

3. Codes and other references

A. Unified Facilities Criteria Manuals:
   - UFC 4-150-06 Military Harbors and Coastal Facilities, with Change 1
   - UFC 4-150-07 Maintenance and Operation: Maintenance of Waterfront Facilities, with Change 1
   - UFC 4-150-08 Inspection of Mooring Hardware
   - UFC 4-151-10 General Criteria for Waterfront Construction, with Change 1
   - UFC 4-152-01 Design: Piers and Wharves
   - UFC 4-159-03 Design: Moorings, with Change 2

B. US Army Corps of Engineers: Coastal Engineering Manual, current edition
C. AASHTO LRFD specifications, 8th edition, 2017 with Interims
D. AWS, D1.1, "Structural Welding Code Steel", current edition
E. AWS, D1.2, "Structural Welding Code Aluminum", current edition

SURVEY CONTROL

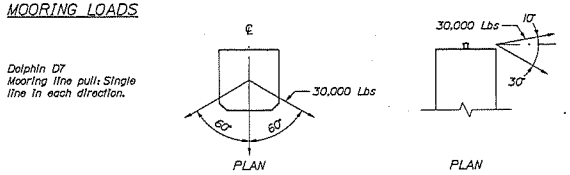
1. Vertical control for marine structures is in reference to MLLW (Mean Lower Low Water). To convert to National Geodetic Vertical Datum (NGVD), use the following formula:
El. (NGVD) = El. (MLLW) - 9.28 ft

2. Horizontal control is the Maine state plane coordinate system (east zone), NAD 27.

BERTHING LOADS

Dolphin	Berthing Velocity		Energy to Fender	Minimum Fender Design Energy	Max. Reaction on Dolphin
	Ship Velocity (Vs)	⊥ to Fender			
Mooring Dolphin	2.0 Knots	0.68 Knots	25.000 Ft Lbs	380.000 Ft Lbs	48.000 Lb

MOORING LOADS



FENDER NOTES

1. All dimensions, details and existing conditions shall be verified by the Contractor prior to construction.

2. Contractor shall design fender panels, support chains and anchors for the indicated loads.

3. Support chain anchors shall be chemical or adhesive anchors with 9 inch minimum edge distance and a minimum embedment of 12 times the diameter of the anchor.

4. The anchor design shall be based on an existing concrete strength of 3,000 psi.

5. Anchors shall be set by template.

DOLPHIN/FENDER DESIGN LOADS

Design & Current Vessel: MV Margaret Chase Smith*
- Length = 166'-6"
- Beam = 40'-0"
- Max. Displacement = 633 long tons

* This vessel was chosen as the design vessel since it envelopes the existing vessel fleet as well as the new ferry currently in design (LOA = 154 ft).

New Vessel: New Ferry (TBD)
- Length = 154'-0"
- Beam = 38'-0"
- Max. Displacement = 600 long tons

STEEL PIPE PILES

1. Steel pipe piles shall conform to ASTM A252, Grade 3 Modified. Fy = 55 ksi minimum. Per standard specification 711.01, Concrete fill shall be MaineDOT class "A".

2. Steel pipe pile order lengths shall be determined by the Contractor based on pile embedment and driving allowances as indicated on the drawings and in the specifications.

3. Piles shall be coated with fusion bonded epoxy in accordance with the specifications.

4. Pile splices shall not be allowed without prior approval of the Engineer of record.

5. Any portion of pile cracked, deformed, or otherwise damaged by pile driving shall be replaced.

6. Pipe piles were designed using AASHTO LRFD specifications and shall be installed as follows:
   - Piles shall driven to a minimum ultimate capacity: ϕRn = 971 kips
   - The maximum factored axial pile load: Rn = 91 kips

7. Piles shall not be out of position shown by more than 6" longitudinally along the pile cap, and 2" transversely across the width of the pile cap.

8. Piles shall be 16"ϕ, ½" wall steel pipe piles with concrete fill. Piles shall be fabricated of seamless or straight-seamed material. Spiral welded pipe pile is not permitted.

DEMOLITION NOTES

1. Demolition shall be conducted to prevent debris from falling into the ocean. To the maximum extent practicable, all construction debris, including any liquids or slurries that are produced as part of the demolition, shall be captured and disposed of properly. The Contractor shall comply with applicable permit conditions and environmental regulations listed in the specifications. Work shall include removal of any construction debris from the river and installation and maintenance of appropriate turbidity controls during demolition and construction such that no turbidity escapes the immediate work area. Underwater inspections may be conducted by the Owner's representative to ensure all demolition and construction debris is removed from the ocean.

ENVIRONMENTAL CONDITIONS

1. Wind:
   - Transverse 50 plf
   - Longitudinal 12 plf

   Wind on Live Load: Transverse 100 plf

   Wind on Structure: 40 psf

   Thermal: Temp. Range for Concrete Structure = 80°F

2. Railings:

   Aluminum Pedestrian: Vertical 50 plf; Horizontal 50 plf (acting simultaneously)

3. Tidal ranges (elevations in feet):

Islesboro	Tidal Datums				
	NGVD29	MSL	MLLW	MLW	STND
Top of Dolphin*	10.72	14.67	20.00	19.61	23.62
Highest Observed Tide	4.89	8.84	14.17	13.78	17.79
MHHW	1.29	5.24	10.57	10.18	14.19
MHW	0.89	4.84	10.17	9.78	13.79
NGVD29**	0.00	3.95	9.28	8.89	12.90
MSL	-3.95	0.00	5.33	4.94	8.95
MLW	-8.89	-4.94	0.39	0.00	4.01
MLLW	-9.28	-5.33	0.00	-0.39	3.62
Lowest Observed Tide	-11.89	-7.94	-2.61	-3.00	1.01
STND (Station Datum)	-12.90	-8.95	-3.62	-4.01	0.00

* Along top edge of dolphin at corner nearest pen.
** NGVD29 conversion taken from archive project drawings.

Station ID: 8415490, Rockland, ME
Tidal Epoch: 1983-2001

LEGEND:

℄	Baseline
ℙ	Plate
℄	Centerline
XX-XX-XX	Washboring
	Flood Light
	Navigation Marker Light
	Site Light - Existing
	Site Light - Proposed
	Curbing
ϕ	Diameter
	Double Bitt
	Chock
	Ladder

ABBREVIATIONS:

CY	Cubic Yard
EA	Each
EL	Elevation In Feet
HSS	Hollow Structural Sections
ID	Inside Diameter
K (KIP)	1000 Pounds
LBS	Pounds
LF	Linear Feet
MAX	Maximum
MIN.	Minimum
NTS	Not To Scale
OC	On Center
PSF	Pounds Per Square Foot
R	Radius
REF	Reference
SCHD.	Schedule
SF	Square Feet
TYP.	Typical
UON	Unless Otherwise Noted
USACE	United States Army Corps of Engineers

STRUCTURAL STEEL AND MISCELLANEOUS STEEL FABRICATIONS

1. Steel shapes and plates shall be ASTM A709, Grade 36 typical. ASTM A709 Grade 50 where noted.

2. Steel pipes shall be ASTM A53, Grade B.

3. Steel tubing shall be ASTM A500, Grade B.

4. All bolts and nuts shall conform to ASTM A307 and be hot-dip galvanized in accordance with ASTM A153. Set anchor bolts by template only.

5. All miscellaneous steel, including all fasteners, chains, shackles, and u-bolts unless noted otherwise, shall be hot-dip galvanized. Galvanize items after fabrication. Stress relieve bends before galvanizing. Galvanizing damaged accidentally or due to field welding shall be restored with a field applied galvanizing compound.

6. Welding Electrodes: E70XX, Low Hydrogen

7. All welding shall be in accordance with the requirements of the structural welding code, D1.1 and D3.6, of the American Welding Association (AWS).

ALUMINUM ANODES

1. Cathodic protection for steel pipe piles and fender panels shall be 80 lb aluminum alloy. Dimensions shall conform to the general configuration shown on the Plans.

ALUMINUM GANGWAYS

1. The design and construction of the aluminum gangways shall be in accordance with the special provisions for the item "Aluminum Gangway". The Contractor's manufacturer shall design the gangways in accordance with the plans, specifications, and loads shown below.

2. Vertical Loads: Uniform Live Load 85 psf; Additional Dead Load 50 plf

3. Horizontal Loads: Wind - Transverse 50 plf; Wind - Longitudinal 12 plf

4. The minimum support seat width, measured perpendicular to the edge of the concrete support shall be 18 inches.

5. Handrail shall be designed for a concentrated horizontal load of 200 pounds acting at the center of the railing.

CONCRETE

1. Concrete basic design stresses shall be:
   - Fill for Pipe Piles: Class "A"
   - Cast-in-place (con): Class "LP"

2. Marine concrete shall contain 5.0 gal/cy of calcium corrosion inhibitor admixture.

3. Clearances for reinforcement shall be 2" unless otherwise noted.

4. Chamfer all concrete edges 1" @ 45° unless otherwise noted.

5. All reinforcing shall be fully supported on non-metallic approved chairs. Reinforcing shall not be supported on timber blocks, bricks, concrete blocks, miscellaneous rebar, etc.

6. Construction joints shall be made only as shown unless approved otherwise.

7. All existing concrete surfaces to receive concrete shall be roughened to a minimum amplitude of ¼" and coated with a product listed on the MaineDOT pre-qualified list of concrete bonding agents.

8. Wet curing of concrete is to begin within 30 minutes after concrete finishing, or as soon as possible without damaging finished surface.

9. All framework for concrete shall be left in place and concrete surfaces shall be covered and kept moist for a period of not less than seven (7) full days after concrete placements.

10. Contractor shall submit detailed reinforcing drawings including bar and bending schedules to the Engineer for review and approval prior to delivery of any reinforcing steel.

11. All ferrous metal handling/lifting devices and existing embedded metals/anchors no longer in use shall be recessed or removed to a depth of one inch below the surface of the concrete and patched with an approved polymer-modified cementitious mortar. Devices located in areas to be totally encased in cast-in-place concrete shall be galvanized. Devices located in areas not to be encased in cast-in-place concrete shall be stainless steel, unless otherwise noted.

STEEL REINFORCEMENT

1. Reinforcing Steel: ASTM A615 Grade 60, deformed, epoxy coated, unless noted otherwise

2. Rock Anchors: ASTM A722, Grade 150, deformed, with triple corrosion protection

3. Splicing of reinforcing steel is permitted. Stagger splices one splice length minimum. No more than 50 percent of the reinforcing steel shall be spliced at any location. Provide a minimum splice length of 50 bar diameters, unless noted otherwise on the drawings.

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February 15, 2019

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023484.00

PROJ MANAGER	BY	DATE
DESIGNED/ALEG	R. Wiley	P. Bishop 01/19
DRAWN/ALEG		E. Wilson 01/19
CHECKED/ALEG		
DESIGN-REVIEWED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER
12069

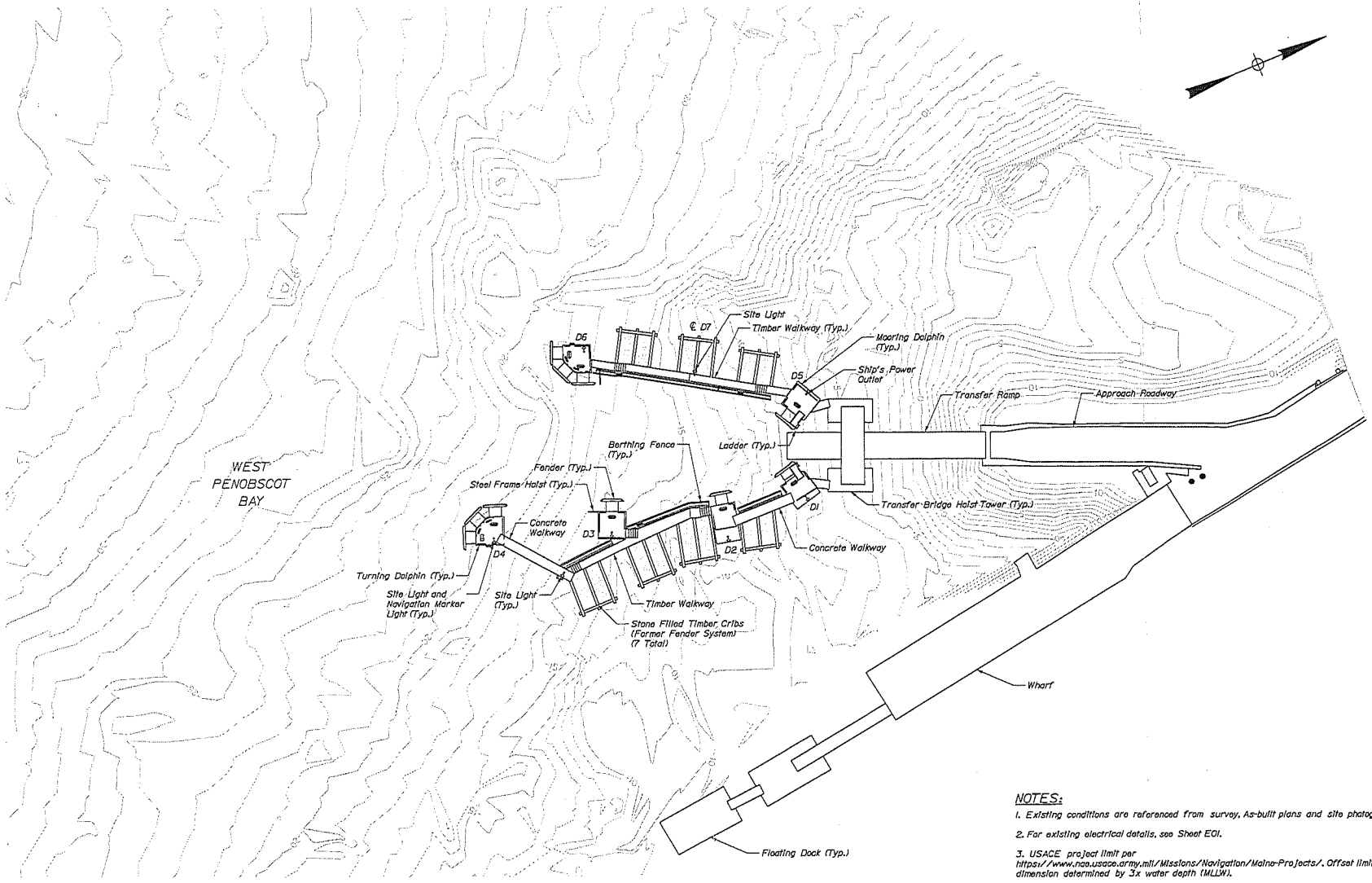
DATE

ISLESBORO
FERRY TERMINAL

GENERAL NOTES AND DESIGN CRITERIA

SHEET NUMBER
G02
2 OF 18

Filename: ...\02 CADD\002_GeneralNotes.dgn Division: Username: Date:2/15/2019



SITE PLAN
1" = 20'-0"

20 0 20 40
Scale of Feet

NOTES:

1. Existing conditions are referenced from survey, As-built plans and site photographs.
2. For existing electrical details, see Sheet E01.
3. USACE project limit per https://www.nae.usace.army.mil/Missions/Navigation/Maine-Projects/. Offset limit dimension determined by 3x water depth (MLLW).

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February 15, 2019

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DEPARTMENT OF TRANSPORTATION

WIN
WIN 023484.00

	BY	DATE
PROJ MANAGER		
DESIGN DETAILED	N. Riley	02/19
CHECKED DETAILED	P. Bishop	02/19
QC/QA DETAILED	E. Wash	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

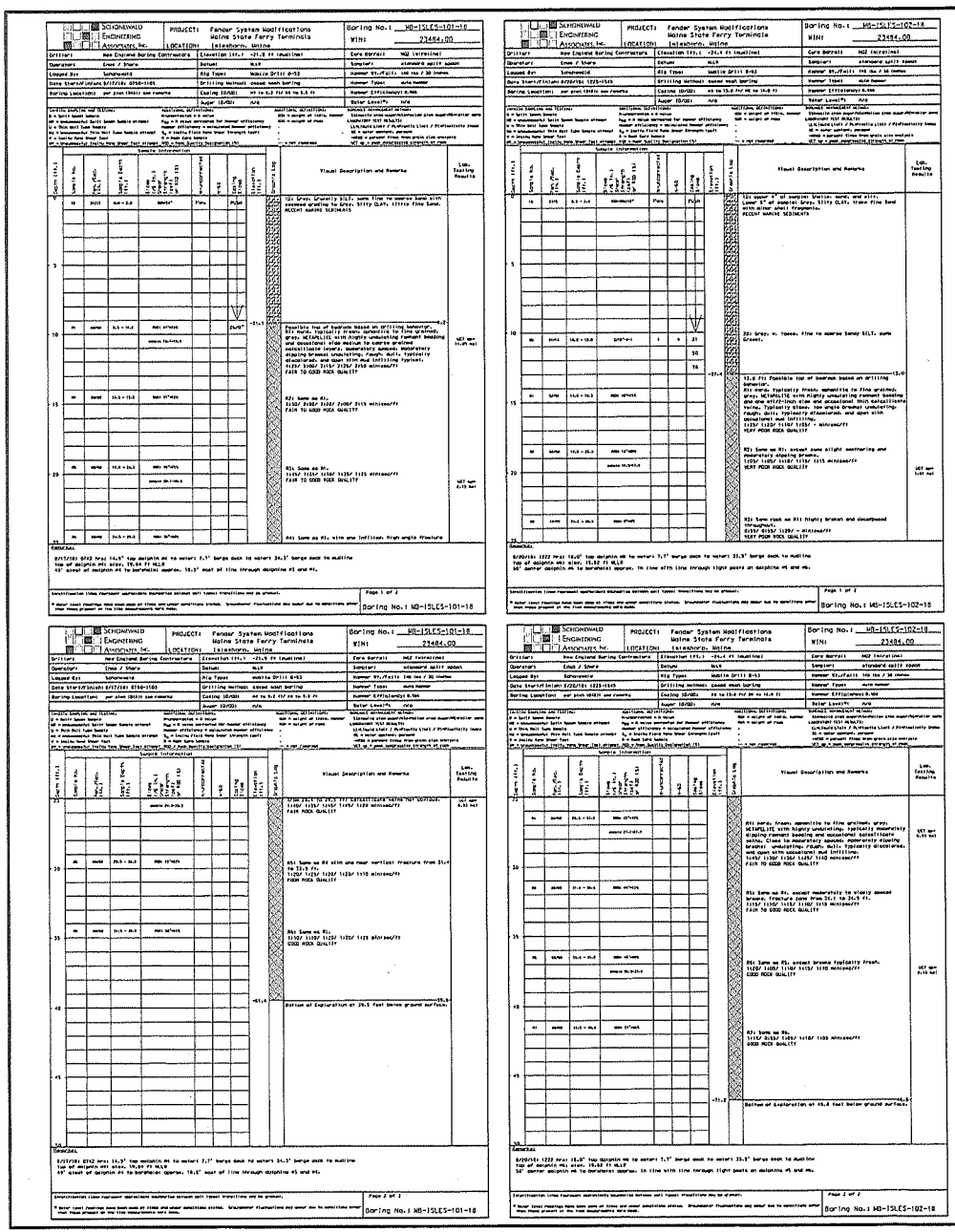
SIGNATURE
D209
P.E. NUMBER
DATE

ISLESBORO
FERRY TERMINAL

EXISTING CONDITIONS

SHEET NUMBER
G03
3 OF 18

Filename: ...\003_Existing Conditions.dgn Division: Username: Date: 2/15/2019



GEOTECHNICAL NOTES:

1. Soil classification, properties, and descriptions are based on engineering interpretation of available subsurface information by Schonewald Engineering Associates, Inc. and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual borings or sample locations.

2. Observed water levels and/or water conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall methods of exploration, and other factors.

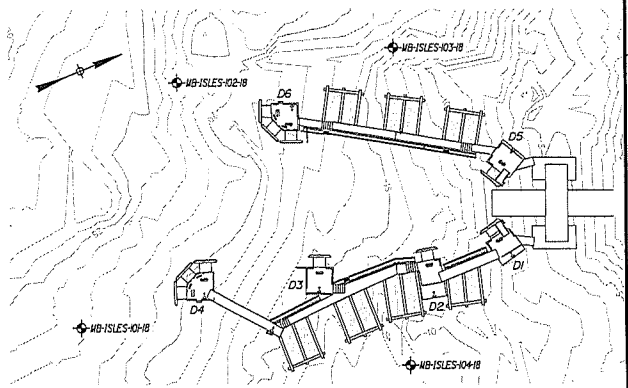
3. Sound engineering judgment was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and intended for MaineDOT design and estimate purposes only. Presentation of the information on these plans or elsewhere is for the purpose of providing intended users with access to the same data available to MaineDOT. The subsurface information is presented in good faith and is not intended as a substitute for additional explorations. Independent interpretations, independent analysis, or judgment by the Contractor.

4. Grid north on the North American Datum 1983 (NAD83).

5. Tidal datum is Mean Lower Low Water (MLLW).

BORING COORDINATES

Location	Northing	Easting
MB-ISLES-101-18	2171105.20	858334.25
MB-ISLES-102-18	2171180.38	858255.79
MB-ISLES-103-18	2171269.22	858276.24
MB-ISLES-104-18	2171225.78	858400.00



KEY PLAN
N.T.S.

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February 15, 2019

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023484.00

ISLESBORO
FERRY TERMINAL

BORING LOGS I

	BY	DATE
PROJ MANAGER	K.Petry	
DESIGNED/LED	P. Bishop	01/19
CHECKED/LED	K.Petry	01/19
DESIGN DETAILED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

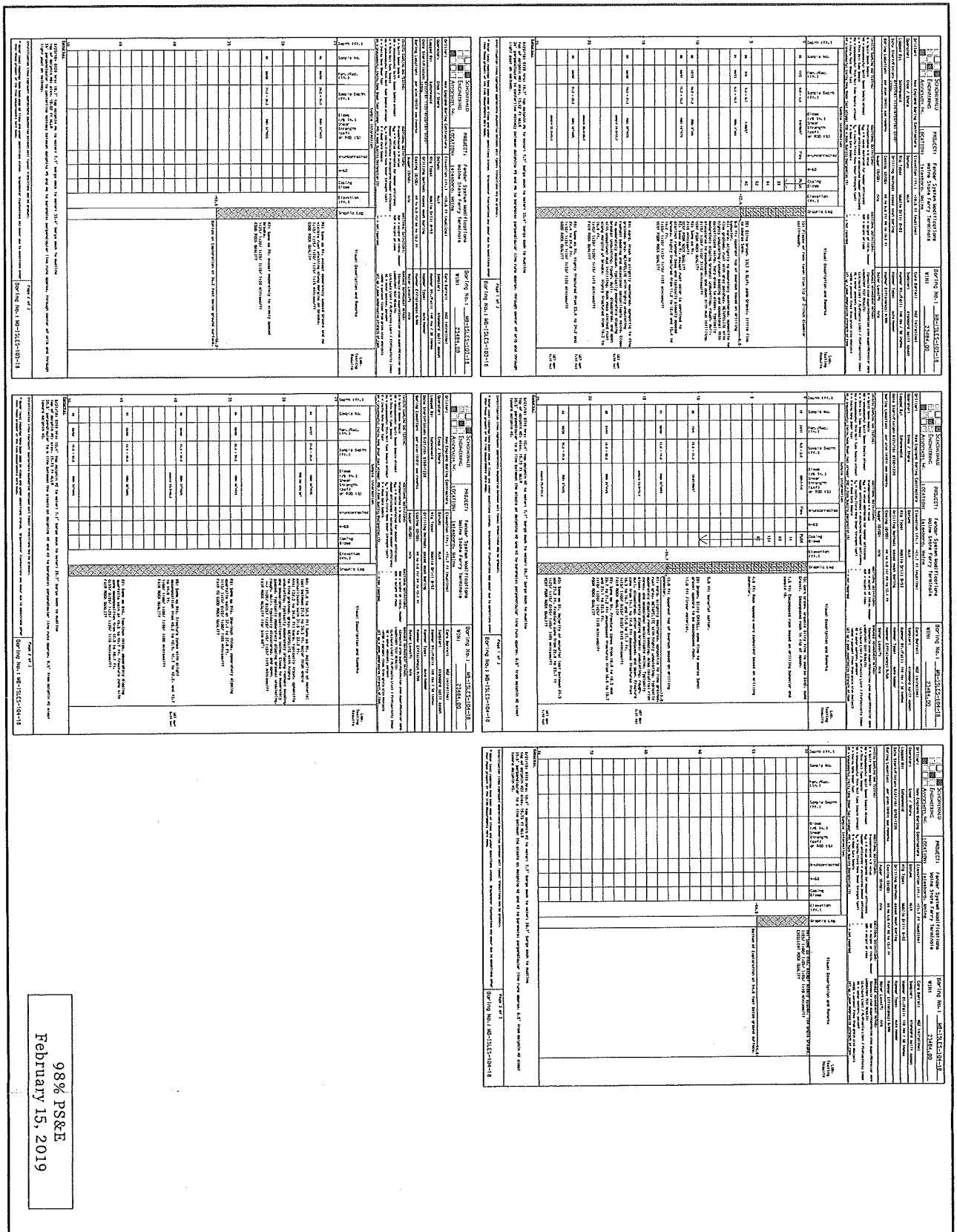
SIGNATURE

9209
P.E. NUMBER

DATE

SHEET NUMBER
G04
4 OF 18

Filename: ...\02 CADD\004_Boring Logs 1.dgn Division: Username: Date:2/15/2019



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February 15, 2019

HNTB

ISLESBORO FERRY TERMINAL	PROJ MANAGER	BY	DATE
	DESIGN-DETAILED1 N. Wiley	P. Bishop	02\19
	CHECKED-REVIEWED	C. Morin	02\19
	DESIGN2-DETAILED2		
	DESIGN3-DETAILED3		
	REVISIONS 1		
	REVISIONS 2		
	REVISIONS 3		
	REVISIONS 4		
	FIELD CHANGES		
BORING LOGS II	SIGNATURE		
	10209 P.E. NUMBER		
	DATE		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023484.00

SHEET NUMBER G05
5 OF 18

EXISTING D1		
LOCATION	NORTHING	EASTING
A	224166.71	868279.45
B	224169.46	868290.26
C	224158.38	868293.06
D	224155.59	868281.85

EXISTING D2		
LOCATION	NORTHING	EASTING
A	224125.71	868280.54
B	224132.12	868295.83
C	224122.30	868293.67
D	224125.71	868278.50

EXISTING D3		
LOCATION	NORTHING	EASTING
A	224082.64	868262.87
B	224093.13	868267.31
C	224088.58	868277.63
D	224078.36	868273.21

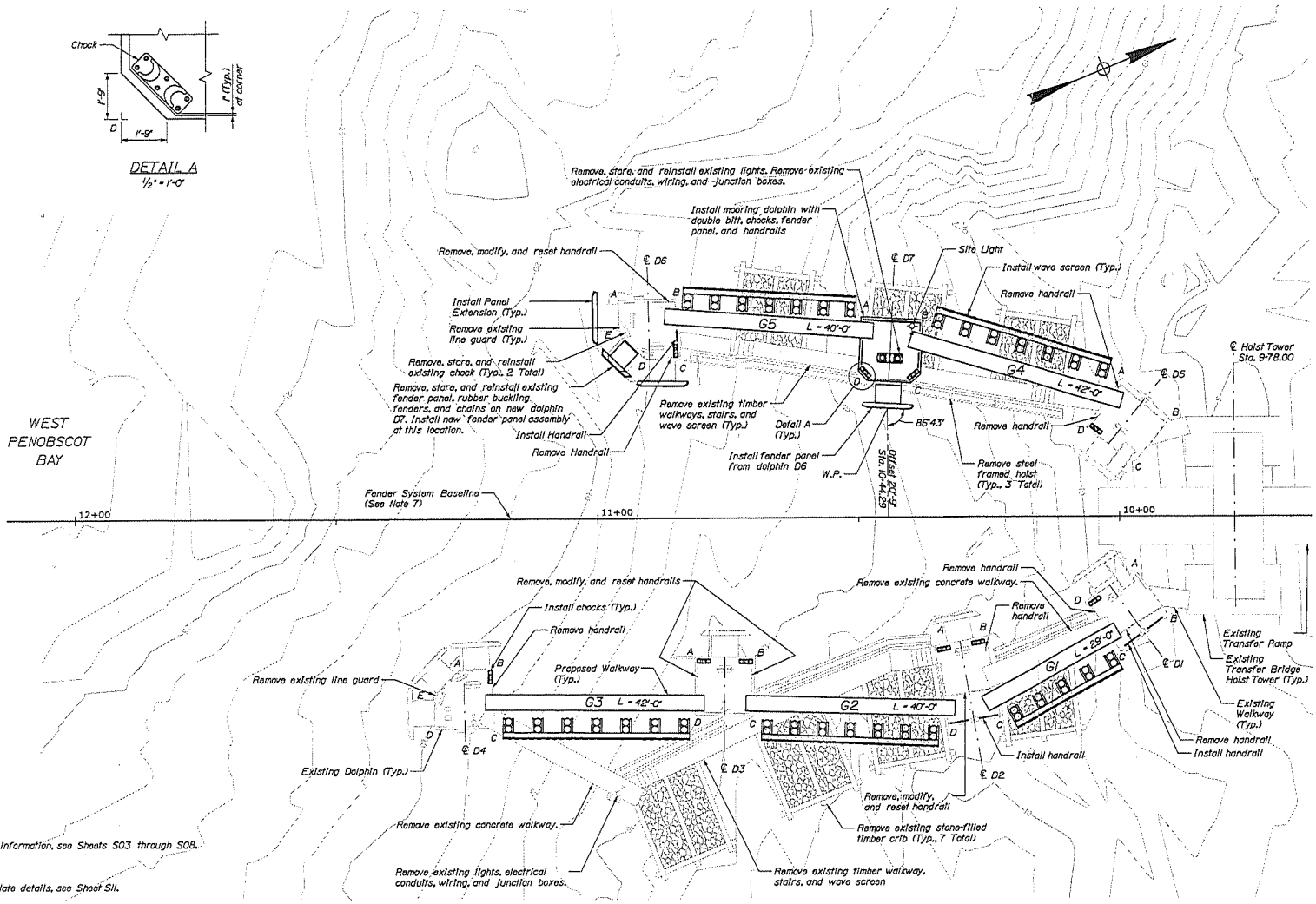
EXISTING D4		
LOCATION	NORTHING	EASTING
A	224039.74	868247.91
B	224046.27	868250.22
C	224041.91	868260.87
D	224031.27	868256.79
E	224033.48	868250.73

EXISTING D5		
LOCATION	NORTHING	EASTING
A	224178.48	868245.09
B	224183.98	868255.45
C	224174.40	868260.84
D	224168.70	868251.05

EXISTING D6		
LOCATION	NORTHING	EASTING
A	224094.89	868194.77
B	224105.53	868198.85
C	224101.65	868209.67
D	224095.25	868207.03
E	224092.48	868200.74

PROPOSED D7		
LOCATION	NORTHING	EASTING
A	224136.63	868215.32
B	224147.47	868220.47
C	224142.33	868231.31
D	224131.49	868226.16

DETAIL A
½" = 1'-0"



SITE PLAN
1" = 10'-0"

10 0 10 20
Scale of Feet

NOTES:

1. For mooring dolphin details & additional information, see Sheets S03 through S08.
2. For wave screen details, see Sheet S10.
3. For aluminum gangway and transition plate details, see Sheet S11.
4. For lighting details, see Sheet E01 through E02.
5. Fender panel removed from dolphin D6 shall be removed, including steel panel, rubber buckling fenders, and chains, without damage, for installation at new dolphin D7.
6. Baseline was developed using information from the 1988 "Ferry Terminal Modification" plans.
7. The Contractor shall repair existing concrete as directed by the Resident. Concrete repairs shall be measured for payment under pay items, 518.50, 518.51, and 518.60, Repair of Upward Facing Surfaces - Reinforcing Steel < 8 Inches, Repair of Upward Facing Surfaces - below Reinforcing Steel, and Repair of Vertical Surfaces < 8 Inches, respectively.

98% PS&E
February 15, 2019

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023484.00

PROJ. MANAGER		BY	DATE
DESIGN-DETAILED	N. Riley	P. Bibby	6/19
DESIGN-ESTIMATED		C. Davis	6/19
DESIGN-DETAILED			
DESIGN-ESTIMATED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

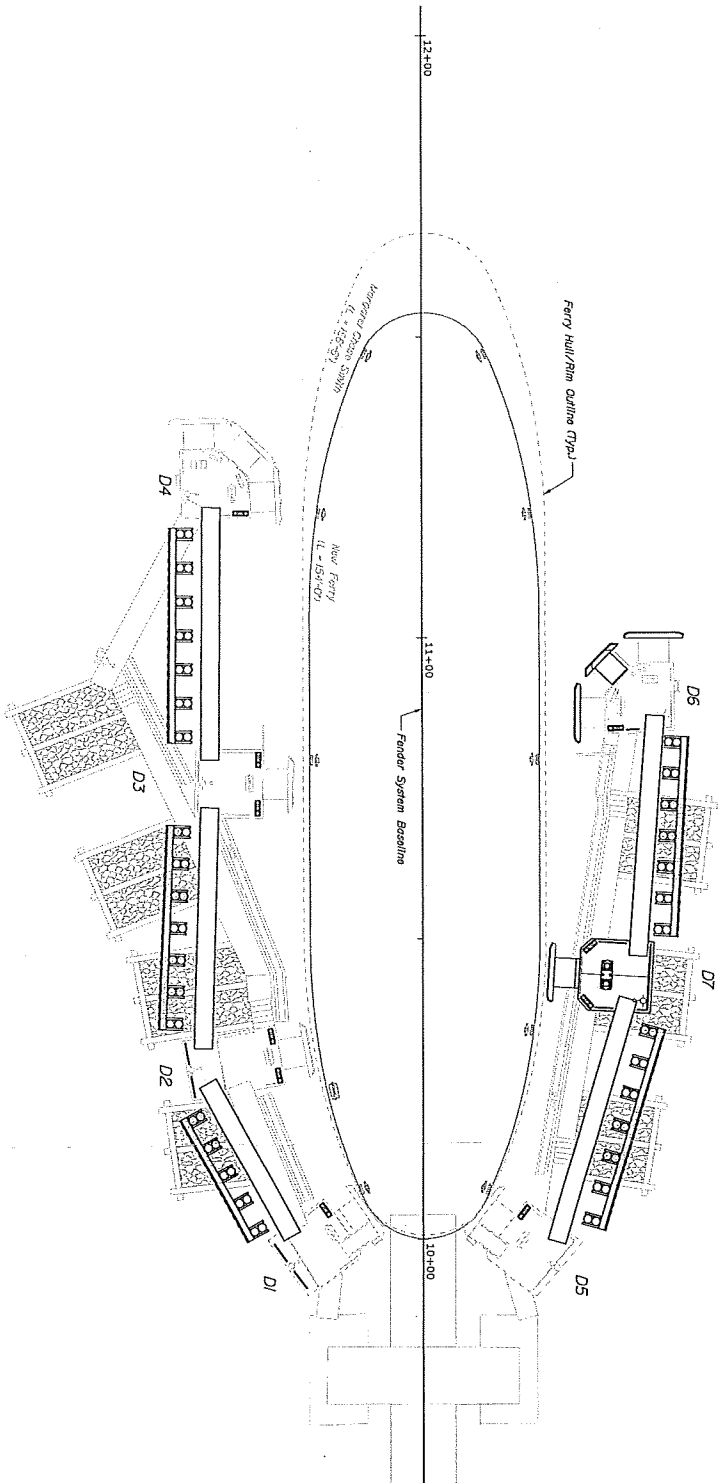
SIGNATURE
P.E. NUMBER
DATE

ISLESBORO
FERRY TERMINAL

SITE PLAN

SHEET NUMBER
S01
6 OF 18

Filename: ...\02 CAD\006_Site Plan.dgn Division: Username: Date: 2/15/2019



PLAN
1" = 10'-0"
Scale of Feet
10 0 10 20

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February 15, 2019

NOTES:
1. MV Margaret Chase Smith is currently in operation. New ferry is proposed.

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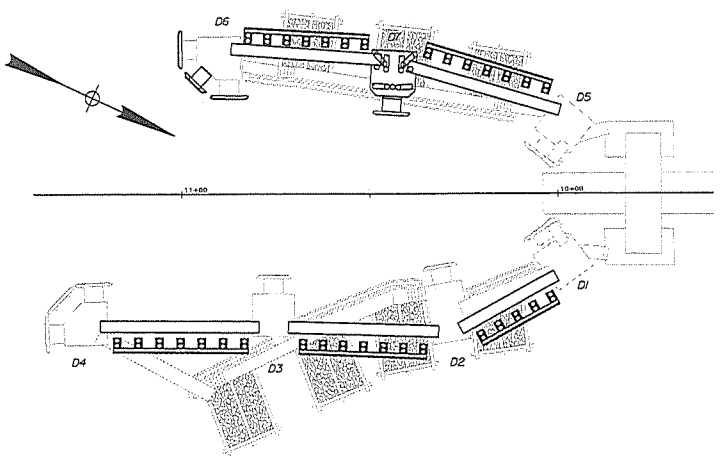
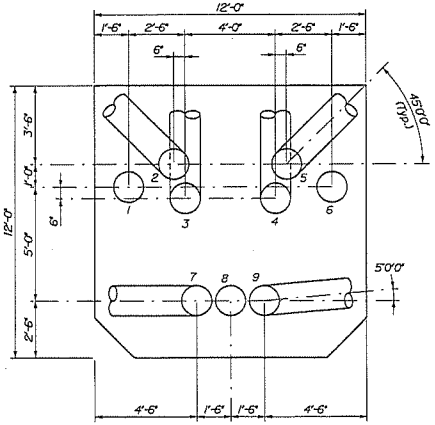
SHEET NUMBER S02 7 OF 18	ISLESBORO FERRY TERMINAL	PROJ MANAGER		BY	DATE		STATE OF MAINE DEPARTMENT OF TRANSPORTATION
		DESIGN-DETAILED	N. Wiley	P. Bishop	02\19		
		CHECKED-REVIEWED		C. Morin	02\19	SIGNATURE	
		DESIGN2-DETAILED2				10209	
		DESIGN3-DETAILED3				P.E. NUMBER	
		REVISIONS 1					
	BERTH PLAN	REVISIONS 2				DATE	
		REVISIONS 3					WIN WIN 023484.00
		REVISIONS 4					
		FIELD CHANGES					



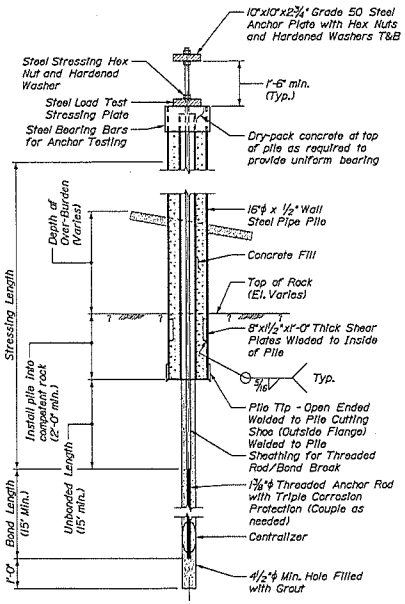
PLAN

STEEL PILE TABLE			
	Pile No.	Estimated Pile Length	Vertical or Batter (Rise/Run)
Mooring Dolphin D7	1	46	Vert.
	2	48	Batter 4:12
	3	48	Batter 4:12
	4	48	Batter 4:12
	5	48	Batter 4:12
	6	46	Vert.
	7	48	Batter 4:12
	8	46	Vert.
	9	48	Batter 4:12

Pile Load Schedule	
Max. Design Load - Compression (LRFD):	91 kips
Max. Design Load - Tension (LRFD):	56 Kips
Req. Ultimate Pile Capacity Compression (LRFD):	971 kips
Req. Ultimate Rock Anchor Capacity Tension (ASD):	361 kips
Rock Anchor Proof Load (LRFD):	75 kips
Rock Anchor Lock Off Load (LFRD):	62 kips



D7 FOUNDATION PLAN
(Dimensions shown at pile cut-off elevation)
3/16" = 1'-0"



ROCK ANCHOR DETAIL
1/2" = 1'-0"

NOTES:

1. A length of 10' has been included for contingency to each estimated pile length to determine order length.
2. All steel pipe piles shall have rock anchors. For rock anchors, see detail.
3. All steel pipe piles shall have aluminum anodes.
4. Overburden and rock materials removed during pile installation activities shall be disposed in accordance with Special Provision 203.
5. For anode details, see Sheet S04.
6. Pile splices shall not be allowed without prior approval of the Engineer of Record (EOR). Pile splices approved by the EOR and installed by the Contractor to achieve the installed pile length as noted herin shall be incidental to pay item 501.241, Steel Pipe Piles In-Place. If the estimated pile length is less than the required length due to varying field conditions then the Contractor shall submit for approval a request to splice the piles which shall be paid under 501.91, Pile Splices.

PILE AND ROCK ANCHOR SUGGESTED CONSTRUCTION SEQUENCE:

1. Advance pipe pile open ended with cutting shoe to the top of or near top of bedrock. Drive to required ultimate capacity (see pile schedule). Advance pipe pile into competent rock.
2. Pile shall be cut off at final top elevation to perform anchor load test. Refer to structural drawings for top of pile elevations.
3. Install casing with centralizers as required to top of soil plug inside the pipe pile. Advance sacrificial casing until it is seated in bedrock or refusal of the casing is achieved.
4. Insert rock anchor drill casing and drill bit into sacrificial casing and drill anchor hole. Minimum length of anchor hole bond zone per the detail.
5. Clean and flush rock cuttings from socket. Do not allow drill cuttings to enter the pipe pile.
6. Install double corrosion protected anchor, anchor with centralizers.
7. Install 5,000 psi cement grout inside of anchor hole and casing using tremie tube. Place 5,000 psi concrete Class "A" between casing and pipe piles to 7.5 feet below top of finish pile elevation.
8. Install two grade 50 bearing stress plates at top of pile.
9. Install load test stressing plate.
10. Verify that pile head is restrained from moving laterally by fixing the pile head to the driving template, falsework or other appropriate means.
11. Perform rock anchor proof test to 133% of the design load (See pile schedule).
12. Lock off rock anchor at 110% of the design load (See pile schedule).
13. Install anchor plate at top of anchor with hex nuts and hardened washers, top and bottom.
14. Proceed with dolphin construction.

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February 15, 2019

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023484.00

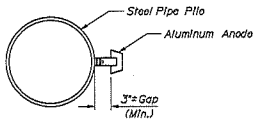
PROJ MANAGER		BY	DATE
DESIGN-DETAILED	N. Wiley	P. Bishop	01/19
CHECKED-REVIEWED		C. Work	01/19
DESIGN-DETAILED			SIGNATURE
CHECKED-REVIEWED			0259
REVISIONS 1			P.E. NUMBER
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			DATE
FIELD CHANGES			

ISLESBORO
FERRY TERMINAL

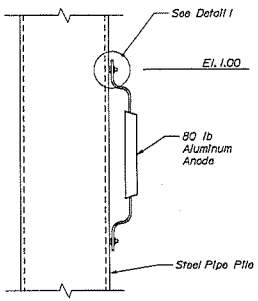
DOLPHIN
FOUNDATION PLAN

SHEET NUMBER
S03
8 OF 18

FRenames: ...\008_Dolphin Foundation Plans.dgn Division: Username: Date:2/15/2019



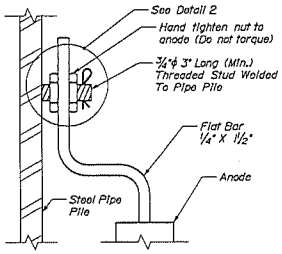
PLAN



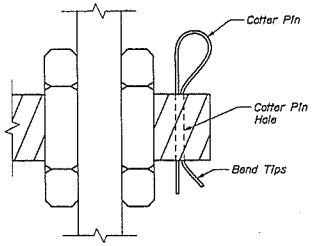
ELEVATION

Note: Anode shall be positioned along the inshore face of piles.

ANODE DETAIL
N.T.S.



DETAIL 1
N.T.S.



DETAIL 2
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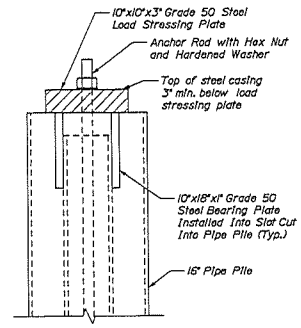
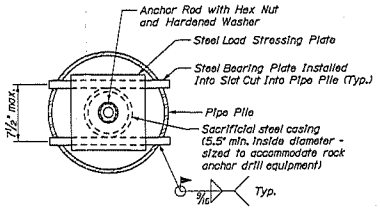
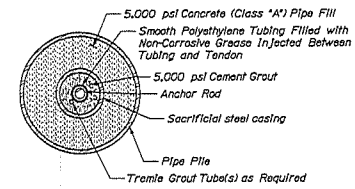


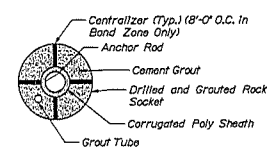
PILE LOAD TESTING DETAIL
N.T.S.



LOAD TEST SET-UP AT TOP OF PILES DETAIL
N.T.S.



ROCK ANCHOR SECTION (UNBONDED ZONE)
N.T.S.



ROCK ANCHOR SECTION (BOND ZONE)
N.T.S.

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February 15, 2019

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023484.00

	BY	DATE
PROJ. MANAGER		
DESIGN-DETAILED	N. Wiley	02/19
CHECKED-REVIEWED	P. Bishop	02/19
DESIGN-2-DETAILED	C. Marin	02/19
DESIGN-3-DETAILED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

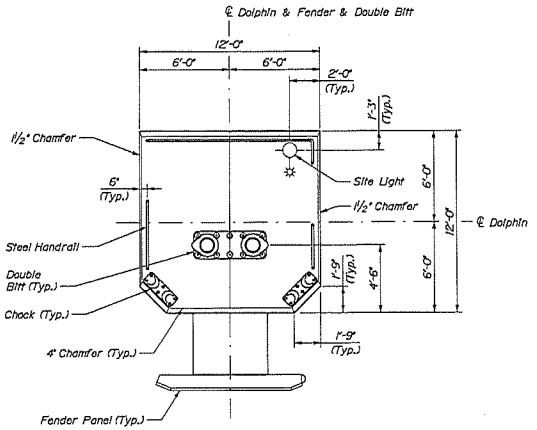
SIGNATURE
12209
P.E. NUMBER
DATE

ISLESBORO
FERRY TERMINAL

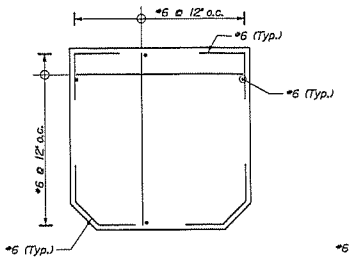
DOLPHIN FOUNDATION DETAILS

SHEET NUMBER
S04
9 OF 18

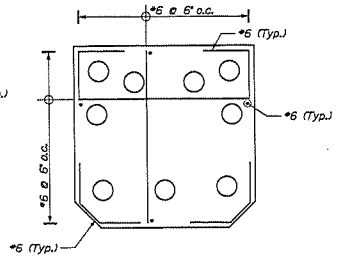
Filename: ...\009_Dolphin Foundation Details.dgn Division: Username: Date:2/15/2019



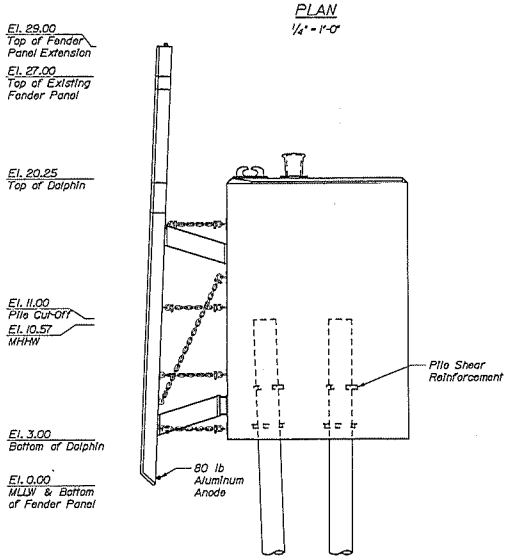
MOORING DOLPHIN PLAN
¼" = 1'-0"



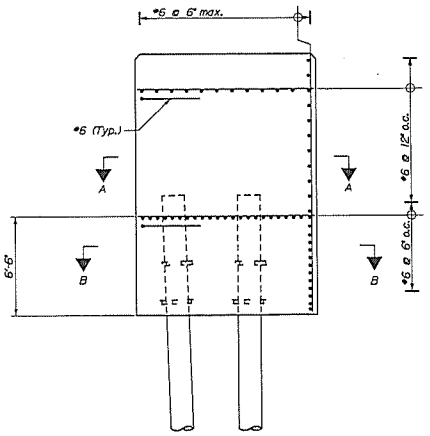
SECTION A-A
(Same as shown for El. 9.50 and down, but with pile cutouts)
¼" = 1'-0"



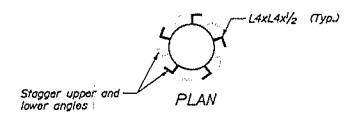
SECTION B-B
¼" = 1'-0"



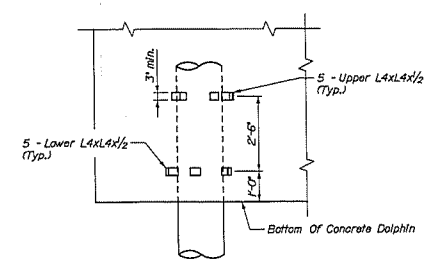
MOORING DOLPHIN ELEVATION
(Light and handrail not shown for clarity)
¼" = 1'-0"



DOLPHIN REINFORCING SECTION
¼" = 1'-0"



PLAN



ELEVATION

PILE SHEAR REINFORCEMENT
½" = 1'-0"

NOTES:

1. For anode details, see Sheet S04.
2. For double bitt and chock details, see Sheet S06.
3. For dolphin pad eye detail, see Sheet S08.
4. For handrail details, see Sheet S09.
5. All reinforcing shall maintain 2" clear from piles and 4" clear of concrete surfaces.
6. Reinforcing bars shall be adjusted to maintian 1" clear from anchor rods.

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February 15, 2019

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023484.00

PROJ. MANAGER		BY	DATE
DESIGN-DETAILED	N. Wiley	P. Bishop	02/19
CHECKED-REVIEWED		C. Marin	02/19
DESIGN2-DETAILED			
DESIGN3-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

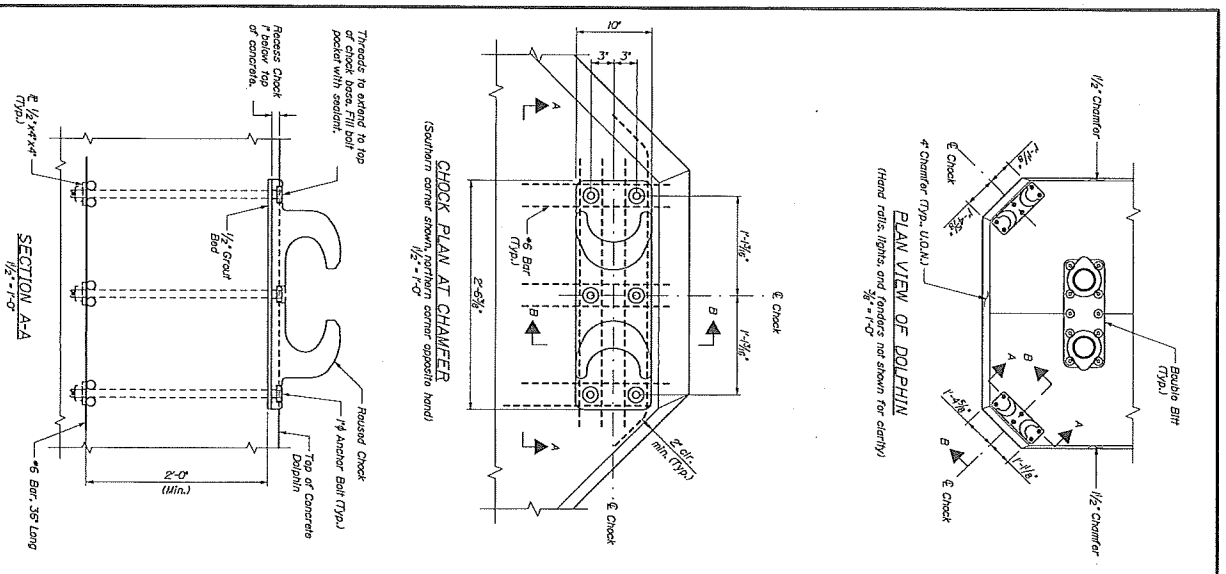
SIGNATURE
10209
P.E. NUMBER
DATE

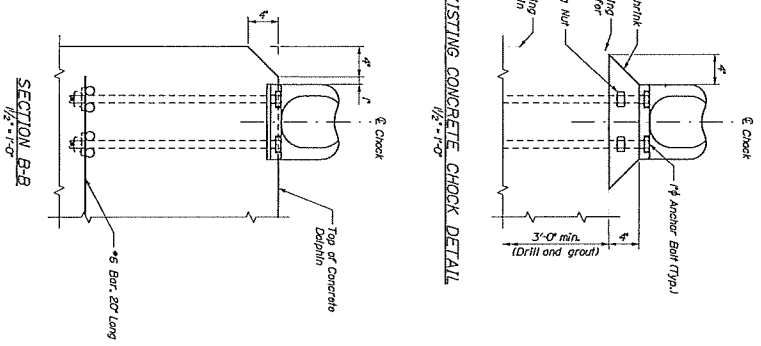
ISLESBORO
FERRY TERMINAL

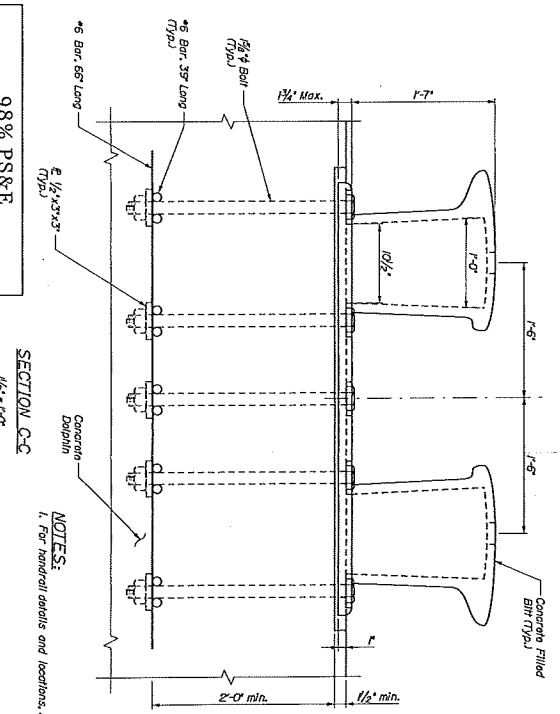
DOLPHIN DETAILS
PLAN AND ELEVATION

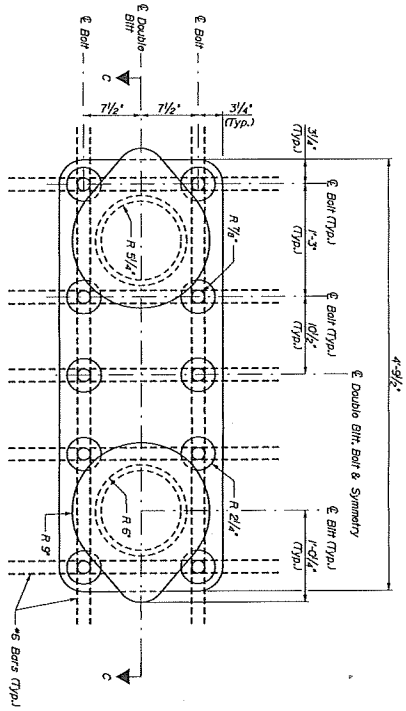
SHEET NUMBER
S05
10 OF 18

Filename: ...\010_Dolphin Plan and Elevation.dgn Division: Username: Date:2/15/2019









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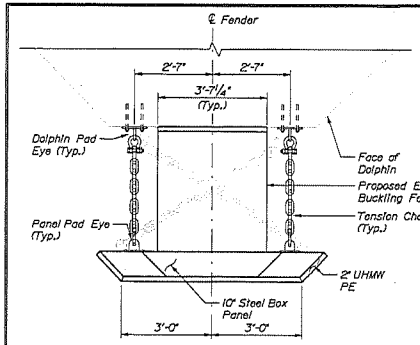
February 15, 2019

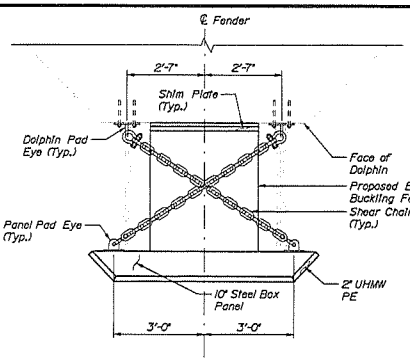
HNTB

SHEET NUMBER S06 11 OF 18	ISLESBORO FERRY TERMINAL	PROJ MANAGER		BY	DATE
		DESIGN-DETAILED	N. Wiley	P. Bishop	02\19
		CHECKED-REVIEWED		C. Morin	02\19
		DESIGN2-DETAILED2			
		DESIGN3-DETAILED3			
		REVISIONS 1			
		REVISIONS 2			
		REVISIONS 3			
		REVISIONS 4			
		FIELD CHANGES			
	DOLPHIN DETAILS MOORING HARDWARE	SIGNATURE			
		P.E. NUMBER			
		DATE			
	STATE OF MAINE DEPARTMENT OF TRANSPORTATION	WIN WIN 023484.00			



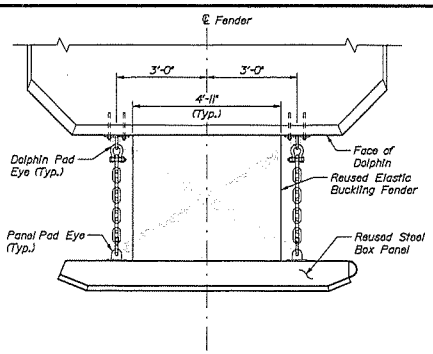
PLAN - TYPE 3 TOP FENDER PANEL

1/2" = 1'-0"



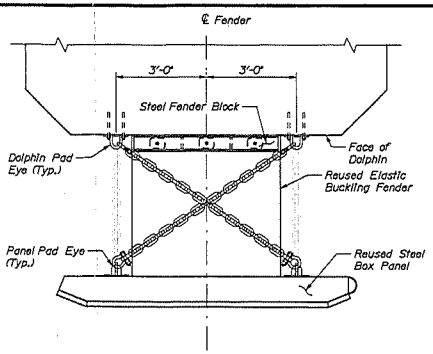
PLAN - TYPE 3 BOTTOM FENDER PANEL

1/2" = 1'-0"



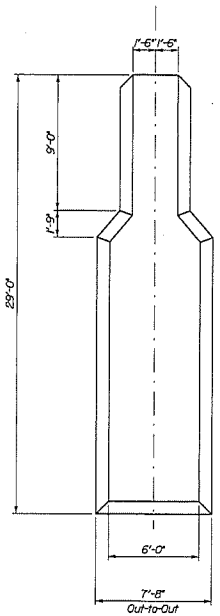
PLAN - REUSED TOP FENDER PANEL

1/2" = 1'-0"



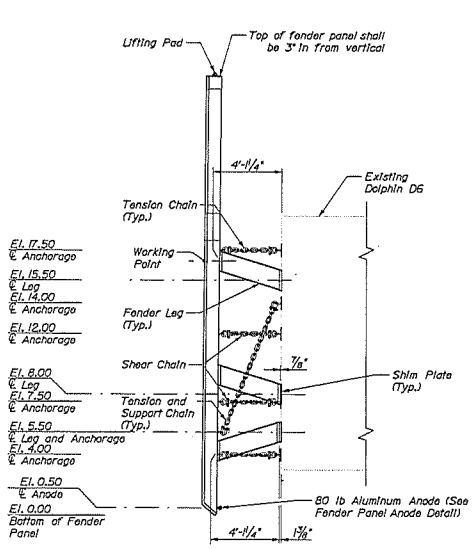
PLAN - REUSED BOTTOM FENDER PANEL

1/2" = 1'-0"



TYPE 2 PANEL

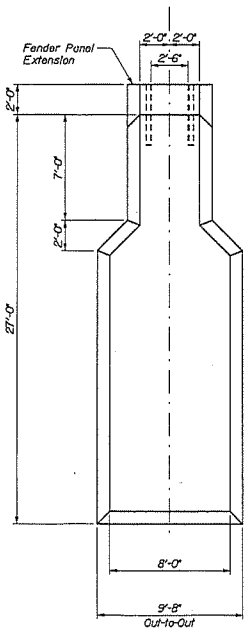
1/4" = 1'-0"



ELEVATION - TYPE 2 PANEL

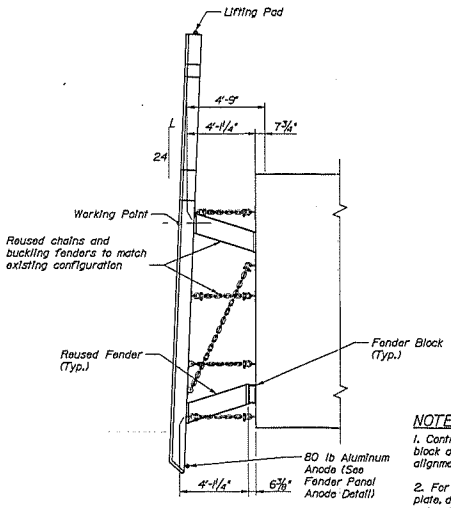
(Foundation piles and hardware not shown for clarity)

1/4" = 1'-0"



REUSED PANEL

1/4" = 1'-0"



ELEVATION - REUSED PANEL

(Foundation piles and hardware not shown for clarity)

1/4" = 1'-0"

NOTES:

1. Contractor shall use fender plate or fender block detail to maintain proposed fender panel alignment.
2. For steel fender block, panel pad eye, spacer plate, dolphin pad eye, panel anode, and panel extension details, see Sheet S08.
3. Contractor shall replace broken or bent chain links, dog bones, or chain tensioners in kind.
4. Existing chains and connectors shall be reused unless damaged or corroded. The Engineer shall determine if replacement is required and Contractor shall replace in kind.
5. Contractor shall remove obstructions or modify detail for panel extension.

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February 15, 2019

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023484.00

	BY	DATE
PROJ. MANAGER		
DESIGN-DETAILED	N. Wiley	02/19
CHECKED-REVIEWED	P. Bacco	02/19
DESIGN-DETAILED	E. Wren	02/19
DESIGN-DETAILED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

0209
P.E. NUMBER

DATE

ISLESBORO
FERRY TERMINAL

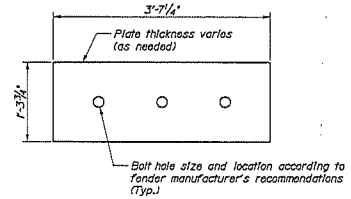
DOLPHIN DETAILS
FENDER SYSTEM I

SHEET NUMBER

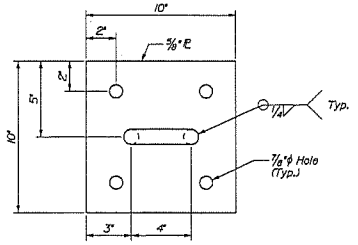
S07

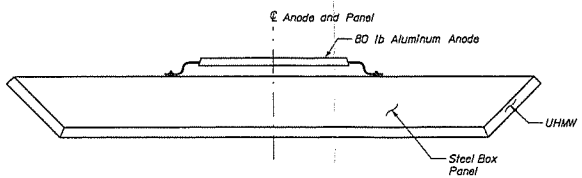
12 OF 18

Filename: ...\012_Fender System I.dgn Division: Username: Date:2/15/2019



TYPE 2 PANEL SPACER PLATE DETAIL
1" = 1'-0"





FENDER PANEL ANODE DETAIL
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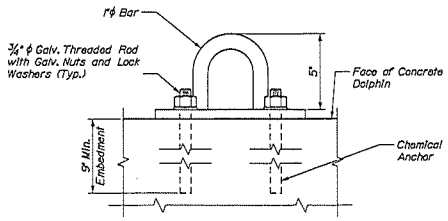
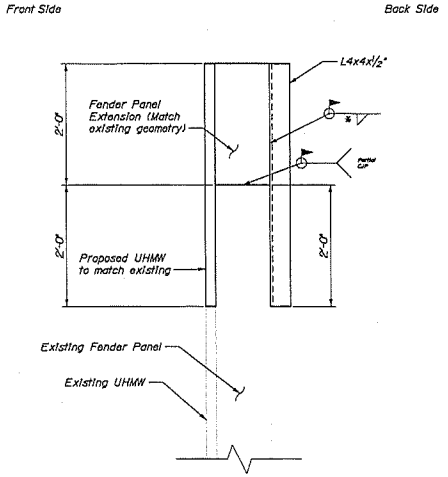
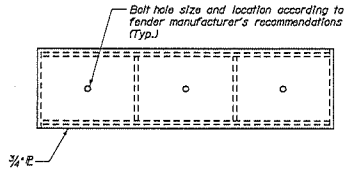


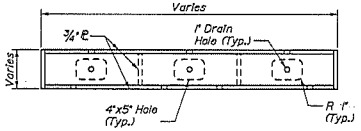
DOLPHIN PAD EYE DETAIL
3" = 1'-0"



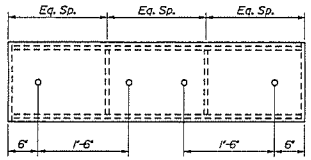
TYPICAL PANEL EXTENSION DETAIL
1" = 1'-0"



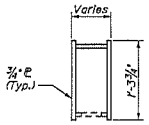
FRONT ELEVATION



PLAN

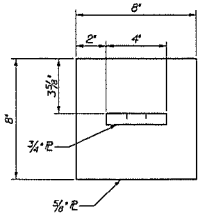


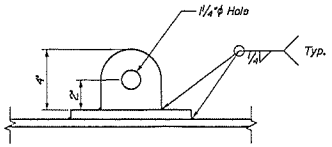
BACK ELEVATION



SECTION

STEEL FENDER BLOCK
(For use on reused panel attached to D7)
1" = 1'-0"





PANEL PAD EYE DETAIL
3" = 1'-0"

NOTES:
1. For anode attachment details, see Sheet S04.

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February 15, 2019

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023484.00

	BY	DATE
PROJ MANAGER		
DESIGN-DETAILED	P. Bishop	02/19
CHECKED-REVIEWED	C. Bacon	02/19
DESIGN-DETAILED		
CHECKED-REVIEWED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

9289
P.E. NUMBER

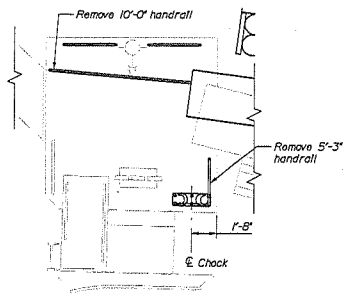
DATE

ISLESBORO
FERRY TERMINAL

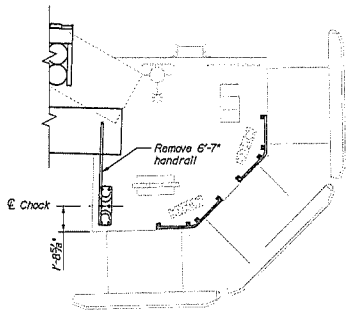
DOLPHIN REPAIRS
FENDER SYSTEM II

SHEET NUMBER
S08
13 OF 18

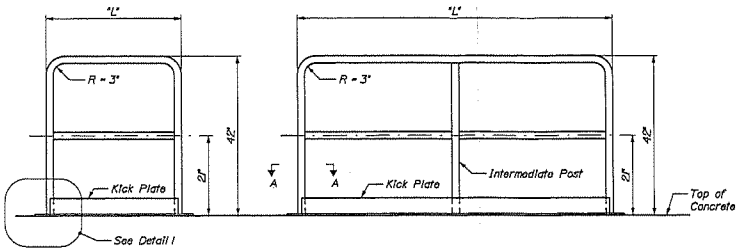
Filename: ...\013_Fender System II.dgn Division: Username: Date:2/15/2019



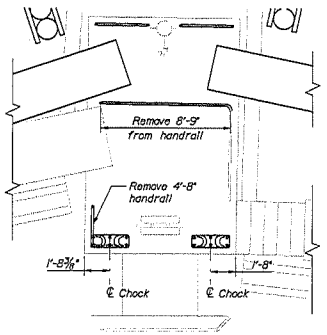
D1 HANDRAIL MODIFICATION PLAN
1/4" = 1'-0"



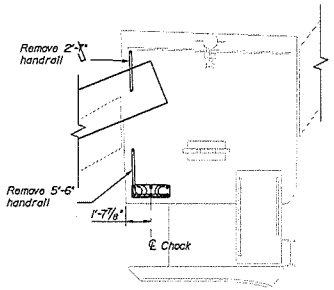
D4 HANDRAIL MODIFICATION PLAN
1/4" = 1'-0"



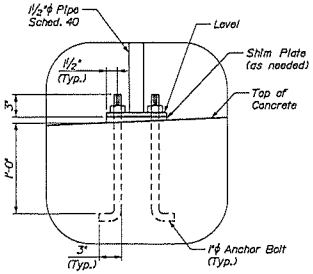
HANDRAIL DETAIL
3/4" = 1'-0"



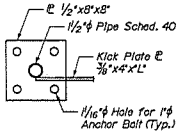
D2 HANDRAIL MODIFICATION PLAN
1/4" = 1'-0"



D5 HANDRAIL MODIFICATION PLAN
1/4" = 1'-0"



DETAIL 1
(Applies to all railing mounting locations. Kick plate not shown for clarity)
1½" = 1'-0"

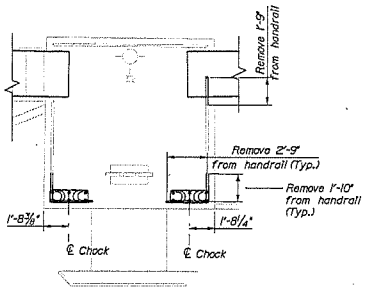


SECTION A-A
1½" = 1'-0"

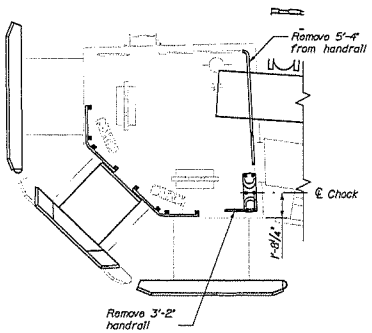
TABLE 2
LINE GUARD REMOVAL SUMMARY

Dolphin	Length of Removal (ft)	No. of Bolts
D4	11	8
D6	11	8

NOTES:
1. Contractor to field verify dimensions of line guards & number of bolts to be removed.



D3 HANDRAIL MODIFICATION PLAN
1/4" = 1'-0"



D6 HANDRAIL MODIFICATION PLAN
1/4" = 1'-0"

TABLE 1
HANDRAIL SUMMARY TABLE

Dolphin	Location	Identification
D1	E	T1 - 3'-6" - 0
D1	E	T1 - 3'-6" - 0
D2	E	T1 - 3'-6" - 0
D2	E	T1 - 3'-6" - 0
D6	E	T1 - 1'-11" - 0
D7	S	T1 - 4'-5" - 0
D7	W	T2 - 12'-6" - 3
D7	N	T1 - 2'-10" - 0

Railing Identification: T2 - L - X
Type — Length — Inter. Post Quantity

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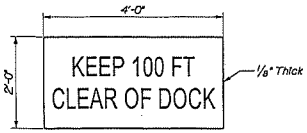

SIGN DETAIL
3/4" = 1'-0"

NOTES:
1. Where handrail posts or line guard anchorages are removed, fill with Sika Flex 1A self leveling sealant, or approved equal.
2. Contractor shall grind smooth and cap ends of cut handrails.
3. For additional details on chock setting, see Sheet S06.

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023484.00

PROJ. MANAGER	BY	DATE
DESIGN-DETAILED	P. Bishop	01/19
DESIGN-DETAILED	C. Irwin	01/19
DESIGN-DETAILED		
DESIGN-DETAILED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
FIELD CHANGES		

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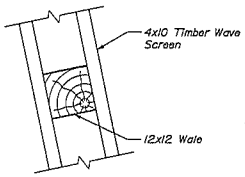
DATE

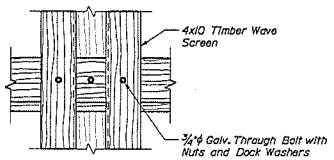
ISLESBORO
FERRY TERMINAL

DOLPHIN DETAILS
MISCELLANEOUS

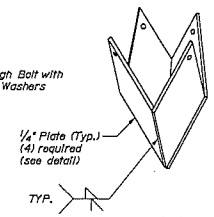
SHEET NUMBER
S09
14 OF 18

FIlename: ...\02 CADD\014_Miscellaneous.dgn Username: Division: Date:2/15/2019





SCREEN CONNECTIONS



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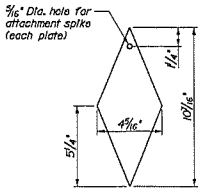
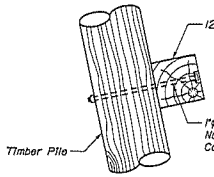
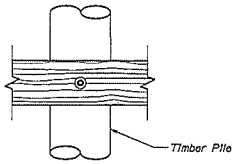


1/4" PLATE DETAIL





WALE CONNECTIONS

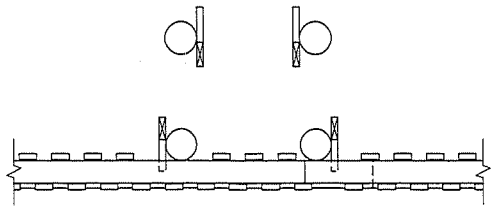
WAVE SCREEN CONNECTIONS

3/4" = 1'-0"

Note: Dimensions shown similar to pile point manufactured by Associated Pile & Fitting

TIMBER PILE POINT DETAIL

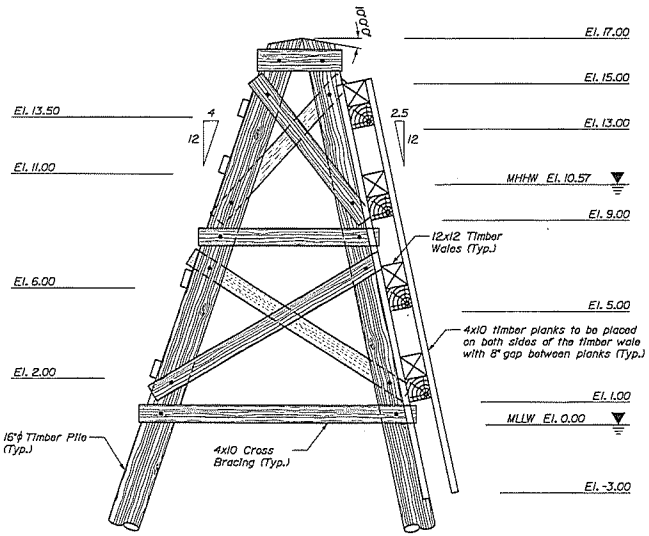
3" = 1'-0"



WAVE SCREEN PLAN VIEW

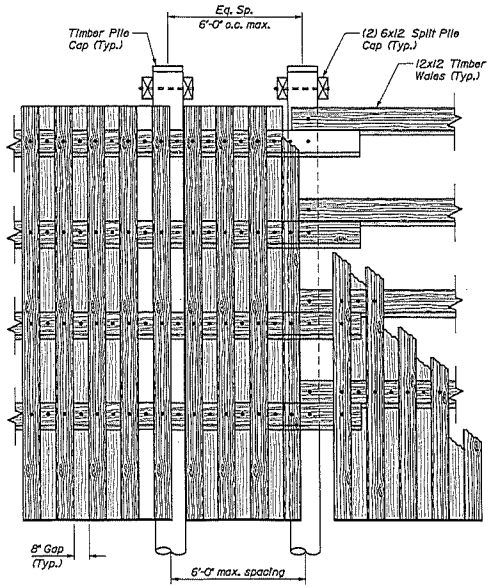
(View shown at El. 11.00)

3/8" = 1'-0"



WAVE SCREEN END ELEVATION

3/8" = 1'-0"



WAVE SCREEN FRONT ELEVATION

3/8" = 1'-0"

NOTES:

1. All bolts are 1" dia. galv. with nuts and dock washers, except where noted.
2. All timber associated with wave screen shall be 2.5 cca treated.
3. All timber vertical and batter piles shall have a driven capacity of 15 tons or a minimum embedment length of 20 feet. See timber pile point detail.
4. All timber battered piles for wave screens shall be installed at a batter of 4 horiz. on 12 vert. except for the slip side piles which shall have a batter of 2.5 horiz. on 12 vert.
5. Timber shall be southern pine with a stress rating of 1,200 psi. Timber shall be pressure treated in accordance with the specifications.
6. All timber construction shall conform to the national design specification for wood construction of the American Forest and Paper Association.
7. All connections shall be made with 3/4"ϕ ASTM A325, type I galvanized bolts and 13/16"ϕ holes and shall have washers on both ends, unless otherwise noted.
8. Field treat all cut and drilled timber surfaces with two coats of preservative containing copper napthanate solution (min. 2% metallic solution) per specifications.
9. Wave screens shall be 6" minimum clear from dolphins.

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023484.00

	BY	DATE
PROJ MANAGER		
DESIGN DETAILED	N. Wiley	02/19
CHECKED DETAILED	P. Bishop	02/19
QUALITY CHECKED	C. Bahn	
DESIGN DETAILED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE
1029
P.E. NUMBER
DATE

ISLESBORO
FERRY TERMINAL

WAVE SCREEN
PLAN AND ELEVATION

SHEET NUMBER
S10
15 OF 18

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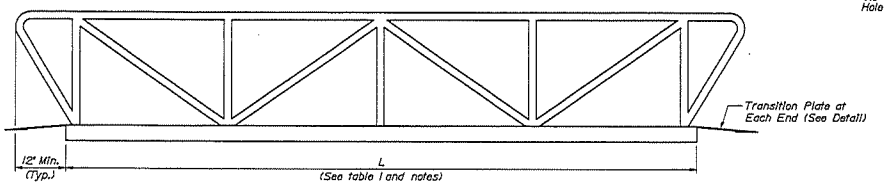
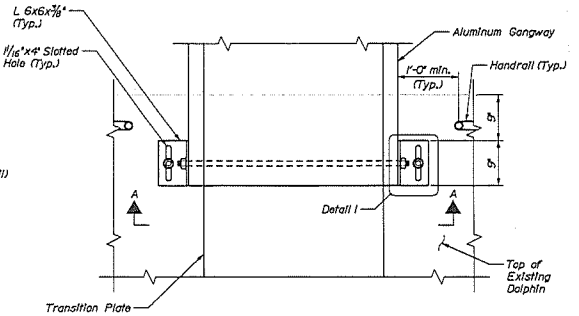
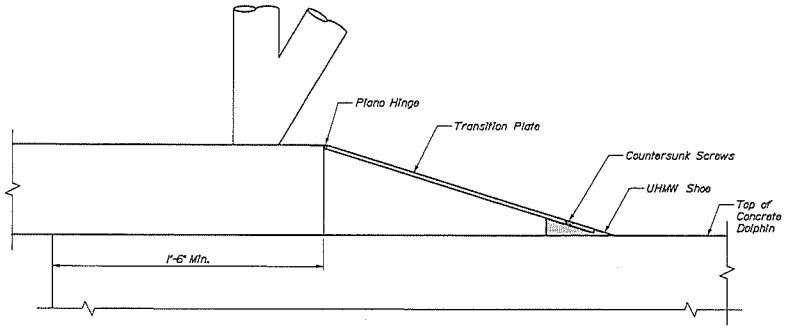


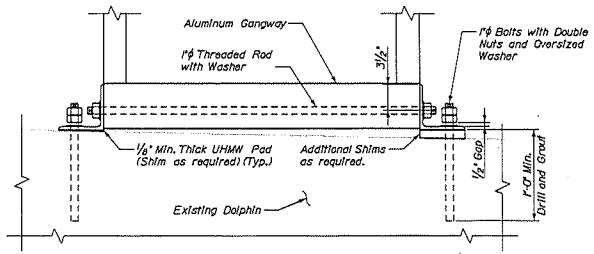
GANGWAY ELEVATION
1/2" = 1'-0"



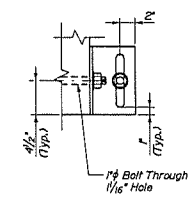
DOLPHIN GANGWAY CONNECTION
(Existing Dolphin shown, proposed Dolphin similar)
1" = 1'-0"



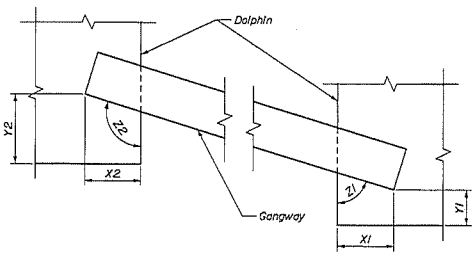
TRANSITION PLATE DETAIL
3" = 1'-0"



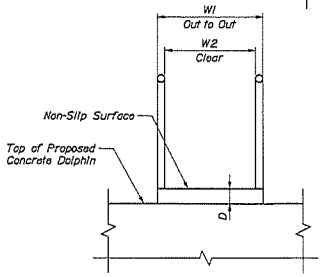
SECTION A-A
1 1/2" = 1'-0"



DETAIL 1
1 1/2" = 1'-0"



GANGWAY LAYOUT
N.T.S.



PROPOSED DOLPHIN GANGWAY TYPICAL SECTION
1/2" = 1'-0"

TABLE 1
GANGWAY DIMENSIONS

	DIMENSIONS											
Gangway I.D.	W1	W2	D	L	Dolphin 1	X1	Y1	Z1	Dolphin 2	X2	Y2	Z2
G1	42"	36"	6"	29'-0"	D1	1'-8"	2'-2"	82°49'	D2	1'-10"	1'-6"	70°31'
G2	42"	36"	6"	40'-0"	D2	1'-6"	1'-9"	78°54'	D3	1'-6"	0'-11"	90°0'
G3	42"	36"	6"	42'-0"	D3	1'-9"	0'-10"	90°0'	D4	1'-10"	3'-5"	90°16'
G4	42"	36"	6"	42'-0"	D7	1'-10"	2'-3"	77°02'	D5	1'-11"	1'-11"	69°42'
G5	42"	36"	6"	40'-0"	D6	2'-6"	1'-9"	83°25'	D7	2'-6"	1'-0"	90°55'

NOTES:

1. See Sheet G02 for design loads.
2. Gangway shall be truss type constructed, fabricated of aluminum grade 6061-T6 marine alloy.
3. Gangway length shall be confirmed or adjusted once dolphins are constructed.
4. Contractor shall field verify dimensions of dolphins and distances between dolphins.
5. Install bolt through gangway prior to installing bolts into existing concrete.
6. Contractor shall provide shims at gangway ends as required.

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February 15, 2019

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023484.00

PROJ. MANAGER		BY	DATE
DESIGN-DETAILED	N. Wiley	P. Bishop	02/19
CHECKED-REVIEWED		C. Marin	02/19
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

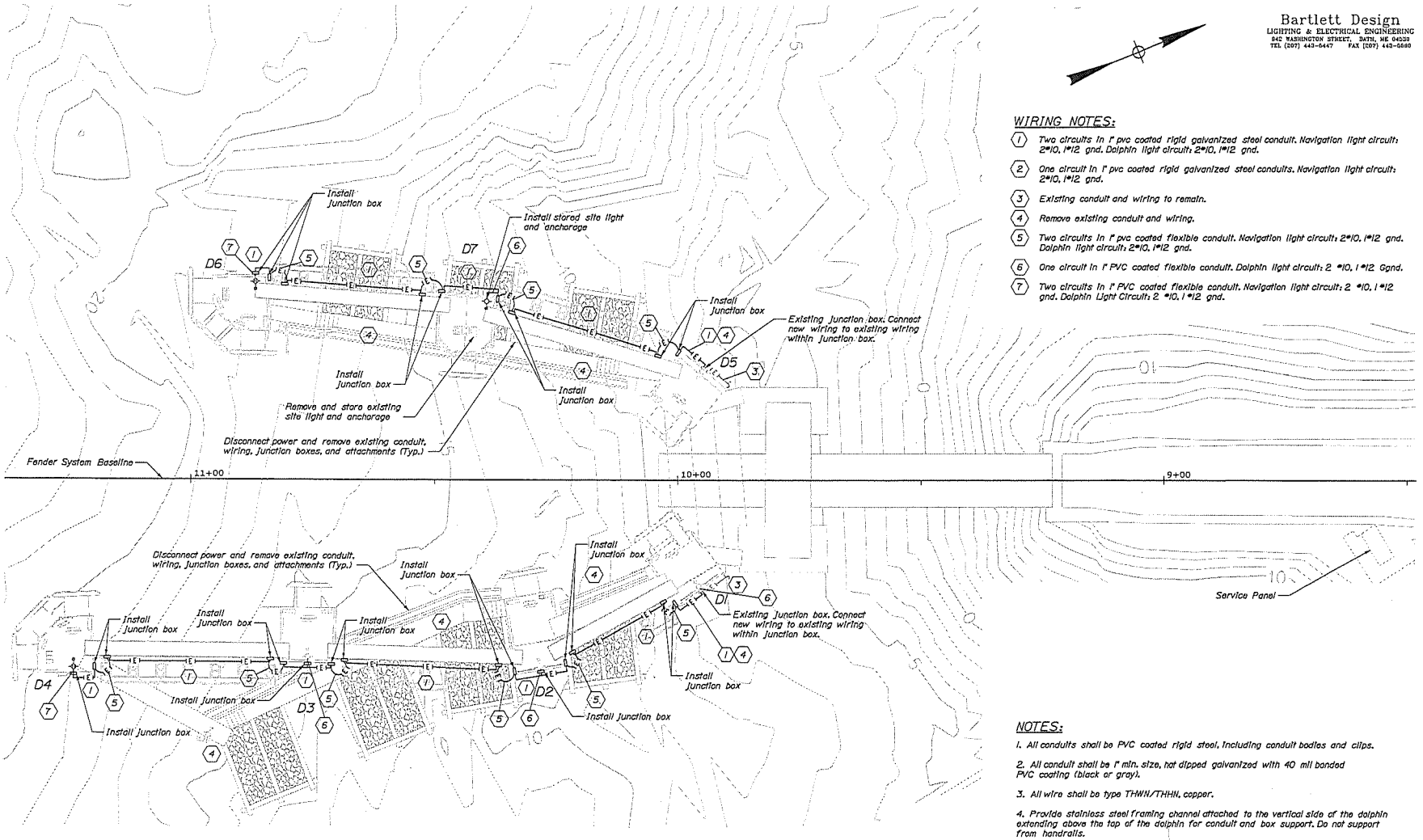
SIGNATURE
12209
P.E. NUMBER
DATE

ISLESBORO
FERRY TERMINAL

GANGWAY
PLAN AND ELEVATION

SHEET NUMBER
S11
16 OF 18

Filename: ...\016_ Gangway Plan and Elevation.dgn Division: Username: Date:2/15/2019



PLAN
1" = 10'-0"

10 0 10 20
Scale of Feet

98% PS&E
February 15, 2019

Bartlett Design
LIGHTING & ELECTRICAL ENGINEERING
842 WASHINGTON STREET, BATH, ME 04530
TEL (207) 443-6447 FAX (207) 443-6560

WIRING NOTES:

1. Two circuits in 1" pvc coated rigid galvanized steel conduit. Navigation light circuit: 2#10, 1#12 gnd. Dolphin light circuit: 2#10, 1#12 gnd.
2. One circuit in 1" pvc coated rigid galvanized steel conduits. Navigation light circuit: 2#10, 1#12 gnd.
3. Existing conduit and wiring to remain.
4. Remove existing conduit and wiring.
5. Two circuits in 1" pvc coated flexible conduit. Navigation light circuit: 2#10, 1#12 gnd. Dolphin light circuit: 2#10, 1#12 gnd.
6. One circuit in 1" PVC coated flexible conduit. Dolphin light circuit: 2 #10, 1 #12 Ggnd.
7. Two circuits in 1" PVC coated flexible conduit. Navigation light circuit: 2 #10, 1 #12 gnd. Dolphin Light Circuit: 2 #10, 1 #12 gnd.

NOTES:

1. All conduits shall be PVC coated rigid steel, including conduit bodies and clips.
2. All conduit shall be 1" min. size, hot dipped galvanized with 40 mil bonded PVC coating (black or gray).
3. All wire shall be type THWN/THHN, copper.
4. Provide stainless steel framing channel attached to the vertical side of the dolphin extending above the top of the dolphin for conduit and box support. Do not support from handrails.
5. New junction boxes shall be 16"x16" stainless steel.
6. All electrical work shall conform to NFPA 70.
7. Verify existing electrical conditions to determine proper installation means and methods.
8. Bond all new junction boxes and connectors to the equipment grounding conductor inside the box.

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023484.00

		BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	N. Wiley	P. Bishop	02/19
CHECKED-REVIEWED		C. Morin	02/19
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

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12/09
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ISLESBORO
FERRY TERMINAL

ELECTRICAL PLAN

SHEET NUMBER
E01
17 OF 18

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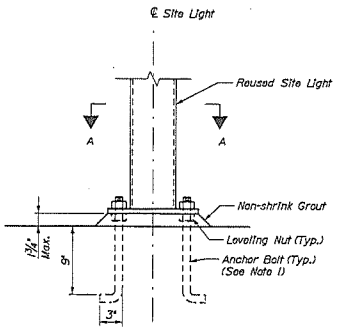
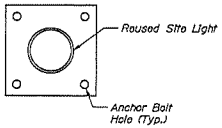


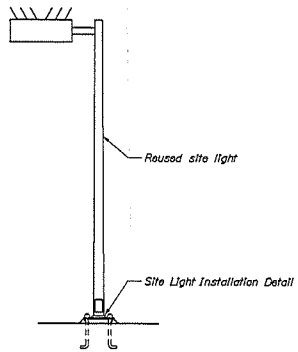
SITE LIGHT INSTALLATION DETAIL
1½" = 1'-0"



SECTION A-A
1½" = 1'-0"

TABLE I
NAVIGATION MARKER LENS
REPLACEMENT SUMMARY

Location	°of Light Opening	Lamp Size	Lens
Dolphin D4	360°	2-100W A-19	Clear
Dolphin D6	360°	2-100W A-19	Clear



REUSED SITE LIGHT DETAIL
N.T.S.

NOTES:

1. Anchor bolt size and pattern shall match the existing condition.
2. Site light wiring connection shall match the existing condition.
3. Where anchorages are removed, bolts and rods shall be cut, ground flush to concrete, and filled with Sika IA Flex self-leveling sealant, or approved equal.

98% PS&E
February 15, 2019

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023484.00

PROJ MANAGER		BY	DATE
DESIGN-DETAILED	N. Wiley	P. Bishop	02/19
CHECKED-REVIEWED		C. Martin	02/19
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISION 1			
REVISION 2			
REVISION 3			
REVISION 4			
FIELD CHANGES			

SIGNATURE
10209
P.E. NUMBER
DATE

ISLESBORO
FERRY TERMINAL

ELECTRICAL DETAILS

SHEET NUMBER
E02
18 OF 18

Filename: ...\018_ElectricalDetails.dgn Division: Username: Date:2/15/2019

US Army Corps
of Engineers ®
New England District

WORK-START NOTIFICATION FORM

(Minimum Notice: Two weeks before work begins)

****

EMAIL TO: jay.l.clement@usace.army.mil

or

MAIL TO:

Jay Clement
US Army Corps of Engineers
Maine Project Office
442 Civic Center Drive
Augusta, Maine 04330

****

Corps of Engineers Permit No. NAE-2019-00569 was issued to the Maine Dept. of Transportation. This work is located in West Penobscot Bay at Islesboro, Maine and authorized the permittee to upgrade the existing state ferry terminal facility. Regulated work includes the addition of a mooring dolphin, a wave screen, improved fender systems, elevated walkways between all dolphins, and modifications to the existing lighting system and removal of existing stone filled timber cribs and a number of connecting walkways. New piling installations will result in a total of 69 s.f. of permanent tidal bottom impact.

The people (e.g., contractor) listed below will do the work, and they understand the permit's conditions and limitations.

PLEASE PRINT OR TYPE

Name of Person/Firm: _____

Business Address: _____

_____

_____

Phone & email: (___) _____ (___) _____ _____

Proposed Work Dates: **Start:** _____ **Finish:** _____

Permittee/Agent Signature: _____ **Date:** _____

Printed Name: _____ **Title:** _____

Date Permit Issued: _____ **Date Permit Expires:** _____

****

FOR USE BY THE CORPS OF ENGINEERS

PM: Clement **Submittals Required:** No

Inspection Recommendation: Inspect as convenient

_____

US Army Corps
of Engineers ®
New England District

(Minimum Notice: Permittee must sign and return notification within one month of the completion of work.)

COMPLIANCE CERTIFICATION FORM

Permit Number: NAE-2019-00569

Project Manager Clement

Name of Permittee: Maine Dept. of Transportation

Permit Issuance Date: _____

Please sign this certification and return it to the following address upon completion of the activity and any mitigation required by the permit. You must submit this after the mitigation is complete, but not the mitigation monitoring, which requires separate submittals.

****
* MAIL TO: U.S. Army Corps of Engineers, New England District *
* Permits and Enforcement Branch C *
* Regulatory Division *
* 696 Virginia Road *
* Concord, Massachusetts 01742-2751 *
****

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit was completed in accordance with the terms and conditions of the above referenced permit, and any required mitigation was completed in accordance with the permit conditions.

_____ _____
Signature of Permittee Date

_____ _____
Printed Name Date of Work Completion

(____) _____ (____) _____
Telephone Number Telephone Number

04/06/2017

DEPARTMENT OF ENVIRONMENTAL PROTECTION
PERMIT BY RULE NOTIFICATION FORM

(For use with DEP Regulation, Natural Resouces Protection Act- Permit by Rule Standards, Chapter 305)

PLEASE TYPE OR PRINT IN *BLACK INK ONLY*

APPLICANT INFORMATION (Owner)		AGENT INFORMATION (If Applying on Behalf of Owner)	
Name:	MaineDOT c/o Danielle Tetreau	**Name:**	
Mailing Address:	16 State House Station	**Mailing Address:**	
Town:	Augusta	**Town:**	
State and Zip Code:	Maine 04333	**State and Zip Code:**	
Daytime Phone #:	207-592-2358	**Daytime Phone #:**	
Email Address:	danielle.tetreau@maine.gov	**Email Address:**	

PROJECT INFORMATION

Part of a larger project? (check one):	☐ Yes ■ No	**After the Fact? (check one):**	☐ Yes ■ No	**Project involves work below mean low water? (check one):**	■ Yes ☐ No	**Name of waterbody:**	Carvers Harbor
Project Town:	Vinalhaven	**Project Location (Address):**	Ferry Terminal			**Map & Lot Number:**	Delorme Map 9, A-1
Brief Project Description:	Add 1 mooring dolphin, replace walkways, remove timber cribs, modify lighting.						
Brief Directions to Site:	Located at the Islesboro ferry terminal.						

PERMIT BY RULE (PBR) SECTIONS (Check at least one): I am filing notice of my intent to carry out work which meets the requirements for Permit By Rule (PBR) under DEP Rules, Chapter 305. **I and my agents, if any, have read and will comply with all of the standards in the Sections checked below.**

- ☐ **Sec. (2) Act. Adj. to Protected Natural Res.**
- ☐ **Sec. (3) Intake Pipes**
- ☐ **Sec. (4) Replacement of Structures**
- ☐ **Sec. (5) REPEALED**
- ☐ **Sec. (6) Movement of Rocks or Vegetation**
- ☐ **Sec. (7) Outfall Pipes**
- ☐ **Sec. (8) Shoreline stabilization**
- ☐ **Sec. (9) Utility Crossing**
- ☐ **Sec.(10) Stream Crossing**
- ■ **Sec. (11) State Transportation Facil.**
- ☐ **Sec. (12) Restoration of Natural Areas**
- ☐ **Sec. (13) F&W Creation/Enhance/Water Quality Improvement**
- ☐ **Sec. (14) REPEALED**
- ☐ **Sec. (15) Public Boat Ramps**
- ☐ **Sec. (16) Coastal Sand Dune Projects**
- ☐ **Sec. (17) Transfers/Permit Extension**
- ☐ **Sec. (18) Maintenance Dredging**
- ☐ **Sec. (19) Activities in/on/over significant vernal pool habitat**
- ☐ **Sec. (20) Activities located in/on/over high or moderate value inland waterfowl & wading bird habitat or shorebird feeding & roosting areas**

DEP COPY

NOTE: Municipal permits *may* also be required. Contact your local code enforcement office for more information. Federal permits may be required for stream crossings and for projects involving wetland fill. Contact the Army Corps of Engineers at the Maine Project Office for more information.

NOTIFICATION FORMS CANNOT BE ACCEPTED WITHOUT THE NECESSARY ATTACHMENTS

- ■ ***Attach*** **all required submissions for the PBR Section(s) checked above. The required submissions for each PBR Section are outlined in Chapter 305 and may differ depending on the Section you are submitting under.**
- ☐ ***Attach*** **a check for the correct fee made payable to: "Treasurer, State of Maine".The current fee for NRPA PBR Notifications can be found at the Department's website: http://www.maine.gov/dep/feesched.pdf**
- ■ ***Attach*** **a location map that clearly identifies the site (U.S.G.S. topo map, Maine Atlas & Gazetteer, or similar).**
- ☐ ***Attach Proof of Legal Name*** **if applicant is a corporation, LLC, or other legal entity. Provide a copy of Secretary of State's *registration information* (available at http://icrs.informe.org/nei-sos-icrs/ICRS?MainPage=x) Individuals and municipalities are not required to provide any proof of identity.**

I authorize staff of the Departments of Environmental Protection, Inland Fisheries & Wildlife, and Marine Resources to access the project site for the purpose of determining compliance with the rules.

I also understand that this PBR becomes effective 14 calendar days after receipt by the Department *unless the Department approves or denies the PBR prior to that date.*

By signing this Notification Form, I represent that the project meets all applicability requirements and standards in the rule and that the applicant has sufficient title, right, or interest in the property where the activity takes place.

Signature of Agent or Applicant:	danielle tetreau	**Date:**	2-28-2019

Keep a copy as a record of permit. Send the form with attachments via certified mail or hand deliver to the Maine Dept. of Environmental Protection **at the appropriate regional office listed below.** The DEP will send a copy to the Town Office as evidence of the DEP's receipt of notification. No further authorization by DEP will be issued after receipt of notice. Permits are valid for two years. **Work carried out in violation of any standard is subject to enforcement action.**

AUGUSTA DEP
17 STATE HOUSE STATION
AUGUSTA, ME 04333-0017
(207)287-7688

PORTLAND DEP
312 CANCO ROAD
PORTLAND, ME 04103
(207)822-6300

BANGOR DEP
106 HOGAN ROAD
BANGOR, ME 04401
(207)941-4570

PRESQUE ISLE DEP
1235 CENTRAL DRIVE
PRESQUE ISLE, ME 04769
(207)764-0477

OFFICE USE ONLY	Ck.# 7B		Staff DJ	Staff	
PBR # 67424	FP 80.00	Date 3/4/19	Acc. Date 3/15/19	Def. Date	After Photos

44°16'52.83"N 68°56'34.39"W

DEPARTMENT OF THE ARMY
GENERAL PERMIT FOR
THE STATE OF MAINE

The New England District of the U.S. Army Corps of Engineers (Corps) hereby issues a General Permit (GP) for activities subject to Corps jurisdiction in waters of the U.S. within the boundaries of the State of Maine. This GP is issued in accordance with Corps regulations at 33 CFR 320 - 332 [see 33 CFR 325.2(e)(2)]. This GP authorizes activity-specific categories of work that are similar in nature and cause no more than minimal individual and cumulative adverse environmental impacts. Refer to Page 2 for the list of activities and Appendix A for activity specific conditions of eligibility in inland and tidal waters.

I. GENERAL CRITERIA

1. In order for activities to qualify for this GP, they must meet the GP's terms and eligibility criteria (Pages 1–4), General Conditions (GC) (Pages 5 – 20), and Appendix A - Definition of Categories.

2. Under this GP, projects may qualify for the following:
   - Category 1: Category 1 Self -Verification Notification Form is required (SVNF – see Appendix B).
   - Category 2: Application to and written approval from the Corps is required (Pre-Construction Notification (PCN)). No work may proceed until written approval from the Corps is received.

If your project is ineligible for Category 1, it may qualify for Category 2 or an Individual Permit and you must submit an application (see Page 3). The thresholds for activities eligible for Categories 1 and 2 are defined in Appendix A. This GP does not affect the Corps Individual Permit review process or activities exempt from Corps regulation.

3. Prospective permittees need to read:
   a. Section II to determine if the activity requires Corps authorization.
   b. Sections III and IV to determine if the activity may be eligible for authorization under this GP, specifically whether it is eligible for Self-Verification (SV) or whether Pre-Construction Notification (PCN) is required.

4. Permittees must ensure compliance with all applicable General Conditions in Section IV. The Corps will consider unauthorized any activity requiring Corps authorization if that activity is under construction or completed and does not comply with all of the terms and conditions.

5. Project proponents are encouraged to contact the Corps with questions at any time. Pre-application meetings (see 33 CFR 325.1(b)), whether arranged by the Corps or requested by permit applicants, are encouraged to facilitate the review of projects. Pre-application meetings and/or site visits can help streamline the permit process by alerting the applicant to potentially time-consuming concerns that are likely to arise during the evaluation of their project (e.g., avoidance, minimization and compensatory mitigation requirements, historic properties, endangered species, essential fish habitat, and dredging contaminated sediments).

II. CORPS JURISDICTION/ACTIVITIES COVERED

1. Permits are required from the Corps of Engineers for the following work:

a. The construction of any structure in, over or under any navigable water of the United States (U.S.) [1], the 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. The Corps regulates these activities under Section 10 of the Rivers and Harbors Act of 1899. See 33 CFR 322;

b. The discharge of dredged or fill material and certain discharges associated with excavation into waters of the U.S. (e.g. sidecasting). The Corps regulates these activities under Section 404 of the Clean Water Act (CWA). See 33 CFR 323; and

c. The transportation of dredged material for the purpose of disposal in the ocean. The Corps regulates these activities under Section 103 of the Marine Protection, Research and Sanctuaries Act. See 33 CFR 324.

2. Related laws:

33 CFR 320.3 includes a list of related laws, including: Section 401 of the CWA, Section 402 of the CWA, Section 307(c) of the Coastal Zone Management (CZM) Act of 1972, The National Historic Preservation Act of 1966, the Endangered Species Act, the Fish and Wildlife Act of 1956, the Marine Mammal Protection Act of 1972, Magnuson-Stevens Act, and Section 7(a) of the Wild and Scenic Rivers Act.

3. An activity listed below may be authorized by this GP only if that activity and the permittee satisfy all of the GP's terms and conditions. Any activity not specifically listed below may still be eligible for the GP; applicants are advised to contact the Corps for a specific eligibility determination. Category 1 and Category 2 eligibility criteria for each activity in both Inland and Tidal waters can be found in Appendix A.

1. Repair, Replacement, Expansion, and Maintenance of Authorized Structures and Fills
2. Moorings
3. Structures, Floats and Lifts
4. Aids to Navigation, and Temporary Recreational Structures
5. Dredging, Disposal of Dredged Material, Beach Nourishment, and Rock Removal and Relocation
6. Discharges of Dredged or Fill Material Incidental to the Construction of Bridges
7. Bank and Shoreline Stabilization
8. Residential, Commercial, Industrial, and Institutional Developments, and Recreational Facilities
9. Utility Line Activities
10. Linear Transportation Projects
11. Mining Activities
12. Boat Ramps and Marine Railways
13. Land and Water-Based Renewable Energy Generation Facilities and Hydropower Projects
14. Reshaping Existing Drainage Ditches and Mosquito Management
15. Oil Spill and Hazardous Material Cleanup
16. Cleanup of Hazardous and Toxic Waste
17. Scientific Measurement Devices
18. Survey Activities
19. Agricultural Activities
20. Fish and Wildlife Harvesting, Enhancement, and Attraction Devices
21. Habitat Restoration, Establishment and Enhancement Activities
22. Previously Authorized Activities
23. Stream & Wetland Crossings
24. Aquaculture

Note: Multiple activities may be authorized in the same GP, e.g. a recreational pier (#3) with an associated mooring (#2) or a windpower facility (#13) with an associated transmission line (#9).

[1] Defined in Appendix F, Definitions and at 33 CFR 328.

III. PROCEDURES

1. State Approvals. Applicants are responsible for applying for and obtaining any of the required state or local approvals. Federal and state jurisdictions may differ in some instances. State permits may be required for specific projects regardless of the general permit category.

In order for authorizations under this GP to be valid, when any of the following state approvals or statutorily-required reviews is also required, the approvals must be obtained prior to the commencement of work in Corps jurisdiction.

- Maine Department of Environmental Protection (DEP): Natural Resources Protection Act (NRPA) permit, including permit-by-rule (PBR) and general permit authorizations; Site Location of Development Act permit; Maine Waterway Development and Conservation Act permit; and Maine Hazardous Waste, Septage, and Solid Waste Management Act license.
- Maine Department of Conservation, Agriculture & Forestry: Land Use Planning Commission (LUPC) permit.
- Maine Department of Marine Resources: Aquaculture Leases.
- Maine Department of Conservation, Bureau of Parks and Lands, Submerged Lands: Submerged Lands Lease.

NOTE: This GP may also be used to authorize projects that are not regulated by the State of Maine (e.g., certain seasonal floats or moorings).

2. How to Obtain/Apply for Authorization.

a. Category 1 (Self-Verification): Self-Verification Notification Form (SVNF) required. The SVNF is required for all SV eligible work in Maine unless otherwise stated in Appendix A. Activities that are eligible for SV are authorized under this GP and may commence without written verification from the Corps provided the prospective permittee has:

i. Confirmed that the activity will meet the terms and conditions of Category 1. Consultation with the Corps and/or other relevant federal and state agencies may be necessary to ensure compliance with the applicable general conditions (GCs) and related federal laws such as the National Historic Preservation Act (see GC 6), the Endangered Species Act (GC 8) and the Wild and Scenic Rivers Act (GC 9). Prospective permittees are encouraged to contact the Corps with SV eligibility questions. Activities not meeting the SV criteria must submit a PCN to the Corps.

ii. Submitted the SVNF (see GC 27 and Appendix B) to the Corps. **NOTE: A copy of a state permit application form may be an acceptable surrogate for the SVNF. Whichever form chosen needs to include a location map, plans, and an Official Species List for federally listed threatened or endangered species (Reference Appendix D).**

b. Category 2 (Pre-Construction Notification (PCN)): Application to and written verification from the Corps is required before work can proceed. For activities that do not qualify for SV or where otherwise required by the terms of the GP, the permittee must submit a PCN and obtain a written permit before starting work in Corps jurisdiction.

i. The Corps will coordinate review of all activities requiring PCN with federal and state agencies and federally recognized tribes, as appropriate. To be eligible and subsequently authorized, an activity must result in no more than minimal individual and cumulative effects on the aquatic environment as determined by the Corps in accordance with the criteria listed within this GP. This may require project modifications involving avoidance, minimization, or compensatory mitigation for unavoidable impacts to ensure that the net adverse effects of a project are no more than minimal.

ii. The Corps will attempt to issue a written eligibility determination within the state's review period. Regardless, work eligible for Category 2 may not proceed before Corps written approval is received.

c. All applicants for Category 2 projects must:

i. Apply directly to the Corps using the state application form or the Corps application form (ENG Form 4345[2]), and apply directly to the state (DEP, LUPC, BPL or DMR) as applicable using the appropriate state form, if the work is regulated by the Corps and the state; or

ii. Apply directly to the Corps using the Corps application form (ENG Form 4345[2]) if the work is regulated by the Corps but not the state (DEP, LUPC, BPL or DMR).

iii. Provide application information (see "Information Typically Required" in Appendix C) to help ensure the application is complete and to speed project review.

iv. Obtain an Official Species List of federally threatened or endangered species in the project area (GC 8).

v. Submit a copy of their application materials to the Maine Historic Preservation Commission (MHPC) *and* all five Indian tribes listed at Appendix E, at the same time, or before, they apply to the Corps, to be reviewed for the presence of historic, archaeological or tribal resources in the permit area that the proposed work may affect. Submittals to the Corps shall include information to indicate that this has been done (a copy of the applicant's cover letter to MHPC and tribes or a copy of the MHPC and tribal response letters is acceptable).

d. Work that is not regulated by the State of Maine, but is subject to Corps jurisdiction, may still be eligible for authorization under this GP.

e. Emergency Situations: 33 CFR 325.2(e)4 states that an "emergency" is a situation which would result in an unacceptable hazard to life, a significant loss of property, or an immediate, unforeseen, and significant economic hardship if corrective action requiring a permit is not undertaken within a time period less than the normal time needed to process the application under standard procedures." Emergency work is subject to the same terms and conditions of this GP as non-emergency work, and similarly, must qualify for authorization under the GP; otherwise an IP is required. The Corps will work with all applicable agencies to expedite verification according to established procedures in emergency situations.

3. Individual Permits. Projects that are not authorized by this GP require an Individual Permit (IP) (33 CFR 325.5) and proponents must submit an application directly to the Corps. This GP does not affect the Corps IP review process or activities exempt from Corps regulation. For general information and application form, see the Corps website or contact the Corps (see Appendix E). The Corps encourages applicants to apply concurrently for a Corps IP and applicable state permits.

The Corps retains discretionary authority on a case-by-case basis to elevate a GP eligible project to an IP based on concerns for the aquatic environment or for any other factor of the public interest [33 CFR 320.4(a)]. Whenever the Corps notifies an applicant that an IP is required, no work in Corps jurisdiction may be conducted until the Corps issues the required authorization in writing indicating that work may proceed.

4. Enforcement/Non-Compliance. Work performed without the required Corps of Engineers permits is subject to administrative, civil, and criminal penalties. The Corps will evaluate unauthorized activities for enforcement action under 33 CFR 326.

The Corps will consider unauthorized any activity requiring Corps authorization if that activity is under construction or completed and does not comply with all of the terms and conditions of a GP or an IP. The Corps may elect to suspend enforcement proceedings if the permittee modifies his project to comply with a GP.

After considering whether a violation was knowing or intentional, and other indications of the need for a penalty, the Corps can elect to terminate an enforcement proceeding with an after-the- fact authorization under a GP, if all terms and conditions of the GP have been satisfied, either before or after the activity has been accomplished.

[2] Located at www.nae.usace.army.mil/missions/regulatory under "Forms & Publications."

IV. GENERAL CONDITIONS

To qualify for GP authorization, the prospective permittee must comply with the following general conditions, as applicable.

1. Other Permits
2. Federal Jurisdictional Boundaries
3. Minimal Direct, Secondary, and Cumulative Impacts
4. Mitigation (Avoidance, Minimization, and Compensatory Mitigation)
5. Single and Complete Projects
6. Historic Properties
7. Corps Projects and Property
8. Federal Threatened and Endangered Species
9. Wild and Scenic Rivers
10. Navigation
11. Federal Liability
12. Utility Line Installation and Removal
13. Heavy Equipment in Wetlands or Mudflats
14. Temporary Fill
15. Restoration of Special Aquatic Sites (including wetland areas).
16. Soil Erosion, Sediment and Turbidity Controls
17. Time of Year Windows/Restrictions.
18. Aquatic Life Movements & Management of Water Flows
19. Water Quality and Coastal Zone Management
20. Floodplains and Floodways
21. Storage of Seasonal Structures
22. Spawning, Breeding, and Migratory Areas
23. Vernal Pools
24. Invasive and Other Unacceptable Species
25. Programmatic Agreements
26. Permit On-Site
27. Self-Verification Notification Form (SVNF)
28. Inspections
29. Maintenance
30. Property Rights
31. Transfer of GP Verifications
32. Modification, Suspension, and Revocation
33. Special Conditions
34. False or Incomplete Information
35. Abandonment
36. Enforcement Cases
37. Duration of Authorization
38. Previously Authorized Activities
39. Discretionary Authority
40. St. John/St. Croix Rivers.
41. National Lands
42. Essential Fish Habitat (EFH)
43. Work Site Restoration
44. Bank Stabilization
45. Stream Work & Crossings and Wetland Crossings

1. Other Permits. Permittees must obtain other federal, state, or local authorizations required by law. Applicants are responsible for applying for and obtaining all required state or local approvals. This includes, but is not limited to, the project proponent obtaining a Flood Hazard Development Permit issued by the town, if necessary. Inquiries may be directed to the municipality or to the Maine Floodplain Management Coordinator at (207) 287-8063. See http://www.maine.gov/dacf/flood/

2. Federal Jurisdictional Boundaries

a. Applicability of this GP shall be evaluated with reference to federal jurisdictional boundaries. Applicants are responsible for ensuring that the boundaries used satisfy the federal criteria defined at 33 CFR 328 "Waters of the U.S." and 33 CFR 329 "Navigable Waters of the U.S."

NOTE: Waters of the U.S. include the subcategories "navigable waters of the U.S." and "wetlands."

b. For Category 1 projects, proponents are not required to delineate the waters of the U.S. that they plan to impact, but must approximate the square footage of impacts in order to determine the review category (1 or 2 or Individual Permit). For projects filling <15,000 square feet (SF) of waters of the U.S. that do not qualify for Category 1 (e.g., vernal pool, secondary or endangered species impacts, etc.) and therefore require an application to the Corps (PCN), and for those filling ≥15,000 SF, applicants shall delineate all waters of the U.S. that will be filled (direct impacts) in accordance with the Corps of Engineers Wetlands Delineation Manual and the most recent regional supplement (see Appendix C). In addition, applicants shall approximately identify all waters of the U.S. on the property and *known* waters adjacent to the property in order for the Corps to evaluate secondary impacts. The waters of the U.S. shall be clearly shown on the project plans submitted with the application. This includes all waters of the U.S. in areas under DEP or LUPC jurisdiction regardless of whether they're shown on LUPC zoning maps.

c. On a case-by-case basis, the Corps may modify/refine the above delineation and identification requirements for waters of the U.S. See www.nae.usace.army.mil/missions/regulatory >> Jurisdictional Limits and Wetlands for more information on delineating jurisdictional areas.

3. Minimal Direct, Secondary, and Cumulative Effects[3]

a. Projects authorized by this GP shall have no more than minimal direct, secondary and cumulative adverse environmental impacts. Category 2 applicants should provide information on secondary and cumulative impacts as stated in Appendix C. Compensatory mitigation may be required to offset unavoidable impacts (see GC 4) and to ensure that they are no more than minimal. Compensatory mitigation requirements will be determined on a case-by-case basis.

b. Secondary impacts to waterway and/or wetland areas, (e.g., areas drained, flooded, cleared, excavated or fragmented) shall be added to the total fill area when determining whether the project qualifies for Category 1 or 2. Direct, secondary and cumulative impacts are defined at Appendix A, Endnote 2 and Appendix F.

c. Site clearing, grading and construction activities in the upland habitat surrounding vernal pools ("Vernal Pool Management Areas") are secondary impacts. See GC 23 for avoidance and minimization requirements and recommendations.

d. Bank stabilization activities in tidal waters are provided at Appendix A, Page 30. Direct impacts in tidal waters from contiguous bank stabilization projects in excess of 200 linear feet (Applicant or Applicant + Abutters combined) must undergo Category 2 review.

4. Mitigation (Avoidance, Minimization, and Compensatory Mitigation)

a. Discharges of dredged or fill material into waters of the U.S., including wetlands, shall be avoided and minimized to the maximum extent practicable through consideration of alternatives. The Corps may require compensatory mitigation of unavoidable direct and secondary impacts associated with Category 2 projects on a case-by-case basis.

b. Applicants proposing work in jurisdictional waters should consider riparian/forested buffers for stormwater management and low impact development (LID) best management practices (BMPs) to reduce

[3] Direct, secondary and cumulative effects are defined at Appendix F, Definitions and Acronyms.

impervious cover and manage stormwater to minimize secondary impacts to aquatic resources to the maximum extent practicable.[4]

c. Compensatory mitigation[5] for effects to waters of the U.S., including direct, secondary and temporal[6], may be required for permanent impacts that exceed the SV area limits, and may be required for temporary impacts that exceed the SV area limits, to offset unavoidable impacts which remain after all appropriate and practicable avoidance and minimization has been achieved and to ensure that the adverse effects to the aquatic environment are no more than minimal. Proactive restoration projects or temporary impact work with no lasting secondary effects may generally be excluded from this requirement. Refer to Appendix G.

5. Single and Complete Projects[7]

a. This GP shall not be used to piecemeal work and shall be applied to single and complete projects. When determining the review category in Appendix A (Category 1 or 2) for a single and complete project, proponents must include any permanent historic fill placed since October 1995 that is associated with that project and all currently proposed temporary and permanent impact areas.

b. A single and complete project must have independent utility[7].

c. Unless the Corps determines the activity has independent utility:

i. This GP shall not be used for any activity that is part of an overall project for which an Individual Permit is required.

ii. All components of a single project and/or all planned phases of a multi-phased project (e.g., subdivisions should include all work such as roads, utilities, and lot development) shall be treated together as constituting one single and complete project.

d. For linear projects, such as power lines or pipelines with multiple crossings, the single and complete project is all crossings of a single water of the U.S. (i.e., single waterbody) at a specific location. For linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project. 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. If any crossing requires a Category 2 activity, then the entire linear project shall be reviewed as one project under Category 2.

6. Historic Properties

a. No undertaking shall cause effects (defined at 33 CFR 325 Appendix C and 36 CFR 800) on properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places[8], including previously unknown historic properties within the permit area, unless the Corps or another Federal action agency has satisfied the consultation requirements of Section 106 of the National Historic Preservation Act (NHPA). The State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO) and the National Register of Historic Places can assist with locating information on: i) previously identified historic properties; and ii) areas with potential for the presence of historic resources, which may require identification and evaluation by qualified historic preservation and/or archaeological consultants in consultation with the Corps and the SHPO and/or THPO(s).

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[4] See: www.nae.usace.army.mil/missions/regulatory >> State General Permit >> Permit Resources >> Mitigation for this additional information: a) "Wetland BMP Manual - Techniques for Avoidance & Minimization," b) riparian/forested buffer BMPs, and c) LID BMPs. LID BMPs include, but are not limited to: replacing curbs and gutters with swales; using an open space design for subdivisions; using permeable, pervious or porous pavements; constructing bio-retention systems; and/or, adding a green roof or rain garden.

[5] Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR 332. See also the New England District Compensatory Mitigation Guidance at www.nae.usace.army.mil/regulatory >> Mitigation.

[6] Temporal loss: The time lag between the loss of aquatic resource functions caused by the permitted impacts and the replacement of aquatic resource functions at the compensatory mitigation site(s) (33 CFR 332.2).

[7] Single and Complete Project and Independent Utility are defined in Appendix F - Definitions.

[8] The majority of historic properties are not listed on the National Register of Historic Places and may require identification and evaluation by qualified historic preservation and/or archaeological consultants in consultation with the Corps and the SHPO and/or THPO(s).

b. For activities eligible for SV, proponents must ensure and document that the activity will not cause effects as stated in 6(a). Proponents must submit a PCN if the authorized activity may cause effects as stated in 6(a) as soon as possible to ensure that the Corps is aware of any potential effects of the permitted activity on any historic property to ensure all Section 106 requirements are met.

c. All PCNs shall: i) show notification to the SHPO and applicable THPO(s)[9] for their identification of historic properties, ii) state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties, and iii) include any available documentation from the SHPO or THPO(s) indicating that there are or are not historic properties affected. Starting consultation early in project planning can save proponents time and money.

d. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you 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.

7. Corps Projects and Property

a. In addition to any authorization under this GP, proponents must contact the Corps Real Estate Division at (978) 318-8585 for work occurring on or potentially affecting Corps properties and/or Corps-controlled easements to initiate reviews and determine what real estate instruments are necessary to perform work. Permittees may not commence work on Corps properties and/or Corps-controlled easements until they have received any required Corps real estate documents evidencing site-specific permission to work.

b. Any proposed temporary or permanent alteration, or modification or use, including occupation, 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 but not necessarily owned by the United States), which would obstruct or impair the usefulness of the federal project in any manner, and/or would involve changes to the authorized federal project's scope, purpose, and/or functioning that go beyond minor modifications required for normal operations and maintenance, is not eligible for SV and requires review and approval by the Corps pursuant to 33 USC 408. Where Section 408 is applicable, a decision on a Department of the Army general permit application will not be rendered prior to the decision on a Section 408 request.

c. Any structure or work within any Corps Federal Navigation Project (FNP) or its buffer zone[10], shall be subject to removal at the owner's expense prior to any future Corps dredging or the performance of periodic hydrographic surveys. See GC 10 for more requirements related to FNPs.

8. Federal Threatened and Endangered Species

a. No activity is authorized which: i) 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 the critical habitat of such species; ii) "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed; or iii) violates the ESA.

b. **All applicants must request an Official Species List from the US Fish & Wildlife Service and must include the list in the Corps permit application. To request an Official Species List, refer to the instructions in Appendix D.**

c. For federally listed species in tidal waters, applicants should contact the National Marine Fisheries Service at: http://www.greateratlantic.fisheries.noaa.gov/protected/section7/

[9] Appendix E, 3(a)&(b). Historic Resources, provides contact information and each tribe's "area of concern."
[10] See Appendix H for a list of FNPs. The buffer zone is equal to three times the authorized depth of the FNP.

d. A PCN is required if a threatened or endangered species, a species proposed for listing as threatened or endangered, or designated or proposed critical habitat (all hereinafter referred to as "listed species or habitat"), as identified under the ESA, is present in the action area[11].

e. Federal agencies should follow their own procedures for complying with the requirements of the ESA but should coordinate that consultation with the Corps as well.

9. Wild and Scenic Rivers.[12] Any activity that occurs in the designated main stem of, within 0.25 mile up or downstream of the designated main stem of, or in tributaries within .25 miles of the designated main stem of a National Wild and Scenic River, or in "bordering and contiguous wetlands" (see Appendix A, Endnote 1) that are adjacent to the designated main stem of a National Wild and Scenic River, or that has the potential to alter flows within a river within the National Wild and Scenic River System, is not eligible for Category 1 regardless of size of the impacts. This condition applies to both designated Wild and Scenic Rivers and rivers officially designated by Congress as study rivers for possible inclusion while such rivers are in an official study status. National Wild and Scenic Rivers System segments for Maine as of October 2015 include: Allagash River beginning at Telos Dam continuing to Allagash checkpoint at Eliza Hole Rapids, approximately 3 miles upstream of the confluence with the St. John River (length = 92 miles); and 11.25 miles of the York River, in the State of Maine, from its headwaters at York Pond to the mouth of the river at York Harbor, plus its tributaries (currently under study).

10. Navigation

a. Any structure or work that extends closer to the horizontal limits of any Corps Federal Navigation Project (see Appendix H) than a distance of three times the project's authorized depth shall be subject to removal at the owner's expense prior to any future Corps dredging or the performance of periodic hydrographic surveys. This is applicable to Category 1 and 2. Reference Appendix A, Page 28 (Moorings) and Page 29 (Structures, Floats & Lifts).

b. There shall be no unreasonable interference with navigation by the existence or use of the activity authorized herein, and no attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the activity authorized herein.

c. The permittee understands and agrees that if future U.S. operations 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 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, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the U.S. No claim shall be made against the U.S. on account of any such removal or alteration.

d. A PCN is required for all work in, over or under an FNP or its buffer zone unless otherwise indicated in Appendix A. (Reference Appendix A, Endnote 13, Page 36)

11. Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following: (a) damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes; (b) damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the U.S. in the public interest;
(c) damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit; (d) design or construction deficiencies associated with the permitted work; (e) damage claims associated with any future modification, suspension, or revocation of this permit.

12. Utility Line Installation and Removal

a. Subsurface utility lines shall remain subsurface. If it is necessary to discharge dredged or filled material not previously authorized in order to keep such utility lines buried or restore them to their original subsurface condition, a PCN and written verification from the Corps may be required (e.g., in the case of side

[11] The "Endangered Species Consultation Handbook – Procedures for Conducting Consultation and Conference Activities Under Section 7 of the ESA," defines action area as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. [50 CFR 402.02]."
[12] Additional information can be found at: http://www.rivers.gov.

casting into wetlands from utility trenches). Certain repair, replacement or maintenance activities may be eligible for Category 1 – refer to Appendix A.

b. Subsurface utility lines must be installed at a sufficient depth to avoid damage from anchors, dredging, etc., and to prevent exposure from erosion and stream adjustment. In accordance with Corps New England District Regulation NEDER 1110-1-9 (www.nae.usace.army.mil/missions/regulatory >> Useful Links and Documents), as an absolute minimum, the bottom cover associated with the initial installation of utility lines under navigable waters and navigation channels shall be 48 inches in soil or 24 inches in rock excavation in competent rock unless specified in a written determination. These minimum bottom cover requirements for pipelines and cables shall be measured from the maximum depth of dredging to the top of the utility. The maximum depth of dredging, in waterways having existing FNPs, is generally considered to be the authorized project depth plus any allowance for advanced maintenance and the allowable overdepth for dredging tolerances. In waterways that do not have existing FNPs, this depth should be taken as two feet below the existing bottom or maximum depth of proposed dredging, as applicable.

c. Aerial utility lines that cross navigable waters must meet minimum clearances. See 33CFR322.5(i).

d. For horizontal directional drilling work, returns of drilling fluids to the surface (i.e., frac-outs) are not authorized and require restoration to the maximum extent practicable in accordance with the terms and conditions of this GP. The permittee and its contractor shall have onsite and shall implement the procedures detailed in a frac-out contingency plan for monitoring drilling operations and for the immediate containment, control and recovery/removal of drilling fluids released into the environment should a discharge of material occur during drilling operations.

e. Within the context of any new installations, any abandoned or inactive utility lines should be removed and faulty lines (e.g., leaking hazardous substances, petroleum products, etc.) should be removed or repaired to the extent practicable. A PCN and written verification from the Corps is required if they are to remain in place, e.g., to protect sensitive areas or ensure safety.

f. No work shall drain a water of the U.S. by providing a conduit for water on or below the surface. Trench plugs installed along pipelines may be effective.

13. Heavy Equipment in Wetlands or Mudflats. Operating heavy equipment other than fixed equipment (drill rigs, fixed cranes, etc.) within wetlands shall be minimized, and such equipment shall not be stored, maintained or repaired in wetlands, to the maximum extent practicable. Where construction requires heavy equipment operation in wetlands, the equipment shall either have low ground pressure (typically <3 psi), or it shall be placed on swamp/construction/timber mats (herein referred to as "construction mats" and defined at Appendix A, Endnote 4) that are adequate to support the equipment in such a way as to minimize disturbance of wetland soil and vegetation. Construction mats are to be placed in the wetland from the upland or from equipment positioned on swamp mats if working within a wetland. Dragging construction mats into position is prohibited. Other support structures that are capable of safely supporting equipment may be used with written Corps authorization (Category 2 authorization or Individual Permit). Similarly, the permittee may request written authorization from the Corps to waive use of mats during frozen, dry or other conditions. An adequate supply of spill containment equipment shall be maintained on site. Construction mats should be managed in accordance with the Construction Mat BMPs at www.nae.usace.army.mil/missions/regulatory >> State General Permits >> Permit Resources.

14. Temporary Fill. Temporary fill that qualifies for Category 1 (e.g., <15,000 SF of combined temporary and permanent fill associated with the single and complete project) or is authorized in writing under Category 2, shall adhere to the following:

a. All temporary fill and disturbed soils shall be stabilized to prevent its eroding into waters of the U.S. where it is not authorized. Work shall include phased or staged development to ensure only areas under active development are exposed and to allow for stabilization practices as soon as practicable, typically within three calendar days after disturbance. Accelerated stabilization (the providing of temporary or permanent cover by the end of the work day to prevent erosion) shall be employed as necessary. Temporary fill must be placed in a manner that will prevent it from being eroded by expected high flows.

b. Unconfined temporary fill authorized for discharge into waters of the U.S. (e.g., temporary stream crossings) shall consist of material that minimizes impacts to water quality (e.g. washed stone, stone, etc.).

c. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable when temporary structures, work, and discharges of dredged or fill material, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Place materials in a location and manner that does not adversely impact surface or subsurface water flow into or out of the wetland. Temporary fill authorized for discharge into wetlands shall be placed on geotextile fabric or other appropriate material laid on the pre-construction wetland grade where practicable to minimize impacts and to facilitate restoration to the original grade. Construction mats are excluded from this requirement.

d. Temporary fill, construction mats and corduroy roads shall be entirely removed as soon as they are no longer needed to construct the authorized work. Temporary fill shall be placed in its original location or disposed of at an upland site and suitably contained to prevent its subsequent erosion into waters of the U.S. To qualify for Category 1, temporary fill placed during the: i.) growing season must be removed before the beginning of the next growing season; and ii.) non-growing season may remain throughout the following growing season, but must be removed before the beginning of the next growing season.

e. Temporary fill, construction mats and corduroy roads are considered temporary only if they are removed as soon as they are no longer needed to construct the authorized work.

f. Construction debris and/or deteriorated materials shall not be located in waters of the U.S.

15. Restoration of Special Aquatic Sites (Including Wetland Areas)

a. Temporary fills must be removed in their entirety and the affected areas restored to their pre-construction condition, function and elevation. Restoration shall typically commence no later than the completion of construction.

b. For excavated areas, "restored to pre-construction condition, function and elevation" means careful removal of existing soil and vegetation, separate topsoil and subsoil stockpiling, soil protection, and replacement back to the original location such that the original soil layering and vegetation schemes are approximately the same, unless otherwise authorized. Plan for natural settling that will occur (the initial post-restoration elevation of the backfilled areas should be above the desired final grade as topsoil may settle by 33% to 50%), minimize compaction, and ensure that topsoil is void of gravel and subsoil. A minimum of 4 inches of topsoil should be at the surface after the soil has settled. Wetland areas temporarily disturbed shall be stabilized (e.g., seeded or planted). Seed mixes and vegetation shall include only plant species native to New England and shall not include any species listed as "Invasive and Other Unacceptable Plant Species" in the "New England District Compensatory Mitigation Guidance" (see GC 24 and refer to Appendix G). This list may be updated periodically.

c. Limit compaction to the minimum needed to promote a successful seedbed; avoid a 'fluffy' seedbed, which is susceptible to erosion until the plants get established, and a compacted topsoil layer, which is counter-productive and will lead to greater erosion susceptibility down the road. Test soils for compaction. A soil probe, auger, or shovel should be able to retrieve samples of post-restoration profile. Equipment refusal shall be considered a failure of restoration, in which case the soil should be restored through deep-ripping and/or de-compaction, or other appropriate methods, and wetland hydrology must be maintained. See the BMPs at www.nae.usace.army.mil/missions/regulatory >> State General Permits >> Permit Resources >> Restoration.

d. In areas of authorized temporary disturbance, cut woody vegetation (trees, shrubs, etc.) shall be cut at or above ground level and not uprooted in order to prevent disruption to the wetland soil structure and to allow stump sprouts to revegetate the work area, unless otherwise authorized.

e. Trenches shall be constructed or backfilled so that the trench does not drain waters of the U.S. (e.g., materials or methods that create a French drain effect).

16. Soil Erosion, Sediment and Turbidity Controls

a. Adequate sedimentation and erosion control management measures, practices and devices, such as phased construction, installation of sediment control barriers (i.e. silt fence, vegetated filter strips, geotextile silt fences, erosion control mixes, hay bales or other devices) downhill of all exposed areas, retention of existing vegetated buffers, application of temporary mulching during construction, and permanent seeding and stabilization shall be installed and properly maintained to reduce erosion and retain sediment on-site during and after construction. They shall be capable of preventing erosion; of collecting sediment, suspended and floating materials; and of filtering fine sediment.

b. Temporary sediment control barriers shall be removed upon completion of work, but not until all disturbed areas are permanently stabilized. The sediment collected by these sediment barriers shall be removed and placed at an upland location and stabilized to prevent its later erosion into a waterway or wetland.

c. All exposed soil and other fills shall be permanently stabilized at the earliest practicable date .

17. Time of Year Work Windows/Restrictions. For activities where work is authorized in streams and tidal waters that causes turbidity or sediment re-suspension or other construction related disturbances, work must be conducted during the following TOY work windows (not during the TOY restrictions) unless otherwise authorized by the Corps under Category 2 review:

	TOY Restriction (no work)	TOY Work Window (work allowed)
Non-tidal waters	Oct. 01 through Jul. 14	Jul. 15 through Sep. 30
Tidal waters	Apr. 10 through Nov. 07	Nov. 08 through Apr. 09

Alternate windows authorized under Category 2 may include species specific windows recommended by the Maine Dept. of Marine Resources and/or Maine Dept. of Inland Fisheries & Wildlife.

18. Aquatic Life Movements & Management of Water Flows

a. 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. Unless otherwise stated, activities impounding water in a stream require a PCN to ensure impacts to aquatic life species are avoided and minimized. All permanent and temporary crossings of waterbodies (e.g., streams, wetlands) shall be:

i. Suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species; and

ii. Properly aligned and constructed to prevent bank erosion or streambed scour both adjacent to and inside the culvert. Permanent and temporary crossings of wetlands shall be suitably culverted, spanned or bridged in such a manner as to preserve hydraulic and ecological connectivity between the wetlands on either side of the road.

b. To avoid adverse impacts on aquatic organisms, the low flow channel/thalweg shall remain unobstructed during periods of low flow, except when it is necessary to perform the authorized work.

c. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high 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).

19. Water Quality and Coastal Zone Management

a. Applicants must satisfy any conditions imposed by the state and EPA, where applicable, in their CWA § 401 Water Quality Certifications (WQC) for this GP, or in any Individual § 401 WQC. See Appendix E for state-specific contact information and to determine if any action is required to obtain a 401 WQC. The Corps may require additional water quality management measures to ensure that the authorized activity does not cause or contribute to a violation of water quality standards. All projects authorized by this GP shall be designed, constructed and operated to minimize or eliminate the discharge of pollutants.

b. Applicants must satisfy any additional conditions imposed by the state in their Coastal Zone Management (CZM) Act consistency concurrences for this GP, or in any Individual CZM consistency concurrences. The Corps may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

20. Floodplains and Floodways

a. Appropriate measures must be taken to minimize flooding to the maximum extent practicable.

b. Activities within 100-Year Floodplains must comply with applicable Federal Emergency Management Agency (FEMA)-approved state and/or local floodplain management permitting requirements. Proponents may need to coordinate with FEMA and apply for a formal change to the flood insurance study products or forward a set of project plans and relevant technical documentation in a digital format to the Risk

Analysis Branch Chief, Mitigation Division, FEMA, Region 1, 99 High Street, Boston, Massachusetts 02110. Applicants should provide a copy of any documentation to the Corps along with the PCN.

c. Proponents may have to obtain a Flood Hazard Development Permit issued by the town. Inquiries may be directed to the municipality or to the Maine Floodplain Management Coordinator at (207) 287-8063. See http://www.maine.gov/dacf/flood/

21. Storage of Seasonal Structures. Seasonal or recreational structures such as pier sections, floats, aquaculture structures, 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 landward of mean high water (MHW) or ordinary high water (OHW) and not in wetlands, tidal wetlands, their substrate or on mudflats. These seasonal structures may be stored on the fixed, pile-supported portion of the structure that is waterward of MHW or OHW. Seasonal storage of structures in navigable waters, e.g., in a protected cove on a mooring, requires Corps approval and local harbormaster approval.

22. Spawning, Breeding, and Migratory Areas

a. Jurisdictional activities and impacts such as excavations, discharges of dredged or fill material, and/or suspended sediment producing activities in jurisdictional waters that provide value as fish migratory areas, fish and shellfish spawning or nursery areas, or amphibian and migratory bird breeding areas, during spawning or breeding seasons shall be avoided and minimized to the maximum extent practicable.

b. Jurisdictional activities in waters of the United States that provide value as breeding areas for migratory birds must be avoided to the maximum extent practicable. The permittee is responsible for obtaining any "take" permits required under the USFWS's regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the USFWS to determine if such "take" permits are required for a particular activity (See Appendix E).

23. Vernal Pools

a. Only vernal pools that meet the current definition of waters of the U.S. are regulated by the Corps.

b. Direct and indirect adverse effects to all vernal pools (VPs), including their envelopes and critical terrestrial habitats (VP Management Areas[13]), shall be avoided and minimized to the maximum extent practicable. Site clearing, grading, and construction activities associated with a regulated activity in the VP Management Area may cause these adverse effects to the VP.

c. The State of Maine has specific protections for vernal pools.[14]

d. When any regulated activities occur within 750 feet of a vernal pool, the following management practices must be followed for all work within any VP Management Area (750' of a VP's edge) *in order to qualify for Category 1*:

i. No disturbance within the VP Depression or VP Envelope (area within 100 feet of the VP Depression's edge)[15];

ii. Maintain a minimum of 75% of the Critical Terrestrial Habitat (area within 100-750 feet of the VP Depression's edge) as unfragmented forest with at least a partly-closed canopy of overstory trees to provide shade, deep litter and woody debris;

iii. Maintain or restore forest corridors connecting wetlands and significant vernal pools;

iv. Minimize forest floor disturbance; and

v. Maintain native understory vegetation and downed woody debris.

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[13] The Corps VP Management Area, which includes the VP and a 750' radius from the VP's edge, is defined at Appendix A, Endnote 5.

[14] Appendix G, 10(a)-(d) provides links to the state's Significant Wildlife Habitat regulations and references that provide impact minimization measures to reference when designing projects.

[15] The no disturbance requirement in the VP envelope [see (b)(i)(1)], and (b)(i)(2), do not apply to temporary impacts associated with construction mats in previously disturbed areas of existing utility project (e.g., transmission lines, gas pipelines) or linear transportation project (e.g., roads, highways, railways, trails, airport runways and taxiways) right-of-ways provided there is a Vegetation Management Plan that avoids, minimizes and mitigates impacts to aquatic resources.

vi. Cape Cod style-curbing or no curbing options shall be used on new roads to facilitate amphibian passage. (Reference Appendix G)

e. A PCN is required for any regulated activity within 750' of a vernal pool when all work within the VP Management Area does not comply with the Category 1 requirements in (d) above. Information on directional buffers in accordance with the VP Directional Buffer Guidance document may be provided in order to demonstrate minimal impact and avoid compensation requirements (Reference Appendix G). Conservation of the un-impacted area within the VP Management Area will often be required.

f. GC 2 requires applicants to delineate or approximately identify on the project plans all waters of the U.S., which contain vernal pools.

g. GC 23(b-d) do not apply to projects that are within a municipality and meet the provisions of a Corps-approved VP Special Area Management Plan (VP SAMP) and are otherwise eligible for self-verification.

24. Invasive and Other Unacceptable Species[16]

a. The introduction or spread of invasive or other unacceptable plant or animal species on the project site or areas adjacent to the project site caused by the site work shall be avoided to the maximum extent practicable. For example, construction mats and equipment shall be thoroughly cleaned and free of vegetation and soil before and after use. The introduction or spread of invasive plant or animal species on the project site caused by the site work shall be controlled.

b. No cultivars, invasive or other unacceptable plant species may be used for any mitigation, bioengineering, vegetative bank stabilization or any other work authorized by this GP. However, non-native species and cultivars may be used when it is appropriate and specified in a written verification, such as using *Secale cereale* (Annual Rye) to quickly stabilize a site. All PCNs should explain the reason for using non-native species or cultivars.

25. Programmatic Consultations or Agreements. The Corps requirements to comply with Section 106 of the NHPA, Section 7 of the Endangered Species Act or Essential Fish Habitat conservation under the Magnuson-Stevens Act may be satisfied by a Programmatic Agreement with the Corps, New England District or another federal action agency. Any Corps, New England District Programmatic Agreements will be available on our website.

26. Permit On Site. The permittee shall ensure that a copy of this GP and any accompanying authorization letter with attached plans are at the site of the work authorized by this GP whenever work is being performed and that all construction personnel performing work which may affect waters of the U.S. are aware of its terms and conditions. The entire permit authorization shall be made a part of any and all contracts and subcontracts for work that affects areas of Corps jurisdiction at the site of the work authorized by this GP. This shall be achieved by including the entire permit authorization in the specifications for work. The term "entire permit authorization" means this entire GP and the authorization letter (including its drawings, plans, appendices and other attachments) and also includes permit modifications. If the authorization letter is issued after the construction specifications, but before receipt of bids or quotes, the entire permit authorization shall be included as an addendum to the specifications. If the authorization letter is issued after receipt of bids or quotes, the entire permit authorization shall be included in the contract or subcontract. Although the permittee may assign various aspects of the work to different contractors or subcontractors, all contractors and subcontractors shall be obligated by contract to comply with all environmental protection provisions contained within the entire GP authorization, and no contract or subcontract shall require or allow unauthorized work in areas of Corps jurisdiction.

[16] For the purposes of this GP, plant species that are considered invasive and unacceptable are provided in Appendix G "Invasive and other Unacceptable Plant Species" of our document "Compensatory Mitigation Guidance" at www.nae.usace.army.mil/missions/regulatory >> Mitigation. Chapter 4(e) Planting is also particularly relevant. The June 2009 "Corps of Engineers Invasive Species Policy" provides policy, goals and objectives and is located at www.nae.usace.army.mil/missions/regulatory >> Invasive Species. Additional information can be found at: www.eddmaps.org/ipane.

27. Self-Verification Notification Form (SVNF). Permitees must complete and submit the SVNF provided at Appendix B to the Corps for work authorized by this GP unless otherwise noted in Appendix A. **NOTE: A copy of a state permit application form may be an acceptable surrogate for the SVNF provided either form used also include plans and an Official Species List of federally listed threatened or endangered species.**

28. Inspections. The permittee shall allow the Corps to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of this GP and any written verification. The Corps may also require post-construction engineering drawings for completed work, post-dredging survey drawings for any dredging work, or other post-construction reports. To facilitate these inspections, the permittee shall complete and return to the Corps the following forms:

- For Category 1/Self-Verification: The SVNF (see Appendix B).
- For Category 2/PCN: The a) Work-Start Notification Form and b) Compliance Certification Form, when either is provided with the authorization letter.

29. Maintenance

a. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable general conditions and activity-specific conditions to a written verification.

b. The requirement in (a) above does not include maintenance of dredging projects. Each maintenance dredging event exceeding the self-verification limits requires a new PCN unless an unexpired, written PCN or other Corps authorization specifies that the permittee may "dredge and maintain" an area for a particular time period. Self-verification or PCN maintenance dredging includes only those areas and depths previously authorized and actually dredged. Maintenance dredging with ocean or open water disposal will always require a PCN and at least Category 2 review.

c. Some maintenance activities may not be subject to regulation under Section 404 in accordance with 33 CFR 323.4(a)(2). Refer to Appendix A, Endnote 7.

30. Property Rights. This GP does not convey any property rights, either in real estate or material, or any exclusive privileges, nor does it authorize any injury to property or invasion of rights or any infringement of federal, state, or local laws or regulations.

31. Transfer of GP Verifications. When the structures or work authorized by this GP are still in existence at the time the property is transferred, the terms and conditions of this GP, including any special conditions, will continue to be binding on the entity or individual who received the GP authorizations, as well as the new owner(s) of the property. If the permittee sells the property associated with a GP verification, the permittee may transfer the GP verification to the new owner by submitting a letter to the Corps (see Appendix E for address) to validate the transfer. A copy of the GP verification must be attached to the letter, and *the letter must contain the new owner's contact information and the following statement and signature:*

"When the structures or work authorized by this GP are still in existence at the time the property is transferred, the terms and conditions of this GP, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this GP and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

_____

(Transferee)

_____

(Date)

32. Modification, Suspension, and Revocation. Any work authorized under this GP by self-verification or PCN may be either modified, suspended, or revoked, in whole or in part, pursuant to the policies and procedures of 33 CFR 325.7. Any such action shall not be the basis for any claim for damages against the U.S.

33. Special Conditions. The Corps may independently, or at the request of the federal resource agencies, impose other special conditions on a project authorized pursuant to this GP that are determined necessary to minimize adverse navigational and/or environmental effects or based on any other factor of the public interest. Failure to comply with all terms and conditions of the authorization, including special conditions, constitutes a permit violation and may subject the permittee to criminal, civil or administrative penalties and/or an ordered restoration.

34. False or Incomplete Information. If the Corps makes a determination regarding the eligibility of a project under this GP and subsequently discovers that it has relied on false, incomplete or inaccurate information provided by the permittee, the Corps may determine that the GP authorization is not valid; modify, suspend or revoke the authorization; and the U.S. Government may institute legal proceedings.

35. Abandonment. If the permittee decides to abandon the activity authorized under this GP, unless such abandonment is merely the transfer of property to a third party, he/she may be required to restore the area to the satisfaction of the Corps.

36. Enforcement cases. This GP does not apply to any existing or proposed activity in Corps jurisdiction associated with an ongoing Corps or EPA enforcement action, until such time as the enforcement action is resolved or the Corps or EPA, as appropriate, determines that the activity may proceed independently without compromising the enforcement action.

37. Duration of Authorization. This GP expires on October 12, 2020. Activities authorized under this GP that have commenced (i.e., are under construction) or are under contract to commence before this GP expires will have until October 12, 2021 to complete the activity under the terms and conditions of the current GP.

38. Previously Authorized Activities.

a. Projects that have received authorization (Category 1 or 2) from the Corps and that were completed under the previous PGPs, nationwide permits, regional general permits or letters of permission, shall remain authorized.

b. Activities authorized pursuant to 33 CFR Part 330.3 ("Activities occurring before certain dates") are not affected by this GP.

c. Any work not commenced nor completed that was authorized in a written letter from the Corps under the GP in effect between October 12, 2010 and October 12, 2015 remains authorized subject to the terms and general conditions of this GP along with any special conditions in the authorizing written letter. Exception – if previously authorized work is not commenced and a new federally listed threatened or endangered species could be affected, the Corps must consult with the Service(s) prior to re-authorizing the work under this GP. Requests for re-authorization must include an updated Official Species list. To request an Official Species List, refer to the instructions in Appendix D.

39. Discretionary Authority. Notwithstanding compliance with the terms and conditions of this permit, the Corps retains discretionary authority to require Category 2 or Individual Permit review based on concerns for the aquatic environment or for any other factor of the public interest [33 CFR 320.4(a)]. This authority is invoked on a case-by-case basis whenever the Corps determines that the potential consequences of the proposal warrant a higher level of review based on the concerns stated above. This authority may be invoked for projects that may contribute to cumulative environmental impacts that are more than minimal or if there is a special resource or concern associated with a particular project that is not already covered by the remaining conditions of the GP and that warrants greater review. Whenever the Corps notifies an applicant that an Individual Permit may be required, the project is not authorized under this GP and no work may be conducted until an Individual Permit is obtained or until the Corps notifies the applicant that further review has demonstrated that the work may proceed under this GP.

40. St. John/St. Croix Rivers. Work within the Saint John and Saint Croix River basins that requires approval of the International Joint Commission is not eligible for Category 1 and a PCN to the Corps 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 line; 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.

41. National Lands. Activities that impinge upon the value of any National Wildlife Refuge, National Forest, National Marine Sanctuary, National Park or any other area administered by the National Park Service, U.S. Fish and Wildlife Service (USFWS) or U.S. Forest Service are not eligible for Category 1 and require a PCN.

42. Essential Fish Habitat (EFH). Any work in the following rivers and streams, including all tributaries to the extent that they are currently or were historically accessible for salmon migration, shall not be authorized under Category 1 of the GP and must be screened for potential impacts to EFH (see Appendix G for more information).

Androscoggin River	Aroostook River	Boyden River	Dennys River
Ducktrap River	East Machias River	Hobart Stream	Kennebec River
Machias River	Narraguagus River	Orland River	Passagassawaukeag River
Patten Stream	Penobscot River	Pleasant River	Presumpscot River
Saco River	Sheepscot River	St. Croix River	Tunk Stream
			Union River

The above does not apply to the following activities which may qualify for Category 1 work:

- Exploratory drilling and borings for bridges.
- Moorings (see Appendix A, Page 28 for Category 1 thresholds and requirements)
- Structures, floats & lifts (see Appendix A, Page 29 for Category 1 thresholds and requirements)
- Other activities specified in a programmatic agreement with NMFS.

43. Work Site Restoration

a. Wetland areas where permanent disturbance is not authorized shall be restored to their original condition and elevation, which under no circumstances shall be higher than the pre-construction elevation. Original condition means careful protection and/or removal of existing soil and vegetation, and replacement back to the original location such that the original soil layering and vegetation schemes are approximately the same, unless otherwise authorized.

b. Upon completion of construction, all disturbed wetland areas (the disturbance of these areas must be authorized) shall be properly stabilized. Any seed mix shall contain only plant species native to New England and shall not contain any species listed in the "Invasive and Other Unacceptable Plant Species" Appendix in the "New England District Compensatory Mitigation Guidance" (see GC 24 and refer to Appendix G). This list may be updated periodically.

c. In areas of authorized temporary disturbance, if trees are cut they shall be cut at ground level and not uprooted in order to prevent disruption to the wetland soil structure and to allow stump sprouts to revegetate the work area, unless otherwise authorized.

44. Bank Stabilization

a. Projects involving construction or reconstruction/maintenance of bank stabilization structures within Corps jurisdiction shall be designed to minimize environmental effects, effects to neighboring properties, scour, etc. to the maximum extent practicable.

b. Project proponents must design and construct bank stabilization projects using this sequential minimization process: avoidance of aquatic resource impacts, diversion of overland flow, vegetative stabilization, stone-sloped surfaces, and walls/bulkheads. Vertical walls/bulkheads shall only be used in situations where reflected wave energy can be tolerated.

c. Inland Water bank stabilization activities necessary for erosion prevention must meet all of the following criteria: i) No material is placed in excess of the minimum needed for erosion protection; ii) The activity is no more than 500 feet in total length along the bank(s); iii) The activity will not exceed an average of one cubic yard per running foot placed along the bank below the plane of the ordinary high water mark; iv) Structures angled steeper than 1H:1V and any material other than angular or sub-angular stone or fiber roll revetments require at least a Category 2 review; v) The activity does not involve discharges of dredged or fill

material into special aquatic sites; vi) No material is of the type, or is placed in any location, or in any manner, to impair surface water flow into or out of any water of the U.S.; vii) No material is placed in a manner that will be eroded by normal or expected high flows (properly anchored trees and treetops may be used in low energy areas); and viii) The activity is not a stream channelization activity.

d. Bank stabilization activities in tidal waters are provided at Appendix A, Page 30 & 31. Direct impacts in tidal waters from contiguous bank stabilization projects in excess of 200 linear feet (Applicant or Applicant + Abutters combined) must undergo Category 2 review.

45. Stream Work and Crossings & Wetland Crossings

Notes:

a. For *Stream Work and Crossings* below, conditions (a) and (b) apply to Inland Waters and Wetlands (see Appendix A, Page 1 for definition) and Navigable Waters (see Appendix A, Page 27 for definition). Conditions (c)-(l) below only apply to Inland Waters and Wetlands that are streams. All new and replacement crossings in Navigable Waters require an application to the Corps and at least a Category 2 review.

b. In-stream work in a watershed occupied by listed Atlantic salmon, Atlantic sturgeon, or shortnose sturgeon [see GC 8(b)] and some stream work such as crossings on EFH waters (see GC 42) is not eligible for Category 1.

c. "High-Quality Stream Segments" are shown at www.maine.gov/dep/gis/datamaps and may be useful in evaluating impacts to fisheries. GIS shape files are under "Other Google Earth Interactive Maps" and PDFs by county are under "DEP GIS Maps." See Appendix E for more state contact information.

Conditions for Stream Work and Crossings:

a. All permanent crossings of rivers, streams, brooks, etc. (hereon referred to as "streams") shall be suitably culverted, bridged, or otherwise designed to i) withstand and to prevent the restriction of high flows to qualify for Category 1, and ii) not obstruct the movement of or not 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, beyond the actual duration of construction unless the activity's primary purpose is to impound water to qualify for Category 1 or 2. *(NOTE: Areas of fill and/or cofferdams must be included in total waterway/wetlands impacts to determine applicability of this GP).*

b. Any work that temporarily or permanently impacts upstream or downstream flood conditions, or permanently impacts wetlands in excess of Category 1 thresholds, must be reviewed at least under Category 2. See the documents referenced in Appendix G, 8(c) and (d) for guidance.

c. New Stream Crossings. For new stream crossings to qualify for Category 1:

i. Must ensure compliance with GC 45(a) and GC 45(b) above.

ii. Shall be designed and constructed in accordance with the Corps General Stream Crossing Standards provided on Page 19 and the stream simulation document listed at Appendix G, 8(a).

d. Replacement Stream Crossings. For replacement stream crossings to qualify for Category 1:

i. Must ensure compliance with GC 45(a) and GC 45(b) above.

ii. Shall be designed and constructed in accordance with the Corps General Stream Crossing Standards provided on Page 19 and the stream simulation document listed at Appendix G, 8(a).

e. Culvert Extensions. Culvert extensions on culverts that do not meet the Corps General Stream Crossing Standards do not qualify for Category 1 and require an application to the Corps and at least Category 2 review.

f. Temporary Stream Crossings.

Note: The General Stream Crossing Standards don't apply to temporary stream crossings.

i. Temporary stream crossings or cofferdams shall be used for equipment access across streams [see Appendix G, 8(e)]. Note: Areas of fill and/or cofferdams must be included in total waterway/wetlands impacts to determine the review category in Appendix A.

ii. Temporary stream crossings shall be removed within 180 days to qualify for Category 1.

iii. Temporary stream crossings that are not spans[17] (typically culverts) must be designed in accordance with 1-6 below to qualify for Category 1. Category 2 applications should include information demonstrating 2-6 below:

1. Installed and removed during the low flow period specified in GC 45(l) below.
2. Placed on geotextile fabric or other material where practicable to ensure restoration to the original grade. Soil may not be used to construct or stabilize these structures and rock must be large enough to allow for easy removal without disrupting the streambed.
3. Designed and maintained to withstand and pass high flows. Water height should be no higher than the top of the culvert's inlet. A minimum culvert diameter of two feet is required to pass debris. Culverts must be aligned to prevent bank erosion or streambed scour.
4. Equipped with energy dissipating devices installed downstream if necessary to prevent scour.
5. Designed and maintained to prevent soil from entering the waterbody.
6. Removed upon the completion of work. Impacts to the streambed or banks requires restoration to their original condition using stream simulation methods[18].

g. Slip Lining. Work using slip lining (retrofitting an existing culvert by inserting a smaller diameter pipe), invert lining, or resulting in decreased diameter, does not qualify for Category 1, either as new work or maintenance activities.

h. Work in Flowing Waters. To qualify for Category 1, no unconfined fill [see GC 14(b)] or excavation in flowing waters is allowed. To accomplish this:

i. Bank stabilization work below ordinary high water (OHW) shall utilize erosion controls such as inflatable cofferdams, jersey barrier, silt screen, turbidity curtain, etc. where practicable to prevent sediment input to the stream and to minimize turbidity and sedimentation impacts for sensitive life stages. Bank stabilization above OHW must utilize erosion controls.

ii. Management techniques such as temporary flume pipes, culverts, cofferdams, etc. must be used to maintain normal flows within the stream boundary's confines, or water diversions may be used immediately up and downstream of the work footprint (see Appendix A, Endnote 6) or work must be performed in the dry under no flow conditions, or under very low flow conditions following the practices in GC 45(a).

i. Minimization. In order to make the Category 2 review process more efficient and result in a faster decision, new and replacement stream crossings should be designed using the least intrusive and environmentally damaging method following this sequential minimization process: 1) spans with no stream impacts, 2) spans with stream impacts, and 3) embedded culverts with stream simulation or low-slope design.

j. Maintenance Requirements. The permittee shall maintain the work authorized herein in good condition and in conformance with the terms and general conditions of this permit to facilitate aquatic life passage as stated in GC 45(a). Culverts that develop "hanging" inlets or outlets, result in bed washout, or a stream that doesn't match the characteristics of the substrate in the natural stream channel such as mobility, slope, stability confinement will require maintenance or repair to comply with this GC. This does not apply to GC 45(f) above.

k. Maintenance and Replacement Information. An existing stream crossing must be authorized and in compliance with all conditions of its authorization(s) to qualify for maintenance not subject to regulation. See Appendix A, Endnote 7. A non-serviceable crossing is not eligible for maintenance and is therefore considered as a replacement crossing [see GC 45(d)].

l. Work Window. For projects that otherwise meet the terms of Category 1, in-stream construction work shall be conducted during the low flow period July 15 – September 30 in any year. Projects that are not to be conducted during that time period are ineligible for Category 1 and shall be screened pursuant to Category 2, regardless of the waterway and wetland fill and/or impact area.

Corps General Stream Crossing Standards (required for Category 1; *recommended* for Category 2):

a. Culverts must be embedded:

[17] For the purposes of this GP, spans are bridges, three-sided box culverts, open-bottom culverts or arches that span the stream with footings landward of bankfull width.

[18] Design and construction shall be in accordance with the stream simulation document listed at Appendix G, 8(a).

- ≥ 2 feet for box culverts and other culverts with smooth internal walls,
- ≥ 1 foot for corrugated pipe arches
- ≥ 1 foot and at least 25 percent for corrugated round pipe culverts

b. **For new crossings**, spans[17] are required to avoid or cause minimal disruption to the streambed and to meet the requirements of General Condition 45(a) and 45(b). Footings and abutments must be landward of 1.2 times bankfull width. To the greatest extent practicable, work in the stream shall be minimized, and design and construction shall allow the streambed's natural structure and integrity to remain intact. Any fill or excavation of the streambed below bankfull width other than footings, support pilings, or work specified in 45(h)ii requires Category 2 review and, unless demonstrated otherwise, stream simulation[18] to establish substrate and banks in the span structure and work area as specified in (d) and (e) below.

c. **For replacement crossings**, spans[17] are required to meet the requirements of General Condition 45(a) and 45(b). Footings and abutments shall be landward of 1.2 times bankfull width. Unless demonstrated otherwise, stream simulation[18] is required to establish substrate and banks in the span structure and work area as specified in (d) and (e) below.

d. Crossings must have a natural bottom substrate within the structure matching the characteristics of the substrate in the natural stream channel and the banks (mobility, slope, stability, confinement, grain and rock size) at the time of construction and over time as the structure has had the opportunity to pass significant flood events. To allow terrestrial passage for wildlife and prevent undermining the footings, crossings shall have a bank on both sides of the stream matching the horizontal profile of the existing stream and banks[18]. Note: Installation of substrate material within smaller culverts may not be safe or practicable. In these cases, it may be necessary to allow for natural deposition and bed development unless alternative methods are identified.

e. Crossings must be designed and constructed[18] with appropriate bed forms and streambed characteristics so that water depths and velocities are comparable to those found in the natural channel at a variety of flows. In order to provide appropriate water depths and velocities at a variety of flows and especially low flows, it is usually necessary to reconstruct the streambed or preserve the natural channel within the structure. Otherwise, the width of the structure needed to accommodate higher flows will create conditions that are too shallow at low flows. The grain and rock size, and arrangement of streambed materials within the structure should be in accordance with (d) above. Flows could go subsurface within the structure if only large material is used without smaller material filling the voids.

Conditions for Wetland Crossings:

a. All temporary and permanent crossings of wetlands shall be suitably culverted, bridged, or otherwise designed to: i) Withstand and prevent the restriction of high flows, ii) Not obstruct the movement of or not substantially disrupt the necessary life-cycle movements of those species of aquatic life indigenous to the wetland, including those species that normally migrate through the area, beyond the actual duration of construction unless the activity's primary purpose is to impound water. See Appendix E for the Maine DEP's crossing standards.

b. To qualify for Category 1, new and replacement wetland crossings that are permanent shall be culverted, spanned or bridged in such a manner as to preserve hydraulic and ecological connectivity, at its present level, between the wetlands on either side of the road. To meet this requirement, we recommend that culverts, spans or bridges be placed at least every 50 feet with an opening at least 2 feet high and 3 feet wide at ground level where practicable. Closed bottom culverts shall be embedded at least 6 inches with a natural bottom.

c. In the case of non-compliance, the permittee shall take necessary measures to correct wetland damage due to lack of hydraulic and ecological connectivity.

d. Any work that results in flooding, results in impacts to wetlands on either side of the wetland crossing in excess of Category 1 thresholds, or impacts wetland drainage from the upgradient side of the wetland crossing does not qualify for Category 1.

Robert J. Desista
Deputy Chief, Regulatory Division
For DISTRICT ENGINEER DATE 10/13/15

APPENDIX A: DEFINITION OF CATEGORIES

A. INLAND WATERS AND WETLANDS	**Inland Waters and Wetlands:** Waters that are regulated under Section 404 of the Clean Water Act, including rivers, streams, lakes, ponds and wetlands, and ***excluding Section 10 Navigable Waters of the U.S. (tidal and freshwater).*** The jurisdictional limits are the ordinary high water (OHW) mark in the absence of adjacent wetlands, beyond the OHW mark to the limit of adjacent wetlands when adjacent wetlands are present, and the wetland limit when only wetlands are present. For the purposes of this GP and designated activities, fill placed in the area between the mean high water (MHW) and the high tide line (HTL), and in the bordering and contiguous wetlands[1] to tidal waters are reviewed in the Navigable Waters section. (See B. Navigable Waters on page 27 below.)	
	Projects not meeting Category 1 require an application for review as a Category 2 or Individual Permit project. All Category 1 and 2 projects must comply with all of this GP's applicable terms (Pages 1 – 4) and General Conditions (Pages 5–20).	
ACTIVITY	**CATEGORY 1** Self-Verification Eligible **(*SVNF Required*)**	**CATEGORY 2 (*PCN Required)***
1. Repair, Replacement, Expansion, and Maintenance of Authorized Structures and Fills	Repair or maintenance of existing, currently serviceable, authorized fills with no expansion or change in use: • Conditions of the original authorization apply. • Minor deviations in fill design allowed.[7] • The repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events is authorized, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage. • No effect on federally listed endangered or threatened species or critical habitat.	Replacement of non-serviceable fills, or repair/maintenance of serviceable fill, with expansion <3 acres, or with a change in use.
2. Moorings	NA – moorings in non-navigable inland waters are not subject to Corps jurisdiction. Note: Moorings placed in freshwater navigable waters are reviewed in the Navigable Waters section. (See B. Navigable Waters on Page 28 below.)	NA
3. Structures, Floats & Lifts	For solid fill or crib supported structures on inland waters, <15,000 square feet (SF) of waterway and/or wetland fill, associated secondary impacts[2] , and temporary fills. • No effect on federally listed endangered or threatened species or critical habitat. • Note: Temporary or permanent structures placed in freshwater navigable waters are reviewed in the Navigable Waters section. (See B. Navigable Waters on page 29 below.	1. Work not eligible for Category 1 2. ≥15,000 SF to <3 acres of inland waterway and/or wetland fill and associated secondary impacts (e.g., areas drained, flooded, fragmented, or excavated).
4. Aids to Navigation and Temporary Recreational Structures	NA - this activity in non-navigable inland waters is not subject to Corps jurisdiction. Note: Aids to Navigation and other structures placed in freshwater navigable waters are reviewed in the Navigable Waters section. (See B. Navigable Waters on page 30 below.)	NA

5. Dredging, Disposal of Dredged Material, Beach Nourishment, and Rock Removal and Relocation	1. For regulated discharges associated with excavation, and disposal <15,000 SF inland waterway and/or wetland impacts. 2. The activity does not occur in navigable waters of the U.S. 3. Stream channelization, relocation or loss of streambed including impoundments or discharge of tailings into streams does not occur. 4. No effect on federally listed endangered or threatened species or critical habitat.	1. Work not eligible for Category 1 2. ≥15,000 SF to <3 acres of inland waters.
6. Discharges of Dredged or Fill Material Incidental to the Construction of Bridges	NA - For discharges incidental to the construction of bridges in inland waters of the U.S. refer to Activity 23 (Stream and Wetland Crossings) and GC 45. Note: Discharges of Dredged or Fill Material Incidental to the Construction of Bridges in freshwater navigable waters are reviewed in the Navigable Waters section. (See B. Navigable Waters on page 30 below.)	NA

7. Bank and Shoreline Stabilization	Inland bank stabilization <500 FT long and ≤1 CY of fill per linear foot below OHW, provided: • ≤1 cubic yard of fill per linear foot placed along the bank waterward of ordinary high water. • Work complies with the GCs (GC 44 in particular), including: o No structures angled steeper than 1H:1V allowed. Only rough-faced stone or fiber roll revetments allowed. o No in-stream work involving fill or excavation in flowing waters (see GC 45(h)). • In-water work limited to Jul 15 – Sep 30. • No work in vernal pools[5] or SAS[3]. • No effect on federally listed endangered or threatened species or critical habitat.	Work not eligible for Category 1
8. Residential, Commercial, Industrial, and Institutional Developments, and Recreational Facilities	1. <15,000 SF of inland waterway and/or wetland fill and associated secondary impacts[2] (e.g., areas drained, flooded, fragmented, mechanically cleared or excavated). Fill area includes all temporary and permanent fill, and regulated discharges associated with excavation. Construction mats are considered as fill. [See GC 14] Provided: • Historic fill + proposed impact area <15,000 SF complies with GC 5, Single and Complete Projects. • No work in special aquatic sites (SAS)[4] other than wetlands. • No effect on federally listed endangered or threatened species or critical habitat. 2. For work in Vernal Pool (VP) Management Areas (includes VPs)[5]:	1. Work not eligible for Category 1. 2. ≥15,000 SF to <3 acres of inland waterway and/or wetland fill and associated secondary impacts (e.g., areas drained, flooded, fragmented, or excavated). Fill area includes all temporary and permanent fill (including mats), and regulated discharges associated with excavation. 3. *Mechanical clearing without grubbing or other soil disturbance >3 acres as a secondary impact may still be eligible for Category 2 at the discretion of the Corps.* See GC 2 and Appendix C for wetland delineation

	• See GC 23 and Appendix C for VP delineation requirements. • See GC 23 to determine if work qualifies for Category 1 or 2. • See Appendix G for VP documents providing mitigation guidance.	requirements.
9. Utility Line Activities	1. <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts[2], and temporary fills. 2. The activity does not occur in, over, or under navigable waters of the U.S. 3. Intake structures that are dry hydrants used exclusively for firefighting activities with no stream impoundments. 4. There is no permanent change in pre-construction contours in waters of the U.S. 5. Material resulting from trench excavation is temporarily side cast into waters of the U.S. for ≤ 3 months and is placed in such a manner that it is not dispersed by currents or other forces. 6. The utility line is placed within and does not run a) parallel to, or b) along a streambed. 7. Stream channelization, relocation or loss of streambed including impoundments does not occur. 8. No effect on federally listed endangered or threatened species or critical habitat. 9. There is no discharge in SAS other than non-tidal wetlands. 10. Construction mats[4] of any area necessary to conduct activities that were previously authorized, authorized under Category 1, or not subject to regulation (see Endnote 7). Authorized construction mats must be in place for <3 months, removed immediately upon work completion, and the wetlands must be restored (see GC 43). 11. Stream crossings must comply with GC 17.	1. Work not eligible for Category 1 2. ≥15,000 SF to <3 acres of inland waterway and/or wetland fill and associated secondary impacts (e.g., areas drained, flooded, fragmented, or excavated). Fill area includes all temporary and permanent fill (including mats), and regulated discharges associated with excavation. 3. *Mechanical clearing without grubbing or other soil disturbance >3 acres as a secondary impact may still be eligible for Category 2 at the discretion of the Corps.*
10. Linear Transportation Projects *(not including stream crossings)* **For stream crossings, refer to Activity 23**	1. <15,000 SF of inland waterway and/or wetland fill associated secondary impacts (e.g., areas drained, flooded, fragmented, mechanically cleared or excavated). Fill area includes all temporary and permanent fill, and regulated discharges associated with excavation. Construction mats are considered fill. (See GC 14.) Provided: • Historic fill + proposed impact area <15,000 SF and complies with GC 5 single and complete projects. • No work in special aquatic sites (SAS) other than wetlands. 2. Construction mats[4] of any area necessary to conduct activities that were previously authorized, authorized under Category 1, or not subject to regulation (see Endnote 7). Authorized construction mats must be in place for <3 months, removed immediately upon work completion, and the wetlands must be restored (see GC 43). 3. No effect on federally listed endangered or threatened species or critical habitat.	1. ≥15,000 SF to <3 acres of inland waterway and/or wetland fill and associated secondary impacts (e.g., areas drained, flooded, fragmented, or excavated). Fill area includes all temporary and permanent fill (including mats), and regulated discharges associated with excavation. 2. *Mechanical clearing without grubbing or other soil disturbance >3 acres as a secondary impact may still be eligible for Category 2 at the discretion of the Corps.*

11. Mining Activities	1. <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. 2. The activity does not occur in navigable waters of the U.S. 3. Stream channelization, relocation or loss of streambed including impoundments or discharge of tailings into streams does not occur. 4. No effect on federally listed endangered or threatened species or critical habitat.	1. Work not eligible for Category 1. 2. ≥15,000 SF to <3 acres of inland waterway and/or wetland fill and associated secondary impacts (e.g., areas drained, flooded, fragmented, or excavated). Fill area includes all temporary and permanent fill (including mats), and regulated discharges associated with excavation.
12. Boat Ramps	1. <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. 2. No effect on federally listed endangered or threatened species or critical habitat.	1. Work not eligible for Category 1 2. >15,000 SF and < 3 acres of impact.
13. Land and Water-Based Renewable Energy Generation Facilities and Hydropower Projects	*For land-based facilities:* 1. <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. 2. Stream channelization, relocation or loss of streambed including impoundments does not occur. 3. No effect on federally listed endangered or threatened species or critical habitat. *For water-based facilities and hydropower projects:* No new facilities are eligible.	*For land-based activities:* 1. Work not eligible for Category 1. 2. >15,000 SF and < 3 acres impact. 3. *Mechanical clearing without grubbing or other soil disturbance >3 acres as a secondary impact may still be eligible for Category 2 at the discretion of the Corps.* *For water-based facilities and hydropower projects:* > 3 acres of impact will require an IP.
14. Reshaping Existing Drainage Ditches & Mosquito Management	Not Applicable	Not Applicable
15. Oil Spill and Hazardous Material Cleanup	Jurisdictional activities required for the containment and cleanup of oil and hazardous substances that are subject to the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300) provided that the work is done in accordance with the Spill Control and Countermeasure Plan required by 40 CFR 112.3 or any existing state contingency plan and provided that the Regional Response Team (if one exists in the area) concurs with the proposed containment and cleanup action. SAS[3] must typically be restored in place at the same elevation. ***Note: SVNF or a surrogate state reporting form may be submitted after the fact.***	Work not eligible for Category 1

16. Cleanup of Hazardous and toxic waste	Specific jurisdictional activities to effect the containment, stabilization, or removal of hazardous or toxic waste materials, including court ordered remedial action plans or related settlements, which are performed, ordered or sponsored by a government agency with established legal or regulatory authority. SAS should be restored in place at the same elevation. • <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. • No stream channelization, relocation or loss of streambed occurs. • The project does not involve establishing new disposal sites or expanding existing sites used for the disposal of hazardous or toxic waste. • No effect on federally listed endangered or threatened species or critical habitat.	Work not eligible for Category 1
17. Scientific Measurements Devices	1. Scientific measurement devices whose purpose is to measure and record scientific data, such as staff gages, water recording devices, water quality testing and improvement devices, and similar structures. This excludes any biological sampling devices. Structures may not restrict or concentrate movement of aquatic organisms. 2. No effect on federally listed endangered or threatened species or critical habitat.	Work not eligible for Category 1
18. Survey Activities	1. Jurisdictional survey activities, such as core sampling, seismic exploratory operations, plugging of seismic shot holes and other exploratory-type bore holes, exploratory trenching, soil surveys, sampling, and historic resources surveys (but not recovery). Exploratory trenches must be restored in accordance with GC 43. The construction of temporary pads is authorized provided the discharge doesn't exceed 25 CY. This doesn't authorize permanent structures or the drilling and the discharge of excavated material from test wells for oil and gas exploration (the plugging of such wells is authorized). 2. No effect on federally listed endangered or threatened species or critical habitat.	Work not eligible for Category 1
19. Agricultural Activities	1. For those activities subject to Corps jurisdiction[16], <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. 2. No stream channelization, relocation, loss of streambed, or farm ponds in streams. 3. No effect on federally listed endangered or threatened species or critical habitat.	1. ≥15,000 SF to <3 acres of inland waterway and/or wetland fill and associated secondary impacts (e.g., areas drained, flooded, fragmented, or excavated). Fill area includes all temporary and permanent fill (including mats), and regulated discharges associated with excavation. 2. > 3 acres of impact will require an IP.

20. Fish and Wildlife Harvesting, Enhancement and Attraction Devices and Activities	NA - this activity in non-navigable inland waters, if not involving a discharge of dredged or fill material, is not subject to Corps jurisdiction. Note: Related structures placed in freshwater navigable waters (e.g. the upper Penobscot or Kennebec Rivers) are reviewed in the Navigable Waters section. (See B. Navigable Waters on Page 33 below.)	Not Applicable
21. Habitat Restoration, Establishment and Enhancement Activities	1. <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. 2. The activity is supported in writing by a local, state, or non-Corps Federal environmental agency. Water impoundments require PCN. 3. No conversion of i) a stream to wetland or vice versa, wetland to a pond or uplands, and ii) one wetland type to another. 4. No dam removal. 5. No effect on federally listed endangered or threatened species or critical habitat.	1. Work not eligible for Category 1 2. Aquatic habitat restoration, establishment, and enhancement of wetlands and riparian areas and the restoration and enhancement of streams and other open waters with impacts of any area ≥15,000 SF, provided those activities result in net increase in overall aquatic resource functions and services.[8]
22. Previously Authorized Activities	Any work not commenced nor completed that was authorized in a written letter from the Corps under the GP in effect between October 12, 2010 and October 12, 2015. The terms and general conditions of this GP apply along with any special conditions in the written authorization.	
23. Stream & Wetland Crossings	1. River, stream and brook work and crossings: • Must comply with GC 45 in particular, including: o No slip lining [see GC 45 (g)]. o No in-stream work involving fill or excavation in flowing waters [see GC 45(h)]. o In-stream work limited to Jul 15 – Sep 30 [see GC 45 (l)]. • No work in riffles and pools[3]. • No stream relocations. • No dams or dikes[6]. • No effect on federally listed endangered or threatened species or critical habitat. • <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. 2. Wetland crossings must comply with the particularly relevant GC 45.	Work not eligible for Category 1
24. Aquaculture (freshwater)	For land based installations, <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. • In-stream/in-water work limited to Jul 15 – Sep 30. • No effect on federally listed endangered or threatened species or critical habitat. Note: Related structures placed in freshwater navigable waters are reviewed in the Navigable Waters section. (See B. Navigable Waters, below.)	Work not eligible for Category 1

B. NAVIGABLE WATERS	**Navigable Waters of the United States**: Waters that are subject to the ebb and flow of the tide and/or the tidal and non-tidal portions of the Federally designated navigable waters (the Penobscot River, Kennebec River, and Lake Umbagog) (Section 10 Rivers and Harbors Act of 1899). The jurisdictional limits are the mean high water (MHW) line in tidal waters and the ordinary high water (OHW) mark in non-tidal portions of the federally designated navigable rivers. For the purposes of this GP, fill placed in the area between the mean high water (MHW) and the high tide line (HTL), and in the bordering and contiguous wetlands[1] to tidal waters are also reviewed in this Navigable Waters section.	
	Projects not meeting Category 1 require an application for review as a Category 2 or Individual Permit project. All Category 1 and 2 projects must comply with all of this GP's applicable terms (Pages 1 - 4) and General Conditions (Pages 5 - 20).	
ACTIVITY	**CATEGORY 1** Self-Verification Eligible ***(SVNF Required)***	**CATEGORY 2 (*PCN Required)***
1. Repair, Replacement, Expansion, and Maintenance of Authorized (or grandfathered) Structures and Fills	1.Repair, replacement in-kind, or maintenance[7] of existing, currently serviceable[7], authorized structures or fills: • All work is to be conducted in-the-dry, during low water. • Conditions of the original authorization apply. • No substantial expansion or change in use. • No new fill in SAS[3]. • Must be rebuilt in same footprint, however minor deviations in structure design allowed[7]. • The repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events is authorized, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage.	1. Replacement of non-serviceable structures and fills or repair/maintenance of serviceable structures or fills, with fill, replacement or expansion <1 acre, or with a change in use. 2. <1 acre temporary or permanent fill, excavation and/or secondary impacts. Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass[14] <1000 SF. • Permanent fill in SAS (excluding eelgrass[14]) <4300 SF. 3. Standard Pile Driving Conditions. Work involving piles shall adhere to one of the four methods below: • Piles installed in-the-dry during low water or in-water between Nov. 8th - Apr. 9th, or • Must be drilled and pinned to ledge, or • Vibratory hammers used to install any size and quantity of wood, concrete or steel piles, or • Impact hammers limited to one hammer and <50 piles installed/day with the following: wood piles of any size, concrete piles ≤18-inches diameter, steel piles <12-inches diameter if the hammer is ≤3000 lbs and a wood cushion is used between the hammer and steel pile, and • For the methods above: o In-water noise levels shall not exceed >187dB cSEL re 1µPa or 206dB peak re 1µPa at a distance >10m from the pile being installed, and o In-water noise levels >150dB peak re 1µPa shall not exceed 12 consecutive hours on any given day and a 12 hour recovery period (i.e., in-water noise below 150dB peak re 1µPa) must be provided between work days. • Existing derelict, degraded or abandoned piles in the project area that are affected by project activities should be removed and properly disposed of in an upland location landward of MHW or OHW and not in wetlands, tidal wetlands, their substrate or mudflats.

2. Moorings	1. Private, non-commercial, non-rental, single-boat moorings, provided: • Authorized by the local harbormaster/town. • Not associated with any boating facility.[11] • Boat or mooring not located in a Federal Navigation Project or buffer zone[12] other than in a Federal Anchorage[12]. Moorings in a Federal Anchorage not associated with a boating facility[11] and are not for rent. • No interference with navigation. • No new moorings located in SAS[3]. Prior to installation of moorings, a site-specific eelgrass survey should be conducted to document that eelgrass is not present. • When existing, authorized moorings in SAS[3] are going to be replaced, they should be replaced with low impact mooring technology that prevents mooring chains from resting or dragging on the bottom substrate at all tides and helical anchors, or equivalent SAS protection systems where practicable. 2. Minor relocation of previously authorized moorings, provided: • Authorized by the local harbormaster/town. • Not located in SAS[3] • No interference with navigation. • Cannot be relocated into a Federal Navigation Project[12] other than a Federal Anchorage[12] ***Note: Cat 1 eligible moorings do not require SVNF.***	1. Moorings associated with an existing boating facility[11]. An eelgrass[14] survey may be required. 2. Moorings that don't meet the terms in Category 1 and don't require an Individual Permit. This includes private moorings with no harbormaster or means of local approval. 3. Moorings located such that they, and/or vessels docked or moored at them, are within the buffer zone of the horizontal limits[13] of a Federal Channel[12]. (See Appendix H.) The buffer zone is equal to 3 times the authorized depth of that channel. 4. An IP is required for moorings within the horizontal limits[11], or with moored vessels that extend, into the horizontal limits of a Federal Navigation Project[12], except those in Federal Anchorages[12]. *For 1-4 above, siting of new individual moorings in SAS[3], including eelgrass[14], should be avoided to the maximum extent practicable. If SAS[3] cannot be avoided, plans should show elastic mooring systems that prevent mooring chains from resting or dragging on the bottom substrate at all tides and helical anchors, or equivalent SAS protection systems, where practicable. For moorings that appear to impact SAS, the Corps may require an eelgrass survey.*
3. Structures, Floats and Lifts	1. Reconfiguration of existing authorized structures shall occur in-the-dry during low water. 2. Minor relocation of <u>previously authorized</u> floats or moored floats/lobster cars, provided: • Authorized by the local harbormaster/town. • Not located in SAS[3]. • No interference with navigation. • Cannot be relocated into a Federal Navigation Project[12] other than a Federal Anchorage[12].	1. New structures or floats, including floatways/skidways, built to access waterway (seasonal and permanent). Includes both pile supported and crib supported structures. 2. Expansions to existing boating facilities[11] • *Pile-supported structures <400 SF, with attached floats totaling <u>≤</u>200 SF.* • *Structures are <u>≤</u>4' wide and have at least a 1:1 height:width ratio[11].* • *Floats supported a minimum of 18" above the substrate during all tides.* • *Structures & floats not located within 25' of any eelgrass[8].* • *Moored vessels not positioned over SAS[3].*

		• *The Corps may require a letter of no objection from the abutter if structure is to be within 25 feet of the property line.* • *No structure extends across >25% of the waterway width at mean low water.* • *Not located within the buffer zone of the horizontal limits[13] of a Corps Federal Navigation Project (FNP) (Appendix F). The buffer zone is equal to three times the authorized depth of that FNP.* 3. An Individual Permit is required for structures or floats, including floatways/skidways, located such that they and/or vessels docked or moored at them are within the horizontal limits[13] of a Corps Federal Navigation Project[12] (see Appendix H). 4. An Individual Permit is required for structures & floats associated with a new or previously unauthorized boating facility[11]. 5. Standard Pile Driving Conditions. Work involving piles shall adhere to one of the four methods below: • Piles installed in-the-dry during low water or in-water between Nov. 8th - Apr. 9th, or • Must be drilled and pinned to ledge, or • Vibratory hammers used to install any size and quantity of wood, concrete or steel piles, or • Impact hammers limited to one hammer and <50 piles installed/day with the following: wood piles of any size, concrete piles ≤18-inches diameter, steel piles <12-inches diameter if the hammer is ≤3000 lbs and a wood cushion is used between the hammer and steel pile, and • For the methods above: o In-water noise levels shall not exceed >187dB cSEL re 1µPa or 206dB peak re 1µPa at a distance >10m from the pile being installed, and o In-water noise levels >150dB peak re 1µPa shall not exceed 12 consecutive hours on any given day and a 12 hour recovery period (i.e., in-water noise below 150dB peak re 1µPa) must be provided between work days. • Existing derelict, degraded or abandoned piles in the project area that are affected by project activities should be removed and properly disposed of in an upland location landward of MHW or OHW and not in wetlands, tidal wetlands, their substrate or mudflats.

4. Aids to Navigation and Temporary Recreational Structures	1. Temporary buoys, markers, floats, etc. for recreational use during specific events, provided they are removed within 30 days after use is discontinued. 2. The placement of aids to navigation and regulatory markers which are approved by and installed in accordance with the requirements of the U.S. Coast Guard. (See 33 CFR 66, Chapter I, subchapter C)." ***Note: Cat 1 eligible aids to navigation and regulatory markers do not require SVNF.***	Work not eligible for Category 1
5. Dredging, Disposal of Dredged Material, Beach Nourishment, and Rock Removal and Relocation	1. Maintenance dredging[10] for navigational purposes <1,000 CY with upland disposal. Includes return water from upland contained disposal area, provided: • Proper siltation controls are used. • Dredging & disposal operation limited to Nov. 8 – Apr. 9. • No impact to SAS[3]. • No dredging in intertidal areas. • No dredging within 100' of shellfish beds. • No dredging in areas designated as Critical Habitat for Atlantic salmon [see GC 8(b) & (c)]. • For dredging in tidal waters outside of Atlantic salmon critical habitat, applicants must contact NMFS (see GC 8) to ensure no impacts to listed species such as shortnose sturgeon, Atlantic surgeon, and listed sturgeon critical habitat. • Project proponents must contact the USFWS for work on coastal beaches to ensure no impacts to piping plovers, roseate terns, rufa red knot, or their habitat [see GC 8(c)]. • No underwater blasting. 2. Maintenance dredging is not eligible for Category 1 if conducted in tidal portions of the Penobscot river upstream of a line extending from Turner Point in Castine to Moose Point (formerly Squaw Point) on Cape Jellison in Stockton Springs or in tidal portions of the Kennebec or Androscoggin Rivers upstream of a line extending from Doubling Point in Arrowsic to Hospital Point in West Bath.	1. Maintenance dredging[10] ≥1,000 CY, new dredging <25,000 CY, or projects not meeting Category 1. Includes return water from upland contained disposal areas. Disposal includes: • Upland. • Beach nourishment (above mean high water) of any area provided the dredging's primary purpose is navigation or the sand is from an upland source. • Open water & confined aquatic disposal, if Corps finds the material suitable. 2. Beach nourishment associated with dredging when the primary purpose is not navigation requires at least a Category 2 review. 3. Maintenance or new dredging[10] and/or disposal in or affecting a SAS[3] requires an Individual Permit.

6. Discharges of Dredged or Fill Material Incidental to the Construction of Bridges	1. Discharges of dredged or fill material incidental to the construction of bridges across navigable waters of the U.S., including cofferdams, abutments, foundation seals, piers, and temporary construction and access fills provided the U.S. Coast Guard authorizes such discharges as part of the bridge permit or appropriate approval. 2. Causeways and approach fills are not included in this category and require Category 2 or Individual Permit authorization.	<1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass[14] <1000 SF. • Permanent fill in SAS (excluding eelgrass[14]) <4300 SF.
7. Bank and Shoreline Stabilization	1. Bank stabilization projects <200 linear feet provided: • ≤1 cubic yard of fill per linear foot placed along the bank waterward of high tide line. No fill or equipment will occur in SAS[3]. • Work conducted in the intertidal zone must be conducted in-the-dry during low water. • No structures angled steeper than 1H:1V and only rough-faced stone or fiber roll revetments allowed. • No driving of piles or sheeting. 2. Bank stabilization projects in excess of 200 linear feet (Applicant or Applicant + Abutters combined) must undergo Category 2 review.	1. Work not eligible for Category 1. 2. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass[14] <1000 SF. • Permanent fill in SAS (excluding eelgrass[14]) <4300 SF.
8. Residential, Commercial, Industrial, and Institutional Developments, and Recreational Facilities	Not Eligible	1. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass[14] <1000 SF. • Permanent fill in SAS (excluding eelgrass[14]) <4300 SF. 2. Conversions of previously authorized pile supported buildings over navigable waters to residences, offices, or other non-water dependent uses require at least a Category 2 review. 3. Floating house boats or businesses on floats require Category 2 review.
9. Utility Line Activities	1. Repair or maintenance of existing, currently serviceable, authorized utilities with no expansion or change in use: • Conditions of the original authorization apply. • Trenching or filling is confined to the existing footprint. • In water work conducted between Nov 8 and Apr 9. • No new impact to SAS. 2. Particularly relevant is GC12. 3. New work in, over, or under navigable waters requires a PCN and Category 2 review. 4. Except for aerial utility lines, work is not eligible for Category 1 if conducted in tidal portions of the Penobscot River upstream of a line extending from Turner Point in Castine to Moose Point (formerly	1. New or replacement installations or work not otherwise eligible for Category 1. 2. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass[14] <1000 SF. • Permanent fill in SAS (excluding eelgrass[14]) <4300 SF. 3. Particularly relevant is GC12

	Squaw Point) on Cape Jellison in Stockton Springs or in tidal	
10. Linear Transportation Projects **(Not Including Stream Crossings)**	Not eligible	<1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass[14] <1000 SF. • Permanent fill in SAS (excluding eelgrass[14]) <4300 SF.
11. Mining Activities	Not Eligible	Not Eligible
12. Boat Ramps and Marine Railways	1. No new impact to SAS 2. Marine railway and boat ramp work not eligible for maintenance[7] (i.e. not currently serviceable[7]) may be replaced "in-kind" with minor deviations[7] provided: • Work is in the intertidal zone. • No fill expansion below high tide line. • Work conducted in-the-dry during low water. 3. No new boat ramps or marine railways.	1. Work not eligible for Category 1 2. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass[14] <1000 SF. • Permanent fill in SAS (excluding eelgrass[14]) <4300 SF.
13. Land and Water-Based Renewable Energy Generation Facilities and Hydropower Projects	Not Eligible	1. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass[14] <1000 SF. • Permanent fill in SAS (excluding eelgrass[14]) <4300 SF. 2. No new impoundments.
14. Reshaping Existing Drainage Ditches and Mosquito Management	1. ≤500 linear feet of drainage ditch will be modified. The reshaping of the ditch cannot increase drainage capacity beyond the original as-built capacity nor can it expand the area drained by the ditch as originally constructed (i.e., the capacity of the ditch must be the same as originally constructed and it cannot drain additional wetlands or other waters of the U.S.). 2. No new ditches or relocation of drainage ditches constructed in waters of the U.S.; the location of the centerline of the reshaped drainage ditch must be approximately the same as the location of the centerline of the original drainage ditch. 3. No effect on federally listed endangered or threatened species or critical habitat	1. Work not eligible for Category 1 2. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass[14] <1000 SF. • Permanent fill in SAS (excluding eelgrass[14]) <4300 SF.

15. Oil Spill and Hazardous Material Cleanup	Jurisdictional activities required for the containment and cleanup of oil and hazardous substances that are subject to the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300) provided that the work is done in accordance with the Spill Control and Countermeasure Plan required by 40 CFR 112.3 and any existing state contingency plan and provided that the Regional Response Team (if one exists in the area) concurs with the proposed containment and cleanup action. SAS[3] must typically be restored in place at the same elevation. ***Note: SVNF or a surrogate state reporting form may be submitted after the fact. No SVNF is required for Category 1eligible containment booms.***	Work not eligible for Category 1
16. Cleanup of Hazardous and Toxic Waste	Not eligible - except for booms placed for hazardous and toxic waste containment and absorption and prevention which are eligible for SV. ***Note: No SVNF is required for Category 1 eligible containment booms.***	Specific jurisdictional activities with impacts of any area required to affect the containment, stabilization, or removal of hazardous or toxic waste materials that are performed, ordered, or sponsored by a government agency with established legal or regulatory authority. Wetlands and other SAS must typically be restored in place at the same elevation to qualify.
17. Scientific Measurement Devices	Scientific measurement devices whose purpose is to measure and record scientific data, such as staff gages, water recording devices, water quality testing and improvement devices, and similar structures. Structures may not restrict or concentrate movement of aquatic organisms; no activity results in a hazard to navigation; and no activity requiring underwater blasting.	1. Work not eligible for Category 1 2. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass[14] <1000 SF. • Permanent fill in SAS (excluding eelgrass[14]) <4300 SF.
18. Survey Activities	Jurisdictional survey activities such as exploratory drilling, surveying and sampling activities, excluding any biological sampling devices. Does not include any activity requiring underwater blasting, seismic exploratory operations, or oil and gas exploration and fill for roads or construction pads. No activity may result in a hazard to navigation.	1. Work not eligible for Category 1 2. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass[14] <1000 SF. • Permanent fill in SAS (excluding eelgrass[14]) <4300 SF.
19. Agricultural Activities	Not Eligible	Not Eligible

20. Fish & Wildlife Harvesting, Enhancement and Attraction Devices and Activities (Not Aquaculture)	Fish and wildlife harvesting, enhancement, and attraction devices and activities such as pound nets, crab traps, crab dredging, eel pots, lobster traps, and clam and oyster digging, and small fish attraction devices such as open water fish concentrators (sea kites, etc.). This does not authorize artificial reefs or impoundments and semi-impoundments of waters of the U.S. for the culture or holding of motile species such as lobster, or the use of covered oyster trays or clam racks. No activity that may result in a hazard to navigation. ***Note: A SVNF is not required for these Category 1 eligible devices and activities.***	1. Work not eligible for Category 1. 2. Impoundments or semi-impoundments of waters of the U.S. for the culture or holding of motile species such as lobster and new fish weirs with an impounded area $\leq$ ½ acre. For Aquaculture operations, refer to Activity 24.
21. Habitat Restoration, Establishment and Enhancement Activities	1. Cultch placement in tidal waters is eligible for SV provided there are no salt marsh or vegetated shallow impacts. 2. SAS planting and transplanting $\leq$ 100 SF in tidal waters; 3. No artificial or living reefs. 4. The activity is authorized in writing by a local, state, or non-Corps federal environmental agency. Water impoundments require PCN. 5. No conversion of i) a stream to wetland or vice versa, wetland to a pond or uplands, and ii) one wetland type to another. 6. No dam removal. 7. Shellfish habitat enhancement such as brushing the flats is eligible for Category 1, *but not the use of netting which requires Category 2 review.*	1. Work not eligible for Category 1. 2. Aquatic habitat restoration, establishment and enhancement provided those activities are proactive and result in net increases in aquatic resource functions and services.[8]
22. Previously Authorized Activities	Any work not commenced nor completed that was authorized in a written letter from the Corps under the GP in effect between October 12, 2010 and October 12, 2015. The terms and general conditions of this GP apply along with any special conditions in the written authorization.	
23. Stream & Wetland Crossings	Not Eligible	All temporary or permanent crossings of tidal navigable waters or adjacent tidal wetlands not eligible as maintenance require a PCN. GC 45 applies
24. Aquaculture	Not Eligible	Shellfish & finfish aquaculture (with the exception of Atlantic salmon and any other salmonid, or other federally listed endangered or threatened species), or other aquaculture facilities with no more than minimal individual and cumulative impacts to environmental resources or navigation. This is inclusive but not limited to cages, nets, bags, racks, long lines, fences, posts, poles, predator screening, etc. Aquaculture guidelines are provided at: www.maine.gov/dmr/aquaculture/index.htm.

Endnotes/Definitions

[1] **Bordering and Contiguous Wetlands:** A bordering wetland is immediately next to its adjacent waterbody and may lie at, or below, the ordinary high water mark (mean high water in navigable waters) of that waterbody and is directly influenced by its hydrologic regime. Contiguous wetlands extend landward from their adjacent waterbody to a point where a natural or manmade discontinuity exists. Contiguous wetlands include bordering wetlands as well as wetlands that are situated immediately above the ordinary high water mark and above the normal hydrologic influence of their adjacent waterbody. Note, with respect to the federally designated navigable rivers, the wetlands bordering and contiguous to the tidally influenced portions of those rivers are reviewed under "II. Navigable Waters."

[2] **Direct, Secondary, and Cumulative Impacts/Effects:**

Direct Impacts: The immediate loss of aquatic ecosystem within the footprint of the fill.

Secondary Impacts: These are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. Information about secondary effects on aquatic ecosystems shall be considered prior to the time final section 404 action is taken by permitting authorities. Some examples of secondary effects on an aquatic ecosystem are a) fluctuating water levels in all impoundment and downstream associated with the operation of a dam, b) septic tank leaching and surface runoff from residential or commercial developments on fill, and c) leachate and runoff from a sanitary landfill located in waters of the U.S. Put another way, secondary effects are those impacts outside the footprint of the fill that arise from and are associated with the discharge of dredged or fill material, including the operation of an activity or facility associated with the discharge. Examples may include habitat fragmentation; interruption of travel corridors for wildlife (for example, for amphibians that migrate to and from seasonal or vernal pools used as breeding habitat); hydrologic regime changes; and impacts from operation and maintenance activities for constructed facilities; such as noise/lighting, storm water runoff, and road kill of wetland dependent wildlife. Using the directions contained in the guidelines, we consider the circumstances of a proposed discharge and the project of which it is a part to evaluate the scope, extent, severity, and permanence of direct, secondary, and cumulative adverse effects upon the aquatic ecosystem.

Cumulative Impacts: The extent of past, present, and foreseeable developments in the area may be an important consideration in evaluating the significance of a particular project's impacts. Although the impacts associated with a particular discharge may be minor, the cumulative effect of numerous similar discharges can result in a large impact. Cumulative impacts should be estimated only to the extent that they are reasonable and practical.

[3] **Special Aquatic Sites:** Includes wetlands and saltmarsh, mudflats, riffles and pools, and vegetated shallows (predominantly comprised of eelgrass in Maine).

[4] **Construction Mats:** Constructions, swamp and timber mats (herein referred to as "construction mats") are generic terms used to describe structures that distribute equipment weight to prevent wetland damage while facilitating passage and providing work platforms for workers and equipment. They are comprised of sheets or mats made from a variety of materials in various sizes. A timber mat consists of large timbers bolted or cabled together. Corduroy roads, which are not considered to be construction mats, are cut trees and/or saplings with the crowns and branches removed, and the trunks lined up next to one another. Corduroy roads are typically installed as permanent structures. Like construction mats, they are considered as fill whether they're installed temporarily or permanently.

[5] **Vernal Pools:** A vernal pool, also referred to as a seasonal forest pool, is a temporary to semi-permanent body of water occurring in a shallow depression that typically fills during the spring or fall and may dry during the summer. Vernal pools have no permanent inlet or outlet and no viable populations of predatory fish. A vernal pool may provide the primary breeding habitat for wood frogs (*Rana sylvatica*), spotted salamanders (*Ambystoma maculatum*), blue-spotted salamanders (*Ambystoma laterale*), and fairy shrimp (*Eubranchipus* sp.), as well as valuable habitat for other plants and wildlife, including several rare, threatened, and endangered species. A vernal pool intentionally created for the purposes of compensatory mitigation is included in this definition. For the purposes of this GP, the presence of any of the following species in any life stage in any abundance level/quantity would designate the waterbody as a vernal pool: fairy shrimp, blue spotted salamanders, spotted salamanders or wood frogs. The Corps may determine during a Category 2 review that a waterbody should not be regulated as a VP based on available evidence. For the purposes of this GP, the VP Management Areas are the: Vernal Pool Depression (includes the vernal pool depression up to the spring or fall high water mark, and includes any vegetation growing within the depression), Vernal Pool Envelope (area within 100 FT of the VP Depression's edge) and Critical Terrestrial Habitat (area within 100-750 FT of the Vernal Pool Depression's edge). [*Note: Critical Terrestrial Habitat is defined as 100 -750 FT on page 243 of the document "Science and Conservation of Vernal Pools in Northeastern North America," Calhoun and deMaynadier, 2008, which is referenced in Appendix G, page 3, Paragraph 10(b).

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[6] **Water Diversions:** Water diversions are activities such as bypass pumping or water withdrawals. Temporary flume pipes, culverts or cofferdams where normal flows are maintained within the stream boundary's confines aren't water diversions. "Normal flows" are defined as no change in flow from pre-project conditions.

[7] **Maintenance: a)** The repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3 – "Activities occurring before certain dates," provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification.

- Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards that are necessary to make repair, rehabilitation, or replacement are authorized.
- Currently serviceable means useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.
- No seaward expansion for bulkheads or any other fill activity is considered Category 1 maintenance.
- Only structures or fills that were previously authorized and are in compliance with the terms and condition of the original authorization can be maintained as a non-regulated activity under 33 CFR 323.4(a)(2), or in accordance with the Category 1 or 2 thresholds in Appendix A.

b) The state's maintenance provisions may differ from the Corps and may require reporting and written authorization from the state.

c) Contact the Corps to determine whether stream crossing replacements require a written application to the Corps for at least a Category 2 review.

d) Exempted Maintenance. In accordance with 33 CFR 323.4(a)(2), any discharge of dredged or fill material that may result from any of the following activities is not prohibited by or otherwise subject to regulation under Section 404 of the CWA: "Maintenance, including emergency reconstruction of recently damaged parts, of currently serviceable structures such as dikes, dams, levees, groins, riprap, breakwaters, causeways, bridge abutments or approaches, and transportation structures. Maintenance does not include any modification that changes the character, scope, or size of the original fill design."

[8] **Aquatic Habitat Restoration, Establishment and Enhancement:** The Corps will decide if a project qualifies and must determine in consultation with federal and state agencies that the net effects are beneficial. The Corps may refer to Nationwide Permit 27 published in the 3/12/07 Federal Register. Activities authorized here may include, but are not limited to: the removal of accumulated sediments; the installation, removal, and maintenance of small water control structures, dikes, and berms; the installation of current deflectors; the enhancement, restoration, or establishment of riffle and pool stream structure; the placement of in-stream habitat structures; modifications of the stream bed and/or banks to restore or establish stream meanders; the backfilling of artificial channels and drainage ditches; the removal of existing drainage structures; the construction of small nesting islands in inland waters**;** the construction of open water areas; the construction of native shellfish species habitat over unvegetated bottom for the purpose of habitat protection or restoration in tidal waters; shellfish seeding; activities needed to reestablish vegetation, including plowing or discing for seed bed preparation and the planting of appropriate wetland species; mechanized land clearing to remove non-native invasive, exotic, or nuisance vegetation; and other related activities. Only native plant species should be planted at the site.

[9] **Brushing the Flats:** The placement of tree boughs, wooden lath structure, or small-mesh fencing on mudflats to enhance recruitment of soft-shell clams (*Mya arenaria*).

[10] **Maintenance Dredging:** This includes only those areas and depths previously authorized by the Corps and dredged. The Corps may require proof of authorization. Maintenance dredging typically refers to the routine removal of sediment to maintain the design depths of serviceable navigation channels, harbors, basins, marinas, boat launches, and port facilities. Maintenance dredging is conducted for navigational purposes and does not include any expansion of the previously dredged area or depth. The Corps may review a maintenance dredging activity as new dredging if sufficient time has elapsed to allow for the colonization of SAS, shellfish, etc.

[11] **Boating Facilities:** Facilities that provide for a fee, rent, or sell mooring space, such as marinas, yacht clubs, boat clubs, boat yards, town facilities, dockominiums, etc.

[12] **Federal Navigation Projects (FNPs):** FNPs are comprised of Federal Channels and Federal Anchorages. See Appendix F for their location and contact the Corps for more information. "Horizontal Limits" is the outer edge of an FNP. "Buffer Zone" is equal to three times the authorized depth of that channel.

[13] **Horizontal Limits:** The outer edge of a Federal Navigation Project (FNP). See Appendix F and contact the Corps for information on FNP's.

[14] **Eelgrass (Zostera marina):** A type of rooted aquatic vegetation that exists in intertidal and shallow subtidal areas known as vegetated shallows. See www.nero.noaa.gov/hcd/ for eelgrass survey guidance. Note: Eelgrass surveys should be conducted be conducted between May and October unless otherwise directed.

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[15] **Structures:** The height of structures shall at all points be equal to or exceed the width of the deck. For the purpose of this definition, height shall be measured from the marsh substrate to the bottom of the longitudinal support beam.

[16] **Agricultural Activities:** The Clean Water Act exempts certain discharges associated with normal farming, ranching, and forestry activities such as plowing, cultivating, minor drainage, and harvesting for the production of food, fiber, and forest products, or upland soil and water conservation practices (Section 404(f)(1)(A)). Applicants are strongly advised to contact the Corps for a determination of whether their activity is exempt or requires a permit.

US Army Corps of Engineers ®
New England District

Appendix B: Self-Verification Notification Form

(for all tidal and non-tidal projects in Maine subject to Corps jurisdiction)

At least two weeks before work commences, complete **all** fields (write "none" if applicable) below or use the fillable form at www.nae.usace.army.mil/missions/regulatory.aspx. Send this form, a location map, any project plans, and an Official Species List (See GC 8) to the address noted below; fax to (207) 623-8206; or email to jay.l.clement@usace.army.mil. The two-week lead time is not required for emergency situations (see page 4 for definition). Please call (207) 623-8367 with questions.

Maine Project Office
U.S. Army Corps of Engineers
New England District
675 Western Avenue #3
Manchester, Maine 04351

State Permit Number: _____
Date of State Permit: _____
State Project Manager: _____

Permittee: _____
Address, City, State & Zip: _____
Phone(s) and Email: _____

Contractor: _____
Address, City, State & Zip: _____
Phone(s) and Email: _____

Consultant/Engineer/Designer: _____
Address, City, State & Zip: _____
Phone(s) and Email: _____

Wetland/Vernal Pool Consultant: _____
Address, City, State & Zip: _____
Phone(s) and Email: _____

Project Location/Description: _____
Address, City, State & Zip: _____
Latitude/Longitude Coordinates: _____ Tax Map/Lot: _____
Waterway Name: _____
Work Description: _____

_____

Provide any prior Corps permit numbers: _____
Proposed Work Dates: Start: _____ Finish: _____

Area of wetland impact: _____ SF (leave blank if work involves structures & no fill in Navigable Waters)
Area of waterway impact: _____ SF (leave blank if work involves structures & no fill in Navigable Waters)
Area of compensatory mitigation provided: _____ SF

Work will be done under the following Appendix A categories (circle all that apply):

I. Inland Waters and wetlands: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
II. Navigable Waters: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Your name/signature below, as permittee, indicates that you accept and agree to comply with the terms, eligibility criteria, and general conditions of Category 1 of the Maine General Permit.

Permittee Printed Name: _____

Permittee Signature: _____ Date: _____

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New England District

Appendix C: Content of Pre-Construction Notification

In addition to the following required information, the applicant must provide additional information as the Corps deems essential to make a public interest determination including, where applicable, a determination of compliance with the Section 404(b)(1) guidelines or ocean dumping criteria. Such additional information may include environmental data and information on alternate methods and sites as may be necessary for the preparation of the required environmental documentation. For a more comprehensive checklist, go to www.nae.usace.army.mil/missions/regulatory >> Forms >> Application and Plan Guideline Checklist. Please check with the Corps for project-specific requirements.

Information required for all projects:

- ☐ Corps application form (ENG Form 4345) or appropriate state application form (see Appendix E). Forms may need to be supplemented to include the information noted below.
- ☐ Proof of notification to the SHPO and the appropriate THPOs (see Appendix E).
- ☐ Official Species List for any federally listed endangered or threatened species (Instructions at Appendix D)
- ☐ Drawings, sketches, or plans (detailed engineering plans and specifications are not required) that are legible, reproducible (color is encouraged, but features must be distinguishable in black and white), no larger than 11"x17", with bar scale. Wetland area impact sheets should have the highest resolution possible to show work within Corps jurisdiction (do not just reduce project overview or cut large-scale plan into quadrant sheets). Provide locus map and a plan overview of the entire property with a key index to the individual impact sheets. A locus map be on a section of color USGS topographic map is encouraged. Digital submissions are encouraged.
- ☐ Include:
  - ☐ All direct, secondary, permanent and temporary effects the project would cause, including the anticipated amount of impacts to waters of the U.S. expected to result from the activity, in acres, linear feet, or other appropriate unit of measure.
  - ☐ Any historic permanent fill associated with each single and complete project.
  - ☐ Cross-section views of all wetland and waterway fill areas and wetland replication areas.
  - ☐ Delineation of all wetlands, other special aquatic sites (vegetated shallows, saltmarsh, mudflats, riffles and pools, coral reefs, and sanctuaries and refuges), and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Use Federal delineation methods and include Corps wetland delineation data sheets (see GC 2).
  - ☐ MLW and MHW elevations in tidal waters. Show the HTL elevations when fill is involved. Show OHW elevation in lakes and non-tidal streams.
  - ☐ Existing and proposed conditions.
  - ☐ For vegetated shallow and eelgrass survey guidance, see www.nae.usace.army.mil/missions/regulatory >> Jurisdictional Limits and Wetlands >> Submerged Aquatic Vegetation Survey Guidance for the New England Region.
  - ☐ Show all known VPs on the project site. See GC 23 for vernal pool identification requirements.
- ☐ Volume, type, and source of fill material to be discharged into waters and wetlands, including the area(s) (in square feet or acres) of fill in wetlands, below OHW in inland waters and below the HTL in coastal waters.

- An Official Species List of federally "listed species or critical habitat" present in the action area (see GC 8).
- A restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions (see GC 43).

Information that may be required:

- Photographs of wetland/waterway to be impacted. Photos at low tide are preferred for work in tidal waters.
- For drawings, sketches, or plans:
  - The vertical datum for all coastal projects must be in U.S. survey feet and referenced to MLLW and current tidal epochs, with a reference chart showing conversion factor to NAVD88; do not use local datum. See www.nae.usace.army.mil/missions/regulatory >> Forms and Publications >>Vertical Datum - FEMA (Jul 2007);
  - The horizontal state plane coordinates shall be in U.S. survey feet and based on the appropriate state plane coordinate system.
- For the construction of a filled area or pile or float-supported platform, the use of, and specific structures to be erected on, the fill or platform.
- For the discharge of dredged or fill material into waters of the U.S. or the transportation of dredged material for the purpose of disposing of it in ocean waters, the source of the material; the purpose of the discharge, a description of the type, composition and quantity of the material; the method of transportation and disposal of the material; and the location of the disposal site.
- For the discharge of dredged or fill material into waters of the U.S., include a statement describing how impacts to waters of the U.S. are to be avoided and minimized. Include either a statement describing how impacts to waters of the U.S. are to be compensated for or a statement explaining why compensatory mitigation should not be required for the proposed impacts.
- Purpose and need for the proposed activity;
- Limits and coordinates of any Federal Navigation Project in the vicinity of the project area.
- Limits and coordinates of any proposed mooring field, reconfiguration zone or aquaculture activity. Provide coordinates for all corners;
- Schedule of construction/activity;
- Names and addresses of adjoining property owners;
- Location and dimensions of adjacent structures;
- List of authorizations required by other Federal, interstate, state, or local agencies for the work, including all approvals received or denials already made.
- Identification and description of potential impacts to Essential Fish Habitat (defined at VI. Definitions and Acronyms.
- Identification of potential discharges of pollutants to waters, including potential impacts to impaired waters, in the project area (see GC 19).
- Invasive Species Control Plan (see GC 24). For sample control plans, see www.nae.usace.army.mil/missions/regulatory >> Invasive Species.
- Wildlife Action Plan (WAP) maps. Contact Maine Inland Fisheries & Wildlife (Appendix E) or on line at http://www.maine.gov/ifw/wildlife/conservation/action_plan.html

Information for dredging projects that may be required:

- Sediment testing, including physical (e.g., grain-size analysis), chemical and biological testing. For projects proposing open water disposal, applicants are encouraged to contact the Corps as early as possible regarding sampling and testing protocols. Sampling and testing of sediments without such contact should not occur and if done, would be at the applicant's risk.
- The area in square feet and volume of material to be dredged below mean high water.

- Existing and proposed water depths.
- Type of dredging equipment to be used.
- Nature of material (e.g., silty sand).
- Any existing sediment grain size and bulk sediment chemistry data for the proposed or any nearby projects.
- Information on the location and nature of municipal or industrial discharges and occurrence of any contaminant spills in or near the project area.
- Shellfish survey.
- Location of the disposal site (include locus sheet).
- Identification and description of any potential impacts to Essential Fish Habitat.
- Delineation of submerged aquatic vegetation (e.g., eelgrass beds).

Information for aquaculture projects that may be required:

- Maine Aquaculture guidelines and joint Corps/Maine DMR applications may be found at: www.maine.gov/dmr/aquaculture/index.htm.
- In addition to the information required above, applications must also include:
  - Whether canopy predator nets are being used.

Appendix D: Instruction for USFWS IPaC Project Builder/Official Species List

NOTE: These instructions are subject to change by the USFWS. Users should check this GP's Corps webpage for the latest instructions or click here.

In your internet browser go to http://ecos.fws.gov/ipac/

1. Click on get started.

2. Click on enter project location.

3. Search or zoom to your project location. (You can enter an address and then zoom in with your mouse).

4. Define your area. (Select the polygon tool and click around the boundary of your project.) or (Use the draw a line tool for linear projects)

Note: You can change/select the map from Streets to Satellite or Topo in the lower left corner of the map.
5. Click finished drawing then click confirm and select continue.

6. On the next page under Tasks (lower left), select Request an official species list. The pane will open. Select "request official species list" again.

7. A new page will open. Fill in the project information blanks with the project name, brief description, project type, lead agency, and contact information. Be sure to check the box to verify this is a legitimate project. Click on Submit Official Species List Request.

8. You will be sent an e-mail with instructions to complete the request by clicking on the link provided.

9. The site will open Official Species List Request Completed. Under the Maine Ecological Services Field Office address you will see "Official Species List Document". Click on that link and your document will open. Save and or print a copy and **include the entire report with your application**.

Note, you will receive a second e-mail with the same information. You can save the link in the event you need to return to the IPaC site for an updated list.

If a period of time has passed since your initial "Official Species List" identifier number was generated, you may choose to generate an "UPDATED SPECIES LIST". To do this, return to the IPaC homepage at http://ecos.fws.gov/ipac site. In the middle of the page, click the purple "Need an updated species list" link.

On the request an "Updated Official Species List" page, complete the information in the boxes provided. You will need the project specific official consultation code generated and stated on the original official list as well as the email address entered with the original submission.

Click "Request Updated Species List". Print, or save.

Appendix E: Contacts and Tribal Areas of Interest

1. Federal

U.S. Army Corps of Engineers
Maine Project Office
675 Western Avenue #3
Manchester, ME 04351
(207) 623-8367 (phone); (207) 623-8206 (fax)

U.S. Environmental Protection Agency
5 Post Office Square
Suite 100 (OEP05–2)
Boston, MA 02109-3912
(617) 918-1589 (phone)

U.S. Fish and Wildlife Service
Maine Field Office
17 Godfrey Drive, Suite 2
Orono, ME 04473
(207) 866-3344 (phone); (207) 866-3351 (fax)
(Federal endangered species)

National Marine Fisheries Service
Maine Field Office
17 Godfrey Drive Suite 1
Orono, ME 04473
(207) 866-7379 (phone); (207) 866-7342 (fax)
(Federal endangered species)

Federal Emergency Management Agency
99 High St.
Boston, MA 02110
(877) 336-2734 (phone)
(Flood Plain Management)

National Marine Fisheries Service
55 Great Republic Drive
Gloucester, MA 01930
(978) 281-9102 (phone); (978) 281-9301 (fax)
(Federal endangered species & EFH)

National Park Service
North Atlantic Region
15 State Street
Boston, MA 02109
(617) 223-5203 (phone)
(Wild and Scenic Rivers)

Commander (dpb)
First Coast Guard District
One South Street - Battery Bldg
New York, NY 10004-1466
(212) 668-7021 (phone); (212) 668-7967 (fax)
(bridge permits)

2. State of Maine

a. Department of Environmental Protection (*State permits & Water Quality Certifications*)

Division of Land Resource Regulation
Bureau of Land and Water Quality
17 State House Station
Augusta, Maine 04333
(207) 287-7688 (phone)

Southern Maine Regional Office
312 Canco Road
Portland, Maine 04103
(201) 822-6300 (phone)

Eastern Maine Regional Office
106 Hogan Road
Bangor, Maine 04401
(207) 941-4570 (phone)

Northern Maine Regional Office
1235 Central Drive - Skyway Park
Presque Isle, Maine 04769
(207) 764-0477 (phone)

b. Department of Agriculture, Conservation and Forestry

i. Maine Land Use Planning Commission (LUPC) (*State permits & Water Quality Certifications in the unorganized areas of the State*)

Augusta Office
22 State House Station
Augusta, Maine 04333-0022
(207) 287-2631 (phone); (207) 287-7439 (fax)

Greenville Regional Office
43 Lakeview Drive
P.O. Box 1107
Greenville, Maine 04441
(207) 695-2466 (phone); (207) 695-2380 (fax)

Rangeley Regional Office
133 Fyfe Road
PO Box 307
West Farmington, ME 04992
(207) 670-7493 (phone); (207) 287-7439 (fax)

Downeast Regional Office
106 Hogan Rd, Suite 8
Dorothea Dix Complex
Bangor, Maine 04401
(207) 941-4052 (phone); (207) 941-4222 (fax)

Ashland Regional Office
45 Radar Road
Ashland, ME 04732-3600
(207) 435-7963 (phone); (207) 435-7184 (fax)

East Millinocket Regional Office
191 Main Street
East Millinocket, ME 04430
(207) 746-2244 (phone); (207) 746-2243 (fax)

ii. Maine Coastal Program

Department of Agriculture, Conservation and Forestry
Bureau of Resource Information and Land Use Planning
17 Elkins Lane {physical address}
State House Station 93
Augusta, Maine 04333-0038
(207) 287-2801 (phone); (207) 287-2353 (fax)
(CZM consistency determinations)

iii. Division of Parks and Public Lands

22 State House Station
Augusta, Maine 04333
(207) 287-3061 (phone); (207) 287-6170 (fax)
(submerged lands leases)

c. Department of Marine Resources

P.O. Box 8
West Boothbay Harbor, Maine 04575
(207) 633-9500 (phone); (207) 624-6024 (fax)
(aquaculture leases)

3. Historic Properties

a. State Historic Preservation Officer (SHPO)

Mr. Kirk F. Mohney, Director

Maine Historic Preservation Commission (MHPC)
65 State House Station
Augusta, Maine 04333-0065
(207) 287-2132 (phone); (207) 287-2335 (fax)
Area of concern: The entire State of Maine

b. Tribal Historic Preservation Officers (THPOs)

Note: The area of concern for each tribe is the entire State of Maine

THPO & Environmental Planner
Houlton Band of Maliseet Indians
88 Bell Road
Littleton, Maine 04730
(207) 532-4273, x215 (phone)
(207) 532-6883 (fax)
envplanner@maliseets.com
ogs1@maliseets.com

THPO
Aroostook Band of Micmacs
7 Northern Road
Presque Isle, Maine 04769
(207) 764-1972 (phone); (207) 764-7667 (fax)
jpictou@mimca-nsn.gov

THPO
Passamaquoddy Tribe of Indians
Pleasant Point Reservation
P.O. Box 343
Perry, Maine 04667
(207) 853-2600 (phone); (207) 853-6039 (fax)
soctomah@gmail.com

THPO
Penobscot Nation
Cultural and Historic Preservation Dept.
12 Wabanaki Way
Indian Island, Maine 04468
(207) 817-7471 (phone)
chris.sockalexis@penobscotnation.org

THPO
Passamaquoddy Tribe of Indians
Indian Township Reservation
P.O. Box 301
Princeton, Maine 04668
(207) 796-2301 (phone)
(207) 796-5256 (fax); soctomah@gmail.com

4. Organizational Websites (Note – Subject to Change):

U.S. Army Corps of Engineers, N.E. District	www.nae.usace.army.mil/missions/regulatory.aspx
U.S. Army Corps of Engineers, Headquarters	See above link>>Useful Links>>Federal Agency Links
U.S. Environmental Protection Agency	www.epa.gov/owow/wetlands
National Marine Fisheries Service	www.nmfs.noaa.gov
U.S. Fish and Wildlife Service	www.fws.gov/mainefieldoffice
National Park Service	www.nps.gov/rivers/index.html
Maine Department of Environmental Protection	www.maine.gov/dep
Maine Department of Agriculture, Conservation and Forestry	www.maine.gov/acf/index.shtml
Maine Land Use Planning Commission	www.maine.gov/doc/lupc/commission/offices.shtml
Maine Department of Marine Resources	www.maine.gov/dmr/index.htm
State of Maine - Aquaculture Guidelines	www.maine.gov/dmr/aquaculture/index.htm

Appendix F: Definitions

Definitions

Attendant Features: Occurring with or as a result of; accompanying.

Biodegradable: A material that decomposes into elements found in nature within a reasonably short period of time and will not leave a residue of plastic or a petroleum derivative in the environment after degradation. Examples of biodegradable materials include jute, sisal, cotton, straw, burlap, coconut husk fiber (coir) or excelsior. In contrast, degradable plastics break down into plastic fragments that remain in the environment after degradation.

Boating facilities: These provide, rent or sell mooring space, such as marinas, yacht clubs, boat yards, dockominiums, town facilities, land/home owners, etc. Not classified as boating facilities are piers shared between two abutting properties or town mooring fields that charge an equitable user fee based on the actual costs incurred.

Brushing the Flats: The placement of tree boughs, wooden lath structure, or small-mesh fencing on mudflats, or any bottom disturbance (e.g., discing, plowing, raking, etc.), to enhance recruitment of shellfish.

Buffer Zone: The buffer zone of an FNP is equal to three times the authorized depth of the FNP.

Construction mats: Constructions, swamp and timber mats (herein referred to as "construction mats") are generic terms used to describe structures that distribute equipment weight to prevent wetland damage while facilitating passage and providing work platforms for workers and equipment. They are comprised of sheets or mats made from a variety of materials in various sizes. A timber mat consists of large timbers bolted or cabled together. Corduroy roads, which are not considered to be construction mats, are cut trees and/or saplings with the crowns and branches removed, and the trunks lined up next to one another. Corduroy roads are typically installed as permanent structures. Like construction mats, they are considered as fill whether they are installed temporarily or permanently

Cumulative effects: See "Direct, secondary, and cumulative effects."

Direct, secondary, and cumulative effects:

Direct Effects: The loss of aquatic ecosystem within the footprint of the discharge of dredged or fill material. Direct effects are caused by the action and occur at the same time and place.

Secondary Effects: These are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. Information about secondary effects on aquatic ecosystems shall be considered prior to the time final Section 404 action is taken by permitting authorities. Some examples of secondary effects on an aquatic ecosystem are a) aquatic areas drained, flooded, fragmented, or mechanically cleared, b) fluctuating water levels in all impoundment and downstream associated with the operation of a dam, c) septic tank leaching and surface runoff from residential or commercial developments on fill, and d) leachate and runoff from a sanitary landfill located in waters of the U.S. See 40 CFR 230.11(h).

Cumulative Effects: The changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual 1) discharges of dredged or fill material, or 2) structures. Although the impact of a particular discharge may constitute a minor change in itself, the cumulative effect of numerous such piecemeal changes can result in a major impairment of the water resources and interfere with the productivity and water quality of existing aquatic ecosystems. See 40 CFR 230(g).

Dredging:

Maintenance Dredging: Includes areas and depths previously authorized by the Corps and dredged. The Corps may require proof of authorization. Maintenance dredging typically refers to the routine removal of accumulated sediment from channel beds to maintain the design depths of navigation channels, harbors, marinas, boat launches and port facilities. Routine maintenance dredging is conducted regularly for navigational purposes (typically at least once every ten years) and does not include any expansion of the previously dredged area or depth. The Corps may review a maintenance dredging activity as new dredging if sufficient time has elapsed to allow for the colonization of SAS,

shellfish, etc. The main characteristics of maintenance dredging projects are variable quantities of material; soft, uncompacted soil; contaminant content possible; thin layers of material;occurring in navigation channels and harbors; repetitive activity

New Dredging: Dredging of an area or to a depth that has never been authorized by the Corps or dredged.

Dredged material & discharge of dredged material: These are defined at 323.2(c) and (d). The term dredged material means material that is excavated or dredged from waters of the U.S.

Essential Fish Habitat (EFH): This is broadly defined to include those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.

Fill material & discharge of fill material: These are defined at 323.2(e) and (f). The term fill material is defined as material placed in waters of the U.S. where the material has the effect of either replacing any portion of a water of the U.S. with dry land or changing the bottom elevation of any portion of a water of the U.S.

Federal anchorages, Federal channels and Federal turning basin: Refer to Appendix H for those in Maine

Federal navigation projects (FNPs): These areas are maintained by the Corps; authorized, constructed and maintained on the premise that they will be accessible and available to all on equal terms; and are comprised of Federal Anchorages, Federal Channels and Federal Turning Basins. The buffer zone is equal to three times the authorized depth of a FNP. More information on the following FNPs is provided at www.nae.usace.army.mil/missions/navigation.aspx >> Navigation Projects.

Flume: An open artificial water channel, in the form of a gravity chute, that leads water from a diversion dam or weir completely aside a natural flow. A flume can be used to measure the rate of flow.

Frac out: During normal drilling operations, drilling fluid travels up the borehole into a pit. When the borehole becomes obstructed or the pressure becomes too great inside the borehole, the ground fractures and fluid escapes to the surface.

Independent utility: A test to determine what constitutes a single and complete non-linear 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.

Individual Permit: A Department of the Army authorization that is issued following a case-by-case evaluation of a specific structure or work in accordance with the procedures of 33 CFR 322, or a specific project involving the proposed discharge(s) in accordance with the procedures of 33 CFR 323, and in accordance with the procedures of 33 CFR 325 and a determination that the proposed discharge is in the public interest pursuant to 33 CFR 320.

Maintenance: Regulations on maintenance are provided at 33 CFR 323.4. The following definitions are applicable:

Minor deviations: Deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards, which are necessary to make repair, rehabilitation, or replacement are permitted, provided the adverse environ-mental effects resulting from such repair, rehabilitation, or replacement are minimal.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Marina reconfiguration zone: A Corps-authorized area in which permittees may rearrange pile-supported structures and floats without additional authorizations. A reconfiguration zone does not grant exclusive privileges to an area or an increase in structure or float area.

Navigable waters of the U.S.: See Waters of the U.S. below.

Overall project: See "single and complete linear project" below.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.
Permanent impacts: Permanent impacts means waters of the U.S. that are permanently affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent impacts 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. Temporary impacts include waters of the U.S. that are temporarily filled, flooded, excavated, drained or mechanically cleared because of the regulated activity.
Pre-construction notification (PCN): A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by this GP. 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 these GPs. A PCN may be voluntarily submitted in cases where PCN is not required and the project proponent wants confirmation that the activity is authorized under this GP.
Secondary effects: See "Direct, secondary, and cumulative effects."
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 U.S. (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 the purposes of this GP. 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.
The overall project, for purposes of this GP, includes all regulated activities that are reasonably related and necessary to accomplish the project purpose.
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. For non-linear projects, the single and complete project must have independent utility (see definition).
Special aquatic sites: These include inland and saltmarsh wetlands, mud flats, vegetated shallows, sanctuaries and refuges, coral reefs, and riffle and pool complexes. These are defined at 40 CFR 230 Subpart E.
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 stream remains a water of the United States.
Temporary impacts: See permanent impacts above.
Utility line: Any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and radio and television communication. The term 'utility line' does not include activities that drain a water of the U.S., such as drainage tile or French drains, but it does apply to pipes conveying drainage from another area.
Vegetated shallows: Permanently inundated areas that under normal circumstances support communities of rooted aquatic vegetation, such as eelgrass and widgeon grass (*Rupiamaritima*) in marine systems (doesn't include salt marsh) as well as a number of freshwater species in rivers and lakes. Note: These areas are also commonly referred to as submerged aquatic vegetation (SAV).
Vernal pools (VPs): For the purposes of this GP, VPs are depressional wetland basins that typically go dry in most years and may contain inlets or outlets, typically of intermittent flow. Vernal pools range in both size and depth depending upon landscape position and parent material(s). Pools usually

support one or more of the following obligate indicator species: wood frog, spotted salamander, blue-spotted salamander, marbled salamander, Jefferson's salamander and fairy shrimp. However, they should preclude sustainable populations of predatory fish.
VP areas are:

- Depression (includes the VP depression up to the spring or fall high water mark, and includes any vegetation growing within the depression),
- Envelope (area within 100 feet of the VP depression's edge), and
- Critical terrestrial habitat (area within 100-750 feet of the VP depression's edge).

Note: See footnote to GC 23. The Corps may determine during the PCN review that a waterbody should not be designated as a VP based on available evidence.
Water diversions: Water diversions are activities such as bypass pumping (e.g., "dam and pump") or water withdrawals. Temporary flume pipes, culverts or cofferdams where normal flows are maintained within the stream boundary's confines aren't water diversions. "Normal flows" are defined as no change in flow from pre-project conditions.
Weir: A barrier across a river designed to alter the flow characteristics. In most cases, weirs take the form of a barrier, smaller than most conventional dams, across a river that causes water to pool behind the structure (not unlike a dam) and allows water to flow over the top. Weirs are commonly used to alter the flow regime of the river, prevent flooding, measure discharge and help render a river navigable.
Waters of the U.S. & Waters of the United States (U.S.): The term waters of the U.S. and all other terms relating to the geographic scope of jurisdiction are defined at 33 CFR 328. Also see Section 502(7) of the Federal CWA [33 USC 1352(7)]. Waters of the U.S. include jurisdictional wetlands. Not all waters and wetlands are jurisdictional. Contact the Corps with any questions regarding jurisdiction.
Navigable waters: Refer to 33 CFR 329. These waters include the following federally designated navigable waters in New England. This list represents only those waterbodies for which affirmative determinations have been made; absence from this list should not be taken as an indication that the waterbody is not navigable:

ME: All tidal waters; Kennebec River to Moosehead Lake; Penobscot River to the confluence of the East and West Branch at Medway, Maine; Lake Umbagog within the State of Maine.

Appendix G: Additional References

1. GC 2: Federal Jurisdictional Boundaries.
(a) Corps Wetlands Delineation Manual, regional supplements, and Corps Wetland Delineation Data Sheets: www.nae.usace.army.mil/missions/regulatory and then "Wetlands and Jurisdictional Limits."
(b) The USFWS publishes the 1988 National List of Plant Species that Occur in Wetlands (www.nwi.fws.gov).
The Natural Resources Conservation Service (NRCS) publishes the current hydric soil definition, criteria and lists: http://soils.usda.gov/use/hydric. For the Field Indicators for Identifying Hydric Soils in N.E., see www.neiwpcc.org/hydricsoils.asp.

2. GC 5: Single and Complete Project.
Single and complete project means the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. For example, if construction of a residential development affects several different areas of a headwater or isolated water, or several different headwaters or isolated waters, the cumulative total of all filled areas should be the basis for deciding whether or not the project will be covered by Category 1 or 2.
The ***Independent utility*** test is used to determine what constitutes a single and complete 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.

3. GC 8: Threatened and Endangered Species.
(a) The following NMFS site must be referenced to ensure that listed species or critical habitat are not present in the action area [GC 8(b)] or to provide information on federally-listed species or habitat [GC 8(e)]: www.nero.noaa.gov/prot_res/esp/ListE&Tspec.pdf. Contact the USFWS for information to check for the presence of listed species (see Appendix D for contact information & procedures).
(b) The Endangered Species Act Consultation Handbook – Procedures for Conducting Section 7 Consultations and Conferences, defines action area as "all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action. [50 CFR 402.02]."

4. GC 42: Essential Fish Habitat.
As part of the GP screening process, the Corps may coordinate with NMFS in accordance with the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act to protect and conserve the habitat of marine, estuarine and anadromous finfish, mollusks, and crustaceans. This habitat is termed "Essential Fish Habitat (EFH)", and is broadly defined to include "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." There are EFH waters throughout inland and coastal waters in Maine. For additional information, see the EFH regulations 50 CFR 600 at www.nero.noaa.gov/hcd including the "Guide for EFH Descriptions" at www.nero.noaa.gov/hcd/list.htm. Additional information on the location of EFH can be obtained from NMFS (see Appendix D for contact information).

5. GC 4: Avoidance, Minimization and Compensatory Mitigation.
(a) See www.nae.usace.army.mil/missions/regulatory and then "Mitigation" to view the April 10, 2008 "Final Compensatory Mitigation Rule" (33 CFR 332) and related documents. The Q&A document states: "In order to reduce risk and uncertainty and help ensure that the required compensation is provided, the rule establishes a preference hierarchy for mitigation options. The most preferred option

is mitigation bank credits, which are usually in place before the activity is permitted. In-lieu fee program credits are second in the preference hierarchy, because they may involve larger, more ecologically valuable compensatory mitigation projects as compared to permittee-responsible mitigation. Permittee-responsible mitigation is the third option, with three possible circumstances: (1) conducted under a watershed approach, (2) on-site and in kind, and (3) off-site/out-of-kind.
(b) Compensatory mitigation may take the form of wetland preservation, restoration, enhancement, creation, and/or in lieu fee (ILF) for inclusion into the Natural Resources Mitigation Fund for projects in DEP and LURC territories. Avoidance of wetland impacts will reduce the ILF dollar total for applicants. The ILF compensation program was established to provide applicants with a flexible compensation option over and above traditional permittee responsible compensation projects. See the Maine ILF Agreement at www.nae.usace.army.mil/missions/regulatory, "Mitigation" and then "Maine," or www.maine.gov/dep/blwq/docstand/nrpa/ILF_and_NRCP/index.htm.

6. GCs 24, 15, and 43: Invasive Species.
(a) Information on what are considered "invasive species" is provided in our "Compensatory Mitigation Guidance" document at www.nae.usace.army.mil/missions/regulatory under "Mitigation." The "Invasive Species" section has a reference to our "Invasive Species Control Plan (ISCP) Guidance" document, located at www.nae.usace.army.mil/missions/regulatory under "Invasive Species," which provides information on preparing an ISCP.
(b) The June 2009 "Corps of Engineers Invasive Species Policy" is at www.nae.usace.army.mil/missions/regulatory under "Invasive Species" and provides policy, goals and objectives.

7. GC 44: Bank Stabilization.
This generally eliminates bodies of water where the reflected wave energy may interfere with or impact on harbors, marinas, or other developed shore areas. A revetment is sloped and is typically employed to absorb the direct impact of waves more effectively than a vertical seawall. It typically has a less adverse effect on the beach in front of it, abutting properties and wildlife. See the Corps Coastal Engineering Manual EM 1110-2-1100 at www.nae.usace.army.mil/missions/regulatory under "Useful Links and Documents" for design and construction guidance.

8. GC 45: Stream and Wetland Crossings.
(a) Projects should be designed and constructed to ensure long-term success using the most recent manual located at www.nae.usace.army.mil/missions/regulatory under "Stream and River Continuity," currently "Stream Simulation: An Ecological Approach to Providing Passage for Aquatic Organisms at Road-Stream Crossings, by the U.S. Forest Service." Section 5.3.3 is of particular importance. Sections 7.5.2.3 Construction Methods and 8.2.11 Stream-Simulation Bed Material Placement both show important steps in the project construction.
(b) For more information on High-Quality Stream Segments and their components see:
i. High-Quality Stream Segments are shown at www.maine.gov/dep/gis/datamaps.
ii. Class A Waters or Class AA Waters:
www.mainelegislature.org/legis/statutes/38/title38sec465.html, and
www.mainelegislature.org/legis/statutes/38/title38sec467.html.
iii. Outstanding river segments www.mainelegislature.org/legis/statutes/38/title38sec480-P.html.
(c) The Massachusetts Dam Removal and the Wetland Regulations offer guidance to evaluate the positive and negative impacts of culvert replacement, including the loss of upstream wetlands, which may be offset by the overall benefits of the river restoration. See www.nae.usace.army.mil/missions/regulatory and then "Stream and River Continuity."

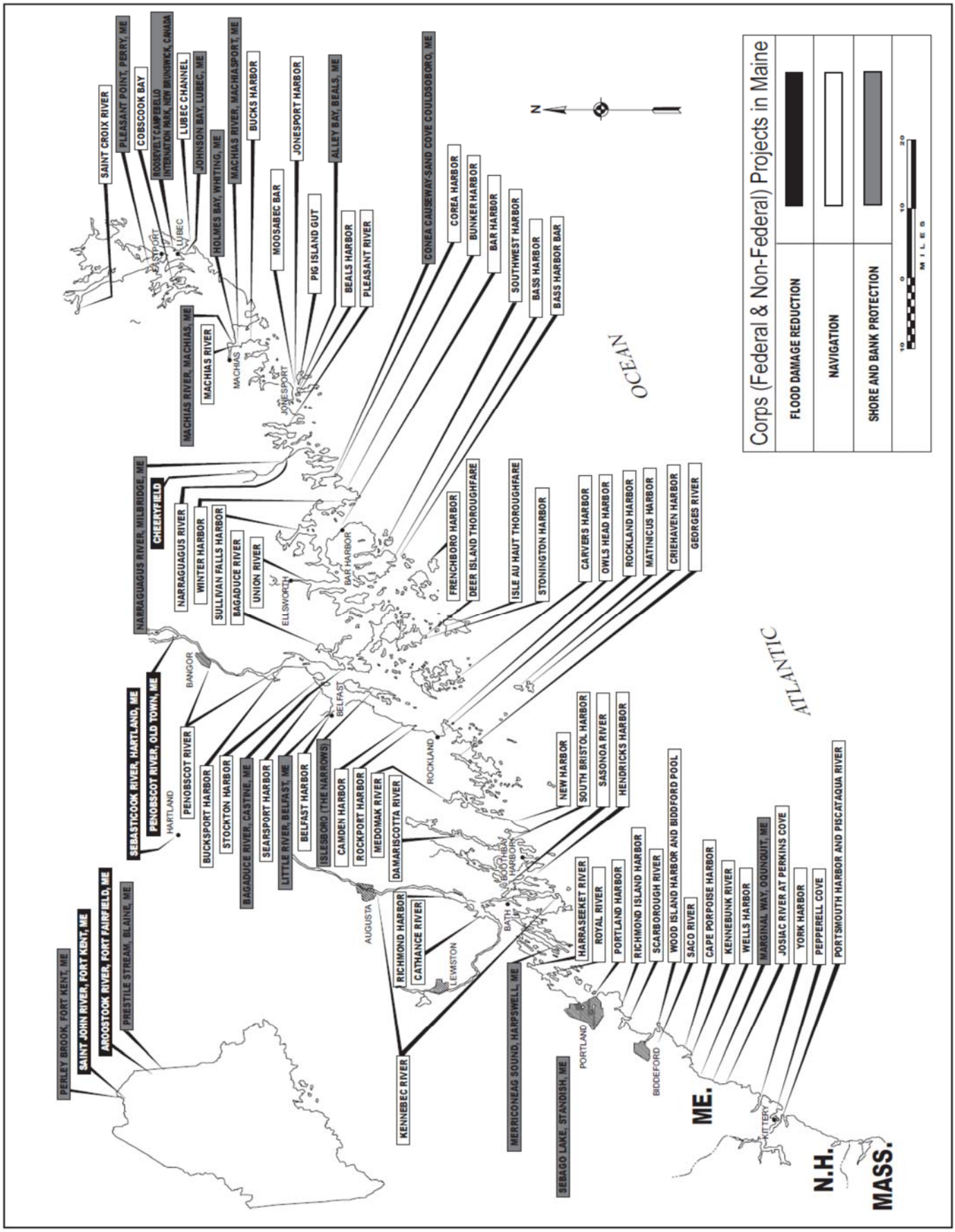
(d) The ME DOT's document "Waterway and Wildlife Crossing Policy and Design Guide for Aquatic Organism, Wildlife Habitat, and Hydrologic Connectivity," 3rd Edition, July 2008, may be used as guidance to evaluate impacts to aquatic, wildlife and surface water resources when designing, constructing, repairing and maintaining stream crossings. Note: Adherence to this DOT document does not ensure compliance with this GP. Projects must comply with the requirements of this GP including GC 45 and the Corps General Stream Crossing Standards contained therein. www.maine.gov/mdot/environmental-office-homepage/fishpassage/3rd%20edition%20-%20merged%20final%20version%207-01-08a1.pdf.
(e) GC 45(f): The Skidder Bridge Fact Sheet at www.nae.usace.army.mil/missions/regulatory under "Stream and River Continuity" may be a useful temporary span construction method.

9. GC 45: Wetland Crossings. The Maine DEP's crossing standards are at 06-096 DEP, Chapter 305: Permits by Rule, 9 & 10) Crossings (utility lines, pipes and cables). www.maine.gov/dep/blwq/rules/NRPA/2009/305/305_effective_2009.pdf

10. GC 23: Protection of Vernal Pools.
(a) The state's Significant Wildlife Habitat rules (Chapter 335, Section 9(C) "Habitat management standards for significant vernal pool habitat") are located at www.maine.gov/dep/blwq/docstand/nrpapage.htm#rule under "Rules."
(b) The following documents provide conservation recommendations:
i. Best Development Practices: Conserving pool-breeding amphibians in residential and commercial development in the northeastern U.S., Calhoun and Klemens, 2002. Chapter III, Management Goals and Recommendations, Pages 15 – 26, is particularly relevant. (Available for purchase at www.maineaudubon.org/resource/index.shtml and on Corps website*.)
ii. Science and Conservation of Vernal Pools in Northeastern North America, Calhoun and deMaynadier, 2008. Chapter 12, Conservation Recommendations section, Page 241, is particularly relevant. (Available for purchase via the internet. Chapter 12 is available on Corps website*.)
* www.nae.usace.army.mil/reg under "Vernal Pools."
(c) Cape Cod Curbing: For smaller roads and driveways, the most important design feature to consider is curbing. Granite curbs and some traditional curbing can act as a barrier to amphibian and hatchling turtle movements. Large numbers of salamanders have been intercepted in their migrations by curbs and catch basins. Use of Cape Cod curbs rather than traditional curbing may be one solution. Alternatively, where storm water management systems require more traditional curbing, it may be possible to design in escape ramps on either side of each catch basin. Cape Cod curbing is shown on Page 35 of the document cited in 10.b.i above. Bituminous material is not required; other materials such as granite are acceptable.
(d) The VP Directional Buffer Guidance document is located at www.nae.usace.army.mil/missions/regulatory under: 1) "State General Permits" and then "Maine," and 2) "Vernal Pools."

11. GC 29: Maintenance. River restoration projects that are designed to accommodate the natural dynamic tendencies of the fluvial system are maintained in accordance with the project's design objectives (Category 1) or the Corps authorization letter (Category 2). These projects are generally designed to support and implement channel assessment and management practices that recognize a stream's natural dynamic tendencies.

Appendix H: Federal Navigation Projects in Maine



11. State transportation facilities

A. Applicability

(1) This section applies to the maintenance, repair, reconstruction, rehabilitation, replacement or minor construction of a State Transportation Facility carried out by, or under the authority of, the Maine Department of Transportation (MaineDOT) or the Maine Turnpike Authority, including any testing or preconstruction engineering, and associated technical support services.

(2) This section does not apply to an activity within a coastal sand dune system.

NOTE: The construction of a transportation facility other than roads and associated facilities may be subject to the Storm Water Management Law, 38 M.R.S.A. Section 420-D.

B. Standards

(1) Photographs of the area to be altered by the activity must be taken before work on the site begins. The photographs must be kept on file and be made available at the request of the DEP.

(2) The activity must be reviewed by the Department of Inland Fisheries and Wildlife and the Department of Marine Resources, as applicable. The applicant must coordinate with the reviewing agencies and incorporate any recommendations from those agencies into the performance of the activity.

(3) All construction activities undertaken must be detailed in a site-specific Soil Erosion and Water Pollution Control Plan and conducted in accordance with MaineDOT's Best Management Practices for Erosion and Sediment Control, dated January 2000, and Standard Specifications, dated December 2002.

(4) Alignment changes may not exceed a distance of 200 feet between the old and new center lines in any natural resource.

(5) The activity may not alter more than 300 feet of shoreline (both shores added together) within a mile stretch of any river, stream or brook, including any bridge width or length of culvert.

(6) The activity may not alter more than 150 feet of shoreline (both shores added together) within a mile stretch of any outstanding river segment identified in 38 M.R.S.A. 480-P, including any bridge width or length of culvert.

(7) The activity must minimize wetland intrusion. The activity is exempt from the provisions of Chapter 310, the Wetland and Waterbodies Protection Rules, if the activity alters less than 15,000 square feet of natural resources per mile of roadway (centerline measurement) provided that the following impacts are not exceeded within the 15,000 square foot area:

(a) 1,000 square feet of coastal wetland consisting of salt tolerant vegetation or shellfish habitat; or

(b) 5,000 square feet of coastal wetland not containing salt tolerant vegetation or shellfish habitat; or

(c) 1,000 square feet of a great pond.

All other activities must be performed in compliance with all sections of Chapter 310, the Wetland Protection Rules, except 310.2(C), 5(A), 9(A), 9(B) and 9(C).

(8) The activity may not permanently block any fish passage in any watercourse containing fish. The applicant must coordinate with the reviewing agencies listed in paragraph 2 above to improve fish passage and incorporate any recommendations from those agencies into the performance of the activity.

NOTE: For guidance on meeting the design objectives for fish passage, including peak flow, maximum velocity, mining depth and gradient, see the MaineDOT Waterbody and Wildlife Crossing Policy and Design Guide (July 2008), developed in conjunction with state and federal resource and regulatory agencies.

(9) Rocks may not be removed from below the normal high water line of any coastal wetland, freshwater wetland, great pond, river, stream or brook except to the minimum extent necessary for completion of work within the limits of construction.

(10) If work is performed in a river, stream or brook that is less than three feet deep at the time and location of the activity, the applicant must isolate the work area from the resource and divert stream flows around the work area, maintaining downstream flows while work is in progress.

(11) Wheeled or tracked equipment may not operate in the water. Equipment operating on the shore may reach into the water with a bucket or similar extension. Equipment may cross streams on rock, gravel or ledge bottom. If avoiding the operation of wheeled or tracked equipment in the water is not possible, the applicant must explain the need to operate in the water. Approval from the DEP to operate in the water must be in writing, and any recommendations from the DEP must be incorporated into the performance of the activity.

(12) All wheeled or tracked equipment that must travel or work in a vegetated wetland area must travel and work on mats or platforms.

(13) Any debris or excavated material must be stockpiled either outside the wetland or on mats or platforms. Erosion and sediment control best management practices must be used, where necessary, to prevent sedimentation. Any debris generated during the activity must be prevented from washing downstream and must be removed from the wetland or water body. Disposal of debris must be in conformance with the Maine Hazardous Waste, Septage and Solid Waste Management Act, 38 M.R.S.A. Section 1301 *et seq.*

(14) Work below the normal high water line of a great pond, river, stream or brook must be done at low water except for emergency work or work agreed to by the resource agencies listed in paragraph 2 above.

(15) Perimeter controls must be installed before the work starts. Disturbance of natural resources beyond the construction limits shown on the plans is not allowed under this rule.

NOTE: Guidance on the location of construction limits can be obtained from the on site Construction Manager.

(16) The use of untreated lumber is preferred. Lumber pressure treated with chromated copper arsenate (CCA) may be used only if necessary and only if use is allowed under federal law and not prohibited from sale under 38 M.R.S.A. 1682, and provided it is cured on dry land in a manner that exposes all surfaces to the air for a period of at least 21 days prior to construction. Wood treated with creosote or pentachlorophenol may not be used where it will contact water.

(17) A temporary road for equipment access must be constructed of crushed stone, blasted ledge, or similar materials that will not cause sedimentation or restrict fish passage. Such roads must be completely removed at the completion of the activity. In addition, any such temporary roads which are in rivers, streams or brooks, must allow for a passage of stormwater flows associated with a 10-year storm.

(18) Non-native species may not be planted in restored areas.

(19) Disposal of debris must be in conformance with Maine Hazardous Waste, Septage and Solid Waste Management Act, 38 M.R.S.A. Sections 1301 *et seq.*

(20) Disturbance of vegetation must be avoided, if possible. Where vegetation is disturbed outside of the area covered by any road or structure construction, it must be reestablished immediately upon completion of the activity and must be maintained.

(21) A vegetated area at least 25 feet wide must be established and maintained between any new stormwater outfall structure and the high water line of any open water body. A velocity reducing structure must be constructed at the outlet of the stormwater outfall that will create sheet flow of stormwater, and prevent erosion of soil within the vegetated buffer. If the 25 foot vegetated buffer is not practicable, the applicant must explain the reason for a lesser setback in writing. Approval from the DEP must be in writing and any recommendations must be incorporated into the activity.

C. Definitions. The following terms, as used in this chapter, have the following meanings, unless the context indicates otherwise:

(1) Diversion. The rerouting of a river, stream or brook around a construction site and then back to the downstream channel.

(2) Fill. a. (verb) To put into or upon, supply to, or allow to enter a water body or wetland any earth, rock, gravel, sand, silt, clay, peat, or debris; b. (noun) Material, other than structures, placed in or immediately adjacent to a wetland or water body.

(3) Floodplain wetlands. Freshwater wetlands that are inundated with flood water during a 100-year flood event based on flood insurance maps produced by the Federal Emergency Agency or other site specific information.

(4) Riprap. Heavy, irregularly shaped rocks that are fit into place, without mortar, on a slope as defined in the MaineDOT Standard Specifications, dated **November 2014**.

Environmental Summary Sheet

WIN: 23823.00 **Date Submitted: 6/5/2019**
Town: Vinalhaven
CPD Team Leader: Danielle Tetreau
ENV Field Contact: Valerie Derosier

NEPA Complete: Programmatic Categorical Exclusion (CE) 23 CFR 771.117.c.23 issued on 4/4/2019

☒ **Section 106**
No effect: SHPO Concurrence 10/4/2018
Section 106 Resources: none

☒ **Section 4(f) and 6(f)**
Section 4(f)
Review Complete - No use
Section 6(f)
Not Applicable - No takes

☐ **Maine Department of Inland Fisheries and Wildlife Essential Habitat**
Not Applicable **Timing Window:** Not Applicable

☒ **Section 7**
Informal Consultation - May affect, not likely to adversely affect
Species of Concern: Atlantic salmon DPS
Atlantic sturgeon GOM DPS
shortnose sturgeon
northern long-eared bat: no effect, no tree clearing.

☒ **Essential Fish Habitat**
Adverse Effect, not substantial: abbreviated consultation complete 4/4/2019.
Species of Concern: Multi-species, coastal EFH.

☒ **Maine Department of Conservation/Public Lands, Submerged Land Lease**
Applicable - MaineDOT Legal Office managing the Submerged Land Lease Modification.

☐ **Maine Land Use Regulation Commission**
Not Applicable

☒ **Maine Department of Environmental Protection**
Permit By Rule (PBR) – Section 11
**Applicable Standards and Permits are included with the contract*

☒ **Army Corps of Engineers: Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act.**
Category 2 Corps Permit #NAE-2019-00568
Section 408 Authorization - Approved
-Work Start Notification Form to be completed by ENV Field Contact and submitted to ACOE with copy to Danielle Tetreau
-Compliance Certification Form to be completed by ENV Field Contact and submitted to ACOE w/ copy to Danielle Tetreau

☐ **Stormwater Review**
Not Applicable

☒ **Special Provisions Required**

Special Provision 105-Timing of Work Restriction	N/A☐	Applicable☒
Standard Specification 656-Erosion Control Plan	N/A☐	Applicable☒
General Note for Hazardous Waste	N/A☐	Applicable☒
Special Provision 203-Dredge Spec	N/A☒	Applicable☐
Special Provision 203-Hazardous Waste	N/A☒	Applicable☐

**All permits and approvals based on plans/scope as of: 4/2/2019*

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

REPLY TO ATTENTION OF

MAINE GENERAL PERMIT (GP)
AUTHORIZATION LETTER AND SCREENING SUMMARY

ENVIRONMENTAL OFFICE
MAINE DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION
AUGUSTA, MAINE 04333

CORPS PERMIT # NAE-2019-00568
CORPS GP ID# 19-139
STATE ID# PBR

DESCRIPTION OF WORK:
Upgrade the existing state ferry terminal facility in Carvers Harbor at Vinalhaven, Maine. Regulated work includes the addition of two turning dolphins, a wave screen, elevated walkways to the new turning dolphins, and modifications to the existing lighting system, and fender panels. New piling installations will result in a cumulative total of 60 s.f. of permanent tidal bottom impact. This work is shown on the attached plans entitled "PROPOSED FERRY TERMINAL IMPROVEMENTS/MODIFICATIONS, VINALHAVEN FERRY TERMINAL"
Project Description Continued on Page 2

LAT/LONG COORDINATES : 44.042904° N -68.839326 ° W USGS QUAD: VINALHAVEN, ME

I. CORPS DETERMINATION:
Based on our review of the information you provided, we have determined that your project will have only minimal individual and cumulative impacts on waters and wetlands of the United States. **Your work is therefore authorized by the U.S. Army Corps of Engineers under the Federal Permit, the Maine General Permit (GP).** http://www.nae.usace.army.mil/Portals/74/docs/regulatory/StateGeneralPermits/ME/Maine_General_Permit_2015.pdf

You must perform the activity authorized herein in compliance with all the terms and conditions of the GP [including any attached Additional Conditions and any conditions placed on the State 401 Water Quality Certification including any required mitigation]. Please review the enclosed GP carefully, including the GP conditions beginning on page 5, to familiarize yourself with its contents. You are responsible for complying with all of the GP requirements; therefore you should be certain that whoever does the work fully understands all of the conditions. You may wish to discuss the conditions of this authorization with your contractor to ensure the contractor can accomplish the work in a manner that conforms to all requirements.

If you change the plans or construction methods for work within our jurisdiction, please contact us immediately to discuss modification of this authorization. This office must approve any changes before you undertake them.

Condition 38 of the GP (page 16) provides one year for completion of work that has commenced or is under contract to commence prior to the expiration of the GP on October 13, 2020. You will need to apply for reauthorization for any work within Corps jurisdiction that is not completed by October 13, 2021.

This authorization presumes the work shown on your plans noted above is in waters of the U.S. Should you desire to appeal our jurisdiction, please submit a request for an approved jurisdictional determination in writing to the undersigned.

No work may be started unless and until all other required local, State and Federal licenses and permits have been obtained. **This includes but is not limited to a Flood Hazard Development Permit issued by the town if necessary.**

II. STATE ACTIONS: PENDING [X], ISSUED [ ], DENIED [ ] DATE_____

APPLICATION TYPE: PBR: X , TIER 1: , TIER 2 : , TIER 3: , LURC: DMR LEASE: NA:

III. FEDERAL ACTIONS:

JOINT PROCESSING MEETING: 3/15/19 LEVEL OF REVIEW: CATEGORY 1: CATEGORY 2: X

AUTHORITY (Based on a review of plans and/or State/Federal applications): SEC 10 X , 404 10/404 , 103

EXCLUSIONS: The exclusionary criteria identified in the general permit do not apply to this project.

FEDERAL RESOURCE AGENCY OBJECTIONS: EPA NO , USF&WS NO , NMFS NO

If you have any questions on this matter, please contact my staff at 207-623-8367 at our Augusta, Maine Project Office. In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0

Jay L. Clement
JAY L. CLEMENT
SENIOR PROJECT MANAGER
MAINE PROJECT OFFICE

LINDSEY E. LEFEBVRE DATE 6/4/19
CHIEF, PERMITS & ENFORCEMENT BRANCH
REGULATORY DIVISION

Project Description Continued from Page 1

in two sheets dated "October 9, 2018", "VINALHAVEN FERRY TERMINAL, FENDER SYSTEM MODIFICATIONS, VINALHAVEN, KNOX COUNTY" in one sheet undated, and "VINALHAVEN FERRY TERMINAL" in 17 sheets dated "04/19".

PLEASE NOTE THE FOLLOWING CONDITIONS FOR DEPARTMENT OF THE ARMY GENERAL PERMIT NO. NAE-2019-00568

1. This authorization requires you to 1) notify us before beginning work so we may inspect the project, and 2) submit a Compliance Certification Form. You must complete and return the enclosed Work Start Notification Form(s) to this office at least two weeks before the anticipated starting date. You must complete and return the enclosed Compliance Certification Form within one month following the completion of the authorized work and any required mitigation (but not mitigation monitoring, which requires separate submittals).

2. The permittee shall assure that a copy of this permit is at the work site whenever work is being performed and that all personnel performing work at the site of the work authorized by this permit are fully aware of the terms and conditions of the permit. This permit, including its drawings and any appendices and other attachments, shall be made a part of any and all contracts and sub-contracts for work which affects areas of Corps of Engineers' jurisdiction at the site of the work authorized by this permit. This shall be done by including the entire permit in the specifications for the work. If the permit is issued after construction specifications but before receipt of bids or quotes, the entire permit shall be included as an addendum to the specifications. The term "entire permit" includes permit amendments. Although the permittee may assign various aspects of the work to different contractors or sub-contractors, all contractors and sub-contractors shall be obligated by contract to comply with all environmental protection provisions of the entire permit, and no contract or sub-contract shall require or allow unauthorized work in areas of Corps of Engineers jurisdiction.

3. 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 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.

4. In water work shall be conducted between August 1 and April 9 of any year in order to minimize potential impacts to fisheries and local water quality.

5. In accordance with the Project Verification Form supporting the work described in this permit (countersigned by National Marine Fisheries Service on February 20, 2019), the permittee shall comply with all designated Project Design Criteria (PDCs).

6. The permittee is required to mark the ferry terminal facility in accordance with appropriate US Coast Guard Regulations and to contact 1st Coast Guard District, Aids to Navigation Office at (617) 223-8347.

7. In order to minimize potential impacts to Essential Fish Habitat (EFH), the permittee shall perform ocular monitoring of any turbidity releases associated with rock crib removal. Estimated high extent of turbidity plumes during crib removal will be recorded. Maine DOT will provide National Marine Fisheries Service (NMFS) staff with representative video footage of typical project conditions, including plume extent, during crib removal to aid in future EFH consultations. Point of contact at NMFS is Mike Johnson at mike.r.johnson@noaa.gov; 978-281-9130.

8. In order to comply with the permission to alter the Carvers Harbor (Vinalhaven) Federal Navigation project under 33 USC § 408, the permittee shall comply with all the terms and conditions and special conditions outlined in the attached document entitled "Appendix K".

APPENDIX K

The following Statement, General Conditions and Special Conditions to be included in the DOA Permit

Statement

"...It has been determined that the activities authorized do not impair the usefulness of the USACE Navigation project and is not injurious to the Public Interest..."

SPECIAL CONDITIONS

Navigation – Structures near FNPs

1. The permittee shall submit the as-built drawings upon completion of the proposed work. The as-built drawing(s) shall include:

   a. The structure's horizontal location relative to the closest FNP and the waterway, horizontal coordinates, the FNP limits, bar (graphic) scale, north arrow, and the dates of the survey and drawings.

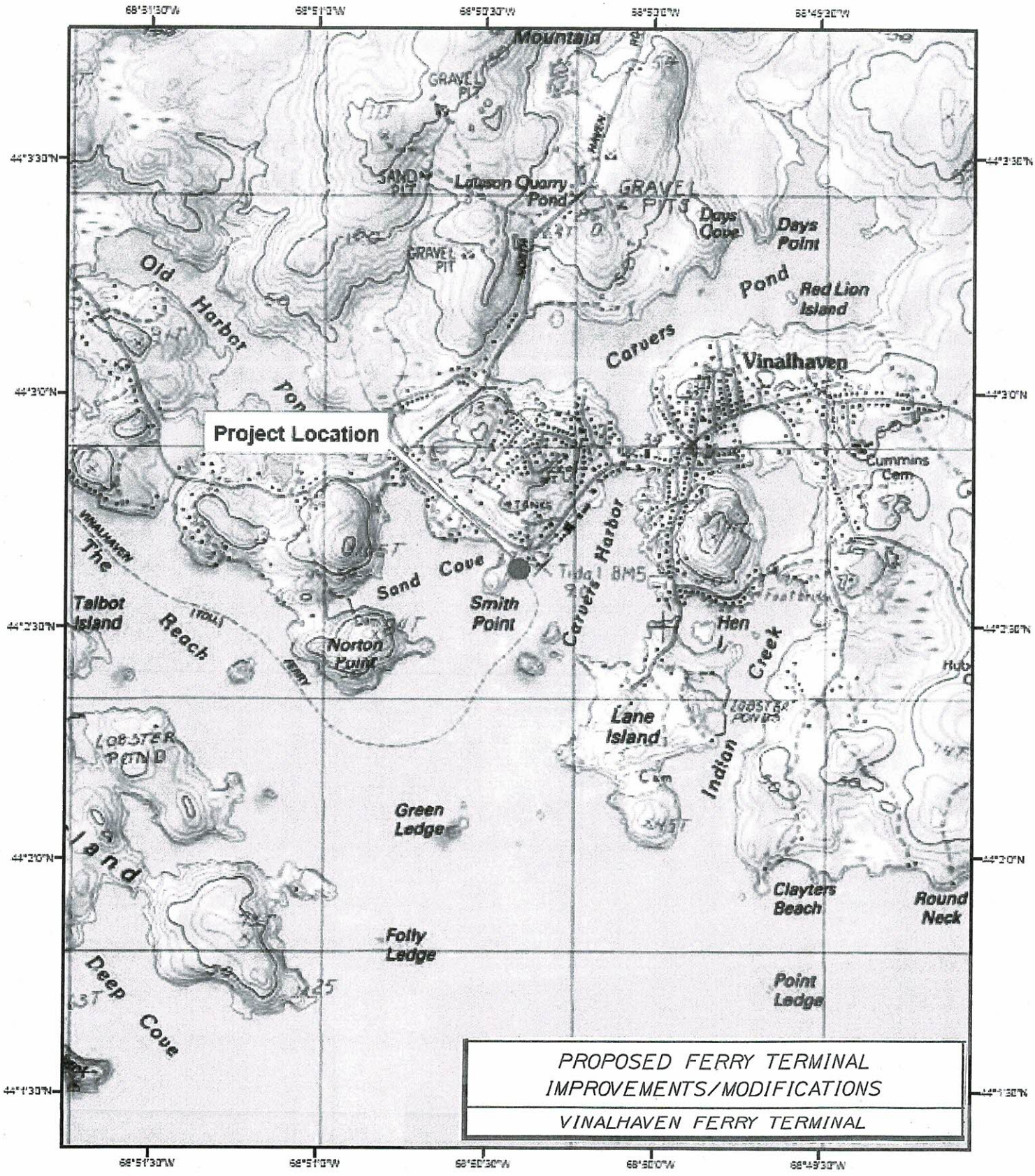
   b. The structure's horizontal state plane coordinates in U.S. survey feet based on the [insert state grid system] for the [insert state] [insert zone] NAD 1983.

2. The permittee shall locate all structures (including vessels and floats) far enough outside the Federal Navigation Project (FNP) limits so neither the structures, nor any vessels tied to these structures, encroach into the FNP at any time.

3. The permittee shall not interfere with Corps of Engineers personnel or its contractors engaged in hydrographic surveys, maintenance or improvement of the existing FNP. If, in the opinion of the Corps, the permittee's structures or vessels attached to them must be moved to allow for the maintenance or improvement of the existing FNP, the permittee shall move the structures or vessels as directed by the Corps.

4. 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 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.

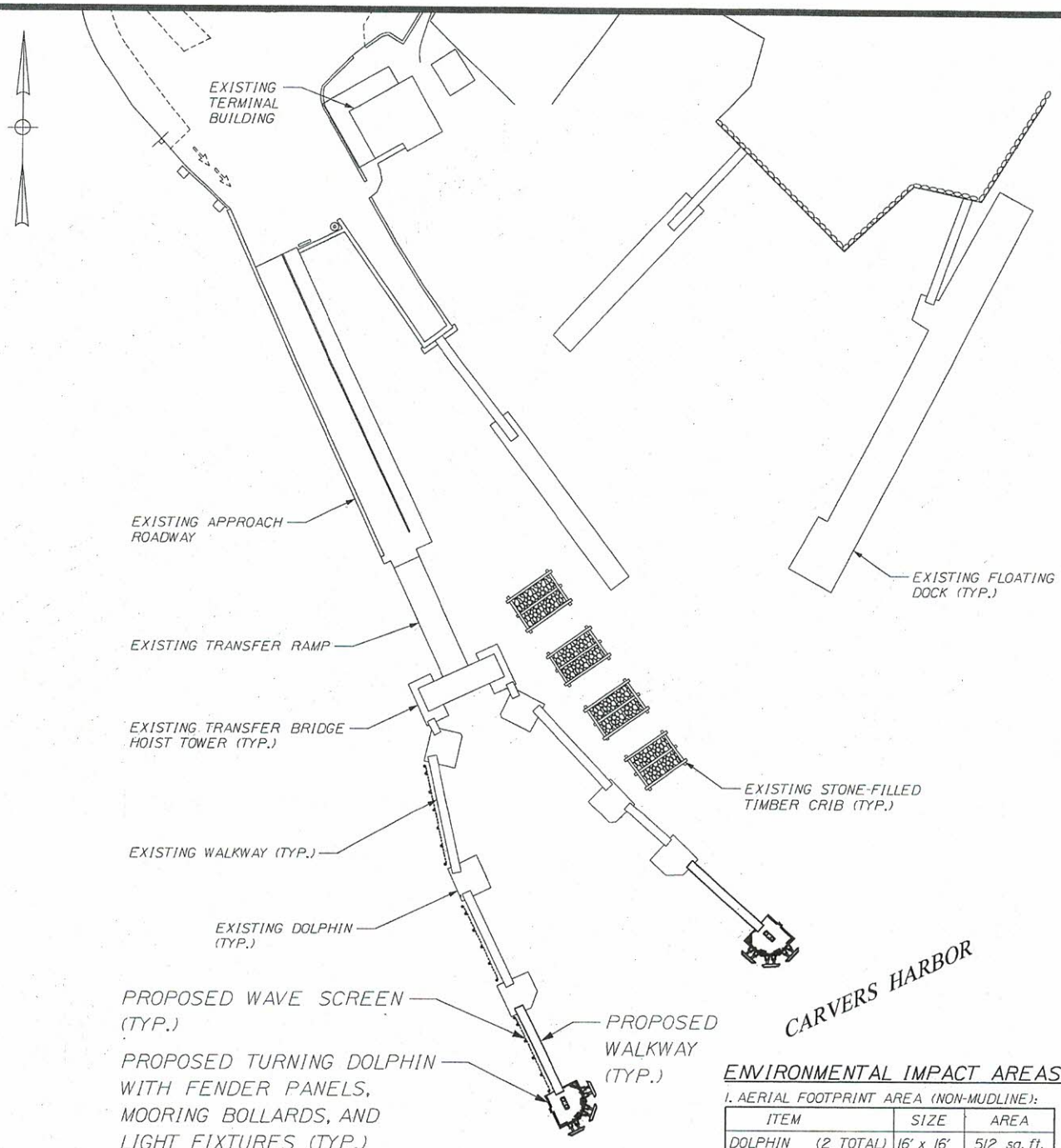
5. The permittee shall not hold the Government or its contractor responsible for damage(s) to these structures or any vessels tied to them during surveying or dredging operations.



0 0.1 0.2 0.3 0.4 Miles

N

MaineDOT 23823.00
Vinalhaven Ferry Terminal
Improvements
Project Location: 44.042904 / -68.839326



PLAN

SCALE: 1" = 30'-0"

30 0 30 60

Scale of Feet

ENVIRONMENTAL IMPACT AREAS:

1. AERIAL FOOTPRINT AREA (NON-MUDLINE):

ITEM	SIZE	AREA
DOLPHIN (2 TOTAL)	16' x 16'	512 sq. ft.
WALKWAY (2 TOTAL)	35' x 3'	210 sq. ft.
WAVE SCREEN	105' x 2'	210 sq. ft.
TOTAL AREA		932 sq. ft.

2. MUDLINE FOOTPRINT AREA:

ITEM	SIZE	AREA
DOLPHIN PILES	15 x 18"ϕ	27 sq. ft.
WAVE SCREEN PILES	42 x 12"ϕ	33 sq. ft.
TOTAL AREA		60 sq. ft.

NOTES:

1. TIDAL DATUM IS MLLW.
2. FENDER PANELS ON EXISTING DOLPHINS NOT SHOWN FOR CLARITY.
3. WAVE SCREEN SHOWN SCHEMATICALLY.
4. BATHYMETRIC AND TOPOGRAPHIC SURVEY BY OWEN HASKELL, JUNE 5, 2018 USING A SEAFLOOR HYDROLITE - TM SONARMITE SINGLE BEAM ECHO SOUNDER, AND A CARLSON RTK GPS.

HNTB

MaineDOT

WIN: 023823.00

PROPOSED FERRY TERMINAL IMPROVEMENTS/MODIFICATIONS	WATERFRONT GENERAL PLAN	FIGURE
VINALHAVEN FERRY TERMINAL	DESIGNER: CRAIG R. MORIN, P.E. DATE: OCTOBER 9, 2018 REV. 02	1

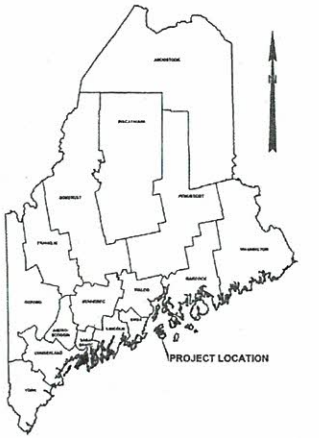
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

TOWN OF VINALHAVEN
KNOX COUNTY

VINALHAVEN FERRY TERMINAL

FENDER SYSTEM MODIFICATIONS

FEDERAL PROJECT NO. 02382300
MAINEDOT WIN: 023823.00



INDEX OF SHEETS

SHEET	NO.	TITLE
GENERAL		
G01	1	TITLE SHEET
G02	2	GENERAL NOTES AND DESIGN CRITERIA
G03	3	EXISTING CONDITIONS
G04	4	BORING LOGS
STRUCTURAL/MARINE PLANS		
S01	5	SITE PLAN
S02	6	BERTH PLAN
S03	7	DOLPHIN FOUNDATION PLAN
S04	8	DOLPHIN FOUNDATION DETAILS
S05	9	DOLPHIN PLAN, ELEVATION, AND DETAILS
S06	10	DOLPHIN DETAILS MOORING HARDWARE
S07	11	DOLPHIN DETAILS FENDER SYSTEM
S08	12	DOLPHIN DETAILS MISCELLANEOUS I
S09	13	DOLPHIN DETAILS MISCELLANEOUS II
S10	14	DOLPHIN REPAIR DETAILS
S11	15	WAVE SCREEN PLAN AND ELEVATION
S12	16	GANGWAY PLAN AND ELEVATION
ELECTRICAL PLANS		
E01	17	ELECTRICAL PLAN
E02	18	ELECTRICAL DETAILS

THE PROFESSIONAL ENGINEER WHOSE STAMP APPEARS ON THIS COVER SHEET BEARS RESPONSIBILITY FOR THE FOLLOWING SHEETS WITHIN THIS DRAWING SET:

GENERAL PLANS	G01-G03
STRUCTURAL/MARINE PLANS	S01-S12

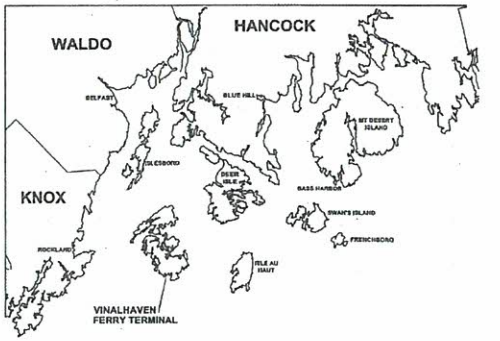
ADDITIONAL WORK APPEARS WITHIN THIS DRAWING SET AND IS THE RESPONSIBILITY OF THE FOLLOWING ORGANIZATIONS, WHOSE STAMP APPEARS ON THOSE INDIVIDUAL SHEETS:

GENERAL PLANS	G04	GEOTECHNICAL BORING LOGS	SCHONEWALD ENGINEERING
ELECTRICAL PLANS	E01-E02	ELECTRICAL DESIGN	BARTLETT DESIGN, INC.

LOCATION MAP

1/2 0 1/2 1

Scale In Miles



WIN 023823.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED | DATE

COMMISSIONER:

CHIEF ENGINEER:

PROJECT INFORMATION

PROGRAM	MULTIMODAL
PROJECT MANAGER	AURELE GORMEAU II
DESIGNER	CRAIG R. MORIN, P.E.
CONSULTANT	HNTB CORPORATION
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

SIGNATURE: GRM

P.E. NUMBER: 10009

DATE: 4/5/19

VINALHAVEN FERRY TERMINAL
FENDER SYSTEM MODIFICATIONS

VINALHAVEN KNOX COUNTY

TITLE SHEET

SHEET NUMBER

G01

1 OF 18

Filename: 001_Title.dgn Division: Username: Date:4/2/2019

GENERAL NOTES

1. These notes contain general information and are not complete for construction purposes. Contractor shall verify information given here with specifications and other drawings and bring any conflicts to the Engineer's attention before beginning work.

2. All geotechnical and electrical notes may be found on Sheets G04 and E01, respectively.

3. All dimensions and details shall be verified by the Contractor prior to construction.

4. Contractor shall provide and maintain horizontal and vertical controls in the Maine state plane coordinate system.

5. The MaineDOT field office shall be placed on terminal property near the crew's quarters at a location approved/determined by the Resident. The Contractor shall make accomodations off-site for their field office, lay down area, restroom facilities, etc. Upon project completion, the Contractor shall relocate the MaineDOT field office to the parking lot of the Vinalhaven ferry terminal. Payment shall be incidental to the Contractor.

6. During the duration of the project, the Contractor is responsible for the proper disposal of any cribwork planks encountered during the project that can not be reused on site. The Contractor is responsible to have the unused planks disposed of as demolition waste at a landfill approved to accept demolition waste/debris. If the Contractor encounters any other potential demolition debris and is not sure of how to dispose, the Contractor shall notify the Resident. The Resident shall contact the Senior Geologist in the Maine Department of Transportation Environmental Office (MaineDOT-ENV) at 207-624-3100 for clarification.

SPECIFICATIONS AND CODES

1. Project specifications titled, "Special Provisions For: Vinalhaven Ferry Terminal Fender System Modifications", dated April 5, 2019.

2. State of Maine, Department of Transportation, Standard Specifications, November 2014. Including all supplemental specifications and special provisions.

3. Codes and other references
   - A. Unified Facilities Criteria Manuals:
     - UFC 4-150-06 Military Harbors and Coastal Facilities, with Change 1
     - UFC 4-150-07 Maintenance and Operations: Maintenance of Waterfront Facilities, with Change 1
     - UFC 4-150-08 Inspection of Mooring Hardware
     - UFC 4-151-10 General Criteria for Waterfront Construction, with Change 1
     - UFC 4-152-01 Design: Piers and Wharves
     - UFC 4-159-03 Design: Moorings, with Change 2
   - B. US Army Corps of Engineers: Coastal Engineering Manual, current edition
   - C. AASHTO LRFD specifications, 8th edition, 2017 with interims
   - D. AWS, D1.1, "Structural Welding Code Steel", current edition
   - E. AWS, D1.2, "Structural Welding Code Aluminum", current edition

SURVEY CONTROL

1. Vertical control for marine structures is in reference to MLLW (Mean Lower Low Water). To convert to National Geodetic Vertical Datum (NGVD), use the following formula:
   El. (NGVD) = El. (MLLW) - 9.28 ft

2. Horizontal control is the Maine state plane coordinate system (east zone), NAD 27.

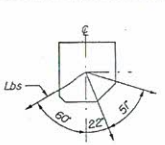
BERTHING LOADS

Dolphin	Berthing Velocity: Ship Velocity (Vs)	Berthing Velocity: ⊥ to Fender	App. Angle	Energy to Fender	Minimum Fender Design Energy	Max. Reaction on Dolphin*
Turning Dolphins: Normal	2.0 Knots	1.41 Knots	45°	112,000 Ft Lbs	380,000 Ft Lbs	244,000 Lb
Turning Dolphins: Extreme	3.0 Knots	2.60 Knots	60°	378,000 Ft Lbs	380,000 Ft Lbs	244,000 Lb

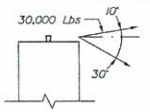
* Includes 1.4 load factor

MOORING LOADS

Dolphin D7 and D8
Mooring line pull: Single line in each direction. 30,000 Lbs



PLAN



PLAN

DOLPHIN/FENDER DESIGN LOADS

Design Vessel: MV Margaret Chase Smith*
Length = 166'-6"
Beam = 40'-0"
Max. Displacement = 633 long tons

* Vessel is the largest in the Department's fleet and envelopes all other vessels in the fleet, as well as the new ferry currently in design (LOA = 154 ft).

Current Vessel: MV Captain Charles Philbrook
Length = 130'-0"
Beam = 36'-0"
Max. Displacement = 500 long tons (est.)

New Vessel: MV Captain E. Frank Thompson and New Ferry (TBD)
Length = 154'-0"
Beam = 38'-0"
Max. Displacement = 600 long tons (est.)

FENDER NOTES

1. All dimensions, details and existing conditions shall be verified by the Contractor prior to construction.

2. Contractor's steel manufacturer shall design the fender panels for the indicated loads.

3. Embedded anchors for chains shall be set by chemical/adhesive material with 9 inch minimum edge distance and a minimum embedment of 12 times the diameter of the anchor. Strength of existing concrete is 3,000 psi.

4. Anchors shall be set by template.

STEEL PIPE PILES

1. Steel pipe piles shall conform to ASTM A252, Grade 3, Fy = 45 ksi minimum. Per standard specification 711.01, Concrete fill shall be MaineDOT class "A".

2. Piles shall be coated with fusion bonded epoxy in accordance with the specifications.

3. Pile splices shall not be allowed without prior approval of the Engineer of record.

4. Any portion of pile cracked, deformed, or otherwise damaged by pile driving shall be replaced.

5. Pipe piles were designed using AASHTO LRFD specifications and shall be installed as follows:
   - Piles shall be driven to a minimum nominal resistance: ϕR_n = 386 kips
   - The maximum factored axial pile load: R_u = 356 kips

6. Piles shall not be out of position shown by more than 2" longitudinally along the pile cap, and 2" transversely across the width of the pile cap.

7. The distance from the side of any pile to the nearest edge of concrete shall not be less than 9".

8. Piles shall be 16"ϕ, 5/8" wall steel pipe piles with concrete fill. Piles shall be fabricated of seamless or straight-seamed material. Spiral welded pipe pile is not permitted.

DEMOLITION NOTES

1. Demolition shall be conducted to prevent debris from falling into the ocean. To the maximum extent practicable, all construction debris, including any liquids or slurries that are produced as part of the demolition, shall be captured and disposed of properly. The Contractor shall comply with applicable permit conditions and environmental regulations listed in the specifications. Work shall include removal of any construction debris from the river and installation and maintenance of appropriate turbidity controls during demolition and construction such that no turbidity escapes the immediate work area. Underwater inspections may be conducted by the Owner's representative to ensure all demolition and construction debris is removed from the ocean.

ENVIRONMENTAL CONDITIONS

1. Wind:
   - Transverse 50 plf
   - Longitudinal 12 plf
   - Wind on Live Load: Transverse 100 plf
   - Wind on Structure: 40 psf
   - Thermal: Temp. Range for Concrete Structure = 80°F
2. Railings:
   - Aluminum Pedestrian: Vertical 50 plf; Horizontal 50 plf (acting simultaneously)
3. Tidal ranges (elevations in feet):

Vinalhaven	Tidal Datums: NGVD29	MSL	MLW	MLLW	STND
Top of Dolphin*	7.22	11.17	16.11	16.50	20.12
Highest Observed Tide	4.89	8.84	13.78	14.17	17.79
MHHW	1.29	5.24	10.18	10.57	14.19
MHW	0.89	4.84	9.78	10.17	13.79
NGVD29**	0.00	3.95	8.89	9.28	12.90
MSL	-3.95	0.00	4.94	5.33	8.95
MLW	-8.89	-4.94	0.00	0.39	4.01
MLLW	-9.28	-5.33	-0.39	0.00	3.62
Lowest Observed Tide	-11.89	-7.94	-3.00	-2.61	1.01
STND (Station Datum)	-12.90	-8.95	-4.01	-3.62	0.00

* Along top edge of dolphin at corner nearest pen.
** NGVD29 conversion taken from archive project drawings.

Station ID: 8415490, Rockland, ME
Tidal Epoch: 1983-2001

LEGEND:

- Baseline
- Plate
- Centerline
- XX-XX-XX Washboring
- Flood Light
- Navigation Marker Light
- Site Light - Existing
- Site Light - Proposed
- Curbing
- ϕ Diameter
- Double Bitt
- Chock
- Ladder

ABBREVIATIONS:

CY	Cubic Yard
EA	Each
EL	Elevation In Feet
HSS	Hollow Structural Sections
ID	Inside Diameter
K (KIP)	1000 Pounds
LBS	Pounds
LF	Linear Feet
MAX	Maximum
MIN.	Minimum
NA	Not Applicable
NTS	Not To Scale
OC	On Center
PSF	Pounds Per Square Foot
R	Radius
REF	Reference
SCHD.	Schedule
SF	Square Feet
TYP.	Typical
UON	Unless Otherwise Noted
USACE	United States Army Corps of Engineers

STRUCTURAL STEEL AND MISCELLANEOUS STEEL FABRICATIONS

1. Steel shapes and plates shall be ASTM A709, Grade 36 typical. ASTM A709 Grade 50 where noted.

2. Steel pipes shall be ASTM A53, Grade B.

3. Steel tubing shall be ASTM A500, Grade B.

4. All bolts and nuts shall conform to ASTM A325 and be hot-dip galvanized in accordance with ASTM A153. Set anchor bolts by template only.

5. All miscellaneous steel, including all fasteners, chains, shackles, and u-bolts unless noted otherwise, shall be hot-dip galvanized. Galvanize items after fabrication. Stress relieve bends before galvanizing. Galvanizing damaged accidentally or due to field welding shall be restored with a field applied galvanizing compound.

6. Welding Electrodes: E70XX, Low Hydrogen

7. All welding shall be in accordance with the requirements of the structural welding code, D1.1 and D3.6, of the American Welding Association (AWS).

ALUMINUM ANODES

1. Cathodic protection for steel pipe piles and fender panels shall be 80 lb aluminum alloy. Dimensions shall conform to the general configuration shown on the Plans.

ALUMINUM GANGWAYS

1. The design and construction of the aluminum gangways shall be in accordance with the special provisions for the item "Aluminum Gangway". The Contractor's manufacturer shall design the gangways in accordance with the plans, specifications, and loads shown below.

2. Vertical Loads: Uniform Live Load 85 psf; Additional Dead Load 50 plf

3. Horizontal Loads: Wind - Transverse 50 plf; Wind - Longitudinal 12 plf

4. The minimum support seat width, measured perpendicular to the edge of the concrete support shall be 18 inches.

5. Handrail shall be designed for a concentrated horizontal load of 200 pounds acting at the top of the railing.

CONCRETE

1. Concrete basic design stresses shall be:
   - Fill for Pipe Piles: Class "A"
   - Fill for Double Bitts: Class "A"
   - Cast-in-place (non): Class "LP"
2. Concrete shall contain 5.0 gal/cy of calcium corrosion inhibitor admixture.
3. Clearances for reinforcement shall be 3" unless otherwise noted.
4. Chamfer all concrete edges 1" @ 45° unless otherwise noted.
5. All reinforcing shall be fully supported on non-metallic approved chairs. Reinforcing shall not be supported on timber blocks, bricks, concrete blocks, miscellaneous rebar, etc.
6. Construction joints shall be made only as shown unless approved otherwise.
7. All existing concrete surfaces to receive concrete shall be roughened to a minimum amplitude of 1/4" and coated with a product listed on the MaineDOT pre-qualified list of concrete bonding agents.
8. Wet curing of concrete is to begin within 30 minutes after concrete finishing, or as soon as possible without damaging finished surface.
9. All formwork for concrete shall be left in place and concrete surfaces shall be covered and kept moist for a period of not less than seven (7) full days after concrete placements.
10. Contractor shall submit detailed reinforcing drawings including bar and bending schedules to the Engineer for review and approval prior to delivery of any reinforcing steel.
11. All ferrous metal handling/lifting devices and existing embedded metals/anchors no longer in use shall be recessed or removed to a depth of one inch below the surface of the concrete and patched with an approved polymer-modified cementitious mortar. Devices located in areas to be totally encased in cast-in-place concrete shall be galvanized. Devices located in areas not to be encased in cast-in-place concrete shall be stainless steel, unless otherwise noted.

STEEL REINFORCEMENT

1. Reinforcing Steel: ASTM A615 Grade 60, deformed, epoxy coated, unless noted otherwise
2. Rock Anchors: ASTM A722, Grade 150, deformed, with triple corrosion protection
3. Splicing of reinforcing steel is permitted. Stagger splices one splice length minimum. No more than 50 percent of the reinforcing steel shall be spliced at any location. Provide a minimum splice length of 50 bar diameters, unless noted otherwise on the drawings.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023823.00

	BY	DATE
PROJ. MANAGER		
DESIGN DETAILED	N. Wiley	04/19
CHECKED/REVIEWED	P. Bishop	04/19
DESIGN DETAILED	C. Mora	04/19
CHECKED/REVIEWED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE
10209
P.E. NUMBER
DATE

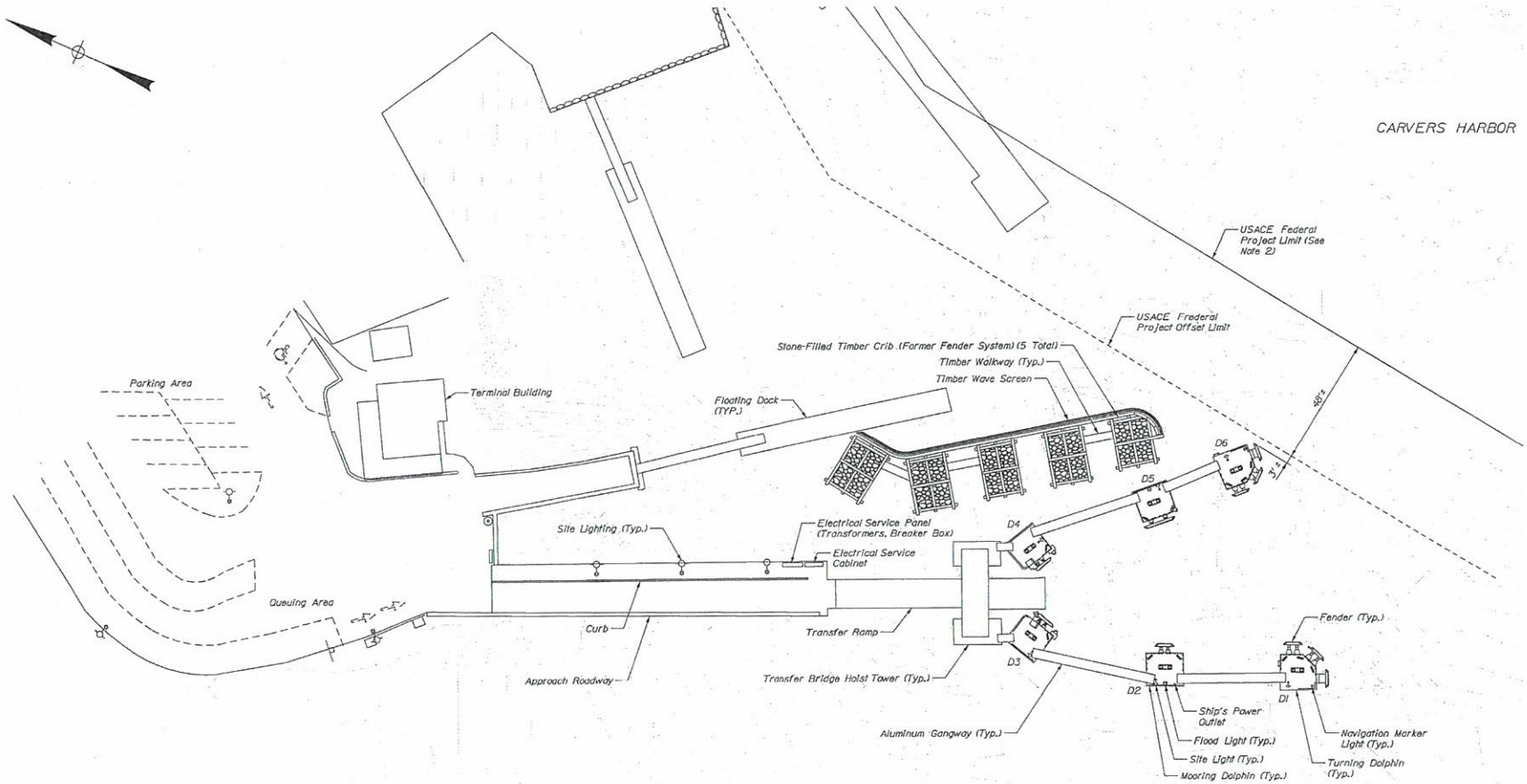
VINALHAVEN
FERRY TERMINAL

GENERAL NOTES AND DESIGN CRITERIA

SHEET NUMBER
G02
2 OF 18

Filename: ...\02 CADD\002_General Notes.dgn Division: Username: Date:4/8/2019

382



SITE PLAN

1" = 20'-0"

20 0 20 40

Scale of Feet

NOTES:

1. For existing electrical details, see Sheet E01.

2. USACE project limit per https://www.nae.usace.army.mil/Missions/Navigation/Maine-Projects/. Offset limit dimension determined by 3x water depth (MLW).

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023823.00

		BY	DATE
PROJ. MANAGER			
DESIGN DETAILED	N. Wiley	P. Bishop	04/19
CHECKED-REVIEWED		C. Mann	04/19
DESIGN-DETAILED			
DESIGN-DETAILED			
REVISION 1			
REVISION 2			
REVISION 3			
REVISION 4			
FIELD CHANGES			

SIGNATURE

10129

P.E. NUMBER

DATE

VINALHAVEN
FERRY TERMINAL

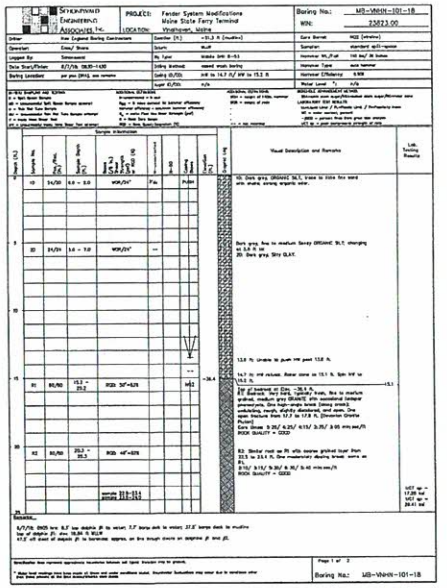
EXISTING CONDITIONS

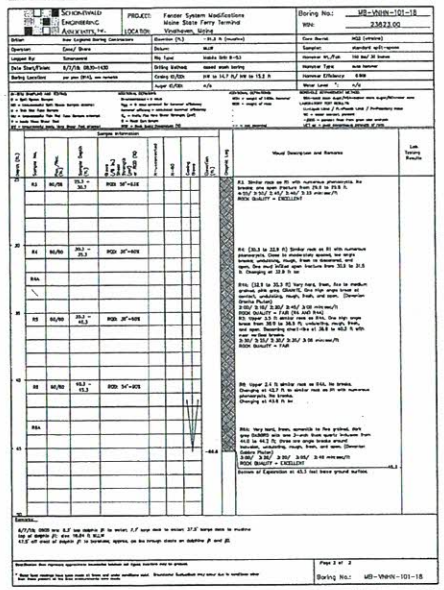
SHEET NUMBER

G03

3 OF 18

Filename: ...\003_Existing Conditions.dgn Division: Username: Date:4/4/2019





GEOTECHNICAL NOTES:

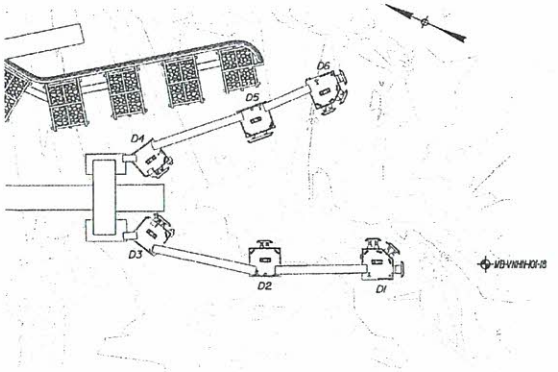
1. The geotechnical report for the project is entitled 'Geotechnical Design Report, Fender System Modifications, Maine State Ferry Terminal, Vinalhaven, Maine, MaineDOT win 023823.00,' dated April 2019 and prepared by Schonewald Engineering Associates, Inc. The report is available on the MaineDOT website.

2. Geotechnical information furnished or referenced in this plan set is for the Bidders' and Contractors' use. No assurance is given that the information or interpretations will be representative of actual subsurface conditions at the time of construction. The Department shall not be responsible for the Bidders' and Contractors' interpretations of, or conclusions drawn from, the geotechnical information. The boring logs contained in the plan set and the referenced report present interpretive subsurface information collected at discrete locations. Data provided may not be representative of the subsurface conditions between widely-spaced boring locations.

3. Grid north on the North American Datum 1983 (NAD83).

4. Tidal datum is Mean Lower Low Water (MLLW).

BORING COORDINATES		
Location	Northing	Easting
MB-VNHN-101-18	137240.08	895034.21



KEY PLAN
1" = 25'-0"

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

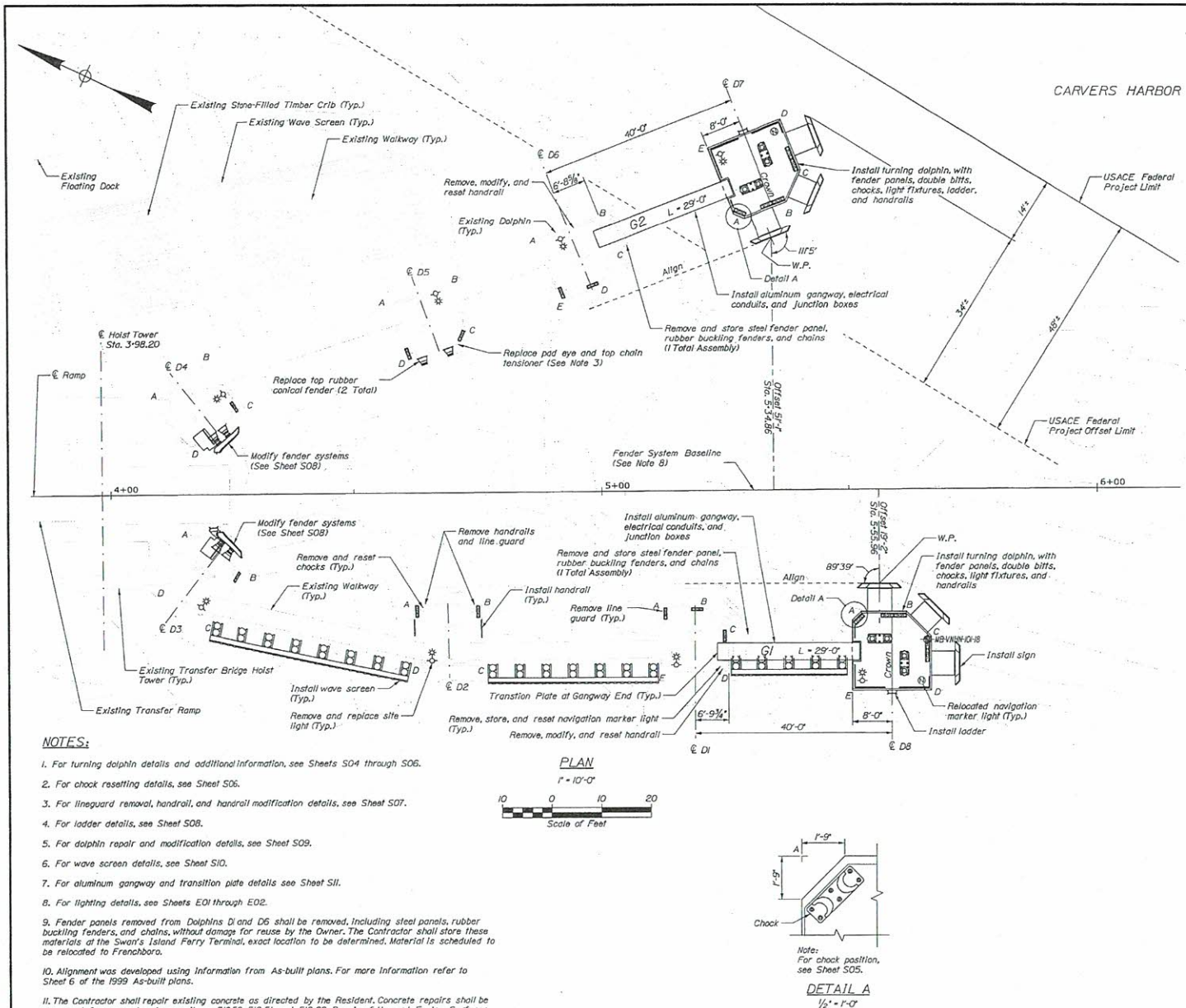
WIN
WIN 023823.00

VINALHAVEN
FERRY TERMINAL

BORING LOGS

SHEET NUMBER
G04
4 OF 18

Filename: ...\02 CADD\004_Boring Logs.dgn Division: Username: Date:4/4/2019



PLAN

1" = 10'-0"

10 0 10 20

Scale of Feet

Note:
For chock position, see Sheet S05.

DETAIL A

1½" = 1'-0"

NOTES:

1. For turning dolphin details and additional information, see Sheets S04 through S06.
2. For chock resetting details, see Sheet S06.
3. For lineguard removal, handrail, and handrail modification details, see Sheet S07.
4. For ladder details, see Sheet S08.
5. For dolphin repair and modification details, see Sheet S09.
6. For wave screen details, see Sheet S10.
7. For aluminum gangway and transition plate details see Sheet S11.
8. For lighting details, see Sheets E01 through E02.
9. Fender panels removed from Dolphins D1 and D6 shall be removed, including steel panels, rubber buckling fenders, and chains, without damage for reuse by the Owner. The Contractor shall store these materials at the Swan's Island Ferry Terminal, exact location to be determined. Material is scheduled to be relocated to Frenchboro.
10. Alignment was developed using information from As-built plans. For more information refer to Sheet 6 of the 1999 As-built plans.
11. The Contractor shall repair existing concrete as directed by the Resident. Concrete repairs shall be measured for payment under pay items, 518.50, 518.51, and 518.60. Repair of Upward Facing Surfaces - Reinforcing Steel < 8 inches, Repair of Upward Facing Surfaces - below Reinforcing Steel, and Repair of Vertical Surfaces < 8 inches, respectively.

DOLPHIN COORDINATES

EXISTING D1

LOCATION	NORTHING	EASTING
A	137291.82	895017.84
B	137284.17	895021.40
C	137277.64	895019.11
D	137274.00	895011.42
E	137286.24	895005.54

EXISTING D2

LOCATION	NORTHING	EASTING
A	137337.48	894997.28
B	137324.94	895003.05
C	137319.50	894991.76
D	137331.98	894986.02

EXISTING D3

LOCATION	NORTHING	EASTING
A	137384.60	894991.55
B	137371.24	894988.60
C	137374.04	894976.22
D	137387.29	894979.46

EXISTING D4

LOCATION	NORTHING	EASTING
A	137402.86	895011.66
B	137396.56	895023.87
C	137385.62	895018.17
D	137391.85	895006.17

EXISTING D5

LOCATION	NORTHING	EASTING
A	137367.50	895049.93
B	137357.81	895059.52
C	137349.35	895050.54
D	137358.84	895041.24

EXISTING D6

LOCATION	NORTHING	EASTING
A	137345.67	895074.74
B	137336.18	895084.45
C	137330.06	895078.53
D	137329.99	895071.61
E	137335.82	895065.51

PROPOSED D7

LOCATION	NORTHING	EASTING
A	137310.67	895095.04
B	137303.07	895103.00
C	137303.23	895110.07
D	137311.19	895117.67
E	137322.24	895106.09

PROPOSED D8

LOCATION	NORTHING	EASTING
A	137256.24	895032.98
B	137246.26	895037.61
C	137239.62	895035.18
D	137234.99	895025.20
E	137249.50	895018.47

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023823.00

PROJ. MANAGER	BY	DATE
DESIGN-DETAILED	N. Wiley	04/19
DESIGN-CHECKED	P. Bishop	04/19
DESIGN-DETAILED	C. Bean	04/19

SIGNATURE
9099
P.E. NUMBER

REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		DATE
FIELD CHANGES		

VINALHAVEN
FERRY TERMINAL

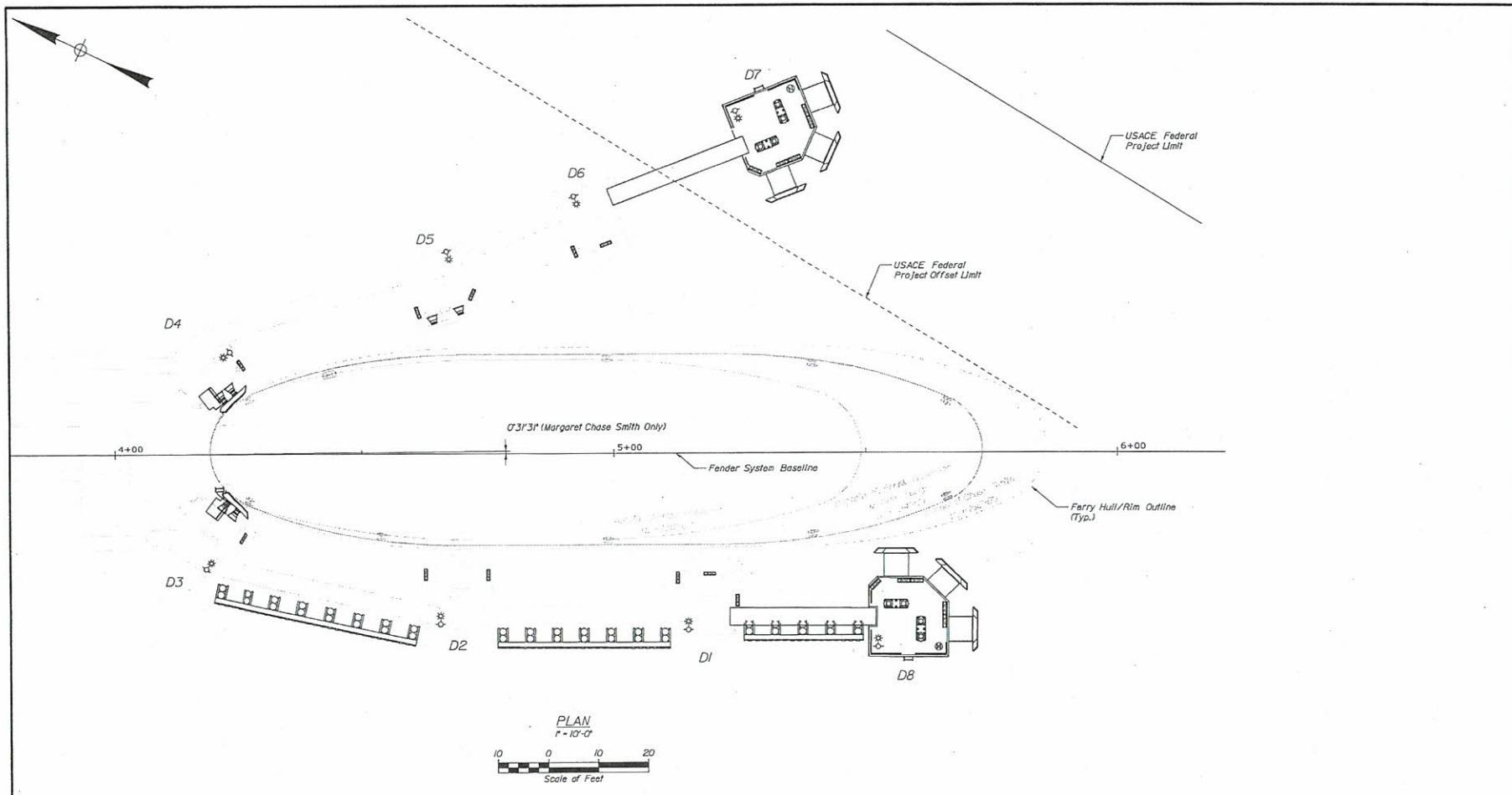
SITE PLAN

SHEET NUMBER

S01

5 OF 18

Filename: ...\02 CADD\005_Site Plan.dgn Division: Username: Date:4/4/2019



NOTES:

1. MV Captain Charles Philbrook and Captain E. Frank Thompson are currently in operation. New Ferry is proposed. Margaret Chase Smith is shown for comparative purposes.

2. Cleats and scuppers are shown for the new ferry only.

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023823.00

PROJ. MANAGER		BY	DATE
DESIGN-DETAILED	N. Wiley	P. Bishop	04\19
CHECKED-REVIEWED		C. Morin	04\19
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

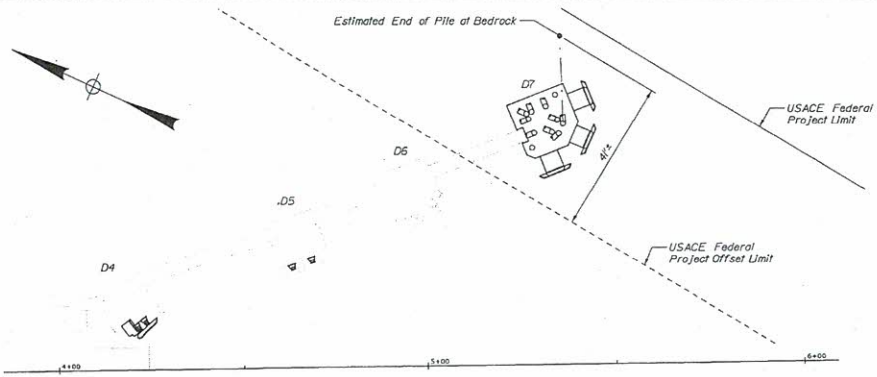
SIGNATURE
10209
P.E. NUMBER
DATE

VINALHAVEN
FERRY TERMINAL

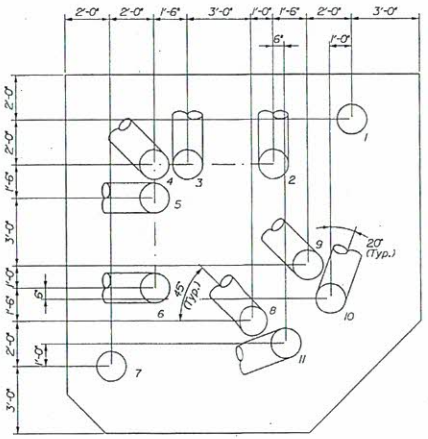
BERTH PLAN

SHEET NUMBER
S02
6 OF 18

Filename: ...\02 CADD\006_Berth Plan.dgn Division: Username: Date:4/4/2019

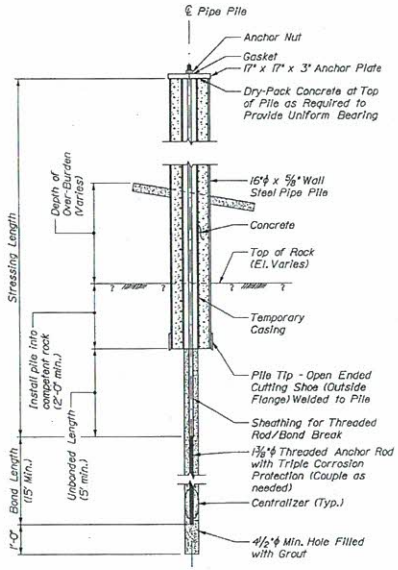


PLAN



D7 FOUNDATION PLAN

(Dimensions shown at pile cut-off elevation, El. 11.00 ft)
(Dolphin D7 shown, D8 similar)
3/8" = 1'-0"



ROCK ANCHOR DETAIL

1/2" = 1'-0"

STEEL PIPE PILE TABLE

	Pile No.	Estimated Pile Length	Vertical or Batter (Rise/Run)
Turning Dolphin D7	1	55	Vert.
	2	58	Batter 4:12
	3	58	Batter 4:12
	4	58	Batter 4:12
	5	58	Batter 4:12
	6	58	Batter 4:12
	7	55	Vert.
	8	58	Batter 4:12
	9	58	Batter 4:12
	10	56	Batter 2:12
	11	56	Batter 2:12
Turning Dolphin D8	1	55	Vert.
	2	58	Batter 4:12
	3	58	Batter 4:12
	4	58	Batter 4:12
	5	58	Batter 4:12
	6	58	Batter 4:12
	7	55	Vert.
	8	58	Batter 4:12
	9	58	Batter 4:12
	10	56	Batter 2:12
	11	56	Batter 2:12

Pile Load Schedule

Max. Factored Applied Pile Compression Load (LRFD):	345 kips
Max. Factored Applied Pile Tension Load (LRFD):	217 kips
Max. Applied Pile Tension Load (ASD):	112 kips
Min. Pile Compression Resistance (LRFD):	390 kips
Min. Rock Anchor Tension Capacity (ASD):	361 kips
Rock Anchor Test Load:	150 kips
Rock Anchor Lock Off Load:	124 kips

NOTES:

1. In the absence of definitive guidance in AASHTO's LRFD Bridge Design Specifications (LRFD Manual), Article 10.7.3.2.3 "Point Bearing Piles on Rock - Piles Driven to Hard Rock," the geotechnical axial capacity of pipe piles end-bearing on rock was determined using established ASD methods with a Factor of Safety of 2.0, equivalent to a resistance factor of 0.5 as required per the LRFD Manual.

2. The tensile capacity of rock anchors was determined using established ASD methods in the absence of definitive guidance in the LRFD Manual, Article 11.9.4.2 - "Anchor Pullout Capacity." A resistance factor equal to 1.0 is allowed per the LRFD Manual since all the rock anchors will be tested.

NOTES:

1. A length of 5' has been included for contingency to each estimated pile length to determine order length.

2. All steel pipe piles shall have rock anchors. For rock anchors, see detail.

3. All steel pipe piles shall have aluminum anodes.

4. Overburden and rock materials removed during pile installation activities shall be disposed in accordance with Special Provision 203.

5. For anode details, see Sheet S04.

6. Pile splices shall not be allowed without prior approval of the Engineer of Record (EOR). Pile splices approved by the EOR and installed by the Contractor to achieve the installed pile length as noted herein shall be incidental to pay item 501.241, Steel Pipe Piles In-Place.

PILE AND ROCK ANCHOR SUGGESTED CONSTRUCTION SEQUENCE:

1. Advance pipe pile open ended with cutting shoe to the top of bedrock. Advance pipe pile into competent rock per detail.

2. Pile shall be cut off at final top elevation to perform anchor load test. Refer to structural drawings for top of pile elevations.

3. Clean and flush rock cuttings and soil from inside the pile and socket. Confirm pile socketed into bedrock per detail. Install grout plug.

4. Install temporary casing with centralizers as needed to top of grout plug inside the pipe pile. Advance temporary casing until it is seated.

5. Insert rock anchor drill casing and drill bit into temporary casing and drill anchor hole. Minimum length of anchor hole per the detail.

6. Clean and flush rock cuttings from anchor hole. Do not allow drill cuttings to enter the pipe pile.

7. Install triple corrosion protected anchor, sheathing and centralizers, preassembled to the required dimensions.

8. Using tremie methods, fill the annular space between the anchor rod / sheathing and the anchor hole with 5,000 psi cement grout to above the top of the bedrock surface.

9. Install anchor plate at top of anchor with hex nut and hardened washer.

10. Verify that pile head is restrained from moving laterally by fixing the pile head to the pile template, falsework or other appropriate means.

11. Perform rock anchor proof and performance tests to 133% of the Max. pile tension load (See pile schedule).

12. Place concrete in the annular space between the anchor rod sheathing and the pipe pile as the temporary casing is withdrawn, maintaining the concrete surface above the bottom of the temporary casing at all times. Temporary casing may be left in the piling at the option of the Contractor.

13. Lock off rock anchor at 110% of the Max. pile tension load (See pile schedule).

14. Proceed with dolphin construction.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023823.00

		BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	K. Wiley	P. Bishop	04/19
CHECKED-DETAILED		C. Marin	04/19
DESIGN-DETAILED			
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER
10269

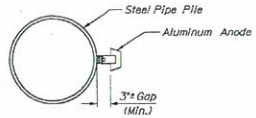
DATE

VINALHAVEN
FERRY TERMINAL

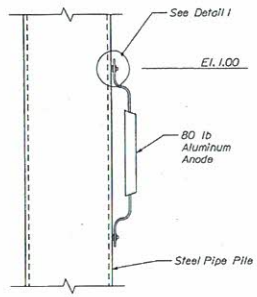
DOLPHIN
FOUNDATION PLAN

SHEET NUMBER
S03
7 OF 18

Filename: ...\007_Dolphin Foundation Plan.dgn Division: Username: Date:4/4/2019



PLAN

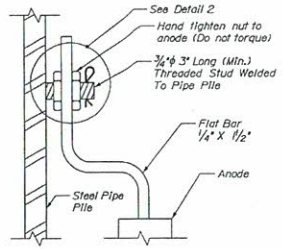


ELEVATION

Note: Anode shall be positioned along the inshore face of piles.

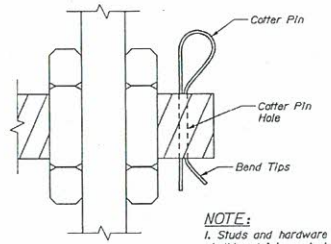
ANODE DETAIL

N.T.S.



DETAIL 1

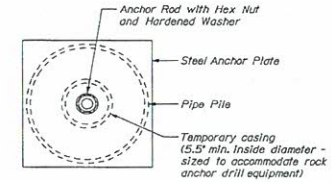
N.T.S.



NOTE:
1. Studs and hardware shall be stainless steel.

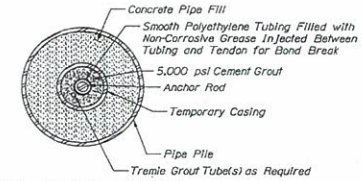
DETAIL 2

N.T.S.



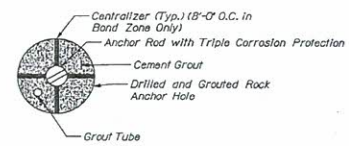
TOP OF PILE DETAIL

N.T.S.



ROCK ANCHOR SECTION (UNBONDED ZONE)

N.T.S.



ROCK ANCHOR SECTION (BOND ZONE)

N.T.S.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023823.00

PROJ. MANAGER		BY	DATE
DESIGN-DETAILED	N. Wiley	P. Bishop	04/19
CHECKED-REVIEWED		C. Morin	04/19
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

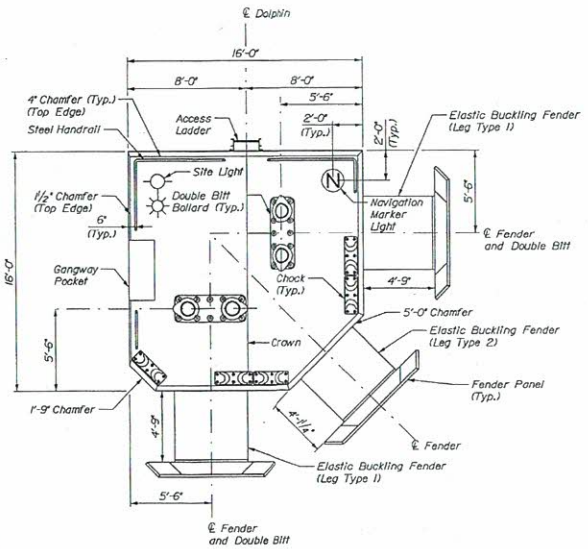
SIGNATURE
10229
P.E. NUMBER
DATE

VINALHAVEN
FERRY TERMINAL

DOLPHIN FOUNDATION DETAILS

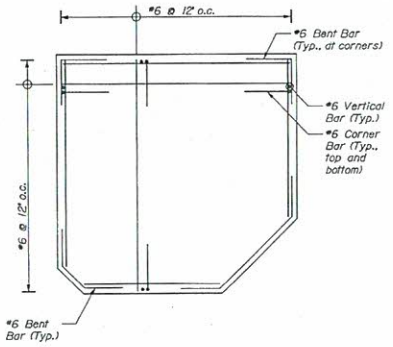
SHEET NUMBER
S04
8 OF 18

Filename: ...\008_Dolphin Foundation Details.dgn Division: Username: Date:4/4/2019



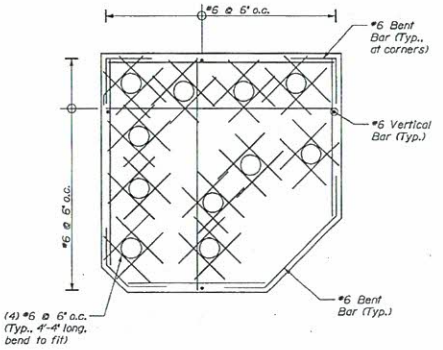
TURNING DOLPHIN PLAN

(Dolphin D7 shown, D8 similar)
1/4" = 1'-0"



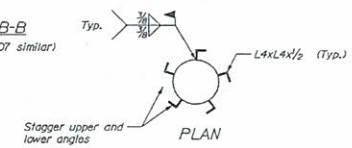
SECTION A-A

(Dolphin D8 shown, D7 similar)
(Same as shown for El. 9.50 - 11.00, but with pile cutouts)
1/4" = 1'-0"

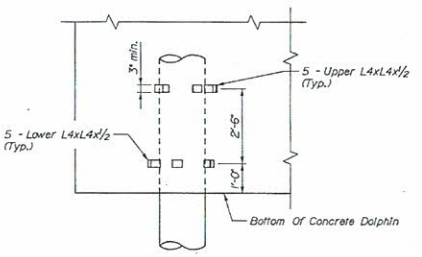


SECTION B-B

(Dolphin D8 shown, D7 similar)
1/4" = 1'-0"



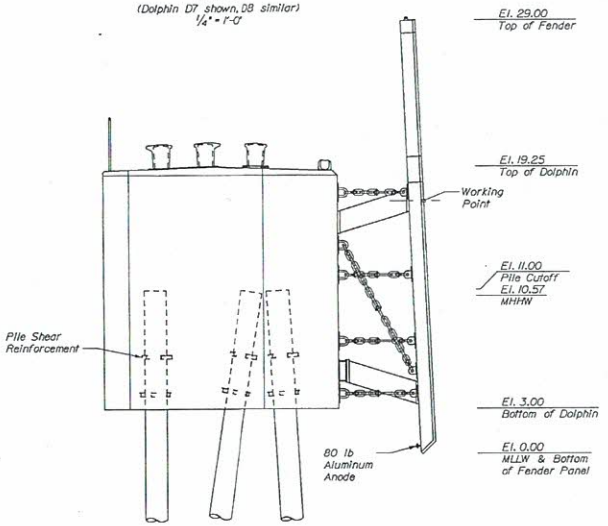
PLAN



ELEVATION

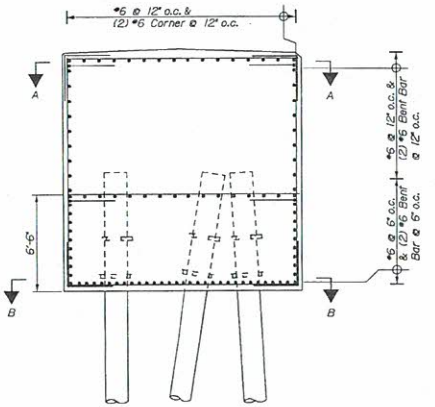
PILE SHEAR REINFORCEMENT

1/2" = 1'-0"



TURNING DOLPHIN ELEVATION

(Select fenders and chocks not shown for clarity)
1/4" = 1'-0"



TURNING DOLPHIN REINFORCING TYPICAL SECTION

1/4" = 1'-0"

NOTES:

1. For anode details, see Sheet S04.
2. For double bitt and chock details, see Sheet S05.
3. For handrail details, see Sheet S07.
4. For access ladder details, see Sheet S08.
5. For gangway pocket and transition plate detail, see Sheet S11.
6. All reinforcing shall be cut to maintain 2" clear from piles and 3" clear of concrete surfaces.
7. Reinforcing bars shall be adjusted to maintian 1" clear from anchor rods.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023823.00

	BY	DATE
PROJ. MANAGER		
DESIGN-DETAILED	N. Wiley	04/19
CHECKED-REVIEWED	P. Bishop	04/19
DESIGN2-DETAILED2	C. Morin	04/19
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE
10209
P.E. NUMBER
DATE

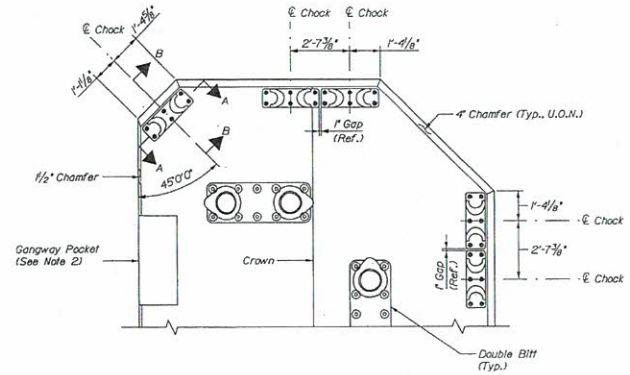
VINALHAVEN
FERRY TERMINAL

DOLPHIN PLAN, ELEVATION, AND DETAILS

SHEET NUMBER
S05
9 OF 18

Filename: ...\009_Dolphin Plan and Elevation.dgn Division: Username: Date:4/4/2019

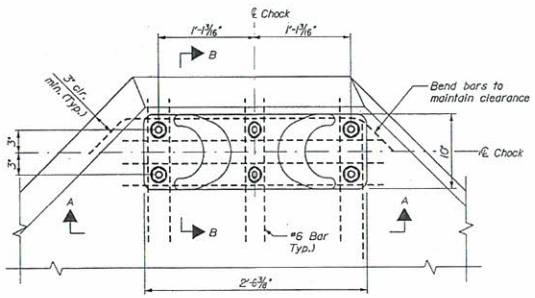
389



PLAN VIEW OF DOLPHIN

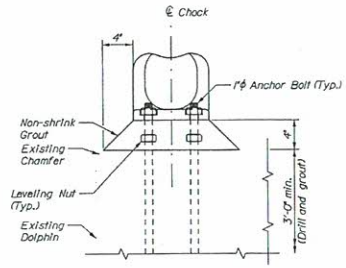
(Handrails, lights, and fenders not shown for clarity)

3/8" = 1'-0"



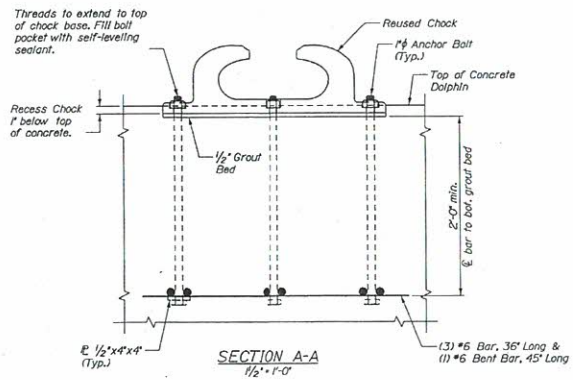
CHOCK PLAN AT CHAMFER

1 1/2" = 1'-0"



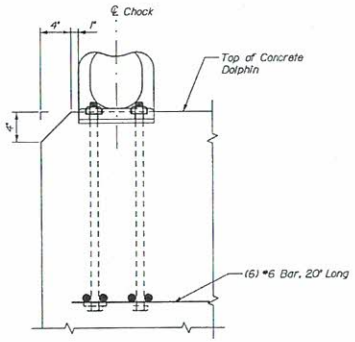
EXISTING CONCRETE CHOCK DETAIL

1 1/2" = 1'-0"



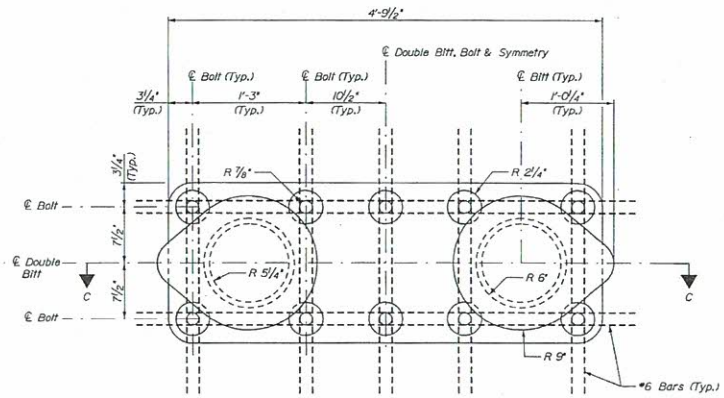
SECTION A-A

1 1/2" = 1'-0"



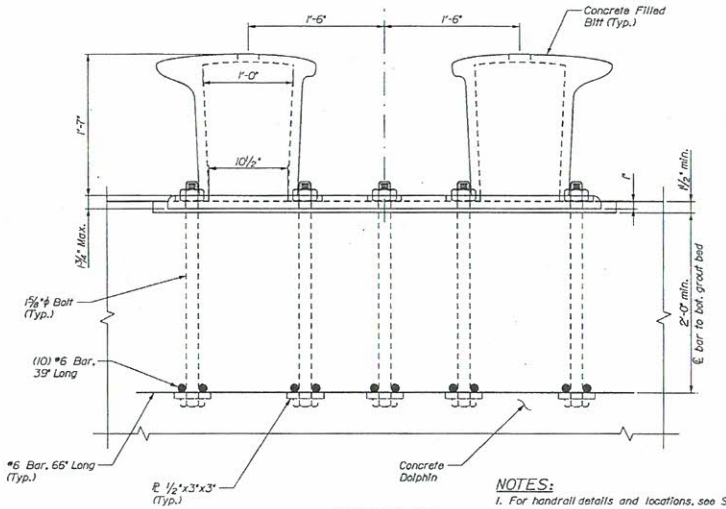
SECTION B-B

1 1/2" = 1'-0"



DOUBLE BITT PLAN

1 1/2" = 1'-0"



SECTION C-C

1 1/2" = 1'-0"

NOTES:

1. For handrail details and locations, see Sheet S07.
2. For gangway pocket dimensions, see Sheet S11.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023823.00

	BY	DATE
PROJ. MANAGER		
DESIGN-DETAILED	N. Wiley	04/19
DESIGNED-AS-NOTED	P. Bishop	04/19
DESIGNED-DETAILED	C. Mann	04/19
DESIGNED-DETAILED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

0299

P.E. NUMBER

DATE

VINALHAVEN
FERRY TERMINAL

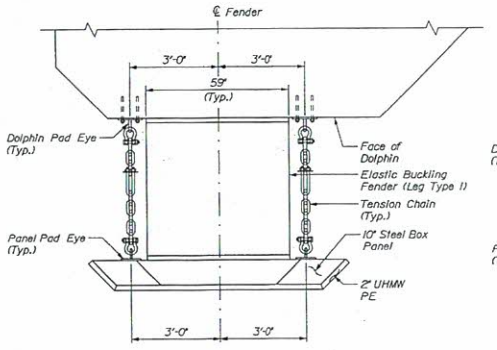
DOLPHIN DETAILS
MOORING HARDWARE

SHEET NUMBER

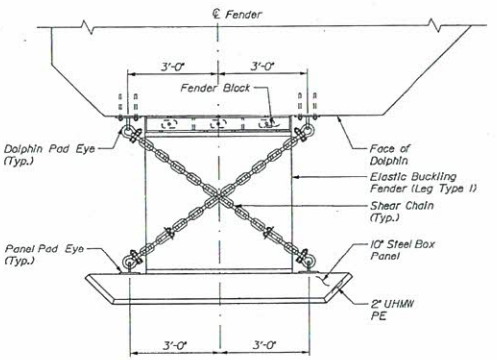
S06

10 OF 18

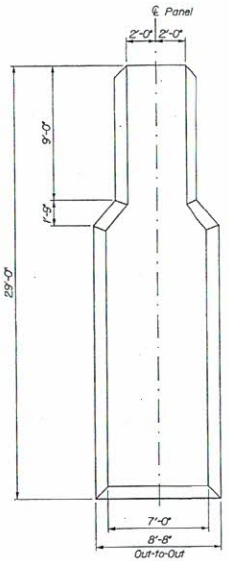
Filename: ...\010_Mooring Hardware.dgn Division: Username: Date:4/4/2019



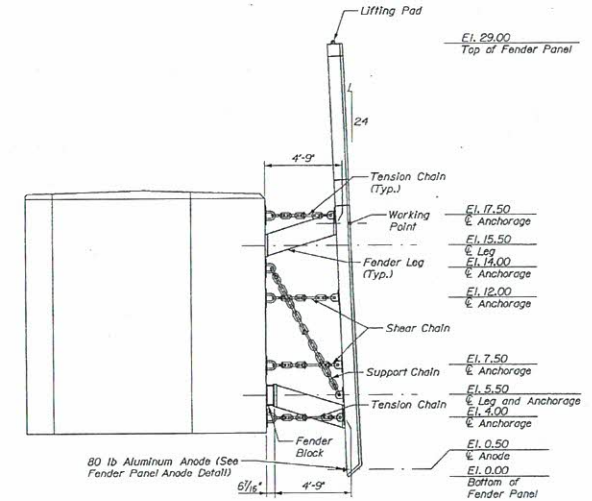
PLAN - TYPE 1 TOP OF FENDER PANEL
(D7 Pen facing fender shown, others similar)
1/2" = 1'-0"



PLAN - TYPE 1 BOTTOM OF FENDER PANEL
(D7 Pen facing fender shown, others similar)
1/2" = 1'-0"



TYPE 1 PANEL
1/4" = 1'-0"



ELEVATION - TYPE 1 PANEL
(Foundation piles and hardware not shown for clarity)
1/4" = 1'-0"

NOTES:

1. Contractor shall use fender plate or fender block detail to maintain proposed fender panel alignment.
2. For fender block, panel pad eye, and panel anode details, see Sheet S09.
3. For dolphin pad eye and spacer plate details, see Sheet S10.
4. Elastic buckling fenders (Leg Type 1) shall be Trelleborg Compound B MV 1450x1500, or approved equal.
5. Elastic buckling fenders (Leg Type 2) shall be Trelleborg Compound B MV 1250x1500, or approved equal.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023823.00

PROJ. MANAGER		BY	DATE
DESIGN-DETAILED	N. Wiley	P. Bishop	04/19
CHECKED-REVIEWED		C. Marin	04/19
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

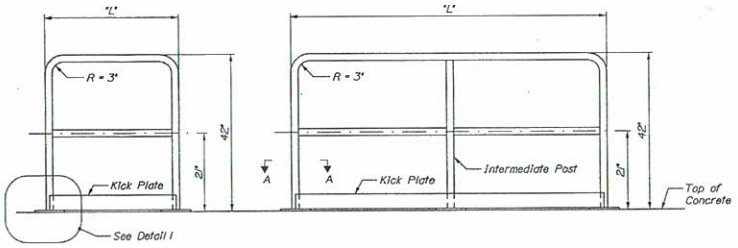
SIGNATURE
10209
P.E. NUMBER
DATE

VINALHAVEN
FERRY TERMINAL

DOLPHIN DETAILS
FENDER SYSTEM

SHEET NUMBER
S07
11 OF 18

Filename: ...\02 CADD\011_Fender System.dgn Division: Username: Date:4/4/2019

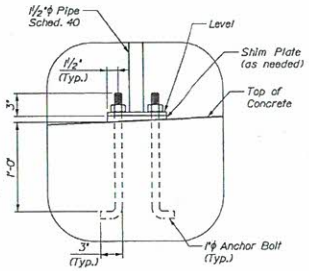


Type 1 Handrail

Type 2 Handrail

HANDRAIL DETAIL

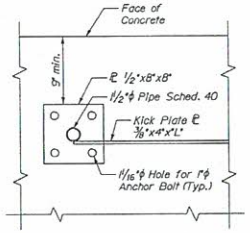
3/4" = 1'-0"



DETAIL 1

(Applies to all railing mounting locations. Kick plate not shown for clarity)

1/2" = 1'-0"



SECTION A-A

1/2" = 1'-0"

TABLE 1
HANDRAIL SUMMARY TABLE

Dolphin	Location	Identification
D2	NE	T1 - 3'-3" - 0
D2	SE	T1 - 3'-6" - 0
D7	W	T1 - 1'-4" - 0
D7	N	T2 - 11'-8" - 3
D7	E	T2 - 8'-2" - 2
D8	S	T2 - 8'-2" - 2
D8	W	T2 - 10'-8" - 3
D8	N	T1 - 2'-5" - 0

Railing Identification: T2 - L - X

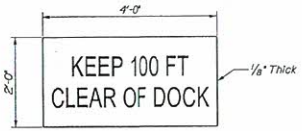
Type — Length — Inter. Post Quantity

TABLE 2
LINE GUARD REMOVAL SUMMARY

Dolphin	Length of Removal (ft)	No. of Bolts
D1	24	12
D2	26	15
D3	9	6
D4	11	6
D5	26	14
D6	24	12

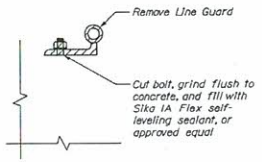
NOTES:

1. Contractor to field verify dimensions of line guards & number of bolts to be removed.



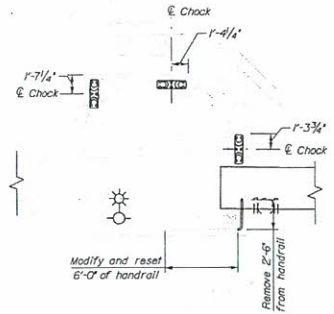
SIGN DETAIL

3/4" = 1'-0"



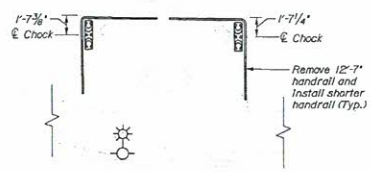
LINE GUARD REMOVAL DETAIL

1/2" = 1'-0"



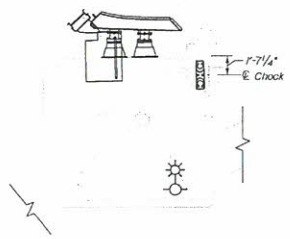
D1 MODIFICATION PLAN

1" = 5'-0"



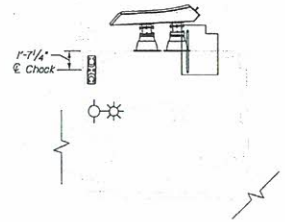
D2 MODIFICATION PLAN

1" = 5'-0"



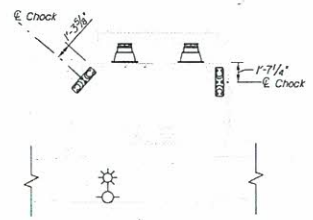
D3 MODIFICATION PLAN

1" = 5'-0"



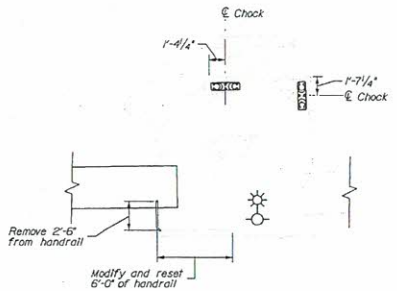
D4 MODIFICATION PLAN

1" = 5'-0"



D5 MODIFICATION PLAN

1" = 5'-0"



D6 MODIFICATION PLAN

1" = 5'-0"

NOTES:

1. Where handrail posts or line guard anchorages are removed, fill with Sika Flex 1A self leveling sealant, or approved equal.
2. Contractor shall grind smooth, cap ends of cut handrails, and galvanize exposed steel.
3. For additional details on chock setting, see Sheet S06.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023823.00

		BY	DATE
PROJ. MANAGER	N. Wiley		
DESIGN DETAILED	N. Wiley	P. Bishop	04/19
DESIGNED - REVIEWED		C. Bolin	04/19
DESIGNED - DETAILED			
DESIGNED - DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

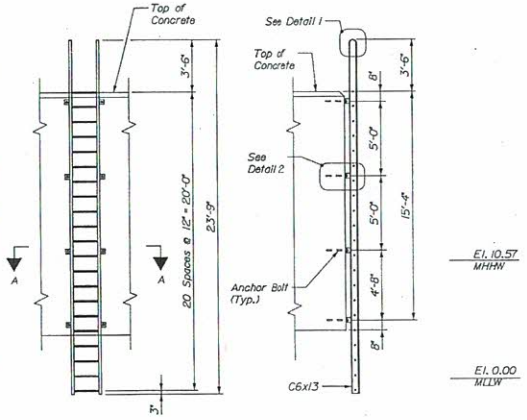
SIGNATURE
10099
P.E. NUMBER
DATE

VINALHAVEN
FERRY TERMINAL

DOLPHIN DETAILS
MISCELLANEOUS I

SHEET NUMBER
S08
12 OF 18

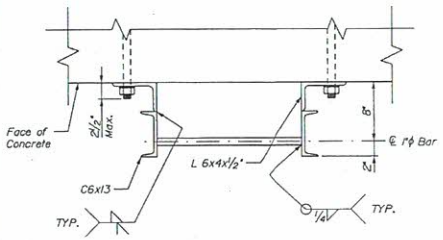
Filename: ...\012_Miscellaneous Details 1.dgn Division: Username: Date:4/4/2019



ELEVATION SECTION

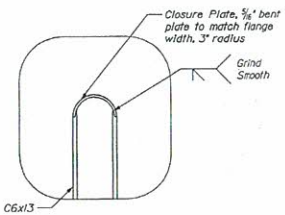
DOLPHIN ACCESS LADDER

1/4" = 1'-0"



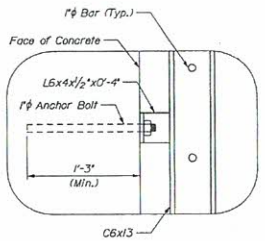
SECTION A-A

1½" = 1'-0"



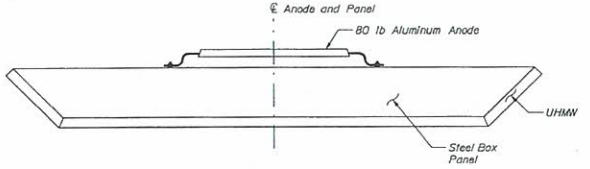
DETAIL 1

(Typical for all ladders)
1½" = 1'-0"



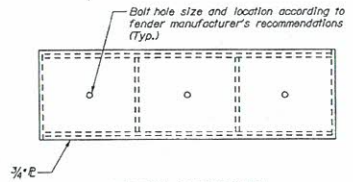
DETAIL 2

(Typical all ladder mounting locations)
1½" = 1'-0"

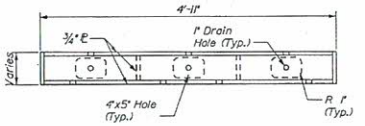


FENDER PANEL ANODE DETAIL

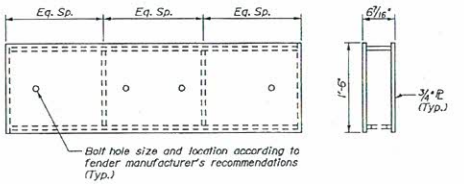
1½" = 1'-0"



FRONT ELEVATION



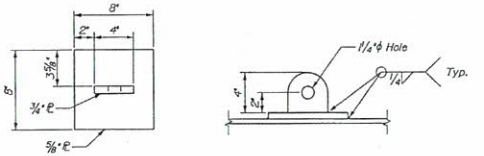
PLAN



BACK ELEVATION SECTION

STEEL FENDER BLOCK

1" = 1'-0"



PANEL PAD EYE DETAIL

2" = 1'-0"

NOTES:
1. For anode attachment details, see Sheet S04.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023823.00

		BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	N. Wiley	P. Bishop	04/19
CHECKED-REVIEWED		C. Marsh	04/19
DESIGN1-DETAILED1			
DESIGN1-DETAILED2			
REVISION 1			
REVISION 2			
REVISION 3			
REVISION 4			
FIELD CHANGES			

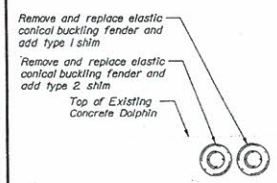
SIGNATURE
2019
P.E. NUMBER
DATE

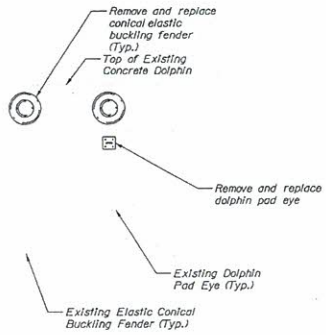
VINALHAVEN
FERRY TERMINAL

DOLPHIN DETAILS
MISCELLANEOUS II

SHEET NUMBER
S09
13 OF 18

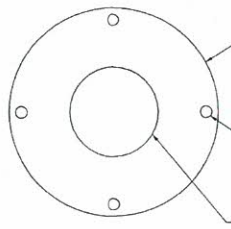
Filename: ...\013_Miscellaneous Details 2.dgn Division: Username: Date:4/4/2019



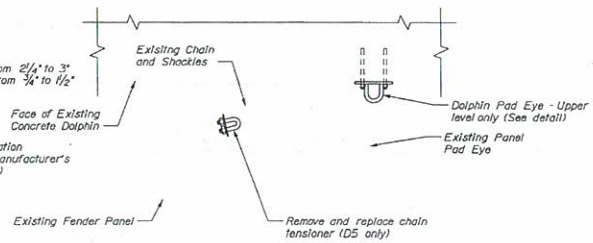


ELEVATION - DOLPHIN D3
(D4 opposite hand)
1/4" = 1'-0"

ELEVATION - DOLPHIN D5
1/4" = 1'-0"

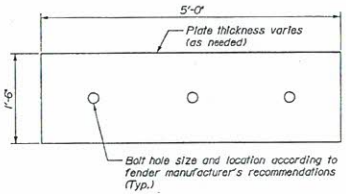


SHIM DETAIL
3" = 1'-0"

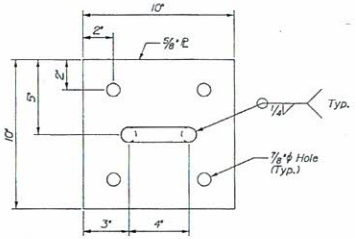


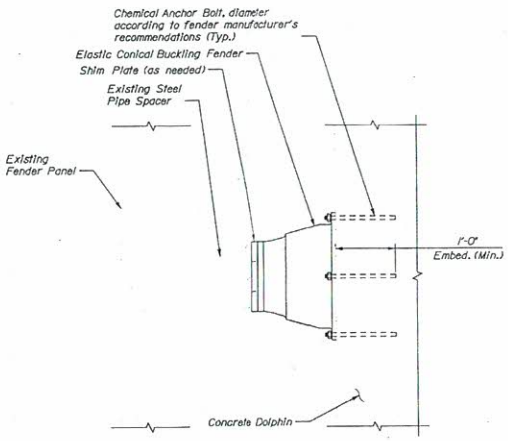
Note: Two levels per fender panel.

SHEAR CHAIN CONFIGURATION
3/4" = 1'-0"

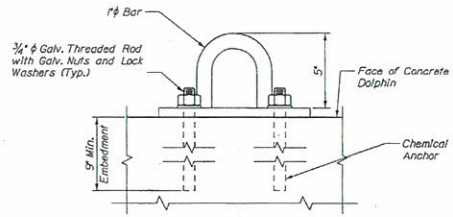


SPACER PLATE DETAIL
1" = 1'-0"





TYPICAL FENDER ATTACHMENT DETAILS
1" = 1'-0"



DOLPHIN PAD EYE DETAIL
3" = 1'-0"

NOTES:

1. Contractor to replace broken or bent chain links, dog bones, or chain tensioners in kind.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023323.00

VINALHAVEN
FERRY TERMINAL

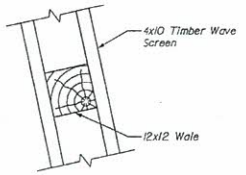
DOLPHIN REPAIR DETAILS

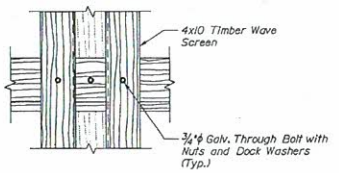
		BY	DATE
PROJ. MANAGER	M. Wiley		
DESIGN-DETAILED	M. Wiley	P. Bishop	04/19
CHECKED-REVIEWED		C. Mark	04/19
DESIGN2-DETAILED3			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE
NOEL
P.E. NUMBER
DATE

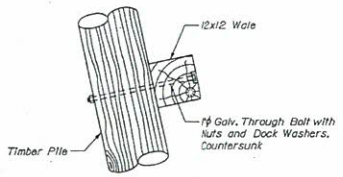
SHEET NUMBER
S10
14 OF 18

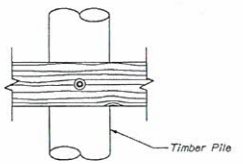
Filename: ...\014_Dolphin Repair Details.dgn Division: Username: Date:4/1/2019





SCREEN CONNECTIONS

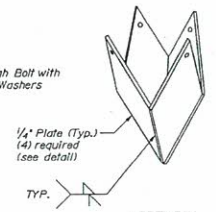




WALE CONNECTIONS

WAVE SCREEN CONNECTIONS

3/4" = 1'-0"



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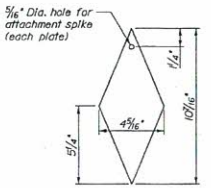
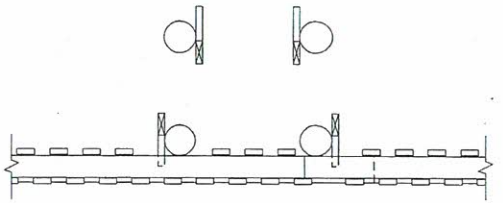


¼" PLATE DETAIL

Note: Dimensions shown similar to pile point manufactured by Associated Pile & Fitting

TIMBER PILE POINT DETAIL

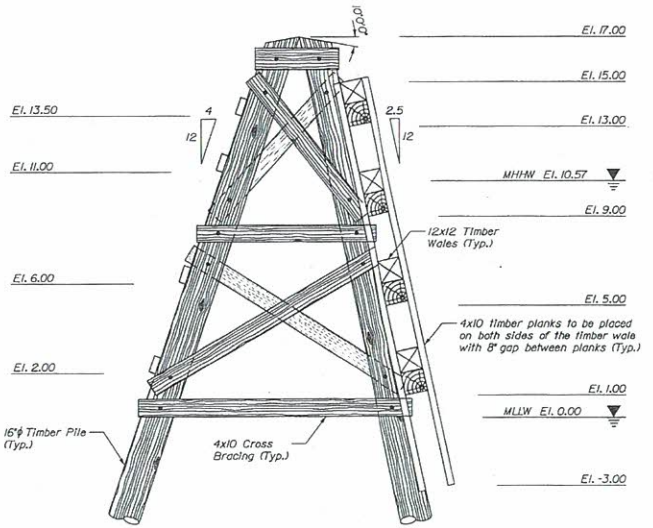
3" = 1'-0"



WAVE SCREEN PLAN VIEW

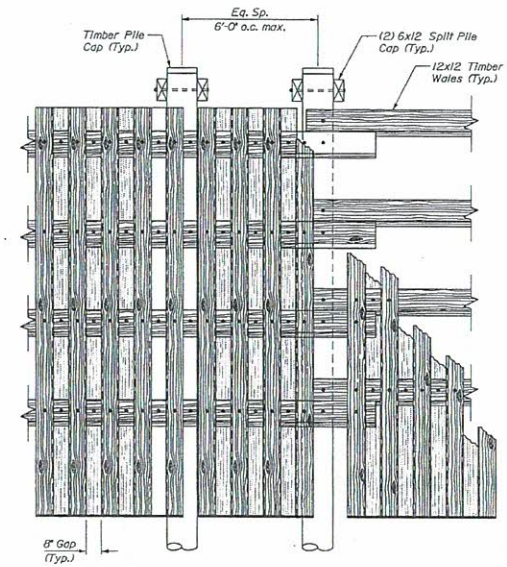
(View shown at El. 11.00)

3/8" = 1'-0"



WAVE SCREEN END ELEVATION

3/8" = 1'-0"



WAVE SCREEN FRONT ELEVATION

3/8" = 1'-0"

NOTES:

1. All bolts are 1" dia. galv. with nuts and dock washers, except where noted.
2. All timber associated with wave screen shall be 2.5 pcf treated.
3. All timber vertical and batter piles shall have a driven capacity of 16 tons or a minimum embedment length of 20 feet. See timber pile point detail.
4. All timber battered piles for wave screens shall be installed at a batter of 4 horiz. on 12 vert. except for the slip side piles which shall have a batter of 2.5 horiz. on 12 vert.
5. Timber shall be southern pine with a stress rating of 1,200 psi. Timber shall be pressure treated in accordance with the specifications.
6. All timber construction shall conform to the national design specification for wood construction of the American Forest and Paper Association.
7. All connections shall be made with ASTM A325, type 1 galvanized bolts and 1/16"ϕ oversized holes and shall have washers on both ends, unless otherwise noted.
8. Field treat all cut and drilled timber surfaces with two coats of preservative containing copper napthanate solution (min. 2% metallic solution) per specifications.
9. Wave screens shall be 6' minimum clear from dolphins.
10. Contractor shall take care while installing timber piles to avoid conflict with steel pipe piles.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023823.00

	BY	DATE
PROJ. MANAGER		
DESIGN-DETAILED	J.N. Wiley	04'19
CHECKED-REVIEWED	P. Bishop	04'19
DESIGN2-DETAILED3	C. Marsh	04'19
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

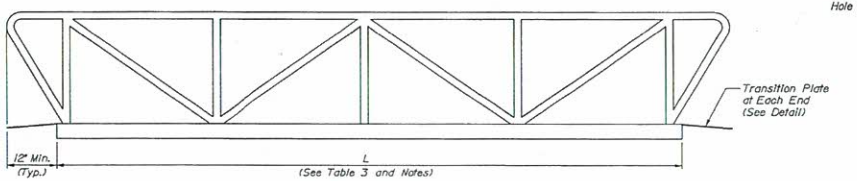
SIGNATURE
0003
P.E. NUMBER
DATE

VINALHAVEN
FERRY TERMINAL

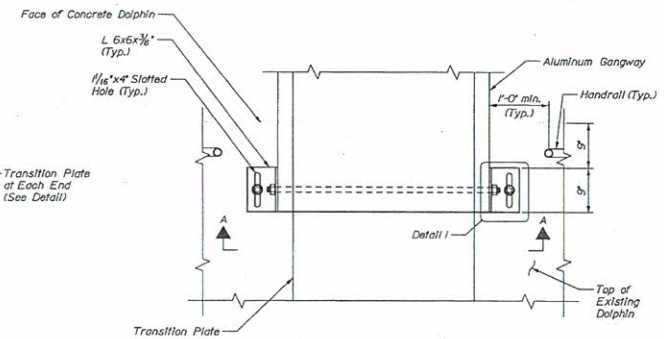
WAVE SCREEN
PLAN AND ELEVATION

SHEET NUMBER
S11
15 OF 18

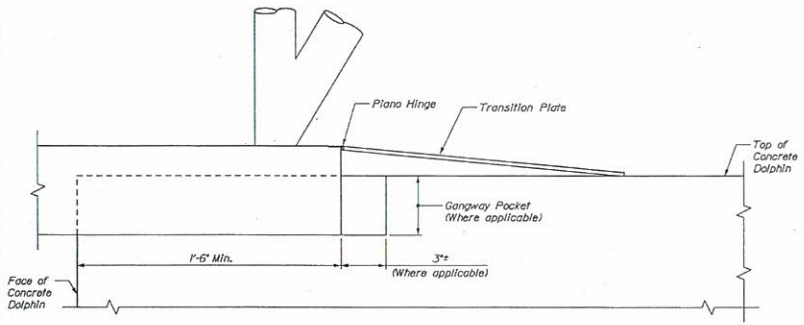
Filename: ...\015_Wave Screen Plan and Elevation.dgn Username: Date:4/4/2019



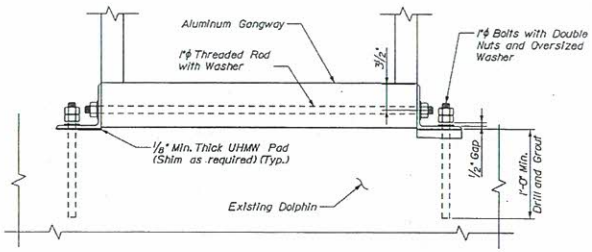
GANGWAY ELEVATION
(Schematically Shown)
1/2" = 1'-0"



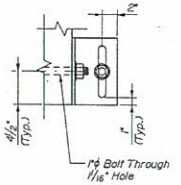
DOLPHIN GANGWAY CONNECTION
(Existing Dolphin shown, proposed Dolphin similar)
1" = 1'-0"



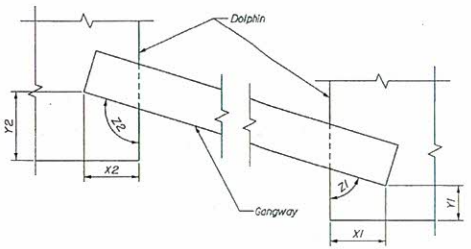
TRANSITION PLATE DETAIL
3" = 1'-0"



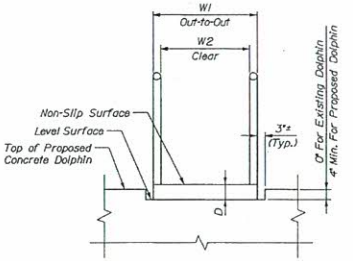
SECTION A-A
1 1/2" = 1'-0"



DETAIL 1
1 1/2" = 1'-0"



GANGWAY LAYOUT
N.T.S.



PROPOSED DOLPHIN GANGWAY TYPICAL SECTION
1/2" = 1'-0"

TABLE 3
GANGWAY DIMENSIONS

	Dimensions											
Gangway I.D.	W1	W2	D	L	Dolphin 1	X1	Y1	Z1	Dolphin 2	X2	Y2	Z2
G1	42"	36"	6"	29'-0"	D8	1'-6"	6'-2"	90'0"	D1	2'-4"	2'-4"	90'26"
G2	42"	36"	6"	29'-0"	D6	2'-3"	2'-6"	90'24"	D7	1'-6"	7'-3"	90'0"

NOTES:

1. See Sheet G02 for design loads.
2. Gangway shall be truss type constructed, fabricated of aluminum grade 6061-T6 marine alloy.
3. Gangway length shall be confirmed or adjusted once dolphins are constructed.
4. Contractor shall field verify dimensions of dolphins and distances between dolphins.
5. Install bolt through gangway prior to installing bolts into existing concrete.
6. Contractor shall provide UHMW shims at gangway ends.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023823.00

	BY	DATE
PROJ. MANAGER		
DESIGN-DETAILED	N. Wiley	04/19
DESIGN-CHECKED	P. Bishop	04/19
DESIGN-DETAILED	C. Kent	04/19
DESIGN-DETAILED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

10259
P.E. NUMBER

DATE

VINALHAVEN
FERRY TERMINAL

GANGWAY
PLAN AND ELEVATION

SHEET NUMBER
S12
16 OF 18

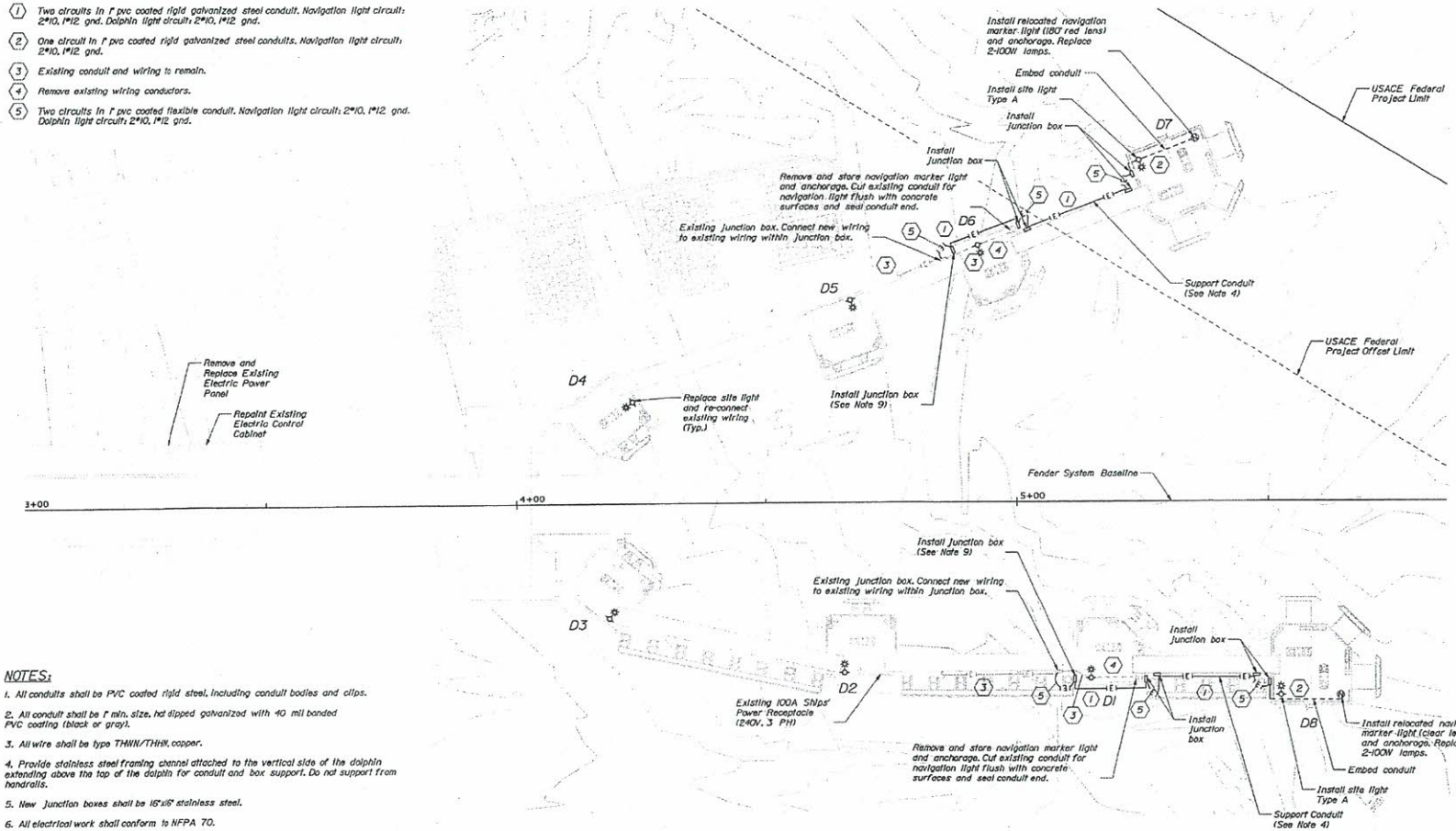
Filename: ...\016_Gangway Plan and Elevation.dgn Division: Username: Date:4/4/2019

Filename: ...\017_ElectricalPlan.dgn Division: Username: Date:3/29/2019

Bartlett Design
LIGHTING & ELECTRICAL ENGINEERING
942 WASHINGTON STREET, BATH, ME 04530
TEL (207) 443-5447 FAX (207) 443-5560

WIRING NOTES:

1. Two circuits in 1" pvc coated rigid galvanized steel conduit. Navigation light circuit: 2#10, 1#12 gnd. Dolphin light circuit: 2#10, 1#12 gnd.
2. One circuit in 1" pvc coated rigid galvanized steel conduits. Navigation light circuit: 2#10, 1#12 gnd.
3. Existing conduit and wiring to remain.
4. Remove existing wiring conductors.
5. Two circuits in 1" pvc coated flexible conduit. Navigation light circuit: 2#10, 1#12 gnd. Dolphin light circuit: 2#10, 1#12 gnd.



PLAN
1" = 10'-0"
10 0 10 20
Scale of Feet

NOTES:

1. All conduits shall be PVC coated rigid steel, including conduit bodies and clips.
2. All conduit shall be 1" min. size, hot dipped galvanized with 40 mil bonded PVC coating (black or gray).
3. All wire shall be type THWN/THHW, copper.
4. Provide stainless steel framing channel attached to the vertical side of the dolphin extending above the top of the dolphin for conduit and box support. Do not support from handrails.
5. New junction boxes shall be 16"x16" stainless steel.
6. All electrical work shall conform to NFPA 70.
7. Verify existing electrical conditions to determine proper installation means and methods.
8. Bond all new junction boxes and connectors to the equipment grounding conductor inside the box.
9. Install junction box over existing conduits that enter the dolphin side wall. Cut existing conduit for navigation light flush with concrete surface and seal conduit end. Extend conduit for existing pole light into new box and connect light pole wiring. Seal conduit penetration into box.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023823.00

		BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	L. Bartlett	P. Ruhlep	04/19
CHECKED-REVIEWED		C. Morin	04/19
DESIGN-DETAILED			
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

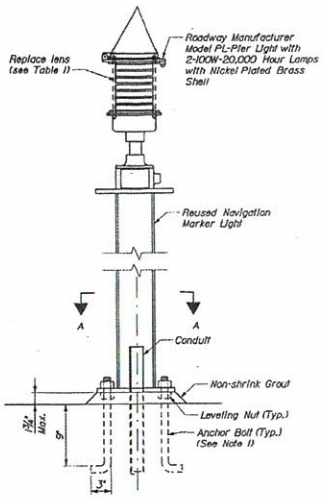
LAWRENCE E. BARTLETT No. 7928 STATE OF MAINE PROFESSIONAL ENGINEER

SIGNATURE 7928
P.E. NUMBER 3/29/2019
DATE

VINALHAVEN
FERRY TERMINAL

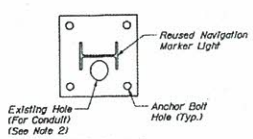
ELECTRICAL PLAN

SHEET NUMBER
E01
17 OF 18



NAVIGATION MARKER INSTALLATION DETAIL

1½" = 1'-0"

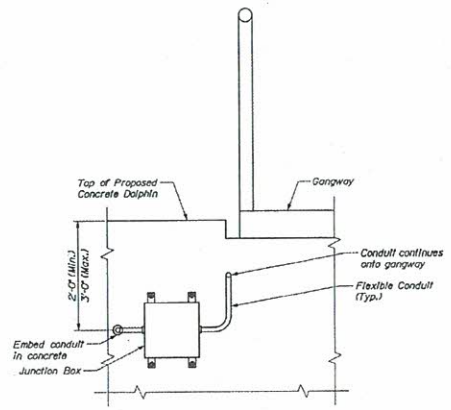


SECTION A-A

1½" = 1'-0"

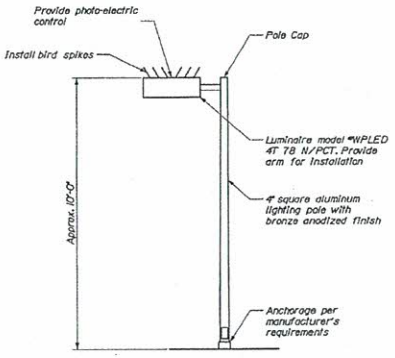
TABLE 1
NAVIGATIONAL MARKER LENS
REPLACEMENT SUMMARY

Location	°of Light Opening	Lamp Size	Lens
Dolphin D7	180°	2-100W A-19	Red
Dolphin D8	360°	2-100W A-19	Clear



EMBEDDED CONDUIT JUNCTION BOX DETAIL

1" = 1'-0"



SITE LIGHT TYPE A DETAIL

N.T.S.

NOTES:

1. Anchor bolt size and pattern shall match the existing condition.
2. Navigation marker wiring connection shall match the existing condition.
3. Where anchorages are removed, bolts and rods shall be cut, ground flush to concrete, and filled with Sika 1A Flex self-leveling sealant, or approved equal.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

WIN
WIN 023823.00

STATE OF MAINE LAWRENCE E. BARTLETT PROFESSIONAL ENGINEER

		BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	L. Bartlett	P. Bishop	04/19
CHECKED-REVIEWED		C. Meyer	04/19
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

Lawrence E. Bartlett
SIGNATURE
7/28/19
P.E. NUMBER
3/29/2019
DATE

VINALHAVEN
FERRY TERMINAL

ELECTRICAL DETAILS

SHEET NUMBER
E02
18 OF 18

Filename: ...\018_ElectricalDetails.dgn Division: Username: Date:3/29/2019

04/06/2017

DEPARTMENT OF ENVIRONMENTAL PROTECTION
PERMIT BY RULE NOTIFICATION FORM

(For use with DEP Regulation, Natural Resouces Protection Act- Permit by Rule Standards, Chapter 305)

PLEASE TYPE OR PRINT IN *BLACK INK ONLY*

APPLICANT INFORMATION (Owner)		AGENT INFORMATION (If Applying on Behalf of Owner)	
Name:	MaineDOT c/o Danielle Tetreau	**Name:**	
Mailing Address:	16 State House Station	**Mailing Address:**	
Town:	Augusta	**Town:**	
State and Zip Code:	Maine 04333	**State and Zip Code:**	
Daytime Phone #:	207-592-2358	**Daytime Phone #:**	
Email Address:	danielle.tetreau@maine.gov	**Email Address:**	

PROJECT INFORMATION

Part of a larger project? (check one):	☐ Yes ■ No	**After the Fact? (check one):**	☐ Yes ■ No	**Project involves work below mean low water? (check one):**	■ Yes ☐ No	**Name of waterbody:**	Carvers Harbor
Project Town:	Vinalhaven	**Project Location (Address):**	Ferry Terminal			**Map & Lot Number:**	Delorme Map 9, A-1
Brief Project Description:	Add 2 turning dolphins, wave screen, walkways, and lighting and fender modifications.						
Brief Directions to Site:	Located at the seaward end of the Vinalhaven ferry terminal.						

PERMIT BY RULE (PBR) SECTIONS (Check at least one): I am filing notice of my intent to carry out work which meets the requirements for Permit By Rule (PBR) under DEP Rules, Chapter 305. **I and my agents, if any, have read and will comply with all of the standards in the Sections checked below.**

- ☐ **Sec. (2) Act. Adj. to Protected Natural Res.**
- ☐ **Sec. (3) Intake Pipes**
- ☐ **Sec. (4) Replacement of Structures**
- ☐ **Sec. (5) REPEALED**
- ☐ **Sec. (6) Movement of Rocks or Vegetation**
- ☐ **Sec. (7) Outfall Pipes**
- ☐ **Sec. (8) Shoreline stabilization**
- ☐ **Sec. (9) Utility Crossing**
- ☐ **Sec.(10) Stream Crossing**
- ■ **Sec. (11) State Transportation Facil.**
- ☐ **Sec. (12) Restoration of Natural Areas**
- ☐ **Sec. (13) F&W Creation/Enhance/Water Quality Improvement**
- ☐ **Sec. (14) REPEALED**
- ☐ **Sec. (15) Public Boat Ramps**
- ☐ **Sec. (16) Coastal Sand Dune Projects**
- ☐ **Sec. (17) Transfers/Permit Extension**
- ☐ **Sec. (18) Maintenance Dredging**
- ☐ **Sec. (19) Activities in/on/over significant vernal pool habitat**
- ☐ **Sec. (20) Activities located in/on/over high or moderate value inland waterfowl & wading bird habitat or shorebird feeding & roosting areas**

DEP COPY

NOTE: Municipal permits *may* also be required. Contact your local code enforcement office for more information. Federal permits may be required for stream crossings and for projects involving wetland fill. Contact the Army Corps of Engineers at the Maine Project Office for more information.

NOTIFICATION FORMS CANNOT BE ACCEPTED WITHOUT THE NECESSARY ATTACHMENTS

- ■ ***Attach*** **all required submissions for the PBR Section(s) checked above. The required submissions for each PBR Section are outlined in Chapter 305 and may differ depending on the Section you are submitting under.**
- ☐ ***Attach*** **a check for the correct fee made payable to: "Treasurer, State of Maine".The current fee for NRPA PBR Notifications can be found at the Department's website: http://www.maine.gov/dep/feesched.pdf**
- ■ ***Attach*** **a location map that clearly identifies the site (U.S.G.S. topo map, Maine Atlas & Gazetteer, or similar).**
- ☐ ***Attach Proof of Legal Name*** **if applicant is a corporation, LLC, or other legal entity. Provide a copy of Secretary of State's *registration information* (available at http://icrs.informe.org/nei-sos-icrs/ICRS?MainPage=x) Individuals and municipalities are not required to provide any proof of identity.**

I authorize staff of the Departments of Environmental Protection, Inland Fisheries & Wildlife, and Marine Resources to access the project site for the purpose of determining compliance with the rules.

I also understand that this PBR becomes effective 14 calendar days after receipt by the Department *unless the Department approves or denies the PBR prior to that date.*

By signing this Notification Form, I represent that the project meets all applicability requirements and standards in the rule and that the applicant has sufficient title, right, or interest in the property where the activity takes place.

Signature of Agent or Applicant:	Danielle Tetreau	**Date:**	2/26/2019

Keep a copy as a record of permit. Send the form with attachments via certified mail or hand deliver to the Maine Dept. of Environmental Protection **at the appropriate regional office listed below**. The DEP will send a copy to the Town Office as evidence of the DEP's receipt of notification. No further authorization by DEP will be issued after receipt of notice. Permits are valid for two years. **Work carried out in violation of any standard is subject to enforcement action.**

AUGUSTA DEP
17 STATE HOUSE STATION
AUGUSTA, ME 04333-0017
(207)287-7688

PORTLAND DEP
312 CANCO ROAD
PORTLAND, ME 04103
(207)822-6300

BANGOR DEP
106 HOGAN ROAD
BANGOR, ME 04401
(207)941-4570

PRESQUE ISLE DEP
1235 CENTRAL DRIVE
PRESQUE ISLE, ME 04769
(207)764-0477

OFFICE USE ONLY	Ck.# IB		Staff AD	Staff	
PBR # 67414	FP $80.00	Date 3/1/19	Acc. Date 3/15/19	Def. Date	After Photos

44°02'36.98"N 68°50'23.36"W

DEPARTMENT OF THE ARMY
GENERAL PERMIT FOR
THE STATE OF MAINE

The New England District of the U.S. Army Corps of Engineers (Corps) hereby issues a General Permit (GP) for activities subject to Corps jurisdiction in waters of the U.S. within the boundaries of the State of Maine. This GP is issued in accordance with Corps regulations at 33 CFR 320 - 332 [see 33 CFR 325.2(e)(2)]. This GP authorizes activity-specific categories of work that are similar in nature and cause no more than minimal individual and cumulative adverse environmental impacts. Refer to Page 2 for the list of activities and Appendix A for activity specific conditions of eligibility in inland and tidal waters.

I. GENERAL CRITERIA

1. In order for activities to qualify for this GP, they must meet the GP's terms and eligibility criteria (Pages 1–4), General Conditions (GC) (Pages 5 – 20), and Appendix A - Definition of Categories.

2. Under this GP, projects may qualify for the following:
   - Category 1: Category 1 Self -Verification Notification Form is required (SVNF – see Appendix B).
   - Category 2: Application to and written approval from the Corps is required (Pre-Construction Notification (PCN)). No work may proceed until written approval from the Corps is received.

If your project is ineligible for Category 1, it may qualify for Category 2 or an Individual Permit and you must submit an application (see Page 3). The thresholds for activities eligible for Categories 1 and 2 are defined in Appendix A. This GP does not affect the Corps Individual Permit review process or activities exempt from Corps regulation.

3. Prospective permittees need to read:
   a. Section II to determine if the activity requires Corps authorization.
   b. Sections III and IV to determine if the activity may be eligible for authorization under this GP, specifically whether it is eligible for Self-Verification (SV) or whether Pre-Construction Notification (PCN) is required.

4. Permittees must ensure compliance with all applicable General Conditions in Section IV. The Corps will consider unauthorized any activity requiring Corps authorization if that activity is under construction or completed and does not comply with all of the terms and conditions.

5. Project proponents are encouraged to contact the Corps with questions at any time. Pre-application meetings (see 33 CFR 325.1(b)), whether arranged by the Corps or requested by permit applicants, are encouraged to facilitate the review of projects. Pre-application meetings and/or site visits can help streamline the permit process by alerting the applicant to potentially time-consuming concerns that are likely to arise during the evaluation of their project (e.g., avoidance, minimization and compensatory mitigation requirements, historic properties, endangered species, essential fish habitat, and dredging contaminated sediments).

II. CORPS JURISDICTION/ACTIVITIES COVERED

1. Permits are required from the Corps of Engineers for the following work:

a. The construction of any structure in, over or under any navigable water of the United States (U.S.) [1], the 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. The Corps regulates these activities under Section 10 of the Rivers and Harbors Act of 1899. See 33 CFR 322;

b. The discharge of dredged or fill material and certain discharges associated with excavation into waters of the U.S. (e.g. sidecasting). The Corps regulates these activities under Section 404 of the Clean Water Act (CWA). See 33 CFR 323; and

c. The transportation of dredged material for the purpose of disposal in the ocean. The Corps regulates these activities under Section 103 of the Marine Protection, Research and Sanctuaries Act. See 33 CFR 324.

2. Related laws:

33 CFR 320.3 includes a list of related laws, including: Section 401 of the CWA, Section 402 of the CWA, Section 307(c) of the Coastal Zone Management (CZM) Act of 1972, The National Historic Preservation Act of 1966, the Endangered Species Act, the Fish and Wildlife Act of 1956, the Marine Mammal Protection Act of 1972, Magnuson-Stevens Act, and Section 7(a) of the Wild and Scenic Rivers Act.

3. An activity listed below may be authorized by this GP only if that activity and the permittee satisfy all of the GP's terms and conditions. Any activity not specifically listed below may still be eligible for the GP; applicants are advised to contact the Corps for a specific eligibility determination. Category 1 and Category 2 eligibility criteria for each activity in both Inland and Tidal waters can be found in Appendix A.

1. Repair, Replacement, Expansion, and Maintenance of Authorized Structures and Fills
2. Moorings
3. Structures, Floats and Lifts
4. Aids to Navigation, and Temporary Recreational Structures
5. Dredging, Disposal of Dredged Material, Beach Nourishment, and Rock Removal and Relocation
6. Discharges of Dredged or Fill Material Incidental to the Construction of Bridges
7. Bank and Shoreline Stabilization
8. Residential, Commercial, Industrial, and Institutional Developments, and Recreational Facilities
9. Utility Line Activities
10. Linear Transportation Projects
11. Mining Activities
12. Boat Ramps and Marine Railways
13. Land and Water-Based Renewable Energy Generation Facilities and Hydropower Projects
14. Reshaping Existing Drainage Ditches and Mosquito Management
15. Oil Spill and Hazardous Material Cleanup
16. Cleanup of Hazardous and Toxic Waste
17. Scientific Measurement Devices
18. Survey Activities
19. Agricultural Activities
20. Fish and Wildlife Harvesting, Enhancement, and Attraction Devices
21. Habitat Restoration, Establishment and Enhancement Activities
22. Previously Authorized Activities
23. Stream & Wetland Crossings
24. Aquaculture

Note: Multiple activities may be authorized in the same GP, e.g. a recreational pier (#3) with an associated mooring (#2) or a windpower facility (#13) with an associated transmission line (#9).

[1] Defined in Appendix F, Definitions and at 33 CFR 328.

III. PROCEDURES

1. State Approvals. Applicants are responsible for applying for and obtaining any of the required state or local approvals. Federal and state jurisdictions may differ in some instances. State permits may be required for specific projects regardless of the general permit category.

In order for authorizations under this GP to be valid, when any of the following state approvals or statutorily-required reviews is also required, the approvals must be obtained prior to the commencement of work in Corps jurisdiction.

- Maine Department of Environmental Protection (DEP): Natural Resources Protection Act (NRPA) permit, including permit-by-rule (PBR) and general permit authorizations; Site Location of Development Act permit; Maine Waterway Development and Conservation Act permit; and Maine Hazardous Waste, Septage, and Solid Waste Management Act license.
- Maine Department of Conservation, Agriculture & Forestry: Land Use Planning Commission (LUPC) permit.
- Maine Department of Marine Resources: Aquaculture Leases.
- Maine Department of Conservation, Bureau of Parks and Lands, Submerged Lands: Submerged Lands Lease.

NOTE: This GP may also be used to authorize projects that are not regulated by the State of Maine (e.g., certain seasonal floats or moorings).

2. How to Obtain/Apply for Authorization.

a. Category 1 (Self-Verification): Self-Verification Notification Form (SVNF) required. The SVNF is required for all SV eligible work in Maine unless otherwise stated in Appendix A. Activities that are eligible for SV are authorized under this GP and may commence without written verification from the Corps provided the prospective permittee has:

i. Confirmed that the activity will meet the terms and conditions of Category 1. Consultation with the Corps and/or other relevant federal and state agencies may be necessary to ensure compliance with the applicable general conditions (GCs) and related federal laws such as the National Historic Preservation Act (see GC 6), the Endangered Species Act (GC 8) and the Wild and Scenic Rivers Act (GC 9). Prospective permittees are encouraged to contact the Corps with SV eligibility questions. Activities not meeting the SV criteria must submit a PCN to the Corps.

ii. Submitted the SVNF (see GC 27 and Appendix B) to the Corps. **NOTE: A copy of a state permit application form may be an acceptable surrogate for the SVNF. Whichever form chosen needs to include a location map, plans, and an Official Species List for federally listed threatened or endangered species (Reference Appendix D).**

b. Category 2 (Pre-Construction Notification (PCN)): Application to and written verification from the Corps is required before work can proceed. For activities that do not qualify for SV or where otherwise required by the terms of the GP, the permittee must submit a PCN and obtain a written permit before starting work in Corps jurisdiction.

i. The Corps will coordinate review of all activities requiring PCN with federal and state agencies and federally recognized tribes, as appropriate. To be eligible and subsequently authorized, an activity must result in no more than minimal individual and cumulative effects on the aquatic environment as determined by the Corps in accordance with the criteria listed within this GP. This may require project modifications involving avoidance, minimization, or compensatory mitigation for unavoidable impacts to ensure that the net adverse effects of a project are no more than minimal.

ii. The Corps will attempt to issue a written eligibility determination within the state's review period. Regardless, work eligible for Category 2 may not proceed before Corps written approval is received.

c. All applicants for Category 2 projects must:

i. Apply directly to the Corps using the state application form or the Corps application form (ENG Form 4345[2]), and apply directly to the state (DEP, LUPC, BPL or DMR) as applicable using the appropriate state form, if the work is regulated by the Corps and the state; or

ii. Apply directly to the Corps using the Corps application form (ENG Form 4345[2]) if the work is regulated by the Corps but not the state (DEP, LUPC, BPL or DMR).

iii. Provide application information (see "Information Typically Required" in Appendix C) to help ensure the application is complete and to speed project review.

iv. Obtain an Official Species List of federally threatened or endangered species in the project area (GC 8).

v. Submit a copy of their application materials to the Maine Historic Preservation Commission (MHPC) *and* all five Indian tribes listed at Appendix E, at the same time, or before, they apply to the Corps, to be reviewed for the presence of historic, archaeological or tribal resources in the permit area that the proposed work may affect. Submittals to the Corps shall include information to indicate that this has been done (a copy of the applicant's cover letter to MHPC and tribes or a copy of the MHPC and tribal response letters is acceptable).

d. Work that is not regulated by the State of Maine, but is subject to Corps jurisdiction, may still be eligible for authorization under this GP.

e. Emergency Situations: 33 CFR 325.2(e)4 states that an "emergency" is a situation which would result in an unacceptable hazard to life, a significant loss of property, or an immediate, unforeseen, and significant economic hardship if corrective action requiring a permit is not undertaken within a time period less than the normal time needed to process the application under standard procedures." Emergency work is subject to the same terms and conditions of this GP as non-emergency work, and similarly, must qualify for authorization under the GP; otherwise an IP is required. The Corps will work with all applicable agencies to expedite verification according to established procedures in emergency situations.

3. Individual Permits. Projects that are not authorized by this GP require an Individual Permit (IP) (33 CFR 325.5) and proponents must submit an application directly to the Corps. This GP does not affect the Corps IP review process or activities exempt from Corps regulation. For general information and application form, see the Corps website or contact the Corps (see Appendix E). The Corps encourages applicants to apply concurrently for a Corps IP and applicable state permits.

The Corps retains discretionary authority on a case-by-case basis to elevate a GP eligible project to an IP based on concerns for the aquatic environment or for any other factor of the public interest [33 CFR 320.4(a)]. Whenever the Corps notifies an applicant that an IP is required, no work in Corps jurisdiction may be conducted until the Corps issues the required authorization in writing indicating that work may proceed.

4. Enforcement/Non-Compliance. Work performed without the required Corps of Engineers permits is subject to administrative, civil, and criminal penalties. The Corps will evaluate unauthorized activities for enforcement action under 33 CFR 326.

The Corps will consider unauthorized any activity requiring Corps authorization if that activity is under construction or completed and does not comply with all of the terms and conditions of a GP or an IP. The Corps may elect to suspend enforcement proceedings if the permittee modifies his project to comply with a GP.

After considering whether a violation was knowing or intentional, and other indications of the need for a penalty, the Corps can elect to terminate an enforcement proceeding with an after-the- fact authorization under a GP, if all terms and conditions of the GP have been satisfied, either before or after the activity has been accomplished.

[2] Located at www.nae.usace.army.mil/missions/regulatory under "Forms & Publications."

IV. GENERAL CONDITIONS

To qualify for GP authorization, the prospective permittee must comply with the following general conditions, as applicable.

1. Other Permits
2. Federal Jurisdictional Boundaries
3. Minimal Direct, Secondary, and Cumulative Impacts
4. Mitigation (Avoidance, Minimization, and Compensatory Mitigation)
5. Single and Complete Projects
6. Historic Properties
7. Corps Projects and Property
8. Federal Threatened and Endangered Species
9. Wild and Scenic Rivers
10. Navigation
11. Federal Liability
12. Utility Line Installation and Removal
13. Heavy Equipment in Wetlands or Mudflats
14. Temporary Fill
15. Restoration of Special Aquatic Sites (including wetland areas).
16. Soil Erosion, Sediment and Turbidity Controls
17. Time of Year Windows/Restrictions.
18. Aquatic Life Movements & Management of Water Flows
19. Water Quality and Coastal Zone Management
20. Floodplains and Floodways
21. Storage of Seasonal Structures
22. Spawning, Breeding, and Migratory Areas
23. Vernal Pools
24. Invasive and Other Unacceptable Species
25. Programmatic Agreements
26. Permit On-Site
27. Self-Verification Notification Form (SVNF)
28. Inspections
29. Maintenance
30. Property Rights
31. Transfer of GP Verifications
32. Modification, Suspension, and Revocation
33. Special Conditions
34. False or Incomplete Information
35. Abandonment
36. Enforcement Cases
37. Duration of Authorization
38. Previously Authorized Activities
39. Discretionary Authority
40. St. John/St. Croix Rivers.
41. National Lands
42. Essential Fish Habitat (EFH)
43. Work Site Restoration
44. Bank Stabilization
45. Stream Work & Crossings and Wetland Crossings

1. Other Permits. Permittees must obtain other federal, state, or local authorizations required by law. Applicants are responsible for applying for and obtaining all required state or local approvals. This includes, but is not limited to, the project proponent obtaining a Flood Hazard Development Permit issued by the town, if necessary. Inquiries may be directed to the municipality or to the Maine Floodplain Management Coordinator at (207) 287-8063. See http://www.maine.gov/dacf/flood/

2. Federal Jurisdictional Boundaries

a. Applicability of this GP shall be evaluated with reference to federal jurisdictional boundaries. Applicants are responsible for ensuring that the boundaries used satisfy the federal criteria defined at 33 CFR 328 "Waters of the U.S." and 33 CFR 329 "Navigable Waters of the U.S."

NOTE: Waters of the U.S. include the subcategories "navigable waters of the U.S." and "wetlands."

b. For Category 1 projects, proponents are not required to delineate the waters of the U.S. that they plan to impact, but must approximate the square footage of impacts in order to determine the review category (1 or 2 or Individual Permit). For projects filling <15,000 square feet (SF) of waters of the U.S. that do not qualify for Category 1 (e.g., vernal pool, secondary or endangered species impacts, etc.) and therefore require an application to the Corps (PCN), and for those filling ≥15,000 SF, applicants shall delineate all waters of the U.S. that will be filled (direct impacts) in accordance with the Corps of Engineers Wetlands Delineation Manual and the most recent regional supplement (see Appendix C). In addition, applicants shall approximately identify all waters of the U.S. on the property and *known* waters adjacent to the property in order for the Corps to evaluate secondary impacts. The waters of the U.S. shall be clearly shown on the project plans submitted with the application. This includes all waters of the U.S. in areas under DEP or LUPC jurisdiction regardless of whether they're shown on LUPC zoning maps.

c. On a case-by-case basis, the Corps may modify/refine the above delineation and identification requirements for waters of the U.S. See www.nae.usace.army.mil/missions/regulatory >> Jurisdictional Limits and Wetlands for more information on delineating jurisdictional areas.

3. Minimal Direct, Secondary, and Cumulative Effects[3]

a. Projects authorized by this GP shall have no more than minimal direct, secondary and cumulative adverse environmental impacts. Category 2 applicants should provide information on secondary and cumulative impacts as stated in Appendix C. Compensatory mitigation may be required to offset unavoidable impacts (see GC 4) and to ensure that they are no more than minimal. Compensatory mitigation requirements will be determined on a case-by-case basis.

b. Secondary impacts to waterway and/or wetland areas, (e.g., areas drained, flooded, cleared, excavated or fragmented) shall be added to the total fill area when determining whether the project qualifies for Category 1 or 2. Direct, secondary and cumulative impacts are defined at Appendix A, Endnote 2 and Appendix F.

c. Site clearing, grading and construction activities in the upland habitat surrounding vernal pools ("Vernal Pool Management Areas") are secondary impacts. See GC 23 for avoidance and minimization requirements and recommendations.

d. Bank stabilization activities in tidal waters are provided at Appendix A, Page 30. Direct impacts in tidal waters from contiguous bank stabilization projects in excess of 200 linear feet (Applicant or Applicant + Abutters combined) must undergo Category 2 review.

4. Mitigation (Avoidance, Minimization, and Compensatory Mitigation)

a. Discharges of dredged or fill material into waters of the U.S., including wetlands, shall be avoided and minimized to the maximum extent practicable through consideration of alternatives. The Corps may require compensatory mitigation of unavoidable direct and secondary impacts associated with Category 2 projects on a case-by-case basis.

b. Applicants proposing work in jurisdictional waters should consider riparian/forested buffers for stormwater management and low impact development (LID) best management practices (BMPs) to reduce

[3] Direct, secondary and cumulative effects are defined at Appendix F, Definitions and Acronyms.

impervious cover and manage stormwater to minimize secondary impacts to aquatic resources to the maximum extent practicable.[4]

c. Compensatory mitigation[5] for effects to waters of the U.S., including direct, secondary and temporal[6], may be required for permanent impacts that exceed the SV area limits, and may be required for temporary impacts that exceed the SV area limits, to offset unavoidable impacts which remain after all appropriate and practicable avoidance and minimization has been achieved and to ensure that the adverse effects to the aquatic environment are no more than minimal. Proactive restoration projects or temporary impact work with no lasting secondary effects may generally be excluded from this requirement. Refer to Appendix G.

5. Single and Complete Projects[7]

a. This GP shall not be used to piecemeal work and shall be applied to single and complete projects. When determining the review category in Appendix A (Category 1 or 2) for a single and complete project, proponents must include any permanent historic fill placed since October 1995 that is associated with that project and all currently proposed temporary and permanent impact areas.

b. A single and complete project must have independent utility[7].

c. Unless the Corps determines the activity has independent utility:

i. This GP shall not be used for any activity that is part of an overall project for which an Individual Permit is required.

ii. All components of a single project and/or all planned phases of a multi-phased project (e.g., subdivisions should include all work such as roads, utilities, and lot development) shall be treated together as constituting one single and complete project.

d. For linear projects, such as power lines or pipelines with multiple crossings, the single and complete project is all crossings of a single water of the U.S. (i.e., single waterbody) at a specific location. For linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project. 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. If any crossing requires a Category 2 activity, then the entire linear project shall be reviewed as one project under Category 2.

6. Historic Properties

a. No undertaking shall cause effects (defined at 33 CFR 325 Appendix C and 36 CFR 800) on properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places[8], including previously unknown historic properties within the permit area, unless the Corps or another Federal action agency has satisfied the consultation requirements of Section 106 of the National Historic Preservation Act (NHPA). The State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO) and the National Register of Historic Places can assist with locating information on: i) previously identified historic properties; and ii) areas with potential for the presence of historic resources, which may require identification and evaluation by qualified historic preservation and/or archaeological consultants in consultation with the Corps and the SHPO and/or THPO(s).

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[4] See: www.nae.usace.army.mil/missions/regulatory >> State General Permit >> Permit Resources >> Mitigation for this additional information: a) "Wetland BMP Manual - Techniques for Avoidance & Minimization," b) riparian/forested buffer BMPs, and c) LID BMPs. LID BMPs include, but are not limited to: replacing curbs and gutters with swales; using an open space design for subdivisions; using permeable, pervious or porous pavements; constructing bio-retention systems; and/or, adding a green roof or rain garden.

[5] Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR 332. See also the New England District Compensatory Mitigation Guidance at www.nae.usace.army.mil/regulatory >> Mitigation.

[6] Temporal loss: The time lag between the loss of aquatic resource functions caused by the permitted impacts and the replacement of aquatic resource functions at the compensatory mitigation site(s) (33 CFR 332.2).

[7] Single and Complete Project and Independent Utility are defined in Appendix F - Definitions.

[8] The majority of historic properties are not listed on the National Register of Historic Places and may require identification and evaluation by qualified historic preservation and/or archaeological consultants in consultation with the Corps and the SHPO and/or THPO(s).

b. For activities eligible for SV, proponents must ensure and document that the activity will not cause effects as stated in 6(a). Proponents must submit a PCN if the authorized activity may cause effects as stated in 6(a) as soon as possible to ensure that the Corps is aware of any potential effects of the permitted activity on any historic property to ensure all Section 106 requirements are met.

c. All PCNs shall: i) show notification to the SHPO and applicable THPO(s)[9] for their identification of historic properties, ii) state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties, and iii) include any available documentation from the SHPO or THPO(s) indicating that there are or are not historic properties affected. Starting consultation early in project planning can save proponents time and money.

d. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you 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.

7. Corps Projects and Property

a. In addition to any authorization under this GP, proponents must contact the Corps Real Estate Division at (978) 318-8585 for work occurring on or potentially affecting Corps properties and/or Corps-controlled easements to initiate reviews and determine what real estate instruments are necessary to perform work. Permittees may not commence work on Corps properties and/or Corps-controlled easements until they have received any required Corps real estate documents evidencing site-specific permission to work.

b. Any proposed temporary or permanent alteration, or modification or use, including occupation, 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 but not necessarily owned by the United States), which would obstruct or impair the usefulness of the federal project in any manner, and/or would involve changes to the authorized federal project's scope, purpose, and/or functioning that go beyond minor modifications required for normal operations and maintenance, is not eligible for SV and requires review and approval by the Corps pursuant to 33 USC 408. Where Section 408 is applicable, a decision on a Department of the Army general permit application will not be rendered prior to the decision on a Section 408 request.

c. Any structure or work within any Corps Federal Navigation Project (FNP) or its buffer zone[10], shall be subject to removal at the owner's expense prior to any future Corps dredging or the performance of periodic hydrographic surveys. See GC 10 for more requirements related to FNPs.

8. Federal Threatened and Endangered Species

a. No activity is authorized which: i) 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 the critical habitat of such species; ii) "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed; or iii) violates the ESA.

b. **All applicants must request an Official Species List from the US Fish & Wildlife Service and must include the list in the Corps permit application. To request an Official Species List, refer to the instructions in Appendix D.**

c. For federally listed species in tidal waters, applicants should contact the National Marine Fisheries Service at: http://www.greateratlantic.fisheries.noaa.gov/protected/section7/

[9] Appendix E, 3(a)&(b). Historic Resources, provides contact information and each tribe's "area of concern."
[10] See Appendix H for a list of FNPs. The buffer zone is equal to three times the authorized depth of the FNP.

d. A PCN is required if a threatened or endangered species, a species proposed for listing as threatened or endangered, or designated or proposed critical habitat (all hereinafter referred to as "listed species or habitat"), as identified under the ESA, is present in the action area[11].

e. Federal agencies should follow their own procedures for complying with the requirements of the ESA but should coordinate that consultation with the Corps as well.

9. Wild and Scenic Rivers.[12] Any activity that occurs in the designated main stem of, within 0.25 mile up or downstream of the designated main stem of, or in tributaries within .25 miles of the designated main stem of a National Wild and Scenic River, or in "bordering and contiguous wetlands" (see Appendix A, Endnote 1) that are adjacent to the designated main stem of a National Wild and Scenic River, or that has the potential to alter flows within a river within the National Wild and Scenic River System, is not eligible for Category 1 regardless of size of the impacts. This condition applies to both designated Wild and Scenic Rivers and rivers officially designated by Congress as study rivers for possible inclusion while such rivers are in an official study status. National Wild and Scenic Rivers System segments for Maine as of October 2015 include: Allagash River beginning at Telos Dam continuing to Allagash checkpoint at Eliza Hole Rapids, approximately 3 miles upstream of the confluence with the St. John River (length = 92 miles); and 11.25 miles of the York River, in the State of Maine, from its headwaters at York Pond to the mouth of the river at York Harbor, plus its tributaries (currently under study).

10. Navigation

a. Any structure or work that extends closer to the horizontal limits of any Corps Federal Navigation Project (see Appendix H) than a distance of three times the project's authorized depth shall be subject to removal at the owner's expense prior to any future Corps dredging or the performance of periodic hydrographic surveys. This is applicable to Category 1 and 2. Reference Appendix A, Page 28 (Moorings) and Page 29 (Structures, Floats & Lifts).

b. There shall be no unreasonable interference with navigation by the existence or use of the activity authorized herein, and no attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the activity authorized herein.

c. The permittee understands and agrees that if future U.S. operations 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 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, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the U.S. No claim shall be made against the U.S. on account of any such removal or alteration.

d. A PCN is required for all work in, over or under an FNP or its buffer zone unless otherwise indicated in Appendix A. (Reference Appendix A, Endnote 13, Page 36)

11. Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following: (a) damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes; (b) damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the U.S. in the public interest;
(c) damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit; (d) design or construction deficiencies associated with the permitted work; (e) damage claims associated with any future modification, suspension, or revocation of this permit.

12. Utility Line Installation and Removal

a. Subsurface utility lines shall remain subsurface. If it is necessary to discharge dredged or filled material not previously authorized in order to keep such utility lines buried or restore them to their original subsurface condition, a PCN and written verification from the Corps may be required (e.g., in the case of side

[11] The "Endangered Species Consultation Handbook – Procedures for Conducting Consultation and Conference Activities Under Section 7 of the ESA," defines action area as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. [50 CFR 402.02]."
[12] Additional information can be found at: http://www.rivers.gov.

casting into wetlands from utility trenches). Certain repair, replacement or maintenance activities may be eligible for Category 1 – refer to Appendix A.

b. Subsurface utility lines must be installed at a sufficient depth to avoid damage from anchors, dredging, etc., and to prevent exposure from erosion and stream adjustment. In accordance with Corps New England District Regulation NEDER 1110-1-9 (www.nae.usace.army.mil/missions/regulatory >> Useful Links and Documents), as an absolute minimum, the bottom cover associated with the initial installation of utility lines under navigable waters and navigation channels shall be 48 inches in soil or 24 inches in rock excavation in competent rock unless specified in a written determination. These minimum bottom cover requirements for pipelines and cables shall be measured from the maximum depth of dredging to the top of the utility. The maximum depth of dredging, in waterways having existing FNPs, is generally considered to be the authorized project depth plus any allowance for advanced maintenance and the allowable overdepth for dredging tolerances. In waterways that do not have existing FNPs, this depth should be taken as two feet below the existing bottom or maximum depth of proposed dredging, as applicable.

c. Aerial utility lines that cross navigable waters must meet minimum clearances. See 33CFR322.5(i).

d. For horizontal directional drilling work, returns of drilling fluids to the surface (i.e., frac-outs) are not authorized and require restoration to the maximum extent practicable in accordance with the terms and conditions of this GP. The permittee and its contractor shall have onsite and shall implement the procedures detailed in a frac-out contingency plan for monitoring drilling operations and for the immediate containment, control and recovery/removal of drilling fluids released into the environment should a discharge of material occur during drilling operations.

e. Within the context of any new installations, any abandoned or inactive utility lines should be removed and faulty lines (e.g., leaking hazardous substances, petroleum products, etc.) should be removed or repaired to the extent practicable. A PCN and written verification from the Corps is required if they are to remain in place, e.g., to protect sensitive areas or ensure safety.

f. No work shall drain a water of the U.S. by providing a conduit for water on or below the surface. Trench plugs installed along pipelines may be effective.

13. Heavy Equipment in Wetlands or Mudflats. Operating heavy equipment other than fixed equipment (drill rigs, fixed cranes, etc.) within wetlands shall be minimized, and such equipment shall not be stored, maintained or repaired in wetlands, to the maximum extent practicable. Where construction requires heavy equipment operation in wetlands, the equipment shall either have low ground pressure (typically <3 psi), or it shall be placed on swamp/construction/timber mats (herein referred to as "construction mats" and defined at Appendix A, Endnote 4) that are adequate to support the equipment in such a way as to minimize disturbance of wetland soil and vegetation. Construction mats are to be placed in the wetland from the upland or from equipment positioned on swamp mats if working within a wetland. Dragging construction mats into position is prohibited. Other support structures that are capable of safely supporting equipment may be used with written Corps authorization (Category 2 authorization or Individual Permit). Similarly, the permittee may request written authorization from the Corps to waive use of mats during frozen, dry or other conditions. An adequate supply of spill containment equipment shall be maintained on site. Construction mats should be managed in accordance with the Construction Mat BMPs at www.nae.usace.army.mil/missions/regulatory >> State General Permits >> Permit Resources.

14. Temporary Fill. Temporary fill that qualifies for Category 1 (e.g., <15,000 SF of combined temporary and permanent fill associated with the single and complete project) or is authorized in writing under Category 2, shall adhere to the following:

a. All temporary fill and disturbed soils shall be stabilized to prevent its eroding into waters of the U.S. where it is not authorized. Work shall include phased or staged development to ensure only areas under active development are exposed and to allow for stabilization practices as soon as practicable, typically within three calendar days after disturbance. Accelerated stabilization (the providing of temporary or permanent cover by the end of the work day to prevent erosion) shall be employed as necessary. Temporary fill must be placed in a manner that will prevent it from being eroded by expected high flows.

b. Unconfined temporary fill authorized for discharge into waters of the U.S. (e.g., temporary stream crossings) shall consist of material that minimizes impacts to water quality (e.g. washed stone, stone, etc.).

c. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable when temporary structures, work, and discharges of dredged or fill material, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Place materials in a location and manner that does not adversely impact surface or subsurface water flow into or out of the wetland. Temporary fill authorized for discharge into wetlands shall be placed on geotextile fabric or other appropriate material laid on the pre-construction wetland grade where practicable to minimize impacts and to facilitate restoration to the original grade. Construction mats are excluded from this requirement.

d. Temporary fill, construction mats and corduroy roads shall be entirely removed as soon as they are no longer needed to construct the authorized work. Temporary fill shall be placed in its original location or disposed of at an upland site and suitably contained to prevent its subsequent erosion into waters of the U.S. To qualify for Category 1, temporary fill placed during the: i.) growing season must be removed before the beginning of the next growing season; and ii.) non-growing season may remain throughout the following growing season, but must be removed before the beginning of the next growing season.

e. Temporary fill, construction mats and corduroy roads are considered temporary only if they are removed as soon as they are no longer needed to construct the authorized work.

f. Construction debris and/or deteriorated materials shall not be located in waters of the U.S.

15. Restoration of Special Aquatic Sites (Including Wetland Areas)

a. Temporary fills must be removed in their entirety and the affected areas restored to their pre-construction condition, function and elevation. Restoration shall typically commence no later than the completion of construction.

b. For excavated areas, "restored to pre-construction condition, function and elevation" means careful removal of existing soil and vegetation, separate topsoil and subsoil stockpiling, soil protection, and replacement back to the original location such that the original soil layering and vegetation schemes are approximately the same, unless otherwise authorized. Plan for natural settling that will occur (the initial post-restoration elevation of the backfilled areas should be above the desired final grade as topsoil may settle by 33% to 50%), minimize compaction, and ensure that topsoil is void of gravel and subsoil. A minimum of 4 inches of topsoil should be at the surface after the soil has settled. Wetland areas temporarily disturbed shall be stabilized (e.g., seeded or planted). Seed mixes and vegetation shall include only plant species native to New England and shall not include any species listed as "Invasive and Other Unacceptable Plant Species" in the "New England District Compensatory Mitigation Guidance" (see GC 24 and refer to Appendix G). This list may be updated periodically.

c. Limit compaction to the minimum needed to promote a successful seedbed; avoid a 'fluffy' seedbed, which is susceptible to erosion until the plants get established, and a compacted topsoil layer, which is counter-productive and will lead to greater erosion susceptibility down the road. Test soils for compaction. A soil probe, auger, or shovel should be able to retrieve samples of post-restoration profile. Equipment refusal shall be considered a failure of restoration, in which case the soil should be restored through deep-ripping and/or de-compaction, or other appropriate methods, and wetland hydrology must be maintained. See the BMPs at www.nae.usace.army.mil/missions/regulatory >> State General Permits >> Permit Resources >> Restoration.

d. In areas of authorized temporary disturbance, cut woody vegetation (trees, shrubs, etc.) shall be cut at or above ground level and not uprooted in order to prevent disruption to the wetland soil structure and to allow stump sprouts to revegetate the work area, unless otherwise authorized.

e. Trenches shall be constructed or backfilled so that the trench does not drain waters of the U.S. (e.g., materials or methods that create a French drain effect).

16. Soil Erosion, Sediment and Turbidity Controls

a. Adequate sedimentation and erosion control management measures, practices and devices, such as phased construction, installation of sediment control barriers (i.e. silt fence, vegetated filter strips, geotextile silt fences, erosion control mixes, hay bales or other devices) downhill of all exposed areas, retention of existing vegetated buffers, application of temporary mulching during construction, and permanent seeding and stabilization shall be installed and properly maintained to reduce erosion and retain sediment on-site during and after construction. They shall be capable of preventing erosion; of collecting sediment, suspended and floating materials; and of filtering fine sediment.

b. Temporary sediment control barriers shall be removed upon completion of work, but not until all disturbed areas are permanently stabilized. The sediment collected by these sediment barriers shall be removed and placed at an upland location and stabilized to prevent its later erosion into a waterway or wetland.

c. All exposed soil and other fills shall be permanently stabilized at the earliest practicable date .

17. Time of Year Work Windows/Restrictions. For activities where work is authorized in streams and tidal waters that causes turbidity or sediment re-suspension or other construction related disturbances, work must be conducted during the following TOY work windows (not during the TOY restrictions) unless otherwise authorized by the Corps under Category 2 review:

	TOY Restriction (no work)	TOY Work Window (work allowed)
Non-tidal waters	Oct. 01 through Jul. 14	Jul. 15 through Sep. 30
Tidal waters	Apr. 10 through Nov. 07	Nov. 08 through Apr. 09

Alternate windows authorized under Category 2 may include species specific windows recommended by the Maine Dept. of Marine Resources and/or Maine Dept. of Inland Fisheries & Wildlife.

18. Aquatic Life Movements & Management of Water Flows

a. 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. Unless otherwise stated, activities impounding water in a stream require a PCN to ensure impacts to aquatic life species are avoided and minimized. All permanent and temporary crossings of waterbodies (e.g., streams, wetlands) shall be:

i. Suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species; and

ii. Properly aligned and constructed to prevent bank erosion or streambed scour both adjacent to and inside the culvert. Permanent and temporary crossings of wetlands shall be suitably culverted, spanned or bridged in such a manner as to preserve hydraulic and ecological connectivity between the wetlands on either side of the road.

b. To avoid adverse impacts on aquatic organisms, the low flow channel/thalweg shall remain unobstructed during periods of low flow, except when it is necessary to perform the authorized work.

c. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high 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).

19. Water Quality and Coastal Zone Management

a. Applicants must satisfy any conditions imposed by the state and EPA, where applicable, in their CWA § 401 Water Quality Certifications (WQC) for this GP, or in any Individual § 401 WQC. See Appendix E for state-specific contact information and to determine if any action is required to obtain a 401 WQC. The Corps may require additional water quality management measures to ensure that the authorized activity does not cause or contribute to a violation of water quality standards. All projects authorized by this GP shall be designed, constructed and operated to minimize or eliminate the discharge of pollutants.

b. Applicants must satisfy any additional conditions imposed by the state in their Coastal Zone Management (CZM) Act consistency concurrences for this GP, or in any Individual CZM consistency concurrences. The Corps may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

20. Floodplains and Floodways

a. Appropriate measures must be taken to minimize flooding to the maximum extent practicable.

b. Activities within 100-Year Floodplains must comply with applicable Federal Emergency Management Agency (FEMA)-approved state and/or local floodplain management permitting requirements. Proponents may need to coordinate with FEMA and apply for a formal change to the flood insurance study products or forward a set of project plans and relevant technical documentation in a digital format to the Risk

Analysis Branch Chief, Mitigation Division, FEMA, Region 1, 99 High Street, Boston, Massachusetts 02110. Applicants should provide a copy of any documentation to the Corps along with the PCN.

c. Proponents may have to obtain a Flood Hazard Development Permit issued by the town. Inquiries may be directed to the municipality or to the Maine Floodplain Management Coordinator at (207) 287-8063. See http://www.maine.gov/dacf/flood/

21. Storage of Seasonal Structures. Seasonal or recreational structures such as pier sections, floats, aquaculture structures, 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 landward of mean high water (MHW) or ordinary high water (OHW) and not in wetlands, tidal wetlands, their substrate or on mudflats. These seasonal structures may be stored on the fixed, pile-supported portion of the structure that is waterward of MHW or OHW. Seasonal storage of structures in navigable waters, e.g., in a protected cove on a mooring, requires Corps approval and local harbormaster approval.

22. Spawning, Breeding, and Migratory Areas

a. Jurisdictional activities and impacts such as excavations, discharges of dredged or fill material, and/or suspended sediment producing activities in jurisdictional waters that provide value as fish migratory areas, fish and shellfish spawning or nursery areas, or amphibian and migratory bird breeding areas, during spawning or breeding seasons shall be avoided and minimized to the maximum extent practicable.

b. Jurisdictional activities in waters of the United States that provide value as breeding areas for migratory birds must be avoided to the maximum extent practicable. The permittee is responsible for obtaining any "take" permits required under the USFWS's regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the USFWS to determine if such "take" permits are required for a particular activity (See Appendix E).

23. Vernal Pools

a. Only vernal pools that meet the current definition of waters of the U.S. are regulated by the Corps.

b. Direct and indirect adverse effects to all vernal pools (VPs), including their envelopes and critical terrestrial habitats (VP Management Areas[13]), shall be avoided and minimized to the maximum extent practicable. Site clearing, grading, and construction activities associated with a regulated activity in the VP Management Area may cause these adverse effects to the VP.

c. The State of Maine has specific protections for vernal pools.[14]

d. When any regulated activities occur within 750 feet of a vernal pool, the following management practices must be followed for all work within any VP Management Area (750' of a VP's edge) *in order to qualify for Category 1*:

i. No disturbance within the VP Depression or VP Envelope (area within 100 feet of the VP Depression's edge)[15];

ii. Maintain a minimum of 75% of the Critical Terrestrial Habitat (area within 100-750 feet of the VP Depression's edge) as unfragmented forest with at least a partly-closed canopy of overstory trees to provide shade, deep litter and woody debris;

iii. Maintain or restore forest corridors connecting wetlands and significant vernal pools;

iv. Minimize forest floor disturbance; and

v. Maintain native understory vegetation and downed woody debris.

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[13] The Corps VP Management Area, which includes the VP and a 750' radius from the VP's edge, is defined at Appendix A, Endnote 5.

[14] Appendix G, 10(a)-(d) provides links to the state's Significant Wildlife Habitat regulations and references that provide impact minimization measures to reference when designing projects.

[15] The no disturbance requirement in the VP envelope [see (b)(i)(1)], and (b)(i)(2), do not apply to temporary impacts associated with construction mats in previously disturbed areas of existing utility project (e.g., transmission lines, gas pipelines) or linear transportation project (e.g., roads, highways, railways, trails, airport runways and taxiways) right-of-ways provided there is a Vegetation Management Plan that avoids, minimizes and mitigates impacts to aquatic resources.

vi. Cape Cod style-curbing or no curbing options shall be used on new roads to facilitate amphibian passage. (Reference Appendix G)

e. A PCN is required for any regulated activity within 750' of a vernal pool when all work within the VP Management Area does not comply with the Category 1 requirements in (d) above. Information on directional buffers in accordance with the VP Directional Buffer Guidance document may be provided in order to demonstrate minimal impact and avoid compensation requirements (Reference Appendix G). Conservation of the un-impacted area within the VP Management Area will often be required.

f. GC 2 requires applicants to delineate or approximately identify on the project plans all waters of the U.S., which contain vernal pools.

g. GC 23(b-d) do not apply to projects that are within a municipality and meet the provisions of a Corps-approved VP Special Area Management Plan (VP SAMP) and are otherwise eligible for self-verification.

24. Invasive and Other Unacceptable Species[16]

a. The introduction or spread of invasive or other unacceptable plant or animal species on the project site or areas adjacent to the project site caused by the site work shall be avoided to the maximum extent practicable. For example, construction mats and equipment shall be thoroughly cleaned and free of vegetation and soil before and after use. The introduction or spread of invasive plant or animal species on the project site caused by the site work shall be controlled.

b. No cultivars, invasive or other unacceptable plant species may be used for any mitigation, bioengineering, vegetative bank stabilization or any other work authorized by this GP. However, non-native species and cultivars may be used when it is appropriate and specified in a written verification, such as using *Secale cereale* (Annual Rye) to quickly stabilize a site. All PCNs should explain the reason for using non-native species or cultivars.

25. Programmatic Consultations or Agreements. The Corps requirements to comply with Section 106 of the NHPA, Section 7 of the Endangered Species Act or Essential Fish Habitat conservation under the Magnuson-Stevens Act may be satisfied by a Programmatic Agreement with the Corps, New England District or another federal action agency. Any Corps, New England District Programmatic Agreements will be available on our website.

26. Permit On Site. The permittee shall ensure that a copy of this GP and any accompanying authorization letter with attached plans are at the site of the work authorized by this GP whenever work is being performed and that all construction personnel performing work which may affect waters of the U.S. are aware of its terms and conditions. The entire permit authorization shall be made a part of any and all contracts and subcontracts for work that affects areas of Corps jurisdiction at the site of the work authorized by this GP. This shall be achieved by including the entire permit authorization in the specifications for work. The term "entire permit authorization" means this entire GP and the authorization letter (including its drawings, plans, appendices and other attachments) and also includes permit modifications. If the authorization letter is issued after the construction specifications, but before receipt of bids or quotes, the entire permit authorization shall be included as an addendum to the specifications. If the authorization letter is issued after receipt of bids or quotes, the entire permit authorization shall be included in the contract or subcontract. Although the permittee may assign various aspects of the work to different contractors or subcontractors, all contractors and subcontractors shall be obligated by contract to comply with all environmental protection provisions contained within the entire GP authorization, and no contract or subcontract shall require or allow unauthorized work in areas of Corps jurisdiction.

[16] For the purposes of this GP, plant species that are considered invasive and unacceptable are provided in Appendix G "Invasive and other Unacceptable Plant Species" of our document "Compensatory Mitigation Guidance" at www.nae.usace.army.mil/missions/regulatory >> Mitigation. Chapter 4(e) Planting is also particularly relevant. The June 2009 "Corps of Engineers Invasive Species Policy" provides policy, goals and objectives and is located at www.nae.usace.army.mil/missions/regulatory >> Invasive Species. Additional information can be found at: www.eddmaps.org/ipane.

27. Self-Verification Notification Form (SVNF). Permitees must complete and submit the SVNF provided at Appendix B to the Corps for work authorized by this GP unless otherwise noted in Appendix A. **NOTE: A copy of a state permit application form may be an acceptable surrogate for the SVNF provided either form used also include plans and an Official Species List of federally listed threatened or endangered species.**

28. Inspections. The permittee shall allow the Corps to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of this GP and any written verification. The Corps may also require post-construction engineering drawings for completed work, post-dredging survey drawings for any dredging work, or other post-construction reports. To facilitate these inspections, the permittee shall complete and return to the Corps the following forms:

- For Category 1/Self-Verification: The SVNF (see Appendix B).
- For Category 2/PCN: The a) Work-Start Notification Form and b) Compliance Certification Form, when either is provided with the authorization letter.

29. Maintenance

a. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable general conditions and activity-specific conditions to a written verification.

b. The requirement in (a) above does not include maintenance of dredging projects. Each maintenance dredging event exceeding the self-verification limits requires a new PCN unless an unexpired, written PCN or other Corps authorization specifies that the permittee may "dredge and maintain" an area for a particular time period. Self-verification or PCN maintenance dredging includes only those areas and depths previously authorized and actually dredged. Maintenance dredging with ocean or open water disposal will always require a PCN and at least Category 2 review.

c. Some maintenance activities may not be subject to regulation under Section 404 in accordance with 33 CFR 323.4(a)(2). Refer to Appendix A, Endnote 7.

30. Property Rights. This GP does not convey any property rights, either in real estate or material, or any exclusive privileges, nor does it authorize any injury to property or invasion of rights or any infringement of federal, state, or local laws or regulations.

31. Transfer of GP Verifications. When the structures or work authorized by this GP are still in existence at the time the property is transferred, the terms and conditions of this GP, including any special conditions, will continue to be binding on the entity or individual who received the GP authorizations, as well as the new owner(s) of the property. If the permittee sells the property associated with a GP verification, the permittee may transfer the GP verification to the new owner by submitting a letter to the Corps (see Appendix E for address) to validate the transfer. A copy of the GP verification must be attached to the letter, and *the letter must contain the new owner's contact information and the following statement and signature:*

"When the structures or work authorized by this GP are still in existence at the time the property is transferred, the terms and conditions of this GP, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this GP and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

_____

(Transferee)

_____

(Date)

32. Modification, Suspension, and Revocation. Any work authorized under this GP by self-verification or PCN may be either modified, suspended, or revoked, in whole or in part, pursuant to the policies and procedures of 33 CFR 325.7. Any such action shall not be the basis for any claim for damages against the U.S.

33. Special Conditions. The Corps may independently, or at the request of the federal resource agencies, impose other special conditions on a project authorized pursuant to this GP that are determined necessary to minimize adverse navigational and/or environmental effects or based on any other factor of the public interest. Failure to comply with all terms and conditions of the authorization, including special conditions, constitutes a permit violation and may subject the permittee to criminal, civil or administrative penalties and/or an ordered restoration.

34. False or Incomplete Information. If the Corps makes a determination regarding the eligibility of a project under this GP and subsequently discovers that it has relied on false, incomplete or inaccurate information provided by the permittee, the Corps may determine that the GP authorization is not valid; modify, suspend or revoke the authorization; and the U.S. Government may institute legal proceedings.

35. Abandonment. If the permittee decides to abandon the activity authorized under this GP, unless such abandonment is merely the transfer of property to a third party, he/she may be required to restore the area to the satisfaction of the Corps.

36. Enforcement cases. This GP does not apply to any existing or proposed activity in Corps jurisdiction associated with an ongoing Corps or EPA enforcement action, until such time as the enforcement action is resolved or the Corps or EPA, as appropriate, determines that the activity may proceed independently without compromising the enforcement action.

37. Duration of Authorization. This GP expires on October 12, 2020. Activities authorized under this GP that have commenced (i.e., are under construction) or are under contract to commence before this GP expires will have until October 12, 2021 to complete the activity under the terms and conditions of the current GP.

38. Previously Authorized Activities.

a. Projects that have received authorization (Category 1 or 2) from the Corps and that were completed under the previous PGPs, nationwide permits, regional general permits or letters of permission, shall remain authorized.

b. Activities authorized pursuant to 33 CFR Part 330.3 ("Activities occurring before certain dates") are not affected by this GP.

c. Any work not commenced nor completed that was authorized in a written letter from the Corps under the GP in effect between October 12, 2010 and October 12, 2015 remains authorized subject to the terms and general conditions of this GP along with any special conditions in the authorizing written letter. Exception – if previously authorized work is not commenced and a new federally listed threatened or endangered species could be affected, the Corps must consult with the Service(s) prior to re-authorizing the work under this GP. Requests for re-authorization must include an updated Official Species list. To request an Official Species List, refer to the instructions in Appendix D.

39. Discretionary Authority. Notwithstanding compliance with the terms and conditions of this permit, the Corps retains discretionary authority to require Category 2 or Individual Permit review based on concerns for the aquatic environment or for any other factor of the public interest [33 CFR 320.4(a)]. This authority is invoked on a case-by-case basis whenever the Corps determines that the potential consequences of the proposal warrant a higher level of review based on the concerns stated above. This authority may be invoked for projects that may contribute to cumulative environmental impacts that are more than minimal or if there is a special resource or concern associated with a particular project that is not already covered by the remaining conditions of the GP and that warrants greater review. Whenever the Corps notifies an applicant that an Individual Permit may be required, the project is not authorized under this GP and no work may be conducted until an Individual Permit is obtained or until the Corps notifies the applicant that further review has demonstrated that the work may proceed under this GP.

40. St. John/St. Croix Rivers. Work within the Saint John and Saint Croix River basins that requires approval of the International Joint Commission is not eligible for Category 1 and a PCN to the Corps 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 line; 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.

41. National Lands. Activities that impinge upon the value of any National Wildlife Refuge, National Forest, National Marine Sanctuary, National Park or any other area administered by the National Park Service, U.S. Fish and Wildlife Service (USFWS) or U.S. Forest Service are not eligible for Category 1 and require a PCN.

42. Essential Fish Habitat (EFH). Any work in the following rivers and streams, including all tributaries to the extent that they are currently or were historically accessible for salmon migration, shall not be authorized under Category 1 of the GP and must be screened for potential impacts to EFH (see Appendix G for more information).

Androscoggin River	Aroostook River	Boyden River	Dennys River
Ducktrap River	East Machias River	Hobart Stream	Kennebec River
Machias River	Narraguagus River	Orland River	Passagassawaukeag River
Patten Stream	Penobscot River	Pleasant River	Presumpscot River
Saco River	Sheepscot River	St. Croix River	Tunk Stream
			Union River

The above does not apply to the following activities which may qualify for Category 1 work:

- Exploratory drilling and borings for bridges.
- Moorings (see Appendix A, Page 28 for Category 1 thresholds and requirements)
- Structures, floats & lifts (see Appendix A, Page 29 for Category 1 thresholds and requirements)
- Other activities specified in a programmatic agreement with NMFS.

43. Work Site Restoration

a. Wetland areas where permanent disturbance is not authorized shall be restored to their original condition and elevation, which under no circumstances shall be higher than the pre-construction elevation. Original condition means careful protection and/or removal of existing soil and vegetation, and replacement back to the original location such that the original soil layering and vegetation schemes are approximately the same, unless otherwise authorized.

b. Upon completion of construction, all disturbed wetland areas (the disturbance of these areas must be authorized) shall be properly stabilized. Any seed mix shall contain only plant species native to New England and shall not contain any species listed in the "Invasive and Other Unacceptable Plant Species" Appendix in the "New England District Compensatory Mitigation Guidance" (see GC 24 and refer to Appendix G). This list may be updated periodically.

c. In areas of authorized temporary disturbance, if trees are cut they shall be cut at ground level and not uprooted in order to prevent disruption to the wetland soil structure and to allow stump sprouts to revegetate the work area, unless otherwise authorized.

44. Bank Stabilization

a. Projects involving construction or reconstruction/maintenance of bank stabilization structures within Corps jurisdiction shall be designed to minimize environmental effects, effects to neighboring properties, scour, etc. to the maximum extent practicable.

b. Project proponents must design and construct bank stabilization projects using this sequential minimization process: avoidance of aquatic resource impacts, diversion of overland flow, vegetative stabilization, stone-sloped surfaces, and walls/bulkheads. Vertical walls/bulkheads shall only be used in situations where reflected wave energy can be tolerated.

c. Inland Water bank stabilization activities necessary for erosion prevention must meet all of the following criteria: i) No material is placed in excess of the minimum needed for erosion protection; ii) The activity is no more than 500 feet in total length along the bank(s); iii) The activity will not exceed an average of one cubic yard per running foot placed along the bank below the plane of the ordinary high water mark; iv) Structures angled steeper than 1H:1V and any material other than angular or sub-angular stone or fiber roll revetments require at least a Category 2 review; v) The activity does not involve discharges of dredged or fill

material into special aquatic sites; vi) No material is of the type, or is placed in any location, or in any manner, to impair surface water flow into or out of any water of the U.S.; vii) No material is placed in a manner that will be eroded by normal or expected high flows (properly anchored trees and treetops may be used in low energy areas); and viii) The activity is not a stream channelization activity.

d. Bank stabilization activities in tidal waters are provided at Appendix A, Page 30 & 31. Direct impacts in tidal waters from contiguous bank stabilization projects in excess of 200 linear feet (Applicant or Applicant + Abutters combined) must undergo Category 2 review.

45. Stream Work and Crossings & Wetland Crossings

Notes:

a. For *Stream Work and Crossings* below, conditions (a) and (b) apply to Inland Waters and Wetlands (see Appendix A, Page 1 for definition) and Navigable Waters (see Appendix A, Page 27 for definition). Conditions (c)-(l) below only apply to Inland Waters and Wetlands that are streams. All new and replacement crossings in Navigable Waters require an application to the Corps and at least a Category 2 review.

b. In-stream work in a watershed occupied by listed Atlantic salmon, Atlantic sturgeon, or shortnose sturgeon [see GC 8(b)] and some stream work such as crossings on EFH waters (see GC 42) is not eligible for Category 1.

c. "High-Quality Stream Segments" are shown at www.maine.gov/dep/gis/datamaps and may be useful in evaluating impacts to fisheries. GIS shape files are under "Other Google Earth Interactive Maps" and PDFs by county are under "DEP GIS Maps." See Appendix E for more state contact information.

Conditions for Stream Work and Crossings:

a. All permanent crossings of rivers, streams, brooks, etc. (hereon referred to as "streams") shall be suitably culverted, bridged, or otherwise designed to i) withstand and to prevent the restriction of high flows to qualify for Category 1, and ii) not obstruct the movement of or not 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, beyond the actual duration of construction unless the activity's primary purpose is to impound water to qualify for Category 1 or 2. *(NOTE: Areas of fill and/or cofferdams must be included in total waterway/wetlands impacts to determine applicability of this GP).*

b. Any work that temporarily or permanently impacts upstream or downstream flood conditions, or permanently impacts wetlands in excess of Category 1 thresholds, must be reviewed at least under Category 2. See the documents referenced in Appendix G, 8(c) and (d) for guidance.

c. New Stream Crossings. For new stream crossings to qualify for Category 1:

i. Must ensure compliance with GC 45(a) and GC 45(b) above.

ii. Shall be designed and constructed in accordance with the Corps General Stream Crossing Standards provided on Page 19 and the stream simulation document listed at Appendix G, 8(a).

d. Replacement Stream Crossings. For replacement stream crossings to qualify for Category 1:

i. Must ensure compliance with GC 45(a) and GC 45(b) above.

ii. Shall be designed and constructed in accordance with the Corps General Stream Crossing Standards provided on Page 19 and the stream simulation document listed at Appendix G, 8(a).

e. Culvert Extensions. Culvert extensions on culverts that do not meet the Corps General Stream Crossing Standards do not qualify for Category 1 and require an application to the Corps and at least Category 2 review.

f. Temporary Stream Crossings.

Note: The General Stream Crossing Standards don't apply to temporary stream crossings.

i. Temporary stream crossings or cofferdams shall be used for equipment access across streams [see Appendix G, 8(e)]. Note: Areas of fill and/or cofferdams must be included in total waterway/wetlands impacts to determine the review category in Appendix A.

ii. Temporary stream crossings shall be removed within 180 days to qualify for Category 1.

iii. Temporary stream crossings that are not spans[17] (typically culverts) must be designed in accordance with 1-6 below to qualify for Category 1. Category 2 applications should include information demonstrating 2-6 below:

1. Installed and removed during the low flow period specified in GC 45(l) below.
2. Placed on geotextile fabric or other material where practicable to ensure restoration to the original grade. Soil may not be used to construct or stabilize these structures and rock must be large enough to allow for easy removal without disrupting the streambed.
3. Designed and maintained to withstand and pass high flows. Water height should be no higher than the top of the culvert's inlet. A minimum culvert diameter of two feet is required to pass debris. Culverts must be aligned to prevent bank erosion or streambed scour.
4. Equipped with energy dissipating devices installed downstream if necessary to prevent scour.
5. Designed and maintained to prevent soil from entering the waterbody.
6. Removed upon the completion of work. Impacts to the streambed or banks requires restoration to their original condition using stream simulation methods[18].

g. Slip Lining. Work using slip lining (retrofitting an existing culvert by inserting a smaller diameter pipe), invert lining, or resulting in decreased diameter, does not qualify for Category 1, either as new work or maintenance activities.

h. Work in Flowing Waters. To qualify for Category 1, no unconfined fill [see GC 14(b)] or excavation in flowing waters is allowed. To accomplish this:

i. Bank stabilization work below ordinary high water (OHW) shall utilize erosion controls such as inflatable cofferdams, jersey barrier, silt screen, turbidity curtain, etc. where practicable to prevent sediment input to the stream and to minimize turbidity and sedimentation impacts for sensitive life stages. Bank stabilization above OHW must utilize erosion controls.

ii. Management techniques such as temporary flume pipes, culverts, cofferdams, etc. must be used to maintain normal flows within the stream boundary's confines, or water diversions may be used immediately up and downstream of the work footprint (see Appendix A, Endnote 6) or work must be performed in the dry under no flow conditions, or under very low flow conditions following the practices in GC 45(a).

i. Minimization. In order to make the Category 2 review process more efficient and result in a faster decision, new and replacement stream crossings should be designed using the least intrusive and environmentally damaging method following this sequential minimization process: 1) spans with no stream impacts, 2) spans with stream impacts, and 3) embedded culverts with stream simulation or low-slope design.

j. Maintenance Requirements. The permittee shall maintain the work authorized herein in good condition and in conformance with the terms and general conditions of this permit to facilitate aquatic life passage as stated in GC 45(a). Culverts that develop "hanging" inlets or outlets, result in bed washout, or a stream that doesn't match the characteristics of the substrate in the natural stream channel such as mobility, slope, stability confinement will require maintenance or repair to comply with this GC. This does not apply to GC 45(f) above.

k. Maintenance and Replacement Information. An existing stream crossing must be authorized and in compliance with all conditions of its authorization(s) to qualify for maintenance not subject to regulation. See Appendix A, Endnote 7. A non-serviceable crossing is not eligible for maintenance and is therefore considered as a replacement crossing [see GC 45(d)].

l. Work Window. For projects that otherwise meet the terms of Category 1, in-stream construction work shall be conducted during the low flow period July 15 – September 30 in any year. Projects that are not to be conducted during that time period are ineligible for Category 1 and shall be screened pursuant to Category 2, regardless of the waterway and wetland fill and/or impact area.

Corps General Stream Crossing Standards (required for Category 1; *recommended* for Category 2):

a. Culverts must be embedded:

[17] For the purposes of this GP, spans are bridges, three-sided box culverts, open-bottom culverts or arches that span the stream with footings landward of bankfull width.

[18] Design and construction shall be in accordance with the stream simulation document listed at Appendix G, 8(a).

- ≥ 2 feet for box culverts and other culverts with smooth internal walls,
- ≥ 1 foot for corrugated pipe arches
- ≥ 1 foot and at least 25 percent for corrugated round pipe culverts

b. **For new crossings**, spans[17] are required to avoid or cause minimal disruption to the streambed and to meet the requirements of General Condition 45(a) and 45(b). Footings and abutments must be landward of 1.2 times bankfull width. To the greatest extent practicable, work in the stream shall be minimized, and design and construction shall allow the streambed's natural structure and integrity to remain intact. Any fill or excavation of the streambed below bankfull width other than footings, support pilings, or work specified in 45(h)ii requires Category 2 review and, unless demonstrated otherwise, stream simulation[18] to establish substrate and banks in the span structure and work area as specified in (d) and (e) below.

c. **For replacement crossings**, spans[17] are required to meet the requirements of General Condition 45(a) and 45(b). Footings and abutments shall be landward of 1.2 times bankfull width. Unless demonstrated otherwise, stream simulation[18] is required to establish substrate and banks in the span structure and work area as specified in (d) and (e) below.

d. Crossings must have a natural bottom substrate within the structure matching the characteristics of the substrate in the natural stream channel and the banks (mobility, slope, stability, confinement, grain and rock size) at the time of construction and over time as the structure has had the opportunity to pass significant flood events. To allow terrestrial passage for wildlife and prevent undermining the footings, crossings shall have a bank on both sides of the stream matching the horizontal profile of the existing stream and banks[18]. Note: Installation of substrate material within smaller culverts may not be safe or practicable. In these cases, it may be necessary to allow for natural deposition and bed development unless alternative methods are identified.

e. Crossings must be designed and constructed[18] with appropriate bed forms and streambed characteristics so that water depths and velocities are comparable to those found in the natural channel at a variety of flows. In order to provide appropriate water depths and velocities at a variety of flows and especially low flows, it is usually necessary to reconstruct the streambed or preserve the natural channel within the structure. Otherwise, the width of the structure needed to accommodate higher flows will create conditions that are too shallow at low flows. The grain and rock size, and arrangement of streambed materials within the structure should be in accordance with (d) above. Flows could go subsurface within the structure if only large material is used without smaller material filling the voids.

Conditions for Wetland Crossings:

a. All temporary and permanent crossings of wetlands shall be suitably culverted, bridged, or otherwise designed to: i) Withstand and prevent the restriction of high flows, ii) Not obstruct the movement of or not substantially disrupt the necessary life-cycle movements of those species of aquatic life indigenous to the wetland, including those species that normally migrate through the area, beyond the actual duration of construction unless the activity's primary purpose is to impound water. See Appendix E for the Maine DEP's crossing standards.

b. To qualify for Category 1, new and replacement wetland crossings that are permanent shall be culverted, spanned or bridged in such a manner as to preserve hydraulic and ecological connectivity, at its present level, between the wetlands on either side of the road. To meet this requirement, we recommend that culverts, spans or bridges be placed at least every 50 feet with an opening at least 2 feet high and 3 feet wide at ground level where practicable. Closed bottom culverts shall be embedded at least 6 inches with a natural bottom.

c. In the case of non-compliance, the permittee shall take necessary measures to correct wetland damage due to lack of hydraulic and ecological connectivity.

d. Any work that results in flooding, results in impacts to wetlands on either side of the wetland crossing in excess of Category 1 thresholds, or impacts wetland drainage from the upgradient side of the wetland crossing does not qualify for Category 1.

Robert J. Desista
Deputy Chief, Regulatory Division
For DISTRICT ENGINEER **DATE** 10/13/15

APPENDIX A: DEFINITION OF CATEGORIES

A. INLAND WATERS AND WETLANDS	**Inland Waters and Wetlands:** Waters that are regulated under Section 404 of the Clean Water Act, including rivers, streams, lakes, ponds and wetlands, and ***excluding Section 10 Navigable Waters of the U.S. (tidal and freshwater).*** The jurisdictional limits are the ordinary high water (OHW) mark in the absence of adjacent wetlands, beyond the OHW mark to the limit of adjacent wetlands when adjacent wetlands are present, and the wetland limit when only wetlands are present. For the purposes of this GP and designated activities, fill placed in the area between the mean high water (MHW) and the high tide line (HTL), and in the bordering and contiguous wetlands[1] to tidal waters are reviewed in the Navigable Waters section. (See B. Navigable Waters on page 27 below.)	
	Projects not meeting Category 1 require an application for review as a Category 2 or Individual Permit project. All Category 1 and 2 projects must comply with all of this GP's applicable terms (Pages 1 – 4) and General Conditions (Pages 5–20).	
ACTIVITY	**CATEGORY 1** Self-Verification Eligible **(*SVNF Required*)**	**CATEGORY 2 (*PCN Required)***
1. Repair, Replacement, Expansion, and Maintenance of Authorized Structures and Fills	Repair or maintenance of existing, currently serviceable, authorized fills with no expansion or change in use: • Conditions of the original authorization apply. • Minor deviations in fill design allowed.[7] • The repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events is authorized, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage. • No effect on federally listed endangered or threatened species or critical habitat.	Replacement of non-serviceable fills, or repair/maintenance of serviceable fill, with expansion <3 acres, or with a change in use.
2. Moorings	NA – moorings in non-navigable inland waters are not subject to Corps jurisdiction. Note: Moorings placed in freshwater navigable waters are reviewed in the Navigable Waters section. (See B. Navigable Waters on Page 28 below.)	NA
3. Structures, Floats & Lifts	For solid fill or crib supported structures on inland waters, <15,000 square feet (SF) of waterway and/or wetland fill, associated secondary impacts[2] , and temporary fills. • No effect on federally listed endangered or threatened species or critical habitat. • Note: Temporary or permanent structures placed in freshwater navigable waters are reviewed in the Navigable Waters section. (See B. Navigable Waters on page 29 below.	1. Work not eligible for Category 1 2. ≥15,000 SF to <3 acres of inland waterway and/or wetland fill and associated secondary impacts (e.g., areas drained, flooded, fragmented, or excavated).
4. Aids to Navigation and Temporary Recreational Structures	NA - this activity in non-navigable inland waters is not subject to Corps jurisdiction. Note: Aids to Navigation and other structures placed in freshwater navigable waters are reviewed in the Navigable Waters section. (See B. Navigable Waters on page 30 below.)	NA

5. Dredging, Disposal of Dredged Material, Beach Nourishment, and Rock Removal and Relocation	1. For regulated discharges associated with excavation, and disposal <15,000 SF inland waterway and/or wetland impacts. 2. The activity does not occur in navigable waters of the U.S. 3. Stream channelization, relocation or loss of streambed including impoundments or discharge of tailings into streams does not occur. 4. No effect on federally listed endangered or threatened species or critical habitat.	1. Work not eligible for Category 1 2. ≥15,000 SF to <3 acres of inland waters.
6. Discharges of Dredged or Fill Material Incidental to the Construction of Bridges	NA - For discharges incidental to the construction of bridges in inland waters of the U.S. refer to Activity 23 (Stream and Wetland Crossings) and GC 45. Note: Discharges of Dredged or Fill Material Incidental to the Construction of Bridges in freshwater navigable waters are reviewed in the Navigable Waters section. (See B. Navigable Waters on page 30 below.)	NA

7. Bank and Shoreline Stabilization	Inland bank stabilization <500 FT long and ≤1 CY of fill per linear foot below OHW, provided: • ≤1 cubic yard of fill per linear foot placed along the bank waterward of ordinary high water. • Work complies with the GCs (GC 44 in particular), including: o No structures angled steeper than 1H:1V allowed. Only rough-faced stone or fiber roll revetments allowed. o No in-stream work involving fill or excavation in flowing waters (see GC 45(h)). • In-water work limited to Jul 15 – Sep 30. • No work in vernal pools[5] or SAS[3]. • No effect on federally listed endangered or threatened species or critical habitat.	Work not eligible for Category 1
8. Residential, Commercial, Industrial, and Institutional Developments, and Recreational Facilities	1. <15,000 SF of inland waterway and/or wetland fill and associated secondary impacts[2] (e.g., areas drained, flooded, fragmented, mechanically cleared or excavated). Fill area includes all temporary and permanent fill, and regulated discharges associated with excavation. Construction mats are considered as fill. [See GC 14] Provided: • Historic fill + proposed impact area <15,000 SF complies with GC 5, Single and Complete Projects. • No work in special aquatic sites (SAS)[4] other than wetlands. • No effect on federally listed endangered or threatened species or critical habitat. 2. For work in Vernal Pool (VP) Management Areas (includes VPs)[5]:	1. Work not eligible for Category 1. 2. ≥15,000 SF to <3 acres of inland waterway and/or wetland fill and associated secondary impacts (e.g., areas drained, flooded, fragmented, or excavated). Fill area includes all temporary and permanent fill (including mats), and regulated discharges associated with excavation. 3. *Mechanical clearing without grubbing or other soil disturbance >3 acres as a secondary impact may still be eligible for Category 2 at the discretion of the Corps.* See GC 2 and Appendix C for wetland delineation

	• See GC 23 and Appendix C for VP delineation requirements. • See GC 23 to determine if work qualifies for Category 1 or 2. • See Appendix G for VP documents providing mitigation guidance.	requirements.
9. Utility Line Activities	1. <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts[2], and temporary fills. 2. The activity does not occur in, over, or under navigable waters of the U.S. 3. Intake structures that are dry hydrants used exclusively for firefighting activities with no stream impoundments. 4. There is no permanent change in pre-construction contours in waters of the U.S. 5. Material resulting from trench excavation is temporarily side cast into waters of the U.S. for ≤ 3 months and is placed in such a manner that it is not dispersed by currents or other forces. 6. The utility line is placed within and does not run a) parallel to, or b) along a streambed. 7. Stream channelization, relocation or loss of streambed including impoundments does not occur. 8. No effect on federally listed endangered or threatened species or critical habitat. 9. There is no discharge in SAS other than non-tidal wetlands. 10. Construction mats[4] of any area necessary to conduct activities that were previously authorized, authorized under Category 1, or not subject to regulation (see Endnote 7). Authorized construction mats must be in place for <3 months, removed immediately upon work completion, and the wetlands must be restored (see GC 43). 11. Stream crossings must comply with GC 17.	1. Work not eligible for Category 1 2. ≥15,000 SF to <3 acres of inland waterway and/or wetland fill and associated secondary impacts (e.g., areas drained, flooded, fragmented, or excavated). Fill area includes all temporary and permanent fill (including mats), and regulated discharges associated with excavation. 3. *Mechanical clearing without grubbing or other soil disturbance >3 acres as a secondary impact may still be eligible for Category 2 at the discretion of the Corps.*
10. Linear Transportation Projects *(not including stream crossings)* **For stream crossings, refer to Activity 23**	1. <15,000 SF of inland waterway and/or wetland fill associated secondary impacts (e.g., areas drained, flooded, fragmented, mechanically cleared or excavated). Fill area includes all temporary and permanent fill, and regulated discharges associated with excavation. Construction mats are considered fill. (See GC 14.) Provided: • Historic fill + proposed impact area <15,000 SF and complies with GC 5 single and complete projects. • No work in special aquatic sites (SAS) other than wetlands. 2. Construction mats[4] of any area necessary to conduct activities that were previously authorized, authorized under Category 1, or not subject to regulation (see Endnote 7). Authorized construction mats must be in place for <3 months, removed immediately upon work completion, and the wetlands must be restored (see GC 43). 3. No effect on federally listed endangered or threatened species or critical habitat.	1. ≥15,000 SF to <3 acres of inland waterway and/or wetland fill and associated secondary impacts (e.g., areas drained, flooded, fragmented, or excavated). Fill area includes all temporary and permanent fill (including mats), and regulated discharges associated with excavation. 2. *Mechanical clearing without grubbing or other soil disturbance >3 acres as a secondary impact may still be eligible for Category 2 at the discretion of the Corps.*

11. Mining Activities	1. <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. 2. The activity does not occur in navigable waters of the U.S. 3. Stream channelization, relocation or loss of streambed including impoundments or discharge of tailings into streams does not occur. 4. No effect on federally listed endangered or threatened species or critical habitat.	1. Work not eligible for Category 1. 2. ≥15,000 SF to <3 acres of inland waterway and/or wetland fill and associated secondary impacts (e.g., areas drained, flooded, fragmented, or excavated). Fill area includes all temporary and permanent fill (including mats), and regulated discharges associated with excavation.
12. Boat Ramps	1. <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. 2. No effect on federally listed endangered or threatened species or critical habitat.	1. Work not eligible for Category 1 2. >15,000 SF and < 3 acres of impact.
13. Land and Water-Based Renewable Energy Generation Facilities and Hydropower Projects	*For land-based facilities:* 1. <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. 2. Stream channelization, relocation or loss of streambed including impoundments does not occur. 3. No effect on federally listed endangered or threatened species or critical habitat. *For water-based facilities and hydropower projects:* No new facilities are eligible.	*For land-based activities:* 1. Work not eligible for Category 1. 2. >15,000 SF and < 3 acres impact. 3. *Mechanical clearing without grubbing or other soil disturbance >3 acres as a secondary impact may still be eligible for Category 2 at the discretion of the Corps.* *For water-based facilities and hydropower projects:* > 3 acres of impact will require an IP.
14. Reshaping Existing Drainage Ditches & Mosquito Management	Not Applicable	Not Applicable
15. Oil Spill and Hazardous Material Cleanup	Jurisdictional activities required for the containment and cleanup of oil and hazardous substances that are subject to the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300) provided that the work is done in accordance with the Spill Control and Countermeasure Plan required by 40 CFR 112.3 or any existing state contingency plan and provided that the Regional Response Team (if one exists in the area) concurs with the proposed containment and cleanup action. SAS[3] must typically be restored in place at the same elevation. ***Note: SVNF or a surrogate state reporting form may be submitted after the fact.***	Work not eligible for Category 1

16. Cleanup of Hazardous and toxic waste	Specific jurisdictional activities to effect the containment, stabilization, or removal of hazardous or toxic waste materials, including court ordered remedial action plans or related settlements, which are performed, ordered or sponsored by a government agency with established legal or regulatory authority. SAS should be restored in place at the same elevation. • <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. • No stream channelization, relocation or loss of streambed occurs. • The project does not involve establishing new disposal sites or expanding existing sites used for the disposal of hazardous or toxic waste. • No effect on federally listed endangered or threatened species or critical habitat.	Work not eligible for Category 1
17. Scientific Measurements Devices	1. Scientific measurement devices whose purpose is to measure and record scientific data, such as staff gages, water recording devices, water quality testing and improvement devices, and similar structures. This excludes any biological sampling devices. Structures may not restrict or concentrate movement of aquatic organisms. 2. No effect on federally listed endangered or threatened species or critical habitat.	Work not eligible for Category 1
18. Survey Activities	1. Jurisdictional survey activities, such as core sampling, seismic exploratory operations, plugging of seismic shot holes and other exploratory-type bore holes, exploratory trenching, soil surveys, sampling, and historic resources surveys (but not recovery). Exploratory trenches must be restored in accordance with GC 43. The construction of temporary pads is authorized provided the discharge doesn't exceed 25 CY. This doesn't authorize permanent structures or the drilling and the discharge of excavated material from test wells for oil and gas exploration (the plugging of such wells is authorized). 2. No effect on federally listed endangered or threatened species or critical habitat.	Work not eligible for Category 1
19. Agricultural Activities	1. For those activities subject to Corps jurisdiction[16], <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. 2. No stream channelization, relocation, loss of streambed, or farm ponds in streams. 3. No effect on federally listed endangered or threatened species or critical habitat.	1. ≥15,000 SF to <3 acres of inland waterway and/or wetland fill and associated secondary impacts (e.g., areas drained, flooded, fragmented, or excavated). Fill area includes all temporary and permanent fill (including mats), and regulated discharges associated with excavation. 2. > 3 acres of impact will require an IP.

20. Fish and Wildlife Harvesting, Enhancement and Attraction Devices and Activities	NA - this activity in non-navigable inland waters, if not involving a discharge of dredged or fill material, is not subject to Corps jurisdiction. Note: Related structures placed in freshwater navigable waters (e.g. the upper Penobscot or Kennebec Rivers) are reviewed in the Navigable Waters section. (See B. Navigable Waters on Page 33 below.)	Not Applicable
21. Habitat Restoration, Establishment and Enhancement Activities	1. <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. 2. The activity is supported in writing by a local, state, or non-Corps Federal environmental agency. Water impoundments require PCN. 3. No conversion of i) a stream to wetland or vice versa, wetland to a pond or uplands, and ii) one wetland type to another. 4. No dam removal. 5. No effect on federally listed endangered or threatened species or critical habitat.	1. Work not eligible for Category 1 2. Aquatic habitat restoration, establishment, and enhancement of wetlands and riparian areas and the restoration and enhancement of streams and other open waters with impacts of any area ≥15,000 SF, provided those activities result in net increase in overall aquatic resource functions and services.[8]
22. Previously Authorized Activities	Any work not commenced nor completed that was authorized in a written letter from the Corps under the GP in effect between October 12, 2010 and October 12, 2015. The terms and general conditions of this GP apply along with any special conditions in the written authorization.	
23. Stream & Wetland Crossings	1. River, stream and brook work and crossings: • Must comply with GC 45 in particular, including: o No slip lining [see GC 45 (g)]. o No in-stream work involving fill or excavation in flowing waters [see GC 45(h)]. o In-stream work limited to Jul 15 – Sep 30 [see GC 45 (l)]. • No work in riffles and pools[3]. • No stream relocations. • No dams or dikes[6]. • No effect on federally listed endangered or threatened species or critical habitat. • <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. 2. Wetland crossings must comply with the particularly relevant GC 45.	Work not eligible for Category 1
24. Aquaculture (freshwater)	For land based installations, <15,000 SF of inland waterway and/or wetland fill, associated secondary impacts, and temporary impacts. • In-stream/in-water work limited to Jul 15 – Sep 30. • No effect on federally listed endangered or threatened species or critical habitat. Note: Related structures placed in freshwater navigable waters are reviewed in the Navigable Waters section. (See B. Navigable Waters, below.)	Work not eligible for Category 1

B. NAVIGABLE WATERS	**Navigable Waters of the United States**: Waters that are subject to the ebb and flow of the tide and/or the tidal and non-tidal portions of the Federally designated navigable waters (the Penobscot River, Kennebec River, and Lake Umbagog) (Section 10 Rivers and Harbors Act of 1899). The jurisdictional limits are the mean high water (MHW) line in tidal waters and the ordinary high water (OHW) mark in non-tidal portions of the federally designated navigable rivers. For the purposes of this GP, fill placed in the area between the mean high water (MHW) and the high tide line (HTL), and in the bordering and contiguous wetlands[1] to tidal waters are also reviewed in this Navigable Waters section.	
	Projects not meeting Category 1 require an application for review as a Category 2 or Individual Permit project. All Category 1 and 2 projects must comply with all of this GP's applicable terms (Pages 1 - 4) and General Conditions (Pages 5 - 20).	
ACTIVITY	**CATEGORY 1** Self-Verification Eligible ***(SVNF Required)***	**CATEGORY 2 (*PCN Required)***
1. Repair, Replacement, Expansion, and Maintenance of Authorized (or grandfathered) Structures and Fills	1.Repair, replacement in-kind, or maintenance[7] of existing, currently serviceable[7], authorized structures or fills: • All work is to be conducted in-the-dry, during low water. • Conditions of the original authorization apply. • No substantial expansion or change in use. • No new fill in SAS[3]. • Must be rebuilt in same footprint, however minor deviations in structure design allowed[7]. • The repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events is authorized, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage.	1. Replacement of non-serviceable structures and fills or repair/maintenance of serviceable structures or fills, with fill, replacement or expansion <1 acre, or with a change in use. 2. <1 acre temporary or permanent fill, excavation and/or secondary impacts. Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass[14] <1000 SF. • Permanent fill in SAS (excluding eelgrass[14]) <4300 SF. 3. Standard Pile Driving Conditions. Work involving piles shall adhere to one of the four methods below: • Piles installed in-the-dry during low water or in-water between Nov. 8th - Apr. 9th, or • Must be drilled and pinned to ledge, or • Vibratory hammers used to install any size and quantity of wood, concrete or steel piles, or • Impact hammers limited to one hammer and <50 piles installed/day with the following: wood piles of any size, concrete piles ≤18-inches diameter, steel piles <12-inches diameter if the hammer is ≤3000 lbs and a wood cushion is used between the hammer and steel pile, and • For the methods above: o In-water noise levels shall not exceed >187dB cSEL re 1µPa or 206dB peak re 1µPa at a distance >10m from the pile being installed, and o In-water noise levels >150dB peak re 1µPa shall not exceed 12 consecutive hours on any given day and a 12 hour recovery period (i.e., in-water noise below 150dB peak re 1µPa) must be provided between work days. • Existing derelict, degraded or abandoned piles in the project area that are affected by project activities should be removed and properly disposed of in an upland location landward of MHW or OHW and not in wetlands, tidal wetlands, their substrate or mudflats.

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2. Moorings	1. Private, non-commercial, non-rental, single-boat moorings, provided: • Authorized by the local harbormaster/town. • Not associated with any boating facility.[11] • Boat or mooring not located in a Federal Navigation Project or buffer zone[12] other than in a Federal Anchorage[12]. Moorings in a Federal Anchorage not associated with a boating facility[11] and are not for rent. • No interference with navigation. • No new moorings located in SAS[3]. Prior to installation of moorings, a site-specific eelgrass survey should be conducted to document that eelgrass is not present. • When existing, authorized moorings in SAS[3] are going to be replaced, they should be replaced with low impact mooring technology that prevents mooring chains from resting or dragging on the bottom substrate at all tides and helical anchors, or equivalent SAS protection systems where practicable. 2. Minor relocation of previously authorized moorings, provided: • Authorized by the local harbormaster/town. • Not located in SAS[3] • No interference with navigation. • Cannot be relocated into a Federal Navigation Project[12] other than a Federal Anchorage[12] ***Note: Cat 1 eligible moorings do not require SVNF.***	1. Moorings associated with an existing boating facility[11]. An eelgrass[14] survey may be required. 2. Moorings that don't meet the terms in Category 1 and don't require an Individual Permit. This includes private moorings with no harbormaster or means of local approval. 3. Moorings located such that they, and/or vessels docked or moored at them, are within the buffer zone of the horizontal limits[13] of a Federal Channel[12]. (See Appendix H.) The buffer zone is equal to 3 times the authorized depth of that channel. 4. An IP is required for moorings within the horizontal limits[11], or with moored vessels that extend, into the horizontal limits of a Federal Navigation Project[12], except those in Federal Anchorages[12]. *For 1-4 above, siting of new individual moorings in SAS[3], including eelgrass[14], should be avoided to the maximum extent practicable. If SAS[3] cannot be avoided, plans should show elastic mooring systems that prevent mooring chains from resting or dragging on the bottom substrate at all tides and helical anchors, or equivalent SAS protection systems, where practicable. For moorings that appear to impact SAS, the Corps may require an eelgrass survey.*
3. Structures, Floats and Lifts	1. Reconfiguration of existing authorized structures shall occur in-the-dry during low water. 2. Minor relocation of <u>previously authorized</u> floats or moored floats/lobster cars, provided: • Authorized by the local harbormaster/town. • Not located in SAS[3]. • No interference with navigation. • Cannot be relocated into a Federal Navigation Project[12] other than a Federal Anchorage[12].	1. New structures or floats, including floatways/skidways, built to access waterway (seasonal and permanent). Includes both pile supported and crib supported structures. 2. Expansions to existing boating facilities[11] • *Pile-supported structures <400 SF, with attached floats totaling <u>≤</u>200 SF.* • *Structures are <u>≤</u>4' wide and have at least a 1:1 height:width ratio[11].* • *Floats supported a minimum of 18" above the substrate during all tides.* • *Structures & floats not located within 25' of any eelgrass[8].* • *Moored vessels not positioned over SAS[3].*

		• *The Corps may require a letter of no objection from the abutter if structure is to be within 25 feet of the property line.* • *No structure extends across >25% of the waterway width at mean low water.* • *Not located within the buffer zone of the horizontal limits[13] of a Corps Federal Navigation Project (FNP) (Appendix F). The buffer zone is equal to three times the authorized depth of that FNP.* 3. An Individual Permit is required for structures or floats, including floatways/skidways, located such that they and/or vessels docked or moored at them are within the horizontal limits[13] of a Corps Federal Navigation Project[12] (see Appendix H). 4. An Individual Permit is required for structures & floats associated with a new or previously unauthorized boating facility[11]. 5. Standard Pile Driving Conditions. Work involving piles shall adhere to one of the four methods below: • Piles installed in-the-dry during low water or in-water between Nov. 8th - Apr. 9th, or • Must be drilled and pinned to ledge, or • Vibratory hammers used to install any size and quantity of wood, concrete or steel piles, or • Impact hammers limited to one hammer and <50 piles installed/day with the following: wood piles of any size, concrete piles ≤18-inches diameter, steel piles <12-inches diameter if the hammer is ≤3000 lbs and a wood cushion is used between the hammer and steel pile, and • For the methods above: o In-water noise levels shall not exceed >187dB cSEL re 1µPa or 206dB peak re 1µPa at a distance >10m from the pile being installed, and o In-water noise levels >150dB peak re 1µPa shall not exceed 12 consecutive hours on any given day and a 12 hour recovery period (i.e., in-water noise below 150dB peak re 1µPa) must be provided between work days. • Existing derelict, degraded or abandoned piles in the project area that are affected by project activities should be removed and properly disposed of in an upland location landward of MHW or OHW and not in wetlands, tidal wetlands, their substrate or mudflats.

4. Aids to Navigation and Temporary Recreational Structures	1. Temporary buoys, markers, floats, etc. for recreational use during specific events, provided they are removed within 30 days after use is discontinued. 2. The placement of aids to navigation and regulatory markers which are approved by and installed in accordance with the requirements of the U.S. Coast Guard. (See 33 CFR 66, Chapter I, subchapter C)." ***Note: Cat 1 eligible aids to navigation and regulatory markers do not require SVNF.***	Work not eligible for Category 1
5. Dredging, Disposal of Dredged Material, Beach Nourishment, and Rock Removal and Relocation	1. Maintenance dredging[10] for navigational purposes <1,000 CY with upland disposal. Includes return water from upland contained disposal area, provided: • Proper siltation controls are used. • Dredging & disposal operation limited to Nov. 8 – Apr. 9. • No impact to SAS[3]. • No dredging in intertidal areas. • No dredging within 100' of shellfish beds. • No dredging in areas designated as Critical Habitat for Atlantic salmon [see GC 8(b) & (c)]. • For dredging in tidal waters outside of Atlantic salmon critical habitat, applicants must contact NMFS (see GC 8) to ensure no impacts to listed species such as shortnose sturgeon, Atlantic surgeon, and listed sturgeon critical habitat. • Project proponents must contact the USFWS for work on coastal beaches to ensure no impacts to piping plovers, roseate terns, rufa red knot, or their habitat [see GC 8(c)]. • No underwater blasting. 2. Maintenance dredging is not eligible for Category 1 if conducted in tidal portions of the Penobscot river upstream of a line extending from Turner Point in Castine to Moose Point (formerly Squaw Point) on Cape Jellison in Stockton Springs or in tidal portions of the Kennebec or Androscoggin Rivers upstream of a line extending from Doubling Point in Arrowsic to Hospital Point in West Bath.	1. Maintenance dredging[10] ≥1,000 CY, new dredging <25,000 CY, or projects not meeting Category 1. Includes return water from upland contained disposal areas. Disposal includes: • Upland. • Beach nourishment (above mean high water) of any area provided the dredging's primary purpose is navigation or the sand is from an upland source. • Open water & confined aquatic disposal, if Corps finds the material suitable. 2. Beach nourishment associated with dredging when the primary purpose is not navigation requires at least a Category 2 review. 3. Maintenance or new dredging[10] and/or disposal in or affecting a SAS[3] requires an Individual Permit.

6. Discharges of Dredged or Fill Material Incidental to the Construction of Bridges	1. Discharges of dredged or fill material incidental to the construction of bridges across navigable waters of the U.S., including cofferdams, abutments, foundation seals, piers, and temporary construction and access fills provided the U.S. Coast Guard authorizes such discharges as part of the bridge permit or appropriate approval. 2. Causeways and approach fills are not included in this category and require Category 2 or Individual Permit authorization.	<1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass[14] <1000 SF. • Permanent fill in SAS (excluding eelgrass[14]) <4300 SF.
7. Bank and Shoreline Stabilization	1. Bank stabilization projects <200 linear feet provided: • ≤1 cubic yard of fill per linear foot placed along the bank waterward of high tide line. No fill or equipment will occur in SAS[3]. • Work conducted in the intertidal zone must be conducted in-the-dry during low water. • No structures angled steeper than 1H:1V and only rough-faced stone or fiber roll revetments allowed. • No driving of piles or sheeting. 2. Bank stabilization projects in excess of 200 linear feet (Applicant or Applicant + Abutters combined) must undergo Category 2 review.	1. Work not eligible for Category 1. 2. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass[14] <1000 SF. • Permanent fill in SAS (excluding eelgrass[14]) <4300 SF.
8. Residential, Commercial, Industrial, and Institutional Developments, and Recreational Facilities	Not Eligible	1. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass[14] <1000 SF. • Permanent fill in SAS (excluding eelgrass[14]) <4300 SF. 2. Conversions of previously authorized pile supported buildings over navigable waters to residences, offices, or other non-water dependent uses require at least a Category 2 review. 3. Floating house boats or businesses on floats require Category 2 review.
9. Utility Line Activities	1. Repair or maintenance of existing, currently serviceable, authorized utilities with no expansion or change in use: • Conditions of the original authorization apply. • Trenching or filling is confined to the existing footprint. • In water work conducted between Nov 8 and Apr 9. • No new impact to SAS. 2. Particularly relevant is GC12. 3. New work in, over, or under navigable waters requires a PCN and Category 2 review. 4. Except for aerial utility lines, work is not eligible for Category 1 if conducted in tidal portions of the Penobscot River upstream of a line extending from Turner Point in Castine to Moose Point (formerly	1. New or replacement installations or work not otherwise eligible for Category 1. 2. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass[14] <1000 SF. • Permanent fill in SAS (excluding eelgrass[14]) <4300 SF. 3. Particularly relevant is GC12

	Squaw Point) on Cape Jellison in Stockton Springs or in tidal	
10. Linear Transportation Projects **(Not Including Stream Crossings)**	Not eligible	<1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass[14] <1000 SF. • Permanent fill in SAS (excluding eelgrass[14]) <4300 SF.
11. Mining Activities	Not Eligible	Not Eligible
12. Boat Ramps and Marine Railways	1. No new impact to SAS 2. Marine railway and boat ramp work not eligible for maintenance[7] (i.e. not currently serviceable[7]) may be replaced "in-kind" with minor deviations[7] provided: • Work is in the intertidal zone. • No fill expansion below high tide line. • Work conducted in-the-dry during low water. 3. No new boat ramps or marine railways.	1. Work not eligible for Category 1 2. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass[14] <1000 SF. • Permanent fill in SAS (excluding eelgrass[14]) <4300 SF.
13. Land and Water-Based Renewable Energy Generation Facilities and Hydropower Projects	Not Eligible	1. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass[14] <1000 SF. • Permanent fill in SAS (excluding eelgrass[14]) <4300 SF. 2. No new impoundments.
14. Reshaping Existing Drainage Ditches and Mosquito Management	1. ≤500 linear feet of drainage ditch will be modified. The reshaping of the ditch cannot increase drainage capacity beyond the original as-built capacity nor can it expand the area drained by the ditch as originally constructed (i.e., the capacity of the ditch must be the same as originally constructed and it cannot drain additional wetlands or other waters of the U.S.). 2. No new ditches or relocation of drainage ditches constructed in waters of the U.S.; the location of the centerline of the reshaped drainage ditch must be approximately the same as the location of the centerline of the original drainage ditch. 3. No effect on federally listed endangered or threatened species or critical habitat	1. Work not eligible for Category 1 2. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass[14] <1000 SF. • Permanent fill in SAS (excluding eelgrass[14]) <4300 SF.

15. Oil Spill and Hazardous Material Cleanup	Jurisdictional activities required for the containment and cleanup of oil and hazardous substances that are subject to the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300) provided that the work is done in accordance with the Spill Control and Countermeasure Plan required by 40 CFR 112.3 and any existing state contingency plan and provided that the Regional Response Team (if one exists in the area) concurs with the proposed containment and cleanup action. SAS[3] must typically be restored in place at the same elevation. ***Note: SVNF or a surrogate state reporting form may be submitted after the fact. No SVNF is required for Category 1eligible containment booms.***	Work not eligible for Category 1
16. Cleanup of Hazardous and Toxic Waste	Not eligible - except for booms placed for hazardous and toxic waste containment and absorption and prevention which are eligible for SV. ***Note: No SVNF is required for Category 1 eligible containment booms.***	Specific jurisdictional activities with impacts of any area required to affect the containment, stabilization, or removal of hazardous or toxic waste materials that are performed, ordered, or sponsored by a government agency with established legal or regulatory authority. Wetlands and other SAS must typically be restored in place at the same elevation to qualify.
17. Scientific Measurement Devices	Scientific measurement devices whose purpose is to measure and record scientific data, such as staff gages, water recording devices, water quality testing and improvement devices, and similar structures. Structures may not restrict or concentrate movement of aquatic organisms; no activity results in a hazard to navigation; and no activity requiring underwater blasting.	1. Work not eligible for Category 1 2. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass[14] <1000 SF. • Permanent fill in SAS (excluding eelgrass[14]) <4300 SF.
18. Survey Activities	Jurisdictional survey activities such as exploratory drilling, surveying and sampling activities, excluding any biological sampling devices. Does not include any activity requiring underwater blasting, seismic exploratory operations, or oil and gas exploration and fill for roads or construction pads. No activity may result in a hazard to navigation.	1. Work not eligible for Category 1 2. <1 acre temporary or permanent fill, excavation and/or secondary impacts (e.g., areas drained, flooded, fragmented or mechanically cleared). Fill area includes all temporary and permanent waterway fills, provided: • Temporary or permanent fill in eelgrass[14] <1000 SF. • Permanent fill in SAS (excluding eelgrass[14]) <4300 SF.
19. Agricultural Activities	Not Eligible	Not Eligible

20. Fish & Wildlife Harvesting, Enhancement and Attraction Devices and Activities (Not Aquaculture)	Fish and wildlife harvesting, enhancement, and attraction devices and activities such as pound nets, crab traps, crab dredging, eel pots, lobster traps, and clam and oyster digging, and small fish attraction devices such as open water fish concentrators (sea kites, etc.). This does not authorize artificial reefs or impoundments and semi-impoundments of waters of the U.S. for the culture or holding of motile species such as lobster, or the use of covered oyster trays or clam racks. No activity that may result in a hazard to navigation. ***Note: A SVNF is not required for these Category 1 eligible devices and activities.***	1. Work not eligible for Category 1. 2. Impoundments or semi-impoundments of waters of the U.S. for the culture or holding of motile species such as lobster and new fish weirs with an impounded area $\leq$ ½ acre. For Aquaculture operations, refer to Activity 24.
21. Habitat Restoration, Establishment and Enhancement Activities	1. Cultch placement in tidal waters is eligible for SV provided there are no salt marsh or vegetated shallow impacts. 2. SAS planting and transplanting $\leq$ 100 SF in tidal waters; 3. No artificial or living reefs. 4. The activity is authorized in writing by a local, state, or non-Corps federal environmental agency. Water impoundments require PCN. 5. No conversion of i) a stream to wetland or vice versa, wetland to a pond or uplands, and ii) one wetland type to another. 6. No dam removal. 7. Shellfish habitat enhancement such as brushing the flats is eligible for Category 1, *but not the use of netting which requires Category 2 review.*	1. Work not eligible for Category 1. 2. Aquatic habitat restoration, establishment and enhancement provided those activities are proactive and result in net increases in aquatic resource functions and services.[8]
22. Previously Authorized Activities	Any work not commenced nor completed that was authorized in a written letter from the Corps under the GP in effect between October 12, 2010 and October 12, 2015. The terms and general conditions of this GP apply along with any special conditions in the written authorization.	
23. Stream & Wetland Crossings	Not Eligible	All temporary or permanent crossings of tidal navigable waters or adjacent tidal wetlands not eligible as maintenance require a PCN. GC 45 applies
24. Aquaculture	Not Eligible	Shellfish & finfish aquaculture (with the exception of Atlantic salmon and any other salmonid, or other federally listed endangered or threatened species), or other aquaculture facilities with no more than minimal individual and cumulative impacts to environmental resources or navigation. This is inclusive but not limited to cages, nets, bags, racks, long lines, fences, posts, poles, predator screening, etc. Aquaculture guidelines are provided at: www.maine.gov/dmr/aquaculture/index.htm.

Endnotes/Definitions

[1] **Bordering and Contiguous Wetlands:** A bordering wetland is immediately next to its adjacent waterbody and may lie at, or below, the ordinary high water mark (mean high water in navigable waters) of that waterbody and is directly influenced by its hydrologic regime. Contiguous wetlands extend landward from their adjacent waterbody to a point where a natural or manmade discontinuity exists. Contiguous wetlands include bordering wetlands as well as wetlands that are situated immediately above the ordinary high water mark and above the normal hydrologic influence of their adjacent waterbody. Note, with respect to the federally designated navigable rivers, the wetlands bordering and contiguous to the tidally influenced portions of those rivers are reviewed under "II. Navigable Waters."

[2] **Direct, Secondary, and Cumulative Impacts/Effects:**

Direct Impacts: The immediate loss of aquatic ecosystem within the footprint of the fill.

Secondary Impacts: These are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. Information about secondary effects on aquatic ecosystems shall be considered prior to the time final section 404 action is taken by permitting authorities. Some examples of secondary effects on an aquatic ecosystem are a) fluctuating water levels in all impoundment and downstream associated with the operation of a dam, b) septic tank leaching and surface runoff from residential or commercial developments on fill, and c) leachate and runoff from a sanitary landfill located in waters of the U.S. Put another way, secondary effects are those impacts outside the footprint of the fill that arise from and are associated with the discharge of dredged or fill material, including the operation of an activity or facility associated with the discharge. Examples may include habitat fragmentation; interruption of travel corridors for wildlife (for example, for amphibians that migrate to and from seasonal or vernal pools used as breeding habitat); hydrologic regime changes; and impacts from operation and maintenance activities for constructed facilities; such as noise/lighting, storm water runoff, and road kill of wetland dependent wildlife. Using the directions contained in the guidelines, we consider the circumstances of a proposed discharge and the project of which it is a part to evaluate the scope, extent, severity, and permanence of direct, secondary, and cumulative adverse effects upon the aquatic ecosystem.

Cumulative Impacts: The extent of past, present, and foreseeable developments in the area may be an important consideration in evaluating the significance of a particular project's impacts. Although the impacts associated with a particular discharge may be minor, the cumulative effect of numerous similar discharges can result in a large impact. Cumulative impacts should be estimated only to the extent that they are reasonable and practical.

[3] **Special Aquatic Sites:** Includes wetlands and saltmarsh, mudflats, riffles and pools, and vegetated shallows (predominantly comprised of eelgrass in Maine).

[4] **Construction Mats:** Constructions, swamp and timber mats (herein referred to as "construction mats") are generic terms used to describe structures that distribute equipment weight to prevent wetland damage while facilitating passage and providing work platforms for workers and equipment. They are comprised of sheets or mats made from a variety of materials in various sizes. A timber mat consists of large timbers bolted or cabled together. Corduroy roads, which are not considered to be construction mats, are cut trees and/or saplings with the crowns and branches removed, and the trunks lined up next to one another. Corduroy roads are typically installed as permanent structures. Like construction mats, they are considered as fill whether they're installed temporarily or permanently.

[5] **Vernal Pools:** A vernal pool, also referred to as a seasonal forest pool, is a temporary to semi-permanent body of water occurring in a shallow depression that typically fills during the spring or fall and may dry during the summer. Vernal pools have no permanent inlet or outlet and no viable populations of predatory fish. A vernal pool may provide the primary breeding habitat for wood frogs (*Rana sylvatica*), spotted salamanders (*Ambystoma maculatum*), blue-spotted salamanders (*Ambystoma laterale*), and fairy shrimp (*Eubranchipus* sp.), as well as valuable habitat for other plants and wildlife, including several rare, threatened, and endangered species. A vernal pool intentionally created for the purposes of compensatory mitigation is included in this definition. For the purposes of this GP, the presence of any of the following species in any life stage in any abundance level/quantity would designate the waterbody as a vernal pool: fairy shrimp, blue spotted salamanders, spotted salamanders or wood frogs. The Corps may determine during a Category 2 review that a waterbody should not be regulated as a VP based on available evidence. For the purposes of this GP, the VP Management Areas are the: Vernal Pool Depression (includes the vernal pool depression up to the spring or fall high water mark, and includes any vegetation growing within the depression), Vernal Pool Envelope (area within 100 FT of the VP Depression's edge) and Critical Terrestrial Habitat (area within 100-750 FT of the Vernal Pool Depression's edge). [*Note: Critical Terrestrial Habitat is defined as 100 -750 FT on page 243 of the document "Science and Conservation of Vernal Pools in Northeastern North America," Calhoun and deMaynadier, 2008, which is referenced in Appendix G, page 3, Paragraph 10(b).

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[6] **Water Diversions:** Water diversions are activities such as bypass pumping or water withdrawals. Temporary flume pipes, culverts or cofferdams where normal flows are maintained within the stream boundary's confines aren't water diversions. "Normal flows" are defined as no change in flow from pre-project conditions.

[7] **Maintenance: a)** The repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3 – "Activities occurring before certain dates," provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification.

- Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards that are necessary to make repair, rehabilitation, or replacement are authorized.
- Currently serviceable means useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.
- No seaward expansion for bulkheads or any other fill activity is considered Category 1 maintenance.
- Only structures or fills that were previously authorized and are in compliance with the terms and condition of the original authorization can be maintained as a non-regulated activity under 33 CFR 323.4(a)(2), or in accordance with the Category 1 or 2 thresholds in Appendix A.

b) The state's maintenance provisions may differ from the Corps and may require reporting and written authorization from the state.

c) Contact the Corps to determine whether stream crossing replacements require a written application to the Corps for at least a Category 2 review.

d) Exempted Maintenance. In accordance with 33 CFR 323.4(a)(2), any discharge of dredged or fill material that may result from any of the following activities is not prohibited by or otherwise subject to regulation under Section 404 of the CWA: "Maintenance, including emergency reconstruction of recently damaged parts, of currently serviceable structures such as dikes, dams, levees, groins, riprap, breakwaters, causeways, bridge abutments or approaches, and transportation structures. Maintenance does not include any modification that changes the character, scope, or size of the original fill design."

[8] **Aquatic Habitat Restoration, Establishment and Enhancement:** The Corps will decide if a project qualifies and must determine in consultation with federal and state agencies that the net effects are beneficial. The Corps may refer to Nationwide Permit 27 published in the 3/12/07 Federal Register. Activities authorized here may include, but are not limited to: the removal of accumulated sediments; the installation, removal, and maintenance of small water control structures, dikes, and berms; the installation of current deflectors; the enhancement, restoration, or establishment of riffle and pool stream structure; the placement of in-stream habitat structures; modifications of the stream bed and/or banks to restore or establish stream meanders; the backfilling of artificial channels and drainage ditches; the removal of existing drainage structures; the construction of small nesting islands in inland waters**;** the construction of open water areas; the construction of native shellfish species habitat over unvegetated bottom for the purpose of habitat protection or restoration in tidal waters; shellfish seeding; activities needed to reestablish vegetation, including plowing or discing for seed bed preparation and the planting of appropriate wetland species; mechanized land clearing to remove non-native invasive, exotic, or nuisance vegetation; and other related activities. Only native plant species should be planted at the site.

[9] **Brushing the Flats:** The placement of tree boughs, wooden lath structure, or small-mesh fencing on mudflats to enhance recruitment of soft-shell clams (*Mya arenaria*).

[10] **Maintenance Dredging:** This includes only those areas and depths previously authorized by the Corps and dredged. The Corps may require proof of authorization. Maintenance dredging typically refers to the routine removal of sediment to maintain the design depths of serviceable navigation channels, harbors, basins, marinas, boat launches, and port facilities. Maintenance dredging is conducted for navigational purposes and does not include any expansion of the previously dredged area or depth. The Corps may review a maintenance dredging activity as new dredging if sufficient time has elapsed to allow for the colonization of SAS, shellfish, etc.

[11] **Boating Facilities:** Facilities that provide for a fee, rent, or sell mooring space, such as marinas, yacht clubs, boat clubs, boat yards, town facilities, dockominiums, etc.

[12] **Federal Navigation Projects (FNPs):** FNPs are comprised of Federal Channels and Federal Anchorages. See Appendix F for their location and contact the Corps for more information. "Horizontal Limits" is the outer edge of an FNP. "Buffer Zone" is equal to three times the authorized depth of that channel.

[13] **Horizontal Limits:** The outer edge of a Federal Navigation Project (FNP). See Appendix F and contact the Corps for information on FNP's.

[14] **Eelgrass (Zostera marina):** A type of rooted aquatic vegetation that exists in intertidal and shallow subtidal areas known as vegetated shallows. See www.nero.noaa.gov/hcd/ for eelgrass survey guidance. Note: Eelgrass surveys should be conducted be conducted between May and October unless otherwise directed.

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[15] **Structures:** The height of structures shall at all points be equal to or exceed the width of the deck. For the purpose of this definition, height shall be measured from the marsh substrate to the bottom of the longitudinal support beam.

[16] **Agricultural Activities:** The Clean Water Act exempts certain discharges associated with normal farming, ranching, and forestry activities such as plowing, cultivating, minor drainage, and harvesting for the production of food, fiber, and forest products, or upland soil and water conservation practices (Section 404(f)(1)(A)). Applicants are strongly advised to contact the Corps for a determination of whether their activity is exempt or requires a permit.

US Army Corps of Engineers ®
New England District

Appendix B: Self-Verification Notification Form

(for all tidal and non-tidal projects in Maine subject to Corps jurisdiction)

At least two weeks before work commences, complete **all** fields (write "none" if applicable) below or use the fillable form at www.nae.usace.army.mil/missions/regulatory.aspx. Send this form, a location map, any project plans, and an Official Species List (See GC 8) to the address noted below; fax to (207) 623-8206; or email to jay.l.clement@usace.army.mil. The two-week lead time is not required for emergency situations (see page 4 for definition). Please call (207) 623-8367 with questions.

Maine Project Office
U.S. Army Corps of Engineers
New England District
675 Western Avenue #3
Manchester, Maine 04351

State Permit Number: _____
Date of State Permit: _____
State Project Manager: _____

Permittee: _____
Address, City, State & Zip: _____
Phone(s) and Email: _____

Contractor: _____
Address, City, State & Zip: _____
Phone(s) and Email: _____

Consultant/Engineer/Designer: _____
Address, City, State & Zip: _____
Phone(s) and Email: _____

Wetland/Vernal Pool Consultant: _____
Address, City, State & Zip: _____
Phone(s) and Email: _____

Project Location/Description: _____
Address, City, State & Zip: _____
Latitude/Longitude Coordinates: _____ Tax Map/Lot: _____
Waterway Name: _____
Work Description: _____

_____

Provide any prior Corps permit numbers: _____
Proposed Work Dates: Start: _____ Finish: _____

Area of wetland impact: _____ SF (leave blank if work involves structures & no fill in Navigable Waters)
Area of waterway impact: _____ SF (leave blank if work involves structures & no fill in Navigable Waters)
Area of compensatory mitigation provided: _____ SF

Work will be done under the following Appendix A categories (circle all that apply):

I. Inland Waters and wetlands: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
II. Navigable Waters: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Your name/signature below, as permittee, indicates that you accept and agree to comply with the terms, eligibility criteria, and general conditions of Category 1 of the Maine General Permit.

Permittee Printed Name: _____

Permittee Signature: _____ Date: _____

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New England District

Appendix C: Content of Pre-Construction Notification

In addition to the following required information, the applicant must provide additional information as the Corps deems essential to make a public interest determination including, where applicable, a determination of compliance with the Section 404(b)(1) guidelines or ocean dumping criteria. Such additional information may include environmental data and information on alternate methods and sites as may be necessary for the preparation of the required environmental documentation. For a more comprehensive checklist, go to www.nae.usace.army.mil/missions/regulatory >> Forms >> Application and Plan Guideline Checklist. Please check with the Corps for project-specific requirements.

Information required for all projects:

- ☐ Corps application form (ENG Form 4345) or appropriate state application form (see Appendix E). Forms may need to be supplemented to include the information noted below.
- ☐ Proof of notification to the SHPO and the appropriate THPOs (see Appendix E).
- ☐ Official Species List for any federally listed endangered or threatened species (Instructions at Appendix D)
- ☐ Drawings, sketches, or plans (detailed engineering plans and specifications are not required) that are legible, reproducible (color is encouraged, but features must be distinguishable in black and white), no larger than 11"x17", with bar scale. Wetland area impact sheets should have the highest resolution possible to show work within Corps jurisdiction (do not just reduce project overview or cut large-scale plan into quadrant sheets). Provide locus map and a plan overview of the entire property with a key index to the individual impact sheets. A locus map be on a section of color USGS topographic map is encouraged. Digital submissions are encouraged.
- ☐ Include:
  - ☐ All direct, secondary, permanent and temporary effects the project would cause, including the anticipated amount of impacts to waters of the U.S. expected to result from the activity, in acres, linear feet, or other appropriate unit of measure.
  - ☐ Any historic permanent fill associated with each single and complete project.
  - ☐ Cross-section views of all wetland and waterway fill areas and wetland replication areas.
  - ☐ Delineation of all wetlands, other special aquatic sites (vegetated shallows, saltmarsh, mudflats, riffles and pools, coral reefs, and sanctuaries and refuges), and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Use Federal delineation methods and include Corps wetland delineation data sheets (see GC 2).
  - ☐ MLW and MHW elevations in tidal waters. Show the HTL elevations when fill is involved. Show OHW elevation in lakes and non-tidal streams.
  - ☐ Existing and proposed conditions.
  - ☐ For vegetated shallow and eelgrass survey guidance, see www.nae.usace.army.mil/missions/regulatory >> Jurisdictional Limits and Wetlands >> Submerged Aquatic Vegetation Survey Guidance for the New England Region.
  - ☐ Show all known VPs on the project site. See GC 23 for vernal pool identification requirements.
- ☐ Volume, type, and source of fill material to be discharged into waters and wetlands, including the area(s) (in square feet or acres) of fill in wetlands, below OHW in inland waters and below the HTL in coastal waters.

- An Official Species List of federally "listed species or critical habitat" present in the action area (see GC 8).
- A restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions (see GC 43).

Information that may be required:

- Photographs of wetland/waterway to be impacted. Photos at low tide are preferred for work in tidal waters.
- For drawings, sketches, or plans:
  - The vertical datum for all coastal projects must be in U.S. survey feet and referenced to MLLW and current tidal epochs, with a reference chart showing conversion factor to NAVD88; do not use local datum. See www.nae.usace.army.mil/missions/regulatory >> Forms and Publications >>Vertical Datum - FEMA (Jul 2007);
  - The horizontal state plane coordinates shall be in U.S. survey feet and based on the appropriate state plane coordinate system.
- For the construction of a filled area or pile or float-supported platform, the use of, and specific structures to be erected on, the fill or platform.
- For the discharge of dredged or fill material into waters of the U.S. or the transportation of dredged material for the purpose of disposing of it in ocean waters, the source of the material; the purpose of the discharge, a description of the type, composition and quantity of the material; the method of transportation and disposal of the material; and the location of the disposal site.
- For the discharge of dredged or fill material into waters of the U.S., include a statement describing how impacts to waters of the U.S. are to be avoided and minimized. Include either a statement describing how impacts to waters of the U.S. are to be compensated for or a statement explaining why compensatory mitigation should not be required for the proposed impacts.
- Purpose and need for the proposed activity;
- Limits and coordinates of any Federal Navigation Project in the vicinity of the project area.
- Limits and coordinates of any proposed mooring field, reconfiguration zone or aquaculture activity. Provide coordinates for all corners;
- Schedule of construction/activity;
- Names and addresses of adjoining property owners;
- Location and dimensions of adjacent structures;
- List of authorizations required by other Federal, interstate, state, or local agencies for the work, including all approvals received or denials already made.
- Identification and description of potential impacts to Essential Fish Habitat (defined at VI. Definitions and Acronyms.
- Identification of potential discharges of pollutants to waters, including potential impacts to impaired waters, in the project area (see GC 19).
- Invasive Species Control Plan (see GC 24). For sample control plans, see www.nae.usace.army.mil/missions/regulatory >> Invasive Species.
- Wildlife Action Plan (WAP) maps. Contact Maine Inland Fisheries & Wildlife (Appendix E) or on line at http://www.maine.gov/ifw/wildlife/conservation/action_plan.html

Information for dredging projects that may be required:

- Sediment testing, including physical (e.g., grain-size analysis), chemical and biological testing. For projects proposing open water disposal, applicants are encouraged to contact the Corps as early as possible regarding sampling and testing protocols. Sampling and testing of sediments without such contact should not occur and if done, would be at the applicant's risk.
- The area in square feet and volume of material to be dredged below mean high water.

- Existing and proposed water depths.
- Type of dredging equipment to be used.
- Nature of material (e.g., silty sand).
- Any existing sediment grain size and bulk sediment chemistry data for the proposed or any nearby projects.
- Information on the location and nature of municipal or industrial discharges and occurrence of any contaminant spills in or near the project area.
- Shellfish survey.
- Location of the disposal site (include locus sheet).
- Identification and description of any potential impacts to Essential Fish Habitat.
- Delineation of submerged aquatic vegetation (e.g., eelgrass beds).

Information for aquaculture projects that may be required:

- Maine Aquaculture guidelines and joint Corps/Maine DMR applications may be found at: www.maine.gov/dmr/aquaculture/index.htm.
- In addition to the information required above, applications must also include:
  - Whether canopy predator nets are being used.

Appendix D: Instruction for USFWS IPaC Project Builder/Official Species List

NOTE: These instructions are subject to change by the USFWS. Users should check this GP's Corps webpage for the latest instructions or click here.

In your internet browser go to http://ecos.fws.gov/ipac/

1. Click on get started.

2. Click on enter project location.

3. Search or zoom to your project location. (You can enter an address and then zoom in with your mouse).

4. Define your area. (Select the polygon tool and click around the boundary of your project.) or (Use the draw a line tool for linear projects)

Note: You can change/select the map from Streets to Satellite or Topo in the lower left corner of the map.
5. Click finished drawing then click confirm and select continue.

6. On the next page under Tasks (lower left), select Request an official species list. The pane will open. Select "request official species list" again.

7. A new page will open. Fill in the project information blanks with the project name, brief description, project type, lead agency, and contact information. Be sure to check the box to verify this is a legitimate project. Click on Submit Official Species List Request.

8. You will be sent an e-mail with instructions to complete the request by clicking on the link provided.

9. The site will open Official Species List Request Completed. Under the Maine Ecological Services Field Office address you will see "Official Species List Document". Click on that link and your document will open. Save and or print a copy and **include the entire report with your application**.

Note, you will receive a second e-mail with the same information. You can save the link in the event you need to return to the IPaC site for an updated list.

If a period of time has passed since your initial "Official Species List" identifier number was generated, you may choose to generate an "UPDATED SPECIES LIST". To do this, return to the IPaC homepage at http://ecos.fws.gov/ipac site. In the middle of the page, click the purple "Need an updated species list" link.

On the request an "Updated Official Species List" page, complete the information in the boxes provided. You will need the project specific official consultation code generated and stated on the original official list as well as the email address entered with the original submission.

Click "Request Updated Species List". Print, or save.

Appendix E: Contacts and Tribal Areas of Interest

1. Federal

U.S. Army Corps of Engineers
Maine Project Office
675 Western Avenue #3
Manchester, ME 04351
(207) 623-8367 (phone); (207) 623-8206 (fax)

U.S. Environmental Protection Agency
5 Post Office Square
Suite 100 (OEP05–2)
Boston, MA 02109-3912
(617) 918-1589 (phone)

U.S. Fish and Wildlife Service
Maine Field Office
17 Godfrey Drive, Suite 2
Orono, ME 04473
(207) 866-3344 (phone); (207) 866-3351 (fax)
(Federal endangered species)

National Marine Fisheries Service
Maine Field Office
17 Godfrey Drive Suite 1
Orono, ME 04473
(207) 866-7379 (phone); (207) 866-7342 (fax)
(Federal endangered species)

Federal Emergency Management Agency
99 High St.
Boston, MA 02110
(877) 336-2734 (phone)
(Flood Plain Management)

National Marine Fisheries Service
55 Great Republic Drive
Gloucester, MA 01930
(978) 281-9102 (phone); (978) 281-9301 (fax)
(Federal endangered species & EFH)

National Park Service
North Atlantic Region
15 State Street
Boston, MA 02109
(617) 223-5203 (phone)
(Wild and Scenic Rivers)

Commander (dpb)
First Coast Guard District
One South Street - Battery Bldg
New York, NY 10004-1466
(212) 668-7021 (phone); (212) 668-7967 (fax)
(bridge permits)

2. State of Maine

a. Department of Environmental Protection (*State permits & Water Quality Certifications*)

Division of Land Resource Regulation
Bureau of Land and Water Quality
17 State House Station
Augusta, Maine 04333
(207) 287-7688 (phone)

Southern Maine Regional Office
312 Canco Road
Portland, Maine 04103
(201) 822-6300 (phone)

Eastern Maine Regional Office
106 Hogan Road
Bangor, Maine 04401
(207) 941-4570 (phone)

Northern Maine Regional Office
1235 Central Drive - Skyway Park
Presque Isle, Maine 04769
(207) 764-0477 (phone)

b. Department of Agriculture, Conservation and Forestry

i. Maine Land Use Planning Commission (LUPC) (*State permits & Water Quality Certifications in the unorganized areas of the State*)

Augusta Office
22 State House Station
Augusta, Maine 04333-0022
(207) 287-2631 (phone); (207) 287-7439 (fax)

Greenville Regional Office
43 Lakeview Drive
P.O. Box 1107
Greenville, Maine 04441
(207) 695-2466 (phone); (207) 695-2380 (fax)

Rangeley Regional Office
133 Fyfe Road
PO Box 307
West Farmington, ME 04992
(207) 670-7493 (phone); (207) 287-7439 (fax)

Downeast Regional Office
106 Hogan Rd, Suite 8
Dorothea Dix Complex
Bangor, Maine 04401
(207) 941-4052 (phone); (207) 941-4222 (fax)

Ashland Regional Office
45 Radar Road
Ashland, ME 04732-3600
(207) 435-7963 (phone); (207) 435-7184 (fax)

East Millinocket Regional Office
191 Main Street
East Millinocket, ME 04430
(207) 746-2244 (phone); (207) 746-2243 (fax)

ii. Maine Coastal Program

Department of Agriculture, Conservation and Forestry
Bureau of Resource Information and Land Use Planning
17 Elkins Lane {physical address}
State House Station 93
Augusta, Maine 04333-0038
(207) 287-2801 (phone); (207) 287-2353 (fax)
(CZM consistency determinations)

iii. Division of Parks and Public Lands

22 State House Station
Augusta, Maine 04333
(207) 287-3061 (phone); (207) 287-6170 (fax)
(submerged lands leases)

c. Department of Marine Resources

P.O. Box 8
West Boothbay Harbor, Maine 04575
(207) 633-9500 (phone); (207) 624-6024 (fax)
(aquaculture leases)

3. Historic Properties

a. State Historic Preservation Officer (SHPO)

Mr. Kirk F. Mohney, Director

Maine Historic Preservation Commission (MHPC)
65 State House Station
Augusta, Maine 04333-0065
(207) 287-2132 (phone); (207) 287-2335 (fax)
Area of concern: The entire State of Maine

b. Tribal Historic Preservation Officers (THPOs)

Note: The area of concern for each tribe is the entire State of Maine

THPO & Environmental Planner
Houlton Band of Maliseet Indians
88 Bell Road
Littleton, Maine 04730
(207) 532-4273, x215 (phone)
(207) 532-6883 (fax)
envplanner@maliseets.com
ogs1@maliseets.com

THPO
Aroostook Band of Micmacs
7 Northern Road
Presque Isle, Maine 04769
(207) 764-1972 (phone); (207) 764-7667 (fax)
jpictou@mimca-nsn.gov

THPO
Passamaquoddy Tribe of Indians
Pleasant Point Reservation
P.O. Box 343
Perry, Maine 04667
(207) 853-2600 (phone); (207) 853-6039 (fax)
soctomah@gmail.com

THPO
Penobscot Nation
Cultural and Historic Preservation Dept.
12 Wabanaki Way
Indian Island, Maine 04468
(207) 817-7471 (phone)
chris.sockalexis@penobscotnation.org

THPO
Passamaquoddy Tribe of Indians
Indian Township Reservation
P.O. Box 301
Princeton, Maine 04668
(207) 796-2301 (phone)
(207) 796-5256 (fax); soctomah@gmail.com

4. Organizational Websites (Note – Subject to Change):

U.S. Army Corps of Engineers, N.E. District	www.nae.usace.army.mil/missions/regulatory.aspx
U.S. Army Corps of Engineers, Headquarters	See above link>>Useful Links>>Federal Agency Links
U.S. Environmental Protection Agency	www.epa.gov/owow/wetlands
National Marine Fisheries Service	www.nmfs.noaa.gov
U.S. Fish and Wildlife Service	www.fws.gov/mainefieldoffice
National Park Service	www.nps.gov/rivers/index.html
Maine Department of Environmental Protection	www.maine.gov/dep
Maine Department of Agriculture, Conservation and Forestry	www.maine.gov/acf/index.shtml
Maine Land Use Planning Commission	www.maine.gov/doc/lupc/commission/offices.shtml
Maine Department of Marine Resources	www.maine.gov/dmr/index.htm
State of Maine - Aquaculture Guidelines	www.maine.gov/dmr/aquaculture/index.htm

Appendix F: Definitions

Definitions

Attendant Features: Occurring with or as a result of; accompanying.

Biodegradable: A material that decomposes into elements found in nature within a reasonably short period of time and will not leave a residue of plastic or a petroleum derivative in the environment after degradation. Examples of biodegradable materials include jute, sisal, cotton, straw, burlap, coconut husk fiber (coir) or excelsior. In contrast, degradable plastics break down into plastic fragments that remain in the environment after degradation.

Boating facilities: These provide, rent or sell mooring space, such as marinas, yacht clubs, boat yards, dockominiums, town facilities, land/home owners, etc. Not classified as boating facilities are piers shared between two abutting properties or town mooring fields that charge an equitable user fee based on the actual costs incurred.

Brushing the Flats: The placement of tree boughs, wooden lath structure, or small-mesh fencing on mudflats, or any bottom disturbance (e.g., discing, plowing, raking, etc.), to enhance recruitment of shellfish.

Buffer Zone: The buffer zone of an FNP is equal to three times the authorized depth of the FNP.

Construction mats: Constructions, swamp and timber mats (herein referred to as "construction mats") are generic terms used to describe structures that distribute equipment weight to prevent wetland damage while facilitating passage and providing work platforms for workers and equipment. They are comprised of sheets or mats made from a variety of materials in various sizes. A timber mat consists of large timbers bolted or cabled together. Corduroy roads, which are not considered to be construction mats, are cut trees and/or saplings with the crowns and branches removed, and the trunks lined up next to one another. Corduroy roads are typically installed as permanent structures. Like construction mats, they are considered as fill whether they are installed temporarily or permanently

Cumulative effects: See "Direct, secondary, and cumulative effects."

Direct, secondary, and cumulative effects:

Direct Effects: The loss of aquatic ecosystem within the footprint of the discharge of dredged or fill material. Direct effects are caused by the action and occur at the same time and place.

Secondary Effects: These are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. Information about secondary effects on aquatic ecosystems shall be considered prior to the time final Section 404 action is taken by permitting authorities. Some examples of secondary effects on an aquatic ecosystem are a) aquatic areas drained, flooded, fragmented, or mechanically cleared, b) fluctuating water levels in all impoundment and downstream associated with the operation of a dam, c) septic tank leaching and surface runoff from residential or commercial developments on fill, and d) leachate and runoff from a sanitary landfill located in waters of the U.S. See 40 CFR 230.11(h).

Cumulative Effects: The changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual 1) discharges of dredged or fill material, or 2) structures. Although the impact of a particular discharge may constitute a minor change in itself, the cumulative effect of numerous such piecemeal changes can result in a major impairment of the water resources and interfere with the productivity and water quality of existing aquatic ecosystems. See 40 CFR 230(g).

Dredging:

Maintenance Dredging: Includes areas and depths previously authorized by the Corps and dredged. The Corps may require proof of authorization. Maintenance dredging typically refers to the routine removal of accumulated sediment from channel beds to maintain the design depths of navigation channels, harbors, marinas, boat launches and port facilities. Routine maintenance dredging is conducted regularly for navigational purposes (typically at least once every ten years) and does not include any expansion of the previously dredged area or depth. The Corps may review a maintenance dredging activity as new dredging if sufficient time has elapsed to allow for the colonization of SAS,

shellfish, etc. The main characteristics of maintenance dredging projects are variable quantities of material; soft, uncompacted soil; contaminant content possible; thin layers of material;occurring in navigation channels and harbors; repetitive activity

New Dredging: Dredging of an area or to a depth that has never been authorized by the Corps or dredged.

Dredged material & discharge of dredged material: These are defined at 323.2(c) and (d). The term dredged material means material that is excavated or dredged from waters of the U.S.

Essential Fish Habitat (EFH): This is broadly defined to include those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.

Fill material & discharge of fill material: These are defined at 323.2(e) and (f). The term fill material is defined as material placed in waters of the U.S. where the material has the effect of either replacing any portion of a water of the U.S. with dry land or changing the bottom elevation of any portion of a water of the U.S.

Federal anchorages, Federal channels and Federal turning basin: Refer to Appendix H for those in Maine

Federal navigation projects (FNPs): These areas are maintained by the Corps; authorized, constructed and maintained on the premise that they will be accessible and available to all on equal terms; and are comprised of Federal Anchorages, Federal Channels and Federal Turning Basins. The buffer zone is equal to three times the authorized depth of a FNP. More information on the following FNPs is provided at www.nae.usace.army.mil/missions/navigation.aspx >> Navigation Projects.

Flume: An open artificial water channel, in the form of a gravity chute, that leads water from a diversion dam or weir completely aside a natural flow. A flume can be used to measure the rate of flow.

Frac out: During normal drilling operations, drilling fluid travels up the borehole into a pit. When the borehole becomes obstructed or the pressure becomes too great inside the borehole, the ground fractures and fluid escapes to the surface.

Independent utility: A test to determine what constitutes a single and complete non-linear 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.

Individual Permit: A Department of the Army authorization that is issued following a case-by-case evaluation of a specific structure or work in accordance with the procedures of 33 CFR 322, or a specific project involving the proposed discharge(s) in accordance with the procedures of 33 CFR 323, and in accordance with the procedures of 33 CFR 325 and a determination that the proposed discharge is in the public interest pursuant to 33 CFR 320.

Maintenance: Regulations on maintenance are provided at 33 CFR 323.4. The following definitions are applicable:

Minor deviations: Deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards, which are necessary to make repair, rehabilitation, or replacement are permitted, provided the adverse environ-mental effects resulting from such repair, rehabilitation, or replacement are minimal.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Marina reconfiguration zone: A Corps-authorized area in which permittees may rearrange pile-supported structures and floats without additional authorizations. A reconfiguration zone does not grant exclusive privileges to an area or an increase in structure or float area.

Navigable waters of the U.S.: See Waters of the U.S. below.

Overall project: See "single and complete linear project" below.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.
Permanent impacts: Permanent impacts means waters of the U.S. that are permanently affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent impacts 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. Temporary impacts include waters of the U.S. that are temporarily filled, flooded, excavated, drained or mechanically cleared because of the regulated activity.
Pre-construction notification (PCN): A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by this GP. 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 these GPs. A PCN may be voluntarily submitted in cases where PCN is not required and the project proponent wants confirmation that the activity is authorized under this GP.
Secondary effects: See "Direct, secondary, and cumulative effects."
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 U.S. (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 the purposes of this GP. 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.
The overall project, for purposes of this GP, includes all regulated activities that are reasonably related and necessary to accomplish the project purpose.
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. For non-linear projects, the single and complete project must have independent utility (see definition).
Special aquatic sites: These include inland and saltmarsh wetlands, mud flats, vegetated shallows, sanctuaries and refuges, coral reefs, and riffle and pool complexes. These are defined at 40 CFR 230 Subpart E.
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 stream remains a water of the United States.
Temporary impacts: See permanent impacts above.
Utility line: Any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and radio and television communication. The term 'utility line' does not include activities that drain a water of the U.S., such as drainage tile or French drains, but it does apply to pipes conveying drainage from another area.
Vegetated shallows: Permanently inundated areas that under normal circumstances support communities of rooted aquatic vegetation, such as eelgrass and widgeon grass (*Rupiamaritima*) in marine systems (doesn't include salt marsh) as well as a number of freshwater species in rivers and lakes. Note: These areas are also commonly referred to as submerged aquatic vegetation (SAV).
Vernal pools (VPs): For the purposes of this GP, VPs are depressional wetland basins that typically go dry in most years and may contain inlets or outlets, typically of intermittent flow. Vernal pools range in both size and depth depending upon landscape position and parent material(s). Pools usually

support one or more of the following obligate indicator species: wood frog, spotted salamander, blue-spotted salamander, marbled salamander, Jefferson's salamander and fairy shrimp. However, they should preclude sustainable populations of predatory fish.
VP areas are:

- Depression (includes the VP depression up to the spring or fall high water mark, and includes any vegetation growing within the depression),
- Envelope (area within 100 feet of the VP depression's edge), and
- Critical terrestrial habitat (area within 100-750 feet of the VP depression's edge).

Note: See footnote to GC 23. The Corps may determine during the PCN review that a waterbody should not be designated as a VP based on available evidence.
Water diversions: Water diversions are activities such as bypass pumping (e.g., "dam and pump") or water withdrawals. Temporary flume pipes, culverts or cofferdams where normal flows are maintained within the stream boundary's confines aren't water diversions. "Normal flows" are defined as no change in flow from pre-project conditions.
Weir: A barrier across a river designed to alter the flow characteristics. In most cases, weirs take the form of a barrier, smaller than most conventional dams, across a river that causes water to pool behind the structure (not unlike a dam) and allows water to flow over the top. Weirs are commonly used to alter the flow regime of the river, prevent flooding, measure discharge and help render a river navigable.
Waters of the U.S. & Waters of the United States (U.S.): The term waters of the U.S. and all other terms relating to the geographic scope of jurisdiction are defined at 33 CFR 328. Also see Section 502(7) of the Federal CWA [33 USC 1352(7)]. Waters of the U.S. include jurisdictional wetlands. Not all waters and wetlands are jurisdictional. Contact the Corps with any questions regarding jurisdiction.
Navigable waters: Refer to 33 CFR 329. These waters include the following federally designated navigable waters in New England. This list represents only those waterbodies for which affirmative determinations have been made; absence from this list should not be taken as an indication that the waterbody is not navigable:

ME: All tidal waters; Kennebec River to Moosehead Lake; Penobscot River to the confluence of the East and West Branch at Medway, Maine; Lake Umbagog within the State of Maine.

Appendix G: Additional References

1. GC 2: Federal Jurisdictional Boundaries.

(a) Corps Wetlands Delineation Manual, regional supplements, and Corps Wetland Delineation Data Sheets: www.nae.usace.army.mil/missions/regulatory and then "Wetlands and Jurisdictional Limits."
(b) The USFWS publishes the 1988 National List of Plant Species that Occur in Wetlands (www.nwi.fws.gov).
The Natural Resources Conservation Service (NRCS) publishes the current hydric soil definition, criteria and lists: http://soils.usda.gov/use/hydric. For the Field Indicators for Identifying Hydric Soils in N.E., see www.neiwpcc.org/hydricsoils.asp.

2. GC 5: Single and Complete Project.

Single and complete project means the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. For example, if construction of a residential development affects several different areas of a headwater or isolated water, or several different headwaters or isolated waters, the cumulative total of all filled areas should be the basis for deciding whether or not the project will be covered by Category 1 or 2.
The ***Independent utility*** test is used to determine what constitutes a single and complete 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.

3. GC 8: Threatened and Endangered Species.

(a) The following NMFS site must be referenced to ensure that listed species or critical habitat are not present in the action area [GC 8(b)] or to provide information on federally-listed species or habitat [GC 8(e)]: www.nero.noaa.gov/prot_res/esp/ListE&Tspec.pdf. Contact the USFWS for information to check for the presence of listed species (see Appendix D for contact information & procedures).
(b) The Endangered Species Act Consultation Handbook – Procedures for Conducting Section 7 Consultations and Conferences, defines action area as "all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action. [50 CFR 402.02]."

4. GC 42: Essential Fish Habitat.

As part of the GP screening process, the Corps may coordinate with NMFS in accordance with the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act to protect and conserve the habitat of marine, estuarine and anadromous finfish, mollusks, and crustaceans. This habitat is termed "Essential Fish Habitat (EFH)", and is broadly defined to include "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." There are EFH waters throughout inland and coastal waters in Maine. For additional information, see the EFH regulations 50 CFR 600 at www.nero.noaa.gov/hcd including the "Guide for EFH Descriptions" at www.nero.noaa.gov/hcd/list.htm. Additional information on the location of EFH can be obtained from NMFS (see Appendix D for contact information).

5. GC 4: Avoidance, Minimization and Compensatory Mitigation.

(a) See www.nae.usace.army.mil/missions/regulatory and then "Mitigation" to view the April 10, 2008 "Final Compensatory Mitigation Rule" (33 CFR 332) and related documents. The Q&A document states: "In order to reduce risk and uncertainty and help ensure that the required compensation is provided, the rule establishes a preference hierarchy for mitigation options. The most preferred option

is mitigation bank credits, which are usually in place before the activity is permitted. In-lieu fee program credits are second in the preference hierarchy, because they may involve larger, more ecologically valuable compensatory mitigation projects as compared to permittee-responsible mitigation. Permittee-responsible mitigation is the third option, with three possible circumstances: (1) conducted under a watershed approach, (2) on-site and in kind, and (3) off-site/out-of-kind.
(b) Compensatory mitigation may take the form of wetland preservation, restoration, enhancement, creation, and/or in lieu fee (ILF) for inclusion into the Natural Resources Mitigation Fund for projects in DEP and LURC territories. Avoidance of wetland impacts will reduce the ILF dollar total for applicants. The ILF compensation program was established to provide applicants with a flexible compensation option over and above traditional permittee responsible compensation projects. See the Maine ILF Agreement at www.nae.usace.army.mil/missions/regulatory, "Mitigation" and then "Maine," or www.maine.gov/dep/blwq/docstand/nrpa/ILF_and_NRCP/index.htm.

6. GCs 24, 15, and 43: Invasive Species.
(a) Information on what are considered "invasive species" is provided in our "Compensatory Mitigation Guidance" document at www.nae.usace.army.mil/missions/regulatory under "Mitigation." The "Invasive Species" section has a reference to our "Invasive Species Control Plan (ISCP) Guidance" document, located at www.nae.usace.army.mil/missions/regulatory under "Invasive Species," which provides information on preparing an ISCP.
(b) The June 2009 "Corps of Engineers Invasive Species Policy" is at www.nae.usace.army.mil/missions/regulatory under "Invasive Species" and provides policy, goals and objectives.

7. GC 44: Bank Stabilization.
This generally eliminates bodies of water where the reflected wave energy may interfere with or impact on harbors, marinas, or other developed shore areas. A revetment is sloped and is typically employed to absorb the direct impact of waves more effectively than a vertical seawall. It typically has a less adverse effect on the beach in front of it, abutting properties and wildlife. See the Corps Coastal Engineering Manual EM 1110-2-1100 at www.nae.usace.army.mil/missions/regulatory under "Useful Links and Documents" for design and construction guidance.

8. GC 45: Stream and Wetland Crossings.
(a) Projects should be designed and constructed to ensure long-term success using the most recent manual located at www.nae.usace.army.mil/missions/regulatory under "Stream and River Continuity," currently "Stream Simulation: An Ecological Approach to Providing Passage for Aquatic Organisms at Road-Stream Crossings, by the U.S. Forest Service." Section 5.3.3 is of particular importance. Sections 7.5.2.3 Construction Methods and 8.2.11 Stream-Simulation Bed Material Placement both show important steps in the project construction.
(b) For more information on High-Quality Stream Segments and their components see:
- **i.** High-Quality Stream Segments are shown at www.maine.gov/dep/gis/datamaps.
- **ii.** Class A Waters or Class AA Waters:

www.mainelegislature.org/legis/statutes/38/title38sec465.html, and
www.mainelegislature.org/legis/statutes/38/title38sec467.html.
- **iii.** Outstanding river segments www.mainelegislature.org/legis/statutes/38/title38sec480-P.html.

(c) The Massachusetts Dam Removal and the Wetland Regulations offer guidance to evaluate the positive and negative impacts of culvert replacement, including the loss of upstream wetlands, which may be offset by the overall benefits of the river restoration. See www.nae.usace.army.mil/missions/regulatory and then "Stream and River Continuity."

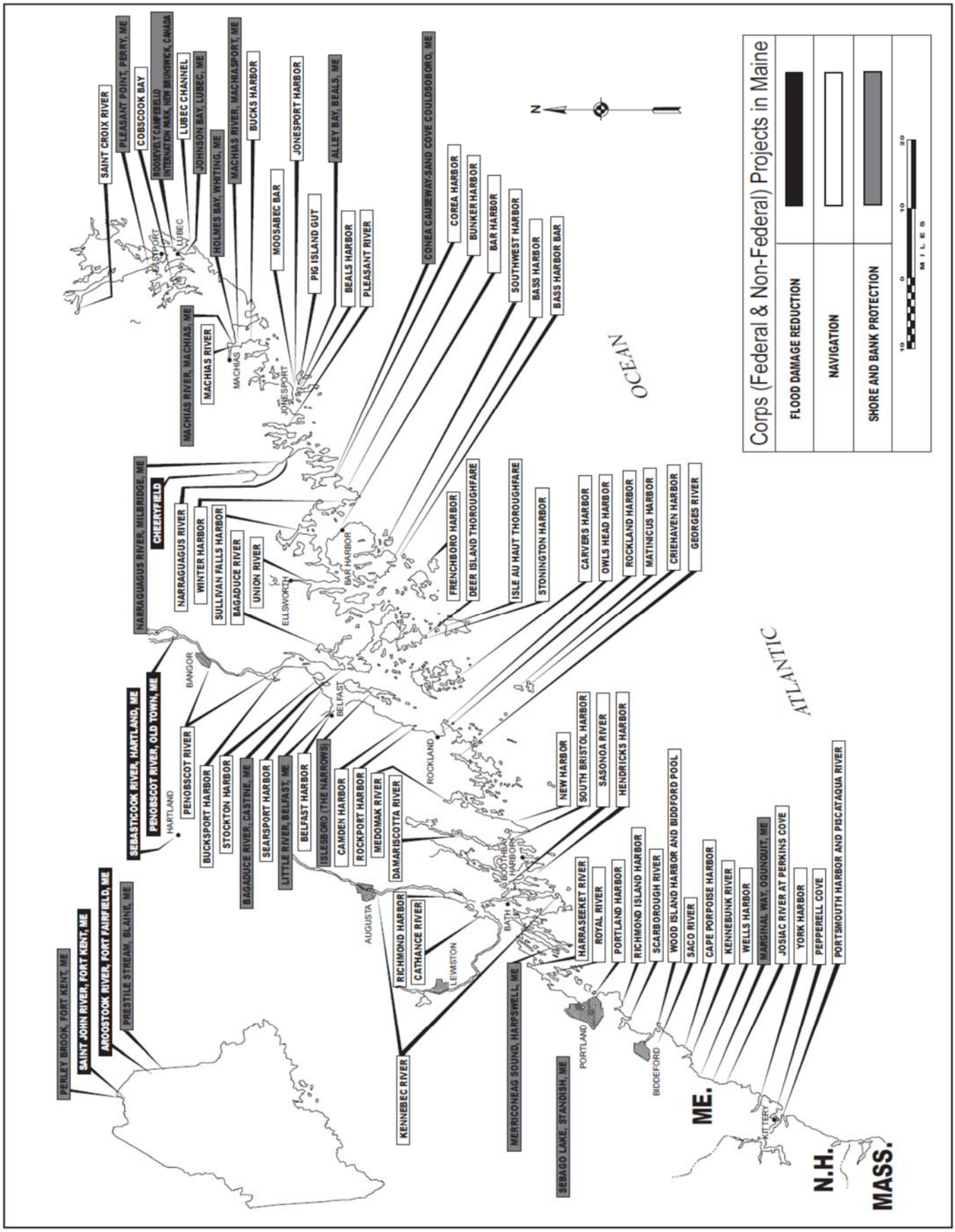
(d) The ME DOT's document "Waterway and Wildlife Crossing Policy and Design Guide for Aquatic Organism, Wildlife Habitat, and Hydrologic Connectivity," 3rd Edition, July 2008, may be used as guidance to evaluate impacts to aquatic, wildlife and surface water resources when designing, constructing, repairing and maintaining stream crossings. Note: Adherence to this DOT document does not ensure compliance with this GP. Projects must comply with the requirements of this GP including GC 45 and the Corps General Stream Crossing Standards contained therein. www.maine.gov/mdot/environmental-office-homepage/fishpassage/3rd%20edition%20-%20merged%20final%20version%207-01-08a1.pdf.
(e) GC 45(f): The Skidder Bridge Fact Sheet at www.nae.usace.army.mil/missions/regulatory under "Stream and River Continuity" may be a useful temporary span construction method.

9. GC 45: Wetland Crossings. The Maine DEP's crossing standards are at 06-096 DEP, Chapter 305: Permits by Rule, 9 & 10) Crossings (utility lines, pipes and cables). www.maine.gov/dep/blwq/rules/NRPA/2009/305/305_effective_2009.pdf

10. GC 23: Protection of Vernal Pools.
(a) The state's Significant Wildlife Habitat rules (Chapter 335, Section 9(C) "Habitat management standards for significant vernal pool habitat") are located at www.maine.gov/dep/blwq/docstand/nrpapage.htm#rule under "Rules."
(b) The following documents provide conservation recommendations:
i. Best Development Practices: Conserving pool-breeding amphibians in residential and commercial development in the northeastern U.S., Calhoun and Klemens, 2002. Chapter III, Management Goals and Recommendations, Pages 15 – 26, is particularly relevant. (Available for purchase at www.maineaudubon.org/resource/index.shtml and on Corps website*.)
ii. Science and Conservation of Vernal Pools in Northeastern North America, Calhoun and deMaynadier, 2008. Chapter 12, Conservation Recommendations section, Page 241, is particularly relevant. (Available for purchase via the internet. Chapter 12 is available on Corps website*.)
* www.nae.usace.army.mil/reg under "Vernal Pools."
(c) Cape Cod Curbing: For smaller roads and driveways, the most important design feature to consider is curbing. Granite curbs and some traditional curbing can act as a barrier to amphibian and hatchling turtle movements. Large numbers of salamanders have been intercepted in their migrations by curbs and catch basins. Use of Cape Cod curbs rather than traditional curbing may be one solution. Alternatively, where storm water management systems require more traditional curbing, it may be possible to design in escape ramps on either side of each catch basin. Cape Cod curbing is shown on Page 35 of the document cited in 10.b.i above. Bituminous material is not required; other materials such as granite are acceptable.
(d) The VP Directional Buffer Guidance document is located at www.nae.usace.army.mil/missions/regulatory under: 1) "State General Permits" and then "Maine," and 2) "Vernal Pools."

11. GC 29: Maintenance. River restoration projects that are designed to accommodate the natural dynamic tendencies of the fluvial system are maintained in accordance with the project's design objectives (Category 1) or the Corps authorization letter (Category 2). These projects are generally designed to support and implement channel assessment and management practices that recognize a stream's natural dynamic tendencies.

Appendix H: Federal Navigation Projects in Maine



11. State transportation facilities

A. Applicability

(1) This section applies to the maintenance, repair, reconstruction, rehabilitation, replacement or minor construction of a State Transportation Facility carried out by, or under the authority of, the Maine Department of Transportation (MaineDOT) or the Maine Turnpike Authority, including any testing or preconstruction engineering, and associated technical support services.

(2) This section does not apply to an activity within a coastal sand dune system.

NOTE: The construction of a transportation facility other than roads and associated facilities may be subject to the Storm Water Management Law, 38 M.R.S.A. Section 420-D.

B. Standards

(1) Photographs of the area to be altered by the activity must be taken before work on the site begins. The photographs must be kept on file and be made available at the request of the DEP.

(2) The activity must be reviewed by the Department of Inland Fisheries and Wildlife and the Department of Marine Resources, as applicable. The applicant must coordinate with the reviewing agencies and incorporate any recommendations from those agencies into the performance of the activity.

(3) All construction activities undertaken must be detailed in a site-specific Soil Erosion and Water Pollution Control Plan and conducted in accordance with MaineDOT's Best Management Practices for Erosion and Sediment Control, dated January 2000, and Standard Specifications, dated December 2002.

(4) Alignment changes may not exceed a distance of 200 feet between the old and new center lines in any natural resource.

(5) The activity may not alter more than 300 feet of shoreline (both shores added together) within a mile stretch of any river, stream or brook, including any bridge width or length of culvert.

(6) The activity may not alter more than 150 feet of shoreline (both shores added together) within a mile stretch of any outstanding river segment identified in 38 M.R.S.A. 480-P, including any bridge width or length of culvert.

(7) The activity must minimize wetland intrusion. The activity is exempt from the provisions of Chapter 310, the Wetland and Waterbodies Protection Rules, if the activity alters less than 15,000 square feet of natural resources per mile of roadway (centerline measurement) provided that the following impacts are not exceeded within the 15,000 square foot area:

(a) 1,000 square feet of coastal wetland consisting of salt tolerant vegetation or shellfish habitat; or

(b) 5,000 square feet of coastal wetland not containing salt tolerant vegetation or shellfish habitat; or

(c) 1,000 square feet of a great pond.

All other activities must be performed in compliance with all sections of Chapter 310, the Wetland Protection Rules, except 310.2(C), 5(A), 9(A), 9(B) and 9(C).

(8) The activity may not permanently block any fish passage in any watercourse containing fish. The applicant must coordinate with the reviewing agencies listed in paragraph 2 above to improve fish passage and incorporate any recommendations from those agencies into the performance of the activity.

NOTE: For guidance on meeting the design objectives for fish passage, including peak flow, maximum velocity, mining depth and gradient, see the MaineDOT Waterbody and Wildlife Crossing Policy and Design Guide (July 2008), developed in conjunction with state and federal resource and regulatory agencies.

(9) Rocks may not be removed from below the normal high water line of any coastal wetland, freshwater wetland, great pond, river, stream or brook except to the minimum extent necessary for completion of work within the limits of construction.

(10) If work is performed in a river, stream or brook that is less than three feet deep at the time and location of the activity, the applicant must isolate the work area from the resource and divert stream flows around the work area, maintaining downstream flows while work is in progress.

(11) Wheeled or tracked equipment may not operate in the water. Equipment operating on the shore may reach into the water with a bucket or similar extension. Equipment may cross streams on rock, gravel or ledge bottom. If avoiding the operation of wheeled or tracked equipment in the water is not possible, the applicant must explain the need to operate in the water. Approval from the DEP to operate in the water must be in writing, and any recommendations from the DEP must be incorporated into the performance of the activity.

(12) All wheeled or tracked equipment that must travel or work in a vegetated wetland area must travel and work on mats or platforms.

(13) Any debris or excavated material must be stockpiled either outside the wetland or on mats or platforms. Erosion and sediment control best management practices must be used, where necessary, to prevent sedimentation. Any debris generated during the activity must be prevented from washing downstream and must be removed from the wetland or water body. Disposal of debris must be in conformance with the Maine Hazardous Waste, Septage and Solid Waste Management Act, 38 M.R.S.A. Section 1301 *et seq.*

(14) Work below the normal high water line of a great pond, river, stream or brook must be done at low water except for emergency work or work agreed to by the resource agencies listed in paragraph 2 above.

(15) Perimeter controls must be installed before the work starts. Disturbance of natural resources beyond the construction limits shown on the plans is not allowed under this rule.

NOTE: Guidance on the location of construction limits can be obtained from the on site Construction Manager.

(16) The use of untreated lumber is preferred. Lumber pressure treated with chromated copper arsenate (CCA) may be used only if necessary and only if use is allowed under federal law and not prohibited from sale under 38 M.R.S.A. 1682, and provided it is cured on dry land in a manner that exposes all surfaces to the air for a period of at least 21 days prior to construction. Wood treated with creosote or pentachlorophenol may not be used where it will contact water.

(17) A temporary road for equipment access must be constructed of crushed stone, blasted ledge, or similar materials that will not cause sedimentation or restrict fish passage. Such roads must be completely removed at the completion of the activity. In addition, any such temporary roads which are in rivers, streams or brooks, must allow for a passage of stormwater flows associated with a 10-year storm.

(18) Non-native species may not be planted in restored areas.

(19) Disposal of debris must be in conformance with Maine Hazardous Waste, Septage and Solid Waste Management Act, 38 M.R.S.A. Sections 1301 *et seq.*

(20) Disturbance of vegetation must be avoided, if possible. Where vegetation is disturbed outside of the area covered by any road or structure construction, it must be reestablished immediately upon completion of the activity and must be maintained.

(21) A vegetated area at least 25 feet wide must be established and maintained between any new stormwater outfall structure and the high water line of any open water body. A velocity reducing structure must be constructed at the outlet of the stormwater outfall that will create sheet flow of stormwater, and prevent erosion of soil within the vegetated buffer. If the 25 foot vegetated buffer is not practicable, the applicant must explain the reason for a lesser setback in writing. Approval from the DEP must be in writing and any recommendations must be incorporated into the activity.

C. Definitions. The following terms, as used in this chapter, have the following meanings, unless the context indicates otherwise:

(1) Diversion. The rerouting of a river, stream or brook around a construction site and then back to the downstream channel.

(2) Fill. a. (verb) To put into or upon, supply to, or allow to enter a water body or wetland any earth, rock, gravel, sand, silt, clay, peat, or debris; b. (noun) Material, other than structures, placed in or immediately adjacent to a wetland or water body.

(3) Floodplain wetlands. Freshwater wetlands that are inundated with flood water during a 100-year flood event based on flood insurance maps produced by the Federal Emergency Agency or other site specific information.

(4) Riprap. Heavy, irregularly shaped rocks that are fit into place, without mortar, on a slope as defined in the MaineDOT Standard Specifications, dated **November 2014**.